

CATÁLOGO GENERAL DE MATERIAL PARA LABORATORIO

VERSIÓN INGLÉS • EDICIÓN Nº1

Acerca de SGL

Fundada en 2004, Suministros Generales para Laboratorio (SGL) ofrece todo un amplio catálogo de productos y servicios para cubrir cualquiera de las necesidades de su laboratorio, industria e institución, tanto de material fungible, equipos, reactivos, cromatografía, microbiología, como mobiliario de laboratorio. Damos servicio a todo tipo de empresas del sector Farmacéutico, Químico, Alimentario, Cosmético, Universidades y Centros Oficiales, así como empresas de Medio Ambiente entre otros muchos sectores.

Con un constante desarrollo y evolución, puesto al servicio de los clientes, SGL se fundamenta en la confianza depositada a lo largo de estos años de nuestros clientes y proveedores líderes en nuestro sector. Nuestro objetivo principal es la satisfacción de nuestros clientes suministrando productos de calidad contrastada y cuidando que los tiempos de entrega sean óptimos y todo ello con una buena relación calidad-precio. Comercializamos y representamos marcas referentes en el mercado como Agilent, Panreac, Deltalab, J.P.Selecta, Parket, etc., lo que se traduce en una propuesta de productos de máxima calidad que asegure sus análisis y tareas diarias.

Atención personalizada para cada cliente, nos adaptamos totalmente a sus necesidades ofreciéndole respuestas claras y concisas.

Apostamos por el valor humano por esta razón siempre tendrá a su servicio un técnico en cualquiera de las áreas, con el que contrastar cualquier tema, **le asignamos un técnico comercial** al que dirigirse y unas direcciones a las que enviar sus inquietudes, consultas o necesidades, **teniendo la seguridad de que detrás hay una persona cualificada para atenderle.**

Nos esforzamos continuamente en el desarrollo de nuestros servicios y productos. Pasando **exhaustivos y rigurosos estudios**, realizados por un personal altamente cualificado. Todos **los productos** que lo o nos lo requieran, serán enviados con su **certificado de calidad**.

En **SGL disponemos de la ISO 9001 y la ISO1401**. Por lo que estamos orgullosos de expresar que somos una compañía medio ambientalmente sostenible y responsable. Nos identificamos como una empresa que está en constante evolución para generar un servicio profesional a sus clientes.

ISO 9001
ISO 14001
BUREAU VERITAS
Certification



Nuestros productos

Como distribuidores de material para laboratorio nuestra oferta de productos es muy amplia. Cualquier producto que necesite en su laboratorio, SGL es capaz de darle respuesta. En este catálogo encontrará una gran parte de los artículos que podemos suministrarle, sin embargo, le animamos a contactarnos si no encuentra lo que está buscando, seguro que nosotros se lo podremos servir.

- Análisis rápidos (Kits / Test)
- Equipos / Instrumentos
- Reactivos / Productos químicos
- Cerámica / Ágata
- Plástico / Goma
- Seguridad / Higiene
- Ciencias de la vida
- Microbiología
- Vidrio / Cuarzo
- Cromatografía
- Mobiliario
- Varios
- Filtración
- Metal

Nuestros Servicios

Además de prodcutos, un laboratorio necesita que todo funcione con fluidez para consiguir sus objetivos. Por ello, tambien le proponemos una serie de servicios esenciales:

PIEZAS ESPECIALES A MEDIDA

(taller de vidrio, cuarzo, metal y plásticos)

SAT

(servicio de reparación, verificación y mantenimiento de equipos multimarca)

SERVICIO OUTSOURCING

ENCONTRAMOS LO QUE ESTÁ BUSCANDO

(díganos lo que está buscando y nosotros se lo encontraos)

STOCK DE SEGURIDAD

(cree un stock de seguridad en nuestras instalaciones)

CALIBRACIONES Y ACREDITACIONES

Portal de compras

Si busca realizar sus compras de una manera rápida y fácil, le presentamos nuestro portal de compras.

Intuitivo: un portal muy completo pero muy fácil de utilizar.
Seguro: todos sus datos estarán altamente protegidos y solamente usted tendrá acceso ellos.
Actualizado: conectado con nuestro CRM, la actualización de sus datos se hace al momento.

Mucha más que un portal de compras...

- Realice sus pedidos de una manera rápida y sencilla.
- Consulte o descargue sus facturas, albaranes y pedidos.
- Contacte con nosotros rápidamente.
- Histórico por departamento.
- Conectado directamente con nuestro sistema de gestión (SAP).
- Personalizado para cada tipo de usuario.
- Consulte los catálogos digitales.

SU PROVEEDOR GLOBAL DE CONFIANZA

TOTAL

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HOW TO USE
the Laboratory Catalogue

THE WEBCODES



WWABC000

Next to many of our articles, you'll find a **webcode** which indicates **that there are additional products from this manufacturer available on our website.** To see them, call up our website and enter the **webcode WW...** in the Search window. All articles from the manufacturer are indicated, classified by article groups. Choose an article group and use the filters to select the products you wish to see.

PACKAGING UNITS

Please note comments that refer to items affected by this proviso:

- **Available only in complete standard packs.**
- **Available only in complete rolls or reels.**

THE INDEX

It points directly to the product you are looking for as well as to a group of devices / articles suitable for similar tasks.

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CE marking

CE stands for Communauté européenne, European Commission. CE marking of products allows for free movement of goods within the European Union without any additional formalities and certificates. It is not an official mark. The responsibility for application of the CE mark lies with the manufacturer in the European Union or the importer. Further obligations for distributors are specified in various Directives.
There is no "separate" European Directive for laboratory equipment and laboratory facilities.
Examples for applicable EU Directives and regulations for laboratory equipment:

- Low Voltage Directive 2014/35/EU
- Electromagnetic Compatibility Directive 2014/30/EU
- Machinery Directive 2006/42/EC
- Pressure Vessels Directive 2014/29/EU
- Pressure Equipment Directive 2014/68/EU
- Regulation on appliances burning gaseous fuels 2016/426/EC
- Regulation on in-vitro diagnostic medical devices (EU) 2017/746
- Regulation on medical devices (EU) 2017/745
- Other directives and regulations, e.g. Measuring Instruments Directive or Regulation on protective equipment

Depending on the intended purpose of the laboratory equipment, the person responsible (manufacturer/importer) determines the intended use and specifies the selection of the applicable directives or regulations with the relevant standards, ideally European standards that have been harmonized.
With the CE Declaration of Conformity, the person responsible declares that the product complies with the applicable standards. The CE mark is affixed to the product or alternatively to its packaging if the product is too small. Detailed instructions for use or operating instructions are a part of the respective product.
If a directive or regulation is applicable, the CE mark must be affixed; otherwise the product may not be sold.

Temperature conversion formulae

Conversion to temperature in:	**°C**	**K**	**°F**
°C	°C	°C + 273,15	1,8 °C + 32
K	K - 273,15	K	1,8 K - 459,4
°F	0,556 °F - 17,8	0,556 °F + 255,3	°F

°Celcius/Fahrenheit and °Fahrenheit/Celcius conversion tables

°C	**°F**	**°F**	**°C**
300	572	300	148,89
280	536	280	137,78
260	500	260	126,67
240	464	240	115,56
220	428	220	104,44
200	392	200	93,33
180	356	180	82,22
160	320	160	71,11

°C	**°F**	**°F**	**°C**
140	284	140	60,00
120	248	120	48,89
100	212	100	37,78
80	176	80	26,67
60	140	60	15,56
40	104	40	4,44
20	68	20	-6,67
10	50	10	-12,22

°C	**°F**	**°F**	**°C**
0	32	0	-17,78
-10	14	-10	-23,33
-20	-4	-20	-28,89
-40	-40	-40	-40,00
-60	-76	-60	-51,11
-80	-112	-80	-62,22
-100	-148	-100	-73,33
-120	-184	-120	-84,44

T [°F] = 9/5 · (T [°C] – 32), T [°C] = 5/9 · T [°F] + 32

Conversion factors for water hardness

	American hardness	**British hardness**	**French hardness**	**German hardness**	**Russian hardness**	**ppm as $CaCO_3$**
1° American hardness	1	1,201	1,716	0,961	6,864	17,16
1° British hardness	0,832	1	1,429	0,800	5,714	14,29
1° French hardness	0,583	0,700	1	0,560	4,000	10,00
1° German hardness	1,041	1,250	1,786	1	7,144	17,85
1° Russian hardness	0,146	0,175	0,250	0,140	1	2,50
1 ppm as $CaCO_3$	0,058	0,070	0,100	0,400	0,400	1

Conversion factors for units of pressure

	Pa	bar	mbar	atm (760 Torr)	at (kp/cm²)	Torr (mm Hg)[1]	mWS[1]
1 Pa	1	10^{-5}	10^{-2}	$0{,}9869 \cdot 10^{-5}$	$1{,}0197 \cdot 10^{-5}$	$7{,}528 \cdot 10^{-3}$	$1{,}022 \cdot 10^{-4}$
1 bar	10^{5}	1	10^{3}	0,9869	1,0197	$7{,}528 \cdot 10^{2}$	10,22
1 mbar	10^{2}	10^{-3}	1	$0{,}9869 \cdot 10^{-3}$	$1{,}0197 \cdot 10^{-3}$	0,7528	$1{,}022 \cdot 10^{-2}$
1 atm	$1{,}0133 \cdot 10^{5}$	1,0133	$1{,}0133 \cdot 10^{3}$	1	1,0332	$7{,}628 \cdot 10^{2}$	10,35
1 at (kp/cm²)	$0{,}9807 \cdot 10^{5}$	0,9807	$0{,}9807 \cdot 10^{3}$	0,9678	1	$7{,}382 \cdot 10^{2}$	10,02
1 Torr (mm Hg)	$1{,}3332 \cdot 10^{2}$	$1{,}3332 \cdot 10^{3}$	1,3332	$1{,}316 \cdot 10^{-3}$	$1{,}359 \cdot 10^{-3}$	1,0036	$1{,}362 \cdot 10^{-2}$
1 mWS	$9{,}790 \cdot 10^{3}$	$9{,}790 \cdot 10^{-2}$	97,90	$9{,}661 \cdot 10^{-2}$	$9{,}982 \cdot 10^{-2}$	73,85	1

[1]) at 20 °C

Conversion of English to metric units

Quantity	Unit	Symbol	Conversion	Comments
length	mil		1 mil = 25,40 µm	applies only in USA
	inch	in	1 in = 2,54 cm	equals inch (")
	foot	ft	1 ft = 0,305 m	
	yard	yd	1 yd = 0,914 m	
	mile	mi	1 mi = 1,609 km	
area	square inch	in^2	1 in^2 = 6,452 cm^2	
	square foot	ft^2	1 ft^2 = 9,290 dm^3	
	square yard	yd^2	1 yd^2 = 0,836 m^2	
	square mile	mi^2	1 mi^2 = 2,590 km^2	
volume	cubic inch	in^3	1 in^3 = 16,39 cm^3	
	cubic foot	ft^3	1 ft^3 = 28,31 dm^3	
	cubic yard	yd	1 yd^3 = 0,765 m^3	
volume (capacity for liquids)	minim		1 minim = 59,19 mm^3	applies for GB
	minim		1 minim = 61,61 mm^3	applies for USA
	fluid oune	ozfl	1 ozfl = 28,41 cm^3	applies for GB
	fluid oune	ozfl	1 ozfl = 29,57 cm^3	applies for USA
	liquid pint	pt	1 pt = 568,30 cm^3	applies for GB
	liquid pint	pt	1 pt = 473,20 cm^3	applies for USA
	liquid quart	qt	1 qt = 1,136 dm^3	applies for GB
	liquid quart	qt	1 qt = 946,40 cm^3	applies for USA
	gallon	gal	1 gal = 4,546 dm^3	applies for GB
	gallon	gal	1 gal = 3,785 dm^3	applies for USA
	barrel		1 barrel = 159,00 dm^3	only for mineral oil
volume (capacity for dry substances)	dry pint		1 dry pint = 550,6 cm^3	applies only in USA
	dry quart		1 dry quart = 1,101 dm^3	applies only in USA
	dry barrel		1 dry barrel = 115,6 dm^3	applies only in USA
mass (weight)	grain	gr	1 gr = 64,80 mg	
	dram	dr	1 dr = 1,772 g	
	ounce	oz	1 oz = 28,35 g	
	pound	lb	1 lb = 453,60 g	
	quarter	qr	1 qr = 12,70 kg	applies only in GB
	cental	ctl	1 ctl = 45,36 kg	applies only in GB
	(long) hundredweight	cwt	1 cwt = 50,80 kg	applies only in GB
	short hundredweight	sh cwt	1 sh cwt = 45,36 kg	applies only in USA
	(long) ton	tnl	1 tnl = 1016,00 kg	applies only in GB
	short ton	tnsh	1 tnsh = 907,20 kg	
mass (troy system)	pennyweight	dwt	1 dwt = 1,555 g	applies for precious stones + metals
	troy ounce	oz tr	1 oz tr = 31,10 g	applies for GB
	troy ounce	oz t	1 oz t = 31,10 g	applies for USA
density	pound/cubic foot	lb/ft^2	1 lb/ft^2 = 0,016 g/cm^3	
	pound/cubic inch	lb/in^2	1 lb/in^2 = 27,68 g/cm^3	
	pound/cubic yard	lb/yd^2	1 lb/yd^2 = 0,593 kg/m^3	
pressure	pound/square inch (p.s.i.)	lb/in^2	1 lb/in^2 = $6{,}895 \cdot 10^{-2}$ bar (1 p.s.i. = $6{,}895 \cdot 10^{-2}$ bar)	
	pound/square foot	lb/ft^2	1 lb/ft^2 = $4{,}788 \cdot 10^{-4}$ bar	
	inch Hg	in Hg	1 in Hg = $3{,}337 \cdot 10^{-2}$ bar	
	inch WS	in WS	1 in WS = $2{,}487 \cdot 10^{-3}$ bar	

Quantities and units

Quantity	Legal units		Units no longer approved		Conversion factors/ Relationships		Comments
	Name	**Symbol**	**Name**	**Symbol**			
activity of a radioactive substance	becquerel	Bq	Curie	Ci	1 Bq 1 Ci	= 1 s^{-1} = 3,7 · 10^{10} s^{-1}	SI unit
equivalent dosage	sievert	Sv	Rem	rem	1 Sv 1 rem	= 1 J/kg = 10^{-2} J/kg	SI unit
work, mechanical	joule	J	Erg	erg	1 J 1 erg	= 1 N · m = 1 kg · m^2/s^2 = 10^{-7} J	SI unit
luminous intensity	lux	lx	Nox	nx	1 lx 1 nx	= 1 lm/m^2 = 10^{-3} lx	SI unit
lens power of optical systems	diopter	dpt			1 dpt	= 1 m^{-1}	(also called refractive power
density	kilogram divided by cubic meter	kg/m^3					SI unit usually expressed in g/ml or g/cm^3
rotation, specific	rad · m^2/kg degree · dm^{-1} · g^{-1} · ml degree				[α] d l c	= α / (l · c) = amount of rotation in degrees = polarimeter tube length in dm = concentration in g/ml	SI unit usually expressed in degrees amount of rotation caused by 1 g substance in 1 ml solution in a tube 10 cm long)
rotational speed	rotations divided by seconds rotations divided by minutes	s^{-1} min^{-1}		RPM	1 RPM	= 1 min^{-1} = 1/60 s^{-1} = 1/60 Hz	SI unit
pressure	Pascal Bar	Pa bar	phys. atmosph. techn. atmosph. techn. atmosph. above atm meter water gage millimeter mercury or torr	atm at atü mWG mm Hg torr	1 Pa 1 bar 1 atm 1 at atü 1 mWG 1 mm Hg	= 1 N/m^2 = 10^5 Pa = 1,01325 · 10^5 Pa = 1 kp/cm^2 = 0,9807 · 10^5 Pa = atm + 1 = 9,790 · 10^3 Pa = 1 Torr = 1,3332 · 10^2 Pa	SI unit also refer to tables “Conversion factors for units of pressure“ and “Conversion of English to metric units
energy	joule electron volt	J eV	calory	cal	1 J 1 eV 1 cal	= 1 N · m = 1 kg · m^2/s = 1 W · s = 1,60219 · 10^{-19} J = 4,1868 J	SI units
absorbed dose	Gray	Gy	Rad Rem	rd rem	1 Gy 1 rd 1 rem	= 1 J/kg = 0,01 J/kg = 0,01 J/kg	SI unit
absorbed dosage rate/power	Gray divided by second	Gy/s			1 Gy/s	= 1 W/kg	SI unit
extinction coefficient, molarer specific		l/mol · cm l/g · cm					also called spectral absorption factor (DIN) or internal absorbency (IUPAC)

Quantities and units (continued)

Quantity	Legal units		Units no longer approved		Conversion factors/ Relationships		Comments
	Name	Symbol	Name	Symbol			
field strength, electrical	volts divided by meters	V/m			1 V/m	= 1 m · kg/s^3 · A = 1 W/A · m	SI unit
magnetic	amperes divided by meters	A/m	Oersted	Oe	1 Oe	= $\frac{10^3}{4\pi}$ A/m	SI unit
area	square meter	m^2		qm	1 m^2	= 1 m · 1 m	SI unit
			Are	a	1 a	= 10^2 m^2	
			Hectare	ha	1 ha	= 10^4 m^2	
flux, magnetic	weber	Wb			1 Wb	= 1 V · s	SI unit
			Maxwell	M	1 M	= 10^{-8} Wb	
flux density, electrical	coulomb divided by square meter	C/m^2					SI unit
magnetic	tesla	T			1 T	= 1 Wb/m^2 = 1 V · s/m^2	SI unit (formerly magnetic induction)
			Gauss	G	1 G	= 10^{-4} T	
frequency	hertz	Hz = s^{-1}			1 Hz	=1 s^{-1}	SI unit for periodic cycles
speed	meters divided by seconds	m/s					SI unit
	kilometers divided by hours	km/h			1 km/h	= 0,27 m/s	
inductance, electrical/electromagnetic	henry	H			1 H	= 1 Wb/A = 1 V · s/A = 1 W · s/A^2 = 1 Ω · s	SI unit
			Internat. henry	H$_{int}$	1 H$_{int}$	= 1,00049 H	
ion dose	coulomb divided by kilogram	C/kg					SI unit
			Röntgen	R	1 R	= 2,58 · 10^{-4} C/kg	
capacitance, electrical	farad	F			1 F	= 1 C/V = 1 A^2 · s/W = 1 s/Ω	SI unitt
			Internat. Farad	F$_{int}$	1 F$_{int}$	= 0,99951 F	
force	newton	N			1 N	= 1 kg · m/s^2	SI units
			Pond	p	1 kp	= 9,807 N	
			Dyn	dyn	1 dyn	= 10^{-5} N	
charge, electrica	coulomb	C			1 C	= 1 A · s = 1 J/V	SI unit (also called quantity of electricity)
length (distance, height)	meter	m					SI basic unit
			Micron	µ	1 µ	= 10^{-6} m	
			Ångström	Å	1 Å	= 10^{-10} m	
			Fermi	f	1 f	= 10^{-15} m	
			Zoll	"	1"	= 25,4 mm	
power	watt	W			1 W	= 1 J/s	SI unit
			Horsepower	HP	1HP	= 0,735 kW	
conductivity, length related	siemens divided by centimeter	S/cm			1 S/cm	= 1 Ω^{-1} · cm^{-1}	SI unit conductivity is conductance divided by length, usually expressed in µS/cm
	siemens	S			1 S	= 1 Ω^{-1}	SI units

Quantities and units (continued)

Quantity	Legal units		Units no longer approved		Conversion factors/ Relationships		Comments
	Name	Symbol	Name	Symbol			
illumination	candelas divide by square meters	cd/m^2					SI unit
			Nit	nt	1 nt	= 1 cd/m^2	
			Stilb	sb	1 sb	= 1 cd/cm^2	
			Lambert	la	1 la	= $\frac{1}{\pi}$ sb = $\frac{1}{\pi}$ cd/cm^2	
luminance, specific	lumens divided by square meters	lm/m^2					SI unit
			Phot	ph	1 ph	= 1 lm/cm^2	
luminous intensity	candela	cd					SI basic unit
			Hefner candela	HK	1HK	= 0,903 cd	
			Internat. candela	IK	1 IK	= 1,019 cd	
luminous flux	lumen	lm			1 lm	= 1 cd · sr	SI unit
mass (weight as result of weighing)	kilogram	kg					SI basic unit
	gram	g		gr.	1 g	= 10^{-3} kg	
	ton metric	t			1 t	= 10^3 kg	
	carat	Kt			1 Kt	= 0,2 g	(only for precious stones)
	atomic mass unit	u		amu	1 u	= 1,6605 · 10^{-27} kg	
			Dalton		1 Dalton	= 1,6602 · 10^{-27} kg	
voltage, electrical	volt	V			1 V	= 1 J/C = 1 W/A	SI unit, (also electr. potential)
			Internat. Volt	V_{int}	1 V_{int}	= 1,00034 V	
amount of substance	mol	mol	Mol amount	Mol			SI basic unit 1 mol equsls $6{,}022 \cdot 10^{23}$ particles (atoms, moleules, ions, electroncs, photons), i.e. as many elementary units as are contained in 12 g of the nucleotide carbon 12 (Avogadro's number)
			Gram-molecule	Mol			
			Gram-atom	Tom			
			Gram-equivalent	Val			
proportion of substance		mol/mol %	Mol fraction				(also called amount of substance)
amount of substance concentration, in relation to equivalents		mol/l	Molarity				
			Molality	mol/kg			
		mol/l	Normaliy	val/l			
current intensity, electrical	ampere	A			1 A	= 1 C/s	SI basic unit
			Internat. Ampere	A_{int}	1 A_{int}	= 1,000291 A	
temperature	kelvin	K			K	= °C + 273,15	SI basic unit. refer also to the table "Conversion formulae for temperatures" (symbol also °R)
	degree Celsius	°C			°C	= K - 273,15	
			Degree kelvin	°K	°K	= K	
			Degree fahrenheit	°F	°F	= 1,8 K - 459,4	
			Degree rankine	°Rank	°Rank	= 1,8 K	
			Degree reaumur	°R	°R	= 1,25 °C	
viscosity, dynamic		Pa · s			1 Pa · s	= 1 N · s · m^2 = 1 kg/s · m	SI unit
			Poise	P	1 P	= 0,1 Pa · s	
kinematic		m^2/s					SI unit
			Stokes	St	1 St	= 1 cm^2/s	

Quantities and units (continued)

Quantity	Legal units		Units no longer approved		Conversion factors/ Relationships		Comments
	Name	**Symbol**	**Name**	**Symbol**			
volume	cubic meter liter	m^3 l	 m^3 of timber stacked m^3 standard m^3	cbm cdm Fm Rm Nm	1 m^3 1 l 1 Fm 1 Rm 1 Nm	= 1 m · 1 m · 1 m = 10^{-3} m^3 = 1 dm = 1 m^3 = 1 m^3 = 1 m^3	SI unit
volume flow, volume flux		m^3/s l/s			1 m^3/s 1 l/s	= 10^3 l/s = 10^6 mm^3/s	SI unit
quantity of heat	joule	J	 calory	 cal	1 J 1 cal	= 1 N · m = 1 W · s = 4,187 J	SI unit
resistance, electrical specific	ohm	Ω Ω · mm^2/m	 Internat. Ohm	 Ω_{int}	1 Ω 1 Ω_{int}	= 1 V/A = 1 W/A^2 = 1 kg · m^2/s^3 · A^2 = 1,00079 Ω	SI unit
angle, plane	radian perigon degree minute second spatial centesimal degree Steradiant	rad ° ‘ " gon sr			1 rad 1 Vollw. 1° 1’ 1" 1 gon 1 sr	= 1 m/1 m = 57° 17’ 45" = 2 π rad = 360° = $\frac{\pi}{180}$ rad = 1,7453 · 10^{-2} rad = $\frac{1°}{60}$ = 2,9089 · 10^{-4} rad = $\frac{1’}{60}$ = 4,8481 · 10^{-6} rad = $\frac{\pi}{200}$ rad = 1 $m^2/1$ m^2	supplementary SI unit (plane angle = ratio of the arc of a circle to the radius of a circle) supplementary SI unit (spatial angle = ratio of an area cut out from a sphere to the square of the radius of the sphere)
time	second minute hour day	s min h d		sec. min.	 1 min 1 h 1 d	 = 60 s = 60 min = 24 h	SI basic unit

Prefixes for decimal multiples and fractions of units

Name	Symbol	Power of ten	Decimal number
Atto	a	10^{-18}	0,000 000 000 000 000 001
Femto	f	10^{-15}	0,000 000 000 000 001
Piko	p	10^{-12}	0,000 000 000 001
Nano	n	10^{-9}	0,000 000 001
Mikro	µ	10^{-6}	0,000 001
Milli	m	10^{-3}	0,001
Zenti	c	10^{-2}	0,01
Dezi	d	10^{-1}	0,1
Deka	dc	10	10
Hekto	h	10^{2}	100
Kilo	k	10^{3}	1 000
Mega	M	10^{6}	1 000 000
Giga	G	10^{9}	1 000 000 000
Tera	T	101^{2}	1 000 000 000 000
Peta	P	10^{15}	1 000 000 000 000 000
Exa	E	10^{18}	1 000 000 000 000 000 000

Greek numerals

Einfache Zahlen		
ein-	móno-	
zwei-	di-	
drei-	tri-	
wier-	tétra-	
fünf-	pénta-	
sechs-	héxa-	
sieben-	hépta-	
acht-	ókta-	
neun-	énnéa-	
zehn-	déka-	
elf-	héndeka-	
zwölf-	dódeka-	

Greek alphabet

Letter		Name	Letter		Name	Letter		Name
Α	α	álpha	Ι	ι	jóta	Ρ	ρ	rho
Β	β	béta	Κ	κ	káppa	Σ	σ	sigma
Γ	γ	gámma	Λ	λ	lámbda	Τ	τ	tau
Δ	δ	délta	Μ	μ	mü	Υ	υ	ýpsilon
Ε	ε	épsilon	Ν	ν	nü	Φ	φ	phi
Ζ	ζ	zéta	Ξ	ξ	xi	Χ	χ	chi
Η	η	éta	Ο	ο	ómikron	Ψ	ψ	psi
Θ	ϑ	théta	Π	π	pi	Ω	ω	ómega

Chemical resistance of plastics

VITLAB®

With regard to chemical stability, plastics are classified as follows:

+

Very good chemical resistance

Within 30 days, continuous exposure to media causes no damage to the plastic. The plastic may remain resistant for years.

0

Good to limited chemical resistance

Within 7-30 days, continuous exposure to media causes minor damage (e.g. swelling, softening, loss of mechanical strength, discolouration), some of which is reversible.

–

Poor chemical resistance

Not suitable for continuous exposure to media. Immediate damage may occur (e.g. loss of mechanical strength, deformation, discolouration, cracking, liquification).

Chemical resistance of plastics to various substance classes

Classes of substances at 20 °C	PFA	PTFE	FEP	ETFE	PMP	PP	PE-HD	PE-LD	PC	POM	PA	SAN	PMMA	PS	PVC	MF	NR	SI	EPDM	FKM
Alcohols, aliphatics	+	+	+	+	+	+	+	+	+	+	o	+	-	+	+	+	+	+	+	-
Ethers	+	+	+	+	-	o	o	o	-	+	+	-	-	-	-	-	-	-	-	-
Aldehydes	+	+	+	+	o	+	+	o	o	o	o	-	o	-	-	+	o	o	+	+
Esters	+	+	+	+	o	o	o	o	-	-	+	-	o	-	-	+	o	o	o	-
Hydrocarbons, aliphatic	+	+	+	+	o	+	+	o	o	+	o	-	+	-	+	+	-	-	-	o
Hydrocarbons, aromatic	+	+	+	+	-	o	+	o	-	+	o	-	-	-	-	+	-	-	-	o
Hydrocarbons, halogenated	+	+	+	+	-	o	o	o	-	+	o	-	-	-	-	+	-	-	-	o
Ketones	+	+	+	o	o	o	o	o	-	+	+	-	-	-	-	+	-	-	o	-
Alkalis	+	+	+	+	+	+	+	+	-	+	+	+	+	+	+	-	+	o	+	o
Acids, strong or concentrated	+	+	+	+	+	+	+	+	-	-	-	-	-	o	+	-	-	-	+	o
Acids, weak or diluted	+	+	+	+	+	+	+	+	o	-	-	o	-	o	+	o	o	o	+	+
Oxidising acids, oxidising agents	+	+	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	o	o

The carefully prepared recommendations listed here are based on technical literature and made available by the manufacturers of raw materials, to provide information and advice. However, nothing can replace suitability tests conducted by the end user under the actual conditions of use.

Chemical stability of plastics

Medium	PFA/FEP		PTFE		ETFE		PMP		PP		HDPE		LDPE	
	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C
Acetaldehyde	+	+	+	+	+	0	0	-	+	-	+	0	+	-
Acetic acid (glacial acetic acid), 100%	+	+	+	+	+	+	+	0	+	0	+	+	+	0
Acetic acid, 50%	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Acetic anhydride	+	+	+	+	+	+	+	0	0	0	0	0	-	-
Acetone	+	+	+	+	+	0	+	+	+	+	+	+	+	0
Acetonitrile	+	+	+	+	+	+	0	-	+	0	+	0	+	0
Acetophenone	+	+	+	+	+	+	0	-	0	0	0	0	-	-
Acetyl chloride(acetic acid chloride)	+	+	+	+	+	+			+		+		+	
Acetylacetone	+	+	+	+	+	+	+		+		+		+	
Acrylic acid (2-propenic acid)	+	+	+	+	+	+	+		+		+		+	
Acrylonitrile	+	+	+	+	+	+	-	-	0	-	+	+	+	+
Adipic acid	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Allyl alcohol (2-propan-1-ol)	+	+	+	+	+	+	+	0	+	+	+	+	+	+
Aluminium chloride	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Aluminium hydroxide	+	+	+	+	+	+	+	0	+	+	+	+	+	+
Amino acids	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Ammonium chloride	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Ammonium fluoride	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Ammonium hydroxide, 30% (ammonia)	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Ammonium sulphate			+	+			+	+	+	+	+	+	+	+
n-Amyl acetate (pentyl acetate)	+	+	+	+	+	+	+	0	0	-	+	0	0	-
Amyl alcohol (pentanol)	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Amyl chloride (chloropentane)	+	+	+	+	+	+	-	-	-	-	-	-	-	-
Aniline	+	+	+	+	+	0	+	0	+	+	+	+	+	0
Aqua regia	+	+	+	+	+	+	-	-	-	-	-	-	-	-
Barium chloride	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Benzaldehyde	+	0	+	+	+	0	+	+	+	+	+	+	+	+
Benzene	+	+	+	+	+	+	0	0	+	0	+	+	0	-
Benzoyl chloride			+	+	+	+	0	0	+	0	+	+	0	-
Benzyl alcohol	+	+	+	+	+	+	0	-	0	-	0	-	0	-
Benzyl chloride			+	+	+	+								
Benzylamine	+	+	+	+	+	+	0		0		0		0	-
Boric acid, 10%	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Bromine	+	+	+	+	+	+	-	-	-	-	-	-	-	-
Bromobenzene	+	+	+	+	0	-	-	-	-	-	-	-	-	-
Bromoform	+	+	+	+	+	+	-	-	-	-	-	-	-	-
Bromonaphthalene	+	+	+	+	+	+								
Butanediol	+	+	+	+	+	+	+	+	+	+	+	+	+	+
1-Butanol (butyl alcohol)	+	+	+	+	+	+	+	0	+	+	+	+	+	+
n-Butyl acetate (acetic acid n-butyl ester)	+	+	+	+	+	+	+	0	0	0	+	+	0	0
Butyl methyl ether	+	+	+	+	+	0	+	-	+	0	0	-	0	-
Butylamine			+	+	+	+								
Butyric acid (butanoic acid)	+	+	+	+	+	+			-	-	0	-	-	-
Calcium carbonate	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Calcium chloride	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Calcium hydroxide	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Calcium hypochlorite	+	+	+	+	+	+	+	0	+	+	+	+	+	+

VITLAB®

PC		POM		PA		SAN		PMMA		PS		PVC		MF	NR	SI	EPDM	FKM
20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	20 °C	20 °C	20 °C	20 °C
0	-	+	+	0		-	-	-	-	-	-	-	-		-	-	0	-
-	-	-	-	-	-					-	-			0	0	0	0	-
+	0	0	-	-	-	+	0	-	-	0	0	+	0	+	-	-	-	-
-	-	-	-	0	0					-	-	-	-		0	0	0	-
-	-	+	+	+		-	-	-	-	-	-	-	-	+	0	-	+	-
-	-	+		+		-	-	-	-	-	-	-	-		-	-	-	-
-	-	+		+		-	-	-	-	-	-	-	-	+	-	-	+	-
-	-			-	-	-	-	-	-	-	-	-	-		-	-	-	+
-	-	+				-	-	-	-	-	-	-	-		-	-	+	-
-	-	-	-			-	-	-	-	-	-	-	-		-	-	-	-
-	-	-	-	+		-	-	-	-	-	-	-	-		-	-	-	-
+	+	+	+	+		+	+	+	+	+	+	+	0		+	+	+	+
0	0	+	+	0		0	-	-	-	0	0	0	-		0	-	+	+
-	-	+	0	0	-	+	+	+	+	+	+	+	0	+	0	0	+	+
0	-	+	+	+	+	0	0	0	0	0	0	+	+		+	+	+	+
+	+	+	+	+	+	+	+	+	+	+	+	+	+		+	+	+	+
0	0	+	+	+		+	+	0	0	+	+	+	0		+	+	+	+
0	0	+	+	+		+	+	0	0	+	+	+	0		-	+	+	0
-	-	0	0	0		+	0	+	+	0	-	+	0	+	+	0	+	-
+	+	+	+	+		+	+	+	+	+	+	+	+		0	0	+	-
-	-	+	+	0		-	-	+	+	-	-	-	-		0	-	0	-
+	+	+	+	+		+	+			0	0	0	0		0	-	0	0
-	-	+	+	+		-	-	-	-	-	-	-	-		-	-	-	+
0	-	0	0	0	-	-	-	-	-	-	-	-	-		-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
+	+	+	+	+		+	+	+	+	+	+	+	+		+	+	+	+
0	-	+	+	0		-	-	-	-	-	-	-	-		-	-	0	-
-	-	+	0	+		-	-	-	-	-	-	-	-	+	-	-	-	0
-	-	+	0	-	-	-	-	-	-	-	-	-	-		-	-	-	+
0	0	+	+	-	-	-	-	-	-	-	-	0	0		-	0	0	+
		+		+						-	-				-	-	-	+
-	-	+				-	-	-	-	-	-	-	-		-	0	0	+
+	+	+	+	+		+	+	+	+	+	+	+	+		+	+	+	+
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	0
-	-			+		-	-	-	-	-	-	-	-		-	-	-	+
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-		
						-	-			-	-							
		+	+	+		-	-			-	-				0	-	+	-
0	0	+	+	+	0	+	0	0	-	0	-	0	0		+	0	0	+
-	-	+	0	+		-	-	-	-	-	-	-	-		-	-	0	-
-	-	+	+			-	-	-	-	-	-	-	-		-	-	-	-
		+	+			-	-			-	-				-	0	-	-
0	-			0	0	-	-			-	-				-	-	-	0
+	+	+	+	+	+	+	+	+	+	+	+	+	+		+	+	+	+
+	+	+	+	-	-	+	+	+	+	+	+	0	-		+	+	+	+
-	-	+	+	+		+	0	+	+	+	0	+	+		+	0	+	+
0	-	+	+	+	-	+	+	0	0	+	+	0	-		-	0	+	+

Chemical stability of plastics

Medium	PFA/FEP		PTFE		ETFE		PMP		PP		HDPE		LDPE	
	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C
Carbon disulphide	+	+	+	+	+	0	-	-	-	-	-	-	-	-
Carbon tetrachloride	+	+	+	+	+	+	-	-	-	-	0	-	0	-
Chloroacetaldehyde, 45%			+	+	+	+								
Chloroacetic acid (monochloroacetic acid)	+	+	+	+	+	+	+	0	+	0	+	+	+	+
Chloroacetone			+	+	+	+								
Chlorobenzene	+	+	+	+	+	0	-	-	-	-	-	-	-	-
Chlorobutane	+	+	+	+	+	+	0	-	0	-	0	-	0	-
Chloroform	+	0	+	+	+	0	0	-	-	-	0	-	0	-
Chloronaphthalene			+	+	+	+								
Chlorosulphonic acid	+	+	+	+	0	-								
Chromic acid, 10%	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Chromic acid, 50%	+	+	+	+	+	+	0	0	0	0	+	0	+	0
Chromic-sulphuric acid	+	+	+	+	+	+	0	-	-	-	-	-	-	-
Copper sulphate	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Cresol	+	+	+	+	+	0	-	-	0	0	0	-	-	-
Cumene (isopropylbenzene)	+	+	+	+	+	+	-	-	0	-	+	0	0	-
Cyclohexane	+	+	+	+	+	0	-	-	0	-	0	-	0	-
Cyclohexanone	+	+	+	+	+	+	0	0	0	-	0	-	-	-
Cyclopentane	+	+	+	+	+	+	0	-	0	-	0	-	-	-
Decane	+	+	+	+	+	+	0		0		0	-		
1-Decanol	+	+	+	+	+	+	+		+		+			
Di(ethylene glycol)	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Dibenzyl ether	+	+	+	+	+	+	0		+		+			
Dibromoethane	+		+	+	0									
Dibutyl phthalate	+	+	+	+	+	+	+	0	+	0	0	-	0	-
Dichloroacetic acid	+	+	+	+	+	0	+	+	0	-	0	0	0	-
Dichlorobenzene	+	+	+	+	+	0	-	-	0	-	0	-	0	-
Dichloroethane	+	+	+	+	+	+	0	-	0	-	0	-	0	-
Dichloromethane (methylene chloride)	+	+	+	+	0	0	0	-	0	-	0	-	0	-
Diesel oil (heating oil)	+	+	+	+	+	+	0	-	+	0	+	0	0	-
Diethanolamine			+	+					0		0			
Diethyl ether	+	+	+	+	+	+	-	-	0	-	0	-	-	-
Diethylamine	+	+	+	+	+	0	0	0	0	-	0	-	-	-
1,2 Diethylbenzene	+	+	+	+	+	0	-	-	-	-	0	-	-	-
Dimethyl sulphoxide (DMSO)	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Dimethylaniline	+	+	+	+	+	+								
Dimethylformamide (DMF)	+	+	+	+	+	+	+	+	+	+	+	+	+	+
1,4-Dioxane	+	+	+	+	+	0	0	0	+	0	+	+	+	0
Diphenyl ether			+	+										
1,2 Ethanediol (ethylene glycol, glycol)	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Ethanol (ethyl alcohol)	+	+	+	+	+	+	+	0	+	+	+	+	+	+
Ethanolamine	+	+	+	+	+	+			+					
Ethyl acetate (acetic acid ethyl ester)	+	+	+	+	+	+	0	-	+	0	+	+	+	+
Ethyl methyl ketone (MEK)	+	+	+	+	0	0	-	-	+	0	0	-	0	-
Ethylbenzene	+	+	+	+	0	0	-	-	-	-	-	-	-	-
Ethylene oxide	+	+	+	+	+	+	0	-	0	-	0	0	0	0
Fluoroacetic acid			+											

VITLAB®

PC		POM		PA		SAN		PMMA		PS		PVC		MF	NR	SI	EPDM	FKM
20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	20 °C	20 °C	20 °C	20 °C
-	-	+	+	0		-	-	-	-	-	-	-	-		-	-	-	+
-	-	0	0	-	-	-	-	0	-	-	-	-	-	+	-	-	-	+
				-	-	-	-	-	-	-	-							
0	-	-	-	-	-	-	-	0	-	0	-	+	0		-	-	0	0
						-	-	-	-	-	-				0	-	+	-
-	-			-	-	-	-	-	-	-	-	-	-		-	-	-	0
		-	-			-	-	-	-	-	-				-	-	-	0
-	-	-	-	0	-	-	-	-	-	-	-	-	-	+	-	-	-	0
		-	-												-	-	-	+
		-	-	-	-										-	-	-	-
+	0	0	0	-	-	-	-	0	-	-	-	+	0		-	0	-	+
0	-	-	-	-	-	0	0	-	-	-	-	+	-		-	-	-	+
-	-	-	-	-	-	0	0	-	-	0	0	+	0		-	-	-	+
+	+	+	+	+		+	0	+	+	+	+	+	0		0	+	+	+
-	-			-	-					-	-	-	-		-	-	-	+
-	-	+	-			-	-	-	-	-	-	-	-		-	-	-	+
-	-	+	+	+						-	-	-	-	+	-	-	-	+
-	-			+						-	-	-	-		-	-	-	-
-	-									-	-	-	-		-	-	-	+
0		+										0			-	0	-	+
0		+				0				0		+			0	0	+	+
0	0	+	0	0		+	+	-	-	0	-	-	-		+	0	+	+
		+				-	-	-	-	-	-				-	-	0	-
-	-	+	+			-	-	-	-	-	-	-	-		-	0	0	0
0	-			-	-					0	-	0	-		-	-	-	-
-	-	-	-	+		-	-	-	-	-	-	-	-		-	-	-	+
		-	-	0											-	-	-	0
-	-			0	-					-	-	-	-		-	-	-	0
-	-	+	+	+	+	-	-	0	-	-	-	0	-		-	-	-	+
-	-					-	-	-	-	-	-						0	
-	-	+	+	+	+	-	-	-	-	-	-	-	-		-	-	-	-
-	-									0	0	-	-		0	0	0	-
0	-									-	-	-	-		-	-	-	+
-	-					-	-	-	-	-	-	-	-			+		
-	-					-	-	-	-	-	-				-	0	0	0
-	-	+	+	+		-	-	-	-	-	-	0	-		0	0	0	-
0	0	0	0	+		-	-	-	-	-	-	-	-		-	-	0	-
		0		0		-	-	-	-	-	-				-	-	-	0
+	+	+	+	0	0	+	+	+	+	+	+	+	+	+	-	+	+	0
+	0	+	+	+		0	-	-	-	0	-	+	0	+	0	0	+	0
															-	-	+	
-	-			+						-	-	-	-	+	-	-	0	-
-	-	-	-	+		-	-			-	-	-	-		-	-		-
-	-					-	-	-	-	-	-	-	-		-	-	-	0
0	-	+	+	0		-	-	-	-	-	-	0	-		-	-	-	-
-	-	-	-			-	-	-	-	-	-	-	-		-	-	-	-

Chemical stability of plastics

Medium	PFA/FEP		PTFE		ETFE		PMP		PP		HDPE		LDPE	
	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C
Formaldehyde, 40%	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Formamide	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Formic acid, 98-100%	+	+	+	+	+	+	+	0	+	+	+	+	+	+
Gasoline (petroleum spirits)	+	+	+	+	+	+	0	0	0	0	+	+	0	-
Glycerine	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Glycolic acid, 70%	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Heating oil (Diesel oil)	+	+	+	+	+	+	0	-	+	0	+	0	0	-
Heptane	+	+	+	+	+	+	0	0	0	0	0	0	0	-
Hexane	+	+	+	+	+	+	0	-	+	0	+	0	0	-
Hexanoic acid			+	+										
Hexanol	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hydrochloric acid, 10%	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hydrochloric acid, 20%	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hydrochloric acid, 37%	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hydrofluoric acid, 40%	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hydrofluoric acid, 70%	+	+	+	0	+	+	+	0	+	0	+	0	+	-
Hydrogen bromide	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hydrogen peroxide, 35%	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hydroiodic acid	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Isoamyl alcohol (3-methyl-1-butanol)	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Isobutanol (isobutyl alcohol)	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Isooctane	+	+	+	+	+	+								
Isopropanol (2-propanol)	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Isopropyl ether	+	+	+	+	+	0	-	-	-	-	-	-	-	-
Lactic acid (2-hydroxypropionic acid)	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Lugol's solution (iodine/potassium iodide solution)	+	+	+	+	+	+	+	0	+	+	-	-	-	-
Mercury	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Mercury chloride	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Methanol	+	+	+	+	+	+	+	+	+	+	+	+	+	0
Methoxybenzene	+	+	+	+	+	+								
Methyl butyl ether	+	+	+	+	+	0	+	0	+	+	0	-	-	-
Methyl ethyl ketone (MEK)	+	+	+	+	0	0	-	-	+	0	0	-	0	-
Methyl formate (formic acid methyl ester)	+	+	+	+	+	+								
Methyl propyl ketone	+	+	+	+	+	+	0	0	+	0	+	+	+	0
Methylene chloride (dichloromethane)	+	+	+	+	+	+	-	-	0	-	0	-	0	-
Mineral oil (motor oil)	+	+	+	+	+	+	+	+	+	+	+	+	+	0
Monochloroacetic acid	+	+	+	+	+	+	+	0	+	0	+	+	+	+
Nitric acid, 10%	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Nitric acid, 30%	+	+	+	+	+	+	0	-	0	-	0	-	0	0
Nitric acid, 70%	+	+	+	+	+	+	-	-	-	-	-	-	-	-
Nitrobenzene	+	+	+	+	+	+	-	-	-	-	0	-	-	-
Oleic acid	+	+	+	+	+	+								
Oxalic acid	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Ozone	+	+	+	+	+	+	+	+	0	-	0	-	0	-
n-Pentane	+	+	+	+	+	+								
Peracetic acid	+	+	+	+	+	+								
Perchloric acid	+	0	+	+	+	+	0	-	+	-	+	-	+	-
Perchloroethylene	+	+	+	+	+	+	-	-	-	-	-	-	-	-

VITLAB®

PC		POM		PA		SAN		PMMA		PS		PVC		MF	NR	SI	EPDM	FKM
20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	20 °C	20 °C	20 °C	20 °C
+	0	+	+	+	0	+	+	-	-	-	-	0	-		0	0	+	0
		-	-	+											+		0	0
+	0	-	-	-	-	0	0	-	-	+	0	-	-	+	0	-	0	-
0	-	+	+	+		-	-	+		-	-	0	-	+	-	-	-	+
+	+	0	0	+	+	+	+	+	+	+	+	+	+	+	0	+	+	0
				-	-										+	+	+	0
-	-	+	+	+		-	-	0	-	-	-	0	-		-	-	-	+
+	0			+				0	-	-	-	-	-		-	-	-	+
-	-	+	+	+		+	+	0	0	-	-	0	-		-	-	-	+
								+										
								+							0	0	-	+
-	-	-	-	-	-	0	-	0	-	+	+	+		-	0	0	+	+
0	0	-	-	-	-	0	-	0	-	+	+	0		-	0	-	+	+
-	-	-	-	-	-	0	-	0	-	0	0	0	-	-	0	-	+	0
-	-	-	-	-	-	+	0	-	-	+	+	0	-	-	-	-	0	0
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
+	+	-	-	-	-					0	-				0	-	0	+
+	+	+	-	-	-	+	+	-	-	+	+	+	0	0	-	0	0	
																	+	+
		+	+												0	0	0	0
+	+	+	+			0	-	0	-	0	0	+	0		+	+	+	+
0				+		0	-			0	-				-	-	-	+
+	+	+	+	+		+	-	0	-	0	0	+	0		+	0	+	+
-	-			-	-					-	-	-	-		-	-	-	-
+	+	+	-	0	-	+	+	0	-	+	+	0	0		0	0	0	+
0	-	0	0			0	-	-	-	0	-	-	-		+	-	+	+
+	+	+	+	+		+	+	+	+	+	+	+	+		+	+	+	+
+	+	0	0	-	-	+	+	+	+	+	0	-	-		+	+	+	+
+	0	+	+	0		0	-	-	-	0	-	+	0		0	+	+	-
-	-	0				-	-	-	-	-	-				-	-	-	-
-	-	0				-	-	-	-	-	-	-	-		-	-	-	-
-	-	-	-			-	-	-	-	-	-	-	-		-	-	0	-
-	-	+				-	-	-	-	-	-				-	0	0	
-	-	+	+			-	-	-	-	-	-	-	-		-	-	0	-
-	-	-	-	0	-	-	-	-	-	-	-	-	-		-	-	-	0
+		+	+			+		+	+	+		+	+		-	0	-	+
0	-	-	-	-	-	-	-	0	-	0	-	+	0		-	-		0
+	0	-	-	-	-	+	0	+	0	-	-	+	0	-	-	-	0	0
+	0	-	-	-	-	0	-	0	0	-	-	0	-	-	-	-	-	0
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	0	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-
				+		-	-	-	-	-	-				-	-	-	0
+	+	+	+	-	-	+	+	+	+	+	+	+	+		0	0	+	+
-	-	-	-	-	-	0	0	+	0	0	0	+	0		-	+	+	+
				+											-	-	-	+
-	-	-	-													-		
-	-	-	-	-	-	-	-	-	-	-	-	0	-		-	-	0	+
-	-	+	0	-	-	0	0	0	-	-	-	-	-		-	-	-	0

Chemical stability of plastics

Medium	PFA/FEP		PTFE		ETFE		PMP		PP		HDPE		LDPE	
	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C
Petroleum	+	+	+	+	+	+	0	0	0	-	0	-	0	-
Petroleum ether	+	+	+	+	+	+							0	
Phenol	+	+	+	+	+	+	0	0	+	+	+	+	+	0
Phenylethanol	+	+	+	+	+	+			0		0			
Phenylhydrazine	+	+	+	+	+	+			0		0			
Phosphoric acid, 85%	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Piperidine	+	+	+	+	+	+			+		+			
Potassium chloride	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Potassium dichromate			+	+										
Potassium hydroxide	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Potassium permanganate	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Propanol	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Propionic acid	+	+	+	+	+	0	+	0	+	0	+	0	0	-
Propylene glycol (propanediol)	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Pyridine	+	+	+	+	-	-	+	0	0	0	+	0	+	0
Salicylaldehyde	+	+	+	+	+	-	+	+	+	+	+	+	+	+
Salicylic acid	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Silver acetate	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Silver nitrate	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Sodium acetate	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Sodium chloride	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Sodium dichromate	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Sodium fluoride	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Sodium hydroxide	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Sulphuric acid, 60%	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Sulphuric acid, 98%	+	+	+	+	+	+	+	+	-	-	0	-	0	-
Tartaric acid	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Tetrachloroethylene	+		+	+	0									
Tetrahydrofuran (THF)	0	0	+	+	+	0	0	-	-	-	0	-	0	-
Tetramethylammonium hydroxide	+	+	+	+	+	+								
Toluene	+	+	+	+	+	+	0	-	0	-	0	0	0	-
Tri(ethylene glycol)	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Tri(propylene glycol)	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Trichloroacetic acid	+	+	+	+	+	0	+	+	0	-	0	0	0	-
Trichlorobenzene	+	+	+	+	+	0	0	0	-	-	-	-	-	-
Trichloroethane	+	+	+	+	+	+	-	-	-	-	0	-	-	-
Trichloroethylene	+	+	+	+	+	+	-	-	-	-	0	-	-	-
Trichlorotrifluoroethane	+	+	+	+	0	-								
Triethanolamine	+	+	+	+										
Trifluoroacetic acid (TFA)	+	-	+	0										
Trifluoroethane	+	0	+	+										
Turpentine	+	+	+	+	+	+	0	0	-	-	0	-	0	-
Urea	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Xylene	+	+	+	+	+	+	0	-	-	-	0	-	0	-
Zinc chloride, 10%	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Zinc sulphate, 10%	+	+	+	+	+	+	+	+	+	+	+	+	+	+

VITLAB®

PC		POM		PA		SAN		PMMA		PS		PVC		MF	NR	SI	EPDM	FKM
20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	20 °C	20 °C	20 °C	20 °C
0	0	+	+	+				+		-	-	+	-		-	0	-	+
		+	+	+				+		-	-	0	-		-	-	-	+
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	0
				0														
															0	-	-	0
+	+	+	-	-	-	+	+	-	-	+	0	+	0	-	-	-	0	+
															-	-	-	-
+	+	+	+	+		0	0	+	+	0	0	+	0		+	+	+	+
				-	-										0	0	+	0
-	-	+	+	+		0	0	+	+	0	0	0	0	-	0	-	+	-
+	+	0	0	-	-	+	0	+	+	+	+	+	+		-	-	+	+
0		+	+	+	+	+	+	0		0		+	+		+	0	+	+
-	-	-	-	0	0					0	-	0	-		-	-	0	+
+	0	+	+	-	-	-	-	0	0	+	+	0	-		+	+	+	+
-	-	+	0	+		-	-	-	-	-	-	0	-		-	-	-	-
0	0					-	-			-	-	-	-					
		-	-	+		+	+			+	+	0	-		+	+	+	+
+	+	0	0			0	0	0	0	0	0	0	0		+	+	+	+
+	+	0	0	+		+	+	+	+	0	0	0	0		+	+	+	+
+	+	+	0	+		+	+	-	-	+	+	0	0		+	0	+	-
+	+	+	+	+		+	+	+	+	+	+	+	+		+	+	+	+
+	-	+	+	+		+	0	+	0	+	0	+	+		+	0	+	+
+	+	+	+	+		+	+	+	+	+	+	+	+		0	0	+	+
-	-	+	+	+	0	+	+			+	+	+	+	-	0	0	+	0
0	0	-	-	-	-	+	0	-	-	-	-	0	-		-	-	-	+
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	+
+	+	+	+	0	0	+	+	0	0	+	+	+	+	-	+	+	0	+
				-	-										-	-	-	0
-	-	0	0	+		-	-	-	-	-	-	-	-	+	-	-	-	-
-	-	-	-														+	-
-	-	+	+	+		-	-	-	-	-	-	-	-		-	-	-	0
+	0	+	0			+	+	0	0	+	+	0	-		0	+	+	+
+	0	+	0			+	+	0	0	+	+	0	-		+	+		
0	-			-	-					0	-	0	-		0		0	-
-	-									-	-	-	-					
-	-	0	-	0		-	-	-	-	-	-	-	-		-	-	-	+
-	-	-	-	0		-	-	-	-	-	-	-	-		-	-	-	0
				0		-	-			-	-						0	
						-	-			-	-				0	-	0	-
		-	-			-	-			-	-							-
						-	-			-	-				-	-	-	+
-	-	+	+	+		0	0	+	+	-	-	+	+		-	-	-	+
-	-	+	+	+		+	+	+	+	+	+	0	-	+	+	+	+	+
-	-	+	+	+		-	-	-	-	-	-	-	-		-	-	-	0
+	+	+	0	-	-	+	+	-	-	+	+	+	0		+	+	+	+
+	+	0	-	-	-	+	+	0	0	+	+	+	0		0	+	+	+

Physical properties of plastics

Plastics	Max. temperature for use °C	Brittleness temperature °C	Microwaveability*	Density g/cm³
PFA	260	-200	yes	2,17
PTFE	260	-200	yes	2,17
FEP	205	-100	yes	2,15
ETFE	150	-100	yes	1,70
PMP	150	0	yes	0,83
PP	125	0	yes	0,90
PE-HD	105	-50	yes	0,95
PE-LD	80	-50	yes	0,92
PC	125	-130	yes	1,20
POM	130	-40	no	1,42
PA	90	0	-	1,13
SAN	70	-40	no	1,03
PMMA	65 - 95	-50	no	1,18
PS	70	-20	no	1,05
PVC	80	-20	no	1,35
MF	120	-80	yes**	1,50
NR	80	-40	no	1,20
SI	180	-60	no	1,10
EPDM	130	-40	-	-
FKM	220	-30	-	-

* Mind the chemical and temperature suitability!

** Caution necessary when used in a microwave oven: Heating can release amounts of melamine and formaldehyde that can be harmful to health!

Cleaning and maintenance of plastics

All polyolefins, such as PE-LD, PE-HD, PP and PMP, as well as the fluoroplastics PTFE, PFA, FEP and ETFE have water-repellent surfaces that are very durable and easy to clean. For cleaning, depending on the level of contamination, commercially available neutral or alkaline detergents can be used. Polycarbonate (PC) labware should not be cleaned with alkaline cleaning agents (> pH 7). Please note that no scrubbing agents or scouring pads should be used for labware made from plastics.

Cleaning with dishwashers

Labware made from the above-named plastics (except for PE-LD, due to the temperature limit) can be cleaned and dried in a laboratory dishwasher together with other apparatus. Machine cleaning with laboratory dishwashers is gentler to labware than cleaning in an immersion bath. The labware is exposed to the cleaning solution for relatively short rinsing periods when sprayed by the jet or injector nozzles. Due to their light weight, we recommend securing the apparatus to be washed with washing nets to prevent them from tumbling in the water jet. Labware is better protected against scratching when the wire baskets in the washing machine are plastic coated.

Cleaning in an ultrasonic bath

Plastic labware may be cleaned in an ultrasonic bath. However, direct contact with the acoustic membrane should be avoided.

Cleaning in trace analysis

To avoid contamination with cations and anions in trace analysis, plastic labware should be allowed to stand with a 1N HCl or HNO_3 solution for a maximum of 6 hours at room temperature, and be rinsed afterwards with purified distilled water. For trace analysis conducted in the concentration range of ng/g (ppb) or pg/g (ppt), containers made of the fluoroplastic PFA are particularly suitable, because they have a smooth surface, are easy to clean without carry-over (memory effects) and interaction with the container material.

Sterilisation of laboratory equipment made of plastics

Autoclaving

Recommended autoclaving protocol
20 minutes at 121 °C (2 bar),
according to DIN EN 285

Autoclaving (steam sterilisation) is defined as the destruction or irreversible inactivation of all reproducible microorganisms under exposure to "saturated steam at a minimum of 120 °C." (DIN 58946-1, 1987). DIN EN 285 specifies a minimum exposure time (t_e) of 20 minutes (killing time and safety margin) at a sterilisation temperature of 121 °C. For the correct sterilisation procedure, including biological safety (DIN EN 285), please contact your hygiene specialist.

Prior to autoclaving plastic labware, ensure that no soiling or residual contamination remains on the equipment. Otherwise, the residual contamination will bake on solidly during the autoclaving process. Even substances that have no effect on the plastic at room temperature can still lead to destruction of the plastic during the autoclaving process. Additionally, microorganisms might not be killed effectively if they are protected by the residual contamination.

Notes on autoclaving



- Containers with screw tops or stoppers must be **open** during autoclaving to allow for pressure equalisation
  ➡ Autoclaving of a closed container will lead to the deformation or destruction of the container
- Plastic labware should be **stood upright on a level surface** during autoclaving to avoid shape deformation.
  ➡ Plastic labware should not be laid on its side during autoclaving
- **No mechanical stresses** should be present during autoclaving
  ➡ For example, do not stack items
- Do not autoclave any container that contains residual contamination or even rinsing agent
- Not all plastics are resistant to steam sterilisation! For example, polycarbonate loses its tensile strength
  ➡ Mind the temperature limits for the plastics
  ➡ Autoclavable products are identified with a "121 °C" symbol in this catalogue

The surfaces of some plastics can be attacked by chemicals present during autoclaving, which can cause persistent clouding. Some transparent plastics can absorb minute quantities of steam, which can lead to reversible clouding. This clouding disappears upon drying, which can be accelerated through the use of a drying oven.

Note!
For gas sterilisation, dry heat, and prior to heating in a microwave oven, all closures and stoppers must be removed as well.

Heating plastics in microwave ovens

Many plastics are suitable for use in microwave ovens. More accurate information can be obtained from the Table "Physical Properties of Plastics" on page 26. In this connection, it is important to be mindful of the chemical and temperature stability of the various plastics, and to ascertain whether the particular article and its contents are compatible with the given temperature. When aggressive acids, alkalis, or solvents are to be heated, the use of fluoroplastics is recommended. It is very important to provide for adequate ventilation (e.g., fume hoods).

Prior to the use of plastic labware in a microwave oven, the closures and stoppers must be removed from the apparatus.

Sterilisation* of plastics

VITLAB®

Plastics	Autoclave 121 °C, t_e 20 min according to DIN	Heated air 160 °C (dry)	Gas (Ethylene oxide)	Chemical (Formalin, ethanol)	β-/γ-radiation 25 kGy
PFA	yes	yes	yes	yes	no
PTFE	yes	yes	yes	yes	no
FEP	yes	yes	yes	yes	no
ETFE	yes	no	yes	yes	no
PMP	yes	no	yes	yes	yes
PP	yes	no	yes	yes	yes (limited)
PE-HD	no	no	yes	yes	yes
PE-LD	no	no	yes	yes	yes
PC	yes[1)]	no	yes	yes	yes
POM	yes[1)]	no	yes	yes	yes (limited)
PA	no	no	yes	yes	yes
SAN	no	no	yes	yes	no
PMMA	no	no	no	yes	yes
PS	no	no	no	yes	yes
PVC	no	no	yes	yes	no
MF	no	no	yes	no	no
NR	no	no	yes	yes	no
SI	yes	-	yes	yes	no
EPDM	yes	-	yes	yes	-
FKM	yes	-	yes	yes	-

* Before sterilisation, labware must be carefully cleaned and rinsed with distilled water. Always remove covers from containers!

[1)] Frequent autoclaving may reduce mechanical stability!

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Vials

Micro-Bottles, neoLab®

webcode WW2NY007

Small bottles made of clear glass with plastic screw cap made of plastic for storing small quantities of liquids or preparations. The two larger bottles have a wide neck and are also suitable for solid substances.

Article	Vol. ml	Height mm	Ø mm	Neck Ø mm	Order No.	PU pc/Pack
Micro-bottles	2.5	31	15	5	**12 01 21006**	100
Micro-bottles	5	42	21	13	**12 01 21007**	100
Micro-bottles	15	45	27	16	**12 01 21008**	100

! Available only in original packaging units. No fractions possible.



Vials

Vials, neoLab®

webcode WW2NY009



Sample vials, made of borosilicate glass type I (5.1), clear glass. Completely with plastic screw-cap with inlay made of butyl/PTFE, temperature-resistant up to 110°C.

Volume ml	Height mm	Ø mm	Order No.	PU pc/Pack
2	36	12	**12 01 27230**	100
4	46	15	**12 01 27231**	100
8	61	17	**12 01 27232**	200
12	66	19	**12 01 27233**	200
16	71	21	**12 01 27234**	200
24	86	23	**12 01 27235**	200
30	75	27	**12 01 27236**	100

Available only in original packaging units. No fractions possible.

Screw-Cap Bottles, IDL

webcode WW7R3305



Screw-cap bottles made of clear glass, complete with screw caps made of Hostalen®, white.

Volume approx. ml	Height mm	Ø mm	Lid	Order No.	PU pc/Pack
5	41	20	DIN 18	**12 00 10541**	100
10	55	20	DIN 18	**12 00 10542**	100
15	45	27	DIN 25	**12 00 11543**	100
20	50	27	DIN 25	**12 00 12050**	100
30	75	27	DIN 25	**12 00 13075**	100
50	90	30	DIN 25	**12 00 15090**	100

Available only in original packaging units. No fractions possible.

Autosampler Vials, neoLab®

webcode WW2NY008



Autosampler vials with thread for screw caps with hole and septum. Septum made of butyl/Teflon for one-time use, septum made of silicone/Teflon is self-sealing and can be pierced several times.

Autosampler vials
1.2 ml for autosamplers from Erba, HP, Kontron, Perkin-Elmer, Varian etc.
4.0 ml for autosamplers from WISP.Waters

Volume ml	Colour	Thread mm	Height mm	Ø mm	Order No.	PU pc/Pack
1.2	clear	8	32	12	**12 01 27200**	100
1.2	amber	8	32	12	**12 01 27201**	100
4.0	clear	13	45	15	**12 01 27210**	100
4.0	amber	13	45	15	**12 01 27211**	100

Available only in original packaging units. No fractions possible.

Screw caps (PP), with preassembled septum
1. with septum natural rubber/TEF and butyl/PTFE
Temperature-resistant from -40°C up to +120°C, thickness 1.3 mm

2. with septum silicone/PTFE
Temperature-resistant from -60°C up to +200°C, thickness 1.5 mm

3. with septum PTFE/silicone/PTFE
Temperature-resistant from -60°C up to +200°C, thickness 1.0 mm



List of screw caps

Designation	Septum	Order No.	PU pc/Pack
Cap ND8 with hole	Natural rubber red-orange/TEF transparent	**10 01 70666**	100
Cap ND8 with hole	butyl red/PTFE grey	**10 01 70667**	100
Cap ND8 with hole	silicone white/PTFE red	**10 01 70668**	100
Cap ND8 with hole	PTFE red/silicone white/PTFE red	**10 01 70669**	100
Cap ND13 with hole	Natural rubber red/TEF transp.	**10 01 70770**	100
Cap ND13 closed	Natural rubber red/TEF transp.	**10 01 70771**	100
Cap ND13 with hole	Silicone creme/PTFE red	**10 01 70772**	100
Cap ND13 closed	Silicone creme/PTFE red	**10 01 70773**	100
Cap ND13 with hole	Butyl red/PTFE grey	**10 01 70774**	100
Cap ND13 closed	Butyl red/PTFE grey	**10 01 70775**	100
Cap ND13 with hole	PTFE red/silicone white/PTFE red	**10 01 70776**	100
Cap ND13 with hole	Silicone white/PTFE blue cross recessed	**10 01 70777**	100

Available only in original packaging units. No fractions possible.

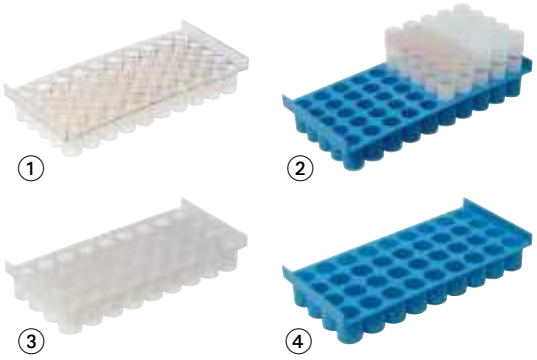
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Vials

LaboBox racks made of polycarbonate

	Article	Colour	Order No.
①	for 5 × 10 vials up to 12.5 mm Ø	transparent	**24 01 22312**
②	for 5 × 10 vials up to 12.5 mm Ø	blue	**24 01 22333**
③	for 4 × 9 vials up to 15 mm Ø	transparent	**24 01 22313**
④	for 4 × 9 vials up to 15 mm Ø	blue	**24 01 22334**

For lidded boxes to hold the racks, see 24 01 22316 and 24 01 22317



neochrom® Chromatography Vials ND8, neoLab®

webcode WW2NY374

Beaded rim vials ND8
For nearly all common auto samplers. Made of glass of the 1. hydrolytic class.

	Version	Volume ml	Height × Ø mm	Order No.	PU pc/Pack
⑤	Clear glass, flat bottom	0.8	30 × 8.2	**10 01 70600**	100
⑥	Clear glass, flat bottom	0.7	40 × 7	**10 01 70601**	100
⑦	Amber glass, flat bottom	0.7	40 × 7	**10 01 70602**	100
⑧	Clear glass, round bottom	0.3	31.5 × 5.5	**10 01 70603**	100
⑨	Clear glass, conical	0.3	31.5 × 5.5	**10 01 70604**	100
⑩	Clear glass, flat bottom	1.2	40 × 8.2	**10 01 70605**	100
⑪	Amber glass, flat bottom	1.2	40 × 8.2	**10 01 70606**	100
⑫	Clear glass, conical	0.7	40 × 7	**10 01 70607**	100
⑬	Amber glass, conical	0.4	30 × 7	**10 01 70609**	100



Aluminium crimping seals ND8
Colourless varnished, with 4 mm hole. Seals with different septa.

	Septum	Shore hardness	Thickness mm	Order No.	PU pc/Pack
⑭	Natural rubber red-orange/TEF transparent, proofed Agilent-quality	60° shore A	1.0	**10 01 70610**	100
⑮	Natural rubber red-orange/TEF transparent	60° shore A	1.0	**10 01 70611**	100
⑯	Red rubber/PTFE beige	45° shore A	1.0	**10 01 70623**	100
⑰	Silicone white/PTFE red	45° shore A	1.0	**10 01 70612**	100
⑱	PTFE red/silicone white/PTFE red	45° shore A	1.0	**10 01 70613**	100
⑲	PTFE virginal	53° shore D	0.25	**10 01 70615**	100



Thread Vials ND8, narrow mouth
For nearly all common autosamplers. Made of borosilicate glass of the 1. hydrolytical class.

	Version	Volume ml	Height × Ø mm	Order No.	PU pc/Pack
⑳	Clear glass	2.0	32 × 12	**10 01 81100**	100
㉑	Clear glass, with labelling area	2.0	32 × 12	**10 01 81101**	100
㉒	Amber glass	1.5	32 × 11.6	**10 01 70657**	100
㉓	Amber glass, with labelling area	2.0	32 × 12	**10 01 81102**	100
㉔	Clear glass, conical	1.1	32 × 11.6	**10 01 70659**	100



Micro inserts for thread vials ND8
Micro inserts for vials with narrow opening. Clear glass of the 1. hydrolytical class.

	Version	Volume ml	Height × Ø mm	Order No.	PU pc/Pack
㉕	Conical, 15 mm tip	0.1	31 × 5	**10 01 70660**	100
㉖	Flat bottom	0.2	31 × 5	**10 01 70661**	100
㉗	Konical with polymer foot	0.1	29 × 5	**10 01 70662**	100
㉘	Conical, 9 mm tip	0.1	31 × 5	**10 01 70663**	100
㉙	Conical	0.05	27.5 × 4	**10 01 70664**	100
㉚	Metal spring		36 × 5	**10 01 70665**	100



Continued on next page

webcode To see other variants and accessories, please enter the webcode on our website.

Vials





Screw-caps ND8
Black screw-caps ND8 made of PP with thread 8-425. Caps with different septa.

	Septum	Version	Shore hardness	Thickness mm	Order No.	PU pc/Pack
①	Natural rubber red-orange/TEF transparent	with hole	60° shore A	1.3	**10 01 70666**	100
②	butyl red/PTFE grey	with hole	55° shore A	1.3	**10 01 70667**	100
③	Red rubber/PTFE beige	with hole	45° shore A	1.0	**10 01 81300**	100
④	silicone white/PTFE red	with hole	45° shore A	1.3	**10 01 70668**	100
⑤	PTFE red/silicone white/ PTFE red	with hole	45° shore A	1.0	**10 01 70669**	100
⑥	Silicone creme/PTFE red	with hole	55° shore A	1.5	**10 01 81301**	100
⑦	Silicone white/PTFE red, slotted	with hole	45° shore A	1.3	**10 01 81302**	100
⑧	Butyl red/PTFE grey	closed	55° shore A	1.3	**10 01 70872**	100
⑨	Natural rubber red-orange/TEF transp.	closed	60° shore A	1.3	**10 01 70873**	100
⑩	Silicone white/PTFE red	closed	45° shore A	1.3	**10 01 70874**	100

webcode WW2NY375

neochrom® Chromatography Vials ND9, neoLab®



Short thread vials ND9, wide mouth
The wide opening allows an easy filling with viscous substances. Made of borosilicate glass of hydrolytic class 1.

	Version	Vol. ml	Height × Ø mm	Order No.	PU pc/Pack
⑪	Clear glass	2.0	32 × 12	**10 01 81025**	100
⑪	Clear glass, silanized	2.0	32 × 11.6	**10 01 70674**	100
⑫	Clear glass, with labelling field	2.0	32 × 12	**10 01 81026**	100
⑬	Amber glass, with labelling field	2.0	32 × 12	**10 01 81027**	100
⑭	Clear glass, with 15 µl inside cone	1.1	32 × 11.6	**10 01 70678**	100
⑮	micro vial PP transparent	0.3	32 × 11.6	**10 01 70684**	100
⑯	micro vial PP amber	0.3	32 × 11.6	**10 01 70685**	100
⑰	micro vial PP transparent	0.7	32 × 11.6	**10 01 70686**	100
⑱	PP transparent, filling graduation, bottom inside slightly concave	1.5	32 × 11.6	**10 01 70687**	100



Micro inserts for short thread vials ND9
Micro inserts made of glass of hydrolytic class 1 for short thread vials ND9.

	Version	Useful vol. ml	Height × Ø mm	Order No.	PU pc/Pack
⑲	Conical, 15 mm tip	0.25	31 × 6	**10 01 70632**	100
⑲	Silanized, conical, 15 mm tip	0.1	31 × 6	**10 01 70633**	100
⑳	Conical, 12 mm tip	0.3	31 × 6	**10 01 70634**	100
㉑	Conical, with polymer foot	0.25	29 × 5.7	**10 01 70635**	100
㉑	Silanized, conical, with polymer foot	0.25	29 × 5.7	**10 01 70636**	100
㉒	Flat bottom	0.35	31 × 6	**10 01 70637**	100



Screw-caps ND9
Coloured screw-caps ND9 made of PP with short thread 9-425 and 6 mm hole. Caps with different septa.

	Septum	Colour	Shore hardness	Thickness mm	Order No.	PU pc/Pack
㉓	PTFE virginal	blue	53° shore D	0.2	**10 01 70707**	100
㉔	Natural rubber red-orange/ TEF transparent	blue	60° shore A	0.1	**10 01 70690**	100
㉕	Red Rubber/PTFE beige	blue	45° shore A	0.1	**10 01 70693**	100
㉖	Silicone white/PTFE red	blue	55° shore A	0.1	**10 01 70695**	100
㉗	PTFE red/silicone white/ PTFE red	blue	45° shore A	0.1	**10 01 81304**	100
㉘	Silicone white/PTFE blue, slotted	blue	55° shore A	0.1	**10 01 70699**	100
㉙	Silicone white/PTFE red, slotted (Y)	blue	55° shore A	0.1	**10 01 81305**	100
㉚	PTFE virginal	black	53° shore D	0.2	**10 01 70709**	100
㉛	Natural rubber red-orange/ TEF transparent	black	60° shore A	0.1	**10 01 70692**	100
㉜	Red Rubber/PTFE beige	black	45° shore A	0.1	**10 01 81306**	100
㉝	Silicone white/PTFE red	black	55° shore A	0.1	**10 01 70697**	100
㉞	PTFE red/silicone white/ PTFE red	black	45° shore A	0.1	**10 01 81307**	100
㉟	Silicone white/PTFE blue, slotted	black	55° shore A	0.1	**10 01 70701**	100



Vials

neochrom® Chromatography Vials ND10, neoLab®

webcode WW2NY376

Thread vials ND10
Made of borosilicate glass of the 1st hydrolytical class.

	Version	Volume ml	Height × Ø mm	Order No.	PU pc/Pack
①	Clear glass	1.5	23 × 11.6	**10 01 81308**	100
②	Clear glass, with labelling area	2.0	23 × 12	**10 01 70726**	100
③	Amber glass, with labelling area	2.0	23 × 12	**10 01 81111**	100



Micro inserts for thread vials ND10
Micro inserts made of glass of hydrolytic class 1 for short thread vials ND10.

	Version	Useful vol. ml	Height × Ø mm	Order No.	PU pc/Pack
④	Conical, 15 mm tip	0.25	31 × 6	**10 01 70632**	100
④	Silanized, conical, 15 mm tip	0.1	31 × 6	**10 01 70633**	100
⑤	Conical, 12 mm tip	0.3	31 × 6	**10 01 70634**	100
⑥	Conical, with polymer foot	0.25	29 × 5.7	**10 01 70635**	100
⑥	Silanized, conical, with polymer foot	0.25	29 × 5.7	**10 01 70636**	100
⑦	Flat bottom	0.35	31 × 6	**10 01 70637**	100



Screw-caps ND10
Screw-caps ND10 made of PP, with thread 10-425. Screw-caps with different septa.

	Septum	Version	Shore hardness	Thickness mm	Order No.	PU pc/Pack
⑧	natural rubber red-orange/TEF transparent	with hole	60° shore A	1.3	**10 01 70728**	100
⑨	silicone white/PTFE red	with hole	45° shore A	1.3	**10 01 70729**	100
⑩	silicone white/PTFE beige	with hole	45° shore A	1.5	**10 01 70730**	100
⑪	PTFE red/silicone white/PTFE red	with hole	45° shore A	1.0	**10 01 70731**	100
⑫	silicone white/PTFE blue, slotted	with hole	55° shore A	1.5	**10 01 70732**	100
⑬	natural rubber red-orange/TEF transparent	closed	60° shore A	1.3	**10 01 81309**	100



for my lab neoLab®

neochrom® Chromatography Vials ND11, neoLab®

webcode WW2NY377

Beaded rim vials ND11
The wide opening allows an easy filling. Made of borosilicate glass of hydrolytic class 1.

	Version	Volume ml	Order No.	PU pc/Pack
⑭	Clear glass	2.0	**10 01 81001**	100
⑮	Clear glass, with labelling field	2.0	**10 01 81002**	100
⑯	Amber glass, with labelling field	2.0	**10 01 81003**	100
⑰	TPX vial transparent with integrated glass micro insert	0.2	**10 01 70628**	100



Micro inserts for beaded rim vials ND11
Micro inserts for beaded rim vials ND11, made of borosilicate glass of hydrolytic class 1.

	Version	Useful vol. ml	Height × Ø mm	Order No.	PU pc/Pack
⑱	Conical, 15 mm tip	0.25	31 × 6	**10 01 70632**	100
⑱	Silanized, conical, 15 mm tip	0.1	31 × 6	**10 01 70633**	100
⑲	Conical, 12 mm tip	0.3	31 × 6	**10 01 70634**	100
⑳	Conical, with polymer foot	0.25	29 × 5.7	**10 01 70635**	100
⑳	Silanized, conical, with polymer foot	0.25	29 × 5.7	**10 01 70636**	100
㉑	Flat bottom	0.35	31 × 6	**10 01 70637**	100



Continued on next page

Vials



Aluminium crimping seals ND11
Colourless varnished, with 5.5 mm hole. Seals with different septa.

	Septum	Shore hardness	Thickness mm	Order No.	PU pc/Pack
①	Natural rubber red-orange/TEF transparent	60° shore A	1.0	**10 01 81310**	100
②	Natural rubber red-orange/Butyl red/TEF transp.	45° shore A	1.0	**10 01 81311**	100
③	Red Rubber/PTFE beige	45° shore A	1.0	**10 01 81312**	100
④	Silicone white/PTFE red	45° shore A	1.3	**10 01 81313**	100
⑤	Silicone dark blue/PTFE white	45° shore A	1.3	**10 01 81314**	100
⑥	PTFE red/silicone white/PTFE red	45° shore A	1.0	**10 01 81315**	100
⑦	Silicone white/PTFE blue, cross recessed	55° shore A	1.5	**10 01 81316**	100
⑧	Butyl red/PTFE grey	55° shore A	1.3	**10 01 70640**	100
⑨	PTFE grey/butyl red/PTFE grey	55° shore A	1.3	**10 01 70641**	100
⑩	PTFE virginal	53° shore D	0.25	**10 01 70646**	100



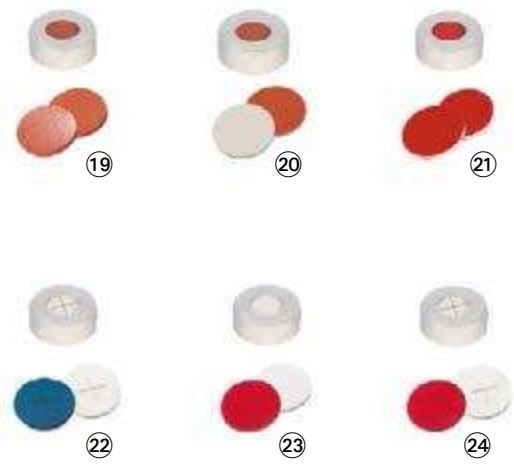
Snapping ring vials ND11
Borosilicate glass of the 1. hydrolytical class.

	Version	Volume ml	Height × Ø mm	Order No.	PU pc/Pack
⑪	Clear glass	1.5	32 × 11.6	**10 01 70748**	100
⑫	Clear glass, with labelling area	2.0	32 × 12	**10 01 81053**	100
⑬	Amber glass, with labelling area	2.0	32 × 12	**10 01 81054**	100
⑭	TPX vial transparent with integrated glass micro insert	0.2	32 × 11.6	**10 01 70628**	100



Micro inserts for snapping ring vials ND11
Micro inserts for snapping ring vials ND11, made of borosilicate glass of hydrolytic class 1.

	Version	Useful vol. ml	Height × Ø mm	Order No.	PU pc/Pack
⑮	Conical, 15 mm tip	0.25	31 × 6	**10 01 70632**	100
⑮	Silanized, conical, 15 mm tip	0.1	31 × 6	**10 01 70633**	100
⑯	Conical, 12 mm tip	0.3	31 × 6	**10 01 70634**	100
⑰	Conical, with polymer foot	0.25	29 × 5.7	**10 01 70635**	100
⑰	Silanized, conical, with polymer foot	0.25	29 × 5.7	**10 01 70636**	100
⑱	Flat bottom	0.35	31 × 6	**10 01 70637**	100



PE snapping ring caps ND11
Coloured snapping ring caps ND11 made of PE with 6 mm hole. Caps with different septa.

	Septum	Shore hardness	Material	Thickness mm	Order No.	PU pc/Pack
⑲	Natural rubber red-orange/TEF transparent	60° shore A	PE, soft	1.0	**10 01 70751**	100
⑲	Natural rubber red-orange/TEF transparent	60° shore A	PE, hard	1.0	**10 01 81319**	100
⑳	Red rubber/PTFE beige	45° shore A	PE, soft	1.0	**10 01 81317**	100
⑳	Red rubber/PTFE beige	45° shore A	PE, hard	1.0	**10 01 81320**	100
㉑	PTFE red/silicone white/PTFE red	45° shore A	PE, soft	1.0	**10 01 70761**	100
㉑	PTFE red/silicone white/PTFE red	45° shore A	PE, hard	1.0	**10 01 81322**	100
㉒	Silicone white/PTFE blue, cross recessed	55° shore A	PE, soft	1.0	**10 01 70758**	100
㉒	Silicone white/PTFE blue, cross recessed	55° shore A	PE, hard	1.0	**10 01 81323**	100
㉓	Silicone white/PTFE red	45° shore A	PE, soft	1.3	**10 01 70755**	100
㉓	Silicone white/PTFE red	45° shore A	PE, hard	1.3	**10 01 81321**	100
㉔	Silicone white/PTFE red, slotted (Y)	45° shore A	PE, soft	1.3	**10 01 81318**	100
㉔	Silicone white/PTFE red, slotted (Y)	45° shore A	PE, hard	1.3	**10 01 81324**	100

Vials

neochrom® Chromatography Vials ND13, neoLab®

webcode WW2NY378



Thread vials ND13
Standard sample vials made of clear or amber glass with wide opening. 4 ml content, thread 13-425. Made of borosilicate glass of the 1. hydrolytical class.

	Version	Volume ml	Height × Ø mm	Order No.	PU pc/Pack
①	Clear glass	4.0	45 × 17.4	**10 01 70764**	100
②	Clear glass, with labelling field and graduation	4.0	45 × 17.4	**10 01 70765**	100
③	Amber glass	4.0	45 × 17.4	**10 01 70766**	100
④	Amber glass, with labelling field and graduation	4.0	45 × 17.4	**10 01 70767**	100

Micro inserts for thread vials ND13

	Version	Useful vol. l	Height × Ø mm	Order No.	PU pc/Pack
⑤	Micro insert, clear glass, conical, 15 mm tip	0.3	40 × 6	**10 01 70768**	100
⑥	Metal spring for micro insert			**10 01 70769**	100



Screw-caps ND13
Black screw-caps ND13 made of PP with thread 13-425. With 8.5 mm hole or closed. Caps with different septa.

	Septum	Version	Shore hardness	Thickness mm	Order No.	PU pc/Pack
⑦	Natural rubber red/ TEF transp.	with hole	60° shore A	1.3	**10 01 70770**	100
⑧	Silicone creme/ PTFE red	with hole	55° shore A	1.5	**10 01 70772**	100
⑨	Butyl red/PTFE grey	with hole	55° shore A	1.3	**10 01 70774**	100
⑩	PTFE red/silicone white/PTFE red	with hole	45° shore A	1.0	**10 01 70776**	100
⑪	Silicone dark blue/ PTFE white	with hole	45° shore A	1.3	**10 01 51325**	100
⑫	Silicone white/ PTFE blue cross recessed	with hole	55° shore A	1.5	**10 01 70777**	100
⑬	Natural rubber red/ TEF transp.	closed	60° shore A	1.3	**10 01 70771**	100
⑭	Butyl red/PTFE grey	closed	55° shore A	1.3	**10 01 70775**	100
⑮	Silicone creme/ PTFE red	closed	55° shore A	1.3	**10 01 70773**	100





for my lab neoLab

neochrom® Chromatography Vials ND18, neoLab®

webcode WW2NY379



Fine thread vials ND18
Fine thread vials with thread ND18 made of borosilicate glass of the 1. hydrolytical class with rounded bottom.

	Version	Volume ml	Height × Ø mm	Order No.	PU pc/Pack
⑯	Clear glass	10	46 × 22.5	**10 01 70840**	100
⑰	Amber glass	10	46 × 22.5	**10 01 70841**	100
⑱	Clear glass	20	75.5 × 22.5	**10 01 70842**	100
⑲	Amber glass	20	75.5 × 22.5	**10 01 70843**	100



Magnetic screw-caps ND18
Silver, mounted with septa. With 8 mm hole or closed. Caps with different septa

	Septum	Version	Shore hardness	Thickness mm	Order No.	PU pc/Pack
⑳	Silicone blue transparent/PTFE transp.	with hole	45° shore A	1.3	**10 01 70845**	100
㉑	Silicone white/PTFE blue	with hole	55° shore A	1.5	**10 01 70846**	100
㉒	Silicone white/PTFE red	with hole	45° shore A	1.3	**10 01 70847**	100
㉓	Butyl red/PTFE grey	with hole	55° shore A	1.6	**10 01 70849**	100
㉔	Silicone white/aluminium foil silver	with hole	50° shore A	1.3	**10 01 81326**	100
㉕	Butyl red/PTFE grey	closed	55° shore A	1.6	**10 01 70850**	100
㉖	Silicone white/PTFE red	closed	45° shore A	1.3	**10 01 70848**	100



webcode To see other variants and accessories, please enter the webcode on our website.

Vials

webcode WW2NY380


① ② ③ ④ ⑤


⑥ ⑦ ⑧ ⑨ ⑩


⑪ ⑫ ⑬ ⑭ ⑮ ⑯


⑰ ⑱ ⑲

neochrom® Chromatography Vials ND20, neoLab®

Headspace vials ND20
All vials are made of borosilicate glass of the 1. hydrolytical class.
Headspace vials are differentiating in the following features:
- Volume
- Rounded or flat bottom
  A rounded bottom is more solid during tempering at high insided pressure. The bottle furthermore slides easier into the heating block, if she is inserted by the use of magnets.
  A flat bottom can be needed, if the vials have to run down minimal in the device.
- Bevelled headspace rim resp. flat DIN beaded rim
  A bevelled headspace rim can be required for some special closure systems (Perkin Elmer).
  However, a sealing shim has more seating on a flat DIN beaded rim.
- Neck length (depending on the device)
- Clear/amber glass
- With/without inscription pad and filling mark

	Version	Volume ml	Height × Ø mm	Order No.	PU pc/Pack
①	Clear glass, bottom rounded	5.0	38.2 × 22	**10 01 70788**	100
②	Clear glass, bottom rounded	10.0	46 × 22.5	**10 01 70789**	100
③	Amber glass, bottom rounded	10.0	46 × 22.5	**10 01 70790**	100
④	Clear glass, flat bottom	10.0	46 × 22.5	**10 01 70791**	100
⑤	Clear glass, bottom rounded	20.0	75.5 × 22.5	**10 01 70792**	100
⑥	Amber glass, bottom rounded	20.0	75.5 × 22.5	**10 01 70793**	100
⑦	Clear glass, bottom rounded, with labelling area	20.0	75.5 × 22.5	**10 01 70794**	100
⑧	Clear glass, flat bottom	20.0	75.5 × 22.5	**10 01 70795**	100
⑨	Clear glass, bottom rounded	20.0	75.5 × 22.5	**10 01 70796**	100
⑩	Amber glass, bottom rounded	20.0	75.5 × 22.5	**10 01 70797**	100

Headspace caps ND20
Colourless lacquered, with overpressure protection. Caps with different septa.

	Septum	Shore hardness	Thickness mm	Order No.	PU pc/Pack
⑪	Butyl dark blue	50° shore A	3.0	**10 01 70811**	100
⑫	Butyl/PTFE grey	50° shore A	3.0	**10 01 70816**	100
⑬	Pharma-Fix butyl/PTFE	50° shore A	3.0	**10 01 70821**	100
⑭	Silicone blue transp./PTFE transp.	45° shore A	3.0	**10 01 70826**	100
⑮	Silicone white/PTFE beige	45° shore A	3.2	**10 01 70832**	100
⑯	Silicone white/aluminium foil silver	50° shore A	3.0	**10 01 70834**	100

Crimp vials ND 20
Crimp cials for CG and HPLC, made of borosilicate glass of hydrolytic class 1.

	Version	Volume ml	Height × Ø mm	Order No.	PU pc/Pack
⑰	Clear glass, flat bottom	5.0	38 × 20	**10 01 70798**	100
⑱	Clear glass, flat bottom	10.0	54.5 × 20	**10 01 70799**	100
⑲	Clear glass, flat bottom	50.0	101 × 31	**10 01 70800**	100


⑳ ㉑ ㉒ ㉓ ㉔


㉕ ㉖ ㉗ ㉘ ㉙

Crimping seals ND20
Crimping seals with different septa.

	Article	Colour	Hole Ø mm	Septum	Shore hardness	Thickness mm	Order No.	PU pc/Pack
⑳	Aluminium crimping seal	silver	10	butyl dark grey	50° shore A	3.0	**10 01 70810**	100
㉑	Middle tear-off seal	silver	–	butyl dark grey	50° shore A	3.0	**10 01 70813**	100
㉒	360° tear-off cap	silver	–	butyl dark grey	50° shore A	3.0	**10 01 70814**	100
㉓	Aluminium crimping seal	silver	10	butyl/PTFE grey	50° shore A	3.0	**10 01 70815**	100
㉔	Magnetic crimping seal	gold	8	butyl/PTFE grey	50° shore A	3.0	**10 01 70817**	100
㉕	Middle tear-off seal	silver	–	butyl/PTFE grey	50° shore A	3.0	**10 01 70818**	100
㉖	360° tear-off cap	silver	–	butyl/PTFE grey	50° shore A	3.0	**10 01 70819**	100
㉗	Aluminium crimping seal	silver	10	Pharma-Fix butyl/PTFE	50° shore A	3.0	**10 01 70820**	100

Continued on next page

Vials

	Article	Colour	Hole Ø mm	Septum	Shore hardness	Thickness mm	Order No.	PU pc/Pack
28	Magnetic crimping seal	gold	8	Pharma-Fix butyl/ PTFE	50° shore A	3.0	**10 01 70822**	100
29	360° tear-off cap	silver	–	Pharma-Fix butyl/ PTFE	50° shore A	3.0	**10 01 70824**	100
30	Aluminium crimping seal	silver	10	silicone blue transp./ PTFE transp.	45° shore A	3.0	**10 01 70825**	100
31	Magnetic crimping seal	gold	5	silicone blue transp./ PTFE transp.	45° shore A	3.2	**10 01 70827**	100
32	360° tear-off cap	silver	–	silicone blue transp./ PTFE transp.	45° shore A	3.0	**10 01 70830**	100
33	Aluminium crimping seal	silver	10	silicone white/PTFE beige	45° shore A	3.2	**10 01 70831**	100
34	Aluminium crimping seal	silver	10	silicone white/ aluminium foil silver	50° shore A	3.2	**10 01 70833**	100


30 31 32 33 34

Injection Vials, IDL

webcode WW7R3306

35 Injection vials

Also known as snap-cap bottles, made of borosilicate glass of hydrolytic class 1.

Clear glass

Volume ml	Height mm	Ø mm	Neck Ø mm	Order No.	PU pc/Pack
1.0 [1]	32	11	11	**12 00 40001**	100
4.0 [a]	45	15	13	**12 00 40004**	100
5.0 [1]	38	20	20	**12 00 40005**	100
5.0 [b]	38	22	20	**12 00 40006**	100
10.0 [b]	47	23	20	**12 00 40010**	100
10.0 [c]	45	22	20	**12 00 40011**	100
10.0 [1]	55	20	20	**12 00 40012**	100
20.0 [d]	75	23	20	**12 00 40020**	100
20.0 [2]	75	23	20	**12 00 40022**	100
25.0 [1]	65	30	20	**12 00 40025**	100
50.0 [1]	101	31	20	**12 00 40050**	100
100.0 [3]	95	52	20	**12 00 40100**	88


35

Available only in original packaging units. No fractions possible.

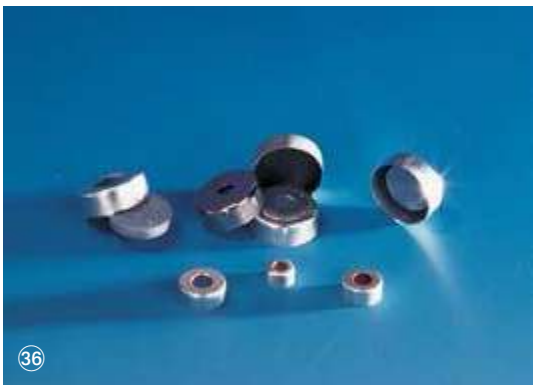
[1]) With flat bottom and rim acc. to DIN 58366 part 1.
[2]) With rounded bottom rim and special snap-fit rim.
[3]) Made of glass of a hydrolytic class 3.

Suitable for autosamplers from the companies:
[a]) Waters, model WISP size 48 specimen tray.
[b]) Carlo-Erba, model HS 250.
[c]) DANI, head-space sampler.
[d]) Perkin-Elmer, head-space sampler 740 and 745.

36 Aluminium flanged caps

For closing the above vials. The listed cap sizes fit the same diameter. These caps have a hole and are equipped with seal rings.

Seal ring color/material	Cap Ø mm	Order No.	PU pc/Pack
Red PTFE-coated rubber	11	**12 00 42011**	100
Colourless PTFE-coated butyl rubber	13	**12 00 42013**	100
PTFE-coated butyl rubber	20	**12 00 42020**	100
PTFE-coated silicone rubber [1]	20	**12 00 42024**	100
Head-space cap with butyl/PTFE [2]	20	**12 00 42026**	100
Head-space cap with silicone/PTFE [2]	20	**12 00 42027**	100


36

Available only in original packaging units. No fractions possible.

[1]) Special magnetic cap with hole, for Shimadzu head-spacer sampler HSS-2B
[2]) These caps are particularly ideal for head-space analysis because the aluminium caps have rupture points which prevent the vials from bursting if the pressure rises too high.

Further accessories

Article	Cap Ø mm	Order No.	PU pc/Pack
Aluminium cap without seal, with hole	20	**12 00 42021**	100
Aluminium cap without seal, with tear off	20	**10 00 40025**	100
Stopper made of butyl rubber	20	**12 00 42022**	100

Available only in original packaging units. No fractions possible.

webcode To see other variants and accessories, please enter the webcode on our website.

Vials



①

webcode WW7R3311

Tongs, IDL

	Article	Cap Ø mm	Order No.
①	Flanging tongs	8	**12 00 42051**
	Opening tongs	8	**12 00 42052**
	Flanging tongs	11	**12 00 42053**
	Opening tongs	11	**12 00 42054**
	Flanging tongs	13	**12 00 42055**
	Opening tongs	13	**12 00 42056**
	Flanging tongs	20	**12 00 42057**
	Opening tongs	20	**12 00 42058**

webcode WW7R3304



Snap-Cap Bottles, IDL

Snap-cap bottles made of clear glass, complete with snap-caps made of polyethylene.

Volume approx. ml	Height mm	Ø mm	Order No.	PU pc/Pack
3	30	19	**12 00 20330**	200
5	40	19	**12 00 20540**	200
10	32	24	**12 00 21032**	200
10	45	23	**12 00 21045**	200
15	52	24	**12 00 21552**	200
20	55	27	**12 00 22055**	200
20	70	25	**12 00 22070**	200
25	50	30	**12 00 23050**	250
30	75	28	**12 00 23075**	200
35	65	30	**12 00 23565**	200
40	80	30	**12 00 24080**	200
50	100	30	**12 00 25099**	200
100	145	34	**12 00 29999**	100

Available only in original packaging units. No fractions possible.

Scintillation Vials

webcode WW2NY213

Glass Scintillation Vials with Screw Cap, neoLab®

Low-price vial, suitable also for use as a disposable scintillation vial. Made of thermal-cycling-resistant borosilicate glass, according to ASTM standard type I class A. The vials have a flat bottom and a very uniform wall thickness on account of being manufactured from glass tube. Cap with seal insert made of metal foil.


②

② **Scintillation Vials, 6 ml**
Welded in a plastic tray, caps added separate.

Volume ml	Ø mm	Height mm	Cap mm	Order No.	PU pc/Pack
6	17	58	15	**12 01 90615**	200


③

③ **Scintillation Vials, 20 ml**
Caps are screwed on. Autoclavable.
Volume: 20 ml
Measures: 20 × 61 mm high

Cap mm	Cap material	Seal	Order No.	PU pc/Pack
22	Polypropylene	Metal inlay	**12 01 90620**	100
22	Urea	Metal inlay	**12 01 90621**	100
24	Polypropylene	Metal inlay	**12 01 90622**	100

Scintillation Vials

Scintillation Vials made of Plastic with Screw Closure, neoLab®

webcode WW2NY214



Very economical scintillation vials. Tubes and closures are separately packed in a plastic bag. The screw cap is made of polypropylene and has no additional inserts.

Volume ml	Ø mm	Height mm	Cap mm	Material	Order No.	PU pc/Pack
6	17	54	18	HDPE	**23 01 90149**	100
20	26	60	26	PPN	**10 01 71580**	1000

Scintillation Tube Racks, neoLab®

webcode WW2NY043



Made of chemically resistant polypropylene, autoclavable up to 121°C. Sturdy design with 2 carrying handles, for the transportation, storage or preparation of scintillation tubes.

Outer dimensions: 298 × 127 × 95 mm
Mid-level height: 44 mm
Holes: 3 rows of 8 holes with 30 mm dia.

Article	Order No.
Scintillation tube rack	**24 01 13107**

Bottles

Bottle System DURAN® YOUTILITY, DURAN Group / IDL

webcode WWEQ2211





The DURAN Group introduces the new bottle system for the 21st century laboratory. The new YOUTILITY bottle system was developed by the DURAN Group, who originated the screw threaded GL 45 DURAN® borosilicate glass laboratory bottle in 1972. Since then the DURAN® GL 45 Laboratory Bottle has become the bottle of choice for laboratories around the world.

Now, the DURAN® YOUTILITY bottle represents a new generation of glass laboratory bottles for use in a wide and diverse range of applications. The innovation does not stop at the improved ergonomic bottle shape, but extends to dedicated accessories that incorporate many new innovative features to improve handling, sample identification, and ease of use. The new YOUTILITY bottles and accessories help to make laboratory work easier, safer, more economical and fun.

DURAN® YOUTILITY Laborflasche GL 45

- Specially shaped gripping zones on both sides of the bottle for easier and safer handling.
- With the new YOUTILITY bottle thread opening or closing the bottle is significantly faster. The thread is fully compatible with DIN GL 45 closures and other accessories.
- The slimmer YOUTILITY bottle shape allows a more optimal use of limited space in autoclaves and laboratory refrigerators.
- A pre-defined labelling area is compatible with the dedicated DURAN® self-adhesive YOUTILITY bottle labels.
- Nominal volume is shown at the top of the easy-to-read graduation scale for fast determination of the volumes.
- A range of sequentially sized bottles are available in the four popular volumes of 125, 250, 500 and 1000 ml.
- Glass bottle body is moulded from the tried and tested DURAN® borosilicate 3.3 pharmacopoeial Type 1 neutral glass. DURAN® glass offers very good chemical resistance and high temperature resistance.
- The YOUTILITY bottle has an integrated Retrace Code to allow full product traceability. The lot specific certificate of conformance is available at: www.duran-group.com.
- Each DURAN® YOUTILITY bottle is supplied as a complete system, with a pouring ring (cyan polypropylene) and a GL 45 cap (cyan polypropylene).

DURAN® YOUTILITY Screw Cap GL 45

- The DURAN®YOUTILITY Screw Cap GL 45 is manufactured from a food-grade polypropylene and is fully reusable.
- Ergonomically shaped screw cap with optimised grooves and ridges for a more efficient and easier tightening or removal, especially with smaller sized or gloved hands.
- The faster opening and closing thread of the YOUTILITY screw cap is fully compatible with DIN GL 45 bottle threads. The optimised cap sealing system ensures a liquid tight seal.
- The YOUTILITY screw cap has an integrated Retrace Code to provide full product traceability. The lot specific certificate of conformance is available at www.duran-group.com.
- A pre-defined labelling area on the cap is compatible with the dedicated DURAN® self-adhesive YOUTILITY labels.

Continued on next page

Bottles



①


②

DURAN® GL 45 Bottle Tag

- The colourful silicone GL 45 Bottle Tags can be easily and securely attached around the neck of the YOUTILITY bottle.
- The Bottle Tags are available in many distinct colours for easy customisation and unambiguous bottle identification.
- The elastic Bottle Tags will fit around any DIN GL 45 bottle neck, and can even be applied with the screw cap in place.

DURAN® YOUTILITY Labels

The YOUTILITY Labels are custom designed for use with the DURAN®YOUTILITY bottle system. A pack contains a roll of 200 label sets (200 bottle (36 × 70 mm) and 200 screw cap labels (30 mm diameter) labels) in a re-sealable, water resistant box.

- The labels are manufactured from a tear resistant, matt white, polyester material coated with a high performance adhesive.
- The surface will accept a variety of inks, including copier, printer, ballpoint and technical markers.
- The labels are chemically resistant with a wide -40°C to +150°C performance range, making them suitable for use in fridges, freezers, autoclaves, incubators and water baths.
- Both labels formats feature an autoclave / steam sterilisation Class 1 process indicator (ANSI/AAMI/ISO 11140-1:2005).
- The labels are non-toxic, and lead free.
- After use the labels may be easily removed by peeling.

① **DURAN® YOUTILITY Complete System**

Nominal volume ml	Height mm	Outer Ø mm	Order No.	PU pc/Set
125	124	55	**10 21 18128**	4
250	158	66	**10 21 18136**	4
500	193	78	**10 21 18144**	4
1000	253	93	**10 21 18154**	4

Accessories and Replacement Parts

	Article	Material	Colour	Order No.	PU pc/Pack
	DURAN® YOUTILITY screw caps GL 45	polypropylene (PP)	cyan	**10 21 12802**	10
	DURAN® YOUTILITY pouring ring GL 45	polypropylene (PP)	cyan	**10 21 12808**	16
②	DURAN® YOUTILITY Bottle Tag GL 45	silicone	2 × 8 colours	**10 21 12904**	16

DURAN® YOUTILITY Complete System, bottles amber

Nominal volume ml	Height mm	Outer Ø mm	Order No.	PU pc/Set
125	124	55	**10 21 12859**	4
250	158	66	**10 21 13658**	4
500	193	78	**10 21 14457**	4
1000	253	93	**10 21 15453**	4

YOUTILITY Bottle Tags, single-colour

Article	Order No.	PU pc/Pack
YOUTILITY Bottle Tags, red	**10 21 12818**	20
YOUTILITY Bottle Tags, orange	**10 21 12826**	20
YOUTILITY Bottle Tags, yellow	**10 21 12834**	20
YOUTILITY Bottle Tags, green	**10 21 12842**	20
YOUTILITY Bottle Tags, blue	**10 21 12857**	20
YOUTILITY Bottle Tags, purple	**10 21 12867**	20
YOUTILITY Bottle Tags, black	**10 21 12875**	20
YOUTILITY Bottle Tags, white	**10 21 12883**	20

Webcode

Use the webcode on our website to see a larger selection of products from a specific manufacturer.

Bottles

Laboratory Bottles with Thread, DURAN®, DURAN Group / IDL

Laboratory bottles with graduation, ISO 4796-1, with Retrace Code (Batch Certificate of Performance via Internet). Clear glass according to USP/EP and JP.



webcode WWEQ2034

① **Without cap and pouring ring**

Volume ml	Thread GL	O.D. mm	Height mm	Order No.	PU pc/Pack
10[2)]	25	36	50	**10 21 10108**	10
25[2)]	25	36	70	**11 21 80114**	10
50	32	46	87	**11 21 80117**	10
100[1)]	45	56	100	**11 21 80124**	10
150[1)]	45	62	110	**10 21 10129**	10
250[1)]	45	70	138	**11 21 80136**	10
500[1)]	45	86	176	**11 21 80144**	10
750[1)]	45	95	203	**10 21 10153**	10
1000[1)]	45	101	225	**11 21 80154**	10
2000[1)]	45	136	260	**11 21 80163**	10
3500	45	160	295	**10 21 10162**	1
5000	45	182	330	**11 21 80173**	1
10000	45	227	410	**11 21 80186**	1
15000	45	268	445	**11 21 80188**	1
20000	45	288	505	**11 21 80191**	1



② **With screw cap and pouring ring made of PP (blue)**

Volume ml	Thread GL	O.D. mm	Height mm	Order No.	PU pc/Pack
③ 10[2)]	25	36	50	**10 21 15108**	10
25[2)]	25	36	74	**11 21 85114**	10
50	32	46	91	**11 21 85117**	10
100[1)]	45	56	105	**11 21 85124**	10
150[1)]	45	62	114	**10 21 11129**	10
250[1)]	45	70	143	**11 21 85136**	10
500[1)]	45	86	181	**11 21 85144**	10
750[1)]	45	95	207	**10 21 11153**	10
1000[1)]	45	101	230	**11 21 85154**	10
2000[1)]	45	136	265	**11 21 85163**	10
3500	45	160	299	**10 21 11162**	1
5000	45	182	335	**11 21 85173**	1
10000	45	227	415	**11 21 85186**	1
15000	45	268	450	**11 21 85188**	1
20000	45	288	510	**11 21 85191**	1



[1)] A bead is molded in the glass on the shoulder of the 100 to 2000 ml size to indicate the nominal capacity level.
[2)] With a specially formed glass rim for better pouring (hence no need for an additional pouring ring made of plastic).
Important: Autoclave these flasks only with a loosely screwed cap (do not close tightly).

Your specialized laboratory dealer –
fast, competent and economical

Bottles

webcode WWEQ2180



Laboratory Bottles with Thread, Amber, DURAN®, DURAN Group / IDL

Laboratory bottles with graduation, without cap, ISO 4796-1, with Retrace Code (Batch Certificate of Performance via Internet). Clear glass 1 according to USP/EP/JP. Light shield up to a light wave length of up to 500 nm. External application of the paint ensures unchanged DURAN® characteristics in the interior of the bottle.

Vol. ml	Thread GL	O.D. mm	Height mm	Order No.	PU pc/Pack
10[2)]	25	36	50	**10 21 10608**	10
10[3)2)]	25	36	50	**10 21 10609**	10
25[2)]	25	36	70	**11 21 80614**	10
50	32	46	87	**11 21 80617**	10
100[1)]	45	56	100	**11 21 80624**	10
150[1)]	45	62	110	**10 21 10629**	10
250[1)]	45	70	138	**11 21 80636**	10
500[1)]	45	86	176	**11 21 80644**	10
750[1)]	45	95	203	**10 21 10651**	10
1000[1)]	45	101	225	**11 21 80654**	10
2000[1)]	45	136	260	**11 21 80663**	10
3500	45	160	295	**10 21 10669**	1
5000	45	182	330	**11 21 80673**	1
10000	45	227	410	**11 21 80686**	1
20000	45	288	505	**11 21 80691**	1

[1)] A bead is molded in glass on the shoulder of the 100 to 2000 ml size to indicate the nominal capacity level.
[2)] With a specially formed glass rim for better pouring (hence no need for an additional pouring ring made of plastic).
[3)] Complete
Important: Autoclave these flasks only with a loosely screwed cap (do not close tightly).
Note: This item is for example also available with cap.

webcode WWEQ2035



DURAN® Protect, Plastic-Coated Laboratory Bottles with Thread, DURAN Group / IDL

DURAN® Protect, plastic-coated, clear
Laboratory bottles with graduation, plastic coated, without cap, autoclavable, ISO 4796-1, with Retrace Code (Batch Certificate of Performance via Internet). The polyurethane (PU) plastic coating ensures reliable protection against scratches, shatters and leakage. The maximum permissible temperature is +135°C (max. 30 minutes).

Volume ml	Thread GL	Outer Ø mm	Height mm	Order No.	PU pc/Pack
10[2)]	25	36	50	**10 21 10508**	10
25[2)]	25	36	70	**11 21 92676**	10
50	32	46	87	**11 21 92677**	10
100[1)]	45	56	100	**11 21 80524**	10
150[1)]	45	62	110	**10 21 10529**	10
250[1)]	45	70	138	**11 21 80536**	10
500[1)]	45	86	176	**11 21 80544**	10
750[1)]	45	95	203	**10 21 10551**	10
1000[1)]	45	101	225	**11 21 80554**	10
2000[1)]	45	136	260	**11 21 80563**	10
3500	45	160	295	**10 21 10569**	1
5000	45	182	330	**11 21 80573**	1
10000	45	228	410	**10 21 18604**	1
15000	45	268	445	**10 21 18801**	1
20000	45	289	505	**10 21 19103**	1

[1)]A bead is molded in the glass on the shoulder of the 100 to 2000 ml size to indicate the nominal capacity level.
[2)]With a specially formed glass rim for better pouring (hence no need for an additional pouring ring made of plastic).
Important: Autoclave these flasks only with a loosely screwed cap (do not close tightly).

Bottles

Vacuum and Pressure Resistant Bottles, DURAN® pressure plus, DURAN Group / IDL



webcode WWEQ2178

① **Vacuum and Pressure Resistant Bottles, DURAN® pressure plus**
Laboratory bottles, pressure resistance tested according to DIN ISO 1595. For work in the pressure range from -1 to +1.5 bar, thread GL 45, without cap. Grading in blue for optical differentiation from the regular laboratory bottle. With Retrace Code (Batch Certificate of Performance via Internet). Neutral glass / glass type 1 / according to USP/EP. With TÜV/GS marking. Applicable for pressure load: temperature change resistance 30 K, and maximum service temperature +140°C.

Vol. ml	Thread GL	O.D. mm	Height mm	Order No.	PU pc/Pack
100	45	56	100	**10 21 11024**	10
250	45	70	138	**11 21 92234**	10
500	45	86	176	**11 21 92235**	10
1000	45	101	225	**11 21 81054**	10

For caps and pouring rings see page 46.

DURAN® pressure plus Protect

Vol. ml	Thread GL	O.D. mm	Height mm	Order No.	PU pc/Pack
100	45	56	100	**10 21 11524**	10
250	45	70	138	**10 21 11534**	10
500	45	86	176	**10 21 11544**	10
1000	45	101	225	**10 21 11554**	10

Vacuum and Pressure Resistant Bottles, Amber, DURAN® pressure plus, DURAN Group / IDL



webcode WWEQ2189

Laboratory bottles, acc. to DIN ISO 1595 approved for work in the pressure range from -1 to +1.5 bar , thread GL 45, without cap. Grading in blue for optical differentiation from the regular laboratory bottle. With Retrace Code (Batch Certificate of Performance via Internet). Neutral glass / glass type 1 / according to USP/EP. With TÜV/GS marking. Applicable for pressure load: temperature change resistance 30 K, and maximum service temperature +140°C.

Vol. ml	Thread GL	O.D. mm	Height mm	Order No.	PU pc/Pack
100	45	56	100	**10 21 11624**	10
250	45	70	138	**11 21 94367**	10
500	45	86	176	**11 21 94368**	10
1000	45	101	225	**11 21 81654**	10

For caps and pouring rings see page 46.

Premium Bottles, DURAN®, DURAN Group / IDL



webcode WWEQ2191

Premium bottle complete with premium cap (TpCh260), bottle and cap meets the highest requirements for storing and packaging of products from pharmaceutical, chemical and food industries. The cap consists of chemically high-resistant materials and does not contain any colour pigments or colorants. Silicon seal coated with PTFE. Bottle and cap comply with USP / EP (glass type 1 / gray glass filter, cap USP Class VI, seal complies with FDA). Bottle has a resistance to temperature change of 160K (TÜV-certified with GS-sticker), with opposite scaling.
Drug Master File (DMF Type III, 19757) registered with FDA. With batch certificate via internet for bottle and cap.

Vol. ml	Thread GL	O.D. mm	Height mm	Order No.	PU pc/Pack
100	45	56	100	**10 21 17075**	10
250	45	70	138	**10 21 17076**	10
500	45	86	176	**10 21 17077**	10
1000	45	101	225	**10 21 17078**	10

Bottles

webcode WWEQ2185



Premium Screw Cap, DURAN Group / IDL

The Premium Screw Cap made of TpCh260 for DURAN®laboratory glass bottles
The universally applicable Premium Screw Cap for all GL 45 threads meets the highest demands for storing and packaging from pharmaceutical, chemical and food industries. This new screw cap is made of a material of highest chemical resistance (TpCh260). In order to prevent the medium from being contaminated in any form, the cap does **not** contain any colorants or plastic pigments. The **pressed-in** silicon seal is coated with PTFE on both sides for highest demands on chemical resistance. The matching pouring ring is made from the same material and guarantees non-dripping and safe handling.
The Premium Cap is characterized by its temperature resistance ranging from -196°C to +260°C. Due to the high temperature range, this cap is suitable for many sterilization methods such as autoclaving or dry sterilization.
The "Premium Cap" meets all requirements of both US Pharmacopoeia (USP Class VI) and European Pharmacopoeia (EP). With Retrace Code (Batch Certificate of Performance via Internet).

Article	Thread GL	Ø mm	Height mm	Order No.	PU pc/Pack
Screw cap GL 45	45	54	26	**11 29 88679**	5
Screw cap GL 25	25	32	22	**10 21 18677**	5
Pouring ring	45		4	**11 29 88678**	5

Available only in original packaging units. No fractions possible.

webcode WWEQ2037



Screw Caps, DURAN Group / IDL

PP caps, with lip seal, autoclavable up to +140°C steam.

Thread GL	Colour	Order No.	PU pc/Pack
25	blue	**11 29 23913**	10
32	blue	**11 29 23919**	10
45	blue	**11 29 23928**	10
45	yellow	**11 29 38280**	10
45	green	**11 29 38286**	10
45	gray	**11 29 38288**	10

Available only in original packaging units. No fractions possible.

webcode WWEQ2039



Screw Caps, DURAN Group / IDL

Red caps made of PBT, PTFE protected silicone seal, temperature resistant up to 180°C.

Thread GL	Colour	Order No.	PU pc/Pack
25	red	**11 29 24013**	10
32	red	**11 29 24019**	10
45	red	**11 29 24028**	10

Available only in original packaging units. No fractions possible.

webcode WWEQ2212



DURAN PURE Premium Screw Cap with Lip Seal GL 45, DURAN Group / IDL

Thanks to the highly resistant material (PFA), the DURAN PURE Premium screw cap with lip seal GL 45 is perfectly suited for chemically and thermally demanding processes. Due to the very high temperature resistance, it is ideal for difficult sterilisation processes such as hot air or dry heat sterilisation and depyrogenisation at 260°C. The material used complies with the FDA requirements (FDA 21 CFR Section 177.1550) and the USP (USP Class VI plastics -121°C). This means that this screw cap is particularly well suited for applications in the pharmaceutical, chemical, and food industry. The Der DURAN PURE Premium screw cap made of PFA is equipped with a cone, i.e. an integrated lip seal, and accordingly does not need any additional seal to keep the bottle tightly closed. Furthermore, this feature makes the cap easy to clean and to sterilise.

Product features:
- Material: PFA; can be used for all GL 45 threads
- Produced and packaged under cleanroom conditions class 7
- Excellent temperature resistance from -196°C to +260°C
- Ideal for dry heat sterilisation / depyrogenisation
- Very high chemical resistance
- Complies with FDA 21 CFR Section 177.1550 & USP class VI
- Easy to clean and to sterilise
- No colour additives (leaching out of colourants excluded)

Continued on next page

Bottles

Article	Order No.	PU pc/Pack
DURAN PURE Screw Cap GL 45, with lip seal 26 mm high, for DURAN® laboratory glass bottles	**10 21 12892**	5

Tamper-Evident Screw Cap, DURAN Group / IDL

webcode WWEQ2187

Tamper-Evident Closure made of PP for DURAN® laboratory glass bottles
The tamper-evident closure, made of PP, can be used with all DURAN® labglass bottles with thread GL 45. It is used for safety storing the bottle contents. The cap is screwed tightly to the bottle and after a soft "click" the plastic ring is fixed on the bottle neck. When the cap is opened for the first time, the perforation of the plastic ring is broken thus showing that the bottle has been opened.
The cap is autoclavable and temperature resistant up to +140°C.
After the perforation of the plastic ring is broken, the cap may of course still be used as an "ordinary" screw cap.



Colour	Thread GL	Ø mm	Height mm	Order No.	PU pc/Pack
blue/red[1)]	45	54	26	**11 29 17526**	10
blue/yellow[2)]	45	54	26	**10 21 15886**	10

Available only in original packaging units. No fractions possible.

[1)] With lip seal

[2)] With PTFE protected seal

Pouring Rings made of ETFE, DURAN Group / IDL



webcode WWEQ2040

ETFE pouring rings, temperature resistant up to +180°C, autoclavable.

for thread GL	Colour	Order No.	PU pc/Pack
32	red	**11 29 24419**	10
45	red	**11 29 24428**	10

Available only in original packaging units. No fractions possible.

Pouring Rings, DURAN Group / IDL



webcode WWEQ2038

PP pouring rings, autoclavable up to +140°C steam.

Thread GL	Colour	Order No.	PU pc/Pack
32	blue	**11 29 24219**	10
45	blue	**11 29 24228**	10
45	yellow	**11 29 89917**	10
45	green	**11 29 89911**	10
45	gray	**11 29 89914**	10

Available only in original packaging units. No fractions possible.

HPLC Bottles GL 45, DURAN®, DURAN Group / IDL



webcode WWEQ2193

Convenient complete system for the transfer of liquid media. Consists of 4-port screw cap (PP), four screw connections (black, M8 thread), silicone seals and DURAN® Pressure Plus bottle. The bottle is pressure-resistant in the range from -1 to +1.5 bar (TÜV-certified with GS-sticker). The cap has 4 connections, so-called ports. Outer tube diameters of 1.6, 3.0, 3.2 mm can be used. An optional pressure compensation via a sterile membrane filter (0.2 µm) is possible. Unused ports can be sealed with silicone blanking seals. The cap is completely autoclavable. T_{max} = 140°C. The system is suitable for application in the field of HPLC or bio-technology and each process which requires a media transfer.

Article	Order No.	PU pc/Pack
HPLC bottle, GL 45, 500 ml	**10 21 19821**	2
HPLC bottle, GL 45, 1000 ml	**10 21 19820**	2
Screw cap GL 45, 4 ports complete GL45 screw cap, 4 × M8 screw connections, 12 × silicone seals	**10 21 19812**	2
Spare part set for HPLC screw cap Including silicone seals	**10 21 19813**	1
Pressure equalization set (0.2 µm)	**10 21 17801**	1
Spare membrane filter	**10 21 19819**	2

Available only in original packaging units. No fractions possible.

webcode To see other variants and accessories, please enter the webcode on our website.

Bottles

webcode WWEQ2214

DURAN® Connection Cap System GL 45 – Ports, DURAN Group / IDL



DURAN® Connection Cap System GL 45, with 3-ports (stainless steel)
A sturdy, durable hose connection system for DURAN® GL 45 laboratory and media bottles of many sizes. The bottle cap adapter simplifies the transfer of liquids within closed and sterile system. Perfect for laboratories in the chemical, bioscience, and biopharmacy sectors.

Applications:
- Sterile transfer of liquids between containers
- Sampling from large containers into bottles
- Bottle cap for connection to laboratory instruments
- Connection for spinner bottles and cell culture vessels

Features:
- The GL 45 connection system is suitable for use with DURAN® GL 45 laboratory bottles from 100 to 20,000 ml.
- The three clips at the inside and outside of the cap are suitable for connecting flexible hoses with an inside diameter of 8.sil0 mm, e.g. Sani-Tech® Ultra (ULTRA-C-312) silicone hoses (Sani-Tech® is a registered Saint-Gobain trademark).
- Thanks to the freely rotating stainless steel centre part, the bottle can be opened without opening the hose connections.
- The three top clips are bevelled for easier attachment of the hoses.
- Connections and centre piece made of stainless steel type 316L (1.4404 / S31603).
- All parts are welded to exclude any hollows and inclusions.
- Hygienic, electro-polished surface for efficient cleaning and sterilisation.
- The silicone seal and the red GL 45 screw cap made of PBT ensure leak-proof closure of the bottle.
- Suitable for a wide temperature range (up to 180°C)
- Autoclavable (at 12 °C / 15 minutes)
- With retrace code for full traceability

	Article	Overall height mm	Order No.
①	DURAN® Connection Cap System GL 45 with 3-ports (stainless steel)	145	**10 21 12804**

Spare parts

Article	Order No.	PU pc/Pack
DURAN® silicone gasket, 40.5 × 3 mm with 27.5 mm inner diamater opening	**10 21 12805**	10
DURAN® Screw-caps with aperture, GL 45, PBT, red, aperture bore 34 mm	**13 29 22710**	10

webcode WWEQ2192

Connection System GL 45, DURAN Group / IDL



Flexible modular system for safe and sterile media transfer for DURAN® GL 45 laboratory bottles. The system is available with 2 or 3 so-called ports (connections). 4 different outer diameters of tubes (1.6 mm, 3.0 mm, 3.2 mm, 6.0 mm) can be used, a sterile pressure compensation (membrane filter 0.2 µm) is available optionally.

Depending on the use, the single parts can be combined in various ways. Unused ports can be provided with a blind cap. All single parts are autoclavable. The system is suitable for application in the field of HPLC or bio-technology and each process where a media transfer is required. Used materials are PP and PTFE. T_{max} = +140°C.

Article	Thread	Order No.	PU pc/Pack
Screw cap GLS 45, 2 port GL 14	GL 45	**10 21 19750**	2
Screw cap GLS 45, 3 port GL 14	GL 45	**10 21 19751**	2
Screw cap for hose connection	GL 14	**10 21 19814**	2
Insert 1.6 mm (I.-Ø)		**10 21 19815**	1
Insert 3.0 mm (I.-Ø)		**10 21 19816**	1
Insert 3.2 mm (I.-Ø)		**10 21 19817**	1
Insert 6.0 mm (I.-Ø)		**10 21 19818**	1
Screw cap PBT	GL 14	**10 21 16292**	2
Pressure equalization set		**10 21 17799**	1
Spare membrane filter		**10 21 19819**	2

❗ Available only in original packaging units. No fractions possible.

Bottles

Screw Cap GL 45 with 2 Hose Connections, DURAN Group / IDL

webcode WWEQ2207



Highly versatile because the screw cap is based on the standard GL 45 thread. Ideal for use with elastic, soft tubing 6 to 9 mm (Viton®, Tygon®, silicone). These are for example used in biotechnology when transferring media with the aid of peristaltic pumps. Two PP hose connections, curved hose connections on the top side, straight connections on the lower side. Optional filter attachment for sterile pressure equalisation available. The grey PP core moves freely and allows the vessel to be changed over without twisting of the firmly attached tubing. Temperature resistant up to +140°C. Autoclavable, dishwasher safe. Typical application: safe transfer of media within a closed and sterile system.

Article	Order No.	PU pc/Pack
Screw cap GL 45 with 2 hose connections Optimised product design. The EPDM gasket provides for effective sealing at the GL 45 bottleneck.	**10 21 12807**	2
Filter top part for pressure equalization	**10 21 12982**	2

Available only in original packaging units. No fractions possible.

BOLA Multiple Distributors for Bottles, Bohlender











Multiple Distributors for Bottles consist of a screw cap with GL thread and a movable body with GL-threaded necks. These necks allow the connection of hard-walled tubing or tubes made of glass, plastic or metal by means of BOLA Laboratory Screw Joints (see page 183).
The special feature: the body of the distirbutor can be turned independently from the screw cap. This means, that the completely assemled distributor can be removed and fixed on another bottle without the risk of disarranging the tubing.
Non-used necks can be closed by means of screw caps. The flowing product is only exposed to PTFE.

Technical data:

Material Screw Caps:	GL 25, GL 32, GL45 – PPS black / GLS 80 – PP blue
Temperature resistance:	from -20°C to +200°C
Chemical resistance:	almost universal

BOLA multiple distributors

	for bottle thread	Necks	Material of the body	for tubing O.D. max. mm	Order No.
①	GL 45	2 × GL 14	PFA	2 × 6.35	**22 17 61408**
①	GL 45	3 × GL 14	PTFE	2 × 6.35	**22 17 61508**
①	GL 45	3 × GL 18	PTFE	3 × 10.0	**22 17 61816**
①	GL 45	2 × GL 14 / 1 × GL 25	PTFE	2 × 6.35 / 1 × 14	**22 17 61824**
①	GL 45	2 × GL 25	PTFE	2 × 14	**10 17 61844**
①	GL 45	3 × GL 25	PTFE	3 × 14	**10 17 61847**
①	GL 45	4 × GL 25	PTFE	4 × 14	**10 17 61848**
②	GL 32	2 × GL 14	PTFE	2 × 8	**10 17 62104**
②	GL 32	3 × GL 14	PTFE	3 × 8	**10 17 62108**
②	GL 25	2 × GL 14	PTFE	2 × 6	**10 17 61904**
②	GL 25	3 × GL 14	PTFE	3 × 6	**10 17 61908**
③	GLS 80	4 × GL 18	PTFE	4 × 12.7	**10 17 65416**
③	GLS 80	3 × GL 18 / 1 × GL 25	PTFE	3 × 12.7 / 1 × 14	**10 17 65424**

BOLA multiple distributors with cocks
for working temperatures up to 120°C

	for bottle thread	Necks	Material of the body	for tube/pipe O.D. mm	Order No.
④	GL 45	2 × GL 14 / 2 stopcocks with bore Ø 4 mm	PTFE	2 × 6.35	**22 17 61608**
④	GL 45	3 × GL 14 / 3 stopcocks with bore Ø 4 mm	PTFE	3 × 6.35	**22 17 61616**

Bottles





BOLA Multiple Distributors for Bottles EX, Bohlender

Screw cap black for thread GL 45 made of conductive PPS-EX. Distributor body made of conductive PTFE-EX with GL-threaded necks. Tubes can be inserted through the necks. Connection of tubes and tubing by means of BOLA Laboratory Screw Joints EX. Detailed information in the product description of the identical Multiple Distributors for Bottles.
Applications: Drawing or inserting aggressive or pure liquids. Inserting tubing, tubes and probes into jars.

Technical data:

Material:	PTFE-, PPS-EX
Temperature resistance:	from -20°C to +250°C
Chemical resistance:	++ very good
Pressure:	10 bar
Vacuum:	suitable
Conductivity:	10^6 Ohm

	Necks GL	for tubing outer Ø mm	Order No.
①	2 × 14	2 × 8.0	**10 17 68408**
②	3 × 14	3 × 8.0	**10 17 68508**





BOLA HPLC Multiple Distributors for Bottles, Bohlender

③ **HPLC Multiple distributors for bottles**
HPLC Multiple distributors for bottles made of glass-fiber reinforced polypropylene (PP), HPLC distributors for bottles allow up to 4 hoses to be simultaneously connected. With the screw cap, the distributors can be screwed on to any container with a GL 45 thread. As the distributors come standard with all accessories (screw caps, silicone O-rings, seals) for immediate use, all you have to do is decide between the model with or without the stopcock.

Version	for tubing outer Ø mm	Order No.
4 connections	1.6 – 2.0 and 2.1 – 4.0	**22 17 60608**
4 connections	6.0	**22 17 60808**

④ **HPLC Multiple distributors for bottles with stopcocks**
Stopcocks made of FEP. Port on the lower side of the distributor for connecting tubing with I. D. 6 mm.

Version	for tubing outer Ø mm	Order No.
4 connections	1.6 – 2.0 und 2.1 – 4.0	**10 17 60702**









BOLA Distributors for Bottles, Bohlender

Black screw cap made of PPS for bottle thread GL 45. Without stopcocks: body made of PTFE with 2 or 4 ports with female thread UNF ¼″ 28G on upper and lower sides. With stopcocks: body made of PTFE with 2 or 3 ports with female thread UNF ¼″ 28G on upper and lower sides and stopcock made of FEP for each port. A possible unevenness of the bottle neck is adjusted by an o-ring behind an elastic sealing lip, and the bottle is closed tightly. The product is only exposed to the body of the distributor. The body of the distributor can be turned independently from the screw cap. This means, that the assembled distributor can be removed completely and fixed on another bottle without the risk of disarranging the tubing. Very good chemical resistance, for working temperatures up to +200°C.
Applications: HPLC

Technical data:

Material:	PTFE, PPS
Temperature resistance:	from -15°C to +200°C
Chemical resistance:	+++ universal

	for tubing inner Ø x outer Ø mm	Quantity stop-cocks	Through bore mm	Connection	Order No.
⑤	0.8 × 1.6	–	0.8	2 × UNF 1/4″ 28G	**10 17 64502**
⑤	1.6 × 3.2	–	1.6	2 × UNF 1/4″ 28G	**10 17 64504**
⑥	0.8 × 1.6	–	0.8	4 × UNF 1/4″ 28G	**10 17 64510**
⑥	1.6 × 3.2	–	1.6	4 × UNF 1/4″ 28G	**10 17 64512**
⑦	0.8 × 1.6	2	0.8	2 × UNF 1/4″ 28G	**10 17 64602**
⑦	1.6 × 3.2	2	1.6	2 × UNF 1/4″ 28G	**10 17 64604**
⑧	0.8 × 1.6	3	0.8	3 × UNF 1/4″ 28G	**10 17 64611**
⑧	1.6 × 3.2	3	1.6	3 × UNF 1/4″ 28G	**10 17 64612**

Bottles

BOLA multiple distributors for barrels, Bohlender



For barrels with female thread. Ideal for drawing or inserting liquids. Movable body with GL-threaded necks. For connecting hard-walled tubing/tubes to the GL threads we recommend BOLA Laboratory Screw Joints (see page 183).
The special clou: the body of these distributors can be turned independently from the screw cap. This means that the completely assembled distributor can be removed and fixed an another barrel without the risk of disarranging the tubing.

Technical data:

Material Body:	PTFE
Material Screw Cap:	Glass-fibre reinforced PTFE
Temperature resistance:	from -20°C up to +200°C
Chemical resistance:	almost universal
Pressure:	max. 1 bar

for female barrel thread	Necks GL	for tubing O.D. max. mm	Order No.
R2″	4 × 18	10	**10 17 69608**
R2″	2 × 18 / 1 × 25	2 × 10 / 1 × 14	**10 17 69614**
Tri-Sure 2″	4 × 18	10	**10 17 69809**
Tri-Sure 2″	2 × 18 / 1 × 25	2 × 10 / 1 × 14	**10 17 69814**

BOLA Flexible Distributors, Bohlender













Screw cap with thread, distributor body made of PP with hose connectors. The body of the distributor can be turned independently from the screw cap. This means, the assembled tubing will not be disarranged when the distributor is fixed on another bottle. Temperature resistance from 0°C to +110°C. The chemical resistance is very good.

Screw caps GL 45, PP green

	Hose connectors upper side	Hose connectors bottom side	Tube connector outer Ø mm	Bore Ø mm	Order No.
①	2 × bent	2 × straight	8.8	6	**10 17 60024**
②	3 × bent	3 × straight	8.8	6	**10 17 60036**
③	2 × bent	2 × straight	10.8	7	**10 17 60048**

Screw caps GL 45, PBTP red

	Hose connectors upper side	Hose connectors bottom side	Tube connector outer Ø mm	Bore Ø mm	Order No.
④	3 × stepped, bent	2 × stepped, straight	9/12	6	**10 17 60224**

Screw caps GLS 80, PP blue

	Hose connectors upper side	Hose connectors bottom side	Tube connector outer Ø mm	Bore Ø mm	Order No.
⑤	2 × stepped, bent	2 × stepped, straight	9/12	6	**10 17 60406**
⑥	3 × stepped, bent	3 × stepped, straight	9/12	6	**10 17 60412**

Use the webcode on our website to see a larger selection of products from a specific manufacturer.

Webcode

Bottles

webcode WWEQ2198



①



②

Wide Neck Glass Bottles GLS 80, DURAN®, DURAN Group / IDL

Laboratory bottle with wide thread (GLS 80; 80 mm AD). Autoclavable and temperature-resistant (cap and pouring ring: +140°C), gray glass / glass type 1 acc. to USP/EP with retrace code and batch certificate via internet. Due to the wide mouth, the bottles are especially suitable for working with powders and granulates. Filling and emptying with liquid media is significantly improved, especially for great volumes. Special thread means opening takes less than a turn.

① **With screw cap and pouring ring made of PP**

Vol. ml	Thread GLS	O.D. mm	Height mm	Order No.	PU pc/Pack
250	80	95	105.5	**10 21 13656**	10
500	80	101	152	**10 21 12627**	10
1000	80	101	222	**10 21 12713**	10
2000	80	136	252	**10 21 12715**	10
3500	80	160	275	**10 21 12625**	1
5000	80	182	314	**10 21 13949**	1
10000	80	227	398	**10 21 13950**	1
20000	80	288	484	**10 21 13951**	1

Without screw cap and pouring ring

Vol. ml	Thread GLS	O.D. mm	Height mm	Order No.	PU pc/Pack
250	80	95	105.5	**10 21 13607**	10
500	80	101	148	**10 21 18392**	10
1000	80	101	218	**10 21 18424**	10
2000	80	136	248	**10 21 18425**	10
3500	80	160	271	**10 21 12626**	1
5000	80	182	310	**10 21 18426**	1
10000	80	227	385	**10 21 18427**	1
20000	80	288	480	**10 21 18428**	1

② **Wide Neck Glass Bottles Protect GLS 80, DURAN®**
Plastic coated (PU), completed with screw cap and pouring ring made of PP (blue).
Autoclavable and temperature-resistant (cap and pouring ring: +140°C, plastic coating: -30°C to +135°C). Gray glass / glass type 1 according to USP/EP with Retrace Code and Batch Certificate of Performance via Internet. Due to the wide mouth, the bottles are especially suitable for working with powders and granulates. Filling and emptying with liquid media is significantly improved, especially for great volumes. Special thread means opening takes less than a turn.
Plastic coat serves as protection against scratches, shatters and leakage. Ideal for using dangerous or precious material. In case of outer damage, the coating keeps the glass together. UV protection up to approx. 380 nm wavelength. High transparency. Suitable for microwaving.

Vol. ml	Thread GLS	O.D. mm	Height mm	Order No.	PU pc/Pack
250	80	95	105.5	**10 21 13652**	10
500	80	101	148	**10 21 10152**	10
100	80	101	218	**10 21 10163**	10
2000	80	136	248	**10 21 10164**	10
3500	80	160	271	**10 21 16958**	1
5000	80	182	311	**10 21 10165**	1

Have any questions?
Just give us a call!

Bottles

Wide Neck Glass Bottles GLS 80, Amber, DURAN®, DURAN Group / IDL

webcode WWEQ2199

Laboratory bottle with wide thread (GLS 80; 80 mm AD). Autoclavable and temperature-resistant (cap and pouring ring: +140°C), gray glass / glass type 1 according to USP/EP with retrace code and batch certificate via internet. Due to the wide mouth, the bottles are especially suitable for working with powders and granulates. Filling and emptying with liquid media is significantly improved, especially for great volumes. Special thread means opening takes less than a turn. Brown-colouring provides light shield of ca. 300-500 mm. Brown-colouring only external, the common interior DURAN® characteristics remain unchanged.



①

① **With screw cap and pouring ring made of PP**

Vol. ml	Thread GLS	O.D. mm	Height mm	Order No.	PU pc/Pack
250	80	95	105.5	**10 21 13653**	10
500	80	101	152	**10 21 10146**	10
1000	80	101	222	**10 21 10147**	10
2000	80	136	252	**10 21 10148**	10
3500	80	160	275	**10 21 10144**	1
5000	80	182	314	**10 21 10149**	1
10000	80	227	389	**10 21 10150**	1
20000	80	288	484	**10 21 10151**	1

Without screw cap and pouring ring

Vol. ml	Thread GLS	O.D. mm	Height mm	Order No.	PU pc/Pack
250	80	95	105.5	**10 21 13604**	10
500	80	101	148	**10 21 18429**	10
1000	80	101	218	**10 21 18430**	10
2000	80	136	248	**10 21 18431**	10
3500	80	160	271	**10 21 10145**	1
5000	80	182	310	**10 21 18432**	1
10000	80	227	385	**10 21 18433**	1
20000	80	288	480	**10 21 18434**	1

DURAN® Wide Neck Bottle GLS 80®, Double Wall, DURAN Group / IDL

webcode WWEQ2216



Wide neck bottle, double wall
The double-walled DURAN® wide neck bottle GLS 80® is thermally insulated by its integrated glass cladding. To regulate the temperature in this DURAN® screw cap bottle, hot or cold liquids can be circulated through the cladding. The double-walled DURAN® bottles are a lockable, flexible alternative to cap-less beakers with cladding.

Applications:
- Suitable for use as simple, low-cost chemostat or bioreactor with double cladding for cell cultures;
- Reaction vessel for temperature-controlled reactions such as enzyme digestion;
- Simple stirring reactor system with continuous flow and optional GLS 80® cap component;
- Thermostatic vessel for storing liquids, or highly viscous liquids at a constant temperature – practical for working with endo- or exothermal reagents;
- Can be used as large cold trap or cooler with dry ice in the interior container.

Features:
- Fit for use in a wide temperature range of -40 to +120°C. By means of the white GLS 80® polyethersulfone screw cap (order separately), the application range can be extended to -45 to +180 °C. Laboratory glasses made of DURAN® glass can be used in a temperature range of -196 to +300°C; however, the limit values for heating or cooling must be observed.
- Made of DURAN® borosilicate glass 3.3, a material with proven excellent thermal properties and a high resistance to chemical loads.
- All components are fully autoclavable.
- Available in two practical sizes: 500 and 1000 ml.
- The inner diameter of 65 mm of the thread of the GLS 80® wide neck bottle allows for simple and convenient filling and emptying as well as cleaning.
- Thanks to its flat bottom, the bottle is suitable for use with magnetic stir bar or the DURAN® GLS 80® magnet-stirring cap system.
- Compatible with all GLS 80® wide neck connection systems for adding or removing of liquids during processing.

Continued on next page

Bottles



- Easy-to-read scale on the interior vessel
- For greater safety, the GL 18 outlet hose connections can be removed.
- To ensure even heating or cooling, the position of the 10 mm PTFE inlet / outlet hose connections was optimised for constant flow around the cladding.

Article	Vol. ml	Total H. mm	Order No.
Double wall DURAN® wide neck bottle GLS 80®	500	180	**10 21 14451**
Double wall DURAN® wide neck bottle GLS 80®	1000	270	**10 21 15456**

Accessories

Article	Order No.
Screw cap GLS 80 with sealing disc White polyethersulfone cap with PTFE-clad cap insert, 5 pcs./pack	**10 21 16588**
Membrane screw cap GLS 80 Ventilated cap (blue) for DURAN® GLS 80® made from polypropylene	**10 21 10168**
DURAN® stirred reactor cap incl. anchor-shaped magnetic stirrer and 4 connectors (2×GL 18 and 2×GL 1)	**10 21 10279**
DURAN® wide-neck bottle cap for mixing and connecting, GLS 80® incl. DURAN® KPG agitator shaft WS 10 (L = 410 mm) and 4 connectors (2× GL 18 and 2× GL 14 screw caps)	**10 21 19204**

webcode WWEQ2215

DURAN® Baffled Wide Mouth Bottle GLS 80®, DURAN Group / IDL



① **DURAN® baffled wide mouth bottle GLS 80®**

During mixing in standard GLS 80® laboratory bottles, the liquid moves in a swirling motion that approximates a solid-body rotation. The entire fluid, and any suspended particles, moves like a carousel. This is a very inefficient flow pattern, and very little mixing actually occurs. By adding three vertical baffles into the inner surface of the DURAN® GLS 80® bottles, the swirling motion is disrupted, and a much more effective mixing occurs. The baffles improve the top-to-bottom circulation and produce a greater radial mixing. The baffles also offer other advantages such as suppressing the formation of a central vortex, and reducing dead-zones where mixing does not occur.
With polypropylene pouring ring and GLS 80® cap.

Applications:
- Aerating
- Dissolving
- Emulsifying
- Homogenizing
- Mixing
- Suspending

Features:
- The baffled GLS 80® bottles are fully compatible with both the DURAN® GLS 80® magnetic stirrers, and other magnetic stir bars.
- Manufactured from DURAN® borosilicate 3.3 glass, renowned for its excellent thermal performance and high resistance to chemical attack.
- The bottles are fully autoclavable.
- Available in three convenient sizes: 250, 500 and 1.000 ml.
- The wide 65 mm inner diameter of the GLS 80® wide mouth provides easy access to the contents, or for cleaning.
- The baffles are moulded into the glass side wall of the bottles and form a continuous, smooth inner surface making clean-up easy.
- Compatible with full range of wide mouth GLS 80® connection cap systems for liquid addition or removal when mixing with stir bars.
- The bottles feature an easy-to-read graduated volume scale.

Article	Volume ml	Overall height mm	Order No.
DURAN® baffled wide mouth bottle GLS®	250	110	**10 21 12158**
DURAN® baffled wide mouth bottle GLS®	500	153	**10 21 12157**
DURAN® baffled wide mouth bottle GLS®	1000	223	**10 21 12153**

Accessories

Article	Order No.
② **DURAN® stirred reactor cap** for 250-ml GLS-80® bottles with paddle wheel magnetic stirrer, 4 connections (2 × GL 18 and 2 × GL 14)	**10 21 19107**
DURAN® stirred reactor cap for 500- or 1000-ml GLS-80® bottles with anchor-shaped magnetic stirrer, 4 connections (2 × GL 18 and 2 × GL 14)	**10 21 10279**



Bottles

Screw Cap GLS 80, DURAN Group / IDL



webcode WWEQ2196

Cap made of PP, blue, with lip seal, temperature-resistant up to +140°C, autoclavable, for GLS 80 bottles, quick cap (the DURAN® GLS 80 bottle can be opened and closed with only a three-quarter turn).

Article	Thread GLS	O.D. mm	Height mm	**Order No.**	PU pc/Pack
Screw cap	80	87	40	**10 21 12716**	10

❗ Available only in original packaging units. No fractions possible.

Srew Cap GLS 80, DURAN Group / IDL

webcode WWEQ2208

Screw cap with sealing disc for DURAN® GLS 80 laboratory bottle
The special composition of the material used, which is based on polyarylsulphone (PSU compound), the chemical, thermal and mechanical properties of the material are noticeably improved and adapted to laboratory requirements. Seal coated on both sides with PTFE for high density. The medium only comes into contact with PTFE. No dyes, no colours, no contamination of devices. T_{max}= 180°C. Autoclavable/sterilizable. A matching PTFE pouring ring is available.



Article	Outer Ø mm	Height mm	PU	**Order No.**
Screw cap GLS 80	86	40	5 pcs.	**10 21 16588**
Pouring ring, PTFE		6.85	5 pcs.	**10 21 16730**

❗ Available only in original packaging units. No fractions possible.

Pouring Rings GLS 80, blue, PP, DURAN Group / IDL



webcode WWEQ2197

PP pouring rings for GLS 80 bottles. T_{max} = +140°C

Article	Thread GLS	Height mm	**Order No.**	PU pc/Pack
Pouring ring	80	6.85	**10 21 10166**	10

❗ Available only in original packaging units. No fractions possible.

Narrow Neck Bottles, IDL

webcode WW7R3002

Narrow-neck bottles with round thread DIN, **without screw cap.** Matching caps below.



① **Clear glass**

Vol. ml	Thread DIN	Neck I.D. mm	**Order No.**	PU pc/Pack
100	22	12.5	**12 00 03024**	72
250	22	12.5	**12 00 03036**	42
500	25	15.5	**12 00 03044**	35
1000	28	18.5	**12 00 03054**	20

② **Amber glass**

Vol. ml	Thread DIN	Neck I.D. mm	**Order No.**	PU pc/Pack
100	22	12.5	**12 00 04024**	56
250	22	12.5	**12 00 04036**	42
500	25	15.5	**12 00 04044**	35
1000	28	18.5	**12 00 04054**	20

Quantity in standard pack subject to change.

webcode To see other variants and accessories, please enter the webcode on our website.

Bottles

webcode WW7R3003

Wide Neck Bottles, IDL

Wide neck bottles with round thread DIN, **without screw cap.** Matching caps below.



① **Wide neck bottles made of clear glass**

Vol. ml	Thread DIN	Neck I.D. mm	Order No.	PU pc/Pack
30	32	21.3	**12 00 05016**	126
250	55	40	**12 00 05036**	48
500	55	40	**12 00 05044**	20
1000	68	56.0	**12 00 05054**	18

Cylindrical bottles made of clear glass

Vol. ml	Thread DIN	Neck I.D. mm	Order No.	PU pc/Pack
50	40	28.3	**12 00 05018**	125
100	45	36.5	**12 00 05024**	72

② **Wide neck bottles made of amber glass**

Vol. ml	Thread DIN	Neck I.D. mm	Order No.	PU pc/Pack
30	32	21.3	**12 00 06016**	126
250	55	40	**12 00 06036**	30
500	55	40	**12 00 06044**	20
1000	68	56.0	**12 00 06054**	12

Cylindrical bottles made of amber glass

Vol. ml	Thread DIN	Neck I.D. mm	Order No.	PU pc/Pack
50	40	28.3	**12 00 06018**	105
100	45	33.3	**12 00 06024**	63

Quantity in standard pack subject to change.

webcode WW7R3004

Screw Caps DIN 168, IDL



Caps DIN 168, made of black molded plastic, with poly insert, suitable for narrow neck and wide neck bottles.

DIN	Order No.	PU pc/Pack
18	**10 00 07018**	1000
22	**12 00 07022**	1000
25	**12 00 07025**	750
28	**12 00 07028**	500
32	**12 00 07032**	400
40	**12 00 07040**	850
45	**12 00 07045**	650
55	**12 00 07055**	380
68	**12 00 07068**	240

webcode WWXKS039

behrotest® Wide Neck Bottles with Screw Cap, Behr



③ **berotest® wide-mouth bottles made of clear glass with PTFE-coated screw cap**
behrotest® clear glass bottles for storage and transport. Due to PTFE-laminated screw caps, ideal for example to take samples. Packaged in reusable 10-pc. cartons with compartments!

Article	Thread DIN	Volume ml	Order No.	PU pc/Pack
RK 250 GT	55	250	**10 48 86013**	10
RK 500 GT	55	500	**10 48 86014**	10
RK 1000 GT	68	1000	**10 48 86015**	10

Available only in original packaging units. No fractions possible.

Continued on next page

Bottles

④ **berotest® wide-mouth bottles made of amber glass with PTFE-coated screw cap**
behrotest® amber glass bottles for storage and transport. Due to PTFE-laminated screw caps, ideal for example to take samples.

Article	Thread DIN	Volume ml	Order No.	PU pc/Pack
RB 250 GT	55	250	**10 48 86006**	10
RB 500 GT	55	500	**10 48 86007**	10
RB 1000 GT	68	1000	**10 48 86008**	10

Available only in original packaging units. No fractions possible.


④

Narrow Neck Bottles, Glass, Clear or Brown, Cap with PTFE Coated Inlay, Behr

webcode WWXKS056

behr Labor-Technik

Sampling bottles made from clear or brown glass.

Type	Volume ml	Thread mm	Colour	Order No.	PU pc/Pack
NK 50 GT	50	28	clear	**10 48 36017**	10
NK 100 GT	100	28	clear	**10 48 36018**	10
NK 250 GT	250	28	clear	**10 48 36019**	10
NK 500 GT	500	28	clear	**10 48 36020**	10
NK 1000 GT	1000	28	clear	**10 48 36021**	10
NB 50 GT	50	28	brown	**10 48 36012**	10
NB 100 GT	100	28	brown	**10 48 36013**	10
NB 250 GT	250	28	brown	**10 48 36014**	10
NB 500 GT	500	28	brown	**10 48 36015**	10
NB 1000 GT	1000	28	brown	**10 48 36016**	10



Narrow Neck Square Bottles, with Screw Thread, IDL

webcode WW7R3243

IDL

Square bottles with screw thread, narrow neck with high DIN thread, made of **soda-lime glass,** without pouring ring, dust cap and screw cap.

Clear glass

Vol. ml	Thread GL	Ø mm	H without cap mm	Order No.	PU pc/Pack
100	32	49	119	**12 00 81024**	10
250	32	64	155	**12 00 81036**	10
500	32	77	186	**12 00 81044**	10
1000	45	96	223	**12 00 81054**	10

Amber glass
with pouring ring and dust cap, without screw cap.

Vol. ml	Thread GL	Ø mm	H without cap mm	Order No.	PU pc/Pack
100	32	49	119	**12 00 81624**	10
250	32	64	155	**12 00 81636**	10
500	32	77	186	**12 00 81644**	10
1000	45	96	223	**12 00 81654**	10

Originality caps
made of PP for square bottles with screw threads, narrow neck, high thread

Thread GL	Colour	Order No.	PU pc/Pack
32	blue	**12 00 85119**	10
45	blue	**12 00 85128**	10

Safety caps
made of PP for square bottles with screw threads, narrow neck with valve, high thread

Thread GL	Colour	Order No.	PU pc/Pack
32	red	**12 00 85219**	10
45	red	**12 00 85228**	10





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Bottles



webcode WW7R3281

IDL

Wide Neck Square Bottles, with Screw Thread, IDL

Square bottles with screw thread, wide neck with thread, made of **soda-lime glass**, without pouring ring and dust cap, without screw cap.

Clear glass

Vol. ml	Thread GL	Ø mm	H without cap mm	Order No.	PU pc/Pack
100	32	49	109	**12 00 82024**	10
250	45	64	146	**12 00 82036**	10
500	54	77	173	**12 00 82044**	10
1000	60	97	213	**12 00 82054**	10

Amber glass

Vol. ml	Thread GL	Ø mm	H without cap mm	Order No.	PU pc/Pack
100	32	49	109	**12 00 82624**	10
250	45	64	146	**12 00 82636**	10
500	54	77	173	**12 00 82644**	10
1000	54	97	213	**12 00 82654**	10

Originality caps
made of PP for square bottles with screw threads, narrow neck

Thread GL	Colour	Order No.	PU pc/Pack
32	blue	**12 00 85319**	10
45	blue	**12 00 85328**	10
54	blue	**12 00 85332**	10
60	blue	**12 00 85335**	10



webcode WWEQ2030

Reagent Bottles, Narrow Neck, DURAN®, DURAN Group / IDL

Reagent bottles with narrow neck, ISO 4796-2, with Retrace Code (Batch Certificate of Performance via Internet).

With standard ground joint and glass flat-head stopper

Vol. ml	max. O.D. mm	Height w/o stopper mm	Neck NS	Order No.	PU pc/Pack
10[1)]	28	52	10/19	**11 21 16508**	10
25	36	64	12/21	**11 21 16514**	10
50	42	80	14/15	**11 21 16517**	10
100	52	96	14/15	**11 21 16524**	10
250	70	130	19/26	**11 21 16536**	10
500	86	164	24/29	**11 21 16544**	10
1000	107	200	29/32	**11 21 16554**	10
2000	134	248	29/32	**11 21 16563**	10
5000	182	323	45/40	**11 21 16573**	1
10000	227	398	60/46	**11 21 16586**	1
20000	288	492	60/46	**11 21 16591**	1

[1)] Non-DIN and ISO size

Webcode

Use the webcode on our website to see a larger selection of products from a specific manufacturer.

Bottles

Reagent Bottles, Wide Neck, DURAN®, DURAN Group / IDL

Reagent bottles, wide neck, ISO 4796-2, with standard ground joint, with Retrace Code (Batch Certificate of Performance via Internet).



① WWEQ2024

① With standard ground joint and glass flat-head stopper

Vol. ml	max. O.D. mm	Height w/o stopper mm	Neck NS	Order No.	PU pc/Pack
50	44	79	24/20	**11 21 18517**	10
100	52	97	29/22	**11 21 18524**	10
250	70	133	34/35	**11 21 18536**	10
500	86	163	45/40	**11 21 18544**	10
1000	107	201	60/46	**11 21 18554**	10
2000	133	247	60/46	**11 21 18563**	10
5000[1)]	182	358	85/55	**11 21 18573**	1
10000[1)]	229	443	85/55	**11 21 18586**	1
20000[1)]	290	570	85/55	**11 21 18591**	1

[1)] No ISO-standard available.



②

② With standard ground joint, without stopper, ISO 4796-2

Vol. ml	max. O.D. mm	Height w/o stopper mm	Neck NS	Order No.	PU pc/Pack
50	44	79	24/20	**11 21 18417**	10
100	52	97	29/22	**11 21 18424**	10
250	70	133	34/35	**11 21 18436**	10
500	86	163	45/40	**11 21 18444**	10
1000	107	201	60/46	**11 21 18454**	10
2000	133	247	60/46	**11 21 18463**	10
5000[1)]	182	358	85/55	**11 21 18473**	1
10000[1)]	229	443	85/55	**11 21 18486**	1
20000[1)]	290	570	85/55	**11 21 18491**	1

[1)] No ISO-standard available.


③

③ PE plastic stoppers

NS	Order No.	PU pc/Pack
24/29	**11 29 20408**	10
29/32	**11 29 20409**	10
34/35[1)]	**11 29 20411**	1
45/40[1)]	**11 29 20412**	1
60/46[1)]	**11 29 20413**	1
85/55[1)]	**11 29 20416**	1

[1)] Non DIN-size.

Reagent Bottles, Narrow Neck, made of Soda-Lime Glass, DURAN Group / IDL

Conical shoulder bottles with standard ground joint and glass flat-head stopper, ISO 4796-2.


WWEQ2181

Clear glass

Vol. ml	max. O.D. mm	Height w/o stopper mm	Neck NS	Order No.	PU pc/Pack
100	52	96	14/15	**12 23 16524**	10
250	72	130	19/26	**12 23 16536**	10
500	89	165	24/29	**12 23 16544**	10
1000	110	200	29/32	**12 23 16554**	10

Amber glass

Vol. ml	max. O.D. mm	Height w/o stopper mm	Neck NS	Order No.	PU pc/Pack
50	42	80	14/15	**12 23 16817**	10
100	52	96	14/15	**12 23 16824**	10
250	72	130	19/26	**10 21 16836**	10
500	89	165	24/29	**12 23 16844**	10
1000	110	200	29/32	**12 23 16854**	10

Bottles

webcode WWEQ2190



Reagent Bottles, Wide Neck, made of Soda-Lime Glass, DURAN Group / IDL

Conical shoulder bottles with standard ground joint (NS) and glass flat-head stopper acc. to ISO 4796-2. Recommended maximum service temperature: 100°C. Temperature change resistance 30 K, hydrolytic class 3.

Clear glass

Vol. ml	max. O.D. mm	Height w/o stopper mm	Neck NS	Order No.	PU pc/Pack
50	44	79	24/20	**12 23 18517**	10
100	52	97	29/22	**12 23 18524**	10
250	71	129	34/24	**12 23 18536**	10
500	86	164	45/40	**12 23 18544**	10
1000	107	200	60/46	**12 23 18554**	10

webcode WWXKS025



Sampling Bottle DIN 12036, Behr

Sampling Bottles DIN 12036
Glass sampling bottlesand solid glass stopper behrotest® conforming to DIN 12036 conical ground and solid glass stopper with rounded end. Made of 3.3 borosilicate glass.

The stopper offer two major advantages:
- No formation of air bubbles at the end of the stopper when immersed in the sample.
- Low risk of breakage and cracking.

Type	Volume ml	Ground joint size	Order No.
PFL 500	500	24/29	**14 48 65027**
PFL 1000	1000	24/29	**14 48 65028**
PFL 2000	2000	29/32	**14 48 65029**

Glass Stoppers, behrotest®

Type	NS size	Order No.
MST 24	24/29	**13 48 65023**
MST 29	29/32	**13 48 65024**

webcode WWRJN055



Economy Bottles, Thermo Scientific Nalgene, IDL

Economy bottles made of high-density polyethylene (HDPE), bulk packed:
Light-weight and user-friendly for uncomplicated applications. Leak-proof.
These bottles are intended for general use in laboratory applications where the bottles are not subject to high stress, for example storing of samples and standard working solutions like buffers and reagents.

Narrow-mouth bottles Economy

Volume ml	Cap Ø mm	Order No.	PU pc/Pack
30	20	**10 87 19808**	72
60	20	**10 87 19812**	72
125	24	**10 87 19824**	72
125	24	**22 87 19828**	500
250	24	**10 87 19832**	72
250	24	**22 87 19836**	250
500	28	**10 87 19842**	48
500	28	**22 87 19844**	125
1000	38 – 430	**10 87 19852**	24
1000	38 – 430	**22 87 19854**	50

Available only in original packaging units. No fractions possible.

Continued on next page

Bottles

Wide-neck bottles Economy

Volume ml	Cap Ø mm	Order No.	PU pc/Pack
30	28	**10 87 19908**	72
60	28	**10 87 19912**	72
60	28	**10 87 19916**	1000
125	38	**10 87 19924**	72
125	38	**22 87 19928**	500
250	43	**10 87 19932**	72
250	43	**22 87 19936**	250
500	53	**10 87 19942**	48
500	53	**22 87 19944**	125
1000	63	**10 87 19952**	24
1000	63	**22 87 19954**	50

Available only in original packaging units. No fractions possible.

Narrow-Mouth Bottles, Thermo Scientific Nalgene, IDL

webcode WWRJN041

Bottles made of high-density polyethylene with polypropylene screw closure
Cylindrical, all-purpose bottles. Rigid, transparent, with excellent chemical resistance properties. Leakproof.
Note: The 500 ml size is also available with an extended neck and a wider mouth (cat. no. 22 87 20030). Cat no. 22 87 20030 and 22 87 20031; with size 38 mm screw closure, fits Eppendorf and Oxford reagent dispensers.



Volume ml	Cap Ø mm	Order No.	PU pc/Pack
4	13	**22 87 20021**	12
8	20	**22 87 20022**	12
15	20	**22 87 20023**	12
30	20	**22 87 20024**	12
60	20	**22 87 20025**	12
125	24	**22 87 20026**	12
175	24	**22 87 20027**	12
250	24	**22 87 20028**	12
500	28	**22 87 20029**	12
500	38	**22 87 20030**	12
1000	38	**22 87 20031**	6

Available only in original packaging units. No fractions possible.

Amber bottles made of high-density polyethylene with polypropylene screw closure
Reduce UV light transmission to help protect light-sensitive liquids. NALGENE amber bottles comply with U.S. Pharmacopoeia 23, 661 requirements for maximum light transmission. Useful for storage, shipping and packaging. Leakproof.



Volume ml	Cap Ø mm	Order No.	PU pc/Pack
4	13	**10 87 20041**	12
8	20	**10 87 20042**	12
15	20	**10 87 20043**	12
30	20	**10 87 20044**	12
60	20	**10 87 20045**	12
125	24	**10 87 20046**	12
250	24	**10 87 20047**	12
500	28	**10 87 20048**	12
1000	38 – 430	**10 87 20049**	6

Available only in original packaging units. No fractions possible.

Failed to find what you are looking for?
Give us a call!

Bottles

webcode WWRJN324



Narrow-Mouth Bottles, Thermo Scientific Nalgene, IDL

Bottles made of low-density polyethylene with polypropylene screw closure. These transparent bottles have a greater flexibility and impact resistance than HDPE bottles. Furthermore, they offer a better view of their contents. As LDPE has a very low content of trace elements, this material is particularly well suited for organic trace analysis. Leak-proof.
Note: 500 ml bottles are also available with longer neck and wider opening (Order No. 22 87 30036).

Volume ml	Cap Ø mm	Order No.	PU pc/Pack
8	20	**10 87 20038**	12
15	20	**10 87 20039**	12
30	20	**10 87 30001**	12
60	20	**10 87 30032**	12
125	24	**10 87 30033**	12
250	24	**10 87 30034**	12
500	28	**10 87 30035**	12
500	38 – 430	**10 87 30036**	12
1000	38 – 430	**10 87 30037**	6

Available only in original packaging units. No fractions possible.

thermo scientific

webcode WWRJN043



Narrow-Mouth Bottles, Thermo Scientific Nalgene, IDL

Bottles made of polypropylene with polypropylene screw closure. Leak-proof. Autoclavable.

Volume ml	Cap Ø mm	Order No.	PU pc/Pack
4	13	**22 87 20061**	12
8	20	**22 87 20062**	12
15	20	**22 87 20063**	12
30	20	**22 87 20064**	12
60	20	**22 87 20065**	12
125	24	**22 87 20066**	12
250	24	**22 87 20067**	12
500	28	**22 87 20068**	12
1000	38 – 430	**22 87 20069**	6

Available only in original packaging units. No fractions possible.



Wide-Mouth Bottles, Thermo Scientific Nalgene, IDL

① **Bottles made of high-density polyethylene with polypropylene screw closure**
Multi-purpose bottles for universal laboratory and sampling use, with wide neck opening for easier filling. Leak-proof.

Volume ml	Cap Ø mm	Order No.	PU pc/Pack
30	28	**22 87 21041**	12
60	28	**22 87 21042**	12
125	38	**22 87 21043**	12
250	43	**22 87 21044**	12
500	53	**22 87 21045**	12
1000	63	**22 87 21046**	6
1500	63	**10 87 21049**	6

Available only in original packaging units. No fractions possible.



webcode WWRJN059

② **Large wide-mouth bottles, high-density PE, PP screw closure**
very suitable for dry chemicals and water samples, leak-proof.

Volume ml	Cap Ø mm	Order No.	PU pc/Pack
2000	100	**10 87 21047**	6
4000	100	**10 87 21048**	6

Available only in original packaging units. No fractions possible.

Bottles

Amber Wide-Mouth Bottles, Thermo Scientific Nalgene, IDL

webcode WWRJN056

thermoscientific

Bottles made of high-density polyethylene with amber polypropylene screw closure. Protection for light-sensitive substances. Leak-proof.

Volume ml	Cap Ø mm	Order No.	PU pc/Pack
30	28	**22 87 21061**	12
60	28	**22 87 21062**	12
125	38	**22 87 21063**	12
250	43	**22 87 21064**	12
500	53	**22 87 21065**	12
1000	63	**22 87 21066**	6

Available only in original packaging units. No fractions possible.



Bottles PE-LD, BRAND

Wide neck, amber, opaque, for storage of light-sensitive substances. With screw cap. .

Volume ml	Diameter mm	Height mm	Thread	Order No.
50	39	85	GL 32	**10 49 12728**
100	45	106	GL 32	**10 49 12738**
250	59	140	GL 40	**10 49 12748**
500	75	180	GL 50	**10 49 12754**
1000	94	212	GL 65	**10 49 12762**
2000	117	264	GL 65	**10 49 12764**



BRAND

webcode WWQED077

Wide-Mouth Bottles, Thermo Scientific Nalgene, IDL

① **Bottles made of polypropylene with polypropylene screw closure**
Autoclavable universal bottles with a particularly wide neck.

Volume ml	Cap Ø mm	Order No.	PU pc/Pack
30	28	**22 87 21051**	12
60	28	**22 87 21052**	12
125	38	**22 87 21053**	12
250	43	**22 87 21054**	12
500	53	**22 87 21055**	12
1000	63	**22 87 21056**	6

Available only in original packaging units. No fractions possible.



② **Large wide-mouth bottles, PP**
Especially suitable for autoclaving greater volumes. Not leak-proof. Autoclavable.

Volume ml	Cap Ø mm	Order No.	PU pc/Pack
2000	100	**10 87 21057**	6
4000	100	**10 87 21058**	6

Available only in original packaging units. No fractions possible.

webcode WWRJN058

thermoscientific



Wide-Mouth Bottle, Thermo Scientific Nalgene, IDL

webcode WWRJN327

Bottles made of low-density polyethylene with polypropylene screw closure. Translucent, flexible, with excellent impact resistance. Better visibility to contents than with HDPE bottles. Wide mouth is easy to fill. Suitable for shipping liquids. Leakproof.

Volume ml	Cap Ø mm	Order No.	PU pc/Pack
30	28	**10 87 21031**	12
60	28	**10 87 21032**	12
125	38	**10 87 21033**	12
250	43	**10 87 21034**	12
500	53	**10 87 21035**	12
1000	63	**10 87 21036**	6



Bottles

webcode WWRJN045



Heavy-Duty Bottles, Thermo Scientific Nalgene, IDL

Bottles made of high-density polyethylene with white polypropylene screw closure. Large, thick-walled bottles with wide neck opening. Leak-proof.

Volume l	Cap Ø mm	Order No.	PU pc/Pack
1	53B	**22 87 21251**	6
2	53B	**22 87 21252**	2
4	83B	**22 87 21253**	1

Available only in original packaging units. No fractions possible.

thermo scientific

webcode WWRJN046



Heavy-Duty Bottle, Thermo Scientific Nalgene, IDL

Thick-walled bottles made of polypropylene with TPE seal for extra-rugged service. Withstands vacuum loads at room temperature. Leak-proof, autoclavable and resistant to chemicals. Ideal for use as a storage container for automatic analysis and dispensing systems.

Volume l	Cap Ø mm	Order No.	PU pc/Pack
0.25	53	**22 87 21265**	6
1	53	**22 87 21261**	6
2	53	**22 87 21262**	2
4	83	**22 87 21260**	1
5	83	**22 87 21263**	1

Available only in original packaging units. No fractions possible.

webcode WWRJN075



PTFE Bottles, Thermo Scientific Nalgene, IDL

Narrow-mouth bottles made of PTFE PFA with PFA screw closure. PTFE PFA is the most chemical-resistant fluoropolymer available. It is only susceptible to molten alkali metals and halogenated compounds at elevated temperatures. Best suited for trace analysis and chip production. Leakproof, contact clear, autoclavable, temperature resistant from -270 to +250°C.

Volume ml	Cap Ø mm	Order No.
30	20	**22 87 16301**
60	20	**22 87 16302**
125	38 – 430	**22 87 16303**
250	38 – 430	**22 87 16304**
500	38 – 430	**22 87 16305**
1000	38 – 430	**22 87 16306**



Narrow-Mouth Bottles, PFA, VITLAB

Transparent.With screw cap with buttress threads made of PFA. Ideal for long-term storage of high-purity oxidants, acids, alkalis, as well as hydrocarbons, trace analysis solvents and standards.
Autoclavable at 121°C (2 bar) according to DIN EN 285.

Volume ml	Thread	Height mm	Ø mm	PU	Order No.
50	S 28	86	37	1 pcs.	**22 85 32672**
100	S 28	120	45	1 pcs.	**22 85 32677**
250	S 28	160	61	1 pcs.	**22 85 32684**
500	S 28	190	76	1 pcs.	**22 85 32688**
1000	S 28	240	96	1 pcs.	**22 85 32692**

Bottles

Browngglass Bottles DIN 18, LAT

webcode WWW4U104

Browngglass bottles DIN 18
Pharmaceutical or drugstore bottles pursuant to pharmaceutical standard, in practical sets of 10.

Vol. ml	Order No.	PU pc/Pack
10	**10 20 18119**	10
20	**10 20 18219**	10
30	**10 20 18319**	10
50	**10 20 18519**	10
100	**10 20 18619**	10

Please order the screw caps and drop-dispensing inserts separately.



Accessories

Article	Order No.	PU pc/Pack
Screw caps, white 10 – 100 ml	**10 20 18036**	10
Driptray, red 10 – 100 ml	**10 20 18136**	10

Wide-Mouth Bottles, PFA, VITLAB

Transparent. With screw cap made of PFA with buttress threads. Ideal for long-term storage of high-purity oxidants, acids, alkalis, as well as hydrocarbons, trace analysis solvents and standards.
Autoclavable at 121°C (2 bar) according to DIN EN 285.

Volume ml	Thread	Height mm	Ø mm	PU	Order No.
250	S 40	150	61	1 pcs.	**22 85 32784**
500	S 40	179	76	1 pcs.	**22 85 32788**
1000	S 40	217	96	1 pcs.	**22 85 32792**
2000	S 40	245	130	1 pcs.	**22 85 32796**



VITgrip™ Laboratory Bottles, PP, VITLAB

The allrounder: Plastic bottle for sampling and storing of liquids in the lab.

The VITgrip™ laboratory bottle is characterized by the following properties:
- Excellent grip thanks to the innovative design. The slim waist of the VITgrip™ lab bottles greatly improves handling compared to conventional lab bottles. The moulded volume graduations furthermore provide texture for an enhanced grip, especially when working with gloves.
- Leakproof[1] - The optimized sealing system of the bottle thread and screw cap form a reliable sealing system with an ergonomic shape.
- Easy readability - With double-sided moulded graduations, the volume inside the bottle is easy to read with a high accuracy (±5%).
- The hydrophobic material and absence of dirt-catching edges allow for smooth pouring of liquids and easy cleaning.
- With tamper-evident closure which reliably signals if the bottle is still originally sealed.
- Very good chemical resistance against most acids, bases and alcohols. The VITgrip™ laboratory bottles and the enclosed VITLAB® original closures are suitable for contact with food (pursuant to EU Directive No. 10/2011). Autoclavable at 121°C (2 bar) according to DIN EN 285.



Volume ml	Graduation ml	Height mm	Bottom Ø mm	Order No.	PU pc/Pack
125	12.5	103[2]	54	**10 85 30194**	6
250	25	149[2]	64	**10 85 30294**	6
500	25	192[2]	77	**10 85 30394**	6
1000	50	234[2]	97	**10 85 30494**	6
2000	100	278[2]	126	**10 85 30594**	1

[1] IMPORTANT NOTE: The term leakproof applies under the following conditions:
The VITgrip™ lab bottle is half-filled with distilled water and is closed with the supplied VITLAB® screw closure - after the ring of the tamper-evident closure clicks into place - with a torque of 5 Nm. Subsequently, the bottle is turned upside down and remains, standing on the screw cap, for 15 minutes, without the filled-in water escaping. The test is carried out at room temperature (approx. 20° C) and atmospheric pressure.

[2] Height without screw cap

Bottles





Polyethylene Bottles, Narrow Neck, KAUTEX

Laboratory bottles, PE-LD, natural color, with screw cap (from 2000 ml closed or open), supplied in a bag and shrinkwrapped as a UV product.

Laboratory bottles

Vol. ml	Ø mm	Height mm	Thread mm	Order No.	PU pc/Pack
10	26	46	14	**22 52 70500**	100
20	32	56	14	**22 52 70501**	100
30	33	67	14	**22 52 70502**	100
50	37	88	18	**22 52 70503**	50
100	47	105	18	**22 52 70504**	20
200	57	131	18	**22 52 70505**	10
250	61	140	25	**22 52 70506**	10
500	75	177	25	**22 52 70507**	10
1000	97	223	28	**22 52 70508**	4
2000	120	264	28	**22 52 70509**	1
3000	138	300	32	**22 52 70510**	1
5000	162	355	40	**22 52 70511**	1

Spare Kautex closures, PE-LD, natural colored

for bottle volume ml	Order No.	PU pc/Pack
bis 30	**10 52 70603**	100
50 – 200	**10 52 70604**	100
250 – 500	**10 52 70605**	100
1000 – 2000	**10 52 70606**	100
3000	**10 52 70607**	100

Dropper closures, PE-LD, natural colored, with tip

for bottle volume ml	Order No.	PU pc/Pack
up to 30	**22 52 72102**	100
50 – 200	**22 52 72101**	100
250 – 500	**22 52 72100**	100
1000 – 2000	**22 52 72103**	100

Cap with holding strip, PVC, red

Article	Order No.	PU pc/Pack
suitable for all dropper closures	**22 52 73350**	100

Dropper closures, PE-LD, natural colored

for bottle volume ml	Thread O.D. mm	Order No.	PU pc/Pack
100	18	**22 52 75991**	100
200	18	**22 52 75992**	100
250	25	**22 52 70618**	100
500	25	**22 52 75993**	100
1000	28	**22 52 70619**	100
2000	28	**22 52 75994**	100

Webcode

Use the webcode on our website to see a larger selection of products from a specific manufacturer.

Bottles

Narrow Neck Bottles, KAUTEX



Chemical bottles made of HDPE with UN approval, rectangular, natural colored or black, without closure.
Suitable for transporting hazardous liquids.
N.B.: Approval certificates available on request.

Uses:
- packing
- sampling
- storing
- shipping

UN Narrow neck bottles, natural colored

Vol. ml	Neck I.D. mm	Thread O.D. mm	Height w/o closure mm	Weight g	Order No.	PU pc/Box
500	28.7	45	176.5	50	**22 52 84464**	120
1000	28.7	45	211.8	88	**22 52 84152**	64
2500	28.7	45	282.0	163	**22 52 84153**	26

Available only in original packaging units. No fractions possible.

UN Narrow neck bottles, black

Vol. ml	Neck I.D. mm	Thread O.D. mm	Height w/o closure mm	Weight g	Order No.	PU pc/Box
500	28.7	45	176.5	50	**22 52 70096**	120
1000	28.7	45	211.8	88	**22 52 70097**	64
2500	28.7	45	282.0	163	**22 52 84486**	26

Available only in original packaging units. No fractions possible.

Closures with UN approval

Article	Order No.	PU pc/Pack
Light-duty closure, HDPE, black Tamper-evident ring, PTFE insert	**10 52 74183**	100
Bell-type closure, PP, black Tamper-evident ring, PP, red; cup seal, teflon insert	**22 52 84162**	100
Bell-type closure, PP, red, with gas release Tamper-evident ring, PP, red; cup seal, perforated teflon insert	**22 52 84182**	100

Available only in original packaging units. No fractions possible.

Polyethylene Bottles, Wide Neck, KAUTEX



Laboratory bottles, PE-LD, cylindrical, natural color, with screw cap (contains 2000 ml when closed or open), supplied in a bag and shrinkwrapped as a UV product.

Laboratory bottles

Vol. ml	Ø mm	Height mm	Thread mm	Order No.	PU pc/Pack
50	39	77	32	**22 52 70528**	50
100	48	93	32	**22 52 70529**	20
200	59	114	40	**22 52 70530**	10
250	64	120	40	**22 52 70531**	10
300	68	128	40	**22 52 70532**	10
500	77	154	50	**22 52 70533**	10
750	88	173	50	**22 52 70534**	5
1000	95	205	65	**22 52 70535**	4
1500	108	226	65	**22 52 70536**	4
2000	120	247	65	**22 52 70537**	1

Spare Kautex closures, PE-LD, natural colored

for bottle volume ml	Order No.	PU pc/Pack
50 – 100	**10 52 70607**	100
200 – 300	**10 52 70608**	100
500 – 750	**10 52 70609**	100
1000 – 2000	**10 52 70610**	100

Bottles



Wide Neck Bottles, KAUTEX

Wide-neck bottles made of polypropylene (PP), autoclavable up to max. 121°C, natural colored, with graduation, with screw closure.

Wide Neck Bottles

Vol. ml	Ø mm	Height mm	Thread mm	Order No.	PU pc/Pack
100	48	94	32	**22 52 83856**	480
250	64	121	40	**22 52 83859**	260
500	77	155	50	**22 52 83852**	130
1000	96	206	65	**22 52 83855**	56

Spare hollow-bead closure made of PP, natural colored

Thread mm	Order No.	PU pc/Pack
32	**22 52 83789**	100
40	**22 52 83792**	100
50	**22 52 83791**	100
65	**22 52 83790**	100

N.B.: Before autoclaving, unscrew the closure and place it, turned upside down, loose on the bottle. Do not screw tight.





Reagent Bottles, Wide Neck, KAUTEX

Wide-neck chemical bottles made of PE-HD (hard), available natural colored or white with a variety of closures. (Closures have to be ordered separately.)
All sizes, except for 50 ml and 350 ml, are approved for use with hazardous solid materials, when used with the matching closures.

Wide-neck bottles, natural colors

Vol. ml	Container cross-section mm	Height w/o closure mm	Thread O.D. mm	Order No.	PU pc/Pack
50	36×36	88.5	28	**22 52 76398**	700
100	45×45	101	32	**22 52 73094**	612
250	59×59	128	45	**22 52 73095**	273
350	60×60	164	45	**22 52 71138**	190
500	75×75	161	54	**22 52 73096**	124
750	85×85	185	54	**22 52 71140**	90
1000	85×85	212	54	**22 52 73097**	81
1500	111×111	209	80	**22 52 73624**	42
2500	122×122	258	80	**22 52 71143**	27
4000	142×142	294	80	**22 52 71144**	15

Wide-neck bottles, white

Vol. ml	Container cross-section mm	Height w/o closure mm	Thread O.D. mm	Order No.	PU pc/Pack
50	36×36	88.5	28	**22 52 84193**	700
100	45×45	101	32	**22 52 79206**	612
250	59×59	128	45	**22 52 79207**	273
500	75×75	161	54	**22 52 79209**	124
750	85×85	185	54	**22 52 79210**	90
1000	85×85	212	54	**22 52 79211**	81
1500	111×111	209	80	**22 52 79212**	42
2500	122×122	258	80	**22 52 79213**	27
4000	142×142	294	80	**22 52 79214**	15

Available only in original packaging units. No fractions possible.

Screw closures made of polypropylene, black, with PE foam insert

for bottle volume ml	Order No.	PU pc/Pack
50	**22 52 71150**	100
100	**22 52 71152**	100
250 – 350	**22 52 71153**	100
500 – 1000	**22 52 71898**	100
1500 – 4000	**22 52 71155**	100

Continued on next page

Bottles

Tamper-evident closures made of polypropylene, blue

for bottle volume ml	Order No.	PU pc/Pack
50	**22 52 76304**	100
100	**22 52 73826**	100
250 – 350	**22 52 76306**	100
500 – 1000	**22 52 73199**	100
1500 – 4000	**22 52 73775**	100

Tamper-evident closures made of polypropylene, red, with PE foam insert

for bottle volume ml	Order No.	PU pc/Pack
50	**22 52 84198**	100
100	**22 52 83761**	100
250 – 350	**22 52 83783**	100
500 – 1000	**22 52 83691**	100
1500 – 4000	**22 52 83762**	100

Screwing aid/wrench for closure sizes 100 to 4000 ml

Article	Order No.
Screwing aid	**22 52 85102**

Rectangular Bottles, Thermo Scientific Nalgene, IDL





webcode WWRJN037

Bottles made of high-density polyethylene with polypropylene screw closure. Sturdy wall construction, straight sides, leak-proof.

Volume ml	Cap Ø mm	Colour	Order No.	PU pc/Pack
125	28	white	**22 87 20071**	12
250	38	white	**22 87 20072**	12
500	48	white	**22 87 20073**	12
1000	53	white	**22 87 20074**	6
2000	63	white	**22 87 20075**	4
125	28	brown	**10 87 20091**	12
250	38	brown	**10 87 20092**	12
500	48	brown	**10 87 20093**	12
1000	53	brown	**10 87 20094**	6
2000	63	brown	**10 87 20095**	4

❗ Available only in original packaging units. No fractions possible.

Square Bottles, Thermo Scientific Nalgene, IDL

webcode WWRJN039

Square bottles with graduation and pouring ring

① **Bottles made of polycarbonate**
with polypropylene screw closure, transparent, break-proof, autoclavable, leak-proof. For storing aqueous solutions, Temperature-resistant from -135 to +135°C.

Volume ml	Cap Ø mm	Order No.	PU pc/Pack
30	20	**22 87 20155**	12
60	24	**22 87 20156**	12
125	38 – 430	**22 87 20151**	6
250	38 – 430	**22 87 20152**	6
500	38 – 430	**22 87 20153**	4
1000	38 – 430	**22 87 20154**	4
2000	53	**22 87 20157**	1

❗ Available only in original packaging units. No fractions possible.



② **Bottles made of polypropylene**
polypropylene screw closure, contact-clear, autoclavable, resistant to alcohols, acids and bases. Temperature-resistant from -40 to +121°C.

Volume ml	Cap Ø mm	Order No.	PU pc/Pack
30	20	**22 87 20161**	12
60	24	**22 87 20162**	12
125	38 – 430	**22 87 20163**	12
250	38 – 430	**22 87 20164**	12
500	38 – 430	**22 87 20165**	12
1000	38 – 430	**22 87 20166**	6

❗ Available only in original packaging units. No fractions possible.



Continued on next page

webcode To see other variants and accessories, please enter the webcode on our website.

Bottles



1 Bottles made of high-density polyethylene
with polypropylene screw closure, break-proof, non-autoclavable, resistant to most chemicals. Temperature-resistant from -100 to +120°C.

Volume ml	Cap Ø mm	Order No.	PU pc/Pack
30	20	**22 87 20181**	12
60	24	**22 87 20182**	12
125	38 – 430	**22 87 20183**	12
250	38 – 430	**22 87 20184**	12
500	38 – 430	**22 87 20185**	12
1000	38 – 430	**22 87 20186**	6

Available only in original packaging units. No fractions possible.



2 Bottles made of polyethylene-terephthalate-copolyester (PETG)
with high-density polyethylene screw closure, sterile, for cell cultures and other biological media. Low CO_2/O_2 permeability. Cell culture media can be stored gas-tight for 6 months without disturbing the pH balance. Transparent, gamma ray sterilized, non-toxic, shatterproof. Packaged in shrink-wrapped trays; no rinsing, autoclaving or drying required.

Volume ml	Cap Ø mm	Order No.	PU pc/Pack
30	20	**22 87 20191**	24
60	24	**22 87 20192**	24
125	38 – 430	**22 87 20193**	24
250	38 – 430	**22 87 20194**	24
500	38 – 430	**22 87 20195**	12
1000	38 – 430	**22 87 20196**	12
2000	53	**22 87 20197**	6

Available only in original packaging units. No fractions possible.



3 Wide-mouth square bottles made of polypropylene
with polypropylene closure. PP is resistant to acids, alcohols and bases. Contact-clear bottle provides visible liquid level. Has wide mouth for easy cleaning, sample filling and retrieval. Square shape saves space. Autoclavable / leak-proof.
NOTE: Before autoclaving, just set cap or closure on top of the bottle without engaging the threads.

Volume ml	Cap Ø mm	Dimensions mm	Order No.	PU pc/Pack
60	28	83 × 37 × 37	**10 87 21101**	12
175	38	106 × 52 × 52	**10 87 21102**	12
250	43	116 × 62 × 62	**10 87 21103**	72
500	53	146 × 75 × 75	**10 87 21104**	12
1000	63	181 × 95 × 95	**10 87 21105**	6



4 Wide-mouth square bottles made of high-density polyethylene
with polypropylene screw closure. Square shape saves space; wide mouth is easy to fill. Leak-proof.

Volume ml	Cap Ø mm	Dimensions mm	Order No.	PU pc/Pack
60	28	83 × 37 × 37	**10 87 21141**	12
175	38	106 × 52 × 52	**10 87 21142**	12
250	43	116 × 62 × 62	**10 87 21143**	12
500	53	146 × 75 × 75	**10 87 21144**	12
1000	63	181 × 95 × 95	**10 87 21145**	6



5 Large wide-mouth square bottles made of polypropylene
with polypropylene screw closure. Space-saving bottle features convenient, molded-in handgrips. Excellent for storing and sterilizing contaminated slides and other small lab items. Autoclavable / not leak-proof.
NOTE: Before autoclaving, just set cap or closure on top of the bottle without engaging the threads.

Volume l	Cap Ø mm	Dimensions mm	Order No.
4	100	279 × 140 × 140	**10 87 21221**



6 Large wide-mouth square bottles made of high-density polyethylene
with polypropylene screw closure. Space-saving bottle features molded-in handgrips for greater convenience and safety when pouring. Excellent for collecting, storing and transporting dry chemicals, environmental samples, reagents and distilled water. Square shape saves space and wide mouth allows easy access to contents. Leak-proof.

Volume l	Cap Ø mm	Dimensions mm	Order No.
4	100	279 × 140 × 140	**10 87 21230**

Bottles

Wide Neck Square Containers, KAUTEX





Containers made of PVC (hard).
(Closures have to be ordered separately.)

Wide neck containers, crystal-clear

Vol. ml	Container cross-section mm	Thread O.D. mm	Height w/o closure mm	Order No.	PU pc/Pack
50	38×38	32	60.5	**22 52 70595**	972
100	46×46	40	71	**22 52 70596**	480
200	60×60	50	88	**22 52 70597**	406
300	68×68	50	94	**22 52 71080**	300
500	81×81	65	108	**22 52 70598**	162
750	92×92	80	120	**22 52 71082**	114
1000	98×98	80	143	**22 52 70599**	96
2000	122×122	80	187	**22 52 73352**	44

Wide neck containers, amber transparent

Vol. ml	Container cross-section mm	Thread O.D. mm	Height w/o closure mm	Order No.	PU pc/Pack
50	38×38	32	60.5	**22 52 70697**	972
100	46×46	40	71	**22 52 70698**	480
200	60×60	50	88	**22 52 70699**	406
300	68×68	50	94	**22 52 71081**	300
500	81×81	65	108	**22 52 70700**	162
750	92×92	80	120	**22 52 71083**	114
1000	98×98	80	143	**22 52 70701**	96
2000	120×120	80	187	**22 52 73353**	44

Wide neck containers made of PETG, crystal-clear

Vol. ml	Container cross-section mm	Thread O.D. mm	Height w/o closure mm	Order No.	PU pc/Pack
50	38×38	32	60.5	**22 52 74371**	972
100	46×46	40	71	**22 52 74372**	480
200	60×60	50	88.5	**22 52 74373**	406
500	81×81	65	108	**22 52 74374**	162
1000	98×98	80	144	**22 52 74375**	96
2000	122×122	80	187	**22 52 84404**	44

❗ Available only in original packaging units. No fractions possible.

Screw closures, PP, black

for container volume ml	Order No.	PU pc/Pack
50	**22 52 70750**	100
100	**22 52 70751**	100
200 – 300	**22 52 70752**	100
500	**22 52 70753**	100
750 – 1000	**22 52 70754**	100
2000	**22 52 70755**	100

behroplast® Bottles, Behr



behroplast® bottles made of thermoplastic polyester (PET), food-compatible, light, high resistance to chemicals, largely diffusion-proof, temperature-resistant from -40 to +60°C.

① **PET narrow-neck bottles, crystal clear**
With blue tamper-evident closure made of polypropylene

Volume ml	Outer Ø mm	Outer height mm	Cap Ø mm	Order No.	PU pc/Pack
100	48	94	28	**22 48 17001**	10
200	55	125	28	**22 48 17002**	10
250	63	131	28	**22 48 17003**	10
500	80	180	28	**22 48 17005**	10
1000	90	250	28	**22 48 17010**	10

❗ Available only in original packaging units. No fractions possible.

① webcode WWXKS002

Continued on next page

Bottles



①



②

① **Wide-neck bottles, crystal clear**
With white polypropylene closure

Volume ml	Outer Ø mm	Outer height mm	Cap Ø mm	Order No.	PU pc/Pack
100	74	37	65	**22 48 18001**	10
250	85	75	65	**22 48 18002**	10
500	88	107	74	**22 48 18005**	10
1000[1)]	85	175	78	**10 48 18011**	10
2000	133	180	95	**22 48 18020**	10
2500	135	210	95	**22 48 18025**	10
3000	145	210	95	**22 48 18030**	10

Available only in original packaging units. No fractions possible.

[1)] octagonal

② **PET narrow-neck bottles, amber**
Transparent, with black closure

Volume ml	Outer Ø mm	Outer height mm	Cap Ø mm	Order No.	PU pc/Pack
100	45	110	22	**22 48 19001**	10
250	67	135	22	**22 48 19002**	10
500	82	146	28	**22 48 19005**	10
1000	88	222	28	**22 48 19010**	10

Available only in original packaging units. No fractions possible.

webcode WWMUE003

ISOLAB Laborgeräte GmbH









Bottles for Water Sampling, PP, ISOLAB

Manufactured from polypropylene for taking, transporting and storing of water samples for microbiological analysis. They can be used for all analysis where a sterile sample is required.

Bottles are manufactured at aseptically sterile production halls and then sent to gamma sterilisation. Such informations as lot number, production and expiry dates etc are indicated

on the packing.
Square bottle form offers easy handling and optimum space saving solutions. GL 50 wide bottle neck provides easy filling and pouring. Cap with large ridges with increased grip featured with self lock and internal security ring. Cap inner design ensures hermetical and leak-proof closure. Caps are made of polyethylene.
Embossed volume graduations on wall side offer better liquid level viewing.

Alternative 2 bottles:
- Without sodium thiosulfate
- With sodium thiosulfate

Bottles with sodium thiosulfate (20 mg/lt – according to ISO/FIS 19458/2006 standard) are ideal for water analysis where chlorine may modify the composition of the sample.

Alternative 2 packing:
- "Bulk packed", where bottles are packed as a group in a box.
- "Single packed", where bottles are first individually packed in P.E bags and then re-packed in a box.

Alternative 2 colors:
- Clear bottles
- Amber bottles

Sterile, bulk packed

Volume ml	Dimensions mm	PU pc/Pack	clear, without sodium thiosulfate **Order No.**	clear, with sodium thiosulfate **Order No.**	amber, without sodium thiosulfate **Order No.**	amber, with sodium thiosulfate **Order No.**
125	57×57×90	180	**10 66 40101**	**10 66 40111**	**10 66 40201**	**10 66 40211**
250	60×60×115	108	**10 66 40102**	**10 66 40112**	**10 66 40202**	**10 66 40212**
500	70×70×145	84	**10 66 40103**	**10 66 40113**	**10 66 40203**	**10 66 40213**
1000	90×90×175	30	**10 66 40104**	**10 66 40114**	**10 66 40204**	**10 66 40214**

Sterile, single packed

Volume ml	Dimensions mm	PU pc/Pack	clear, without sodium thiosulfate **Order No.**	clear, with sodium thiosulfate **Order No.**	amber, without sodium thiosulfate **Order No.**	amber, with sodium thiosulfate **Order No.**
125	57×57×90	130	**10 66 40301**	**10 66 40311**	**10 66 40401**	**10 66 40411**
250	60×60×115	72	**10 66 40302**	**10 66 40312**	**10 66 40402**	**10 66 40412**
500	70×70×145	42	**10 66 40303**	**10 66 40313**	**10 66 40403**	**10 66 40413**
1000	90×90×175	22	**10 66 40304**	**10 66 40314**	**10 66 40404**	**10 66 40414**

Bottles

Aluminium Bottles and Boxes, BÜRKLE

webcode WWR4Q015

Particularly suitable for storage, food, transport or shipment of substances and reference samples that must be free from all contamination. Additional features: can be emptied completely, odorless, impermeable to light, corrosion-resistant. With UN approval for 60 to 5600 ml.

Article	Volume ml	Bottle Ø mm	Height mm	Order No.
Bottle	38	35	70	**38 04 03270**
Bottle	60	40	88	**38 04 03271**
Bottle	120	57	97	**38 04 03272**
Bottle	300	57	160	**38 04 03273**
Bottle	600	74	192	**38 04 03274**
Bottle	1200	88	248	**38 04 03275**
Bottle	3000	161	215	**10 04 53276**
Bottle	5600	161	340	**10 04 53277**



behroplast® Safety Nets, Behr

webcode WWXKS054

behroplast® safety nets from polyethylene for covering glass containers. Cut to size with scissors. Package contains 5 m.

Colour	for Ø mm	Order No.
red	6 – 15	**10 48 93723**
blue	12 – 25	**10 48 93724**
yellow	20 – 40	**10 48 93725**
green	30 – 60	**10 48 93726**
red	50 – 100	**10 48 93727**
yellow	90 – 200	**10 48 93728**



Wash Bottles, Spray Bottles

Wash Bottles, IDL

webcode WW7R3319

Narrow-neck wash bottle LDPE, round, ecru, leak-proof and with added spray cap LDPE, riser tube ecru.

Volume ml	Cap Ø mm	Thread O.D. mm	Height mm	Order No.
100	18	18	105	**10 00 80100**
200	18	18	133	**10 00 80200**
250	25	25	140	**10 00 80250**
500	25	25	177	**10 00 80500**
1000	28	28	223.5	**10 00 81000**
2000	28	28	264	**10 00 82000**



Wash Bottles, Spray Bottles

webcode WWRJN030



Wash Bottles, Thermo Scientific Nalgene, IDL

Bottle and riser tube made of low-density polyethylene with screw cap and tube holder made of polypropylene. Leak-proof riser tube welded to closure.

Volume ml	Cap Ø mm	Order No.	PU pc/Pack
125	24	**22 87 24013**	6
250	24	**22 87 24014**	6
500	28	**22 87 24015**	6
1000	38 – 430	**22 87 24016**	4

Available only in original packaging units. No fractions possible.

webcode WWRJN031



Wide-Mouth Unitary™ Wash Bottles, Thermo Scientific Nalgene, IDL

Bottles made of low-density polyethylene with a polypropylene screw closure for fast, clean and easy filling and dispensing of liquids. Made in one piece. Replaceable tip. Leak-proof closure.

Volume ml	Cap Ø mm	Order No.	PU pc/Pack
125	24	**22 87 24021**	6
250	38	**22 87 24022**	4
500	38	**22 87 24023**	4
750	38	**22 87 24024**	4
1000	43	**22 87 24025**	2

Available only in original packaging units. No fractions possible.

webcode WW2NY017



Colored Wash Bottles, neoLab®

Wash bottles made of polyethylene, cylindrical form, good standing stability, colored, complete with likewise colored spray insert for positive identification without mix-ups.

Volume ml	Ø mm	Colour	Order No.
500	75	red	**22 01 21074**
500	75	blue	**22 01 21077**



Washing Bottles, VITLAB

① **Wash bottles, PE-LD/PP**

Narrow-/wide-mouth bottles made of PE-LD, transparent. Screw cap and spray tube from PP. Precise spray jet and optimised medium backflow through the continuous and finely drawn tip of the spray tube.

Volume ml	Material	Version	Thread GL	Order No.	PU pc/Pack
50	PE-LD	Narrow-mouth	18	**10 85 31945**	24
100	PE-LD	Narrow-mouth	18	**10 85 31946**	24
250	PE-LD	Narrow-mouth	25	**10 85 31949**	12
500	PE-LD	Narrow-mouth	25	**10 85 31950**	12
1000	PE-LD	Narrow-mouth	32	**10 85 31951**	12
250	PE-LD	Wide-mouth	45	**10 85 31937**	12
500	PE-LD	Wide-mouth	45	**10 85 31939**	12
1000	PE-LD	Wide-mouth	63	**10 85 31941**	12
250	PP	Narrow-mouth	25	**10 85 30949**	12
500	PP	Narrow-mouth	25	**10 85 30950**	12
1000	PP	Narrow-mouth	32	**10 85 30951**	12
250	PP	Wide-mouth	45	**10 85 30937**	12
500	PP	Wide-mouth	45	**10 85 30939**	12
1000	PP	Wide-mouth	63	**10 85 30941**	12

Available only in original packaging units. No fractions possible.

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Wash Bottles, Spray Bottles

② **Wash bottles with imprint, PE-LD/PP**

Narrow-/ wide-mouth bottles made of PE-LD, transparent. Screw cap and spray tube from PP. Imprinted with "Distilled Water" in German, English, French and and Spanish. Precise spray jet and optimised medium backflow through the continuous and finely drawn tip of the spray tube.
Upon request, also with other imprints for non-hazardous media according to the REACh Directive.

Volume ml	Material	Version	Thread GL	Order No.	PU pc/Pack
250	PE-LD	Narrow-mouth	25	**10 85 31331**	12
500	PE-LD	Narrow-mouth	25	**10 85 31332**	12
1000	PE-LD	Narrow-mouth	32	**10 85 31333**	12
250	PE-LD	Wide-mouth	45	**10 85 31351**	12
500	PE-LD	Wide-mouth	45	**10 85 31352**	12
1000	PE-LD	Wide-mouth	63	**10 85 31353**	12

Available only in original packaging units. No fractions possible.


②

Accessories

Screw cap and spray tube with drawn-out tip, made of PP. Precise spray jet and optimised medium backflow through the continuous and finely drawn tip of the spray tube.

Article	Order No.	PU pc/Pack
Screw caps with dispensing tube, PP, GL 18	**10 85 33300**	24
Screw caps with dispensing tube, PP, GL 25	**10 85 33301**	12
Screw caps with dispensing tube, PP, GL 32	**10 85 33302**	12
Screw caps with dispensing tube, PP, GL 45	**10 85 33303**	12
Screw caps with dispensing tube, PP, GL 63	**10 85 33304**	12

Available only in original packaging units. No fractions possible.

Wash Bottles, Coloured, PE-LD/PP, VITLAB

Narrow-mouth bottles, PE-LD, four different colours
Available in four different colours to facilitate ready identification. Screw cap and spray tube from PP. Precise spray jet and optimised medium backflow through the continuous and finely drawn tip of the spray tube.

Volume ml	Colour	Thread GL	Height w/o wash-bottle cap mm	Ø mm	Order No.	PU pc/Pack
250	red	25	135	65	**10 85 32603**	5
250	green	25	135	65	**10 85 32605**	5
250	yellow	25	135	65	**10 85 32606**	5
250	blue	25	135	65	**10 85 32608**	5
500	red	25	180	74	**10 85 32703**	5
500	green	25	180	74	**10 85 32705**	5
500	yellow	25	180	74	**10 85 32706**	5
500	blue	25	180	74	**10 85 32708**	5
1000	red	32	221	92	**10 85 32803**	5
1000	green	32	221	92	**10 85 32805**	5
1000	yellow	32	221	92	**10 85 32806**	5
1000	blue	32	221	92	**10 85 32808**	5

Available only in original packaging units. No fractions possible.



Set of coloured wash bottles

Article	Vol. ml	Thread GL	H w/o wash-bottle cap mm	Ø mm	Order No.
Set: red, green, yellow, blue	500	25	180	74	**10 85 32711**
Set: red, green, yellow, blue	1000	32	221	92	**10 85 32811**

We are also glad to help you in person.
Give us a call!

Wash Bottles, Spray Bottles



Safety Wash Bottles, VITLAB

Safety wash bottles with VENT-CAP, narrow-mouth
Bottles made from PE-LD (or PP for Acetone and MEK), spray tube from PP. With coloured VENT-CAP which supports easy visual identification of the media.
More safety due to the durable safety imprint in accordance to Directive (EC) No. 1272/2008 (GHS), as well as with all important information:
- Material name in German, English, French and Spanish
- Chemical formula, CAS No., hazard pictogram, signal word
- Risk phrases (H phrases), safety phrases (P phrases), as well as NFPA Code

Precise spray jet and optimised medium backflow through the continuous and finely drawn tip of the spray tube. Practically no leakage or dripping with the VENT-CAP, the design of which prevents almost all static overpressure.

Imprint	Volume ml	Colour VENT-CAP	**Order No.**	PU pc/Pack
Acetone	250	red	**22 85 31829**	12
Acetone	500	red	**22 85 32829**	12
Acetone	1000	red	**10 85 33829**	12
Acetonitrile	500	red	**22 85 32969**	6
Distilled water	250	blue	**22 85 31819**	12
Distilled water	500	blue	**22 85 32819**	12
Distilled water	1000	red	**10 85 33819**	12
Ethanol	250	orange	**22 85 31869**	12
Ethanol	500	orange	**22 85 32869**	12
Ethanol	1000	red	**10 85 33869**	12
Ethyl acetate	250	red	**22 85 31859**	12
Ethyl acetate	500	red	**22 85 32859**	12
Ethyl acetate	1000	red	**10 85 33859**	12
Acetic acid	500	red	**22 85 32979**	6
Heptane	500	red	**22 85 32899**	6
i-Hexane	500	red	**22 85 32909**	6
Isopropanol	250	yellow	**22 85 31849**	12
Isopropanol	500	yellow	**22 85 32849**	12
Isopropanol	1000	red	**10 85 33849**	12
Methanol	250	green	**22 85 31839**	12
Methanol	500	green	**22 85 32839**	12
Methanol	1000	red	**10 85 33839**	12
Methylene chloride	500	transp.	**22 85 32879**	6
Methyl ethyl ketone	500	red	**22 85 32989**	6
N,N-Dimethylformamide	500	red	**22 85 32889**	6
Pentane	500	red	**10 85 33959**	6
Tetrahydrofurane (THF)	500	red	**22 85 32939**	6
Toluene	500	red	**22 85 32949**	6
Xylene	500	red	**22 85 32959**	6

❗ Available only in original packaging units. No fractions possible.

VENT-CAP wash bottle caps, PP
Screw cap and spray tube made of PP.
Practically no leakage or dripping with the VENT-CAP screw cap, the design of which prevents almost all static overpressure.
Precise spray jet and optimised medium backflow through the continuous and finely drawn tip of the spray tube.

for bottle volume ml	Thread GL	Colour	**Order No.**	PU pc/Pack
250	25	red	**10 85 34111**	12
250	25	blue	**10 85 34121**	12
250	25	green	**10 85 34131**	12
250	25	orange	**10 85 34141**	12
250	25	yellow	**10 85 34151**	12
500	25	transp.	**10 85 35102**	12
500	25	red	**10 85 35112**	12
500	25	blue	**10 85 34122**	12
500	25	green	**10 85 34132**	12
500	25	orange	**10 85 34142**	12
500	25	yellow	**10 85 34152**	12
1000	32	red	**10 85 34213**	12

❗ Available only in original packaging units. No fractions possible.

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Wash Bottles, Spray Bottles



Safety wash bottles with VENT-CAP, wide-mouth
Bottles made from PE-LD (or PP for Acetone and MEK), spray tube from PP. With coloured VENT-CAP which supports easy visual identification of the media.
More safety due to the durable safety imprint in accordance to Directive (EC) No. 1272/2008 (GHS), as well as with all important information:
- Material name in German, English, French and Spanish
- Chemical formula, CAS No, hazard pictogram, signal word
- Risk Phrases (H phrases), safety phrases (P phrases), as well as NFPA Code

Precise spray jet and optimised medium backflow through the continuous and finely drawn tip of the spray tube. Practically no leakage or dripping with the VENT-CAP, the design of which prevents almost all static overpressure.

Imprint	Volume ml	Colour VENT-CAP	**Order No.**	PU pc/Pack
Acetone	250	red	**10 85 31829**	12
Acetone	500	red	**10 85 32829**	12
Acetone	1000	red	**10 85 33828**	12
Acetonitrile	500	red	**10 85 32969**	6
Distilled water	250	blue	**10 85 31819**	12
Distilled water	500	blue	**10 85 32819**	12
Distilled water	1000	red	**10 85 33818**	12
Ethanol	250	orange	**10 85 31869**	12
Ethanol	500	orange	**10 85 32869**	12
Ethanol	1000	red	**10 85 33868**	12
Ethyl acetate	250	red	**10 85 31859**	12
Ethyl acetate	500	red	**10 85 32859**	12
Ethyl acetate	1000	red	**10 85 33858**	12
Acetic acid	500	red	**10 85 32979**	6
Heptane	500	red	**10 85 32909**	6
i-Hexane	500	red	**10 85 32899**	6
Isopropanol	250	yellow	**10 85 31849**	12
Isopropanol	500	yellow	**10 85 32849**	12
Isopropanol	1000	red	**10 85 33848**	12
Methanol	250	green	**10 85 31839**	12
Methanol	500	green	**10 85 32839**	12
Methanol	1000	red	**10 85 33838**	12
Methylene chloride	500	transp.	**10 85 32879**	6
Methyl ethyl ketone	500	red	**10 85 32989**	6
N,N-Dimethylformamide	500	red	**10 85 32889**	6
Pentane	500	red	**10 85 31959**	6
Tetrahydrofurane (THF)	500	red	**10 85 32939**	6
Toluene	500	red	**10 85 32949**	6
Xylene	500	red	**10 85 32959**	6

Available only in original packaging units. No fractions possible.

VENT-CAP wash bottle caps, PP

Screw cap and spray tube made of PP.
Practically no leakage or dripping with the VENT-CAP screw cap, the design of which prevents almost all static overpressure.
Precise spray jet and optimised medium backflow through the continuous and finely drawn tip of the spray tube.

for bottle volume ml	Thread GL	Colour	**Order No.**	PU pc/Pack
250	45	red	**10 85 34311**	12
250	45	blue	**10 85 34321**	12
250	45	green	**10 85 34331**	12
250	45	orange	**10 85 34341**	12
250	45	yellow	**10 85 34351**	12
500	45	transp.	**10 85 34302**	12
500	45	red	**10 85 34312**	12
500	45	blue	**10 85 34322**	12
500	45	green	**10 85 34332**	12
500	45	orange	**10 85 34342**	12
500	45	yellow	**10 85 34352**	12
1000	63	red	**10 85 34413**	12

Available only in original packaging units. No fractions possible.

Wash Bottles, Spray Bottles



Wash Bottles, Wide Neck, KAUTEX

Wide neck wash bottles made of LDPE, printed with name of contents, round, natural colored, spill-proof, complete with LDPE squirt closure, natural colored riser tube .
Name of contents printed in German, English and French. Wear-proof inks.
Contents are emptied without residue by the adjustable squirt tube, also when used upside down.

Safety: With the squirt tube pulled up above the level of the contents, no liquid will escape if the temperature fluctuates. Outlet tip with transport guard.

Uses:
- dosed application
- dosed dispensing

ACETON, ACETONE, ACÉTONE, cap red

Vol. ml	Ø mm	Thread O.D. mm	Height mm	Order No.	PU pc/Pack
250	64	40	120	**22 52 70020**	10
500	77	50	154	**22 52 70025**	10

ETHANOL, ETHANOL, ÉTHANOL, cap green

Vol. ml	Ø mm	Thread O.D. mm	Height mm	Order No.	PU pc/Pack
250	64	40	120	**22 52 70016**	10
500	77	50	154	**22 52 70021**	10

ISOPROPANOL, ISOPROPANOL, ISOPROPANOL, cap yellow

Vol. ml	Ø mm	Thread O.D. mm	Height mm	Order No.	PU pc/Pack
250	64	40	120	**22 52 70017**	10
500	77	50	154	**22 52 70022**	10

METHANOL, METHANOL, MÉTHANOL, cap orange colored

Vol. ml	Ø mm	Thread O.D. mm	Height mm	Order No.	PU pc/Pack
250	64	40	120	**22 52 70018**	10
500	77	50	154	**22 52 70023**	10

DESTILLIERTES WASSER, DISTILLED WATER, EAU DISTILÉE, cap blue

Vol. ml	Ø mm	Thread O.D. mm	Height mm	Order No.	PU pc/Pack
250	64	40	120	**22 52 70019**	10
500	77	50	154	**22 52 70024**	10

Bottles with Sprayer, neoLab®

webcode WW2NY193



Light vials with protective cap made of PS and riser tube made of HDPE. Perfect in order to spray small liquid amounts consistently and fine. Pump atomiser with closure DIN 18. Spray angle 35 degree, spray volume 0.05 ml with each pumping process.

Volume ml	Colour	Order No.
10	amber	**12 01 17245**
20	amber	**12 01 17246**
30	amber	**12 01 17247**
50	amber	**12 01 17248**
100	amber	**12 01 17249**

Sprayers, neoLab®

webcode WW2NY189



Universal fine-spray atomizer for TLC, lacquering and atomizing spray reagents. Simply fill the container and screw on the cartridge.

Article	Order No.
① Sprayer	**85 01 25011**
Storage vessel made of glass, 150 ml capacity	**85 01 25012**

Wash Bottles, Spray Bottles

Spray Bottles, BÜRKLE-LaboPlast®

webcode WWR4Q009

① Spray bottles

Unpressurised LDPE bottle with durable hand pump. Applications: in industry, lab, production, leisure time, household. Suitable for herbicides/pesticides and cleaning agents.

- Parts with media contact made of PP, PE and stainless steel
- Nozzle diameter 0.6 mm, nozzle infinitely adjustable
- Spray volume per stroke: 1.2 ml ± 0.1

Article	Order No.
Spray bottle, 250 ml	**27 05 50250**
Spray bottle, 500 ml	**27 05 50500**
Spray bottle, 1000 ml	**27 05 51000**



② Pressure atomizer and accessories

The pressure atomizer incorporates a plunger pump which generates an operating pressure of about 4 bar. Spraying is subsequently possible without pumping, just by pressing a button. The standard pressure atomizer with short spray nozzle can be additionally supplied with the 30 cm long spraying lance. Parts coming in contact with the contents are PE/PP and FKM, PA fiberglass reinforced, V2A, HDPE.

Article	Order No.
Pressure sprayer, 1500 ml	**27 05 52000**
Spray lance, 30 cm long	**27 05 52010**



③ Spray bottle Turn ‚n' Spray

No so with our overhead spray bottle Turn'n'Spray. The overhead spray bottle Turn'n'Spray features a special technology that allows you to spray from any position. That means you can spray practically and conveniently from any direction.

The high-quality, refillable quality spray bottle can be used again and again.

- Uninterrupted spraying, even over your head
- Parts in contact with media made of PP, PE, silicon and stainless steel
- Nozzle diameter 0.6 mm, nozzle is continuously adjustable
- Amount sprayed per stroke: 1.2 ml ± 0.1

Contents ml	Overall height mm	Neck inner Ø mm	Order No.
250	220	18	**10 04 50251**
500	240	18	**10 04 50501**
1000	295	17.5	**10 04 51001**



④ Pressure Sprayer Turn'n'Spray

The practical 360° spray function allows you to spray overhead with the Turn'n'Spray pressure sprayer. This means that even hard-to-reach areas can be accessed without any problems. The sprayer can be used in many ways, e.g. for disinfecting and cleaning or for spraying pesticides/herbicides.

- Parts with media contact made of HDPE, PP, FKM, V4A
- Overhead spray function
- Safety valve for overpressure compensation, max. 4 bar
- Adjustable spray jet, nozzle diameter 0.8 mm
- Capacity 1.5 litres
- Liquid temperature range: 0 – 30°C
- Extension for 30 cm spray lance available as an accessory

Article	Order No.
Pressure sprayer Turn'n'Spray, 1500 ml	**10 04 59012**





⑤ Pressure sprayer food

The pressure sprayer Food has a transparent window for checking the level at a glance. With rubberised foot ring for safe placement of the bottle. Designed specifically for use in the food industry, the food-safe spray bottle is suitable for spraying various media such as oils, fats, or flavouring substances. Also ideal for spraying cleaning or disinfection agents.

- Parts with media contact made of HDPE, PP, VMQ, V2A
- Safety valve for overpressure compensation, max. 3 bar
- Adjustable spray jet, nozzle diameter 0.8 mm
- Capacity 1.2 litres
- Liquid temperature range: 0 – 30°C

Article	Order No.
Pressure sprayer Food, 1200 ml	**10 04 59013**

webcode To see other variants and accessories, please enter the webcode on our website.

Dropping Bottles

thermoscientific

webcode WWRJN034







Dispensing Bottles, Thermo Scientific Nalgene, IDL

① **Bottles made of low-density polyethylene**
with dropping closure and cap made of polypropylene. Leak-proof.

Volume ml	Cap Ø mm	Order No.	PU pc/Pack
15	20	**22 87 24111**	12
30	20	**22 87 24112**	12
60	20	**22 87 24113**	12
125	24	**22 87 24114**	12
250	24	**22 87 24115**	6

Available only in original packaging units. No fractions possible.

② **Bottles made of polypropylene copolymer**
with dropping closure and cap made of blue polypropylene. Autoclavable when filled if tip open. Leak-proof.

Volume ml	Cap Ø mm	Order No.	PU pc/Pack
125	24	**22 87 24201**	6
250	24	**22 87 24202**	6

Available only in original packaging units. No fractions possible.

③ **Dispensing bottle made of PTFE FEP**
with dropping closure and cap made of Tefzel ETFE. Suitable for dropping almost all chemicals. Adherent closing cap. Autoclavable / PTFE FEP.

Volume ml	Order No.
30	**10 87 24301**

webcode WWRJN252

thermoscientific



Dispensing Bottles, Thermo Scientific Nalgene, IDL

Bottles made of LDPE with cap. Leak-proof.

NALGENE dispensing bottles enable exact, reliable and reproducible dispensing of biological reagents. They are an excellent alternative to pipettes and other dispensing equipment.

Vol. ml	Ø mm	Height mm	Colour	cap	Order No.
4	19.7	41.3	natural	white	**22 87 09125**
8	19.7	52.1	natural	white	**22 87 09025**
15	24.5	62.1	natural	white	**22 87 09050**
4	19.7	41.3	white	white	**22 87 19125**
8	19.7	52.1	white	white	**22 87 19025**
15	24.5	62.1	white	white	**22 87 19050**
4	19.7	41.3	natural	colored	**22 87 29125**
8	19.7	52.1	natural	colored	**22 87 29025**
15	24.5	62.1	natural	colored	**22 87 29050**
15	24.5	62.1	white	colored	**22 87 39050**

webcode WW7R3240



Dropping Bottles made of Soda-Lime Glass, IDL

Conical shoulder bottles made of clear or amber glass, with replaceable standard ground pipette, complete with rubber teat.

Material	Volume ml	Order No.	PU pc/Pack
Clear glass	50	**12 00 27017**	10
Clear glass	100	**12 00 27024**	10
Amber glass	50	**12 00 70176**	10
Amber glass	100	**12 00 70246**	10

Dropping Bottles

Dropping Bottles, IDL

webcode WW7R3001

Dropping bottles with flat-head stopper

Volume ml	Material	Order No.	Volume ml	Material	Order No.
50	Clear glass	**12 00 31705**	50	Amber glass	**12 00 31805**
100	Clear glass	**12 00 31708**	100	Amber glass	**12 00 31808**



Dropping Bottles, neoLab®

webcode WW2NY005

Small dropping bottles, amber glass. Complete with dropping pipette, screw cap and rubber teat.

Article	Volume ml	Order No.
Dropping bottle, amber	10	**12 01 17240**
Dropping bottle, amber	20	**12 01 17241**
Dropping bottle, amber	30	**12 01 17242**
Dropping bottle, amber	50	**12 01 17243**
Dropping bottle, amber	100	**12 01 17244**



Carboys, Rectangular Carboys

Storage Bottles, BÜRKLE

webcode WWR4Q035

Heavy-walled, robust model with stable carrying handle for safe transport and storage. With blue printed-on liter graduations. The ventilating valve (accessory) allows air to enter the container, in order to prevent the formation of vacuum in it when draining liquid from it. Also other accessories with a 3/4″ inner thread/cap nut can be connected to the thread connector.

Storage bottles with threaded connector for stopcock

Volume l	Ø mm	Height mm	Opening Ø mm	Carry-handles	Order No.
5	167	330	50	1	**22 05 40205**
10	206	427	50	1	**22 05 40210**
25	278	580	50	2	**22 05 40225**
60	346	830	50	2	**22 05 40260**

Accessories

Article	Order No.
StopCock spigot	**22 05 30000**
Compact spigot	**10 04 55301**
Ball valve NW 12 with angled outlet	**22 05 50001**
Aearating/deaerating closure for 5 to 60 l bottles	**22 05 41252**
Sealing cap 3/4″ for threaded socket on the bottom	**22 05 55014**



Everything for your laboratory –
from one source

Carboys, Rectangular Carboys





Carboys, KAUTEX

Carboys made of PE-HD, natural colored. With printed blue volume scale, with and without stopcock connection.

Carboys without stopcock connection

Vol. l	Body Ø mm	Neck I.D. mm	Height w/o closure mm	Wght g	Order No.	PU pc/Pack
5	167	50	330	350	**22 52 84131**	11
10	206	50	427	495	**22 52 84133**	6
25	278	50	580	1250	**22 52 84135**	5
60	346	50	830	2500	**22 52 84136**	2

Carboys with stopcock connection

Vol. l	Body Ø mm	Neck I.D. mm	Height w/o closure mm	Wght g	Order No.	PU pc/Pack
5	167	50	330	350	**22 52 84137**	11
10	206	50	427	495	**22 52 84132**	6
25	278	50	580	1250	**22 52 84138**	5
60	346	50	830	2500	**22 52 84139**	2

Accessories

Article	Order No.
① Stopcock made of PE-HD, blue	**22 52 76459**
② Dummy stopper made of PE-HD	**22 52 70625**
③ Stopcock made of PP, blue	**22 52 83794**
④ Adapter for stopcock	**22 52 83793**

webcode WWRJN251



Carboys, Thermo Scientific Nalgene, IDL

Carboy for vacuum applications. Ideal for large waste storage facilities and automatic vacuum collection systems. Economical alternative to stainless steel and glass-fiber reinforced containers.
The plastic is suited for use with foodstuffs, biologically tested to be in compliance with USP Class VI and non-cytotoxic. Not suited for use with positive pressure.
Autoclavable and leakproof.

Article	Order No.
Carboy PP 20 liter	**22 87 22260**
Carboy PP 10 liter	**22 87 22261**

thermoscientific

webcode WWRJN050



Autoclavable Carboys with Handles, Thermo Scientific Nalgene, IDL

Bottles made of polypropylene with white polypropylene screw closure, TPE seal. Leak-proof. Not recommended for use with hazardous substances.

Nominal volume l	Volume approx. l	Cap Ø mm	Order No.
10	12	83	**22 87 22501**
20	22.5	83	**22 87 22502**
50	54	83	**22 87 22503**

thermoscientific

webcode WWRJN054



Carboy Accessories, Thermo Scientific Nalgene, IDL

⑤ **Filling and venting closures**
Non-sterile, made of polypropylene with TPE seal, TPE caps as well as 2× Nalgene® 550 platinum-hardened silicone tubes (insind and outside).

Cap Ø mm	Tubing connectors	Outer Ø mm	Order No.
53	3	6	**22 87 21618**
83	3	6	**22 87 21619**
83	3	12	**22 87 21620**

Continued on next page

Carboys, Rectangular Carboys

Tube fitting

	Article	Order No.	PU pc/Pack
⑥	**Tube fitting with tube connector and thread** made of polypropylene with silicone intermediate seal and acetate union nut for screw connections or plastic containers for subsequent installation (16 mm bore required). Screwed cap not comprised in the delivery of the retrofit kit.	**22 87 21621**	2

❗ Available only in original packaging units. No fractions possible.



Aspirator Bottles, DURAN®, DURAN Group / IDL

webcode WWEQ2041

DURAN®aspirator bottles, neck with DIN thread GL 45, tubulature GL 32, complete with screw cap. silicone gasket, draincock and PTFE spindle. ISO 4796-3.

DURAN® aspirator bottles

Volume ml	Outer Ø mm	Height mm	Order No.
1000	101	225	**11 24 70354**
2000	136	260	**11 24 70363**
5000	182	330	**11 24 70373**
10000	230	410	**11 24 70386**

Accessories (replacement Parts)

Article	Order No.	PU pc/Pack
Draincock for 1- and 2-l bottle	**11 24 14703**	1
Draincock for 5- and 10-l bottle	**11 24 14704**	1
Screw cap, GL 32 with 20 mm bore	**13 29 22708**	10
Silicone seal for 1- and 2-liter bottle	**13 29 23610**	10
Silicone seal for 5- and 10-liter bottle	**13 29 23612**	10



Jars

Straight-Side Wide-Mouth Jars, Thermo Scientific Nalgene, IDL

webcode WWRJN036

Wide-mouth jars, from size 125 ml with depression in the polypropylene screw closures for stacking. Leak-proof.

Jars made of polycarbonate, transparent, autoclavable

Volume ml	Cap Ø mm	Order No.	PU pc/Pack
15	38	**22 87 21160**	4
30	43	**22 87 21161**	4
60	53	**22 87 21162**	4
125	70	**22 87 21163**	4
250	70	**22 87 21164**	4
500	120	**22 87 21165**	4
1000	120	**22 87 21166**	4

❗ Available only in original packaging units. No fractions possible.

Jars made of polymethylpentene, transparent, autoclavable

Volume ml	Cap Ø mm	Order No.	PU pc/Pack
60	53	**22 87 21172**	4
125	70	**22 87 21173**	4
250	70	**22 87 21174**	4
500	120	**22 87 21175**	4
1000	120	**22 87 21176**	4

❗ Available only in original packaging units. No fractions possible.

Jars made of polypropylene, autoclavable

Volume ml	Cap Ø mm	Order No.	PU pc/Pack
15	38	**22 87 21180**	12
30	43	**22 87 21181**	12
60	53	**22 87 21182**	12
125	70	**22 87 21183**	12
250	70	**22 87 21184**	6
500	120	**22 87 21185**	6
1000	120	**22 87 21186**	6

❗ Available only in original packaging units. No fractions possible.







webcode To see other variants and accessories, please enter the webcode on our website.

Jars

webcode WW2NY306



HDPE Jars with Screw Cap, neoLab®

Round jars made of HDPE, natural, with white screw cap of PP with PE foam inlay.

Volume ml	Height mm	Ø mm	Order No.
100	72.0	50.0	**22 01 32118**
250	87.5	70.0	**22 01 32119**
500	84.0	99.8	**22 01 32120**
750	119.0	99.8	**22 01 32121**
1000	154.0	99.8	**22 01 32122**

for my lab neoLab®

webcode WW2NY025



Rectangle Boxes, neoLab®

Rectangular boxes made of crystal-clear polystyrene with tight-closing cover, temperature-resistant from -40 to +70°C, for storing samples.

Inner dimensions L × W × H mm	Order No.	PU pc/Pack
50 × 30 × 16	**23 01 21520**	10
50 × 30 × 25	**23 01 21521**	10
57 × 47 × 28	**23 01 21522**	10
60 × 50 × 25	**23 01 21523**	10
70 × 15 × 16	**23 01 21524**	10
325 × 215 × 44	**23 01 21526**	1

Available only in original packaging units. No fractions possible.



Round Boxes, Clear, neoLab®

① **With tight-closing sleeve cover**
Round boxes made of crystal-clear polystyrene with sleeve cover, temperature-resistant from -40 to +75°C, for storing samples.

I.D. mm	I.H. mm	Order No.	PU pc/Pack
35	13	**23 01 21500**	10
34	43	**23 01 21501**	10
36	29	**23 01 21502**	10
49	16	**23 01 21503**	10
49	36	**23 01 21504**	10
69	22	**23 01 21505**	10
69	40	**23 01 21506**	10

Available only in original packaging units. No fractions possible.



webcode WW2NY024

② **With screw cap**
Screw lid jars made of polystyrene for the clear storage of small parts or powdery media.
Temperature-resistance: -40°C to +75°C

Ø mm	H mm	Order No.	PU pc/Pack
47	30	**10 01 26980**	10
47	40	**10 01 26981**	10
47	50	**10 01 26982**	10
47	70	**10 01 26983**	10
47	90	**10 01 26984**	10
47	110	**10 01 26985**	10

Available only in original packaging units. No fractions possible.

webcode WW2NY020



Screw Cap Jars, neoLab®

③ **Jars with screw closures, tall form**
These white polypropylene jars come with tight-closing, red screw closures. Ideal for sample packing or storing liquids or solids, small items, etc.
Autoclavable to 121°C.

Volume ml	Height mm	Ø mm	Order No.	PU pc/Pack
25	41	31	**22 01 22177**	25
60	56	42	**22 01 22077**	25
90	52	53	**22 01 22178**	25
125	67	53	**22 01 22078**	25
250	78	69	**22 01 22079**	15
375	97	76	**22 01 22179**	9
500	91	90	**22 01 22180**	9
625	114	90	**22 01 22181**	9
1000	128	106	**22 01 22182**	3
1250	159	106	**22 01 22183**	3

Available only in original packaging units. No fractions possible.

Continued on next page

Jars

④ **Screw cap with tamper-evident closure**
Jars made of HDPE with screwable originality cap, approved as harmless by food regulations.
With additional transparent lid.
Especially suitable for solid substances and pastes.
Material: HDPE
UN-approval: packing group I, II und III

Volume ml	Height mm	Ø mm	Order No.	PU pc/Pack
250	70	99	**22 01 22060**	5
500	103	99	**22 01 22061**	5
780	141	99	**22 01 22062**	5
1000	166	99	**22 01 22063**	5

Available only in original packaging units. No fractions possible.



⑤ **Mutipurpose beakers with screw-caps**
Multi Purpose beakers with screw-caps made of Polypropylene (PP) or polystyrene (PS). For sampling, transport and storage of solid, pasty and liquid samples.
- **leakproof**
- with red screw-cap
- supplied in non-sterile or sterile, individually packed

Volume ml	Material	sterile	labeling area/ graduation	Order No.	PU pc/Pack
30	PP	no	no	**10 01 20160**	1000
30	PP	yes / single packed	no	**10 01 20161**	1000
60	PP	no	yes	**10 01 20162**	600
60	PP	yes / single packed	yes	**10 01 20163**	500
120	PP	no	yes	**10 01 20164**	500
120	PP	yes / single packed	yes	**10 01 20165**	250
200	PP	no	no	**10 01 20166**	200
200	PP	yes / single packed	no	**10 01 20167**	150
200	PS	yes / single packed	no	**10 01 20168**	150



Ointment Jars PP, Autoclavable, LAT

webcode WWW4U109

Practical small jars made of PP, autoclavable to up to 121°C. Perfectly suited for applications in the pharmaceutical, chemical and cosmetics sector as well as in drugstores.

Article	Order No.	PU pc/Pack
Ointment jars 10 g / 12 ml	**10 20 12819**	25
Ointment jars 20 g / 25 ml	**10 20 15819**	25
Ointment jars 30 g / 35 ml	**10 20 15919**	25
Ointment jars 50 g / 60 ml	**10 20 10819**	25
Ointment jars 100 g / 125 ml	**10 20 12519**	25
Ointment jars 250 g / 310 ml	**10 20 11019**	9
Ointment jars 500 g / 625 ml	**10 20 12619**	1
Ointment jars 1000 g / 1250 ml	**10 20 12509**	1

Please contact us to ask about conditions for bulk volumes.



Dressing Jar with Lid, BOCHEM

webcode WWQ7J074

Lid with handle, stackable.

Material	Height mm	Ø mm	Order No.
18/10 steel	80	102	**10 05 08620**
18/10 steel	130	102	**10 05 08621**
18/10 steel	130	124	**10 05 08622**
18/10 steel	165	124	**10 05 08623**
18/10 steel	180	180	**10 05 08624**



Jars

webcode WWEQ2157



Jars with Lid, DURAN®, DURAN Group / IDL

Jars with shoulder (DIN 12340) or without shoulder and overlapping, loose lid without knob.

Vol. ml	Height mm	Ø mm	Version	Order No.	PU pc/Pack
75	40	60	without fold[1)]	**12 24 20834**	10
175	50	80	without fold[1)]	**12 24 20841**	10
325	60	100	without fold[1)]	**12 24 20845**	10
1000	80	150	without fold[1)]	**12 24 20857**	10

[1)] Non-DIN size.

Canisters







Jerrycan Range, KAUTEX

Industrial standard jerrycans made of HDPE, natural colored or blue, without closure. Jerrycans 2.5, 3, 5, 10 to 30 l with UN approval. Various types of closure available in addition.

Suitable safety funnels made from stainless steel see page 90.

Industrial jerrycan, natural colored

Vol. l	Neck I.D. mm	Thread O.D. mm	L × W × H mm	Wght g	Order No.	PU pc/Pack
2	34.5	45	145×109×196	110	**10 52 75939**	25
2.5	34.5	45	153×115×208	125	**10 52 75966**	25
3	34.5	45	153×115×240	140	**22 52 96404**	25
5	40.5	50	190×145×251	250	**22 52 95815**	16
6	34.5	45	192×145×294	265	**10 52 75937**	16
8	34.5	45	230×190×270	320	**10 52 70289**	10
10	40.5	50	230×190×310	450	**22 52 90643**	10
20	48.5	60	290×246×385	950	**10 52 76138**	6
30	48.5	60	320×284×435	1250	**10 52 75981**	6

Industrial jerrycan, blue

Vol. l	Neck I.D. mm	Thread O.D. mm	L × W × H mm	Wght g	Order No.	PU pc/Pack
20	48.5	60	290×246×385	950	**22 52 96232**	6
25	48.5	60	290×246×450	1100	**22 52 95776**	6
30	48.5	60	320×284×435	1250	**22 52 95785**	6

① Screw closures made of HDPE, black, with tear-off ring and vent

for canister vol. l	Order No.	for canister vol. l	Order No.
2 + 2.5 + 3 + 6 + 8	**10 52 75883**	20 + 25 + 30	**22 52 95898**
5 + 10	**22 52 95912**		

② Screw closures made of HDPE, black, without tear-off ring

for canister vol. l	Order No.	for canister vol. l	Order No.
2 + 2.5 + 3 + 6 + 8	**22 52 97893**	20 + 25 + 30	**22 52 90477**
5 + 10	**22 52 95946**		

③ Screw closures made of HDPE, red, without tear-off ring

for canister vol. l	Order No.	for canister vol. l	Order No.
2 + 2.5 + 3 + 6 + 8	**22 52 97890**	20 + 25 + 30	**22 52 90472**
5 + 10	**22 52 95901**		

④ Screw closures made of HDPE, natural, with stopcock, red

for canister vol. l	Order No.	for canister vol. l	Order No.
2 + 2.5 + 3 + 6 + 8	**22 52 95872**	20 + 25 + 30	**22 52 90480**
5 + 10	**22 52 90386**		

Continued on next page →

Canisters

⑤ **Screw closures made of HDPE, white, with dispensing pump**

for canister vol. l	Order No.
2 + 2.5 + 3 + 6 + 8	**22 52 96921**
5 + 10	**22 52 90568**
20 + 25 + 30	**22 52 83884**

for canister vol. l	Order No.
25	**22 52 83885**
30	**22 52 83886**

⑥ **Canister wrench HDPE, for opening and closing**

for canister vol. l	Order No.
2 + 2.5 + 3 + 6 + 8	**22 52 84211**

for canister vol. l	Order No.
5 + 10 + 20 + 25 + 30	**22 52 90465**

Safety Carboys, behroplast®, Behr

White carboy made of polyethylene, with red screw closure
For transport and storage of hazardous goods, acc. to German hazardous materials and goods regulations. Suitable for hazardous goods of packing groups II and III. With stamped UN registration number and RAL quality seal for plastic packaging for hazardous goods.

Nominal capacity l	Weight approx. g	Order No.
5	280	**22 48 13005**
10	420	**22 48 13010**
20	1000	**22 48 13020**
25	1100	**22 48 13025**
30	1300	**22 48 13030**
60	2100	**22 48 13060**



behr Labor-Technik

webcode WWXKS028

Canisters, BÜRKLE

webcode WWR4Q001

burkle

⑦ **Wide-neck canister made of HDPE, transparent**
With wide opening for filling (88 mm dia.) and integral carrying hood. The sizes 5 l and 10 l have an additional vent hole (18 mm dia.) with a small pouring spout.

Volume l	Outer dimensions W × D × H mm	Carry-handles	Version with threaded connection Order No.	without threaded connection Order No.
5	130×290×280	1	**22 05 31101**	**22 05 31201**
10	137×310×400	1	**22 05 31102**	**22 05 31202**
22	165×365×485	1	**22 05 31103**	**22 05 31203**
30	240×365×485	1	**22 05 31104**	**22 05 31204**



Accessories

Article	Order No.
StopCock spigot	**22 05 30000**
Compact spigot	**10 04 55301**
Liter scale for 5 l canister, smallest increment 250 ml	**22 05 31301**
Liter scale for 10 l canister, smallest increment 250 ml	**22 05 31302**
Liter scale for 20 l canister, smallest increment 250 ml	**22 05 31303**
Liter scale for 30 l canister, smallest increment 250 ml	**22 05 31304**

Use the webcode on our website to see a larger selection of products from a specific manufacturer.

webcode

Canisters

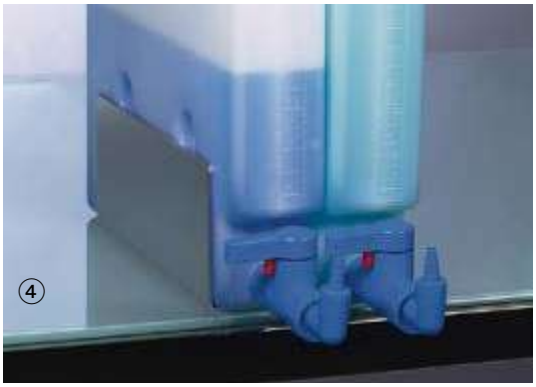
webcode WWR4Q036



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Canisters, BÜRKLE-LaboPlast®

The compact jerrycan is ideal as a space-saving canister with its width of 6.5 cm or 12.5 cm. Different liquids can be stored and decanted in a small space. The compact jerrycan can also be stored lying on its side e.g. in a refrigerator. It is very stable due to ribbed structure and thick sides.
Using the support stand (only for 5 l canister) for two or three canisters, any number of canisters can safely be placed in the open. The compact jerrycan can also be used as a settling canister.

① **Compact jerrycans PP**
- 5 l or 10 l
- With or without threaded connector 3/4″
- PP, transparent
- With tamper-proof closure
- Canister without stopcock autoclavable
- With moulded, indestructible litre graduation
- Canister support made of aluminium for secure stand as accessory (only for 5 l canister)
- Spigot StopCock with rotatable discharge angle and Compact spigot, which fits canisters equipped with glands with threads 3/4”, available as accessory

Article	Order No.
Compact jerrycan without threaded socket, 5 l	**22 05 32201**
Compact jerrycan without threaded socket, 10 l	**10 04 53511**
Compact jerrycan with threaded socket, 5 l	**22 05 32101**
Compact jerrycan with threaded socket, 10 l	**10 04 53521**
Compact jerrycan set Compact 5 l, with spigot Compact	**10 04 53530**
Compact jerrycan set Compact 10 l, with spigot Compact	**10 04 53531**
Compact jerrycan set StopCock 5 l, with spigot	**22 05 32205**
Compact jerrycan set StopCock 10 l, with spigot	**10 04 53501**

② **Compact jerrycans, electroconductive**
The compact jerrycan, made of electrically conductive HDPE, is especially well suited for use in explosion-proof areas. When correctly earthed, it prevents the danger of ignition due to an accumulation of electrostatic charge. The canister thus helps to meet the requirements of the ATEX 137, TRBS2153 and CENELEC 50404 guidelines. It can be used for dispensing and storing combustible and highly flammable liquids of explosion groups IIA, IIB and IIC.
- 5l or 10 l
- With or without threaded connector 3/4″
- HDPE, black, anti-static
- Canister support made of aluminium for secure stand as accessory (only for 5 l canister)
- StopCock PA, electrically conductive available as accessory

Article	Order No.
Compact jerrycan electroconductive, without threaded connector, 5 l	**10 04 53555**
Compact jerrycan electroconductive, without threaded connector, 10 l	**10 04 53525**
Compact jerrycan electroconductive, with threaded connector, 5 l	**10 04 53520**
Compact jerrycan electroconductive, with threaded connector, 10 l	**10 04 53522**
Compact jerrycan set 5 l, electroconductive	**10 04 53505**
Compact jerrycan set 10 l, electroconductive	**10 04 53515**

Accessories

Article	Order No.
③ Canister support for 2 space-saving canisters	**22 05 32311**
Canister support for 3 space-saving canisters	**22 05 32312**
④ StopCock spigot	**22 05 30000**
Compact spigot	**10 04 55301**

webcode WWR4Q057



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Spigots, BÜRKLE

Spigots
Drain Siphon StopCock
- With rotatable spout, preventing drips
- With tapered spout for bottles with narrow openings from dia. 6 to 8 mm
- Fits screw threads with G 3/4″
- Pressure proof to 2 bar at 20°C without discharge angle
- Seals made of PTFE und PE, parts in contact with media made of PP, PE and PTFE

Drain Siphon Compact
- Compact design, the short discharge does not protrude out over the lower edge of the container
- The specially optimised design of the discharge forms an even stream of liquid with no splashing or spattering
- Fits to all containers with G 3/4″ connecting threads
- PP, PE and PTFE are materials that offer outstanding chemical resistance to acids and base

Continued on next page

Canisters

Drain Siphon StopCock PA, electroconductive
- Made of polyamide electroconductive, ideally suited for solvents
- PTFE seal
- Fits to all containers with 3/4″ outer thread, and also to 3/4″ inner threads
- Including adapter for 3/4″ inner thread made of PA electroconductive

	Article	Order No.
⑤	StopCock spigot	**22 05 30000**
⑥	Compact spigot	**10 04 55301**
⑦	StopCock PA spigot	**10 04 52511**


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IBC discharge valves

The IBC discharge valve is a sturdy, high-quality ball valve with a hose connection and connection adapter including seal, for standard thread S 60×6 external or 1″ external, designed to fit all commonly used European IBC containers.
With the appropriate thread, the discharge valve can also be screwed directly onto the original discharge valve that is already on the IBC tank if the original valve is leaking or faulty. In this way the IBC discharge valve ensures fast and reliable residual emptying of the container with good dosing.
The discharge valve is an indispensable accessory to ensure a professional connection of the hose or for filling from your IBC container.
- 1″ flow
- Suitable for connection threads S 60×6 external or 1″ external
- Discharge valve and PP fibreglass-reinforced sealing cap, ball, adapter and PA hose nozzle, PP/POM hose fitting
- Max. operating pressure 10 bar (at +20°C)
- Max. operating temperature 80°C

	Article	Order No.
⑧	**IBC discharge valve with angle discharge** IBC discharge valve with 90° hose nozzle and sealing cap. The hose can also be closed with the enclosed sealing cap. Hose nozzle external Ø 30 mm, suitable for flexible hoses.	**10 04 55342**
⑨	**IBC discharge valve with hose screw connection** IBC discharge valve with innovative hose screw connection The hose screw connection allows you to attach a wide range of hoses quickly, easily and reliably. No additional hose clamp is needed. Hose fitting, external Ø 25 mm.	**10 04 55341**


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behroplast® Carboys, Behr

behroplast® carboys made of polyethylene with welded stopcock. These carboys keep a tight seal, even after long periods of use. The spout is positioned such that the carboys can be set up on any level surface and stacked.

Carboys, white translucent, with stopcock

Volume l	Length cm	Width cm	Height cm	Neck I.D. cm	Order No.
5	19	16	24	4.5	**22 48 11005**
10	23	20	30	4.5	**22 48 11010**
20	30	23	40	4.8	**22 48 11020**
25	30	26	46	4.8	**22 48 11025**
30	38	29	40	4.8	**22 48 11030**
60	39	35	64	4,8	**10 48 11060**

webcode WWXKS003



Barrels, LAT

Air and water-tight barrels
- All barrels are UN-X certified for solid and pasty materials
- All barrels are food-compatible
- Air and water-tight thanks to rubber seal
- Stable when stacked because base and lid fit perfectly on top of each other
- Barrels can be closed with compact, tamper-proof lead seal

Volume l	Order No.	Volume l	Order No.
3.6	**22 20 30003**	26	**22 20 30026**
6	**22 20 30006**	42	**22 20 30042**
10	**22 20 30010**	55	**22 20 30055**
15	**22 20 30015**	68	**22 20 30068**

webcode WWW4U044



Canisters

webcode WWXKS053



Wide Neck Barrels, HDPE, with Screw Cap and Stopcock, Behr

- Easy to clean
- Stirring in the container is possible
- With welded-in stopcock
- With level indicator of PVC

Type	Volume l	Ø × H cm	Thread Ø cm	Order No.
WF20H	20	27.4 × 41.7	20.3	**10 48 15281**
WF55H	55	41 × 52	28.2	**10 48 15282**
WF110H	110	45.5 × 78.7	39.2	**10 48 15283**
WFB220H	220	58.2 × 98.5	40	**10 48 21085**

webcode WWMUE002



Security Seals, ISOLAB

Security seals
Security seal is used to ensure the safety locking and durability of the product inside the bottles. 4 different colors are used to identify among the seals with identification numbers printed on the seal plate.

Article	Order No.	PU pc/Pack
Security seals, blue	**10 66 40021**	10
Security seals, red	**10 66 40022**	10
Security seals, yellow	**10 66 40023**	10
Security seals, green	**10 66 40024**	10

Security seal cutter
Security seal cutter is a perfect tool to cut security seal wires easily.

Article	Order No.
① Security seal cutter	**10 66 40025**

Culture vessels see page 788

Safety Containers



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Safety Containers, Rötzmeier

High-grade stainless steel safety containers, for safe storage, transport and handling of flammable liquids (solvents).
All containers conform to TRbF60 (Technical Regulations for Flammable Liquids) requirements, have explosion protection and a flame barrier. They are made of solid stainless steel V4a / V2a with seals made of PTFE. Dispensing taps and precision dispenser are self-closing, all handles have an ergonomic shape.

② **Safety cans made from stainless steel**
For inhouse applications. With flame barrier and pressure control valve. Precision dispensers are self-closing.

Type	Version	Vol. l	H mm	Ø mm	Order No.
0HD	with precision dispenser	0.5	198	99	**10 39 30006**
01D	with precision dispenser	1	230	110	**38 39 10001**
02D	with precision dispenser	2	290	130	**38 39 10002**
05D	with precision dispenser	5	400	165	**38 39 10005**
0HK	with screw cap	0.5	178	99	**10 39 31006**
01K	with screw cap	1	230	110	**38 39 11001**
02K	with screw cap	2	290	130	**38 39 11002**
05K	with screw cap	5	400	165	**38 39 11005**

Continued on next page

Safety Containers

Accessories for safety cans

Article	Order No.
Self-closing precision dispenser 1¼" D125	**38 39 51125**
Plug-in funnel TR1	**38 39 53001**

③ Safety containers made from stainless steel

As storage, dispensing and dosing containers. With flame barrier and pressure control valve. Dispensing taps and precision dispensers are self-closing. KDL and KZ types with separate vent. All handles have an ergonomic shape.

Type	Version	Vol. l	H mm	W mm	D mm	Order No.
05KD	with precision dispenser	5	310	200	130	**38 39 20005**
10KD	with precision dispenser	10	380	280	130	**38 39 20010**
20KDL	with precision dispenser	20	470	345	175	**38 39 20020**
05KK	with screw cap	5	310	200	130	**38 39 21005**
10KK	with screw cap	10	380	280	130	**38 39 21010**
20KK	with screw cap	20	470	345	175	**38 39 21020**
05KZ	with dispensing cock 1½"	5	310	200	130	**38 39 22005**
10KZ	with dispensing cock 1½"	10	380	280	130	**38 39 22010**
20KZ	with dispensing cock 1½"	20	470	345	175	**38 39 22020**



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Accessories for safety containers

Article	Order No.
Self-closing dispensing cock 1½" Z150	**38 39 50150**
Self-closing precision dispenser 1½" D150	**38 39 51150**
Plug-in funnel TR2	**38 39 53002**

④ Safety storage vessels made from stainless steel

As storage and dispensing containers. With flame barrier and pressure control valve. Dispensing taps and precision dispensers are self-closing. ZI types are with resistant contents indicator. The 25 l container is stackable. 100 l and 200 l on request.

Type	Version	Vol. l	H mm	Ø mm	Order No.
10Z	with dispensing cock ¾"	10	300	260	**38 39 30010**
25Z	with dispensing cock ¾"	25	530	300	**38 39 30025**
50Z	with dispensing cock ¾"	50	600	380	**38 39 30050**
10K	with screw cap	10	300	260	**38 39 31010**
25K	with screw cap	25	530	300	**38 39 31025**
50K	with screw cap	50	600	380	**38 39 31050**
10ZI	with dispensing cock ¾"	10	300	260	**38 39 32010**
25ZI	with dispensing cock ¾"	25	530	300	**38 39 32025**
50ZI	with dispensing cock ¾"	50	600	380	**38 39 32050**
10D	with precision dispenser	10	350	260	**38 39 33010**



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Accessories for safety storage vessels

Article	Order No.
Self-closing dispensing cock ¾" Z 34	**38 39 52034**
Plug-in funnel TR3	**38 39 53003**

⑤ Transport containers according to GGVSEB, made from stainless steel

UN type approval according to ADR / RID / IMDG / ICAO-TI
With flame barrier and screw cap without overpressure valve.

Type	Article	Vol. l	H mm	Ø mm	Order No.
01T	Can	1	230	110	**38 39 40001**
02T	Can	2	290	130	**38 39 40002**
05T	Can	5	400	165	**38 39 40005**
05KT	Canister	5	310	200/130	**38 39 41005**
10KT	Canister	10	380	280/130	**38 39 41010**
20KTL	Canister	20	470	345/175	**10 39 31021**
10TZ	Upright vessel	10	330	260	**10 39 31022**
25TZ	Upright vessel	25	530	300	**38 39 42025**



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Accessories for transport containers

Article	for	Order No.
Self-closing dispensing cock 1½" Z150[1)]	25TZ	**38 39 50150**
Storage block LB	25TZ	**38 39 50002**

[1)] for inhouse use only

webcode To see other variants and accessories, please enter the webcode on our website.

Safety Containers

webcode WWMUD013



Transport Safety Container for Hazardous Substances, Berrytec®

With different rigid foam molds for safe transport of bottle sizes from 0.5 to 4 liters. The container is made of PP and thus resistant to many chemicals and solvents. It has a sturdy handle and a cover with locking function which prevents the bottle from dropping when the person carrying the container falls.

Article	Order No.
Transport safety container without compartments	**10 63 51000**
Compartment for bottles with Ø 150 mm	**10 63 51010**
Compartment for bottles with Ø 140 mm	**10 63 51020**
Compartment for bottles with Ø 100 mm	**10 63 51030**
Compartment for bottles with Ø 80 mm	**10 63 51040**



Waste Disposal/Safety Cans, KGW-Isotherm

Disposal cans specially designed for transporting and storing aggressive fluids. A "grounding set" can also be supplied for storage of flammable liquids.
The actual storage chamber consists of a glass globe made of 3.3 borosilicate glass with a screw-on lid which has a PTFE coated silicone seal. A metal jacket protects the glass globe. A large-diameter neck (Ø 90 mm) facilitates filling and emptying of the container. The containers are all fitted with a pressure relief valve.

Type	Volume l	Order No.
E 0	4	**38 50 10004**
E 1	8	**38 50 10008**
E 2	15	**38 50 10015**

Grounding set: Price on request.

Buckets, Cans, Kettles

webcode WWR4Q023





Buckets, BÜRKLE-LaboPlast®

① **Industrial buckets**
For transporting, decanting and mixing.
Wide spout give rapid but safe emptying. With metal handle.
- White LLDPE
- With liter scale
- Heavy-walled model

Volume l	Ø mm	Height mm	Order No.
9	280	250	**10 04 50809**
12	300	280	**10 04 50812**
17	340	310	**10 04 50817**

② **Packaging buckets**
For transporting, packaging and storing a variety of materials.
Suitable for food industry or building material industry, non-aggressive chemicals, environmental protection, hospitals, or domestic use. With handle.
- White PP
- Air-tight closure
- Complete with lid

Volume l	Ø mm	Height mm	Order No.
1	132	131	**23 05 32701**
2	175	132	**23 05 32702**
3	225	123	**23 05 32703**
5	225	194	**23 05 32705**
10	268	263	**23 05 32710**

Buckets, Cans, Kettles

Bucket, Stainless Steel, BÜRKLE

webcode WWR4Q071



The bucket is made entirely of high-gloss polished stainless steel. The smooth surface of the stainless steel bucket makes it easy to clean. The rounded, movable handle makes it comfortable to move the bucket. The laboratory bucket is suitable for moving liquids and bulk materials properly, especially in the chemical, pharmaceutical or cosmetic industries, and in the food and animal feed industries.
- Stainless steel (1.4301)
- High-gloss polished

Article	Contents l	Order No.
Bucket, stainless steel	10	**10 04 59010**
Bucket, stainless steel	15	**10 04 59015**

Buckets, KAUTEX



Buckets made of PE-LD, graduated, heavy-walled, sturdy.

Buckets without spout, white, with plastic-coated steel handle

Vol. l	Ø bottom mm	Ø opening mm	Height mm	Order No.	PU pc/Pack
10	212	253	279	**23 52 70585**	10

Builder's bucket without spout, gray, with rust-proof handle

Vol. l	Ø bottom mm	Ø opening mm	Height mm	Order No.	PU pc/Pack
10	212	253	279	**23 52 70587**	10

Buckets with spout, white, with plastic-coated steel handle

Vol. l	Ø bottom mm	Ø opening mm	Height mm	Order No.	PU pc/Pack
10	193	280	300	**23 52 70588**	10
15	235	316	335	**23 52 70589**	10

Bucket and Lid, VITLAB



Buckets, PE-HD. White. Without spout. With division into 1 liter segments. Stable handle with reinforcement in the middle for comfortable carrying. Tightly closing, transparent lid made of PE-LD – please order separately. Suitable for contact with food pursuant to Directive (EU) No. 10/2011.

Type	Volume l	Ø mm	Height mm	Order No.	PU pc/Pack
Bucket	5	250	240	**10 85 39609**	1
Bucket	10	290	300	**10 85 39639**	1
Lid for 5 l	-	-	-	**10 85 39629**	1
Lid for 10 l	-	-	-	**10 85 39659**	1

Bucket with Spout, PP, VITLAB



Transparent. With division into 1 liter segments. With stable handle and spout for easy emptying. Highly resistant to chemicals. Without lid.
Suitable for contact with foodstuffs according to ordinance (EU) No. 10/2011.

Volume l	Ø mm	Height mm	Order No.	PU pc/Pack
12	310	330	**10 85 39669**	1
15	310	370	**10 85 39679**	1

Buckets, Cans, Kettles

webcode WWQ7J056

Buckets, Containers and Cans, BOCHEM


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① Buckets made of 18/10 steel, graduated, with handle

Volume l	Ø mm	Height mm	Bucket **Order No.**	Lid **Order No.**
10	280	235	**38 05 08322**	**38 05 08332**
12	300	270	**38 05 08323**	**38 05 08333**
15	310	305	**38 05 08324**	**38 05 08334**

② Buckets made of 18/10 steel, graduated, with base ring and handle

Volume l	Ø mm	Height mm	Bucket **Order No.**	Lid **Order No.**
10	280	235	**38 05 08315**	**38 05 08332**
12	300	270	**38 05 08316**	**38 05 08333**
15	310	305	**38 05 08317**	**38 05 08334**


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③ Transport containers made of 18/10 steel, with lid and handle

Volume l	Ø mm	Height mm	**Order No.**
1	100	140	**38 05 08300**
2	130	150	**38 05 08301**
3	155	180	**38 05 08302**
5	175	240	**38 05 08304**
6	175	280	**38 05 08305**
10	220	300	**38 05 08307**

④ Graduated cans made of 18/10 steel, spout, drop handle and grip

Volume l	Ø mm	Height mm	Cans **Order No.**	Lid **Order No.**
10	240	250	**38 05 08390**	**38 05 08392**
15	270	300	**38 05 08391**	**38 05 08393**


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⑤ Transport cans made of 18/10 steel, handles, upright rim

Volume l	Ø mm	Height mm	Container **Order No.**	Lid **Order No.**
20	270	375	**38 05 08340**	**38 05 08350**
25	300	375	**38 05 08341**	**38 05 08351**
30	300	440	**38 05 08342**	**38 05 08352**
50	350	550	**38 05 08344**	**38 05 08354**
75	400	600	**38 05 08346**	**38 05 08356**
100	450	670	**38 05 08347**	**38 05 08357**
150	550	670	**38 05 08348**	**38 05 08358**


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Accessories

Article	**Order No.**
⑥ **NO-DRIP draincock, incl. assembly, 1/2"**	**38 05 08359**
⑦ **Tension clamps 18/10 steel, 3 pieces**	**38 05 08349**
For all types of transport vessels, including assembly	

⑧ Roller trolley

Article	**Order No.**
Roller trolley	**10 05 08004**

Supplied without the illustrated container


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⑨ Castors for transport container, 18/10 stainless steel

With 4 rubber guide rolls, 2 lockable.

Material	Roll-Ø mm	for	**Order No.**
18/10 Steel	70	38 05 08341/42	**10 05 18341**
18/10 Steel	70	38 05 08344	**10 05 18344**
18/10 Steel	70	38 05 08346	**10 05 18346**
18/10 Steel	100	38 05 08347	**10 05 18347**
18/10 Steel	100	38 05 08348	**10 05 18348**

Buckets, Cans, Kettles

Kettles, BOCHEM

webcode WWQ7J052

Kettles made of 18/10 steel with flat ground base for electric/gas ranges

Volume l	Ø mm	Height mm	Kettle **Order No.**	Lid **Order No.**
2.5	160	130	**38 05 08360**	**38 05 08370**
4	200	150	**38 05 08361**	**38 05 08371**
6	200	200	**38 05 08362**	**38 05 08372**
7	240	170	**38 05 08363**	**38 05 08373**
9	240	210	**38 05 08364**	**38 05 08374**
12	260	240	**38 05 08365**	**38 05 08375**
16	280	270	**38 05 08366**	**38 05 08376**
20	320	270	**38 05 08367**	**38 05 08377**



Baskets

Wire baskets, BOCHEM

webcode WWQ7J077

Special high quality processing at the welding points.

① **Wire baskets round, with handle**
18/10 steel, electrolytical polished, round.

Material	Height mm	Ø mm	Mesh width mm	**Order No.**
18/10 steel	80	100	8 × 8 × 1	**10 05 10050**
18/10 steel	100	120	8 × 8 × 1	**10 05 10051**
18/10 steel	120	150	8 × 8 × 1	**10 05 10052**
18/10 steel	160	180	8 × 8 × 1	**10 05 10053**
18/10 steel	180	210	8 × 8 × 1	**10 05 10054**
18/10 steel	180	240	8 × 8 × 1	**10 05 10055**
18/10 steel	180	270	8 × 8 × 1	**10 05 10056**
18/10 steel	200	300	8 × 8 × 1	**10 05 10057**



① 

② **Wire baskets square, without handle**

Material	Length mm	Width mm	Height mm	Mesh width mm	**Order No.**
18/10 E-Poli	100	100	100	8 × 8 × 1	**10 05 10020**
18/10 E-Poli	120	120	100	8 × 8 × 1	**10 05 10021**
18/10 E-Poli	120	120	120	8 × 8 × 1	**10 05 10022**
18/10 E-Poli	150	100	100	8 × 8 × 1	**10 05 10023**
18/10 E-Poli	140	140	140	8 × 8 × 1	**10 05 10024**
18/10 E-Poli	150	150	150	8 × 8 × 1	**10 05 10025**
18/10 E-Poli	160	160	160	8 × 8 × 1	**10 05 10026**
18/10 E-Poli	200	150	150	8 × 8 × 1	**10 05 10027**
18/10 E-Poli	180	180	150	8 × 8 × 1	**10 05 10028**
18/10 E-Poli	180	180	180	8 × 8 × 1	**10 05 10029**
18/10 E-Poli	200	200	150	8 × 8 × 1	**10 05 10030**
18/10 E-Poli	200	200	200	8 × 8 × 1	**10 05 10031**
18/10 E-Poli	250	150	150	8 × 8 × 1	**10 05 10032**
18/10 E-Poli	300	200	150	8 × 8 × 1	**10 05 10033**
18/10 E-Poli[1)]	400	300	200	8 × 8 × 1	**10 05 10071**
18/10 E-Poli[1)]	500	300	250	8 × 8 × 1	**10 05 10073**
18/10 E-Poli[1)]	600	400	300	8 × 8 × 1	**10 05 10076**

[1)] with 2 cross-ties

②

More than 20,000 articles in this catalogue –
and still more on our website!

Baskets



①



②

webcode WWQ7J084

Wire Baskets and Transport Cart, BOCHEM

① **Transport Baskets**
Transport basket stackable made of 18/10 steel, electrolytical polished.
3 different mesh dimensions.

Length mm	Width mm	Height mm	Mesh width mm	Order No.
600	400	300	10 × 10 × 3	**10 05 17300**
600	400	150	10 × 10 × 3	**10 05 17301**
300	400	150	10 × 10 × 3	**10 05 17302**
600	400	300	20 × 20 × 3	**10 05 17305**
600	400	150	20 × 20 × 3	**10 05 17306**
300	400	150	20 × 20 × 3	**10 05 17307**
600	400	300	35 × 35 × 3	**10 05 17310**
600	400	150	35 × 35 × 3	**10 05 17311**
300	400	150	35 × 35 × 3	**10 05 17312**

② **Transport cart for transport baskets 18/10 stainless steel**
With handle and 4 guide rolls (2 lockable).

Material	Length mm	Width mm	Height mm	Load capacity max. kg	Order No.
18/10 stain-less Steel	603	403	950	100	**10 05 17330**

webcode WWJTQ002



③



④

Baskets, LINKER

③ **Wire baskets made of welded mesh**
w 8 mm, d 1 mm, cube shape, with white plastic coating

Edge length cm	Order No.	Edge length cm	Order No.
10	**39 73 12210**	18	**39 73 12218**
12	**39 73 12212**	20	**39 73 12220**
14	**39 73 12214**	25	**39 73 12225**
16	**39 73 12216**	30	**39 73 12230**

Wire baskets made of stainless steel
w 8 mm, d 1 mm, cube shape

Edge length cm	Order No.	Edge length cm	Order No.
10	**39 73 12310**	18	**39 73 12318**
12	**39 73 12312**	20	**39 73 12320**
14	**39 73 12314**	25	**39 73 12325**
16	**39 73 12316**	30	**39 73 12330**

④ **Stainless steel perforated sheet baskets**
8 mm square holes, sheet thickness 1 mm, cube shape

Edge length cm	Order No.	Edge length cm	Order No.
10	**39 73 12510**	16	**39 73 12516**
12	**39 73 12512**	18	**39 73 12518**
14	**39 73 12514**	20	**39 73 12520**

webcode WW2NY331



Aluminium Test Tube Baskets, neoLab®

Ideal for washing and storing test tubes!
Use these lightweight yet strong baskets with mechanical washers and autoclaves. Durable construction will withstand repeated use in the lab.

Size	Length × Width × Height mm	Order No.
small	152 × 152 × 152	**10 01 25090**
medium	256 × 152 × 152	**10 01 25091**

Sample Transport, Thermo Boxes

Storage and Shipping Containers, BÜRKLE

webcode WWR4Q005

Containers made of polypropylene (PP)
Hard-wearing, largely resistant to chemicals, temperature-resistant from -40 to +90°C. Stackable to a high height, hygienic/water-repelling, smooth easy-to-clean inner walls, food compatible, can be used on roller conveyors, quiet/non-droning, fit exactly on standard pallets, safe handles, available in various sizes, stackable with or without cover, outside reinforcement ribs for heavy duty.



① **Standard containers, gray**
To fit Euro standard pallets, without cover, made of PP.

Volume	Outer dimensions L × W × H	Inner dimensions L × W × H	Weight	Order No.
l	mm	mm	kg	
11	400×300×120	367×267×116	1.1	**23 05 10211**
17	400×300×180	367×267×176	1.4	**23 05 10217**
23	400×300×220	367×267×216		**10 04 50220**
23	600×400×120	567×367×114	1.9	**23 05 10223**
38	600×400×180	567×367×176	2.3	**23 05 10238**
45	600×400×220	567×367×216		**10 04 50245**
64	600×400×320	567×367×316	3.3	**23 05 10264**
80	600×400×420	567×367×416		**10 04 50280**

Covers made of polypropylene (PP), gray

Article	Order No.
Lid for Order No. 23 05 10211 and 10217	**23 05 10301**
Lid for Order No. 23 05 10223 to 10264	**23 05 10302**

All-purpose containers made HPDE, white
Practical storage containers with user-friendly dimensions (not acc. to standard pallets).

	Volume	Outer dimensions L × W × H	Inner dimensions L × W × H	Weight	Order No.
	l	mm	mm	kg	
②	29	660 × 450 × 130	600 × 400 × 120	1.9	**23 05 10129**
③	48	660 × 450 × 220	600 × 400 × 210	2.3	**23 05 10148**
④	94	660 × 450 × 410	600 × 400 × 400	4.0	**23 05 10194**









Accessories

	Article	Order No.
	Lid made of polystyrene (PS) White. For all purpose containers	**23 05 10195**
⑤	**Trolley with rollers made of PP/TPD** Paload approx. 250 kg. For standard containers with size 600 mm × 400 mm	**23 05 10196**

Transport Basins, neoLab®

webcode WW2NY321

Transport Basins
Transport and storage containers made of gray ND polyethylene, closed on the base and sides; **can be stacked in any way.** Compliant with Euronorm sizes.
Resistant to many acids and lyes. Temperature-resistant from -30°C to +80°C.

Fits into large thermo transport box no. 290117536.

Article	Vol. l	Outer L × W × H mm	Inner L × W × H mm	Order No.
Transport basin	20	600 × 400 × 120	565 × 365 × 110	**23 01 21144**
Transport basin	40	600 × 400 × 220	565 × 365 × 210	**23 01 21145**
Transport basin	60	600 × 400 × 320	565 × 365 × 320	**23 01 21146**
Transport basin	80	600 × 400 × 420	565 × 365 × 420	**23 01 21147**
Lid		600 × 400		**23 01 21349**



Grid inserts
Ideal for transporting medicine jars.
Grid height: 8 cm

Article	for qty bottles	Bottle Ø max. mm	Order No.
Grid insert	54 × 100 ml	55	**23 01 17543**
Grid insert	28 × 250 ml	75	**23 01 17544**
Grid insert	15 × 500 ml	90	**23 01 17545**

webcode To see other variants and accessories, please enter the webcode on our website.

Sample Transport, Thermo Boxes

webcode WWXKS005



①



②

③

Sample Carriers, Behr

behrotest® sample carriers
Containers with label holder for the safe transportation and practical storage of 1-l or 2-l sample bottles according to DIN.

behrotest® sample carriers type FTB
- light and sturdy
- standardized dimensions, hence easy to stack in minimum space
- inserts for 1-1 or 2-l bottles provide thermal insulation for sample bottles and keep them upright

	Article	Order No.
①	**Sample carrier FTB 1/8** for 8 1-liter sample bottles according to DIN	**23 48 65021**
	Sample carrier FTB 2/6 for 6 2-liter sample bottles according to DIN	**23 48 65022**

behrotest® sample carriers type ITB
- very effective insulation
- holder for cold pack in the lid
- insulated walls and insulated lid largely eliminate the effects of ambient temperature

	Article	Order No.
	Sample carrier ITB 1/8 for 8 1-liter sample bottles according to DIN	**23 48 65030**
②	**Sample carrier ITB 2/6** for 6 2-liter sample bottles according to DIN	**23 48 65032**
③	**Cold pack** to fit the ITB 1/8 and ITB 2/6	**10 48 65031**

webcode WW2NY035



④ ③

Container Carts, neoLab®

2 container carts for all Euro standard containers. Each cart has 4 chromatized ball-bearing steering wheels with rubber tyres.

	Article	Order No.
③	**Container cart made of ABS plastic**	**23 01 21142**
	AOuter dimensions: 630 × 420 mm	
	Inner dimensions: 600 × 400 mm	
	Payload: 150 kg	
④	**Container cart made of plastic-coated tube**	**23 01 21143**
	Outer dimensions: 650 × 490 mm	
	Inner dimensions: 600 × 400 mm	
	Payload: 110 kg	
	Tube dia.: 28 mm	

webcode WWRJN102



Safety Bottle Carriers, Thermo Scientific Nalgene, IDL

Safety bottle carriersmade of linear low-density polyethylene.
Simple, safe support for up to 6 half-liter bottles regardless of shape. Bright yellow color for safety. Provides firm support for bottles, virtually eliminating binding and breakage. Sturdy wide handle molded in one piece with the base, providing a comfortable grip even when the carrier is full. Two tabs firmly attach the sliding cover to the base. Injection molding made of linear low density polyethylene (LLDPE), giving it better mechanical strength than low density polyethylene (LDPE) and greater shock resistance than high density polyethylene (HDPE). Full or empty carriers can be stacked.

Length × Width × Height mm	Order No.
349 × 248 × 276	**23 87 65050**

Sample Transport, Thermo Boxes

Bottle Carrier, BÜRKLE

webcode WWR4Q066

For 6 bottles up to max. 95 mm Ø. PP.

Article	Order No.
Bottle carrier, HDPE	**10 04 53616**



Safety Bottle Carriers, BOCHEM



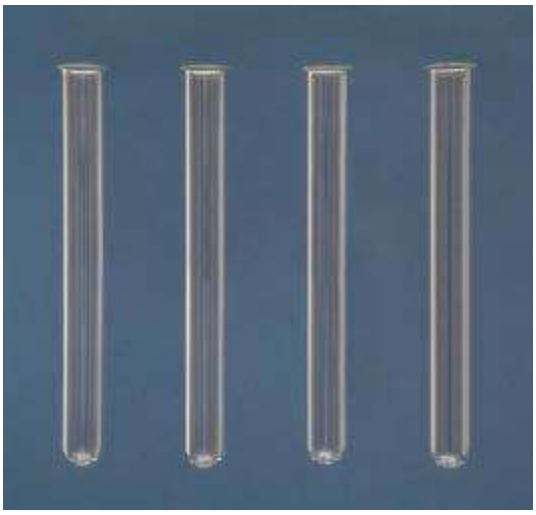
webcode WWQ7J064

Safety carriers for laboratory bottles with hinge, closure and silicone seal.

Material	Height mm	Width mm	Volume ml	Order No.
18/10 steel	140	100/130	50 – 250	**38 05 18300**
18/10 steel	235	130/160	500 – 1000	**38 05 18301**

Test Tubes

Test Tubes, Hecht-ASSISTENT



Test tubes Elka, AR®-soda-lime glass, round bottom, beaded rim. Service-proven quality, also for use as disposable test tubes. Length and outer diameter quoted as approximate values.

Standard wall thickness, beaded rim

Length mm	O.D. mm	Order No.	PU pc/Pack
100	10	**11 18 13001**	100
100	12	**11 18 13002**	100
130	14	**11 18 13003**	100
100	16	**11 18 13005**	100
120	16	**11 18 13006**	100
160	16	**11 18 13007**	100
160	16	**11 18 13013**	200
160	18	**11 18 13008**	100
180	18	**11 18 13009**	100
180	20	**11 18 13010**	100
160	24	**11 18 13011**	50
200	30	**11 18 13012**	50

Available only in original packaging units. No fractions possible.

Thick wall, approx. 1 mm, smooth rim

Length mm	O.D. mm	Order No.	PU pc/Pack
27	7	**11 18 14000**	100
35	6	**11 18 14001**	100
50	6	**11 18 14002**	100
40	8	**11 18 14003**	100
70	10.5	**11 18 14004**	100
80	10.5	**11 18 14085**	200
100	10	**11 18 14005**	100
75	12	**11 18 14006**	200
100	12	**11 18 14007**	100
100	14	**11 18 14008**	100
130	14	**11 18 14009**	100
75	15	**11 18 14010**	100
85	15	**11 18 14011**	100
135	15	**11 18 14012**	100
100	16	**11 18 14013**	100
160	16	**11 18 14014**	100
160	16	**11 18 14017**	200
100	18	**11 18 14015**	100
180	18	**11 18 14016**	100

Available only in original packaging units. No fractions possible.

Test Tubes



webcode WWEQ2053

Test Tubes, FIOLAX®, DURAN Group / IDL

Test tubes with beaded rim. FIOLAX® test tubes have thin walls. They are therefore relatively insensitive to sudden changes of temperature and local heating.

O.D. mm	Length mm	Wall thickness mm	Order No.	PU pc/Pack
8	70	0.4 – 0.5	**11 26 11001**	100
10	75	0.4 – 0.5	**11 26 11003**	100
10	100	0.4 – 0.5	**11 26 11006**	100
12	75	0.4 – 0.5	**11 26 11008**	100
12	100	0.4 – 0.5	**11 26 11011**	100
14	130	0.4 – 0.5	**11 26 11013**	100
16	130	0.5 – 0.6	**11 26 11016**	100
16	160	0.5 – 0.6	**11 26 11021**	100
18	180	0.5 – 0.6	**11 26 11023**	100
20	150	0.5 – 0.6	**11 26 11026**	100
20	180	0.5 – 0.6	**11 26 11028**	100
25	150	0.6 – 0.7	**11 26 11033**	50
25	200	0.6 – 0.7	**11 26 11036**	50
30	200	0.7 – 0.8	**11 26 11038**	50

Available only in original packaging units. No fractions possible.



webcode WWEQ2054

Test Tubes, DURAN®, DURAN Group / IDL

Test tubes with and without beaded rim. DURAN® test tubes have thick walls. They are therefore particularly resistant to mechanical stress and display excellent resistance to thermal shocks.

① **With beaded rim**

O.D. mm	Length mm	Wall thickness mm	Order No.	PU pc/Pack
8	70	0.8 – 1.0	**11 26 13001**	100
10	75	0.8 – 1.0	**11 26 13003**	100
10	100	0.8 – 1.0	**11 26 13006**	100
12	75	0.8 – 1.0	**11 26 13008**	100
12	100	0.8 – 1.0	**11 26 13011**	100
13	100	0.8 – 1.0	**10 21 13012**	100
14	130	0.8 – 1.0	**11 26 13013**	100
16	130	1.0 – 1.2	**11 26 13016**	100
16	160	1.0 – 1.2	**11 26 13021**	100
18	180	1.0 – 1.2	**11 26 13023**	100
20	150	1.0 – 1.2	**11 26 13026**	100
20	180	1.0 – 1.2	**11 26 13028**	100
25	150	1.0 – 1.2	**11 26 13033**	50
25	200	1.0 – 1.2	**11 26 13036**	50
30	200	1.0 – 1.4	**11 26 13038**	50

Available only in original packaging units. No fractions possible.



② **Without beaded rim**

O.D. mm	Length mm	Wall thickness mm	Order No.	PU pc/Pack
8	70	0.8 – 1.0	**11 26 13101**	100
10	75	0.8 – 1.0	**11 26 13103**	100
10	100	0.8 – 1.0	**11 26 13106**	100
12	75	0.8 – 1.0	**11 26 13108**	100
12	100	0.8 – 1.0	**11 26 13111**	100
13	100	0.8 – 1.0	**10 21 13112**	100
14	130	0.8 – 1.0	**11 26 13113**	100
16	130	1.0 – 1.2	**11 26 13116**	100
16	160	1.0 – 1.2	**11 26 13121**	100
18	180	1.0 – 1.2	**11 26 13123**	100
20	150	1.0 – 1.2	**11 26 13126**	100
20	180	1.0 – 1.2	**11 26 13128**	100
25	150	1.0 – 1.2	**11 26 13133**	50
25	200	1.0 – 1.2	**11 26 13136**	50
30	200	1.0 – 1.4	**11 26 13138**	50

Available only in original packaging units. No fractions possible.

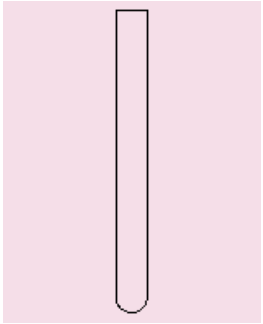
Test Tubes

Disposable Test Tubes, Dinkelberg Analytics

OD: 15 mm, L: 140 mm WT: 0.6 mm, smooth rim, AR glass, can also be used with Kapsenberg caps, in packs of 240 pieces.

Article	Order No.
Disposable test tubes	**11 32 15140**

Available only in original packaging units. No fractions possible.



webcode WWSU9001

Test Tubes, Hirschmann



webcode WW4ZV002

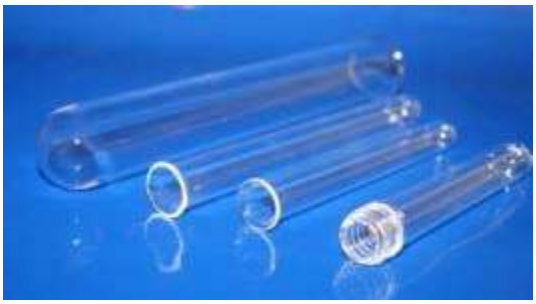
Test tubes, graduated
DURAN®, round bottom, blue graduation, with spout. IN calibrated.

Vol. ml	Increment	Tol. ± ml	Order No.	PU pc/Pack
10	0.1	0.06	**11 37 80001**	10
20	0.2	0.30	**11 37 80002**	10
20	0.1	0.30	**11 37 80003**	10
25	0.5	0.30	**11 37 80004**	10

As above, but with standard ground Joint (NS) and Poly stopper

Vol. ml	Increment	NS	Tol. ± ml	Order No.	PU pc/Pack
10	0.1	12/21	0.06	**11 37 80101**	10
20	0.2	14/23	0.30	**11 37 80102**	10
20	0.1	14/23	0.30	**11 37 80103**	10
25	0.5	14/23	0.30	**11 37 80104**	10

Test Tubes, Quartz Glass, QGT Bad Harzburg



Quartz glass test tubes acc. to DIN 12395, slightly beaded and fused rim.

O.D. mm	L mm	Order No.
8	70	**18 36 71001**
10	100	**18 36 71006**
12	100	**18 36 71011**
14	130	**18 36 71013**
16	160	**18 36 71021**

O.D. mm	L mm	Order No.
18	180	**18 36 71023**
20	180	**18 36 71028**
30	200	**18 36 71036**
40	200	**18 36 71040**

Beakers

Beakers, Low Form, DURAN®, DURAN Group / IDL

webcode WWEQ2001

Beakers with graduation and spout, DIN 12331, ISO 3819, with Retrace Code (Batch Certificate of Performance via Internet).

Volume ml	O.D. mm	Height mm	Order No.	PU pc/Pack
5[1)]	22	30	**11 21 10607**	10
10[1)]	26	35	**11 21 10608**	10
25	34	50	**11 21 10614**	10
50	42	60	**11 21 10617**	10
100	50	70	**11 21 10624**	10
150	60	80	**11 21 10629**	10
250	70	95	**11 21 10636**	10
400	80	110	**11 21 10641**	10
600	90	125	**11 21 10648**	10
800	100	135	**11 21 10653**	10
1000	105	145	**11 21 10654**	10
2000	132	185	**11 21 10663**	10
3000	152	210	**11 21 10668**	4
5000	170	270	**11 21 10673**	1
10000[2)]	217	350	**11 21 10686**	1

[1)] Without graduation.
[2)] Non-DIN and non-ISO size



webcode To see other variants and accessories, please enter the webcode on our website.

Beakers

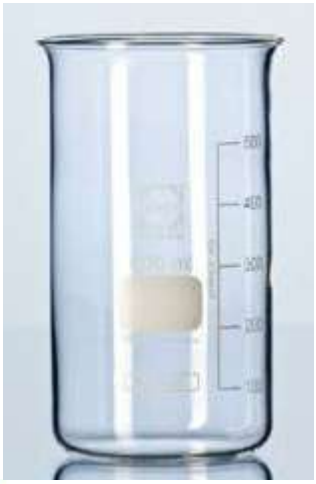


webcode WWEQ2002

Beakers, Tall Form, DURAN®, DURAN Group / IDL

Beakers with graduation and spout, DIN 12331, ISO 3819, with Retrace Code (Batch Certificate of Performance via Internet).

Volume ml	O.D. mm	Height mm	Order No.	PU pc/Pack
50	38	70	**11 21 11617**	10
100	48	80	**11 21 11624**	10
150	54	95	**11 21 11629**	10
250	60	120	**11 21 11636**	10
400	70	130	**11 21 11641**	10
600	80	150	**11 21 11648**	10
800	90	175	**11 21 11653**	10
1000	95	180	**11 21 11654**	10
2000	120	240	**11 21 11663**	10
3000	135	280	**11 21 11668**	2



webcode WWEQ2003

Beakers, Tall Form, DURAN®, DURAN Group / IDL

Beakers with graduation, without spout, with Retrace Code (Batch Certificate of Performance via Internet).

Volume ml	O.D. mm	Height mm	Order No.	PU pc/Pack
50	38	70	**11 21 11717**	10
100	48	80	**11 21 11724**	10
150	54	95	**11 21 11729**	10
250	60	120	**11 21 11736**	10
400	70	130	**11 21 11741**	10
600	80	150	**11 21 11748**	10
1000	95	180	**11 21 11754**	10

Available only in original packaging units. No fractions possible.

webcode WWEQ2210



DURAN® Beakers Super Duty, DURAN Group / IDL

DURAN® beakers, low form with spout, Super Duty, with reinforced rim

Compared to the standard DURAN® beaker, the products of the Super Duty range have a significantly increased mechanical sturdiness due to increased uniform wall thickness. The reinforced, sturdy rim is another advantage as it further increases the shock resistance and notably reduces the risk of breakage. Accordingly, this extension of the DURAN® portfolio offers the user optimum safety when these products are used under heavy mechanical strain, for example with frequent cleaning, but also with the general handling in the laboratory. Thanks to their longer useful life resulting from increased shock resistance, the Super Duty glassware is economically more efficient. To avoid thermal stressing of the glass, uniform and slow heating of Super Duty products is recommended. When working at very high temperatures, or if rapid temperature changes are expected, standard DURAN® beakers should be used, as these are characterized by excellent thermal shock resistance. However, the mechanical sturdiness of these DURAN® standard products is limited compared with the Super Duty range. Super Duty beaker with Retrace Code (Batch Certificate of Performance via Internet).

① **Super Duty, low form**

Volume ml	Order No.	PU pc/Pack
150	**10 21 13729**	10
250	**10 21 13736**	10
400	**10 21 13741**	10
600	**10 21 13748**	10
1000	**10 21 13754**	10
2000	**10 21 13763**	10
5000	**10 21 13773**	1

Super Duty, tall form

Volume ml	Order No.	PU pc/Pack
150	**10 21 12908**	10
250	**10 21 13605**	10
600	**10 21 14806**	10

Beakers

Filtering Jars, Heavy Wall, DURAN®, DURAN Group / IDL

Filtering jars with graduation and spout.

Volume ml	O.D. mm	Height mm	Order No.	PU pc/Pack
100	52	85	**11 21 13124**	10
150	54	93	**11 21 13129**	10
250	70	94	**11 21 13136**	10
500	89	124	**11 21 13144**	10
1000	105	160	**11 21 13154**	10
2000	135	195	**11 21 13163**	10
3000	157	205	**11 21 13168**	4
5000	182	256	**11 21 13173**	1
10000[1)]	225	340	**11 21 13186**	1
15000[1)]	260	390	**11 21 13188**	1
20000[1)]	285	430	**11 21 13191**	1

[1)] Without graduation.



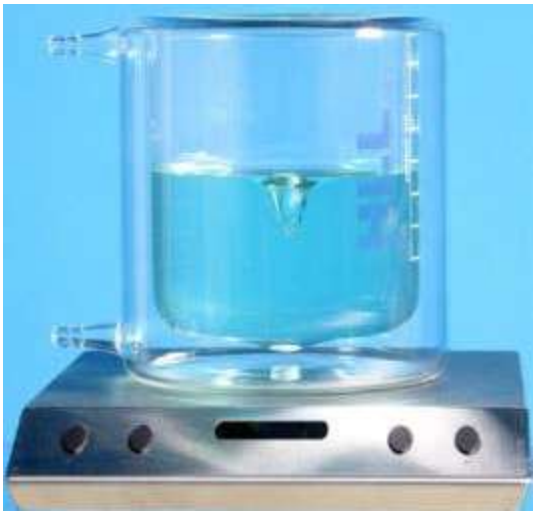
webcode WWEQ2005

Beakers, can be Tempered, Landgraf

Beaker with temperature stabilizing jacket for direct temperature control of liquids. The beaker may be connected to a thermostat. Use the graded inner beaker for easy volume control The beaker bottom is V-shaped for optimum application of oval magnetic stirring cores; without stirrer.

Article	Order No.
Beaker, can be tempered, 100 ml	**10 67 22010**
Beaker, can be tempered, 150 ml	**10 67 22015**
Beaker, can be tempered, 250 ml	**10 67 22025**
Beaker, can be tempered, 500 ml	**10 67 22050**
Beaker, can be tempered, 800 ml	**10 67 22080**
Beaker, can be tempered, 1000 ml	**10 67 22100**
Beaker, can be tempered, 2000 ml	**10 67 22220**

webcode WWHXJ024



Beakers, Quartz Glass, QGT Bad Harzburg

Quartz glass beakers acc. to DIN.

① **Low form, DIN 12332**

Vol. ml	Ø mm	H mm	Order No.
5	22	31	**18 36 10007**
10	26	36	**18 36 10008**
25	34	48	**18 36 10014**
50	42	59	**18 36 10017**
100	51	71	**18 36 10024**
150	58	81	**18 36 10029**
250	69	95	**18 36 10036**
400	80	110	**18 36 10041**
600	90	126	**18 36 10048**
800	98	135	**18 36 10053**
1000	106	148	**18 36 10054**
2000	132	185	**18 36 10063**

② **Tail form, DIN 12331**

Vol. ml	Ø mm	H mm	Order No.
50	38	69	**18 36 10117**
100	47	85	**18 36 10124**
150	53	95	**18 36 10129**
250	62	112	**18 36 10136**
400	72	130	**18 36 10141**
600	82	148	**18 36 10148**
800	86	170	**18 36 10153**
1000	95	180	**18 36 10154**
2000	120	240	**18 36 10163**



webcode To see other variants and accessories, please enter the webcode on our website.

Beakers

webcode WWQED044

BRAND



①



②

Beakers made of Plastic, BRAND

① Beakers, low form, PP

High clarity, with blue printed scale. To ISO 7056. With graduation, beaded rim and spout. Cleaning at temperatures below 60°C is recommended to preserve marks and inscriptions.

Volume ml	Graduation ml	H mm	Ø max. mm	Order No.	PU pc/Pack
10[1)]	2	36	30	**10 49 87602**	12
25	5	50	38	**10 49 89420**	12
50	10	60	47	**10 49 89428**	12
100	10	70	55	**10 49 89438**	12
150[1)]	20	80	66	**10 49 87610**	12
250	25	95	77	**10 49 89448**	6
400[1)]	50	112	87	**10 49 89452**	6
500	50	118	94	**10 49 89454**	6
600[1)]	50	127	100	**10 49 89456**	6
1000	100	147	120	**10 49 89462**	6
2000	200	187	149	**10 49 89464**	6
3000[1)]	250	212	170	**10 49 89466**	4
5000	500	247	203	**10 49 89470**	4

[1)] supplementing ISO 7056

② Beakers, low form, PMP

Transparent, with blue printed scale. To ISO 7056. With graduation, beaded rim and spout. Cleaning at temperatures below 60°C is recommended to preserve marks and inscriptions.

Volume ml	Graduation ml	H mm	Ø max. mm	Order No.	PU pc/Pack
10[1)]	2	36	30	**10 49 87502**	12
25	5	50	38	**23 49 89369**	12
50	10	60	47	**23 49 89376**	12
100	10	70	55	**23 49 89380**	12
150[1)]	20	80	66	**10 49 87510**	12
250	25	95	77	**23 49 89386**	6
400[1)]	50	112	87	**23 49 89387**	6
500	50	118	94	**23 49 89390**	6
600[1)]	50	127	100	**23 49 89391**	6
1000	100	147	120	**23 49 89395**	6
2000	200	187	149	**23 49 89396**	6
3000[1)]	250	212	170	**23 49 89397**	4
5000	500	247	203	**23 49 89398**	4

[1)] supplementing ISO 7056



Graduated Beakers, VITLAB

Graduated beakers, PP, with embossed blue graduations

Highly transparent. With clearly legible raised scale with blue embossing pursuant to ISO 7056. To protect the embossing, cleaning at a temperature of max. 60°C is recommended. Conditionally autoclavable at 121°C (2 bar) pursuant to DIN EN 285. Suitable for contact with foodstuffs according to ordinance (EU) No. 10/2011.

Volume ml	Graduation ml	Height mm	Ø mm	Order No.	PU pc/Pack
10[1)2)]	2	36	30	**23 85 13159**	12
25[2)]	5	50	38	**23 85 13169**	12
50[2)]	10	60	47	**23 85 13176**	12
100	10	70	55	**23 85 13180**	12
150[1)]	20	80	66	**23 85 13181**	12
250	25	95	77	**23 85 13186**	6
400[1)]	50	112	87	**23 85 13187**	6
500	50	118	94	**23 85 13190**	6
600[1)]	50	127	100	**23 85 13191**	6
1000	100	147	120	**23 85 13194**	6
2000	200	187	149	**23 85 13196**	6
3000	250	212	170	**23 85 13197**	4
5000	500	247	203	**23 85 13198**	4

[1)] Variant in addition to ISO 7056
[2)] Blue embossed scale not raised

Continued on next page →

Beakers

Graduated beakers, PMP

Crystal clear. With easily readable, printed red scale. To preserve markings, cleaning at no higher than 60°C is recommended.

Volume ml	Graduation ml	Height mm	Ø mm	Order No.	PU pc/Pack
10[1)]	2	36	30	**23 85 13359**	12
25	5	50	38	**23 85 13369**	12
50	10	60	47	**23 85 13376**	12
100	10	70	55	**23 85 13380**	12
150[1)]	20	80	66	**23 85 13381**	12
250	25	95	77	**23 85 13386**	6
400[1)]	50	112	87	**23 85 13387**	6
500	50	118	94	**23 85 13390**	6
600[1)]	50	127	100	**23 85 13391**	6
1000	100	147	120	**23 85 13394**	6
2000	200	187	149	**23 85 13396**	6
3000	250	212	170	**23 85 13397**	4
5000	500	247	203	**23 85 13398**	4

[1)] Variant in addition to ISO 7056



Graduated Beakers, VITLAB

① **Graduated beakers, PFA**

Transparent. With a raised scale. Excellent chemical resistance and very high thermal stability from -200 to +260°C. Autoclavable at 121°C (2 bar) according to DIN EN 285.

Volume ml	Graduation ml	Height mm	Ø mm	PU	Order No.
25	5	50	32	1 pcs.	**23 85 13269**
50	10	59	39	1 pcs.	**23 85 13276**
100	20	72	50	1 pcs.	**23 85 13280**
250	50	96	67	1 pcs.	**23 85 13286**
500	100	122	88	1 pcs.	**23 85 13290**
1000	100	141	109	1 pcs.	**23 85 13294**



② **Graduated beakers, PMP, raised scale**

Crystal clear. With a raised scale. According ISO 7056. Autoclavable at 121°C (2 bar) according to DIN EN 285.

Volume ml	Graduation ml	Height mm	Ø mm	Order No.	PU pc/Pack
25	5	50	38	**10 85 36069**	12
50	10	60	47	**10 85 36079**	12
100	10	70	55	**10 85 36089**	12
150[1)]	20	80	66	**10 85 36099**	12
250	25	95	77	**10 85 36109**	6
400[1)]	50	112	87	**10 85 36119**	6
500	50	118	94	**10 85 36189**	6
600[1)]	50	127	100	**10 85 36129**	6
1000	100	147	120	**10 85 36149**	6
2000	200	187	149	**10 85 36159**	6
3000	250	212	170	**10 85 36169**	4
5000	500	247	203	**10 85 36179**	4

[1)] Variant in addition to ISO 705



③ **Graduated beakers, PP, raised scale**

Highly transparent. With a raised scale. According ISO 7056. Autoclavable at 121°C (2 bar) according to DIN EN 285. Suitable for contact with foodstuffs according to ordinance (EU) No. 10/2011.

Volume ml	Graduation ml	Height mm	Ø mm	Order No.	PU pc/Pack
25	5	50	38	**10 85 37069**	12
50	10	60	47	**10 85 37079**	12
100	10	70	55	**10 85 37089**	12
150[1)]	20	80	66	**10 85 37099**	12
250	25	95	77	**10 85 37109**	6
400[1)]	50	112	87	**10 85 37119**	6
500	50	118	94	**10 85 37189**	6
600[1)]	50	127	100	**10 85 37129**	6
1000	100	147	120	**10 85 37149**	6
2000	200	187	149	**10 85 37159**	6
3000	250	212	170	**10 85 37169**	4
5000	500	247	203	**10 85 37179**	4

[1)] Variant in addition to ISO 705



Graduated Beakers

webcode WW2VA007

LABOR-PILZ SEIT 1921



Laboratory Mug and Bowl with Periodic Table, Labor-Pilz

Made of genuine porcelain (Freiberger Porzellan), dishwater suitable.

Article	Contents ml	Order No.
Laboratory mug with periodic table	275	**10 47 43011**
Laboratory bowl with periodic table	700	**10 47 43012**

neoLab

webcode WW2NY353



Moonlab Beakers made of Plastics, neoLab®

① **Without handle**

Vol. ml	H mm	Order No.
50	59	**10 01 40038**
100	73	**10 01 40039**
250	94	**10 01 40040**
600	128	**10 01 40041**

Vol. ml	H mm	Order No.
1000	150	**10 01 40042**
2000	192	**10 01 40043**
5000	263	**10 01 40044**
10000	328	**10 01 40045**

② **With handle**

Vol. ml	H mm	Order No.
100	73	**10 01 40046**
250	94	**10 01 40047**
600	128	**10 01 40048**
1000	150	**10 01 40049**

Vol. ml	H mm	Order No.
2000	192	**10 01 40050**
5000	263	**10 01 40051**
10000	330	**10 01 40052**

webcode WWQED045

BRAND



Graduated Beakers with Handle, BRAND

Made from high clarity PP. Blue printed scale. The ergonomic handle allows comfortable and save grip, the functional spout minimizes spills. Cleaning at temperatures below 60°C is recommended to preserve marks and inscriptions.

Volume ml	Graduation ml	H mm	Ø max. mm	Order No.	PU pc/Pack
50	2	70	40	**23 49 40476**	24
100	2	80	50	**23 49 40480**	24
250	5	120	74	**23 49 40486**	12
500	10	140	92	**23 49 40489**	12
③ 1000	20	181	117	**23 49 40493**	6
2000	50	213	152	**23 49 40496**	6
3000	50	242	172	**23 49 40497**	6
5000	100	270	204	**23 49 40498**	6



Graduated Beakers, VITLAB

Graduated beakers, PP, blue raised scale
Highly transparent. With easily readable, raised, embossed blue scale, and stable, easy-grip handle. To preserve markings, do not clean at temperatures exceeding 60°C. Conditionally autoclavable at 121°C (2 bar) according to DIN EN 285.
Suitable for contact with foodstuffs according to ordinance (EU) No. 10/2011.

Volume ml	Graduation ml	Height mm	Ø mm	Order No.	PU pc/Pack
50	2	70	40	**23 85 12176**	24
100	2	80	50	**23 85 12179**	24
250	5	120	74	**23 85 12185**	12
500	10	140	92	**23 85 12189**	12
1000	10	181	117	**23 85 12192**	6
2000	20	213	152	**23 85 12196**	6
3000	50	242	172	**23 85 12197**	6
5000	50	270	204	**23 85 12198**	6

Continued on next page

Graduated Beakers

Graduated beakers, PP, raised scale

Highly transparent. With a raised scale and stable, easy-grip handle. Autoclavable at 121°C (2 bar) according to DIN EN 285.
Suitable for contact with foodstuffs according to ordinance (EU) No. 10/2011.



Volume ml	Graduation ml	Height mm	Ø mm	Order No.	PU pc/Pack
50	2	70	40	**10 85 32376**	24
100	2	80	50	**10 85 32379**	24
250	5	120	74	**10 85 32385**	12
500	10	140	92	**10 85 32389**	12
1000	10	181	117	**10 85 32392**	6
2000	20	213	152	**10 85 32396**	6
3000	50	242	172	**10 85 32397**	6
5000	50	270	204	**10 85 32398**	6

Graduated beakers, PP, stackable

Highly transparent. With stable handle and easily readable, printed black scale on both sides. This makes the volume easily readable for right- and left-handed users. Handle with groove for better draining of the water in the dishwasher.
To preserve markings, cleaning at no higher than 60°C is recommended. For autoclaving we recommend the design with raised graduations.
Suitable for contact with foodstuffs according to ordinance (EU) No. 10/2011.



Volume ml	Graduation ml	Height mm	Ø mm	Order No.	PU pc/Pack
250	5	115	75	**10 85 32285**	12
500	10	140	97	**23 85 12289**	12
1000	10	167	125	**23 85 12292**	12
2000	20	212	148	**23 85 12296**	12
3000	50	242	170	**23 85 12297**	12

Graduated Beakers, coloured, PP, VITLAB

Graduated beakers in four different colours

Stackable. Transparent, with stable handle and easily readable, printed scale on both sides. Therefore, the volume is equally visible for left- and right handers. Handle with groove for better draining of the water in the dishwasher. To preserve markings, cleaning at no higher than 60°C is recommended. Suitable for contact with food pursuant to Directive (EU) No. 10/2011.



Colour	Volume ml	Graduation ml	Height mm	Ø mm	Order No.	PU pc/Pack
blue	500	10	140	100	**10 85 31942**	12
yellow	500	10	140	100	**10 85 31943**	12
red	500	10	140	100	**10 85 31944**	12
green	500	10	140	100	**10 85 31947**	12
blue	1000	10	167	125	**10 85 32942**	12
yellow	1000	10	167	125	**10 85 32943**	12
red	1000	10	167	125	**10 85 32944**	12
green	1000	10	167	125	**10 85 32945**	12

Available only in original packaging units. No fractions possible.

Set of graduated beakers in four different colours

Article	Order No.
Set graduated beakers, blue, yellow, red, green, 500 ml	**10 85 31911**
Set graduated beakers, blue, yellow, red, green, 1000 ml	**10 85 32911**

Collectors, PP or SAN, VITLAB

With a raised scale. Volume 2000 ml. With stable, easy-grip handle and white PC lid.
Suitable for contact with foodstuffs according to ordinance (EC) No. 10/2011.



Type	Cons ml	Graduation ml	Mat.	Scale	Ø mm	H mm	Order No.	PU pc/Pack
Collector	2000	20	SAN	embossed	150	220	**10 85 39788**	6
Collector	2000	20	PP	embossed	150	220	**10 85 39789**	6
Collector	2000	20	PP	embossed/ blue	150	220	**10 85 39780**	6
Cover	–	–	PC	–	–	–	**10 85 39779**	6

Available only in original packaging units. No fractions possible.

webcode To see other variants and accessories, please enter the webcode on our website.

Graduated Beakers

webcode WWQ7J055



①



②



③

Beakers, BOCHEM

Beakers made of 18/10 steel, without handle, with contact bottom

	Volume ml	Ø mm	Height mm	with pour rim Order No.	with spout Order No.
①	100	50	60	**38 05 08500**	**38 05 08510**
	250	65	85	**38 05 08501**	**38 05 08511**
	500	80	110	**38 05 08502**	**38 05 08512**
	1000	100	130	**38 05 08503**	**38 05 08513**
	2000	120	180	**38 05 08504**	**38 05 08514**
	3000	150	180	**38 05 08505**	**38 05 08515**
	5000	180	210	**38 05 08506**	**38 05 08516**

Beakers made of 18/10 steel, with handle, with contact bottom

Volume ml	Ø mm	Height mm	without spout Order No.	with spout Order No.
100	50	60	**38 05 08520**	**38 05 08530**
250	65	85	**38 05 08521**	**38 05 08531**
500	80	110	**38 05 08522**	**38 05 08532**
1000	100	130	**38 05 08523**	**38 05 08533**
2000	120	180	**38 05 08524**	**38 05 08534**
3000	150	180	**38 05 08525**	**38 05 08535**
5000	180	210	**38 05 08526**	**38 05 08536**

Graduated beakers made of 18/10 steel, with spout, handle

	Volume ml	Ø mm	Height mm	Order No.
③	1000	100	140	**38 05 08640**
	2000	130	170	**38 05 08642**

Graduated beakers made of 18/10 steel, with spout, handle, standing foot

	Volume ml	Ø mm	Height mm	Order No.
②	500	115	115	**38 05 08660**
	1000	140	160	**38 05 08661**
	1500	150	160	**38 05 08662**
	2000	160	185	**38 05 08663**

Graduated beakers made of 18/10 steel, conicale shape, with spout, handle

	Volume ml	Ø mm	Height mm	Order No.
	500	125	95	**10 05 08650**
③	1000	135	120	**10 05 08651**
	2000	175	145	**10 05 08652**

Erlenmeyer Flasks



webcode WWEQ2006

Erlenmeyer Flasks, Narrow Neck, DURAN®, DURAN Group / IDL

Erlenmeyer flasks with graduation, DIN ISO 1773, with Retrace Code (Batch Certificate of Performance via Internet).

Volume ml	Neck O.D. mm	Flask max. outer Ø mm	Height mm	Order No.	PU pc/Pack
25	22	42	75	**11 21 21614**	10
50	22	51	90	**11 21 21617**	10
100	22	64	105	**11 21 21624**	10
125[1)]	28	67	112	**10 21 11628**	10
150[1)]	28	74	118	**10 21 11627**	10
200[1)]	34	79	131	**11 21 21632**	10
250	34	85	145	**11 21 21636**	10
300[1)]	34	87	156	**11 21 21639**	10
500	34	105	180	**11 21 21644**	10
800	42	120	200	**10 21 11653**	10
1000	42	131	220	**11 21 21654**	10
2000	50	166	280	**11 21 21663**	10
3000	52	187	310	**11 21 21668**	2
5000	52	220	365	**11 21 21673**	1

[1)] Non-DIN ISO size.

Erlenmeyer Flasks

Erlenmeyer Flasks, Wide Neck, DURAN®, DURAN Group / IDL

Erlenmeyer flasks with graduation, DIN ISO 24450, with Retrace Code (Batch Certificate of Performance via Internet).

Volume ml	Neck O.D. mm	Flask max. outer Ø mm	Height mm	Order No.	PU pc/Pack
25[1)]	31	43	70	**11 21 22614**	10
50	34	51	85	**11 21 22617**	10
100	34	64	105	**11 21 22624**	10
200[1)]	50	79	131	**11 21 22632**	10
250	50	85	140	**11 21 22636**	10
300[1)]	50	87	156	**11 21 22639**	10
500	50	105	175	**11 21 22644**	10
1000	50	131	220	**11 21 22654**	10
2000[1)]	72	153	276	**11 21 22663**	10

[1)] Non-DIN EN ISO size.



webcode WWEQ2007

Erlenmeyer Flasks, DURAN®, DURAN Group / IDL

Erlenmeyer flasks with DIN threads and graduation, with red PBT-caps
With Retrace Code (Batch Certificate of Performance via Internet).

Volume ml	Thread GL	Flask max. outer Ø mm	Height mm	Order No.	PU pc/Pack
100	25	64	109	**10 21 15324**	10
250	32	85	149	**10 21 15336**	10
500	32	105	180	**10 21 15344**	10
1000	32	131	225	**10 21 15354**	10



webcode WWEQ2008

Erlenmeyer Flasks, Super Duty, DURAN®, DURAN Group / IDL

webcode WWEQ2209

Compared to the standard DURAN® Erlenmeyer flask, the products of the Super Duty range have a significantly increased mechanical sturdiness due to greater uniform wall thickness. The reinforced, sturdy rim is another advantage as it further increases the shock resistance and notably reduces the risk of breakage. Accordingly, this extension of the DURAN® portfolio offers the user optimum safety when these products are used under heavy mechanical strain, for example with frequent cleaning, but also with the general handling in the laboratory. Thanks to their longer useful life resulting from increased shock resistance, the Super Duty glassware is economically more efficient. To avoid thermal stressing of the glass, uniform and slow heating of Super Duty products is recommended. When working at very high temperatures, or if rapid temperature changes are expected, standard DURAN® Erlenmeyer flasks should be used, as these are characterized by excellent thermal shock resistance. However, the mechanical sturdiness of these DURAN® standard products is limited compared with the Super Duty range. Super Duty Erlenmeyer flask with Retrace Code (Batch Certificate of Performance via Internet).



① Erlenmeyer flasks, narrow neck, Super Duty with reinforced rim

Volume ml	Order No.	PU pc/Pack
25	**10 21 11714**	10
50	**10 21 11717**	10
100	**10 21 11724**	10
250	**10 21 11736**	10
500	**10 21 11744**	10
1000	**10 21 11754**	10
2000	**10 21 11763**	10
5000	**10 21 11773**	1



② Erlenmeyer flasks, wide neck, Super Duty with reinforced rim

Volume ml	Order No.	PU pc/Pack
100	**10 21 12724**	10
250	**10 21 12736**	10
500	**10 21 12744**	10
1000	**10 21 12754**	10

Erlenmeyer Flasks

webcode WWQVD161



Erlenmeyer Flasks with Screw Cap, Rettberg

Erlenmeyer Flasks made of borosilicate glass 3.3, with DIN standard PBT screw caps with PTFE coated seal (up to +200°C). Also available with four baffles.

Volume approx. ml	Thread GL	Flask outer Ø mm	Height mm	Version without baffles Order No.	with baffles Order No.
50	25	51	89	**13 40 18017**	**10 70 18117**
100	25	64	109	**13 40 18024**	**10 70 18124**
250	32	85	145	**13 40 18036**	**10 70 18136**
500	32	105	181	**13 40 18044**	**10 70 18144**
1000	32	131	225	**13 40 18054**	**10 70 18154**
2000	45	166	285	**13 40 18064**	**10 70 18164**
3000	45	187	315	**13 40 18068**	**10 70 18168**
5000	45	220	370	**13 40 18073**	**10 70 18173**

N B:
When placing in autoclave, screw the cap on loosely. Do not screw tight.

Erlenmeyer Flasks, VITLAB



①

① **Erlenmeyer flasks, GL 45, PMP with red screw cap, PP**
Highly transparent. Perfect for use as a receiver vessel for titration. Well suited for storage and cultivation of cell cultures. Due to its higher break resistance, the plastic Erlenmeyer flask is far safer than glass flasks for use in incubator shakers. Suitable for microwave ovens.
To preserve markings, cleaning at no higher than 60°C is recommended.

Volume ml	Graduation ml	Order No.	PU pc/Pack
75	10	**10 85 36695**	6
125	20	**10 85 36796**	6
250	50	**10 85 36895**	6
500	100	**10 85 36995**	6
1000	200	**10 85 37095**	4



②

② **Erlenmeyer flasks, GL 45, PP with blue scew cap, PP**
Highly transparent. Well suited for storage and cultivation of cell cultures. Due to its higher break resistance, the plastic Erlenmeyer flask is far safer than glass flasks for use in incubator shakers. Suitable for microwave ovens.
To preserve markings, cleaning at no higher than 60°C is recommended.
Suitable for contact with foodstuffs according to ordinance (EC) No. 10/2011.

Volume ml	Graduation ml	Order No.	PU pc/Pack
75	10	**10 85 36941**	6
125	20	**10 85 34941**	6
250	50	**10 85 38941**	6
500	100	**10 85 39941**	6
1000	200	**10 85 35941**	4

Other erlenmeyer flasks see page 821

Round Bottom Flasks, Flat Bottom Flasks



webcode WWEQ2017

Flat Bottom Flasks, DURAN®, DURAN Group / IDL

Flat bottom flasks, wide neck, beaded rim, DIN EN ISO 24450.

Volume ml	Neck O.D. mm	Flask O.D. mm	Height mm	Order No.	PU pc/Pack
50	34	51	90	**11 21 73117**	10
100	34	64	105	**11 21 73124**	10
250	50	85	138	**11 21 73136**	10
500	50	105	163	**11 21 73144**	10
1000	50	131	190	**11 21 73154**	10
2000[1)]	76	166	230	**11 21 73163**	10
2000	50	166	230	**11 21 73164**	10

[1)] Non-DIN EN ISO size.
Flasks with neck Ø 76 mm have a reinforced rim.

Round Bottom Flasks, Flat Bottom Flasks

Round Bottom Flasks, DURAN®, DURAN Group / IDL

Round bottom flasks, narrow neck, beaded rim, DIN ISO 1773.

Volume ml	Neck O.D. mm	Flask O.D. mm	Height mm	Order No.	PU pc/Pack
50	26	51	95	**11 21 72117**	10
100	26	64	110	**11 21 72124**	10
250	34	85	144	**11 21 72136**	10
500	34	105	168	**11 21 72144**	10
1000	42	131	200	**11 21 72154**	10
2000[1)]	42	166	260	**11 21 72164**	10
3000[1)]	50	185	260	**11 21 72168**	1
4000	52	207	290	**11 21 72171**	1
5000[1)]	50	223	305	**11 21 72173**	1
6000[1)]	51	236	355	**11 21 72177**	1
10000	65	279	380	**11 21 72186**	1
12000[1)]	65	295	380	**10 21 12187**	1
20000[2)]	76	345	515	**11 21 72191**	1

[1)] Non-ISO size.
[2)] ASTM E 1403.
Flask with neck Ø 65 mm and over have a reinforced rim.



webcode WWEQ2010

Rounded Bottom Flasks, Quartz Glass, QGT Bad Harzburg

Quartz glass round-bottom flasks with beaded rim, DIN 12347.

RE form, narrow neck

Volume ml	O.D. neck approx. mm	Flask Ø approx. mm	Height mm	Order No.
50	22	51	105	**18 36 20017**
100	22	64	115	**18 36 20024**
250	34	85	145	**18 36 20036**
500	34	105	175	**18 36 20044**
1000	42	131	210	**18 36 20054**
2000	50	166	260	**18 36 20063**

RW form, wide neck

Volume ml	O.D. neck approx. mm	Flask Ø approx. mm	Height mm	Order No.
50	34	51	105	**18 36 21017**
100	34	64	115	**18 36 21024**
250	50	85	145	**18 36 21036**
500	50	105	175	**18 36 21044**
1000	65	131	210	**18 36 21054**
2000	76	165	260	**18 36 21063**



Ground flasks see page 301

Evaporating Dishes

Evaporating Dishes, DURAN®, DURAN Group / IDL

webcode WWEQ2044

Evaporating dishes with spout, DIN 12336.

Rim O.D. mm	Height mm	Volume ml	Order No.	PU pc/Pack
50[1)]	25	15	**11 21 30132**	10
60[1)]	30	45	**11 21 30134**	10
70[2)]	35	60	**11 21 30138**	10
80[2)]	45	90	**11 21 30141**	10
95	55	170	**11 21 30144**	10
115	65	320	**11 21 30149**	10
140	80	600	**11 21 30154**	10
190	100	1500	**11 21 30159**	10
230	130	2500	**11 21 30163**	10

[1)] Without print
[2)] Without labelling field



webcode To see other variants and accessories, please enter the webcode on our website.

Evaporating Dishes



Evaporating Dishes, Quartz Glass, QGT Bad Harzburg

Quartz glass evaporating dishes with spout acc. to DIN 12336.

Vol. ml	Ø mm	H mm	Order No.
10	40	18	**18 36 51001**
15	50	25	**18 36 51002**
45	60	30	**18 36 51003**
60	70	35	**18 36 51004**
90	80	45	**18 36 51005**
170	95	55	**18 36 51006**
320	115	65	**18 36 51007**
600	140	80	**18 36 51008**

webcode WW7R3284



Evaporating Dishes, Hard Porcelain, IDL

Evaporating dishes with spout, form A, flat bottom, DIN 12903, glazed except outside base.

Ø mm	Height mm	Vol. approx. ml	Order No.	PU pc/Pack
40	9	5	**21 00 12204**	30
50	11	10	**21 00 12205**	30
63	13	20	**21 00 12206**	30
80	20	40	**21 00 12208**	20
100	22	80	**21 00 12210**	20
125	27	270	**21 00 12212**	20
160	35	450	**21 00 12216**	10
200	55	1100	**21 00 12220**	1
240	65	1750	**10 00 12225**	3
300	60	2500	**21 00 12230**	1

webcode WW7R3283



Evaporating Dishes, Hard Porcelain, IDL

Evaporating dishes with spout, form B, hemispherical, DIN 12903.

Ø mm	Height mm	Vol. approx. ml	Order No.	PU pc/Pack
40[1)]	16	10	**21 00 11104**	100
50[1)]	20	20	**21 00 11105**	100
63[1)]	25	40	**21 00 11106**	100
80[1)]	34	75	**21 00 11108**	100
100[1)]	40	180	**21 00 11110**	50
115[1)]	47	310	**21 00 11112**	10
160[2)]	64	640	**21 00 11116**	5
200[2)]	80	1000	**21 00 11120**	1
250[2)]	86	2200	**21 00 11125**	1
310[2)]	110	3400	**21 00 11131**	1

[1)] glazed in- and outside
[2)] glazed except outside base

webcode WW7R3285



Incinerating Dishes, Glazed, Hard Porcelain, IDL

Incinerating dishes, glazed except the outer surface of the bottom.

Ø mm	Height mm	Vol. approx. ml	Order No.	PU pc/Pack
40	21	15	**21 00 11004**	40
50	25	30	**21 00 11005**	30
60	31	60	**21 00 11007**	20

Evaporating Dishes

Incinerating Dishes, Glazed, Hard Porcelain, IDL

Incinerating dishes, conical, rectangular, glazed except outside base.

Length mm	Width mm	Height mm	Order No.	PU pc/Pack
48	26	10	**21 00 11205**	30
55	42	16	**21 00 11206**	20
70	46	13	**21 00 11207**	20
96	55	16	**21 00 11209**	10



webcode WW7R3286

Evaporating Bowls, BOCHEM

Evaporating bowls made of pure nickel (99,5%), spherical, with spout

	Vol. ml	Ø mm	Height mm	Order No.	Vol. ml	Ø mm	Height mm	Order No.
①	30	50	25	**38 05 08020**	100	80	40	**38 05 08023**
	50	60	30	**38 05 08021**	250	100	50	**38 05 08024**
	80	70	35	**38 05 08022**				

Evaporating bowls made of pure nickel (99,5%), with lid

	Vol. ml	Ø mm	Height mm	Order No.	Vol. ml	Ø mm	Height mm	Order No.
②	45	55	19	**38 05 08060**	73	70	19	**38 05 08062**
	45	60	16	**38 05 08061**	100	90	16	**10 05 08065**

webcode WWQ7J044



①



②

Evaporating Bowls, BOCHEM

webcode WWQ7J046

③ **Evaporating bowls made of 18/10 steel, tall form**

Vol. ml	Ø mm	Height mm	Order No.	Vol. ml	Ø mm	Height mm	Order No.
125	70	35	**38 05 08560**	1000	140	70	**38 05 08563**
250	85	45	**38 05 08561**	2000	160	105	**38 05 08564**
500	110	55	**38 05 08562**	5000	200	160	**38 05 08565**

④ **Evaporating bowls made of 18/10 steel, low form**

Vol. ml	Ø mm	Height mm	Order No.	Vol. ml	Ø mm	Height mm	Order No.
50	60	20	**38 05 08570**	100	80	20	**38 05 08572**
75	70	20	**38 05 08571**				



③



④



Dishes, Apparatus Platinum, Dr. Wieland

webcode WW19X021

Mat.	Vol. ml	Ø mm	H mm	Wght g	Dish Order No.	Lid Order No.
Apparatus platinum	35	50	25	14	**34 34 00222**	**34 34 00280**
Platinum/Iridium 97/3	35	50	25	14	**34 34 01222**	**34 34 01280**
Apparatus platinum	50	60	30	22	**34 34 00223**	**34 34 00281**
Platinum/Iridium 97/3	50	60	30	22	**34 34 01223**	**34 34 01281**
Apparatus platinum	90	70	35	32	**34 34 00224**	**34 34 00282**
Platinum/Iridium 97/3	90	70	35	32	**34 34 01224**	**34 34 01282**
Apparatus platinum	150	80	40	48	**34 34 00225**	**34 34 00283**
Platinum/Iridium 97/3	150	80	40	48	**34 34 01225**	**34 34 01283**
Apparatus platinum	200	90	45	65	**34 34 00226**	**34 34 00284**
Platinum/Iridium 97/3	200	90	45	65	**34 34 01226**	**34 34 01284**
Apparatus platinum	250	100	50	90	**34 34 00227**	**34 34 00285**
Platinum/Iridium 97/3	250	100	50	90	**34 34 01227**	**34 34 01285**

Also available in platinum/gold 95/5! The dishes are available with or without spout!
Final price includes all costs, incl. precious metal, processing losses and up to 10% deviation in quoted weights.
We reserve the right to adjust prices to substantial changes in day market prices.



Evaporating Dishes



Evaporating Dishes, PFA, VITLAB

With snap-on lid, PE. For contamination free sample preparation and efficient transportation. Due to a conical depression in the middle of the base very small amounts of a solvent are adequate to absorb the evaporated samples.

Volume ml	Ø mm	Height mm	PU	Order No.
25	50	25	1 pcs.	**23 85 10327**
50	50	54	1 pcs.	**23 85 10337**

For more petri dishes, see page 812

Crystallizing Dishes, Petri Dishes



webcode WWEQ2045

Crystalizing Dishes, DURAN®, DURAN Group / IDL

Crystalizing dishes with spout, DIN 12338.

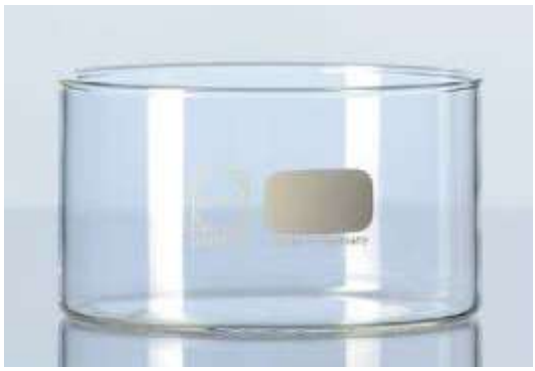
O.D. mm	Height mm	Volume ml	Order No.	PU pc/Pack
40[1)]	25	20	**11 21 31124**	10
50[1)]	30	40	**11 21 31132**	10
60[1)]	35	60	**11 21 31134**	10
70	40	100	**11 21 31138**	10
80	45	150	**11 21 31141**	10
95	55	300	**11 21 31144**	10
115	65	500	**11 21 31149**	10
140	75	900	**11 21 31154**	10
190	90	2000	**11 21 31159**	10
230	100	3500	**11 21 31163**	10

[1)] Without print

webcode WWEQ2046

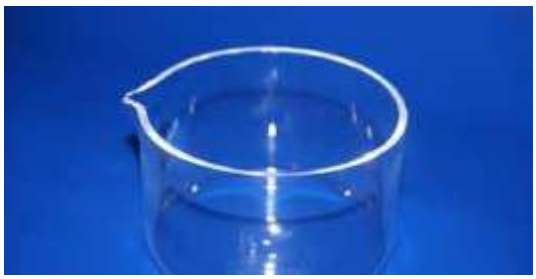
Crystalizing Dishes, DURAN®, DURAN Group / IDL

Crystalizing dishes without spout, DIN 12337.



O.D. mm	Height mm	Volume ml	Order No.	PU pc/Pack
40[1)]	25	20	**11 21 31324**	10
50[1)]	30	40	**11 21 31332**	10
60[1)]	35	60	**11 21 31334**	10
70	40	100	**11 21 31338**	10
80	45	150	**11 21 31341**	10
95	55	300	**11 21 31344**	10
115	65	500	**11 21 31349**	10
140	75	900	**11 21 31354**	10
190	90	2000	**11 21 31359**	10
230	100	3500	**11 21 31363**	10

[1)] Without print



Crystallizing Dishes, Quartz Glass, QGT Bad Harzburg

Quartz glass crystallizing dishes acc. to DIN 12338/12337.

Vol. ml	O.D. mm	H mm	Order No.
20	40	25	**18 36 74024**
40	50	30	**18 36 74032**
60	60	35	**18 36 74034**
100	70	40	**18 36 74038**

Vol. ml	O.D. mm	H mm	Order No.
150	80	45	**18 36 74041**
300	95	55	**18 36 74044**
500	115	65	**18 36 74049**

Crystallizing Dishes, Petri Dishes

Steriplan Petri Dishes, DURAN Group / IDL

STERIPLAN petri dishes made of soda-lime glass.

O.D. mm	Height mm	Order No.	PU pc/Pack
40	12	**19 23 75539**	10
60	15	**19 23 75540**	10
80	15	**19 23 75542**	10
90	15	**10 21 15543**	10
100	10	**19 23 75545**	10
100	15	**19 23 75546**	10
100	20	**19 23 75548**	10
120	20	**19 23 75551**	10
150	25	**19 23 75552**	10
180	30	**19 23 75556**	10
200	30	**19 23 75559**	10
200	45	**19 23 75561**	10

Available only in original packaging units. No fractions possible.



webcode WWEQ2143

DUROPLAN Petri Dishes, DURAN®, DURAN Group / IDL

webcode WWEQ2142

These petri dishes are made of DURAN® borosilicate glass. They are superior to other types because they allow even distribution of culture media and distortion-free transparency. (Base and lid are microscopic flat outside and inside, no bubbles and no smearing). Autoclavable.

Outer Ø mm	Height mm	Outer Ø dish mm	Total height (dish with cover) mm	Order No.	PU pc/Pack
60	20	54.5	22	**19 21 75541**	10
80	20	74	22	**19 21 75543**	10
100	15	94	17	**19 21 75546**	10
100	20	94	22	**19 21 75548**	10
120	20	114	22	**19 21 75551**	10
150	26,5	143	32	**19 21 75553**	10

Available only in original packaging units. No fractions possible.



Petri Dishes, Quartz Glass, QGT Bad Harzburg

Petri dishes acc. to DIN 12339, ground rim.

Upper dish (overlapping lid)

O.D. mm	O.H. mm	Order No.
20	6	**18 36 75001**
25	6	**18 36 75003**
30	6	**18 36 75005**
35	6	**18 36 75007**
40	12	**18 36 75009**
45	12	**18 36 75011**
50	12	**18 36 75013**

O.D. mm	O.H. mm	Order No.
60	12	**18 36 75015**
70	12	**18 36 75017**
80	12	**18 36 75019**
90	12	**18 36 75021**
100	12	**18 36 75023**
120	15	**18 36 75025**

Lower dish (to fit lid)

O.D. mm	O.H. mm	Order No.
15	8	**18 36 75101**
20	8	**18 36 75103**
25	8	**18 36 75105**
30	8	**18 36 75107**
35	15	**18 36 75109**
40	15	**18 36 75111**
45	20	**18 36 75113**

O.D. mm	O.H. mm	Order No.
55	20	**18 36 75115**
65	20	**18 36 75117**
75	20	**18 36 75119**
85	20	**18 36 75121**
95	20	**18 36 75123**
115	20	**18 36 75125**



Crystallizing Dishes, Petri Dishes

webcode WWQ7J076



Petri Dishes with Cover, BOCHEM

Material	Ø mm	Height mm	Order No.
18/10 steel	100	15	**10 05 08541**
18/10 steel	60	20	**10 05 08635**
18/10 steel	75	20	**10 05 08636**
18/10 steel	90	20	**10 05 08637**
18/10 steel	120	20	**10 05 08638**

Casseroles



webcode WW7R3297

Casseroles, Hard Porcelain, IDL

Casseroles with spout and porcelain handle, DIN 12907, glazed except rim.

Ø mm	Height mm	Vol. approx. ml	Order No.	PU pc/Pack
63	36	80	**21 00 13306**	10
80	46	140	**21 00 13308**	10
102	58	290	**21 00 13310**	10
127	70	500	**21 00 13312**	1
160	97	1300	**21 00 13316**	1
215	110	2600	**21 00 13320**	1

Watch Glass Dishes



webcode WWEQ2048

Watch Glass Dishes, DURAN Group / IDL

Watch glass dishes made of soda-lime glass, fused rim. DIN 12341.

O.D. mm	Order No.	PU pc/Pack
40	**11 23 32124**	10
50	**11 23 32132**	10
60	**11 23 32134**	10
70	**11 23 32138**	10
80	**11 23 32141**	10
90	**11 23 32143**	10
100	**11 23 32146**	10
120	**11 23 32151**	10
125	**11 23 32152**	10
150	**11 23 32157**	10
200	**11 23 32161**	10
250	**11 23 32166**	1

webcode WWEQ2047



Watch Glass Dishes, DURAN®, DURAN Group / IDL

DURAN® watch glass dishes, fused rim. DIN 12341.

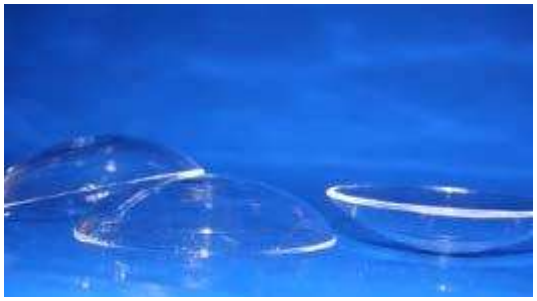
O.D. mm	Order No.	PU pc/Pack
40	**11 21 32124**	10
50	**11 21 32132**	10
60	**11 21 32134**	10
80	**11 21 32141**	10
100	**11 21 32146**	10
125	**11 21 32152**	10
150	**11 21 32157**	10
200	**11 21 32161**	10
250	**11 21 32166**	1

Watch Glass Dishes

Watch Glass Dishes, Quartz Glass, QGT Bad Harzburg

Quartz glass watch glass dishes acc. to DIN 12341.

O.D. mm	Curv. radius mm	Order No.
40	58	**18 36 76004**
50	58	**18 36 76005**
60	58	**18 36 76006**
70	65	**18 36 76007**
80	74	**18 36 76008**
100	102	**18 36 76010**
125	130	**18 36 76012**



Crucibles, Crucible Lids

Crucibles, Hard Porcelain, IDL

Crucibles in low, medium-high and high form, DIN 12 904, without lid, glazed.

	Ø mm	Height mm	Vol. approx. ml	Form	Order No.	PU pc/Pack
①	30	20	8	low	**21 00 14430**	100
	35	23	11	low	**21 00 14435**	100
	40	26	20	low	**21 00 14440**	100
	45	29	25	low	**21 00 14445**	100
	50[1)]	32	40	low	**21 00 14450**	100
	60	38	65	low	**21 00 14460**	100
	70	47	95	low	**21 00 14470**	50
②	35	28	13	medium high	**21 00 15436**	100
	40	32	20	medium high	**21 00 15441**	100
	45	36	38	medium high	**21 00 15446**	100
	50	40	50	medium high	**21 00 15451**	100
	60	50	90	medium high	**21 00 15461**	100
	70	60	150	medium high	**21 00 15471**	50
③	30	38	15	high	**21 00 16432**	100
	35	44	24	high	**21 00 16437**	100
	40	51	40	high	**21 00 16442**	100
	46	58	50	high	**21 00 16447**	50
	51	65	85	high	**21 00 16452**	50
	60	79	140	high	**21 00 16462**	25

[1)] Conradson Crubcible according to ASTM D 189-65







webcode WW7R3288

Crucible Lids, Hard Porcelain, IDL

webcode WW7R3289

Crucible lids to fit crucibles, DIN 12904.

Ø mm	DIN 12904	Order No.	PU pc/Pack
35	yes	**21 00 17402**	50
43	yes	**21 00 17403**	50
46	yes	**21 00 17404**	50
52	no	**21 00 17405**	50
60	no	**21 00 17406**	25
70	no	**10 00 17408**	25
75	yes	**21 00 17407**	25



Flour Incineration Dishes, Hard Porcelain, IDL

Flour incineration dishes acc. to Professor Mohs, glazed except outside base.

Ø mm	Height mm	Vol. approx. ml	Order No.	PU pc/Pack
56	23	30	**21 00 28059**	100



webcode WW7R3287

Crucibles, Crucible Lids

webcode WW7R3291



Incinerating Dishes, Glazed, Hard Porcelain, IDL

Incinerating dishes, flat bottom, glazed except the outer surface of the bottom.

Bottom Ø mm	Height mm	Vol. approx. ml	Order No.	PU pc/Pack
37	10	8	**21 00 11305**	40
42	11	10	**21 00 11306**	40
48	12	15	**21 00 11307**	30



Crucibles, Quartz Glass, QGT Bad Harzburg

Quartz glass crucibles acc. to DIN 12904.

① Low Form

Vol. ml	Ø mm	H mm	Order No.
6	30	19	**18 36 60101**
11	35	22	**18 36 60102**
15	40	25	**18 36 60103**
25	45	28	**18 36 60104**
29	50	32	**18 36 60105**
50	60	38	**18 36 60106**
85	70	44	**18 36 60107**

② Medium Form

Vol. ml	Ø mm	H mm	Order No.
15	35	28	**18 36 60201**
20	40	32	**18 36 60202**
38	45	36	**18 36 60203**
49	50	40	**18 36 60204**
90	60	48	**18 36 60205**
150	70	56	**18 36 60206**

③ Tail Form

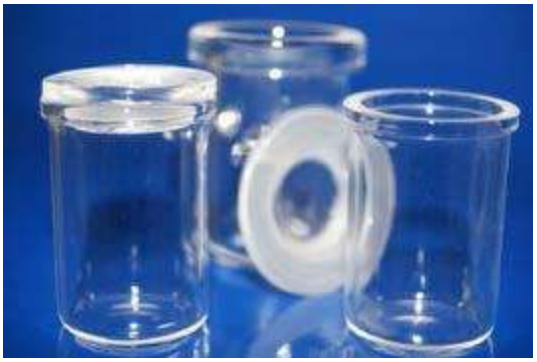
Vol. ml	Ø mm	H mm	Order No.
15	30	38	**18 36 60301**
24	35	44	**18 36 60302**
40	40	50	**18 36 60303**
50	45	56	**18 36 60304**
75	50	62	**18 36 60305**
120	60	75	**18 36 60306**



Crucible Caps, Quartz Glass, QGT Bad Harzburg

Quartz glass crucible caps, to fit the above quartz glass crucibles.

Inner Ø mm	Order No.
34	**18 36 61001**
39	**18 36 61002**
44	**18 36 61003**
49	**18 36 61004**
54	**18 36 61005**
64	**18 36 61006**
74	**18 36 61007**



Coking Crucibles, Quartz Glass, QGT Bad Harzburg

Quartz glass crucibles with ground on cap, Dr. Rademacher type.

Ø mm	Height mm	Weight with lid g	Order No.
27	45	27 – 29	**18 36 50001**
25	38	10 – 14 (acc. to ISO regulationt)	**18 36 50002**

Crucibles, Crucible Lids

Incineration Boxes, Quartz Glass, QGT Bad Harzburg



Quartz glass incineration boxes, rectangular

Length mm	Width mm	Order No.
30	30	**18 36 80001**
55	25	**18 36 80003**
50	40	**18 36 80005**
50	40	**18 36 80007**

Length mm	Width mm	Order No.
55	45	**18 36 80009**
60	30	**18 36 80011**
65	35	**18 36 80013**

Melting Crucibles, BOCHEM

webcode WWQ7J022



Melting crucibles made of pure nickel (99.5%), wall 0.5 mm thick

Volume ml	Ø mm	Height mm	Melting crucible Order No.	Lid Order No.
5	20	20	**32 05 08100**	**32 05 08180**
10	25	25	**32 05 08101**	**32 05 08181**
15	30	30	**32 05 08102**	**32 05 08182**
25	35	35	**32 05 08103**	**32 05 08183**
30	40	40	**32 05 08104**	**32 05 08184**
50	45	45	**32 05 08105**	**32 05 08185**
70	50	50	**32 05 08106**	**32 05 08186**
130	60	60	**32 05 08107**	**32 05 08187**
270	80	80	**32 05 08109**	**32 05 08189**

Melting crucibles made of pure nickel (99.5%), wall 1.0 mm thick

Volume ml	Ø mm	Height mm	Melting crucible Order No.	Lid Order No.
15	30	30	**32 05 08122**	**32 05 08182**
25	35	35	**32 05 08123**	**32 05 08183**
30	40	40	**32 05 08124**	**32 05 08184**
50	45	45	**32 05 08125**	**32 05 08185**
70	50	50	**32 05 08126**	**32 05 08186**
130	60	60	**32 05 08127**	**32 05 08187**
270	80	80	**10 05 08129**	**32 05 08189**

Melting crucibles made of pure nickel (99.5%), wall 1.5 mm thick

Volume ml	Ø mm	Height mm	Melting crucible Order No.	Lid Order No.
50	45	45	**10 05 08145**	**32 05 08185**

Melting crucibles made of pure nickel (99.5%), wall 2.0 mm thick

Volume ml	Ø mm	Height mm	Melting crucible Order No.	Lid Order No.
30	40	40	**32 05 08164**	**32 05 08184**
70	50	50	**32 05 08166**	**32 05 08186**
130	60	60	**32 05 08167**	**32 05 08187**

Crucibles, Apparatus Platinum, Dr. Wieland

webcode WW19X022



Mat.	Vol. ml	Ø mm	H mm	Wght g	Crucible Order No.	Lid Order No.
Apparatus platinum	15	28	32	12	**34 34 00104**	**34 34 00260**
Platinum/Iridium 97/3	15	28	32	12	**34 34 01104**	**34 34 01260**
Apparatus platinum	20	30	35	17	**34 34 00105**	**34 34 00261**
Platinum/Iridium 97/3	20	30	35	17	**34 34 01105**	**34 34 01261**
Apparatus platinum	25	35	37	21	**34 34 00106**	**34 34 00262**
Platinum/Iridium 97/3	25	35	37	21	**34 34 01106**	**34 34 01262**
Apparatus platinum	30	35	40	25	**34 34 00107**	**34 34 00263**
Platinum/Iridium 97/3	30	35	40	25	**34 34 01107**	**34 34 01263**
Apparatus platinum	40	40	45	30	**34 34 00108**	**34 34 00264**
Platinum/Iridium 97/3	40	40	45	30	**34 34 01108**	**34 34 01264**

Also available in platinum/gold 95/5! Micro-crucibles and micro-dishes on request.

Final price includes all costs, incl. precious metal, processing losses and up to 10% deviation in quoted weights.
We reserve the right to adjust prices to substantial changes in day market prices.

Crucibles, Crucible Lids

webcode WWKEF023

Schlee GmbH & Co.



LabQua Racks, Schlee

LabQua Racks for crucibles: Made of Thermax® stainless steel, heat resistant to 1100°C

Article	Dimensions mm	Bore Ø mm	Order No.
LabQua rack for 4 crucibles, acc. to ISO	90×70×55	25	**10 34 49003**
LabQua rack for 4 crucibles, acc. to Rademacher	90×70×55	27	**10 34 49005**
LabQua rack for 6 crucibles, acc. to ISO	110×90×55	25	**10 34 49006**
LabQua rack for 6 crucibles, acc. to Rademacher	110×90×55	27	**10 34 49007**

Magnesia Grooves, Magnesia Sticks

webcode WW7R3008



Magnesia Grooves, IDL

Packed in cases.

Width mm	Length mm	Order No.	PU pc/Pack
9	100	**21 00 00052**	10

webcode WW7R3007

Magnesia Sticks, IDL

For verifying the presence of salts by flame reaction. Packed in cases.

Article	Order No.	PU pc/Pack
Magnesia sticks	**21 00 00047**	25



Combustion Tubes, Combustion Boats



Combustion Tubes, Quartz Glass, QGT Bad Harzburg

Quartz glass combustion tubes, Grote-Krekeler type, with 2 frits and 1 aperture plate. Without side tube stub.

Without side tube stub

Outer Ø mm	Overall L mm	NS	KS	Order No.
20	460	14.5/23	19/9	**18 36 79011**
20	500	14.5/23	19/9	**18 36 79031**
20	550	14.5/23	19/9	**18 36 79051**
20	750	14.5/23	19/9	**18 36 79071**

Without side tube stub, with chips

Outer Ø mm	Overall L mm	NS	KS	Order No.
20	460	14.5/23	19/9	**18 36 79013**
20	500	14.5/23	19/9	**18 36 79033**
20	550	14.5/23	19/9	**18 36 79053**
20	750	14.5/23	19/9	**18 36 79073**

Combustion Tubes, Combustion Boats

Combustion Boats, Quartz Glass, QGT Bad Harzburg



Quartz glass combustion boats with or without handle, semi-circular.

Length mm	Width mm	Height mm	Version with handle Order No.	without handle Order No.
30	10	5	**18 36 81011**	**18 36 81012**
50	12	5	**18 36 81031**	**18 36 81032**
50	15	6	**18 36 81051**	**18 36 81052**
78	18	8	**18 36 81071**	**18 36 81072**
78	20	8	**18 36 81091**	**18 36 81092**
100	25	12	**18 36 81111**	**18 36 81112**
200	40	19	**18 36 81131**	**18 36 81132**
300	50	24	**18 36 81151**	**18 36 81152**

Dishes, Bowls, Trays

Laboratory Trays II, Hecht-ASSISTENT



Designed for taking to hospital beds. With special allowance for photometric Hb.

Laboratory trays II consisting of:
1 white plastic bottom
1 Plexiglas top, 3-fold
2 amber wide-neck bottles with matte marking area
1 amber narrow-neck bottle with matte marking area
1 reagent tube rack made of Plexiglas for 24 tubes

Article	Order No.
Laboratory tray II	**23 18 91002**

Trays and Bowls for Tools, neoLab®

webcode WW2NY034

Melamine resin holders for the laboratory worktop. High chemical resistance. Available as tray or bowl. Cover made of transparent polystyrene. Important when you are working with poisonous or pathogenic substances.



Trays

Width × Depth × Height cm	Weight g	Order No.
36 × 24 × 2	400	**23 01 23840**
30 × 19 × 2	245	**23 01 23841**
24 × 18 × 2	160	**23 01 23842**
43 × 29 × 2	708	**23 01 23850**
27 × 21 × 2	200	**23 01 23851**
19 × 15 × 2	102	**23 01 23852**

Bowls

Width × Depth × Height cm	Weight g	Order No.
35 × 25 × 10	810	**23 01 23844**
29 × 16 × 3	240	**23 01 23845**
35 × 24 × 4	572	**23 01 23853**
29 × 16 × 6	536	**23 01 23854**
21 × 11 × 3	132	**23 01 23855**

Covers

fits	Weight g	Order No.
Dish No. 23 01 23844	195 g	**23 01 23846**
Dish No. 23 01 23845	140 g	**23 01 23847**
Dish No. 23 01 23853	192 g	**23 01 23856**
Dish No. 23 01 23854	138 g	**23 01 23857**
Dish No. 23 01 23855	74 g	**23 01 23858**

Dishes, Bowls, Trays





webcode WWR4Q003

webcode WWR4Q002



Laboratory Dishes, BÜRKLE-LaboPlast®

All-purpose dishes/chemical containment trays made of polypropylene (PP)
White, resist flexing, unbreakable, with sturdy round rim, largely resistant to acids and caustic solutions, temperature-resistant from -0°C to +60°C, easy to clean, hygienic, food compatible, stackable when empty to save space. Made by injection molding, not by deep drawing. Not suitable for hot cabinet or dishwasher.
For multiple uses: as containment trays for aggressive substances, experiment trays, instrument holder, medicine trays, photographic development basins, display trays.

Vol.	Outer dimensions L × W × H	Bottom l.L.	Bottom l.W.	**Order No.**
l	mm	mm	mm	
0.5	180×230× 42	130	180	**23 05 71130**
1.5	250×310× 65	180	240	**23 05 71180**
3.0	310×370× 75	240	300	**23 05 71240**
10.0	420×520×120	300	400	**23 05 71300**
21.0	534×634×140	400	500	**23 05 71400**
39.0	648×846×160	500	700	**10 04 51501**

Laboratory dishes set
Laboratory dishes set small comprising 0.5 l, 1.5 l, 3 l and 10 l laboratory dishes.
Laboratory dishes set large comprising 0.5 l, to 39.0 l laboratory dishes.
See table of laboratory dishes for dimensions.

Article	**Order No.**
Laboratory dishes set small	**23 05 71495**
Laboratory dishes set large	**10 04 51496**

Photographic Dishes, BÜRKLE-LaboPlast®

Photographic dishes made of polyvinylchloride (PVC), temperature-resistant up to +60°C. Available in shallow and deep form, with or without ribs, in a choice of 3 attractive high-gloss colors – white, red and black. These heavy-wall dishes are break-proof and largely resistant to acids and caustic solutions (unsuitable for solvents). Also ideal for use as universal laboratory and storage trays, particularly when color coding is desirable.

Shallow form

Colour	Photo size cm	Dish size at top cm	Height cm	Version with ribs **Order No.**	without ribs **Order No.**
white	10×15	15×20	3,0		**23 05 70121**
white	13×18	18×23	4,0	**23 05 70211**	**23 05 70221**
white	18×24	24×32	5,0	**23 05 70311**	**23 05 70321**
white	24×30	32×37	5,0	**23 05 70411**	**23 05 70421**
white	30×40	37×47	6,0	**23 05 70511**	**23 05 70521**
white	40×50	48×58	6,0	**23 05 70611**	**23 05 70621**
white	50×60	59×68	7,0	**23 05 70711**	**23 05 70721**
red	10×15	15×20	3,0		**23 05 70122**
red	13×18	18×23	4,0	**23 05 70212**	**23 05 70222**
red	18×24	24×32	5,0	**23 05 70312**	**23 05 70322**
red	24×30	32×37	5,0	**23 05 70412**	**23 05 70422**
red	30×40	37×47	6,0		**23 05 70522**
red	40×50	48×58	6,0	**23 05 70612**	
red	50×60	59×68	7,0	**23 05 70712**	**23 05 70722**
black	10×15	15×20	3,0		**23 05 70123**
black	13×18	18×23	4,0		**23 05 70223**
black	18×24	24×32	5,0	**23 05 70313**	**23 05 70323**
black	24×30	32×37	5,0	**23 05 70413**	**23 05 70423**
black	30×40	37×47	6,0		**23 05 70523**
black	50×60	59×68	7,0		**23 05 70723**

Continued on next page

Dishes, Bowls, Trays

Deep form

Colour	Photo size cm	Dish size at top cm	Height cm	Version with ribs **Order No.**	without ribs **Order No.**
white	18×24	26×34	8.5		**23 05 70341**
white	24×30	33×39	10,0		**23 05 70441**
white	30×40	43×53	10.5	**23 05 70531**	**23 05 70541**
white	40×50	52×61	11,0	**23 05 70631**	**23 05 70641**
white	50×60	63×73	11,0	**23 05 70731**	**23 05 70741**
red	18×24	26×34	8.5		**23 05 70342**
red	24×30	33×39	10,0		**23 05 70442**
red	30×40	43×53	10.5	**23 05 70532**	**23 05 70542**
red	40×50	52×61	11,0	**23 05 70632**	**23 05 70642**
red	50×60	63×73	11,0		**23 05 70742**
black	30×40	43×53	10.5		**23 05 70543**
black	40×50	52×61	11,0	**23 05 70633**	**23 05 70643**
black	50×60	63×73	11,0	**23 05 70733**	**23 05 70743**

Photographic Dishes, BOCHEM

Photographic dishes made of 18/10 steel

L mm	W mm	H mm	**Order No.**
190	140	50	**38 05 08700**
250	180	60	**38 05 08701**
260	190	50	**38 05 08702**
320	260	60	**38 05 08703**

L mm	W mm	H mm	**Order No.**
350	240	70	**38 05 08704**
400	270	80	**38 05 08705**
500	330	100	**38 05 08706**

L × W = base dimensions



webcode WWQ7J051

webcode WWQ7J075

Instrument Trays with Cover, BOCHEM

Material	Length × Width × Height mm	**Order No.**
18/10 steel	210 × 150 × 40	**10 05 08630**
18/10 steel	240 × 180 × 40	**10 05 08631**
18/10 steel	270 × 210 × 40	**10 05 08632**
18/10 steel	300 × 240 × 40	**10 05 08633**
18/10 steel	360 × 300 × 40	**10 05 08634**



LABORBEDARF BOCHEM LAB SUPPLY

Dishes, BOCHEM

Dishes made of 18/10 steel, beaded rim.

Vol. ml	Ø mm	Height mm	**Order No.**
1000	165	75	**38 05 08590**
2000	220	75	**38 05 08591**
3000	240	95	**38 05 08592**

Vol. ml	Ø mm	Height mm	**Order No.**
4500	260	120	**38 05 08593**
6000	305	120	**38 05 08594**
11000	380	135	**38 05 08596**



webcode WWQ7J049

Bowls, PP, VITLAB

White. Round. With broad, stable edge and circumferential standing ring on the bottom. Suitable for contact with foodstuffs according to ordinance (EU) No. 10/2011.

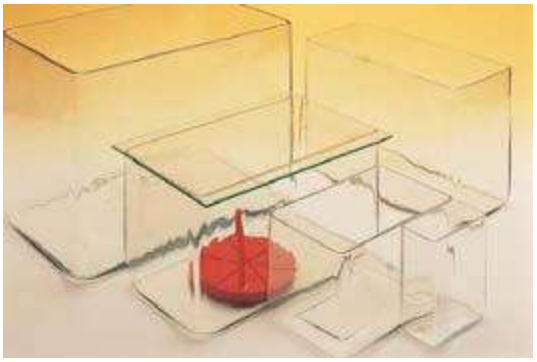
Vol. l	Ø mm	Height mm	**Order No.**	PU pc/Pack
0.9	160	70	**10 85 34259**	5
1.7	200	80	**10 85 34269**	5
2.9	240	100	**10 85 34279**	5
4.3	280	120	**10 85 34289**	5
6.6	320	130	**10 85 34299**	3
9.2	360	150	**10 85 34309**	3
13.4	400	180	**10 85 34319**	3



webcode To see other variants and accessories, please enter the webcode on our website.

Pneumatic Vessels

webcode WW7R3225



Aquariums / Pneumatic Tanks, IDL

Rectangular aquariums / tanks, ground rim, soda-lime glass

H × L × W mm	Order No.
150 × 300 × 220	**12 00 19323**
150 × 150 × 100	**12 00 34420**
180 × 180 × 130	**12 00 34432**
200 × 200 × 150	**12 00 34441**

H × L × W mm	Order No.
220 × 250 × 180	**12 00 34451**
240 × 300 × 220	**12 00 34454**
260 × 360 × 230	**12 00 34464**

Desiccators, Accessories

webcode WWEQ2090



Desiccators, DURAN®, DURAN Group / IDL

Vacuum desiccators, designed for use under full vacuum.
With NOVUS standard ground (NS) tubulature in the lid, with stopcock, with flat flange, DIN 12491.

DN	Tubing NS	Flange I.D. mm	Flange O.D. mm	Order No.
100	24/29	119	153 ±2	**12 24 78246**
150	24/29	172	215 ±2	**12 24 78257**
200	24/29	224	270 ±2	**12 24 78261**
250	24/29	274	320 ±2	**12 24 78266**
300	24/29	332	380 ±2	**12 24 78269**

webcode WWEQ2094



Desiccators with Knobbed Lid, DURAN®, DURAN Group / IDL

Desiccators with knobbed lid. Designed for use under full vacuum. DIN 12491.

DN	Flange I.D. mm	Flange O.D. mm	Order No.
100	119	153 ±2	**12 24 78146**
150	172	215 ±2	**12 24 78157**
200	224	270 ±2	**12 24 78161**
250	274	320 ±2	**12 24 78166**
300	332	380 ±2	**12 24 78169**

webcode WWEQ2095







Desiccator Accessories, DURAN®, DURAN Group / IDL

① **Desiccator lower parts, DURAN®**
with flat flange, without connection, for lids of all types, DIN 12491.

DN	Order No.
100	**12 24 77046**
150	**12 24 77057**
200	**12 24 77061**

DN	Order No.
250	**12 24 77066**
300	**12 24 77069**

② **Desiccator lower parts, DURAN®**
with flat flange, with standard ground (NS 24/29), tubulature, type NOVUS, DIN 12491.

DN	Order No.
100	**12 24 77146**
150	**12 24 77157**
200	**12 24 77161**

DN	Order No.
250	**12 24 77166**
300	**12 24 77169**

③ **Desiccator lower parts, DURAN®**
with flat flange, threaded connection GL 32, type MOBILEX, DIN 12491.

DN	Order No.
150	**12 24 77257**
200	**12 24 77261**

DN	Order No.
250	**12 24 77266**
300	**12 24 77269**

Continued on next page

Desiccators, Accessories

④ **Desiccator lower parts, DURAN®**
with ring-grooved flange, suitable for all lids.

DN	Order No.
200	**12 24 77361**



⑤ **Desiccator lids, DURAN®**
with knob, suitable for all lower parts, DIN 12491.

DN	Order No.	DN	Order No.
100	**12 24 41046**	250	**12 24 41066**
150	**12 24 41057**	300	**12 24 41069**
200	**12 24 41061**		



⑥ **Desiccator lids, DURAN®**
with connecting tubulature NOVUS 24/29 for standard ground stopcocks, type NOVUS, DIN 12491.

DN	Order No.	DN	Order No.
100	**12 24 42046**	250	**12 24 42066**
150	**12 24 42057**	300	**12 24 42069**
200	**12 24 42061**		



⑦ **Desiccator lids, DURAN®**
with special tubulature 24/29 with groove, suitable for safety outlet type WERTEX.

DN	Order No.	DN	Order No.
150	**12 24 43057**	250	**12 24 43066**



⑧ **Desiccator lids, DURAN®**
with screw thread connection, type MOBILEX, DIN 12491.

DN	Order No.	DN	Order No.
150	**12 24 44057**	250	**12 24 44066**
200	**12 24 44061**	300	**12 24 44069**



O-rings
suitable for desiccators, made of silicone (VMQ), for articles since 1996.

DN	Order No.	DN	Order No.
150	**12 29 21557**	250	**12 29 21566**
200	**12 29 21561**		

⑨ **O-rings**
spare parts, suitable for desiccators, made of silicon (VMQ). T_{max} = 200°C.

DN	Order No.	DN	Order No.
150	**12 29 22457**	250	**12 29 22466**
200	**12 29 22460**		



⑩ **Screw cap, PBT**
with pierced aperture for threaded connections, type MOBILEX

Thread GL	Order No.	PU pc/Pack
32	**13 29 22708**	10



⑪ **Seal with pierced aperture**
for MOBILEX threaded connectors.

Thread GL	Order No.	PU pc/Pack
32	**13 29 23612**	10



⑫ **Cap, PBT**
with seal for threaded connections, type MOBILEX

Thread GL	Order No.	PU pc/Pack
32	**11 29 24019**	10



⑬ **Desiccator plates made of metal, DIN EN 10143**

DN	Order No.	DN	Order No.
100	**12 29 08046**	250	**12 29 08066**
150	**12 29 08057**	300	**12 29 08069**
200	**12 29 08061**		



⑭ **Desiccator plates made of porcelain**

DN	Order No.	DN	Order No.
100	**12 29 72546**	250	**12 29 72566**
150	**12 29 72557**	300	**12 29 72569**
200	**12 29 72561**		



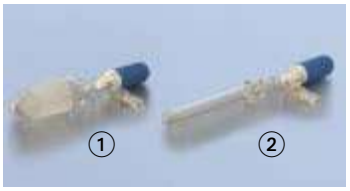
⑮ **Stopcock with PTFE spindle**
With standard ground (NS) cone 24/29 for side tubulature.

for	Order No.
Type NOVUS	**12 24 79803**



Continued on next page

Desiccators, Accessories





① **Stopcock with PTFE spindle**
With standard ground (NS) cone 24/29 for tubulature lid.

for	Order No.
Type NOVUS	**12 24 79904**

② **Stopcock with PTFE spindle**
For threaded connectors.

for	Order No.
Type MOBILEX	**12 24 79703**

③ **Stopper with standard ground (NS) joint 24/29**
For safety connectors, typ WERTEX.

NS	Order No.
24/29	**12 24 79603**



webcode WWEQ2091





Vacuum Desiccators, DURAN®, DURAN Group / IDL

Vacuum desiccators, designed for use under full vacuum.
Lower part with standard ground (NS) side tubulature and stopcock, lid with knob, without inserts (for inserts see page 124). **Available only as individual parts.**

	Article	DN	Tubing NS	Flange I.D. mm	Flange O.D. mm	Order No.
④	Lid	100	–	119	153 ±2	**12 24 41046**
	Lid	150	–	172	215 ±2	**12 24 41057**
	Lid	200	–	224	270 ±2	**12 24 41061**
	Lid	250	–	274	320 ±2	**12 24 41066**
	Lid	300	–	332	380 ±2	**12 24 41069**
⑤	Bottom part	100	24/29	119	153 ±2	**12 24 77146**
	Bottom part	150	24/29	172	215 ±2	**12 24 77157**
	Bottom part	200	24/29	224	270 ±2	**12 24 77161**
	Bottom part	250	24/29	274	320 ±2	**12 24 77166**
	Bottom part	300	24/29	332	380 ±2	**12 24 77169**
⑥	Stopcock	–	24/29	–	–	**12 24 79803**



webcode WWEQ2092





Vacuum Desiccators, DURAN®, DURAN Group / IDL

Vacuum desiccators with WERTEX safety stopper NS 24/29 in the lid, without inserts (for inserts see page 124). **Available only as individual parts.** Designed for use under full vacuum.

	Article	DN	Flange I.D. mm	Flange O.D. mm	Order No.
⑦	Lid	150	172	215 ±2	**12 24 43057**
	Lid	250	274	320 ±2	**12 24 43066**
⑧	Bottom part	150	172	215 ±2	**12 24 77057**
	Bottom part	250	274	320 ±2	**12 24 77066**
⑨	Stopper	–	–	–	**12 24 79603**

webcode WWEQ2093



Vacuum Desiccators, DURAN®, DURAN Group / IDL

Vacuum desiccators with MOBILEX thread in the lid and lower part, with stopcock. **Available only as individual parts.** Designed for use under full vacuum.

Lids and lower parts

Article	DN	Flange I.D. mm	Flange O.D. mm	Order No.
Lid	150	172	215 ±2	**12 24 44057**
Lid	200	224	270 ±2	**12 24 44061**
Lid	250	274	320 ±2	**12 24 44066**
Lid	300	332	380 ±2	**12 24 44069**
Bottom part	150	172	215 ±2	**12 24 77257**
Bottom part	200	224	270 ±2	**12 24 77261**
Bottom part	250	274	320 ±2	**12 24 77266**
Bottom part	300	332	380 ±2	**12 24 77269**

Stopcock

Article	Order No.
Stopcock with PTFE spindle	**12 24 79703**

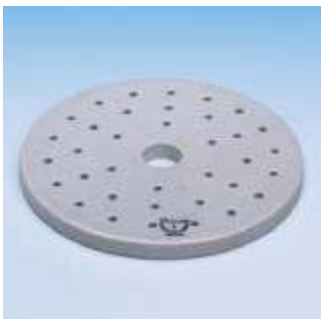
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Desiccators, Accessories

Caps and seal

Article	Order No.	PU pc/Pack
Screw cap for side connection	**13 29 22708**	10
Seal	**13 29 23612**	10
Screw cap for lid	**11 29 24019**	10

Desiccator Plates, Hard Porcelain, IDL



webcode WW7R3293

Desiccator plates, DIN 12911, with numerous small holes of approx. 5 mm dia. and central hole of 20 mm dia.

Ø mm	Height mm	Order No.	PU pc/Pack
90	7.9	**21 00 22709**	10
140	8.9	**21 00 22714**	10
190	9.4	**21 00 22719**	10
235	10.6	**21 00 22723**	10
280	10.6	**21 00 22728**	1

Desiccator Plates, Thermo Scientific Nalgene, IDL



webcode WWRJN100

Unbreakable, autoclavable desiccator plates made from a light green ceramic-metal composite.
Greater resistance to thermal shock than porcelain. Fire-polished, corrosion-resistant, inert, non-stick glass surface bonded to metal. The plates are marked with numbered quadrants for easy location of crucibles and other containers.

Outer Ø mm	Order No.
230	**23 87 53123**

Vacuum Desiccators, Thermo Scientific Nalgene, IDL

webcode WWRJN097



Transparent 250 mm polycarbonate cover, body and stopcock made of polypropylene, PTFE TFE plug. Will not shatter or implode even at full vacuum when used according to the instructions packed with the product. Body is impervious to acids, bases and all usual desiccants. Convenient vacuum connection on body makes cover easy to handle. Straight-bore design eliminates stopcock leakage.

The stopcock can be used with 6.4 mm I.D. vacuum tubing. No need to draw a vacuum to make cover airtight - just grease the sealing lip.Recessed rim on cover keeps grease off bench top when cover is set down. Takes any standard 230 mm desiccator plate.

Ø mm	Height mm	Inner height above plate max. mm	Order No.
330	245	145	**23 87 53100**

Non-autoclavable

Vacuum Desiccators, Thermo Scientific Nalgene, IDL



webcode WWRJN098

Transparent desiccators made of polycarbonate without the illustrated accessories, lightweight, unbreakable, for vacuum and normal pressure applications. No danger of implosion when used properly. Silicone O-ring assures an airtight seal; no need to use grease. Withstands a vacuum of 711 mm Hg for 24 hours. Vacuum connection possibilities on lid and body. Takes any standard 230 mm desiccator plate, with stopcock made of PTFE

Ø mm	Height mm	Order No.
280	330	**23 87 53110**

N.B.: Do not autoclave when close or under vacuum! (Make sure the stopcock is open).

Desiccators, Accessories


①


②


③


④


⑤

SICCO Maxi Desiccators, Bohlender

Its job is to keep moisture-sensitive products dry, protected, and free of dust. This is achieved through the use of SILICA gel, whose absorbent properties considerably reduce the relative humidity inside the desiccator. The unit is sealed from the outside via a lined foam rubber gasket door.
For better stability, the Maxi has a reinforced aluminium frame. The door has a magnet lock for convenience. The desiccator comes as standard with a digital hygrometer, four variable-height, stainless steel shelves, usable with up to 16 shelves, and one or more floor pans for the desiccant. Mounted on four wheels, the unit can be moved around with ease. Parking brakes prevent slippage.

Technical data:

Capacity:	311 litres
Weight:	30 kg
Total all-over load:	160 kg
Pressure load:	normal pressure
Temperature resistance:	-20 to +70°C

Outer dimensions (W×H×D):

Maxi 1 – 1 chamber / 1 door:	540 × 1150 × 530 mm
Maxi 2 – 2 chambers / 2 doors:	540 × 1150 × 530 mm

Inner dimensions (W×H×D):

Maxi 1 – 1 chamber / 1 door:	495 × 1030 × 510 mm
Maxi 2 – 2 chambers / 2 doors:	495 × 502 × 510 mm

SICCO Maxi – desiccator
PMMA enclosures, transparent

	Article	Order No.
①	Maxi 1	**23 17 18521**
	Maxi 2	**23 17 18531**

SICCO Maxi – desiccator Protect
PMMA enclosures, orange, reduced light incidence

	Article	Order No.
②	Maxi 1 Protect	**10 17 62707**
	Maxi 2 Protect	**10 17 62807**

SICCO Maxi – desiccator Black
PMMA enclosures, black, opaque to visible and UV light

	Article	Order No.
③	Maxi 1 Black	**10 17 63608**
	Maxi 2 Black	**10 17 63707**

SICCO Maxi – desiccator Antistatik
Bluish transparent PC ESD, antistatically

	Article	Order No.
	Maxi 1 Antistatik	**10 17 62207**
④	Maxi 2 Antistatik	**10 17 62307**

SICCO Super-Maxi 1-Desiccator
Two connections for gas filling including quick couplings with self-sealing valves and hose

	Article	Order No.
⑤	Super-Maxi 1	**10 17 63201**

Your specialized laboratory dealer –
fast, competent and economical

Desiccators, Accessories

SICCO Star Desiccators, Bohlender

SICCO Star Desiccators
Desiccators with gentle magnetic lock. Just as suitable for the storage of sensitive products such as electronic components and for keeping electrical or optical appliances that need to be protected against high air humidity. Rubber seal all the way round. A reinforced aluminum frame enhances the Star's stability. The integrated, easy-to-read digital precision hygrometer comes as standard, as do the four variably adjustable removable shelves (can be expanded to max. 26 shelves), a floor tray and desiccant.

Technical data:

Capacity liters:	51 l
Weight:	7 kg
Total all-over load:	30 kg
Pressure load:	Normal pressure
Temperature resistance:	-20 to +70°C
Outer dimensions W×H×D:	310 × 525 × 375 mm
Usable interior space W×H×D:	2260 × 480 × 330 mm

	Article	Order No.
①	**SICCCO Star desiccator** PMMA enclosures, transparent	**23 17 18717**
②	**SICCO Star-Desiccator Protect** PMMA enclosures, orange, reduced light incidence	**10 17 67907**
③	**SICCCO Star desiccator Black** PMMA enclosures, black, opaque to visible and UV light	**10 17 69107**
④	**SICCCO Star desiccator Antistatic** PC ESD enclosures, bluish transparent, antistatically	**10 17 61007**
⑤	**SICCO Star-Vitrum Desiccator** Panels made of borosilicate glass 3.3 **Technical data:** Panels: clear Material: borosilicate glass 3.3 Temperature resistance: -20°C to +150°C	**10 17 64107**
⑥	**SICCO Auto-Star-Desiccator** Automatic drying	**10 17 67707**
⑦	**SICCO Super Star-desiccator** Two connections for gas filling with quick couplings	**10 17 67507**















SICCO Star-Desiccator Horizontal, Bohlender

Including two shelves made of acrylic glass, tray, hygrometer and desiccant, usable with up to 13 shelves, stackable, door opens forward.
- Reinforced aluminium frame with acrylic panels
- Door with magnetic catch and circular rubber seal
- Non slip rubber feet
- Easy to read electronic hygrometer
- Variable height shelves made of acrylic glass
- Telescopic shelves
- Desiccant tray
- Silica gel included

Especially suitable for wide products such as A3 sheets or conductor boards.

SICCO Desiccators are designed for storing or drying humidity sensitive products using silica gel. The tight fitting door protects the contents from contamination from the atmosphere. The controlled environment inside the desiccators are ideal for storing reference materials, retained samples, metallographic specimen, tobacco and DNA-samples.

Technical data:

Panels:	clear
Material:	PMMA
Temperature resistance:	from -20°C to +70°C
Use:	normal pressure
Stand:	rubber feet
Maximum all-over load per shelf:	1,5 kg
Total all-over load:	30 kg

Outer dimensions W × H × D	Usable interior space W × H × D	Useful volume	Total volume	Weight	**Order No.**
mm	mm	l	l	kg	
525×340×375	480×260×330	42	45	7	**10 17 69907**



Desiccators, Accessories













SICCO Big-Star-Desiccator, Bohlender

SICCO Big-Star desiccator
Desiccators are designed to keep products susceptible to humidity dry in a safe, protected, and dust-free environment. This goal is achieved by the addition of silica gel.
SICCO desiccators are sealed by a circumferential rubber gasket. For added stability, the Big-Stars have a reinforced aluminium frame. The integrated digital hygrometer is easy to read; it comes as a standard, just as the four variably adjustable stainless steel intermediate shelves (max. 8 shelves can be fitted) and a drying tray.

Technical data:

Interior volume:	156 liters
Gewicht:	18 kg
Total all-over load:	80 kg
Pressure load:	normal pressure
Temperature resistance:	from -20°C to +70°C

Outer dimensions (W×H×D):	540 × 1150 × 530 mm
Usable interior space (W×H×D):	495 × 1030 × 510 mm

	Article	Order No.
①	**SICCO Big-Star-desiccator** PMMA enclosures, transparent	**10 17 69607**
②	**SICCO Big-Star-desiccator Protect** PMMA enclosures, orange, reduced light incidence	**10 17 62607**
③	**SICCO Big-Star-desiccator Black** PMMA enclosures, black, opaque to visible and UV light	**10 17 63907**
④	**SICCO Big-Star-desiccator Antistatik** Bluish transparent PC ESD, antistatically.	**10 17 62507**
⑤	**SICCO Big-Star-Vitrum-Desiccator** Heat-resistant borosilicate glass 3.3, temperature resistance -70°C to +150°C	**10 17 64407**
⑥	**SICCO Auto-Big-Star-desiccator** Automatic drying	**10 17 69407**



SICCO Big-Star-Desiccator Low, Bohlender

Especially suitable for wide products, for storing moisture-sensitive reference materials, retained samples, etc.. Placement in shelves due to low height. Drying with silica-gel (optionally available).
- Aluminium frame with panels made of clear acrylic glass (PMMA)
- Door with magnetic catch and circular rubber seal
- Telescopic shelves (optional up to 5 pieces)
- Non slip rubber feet
- Stackable

Delivery: 1 hygrometer, 1 shelf made of perforated stainless steel with aluminium rails, 1 desiccant tray.

Technical data:

Temperature resistance:	-20°C to +70°C
Use:	normal pressure
All-over load per shelf:	max. 30 kg
Total all-over load:	80 kg

Outer dimensions W × H × D mm	Usable interior space W × H × D mm	Useful volume l	Weight approx. kg	Order No.
550×330×580	495×250×540	91	13	**10 17 69707**

Have any questions?
Just give us a call!

Desiccators, Accessories

SICCO Tower-Star-Desiccator, Bohlender



Including four shelves made of acrylic glass, tray, hygrometer anddesiccant, usable with up to 38 shelves, stackable.
- Reinforced aluminium frame with acrylic panels
- Door with magnetic catch and circular rubber seal
- Non slip rubber feet
- Easy to read electronic hygrometer
- Variable height shelves made of acrylic glass
- Telescopic shelves
- Desiccant tray
- Silica gel included

SICCO Desiccators are designed for storing or drying humidity sensitive products using silica gel. The tight fitting door protects the contents from contamination from the atmosphere. The controlled environment inside the desiccators are ideal for storing reference materials, retained samples, metallographic specimen, tobacco and DNA-samples.

Technical data:

Panels:	clear
Material:	PMMA
Temperature resistance:	from -20°C to +70°C
Use:	normal pressure
Stand:	rubber feet
Maximum all-over load per shelf:	10 kg
Total all-over load:	40 kg

Outer dimensions W × H × D	Usable interior space W × H × D	Useful volume	Total volume	Weight	**Order No.**
mm	mm	l	l	kg	
310×375×375	260×690×330	60	63	8	**10 17 63807**

SICCO Vacuum-Desiccator, Bohlender



Solid walls of 25 mm thickness, circular silicone gasket, vacuum gauge, V 1880-04 including two shelves, usable with up to three shelves, V 1880-08 including three shelves, usable with up to five shelves, and V 1880-12 including four shelves, usable with up to seven shelves.
- Clear acrylic panels, interior is visible from all sides
- Circular silicone seal
- Non slip rubber feet
- Variable height shelves
- Vacuum gauge (0-760 mm of mercury)
- Vacuum up to 0,0001 Torr
- Two needle valves with O.D. 9,0 mm

SICCO Vacuum Desiccators are suitable for storing sensitive products in a vacuum. The vacuum inside the desiccator ensures rapid drying of the stored products. These systems allow storage in an oxygen and carbon dioxide free environment and are, for example, suitable for storage of semiconductor samples.

Technical data:

Panels:	clear
Material:	PMMA
Temperature resistance:	from -20°C to +70°C
Use:	vacuum up to 0,0001 Torr
Stand:	rubber feet
Excess length of valves and vacuum gauge:	100 mm
Maximum all-over load per shelf:	9 kg

Outer dimensions W × H × D	Usable interior space W × H × D	Useful volume	Total volume	Weight	Load capacity max.	**Order No.**
mm	mm	l	l	kg	kg	
300×340×300	260×260×260	17.5	17.5	15	30	**10 17 68804**
300×440×300	260×360×260	24.5	24.5	18	40	**10 17 68808**
315×550×310	265×460×260	31.5	31.5	27	50	**10 17 68812**

To see other variants and accessories, please enter the webcode on our website.

Desiccators, Accessories













SICCO Mini 1 Premium Desiccators, Bohlender

These desiccators are designed to keep small parts susceptible to humidity dry in a safe, protected, and dust-free environment. This goal is achieved by the addition of silica gel. The desiccator is sealed by a circumferential rubber gasket. The handy-sized Mini units have non-slip rubber feet and are easy to stack.
The integrated digital hygrometer is easy to read; it is comprised in the delivery as a standard, just as two intermediate shelves made of PMMA and a small jar of silica gel.

Technical data:

Capacity:	6.2 l
Weight:	0.9 kg
Total all-over load:	3 kg
Pressure load:	normal pressure
Temperature resistance:	-35°C to +70°C
Outer dimensions (W×H×D):	221 × 183 × 214 mm
Usable interior space (W×H×D):	212 × 162 × 180 mm

	Article	Order No.
①	**SICCO Mini 1 – Premium desiccator** Polycarbonate (PC) enclosures, transparent	**10 17 69501**
②	**SICCO Mini 1 – Premium desiccator Protect** Polycarbonate (PC) enclosures, orange	**10 17 69426**
③	**SICCO Mini 1 – Premium desiccator Black** PMMA enclosures, black, opaque to visible and UV light	**10 17 69406**
④	**SICCO Mini-Desiccator Mobile Premium** With practical handle	**10 17 61986**
⑤	**SICCO Mini-Desiccator for Gas Filling Premium** Two connections for gas filling including quick couplings with self-sealing valves and hose	**10 17 61996**

KC drying beads see page 213/214

Sample Vials

webcode WW11M002

JÜRGEN BOESECKE



Disposable Sample Containers, Gamma Sterilized, BOESECKE

Disposable Sample Containers made of PP, closure PE, 125 ml, gamma sterilized, with safety and writing label.

Article	Order No.	PU pc/Pack
Disposable Sample Containers, gamma sterilized	**10 65 10125**	250

Available only in original packaging units. No fractions possible.

webcode WWRJN035

thermo scientific



Sample Vials with Closure, Thermo Scientific Nalgene, IDL

Sample vials with tight-fitting snap closures made of low-density polyethylene.

Volume ml	Ø mm	Height mm	Order No.	PU pc/Pack
5	24	25	**22 87 62501**	12
12	27	36	**22 87 62503**	12
18	27	53	**22 87 62505**	12
28	27	85	**22 87 62507**	12
50	37	71	**22 87 62509**	12
75	37	107	**22 87 62511**	12

Available only in original packaging units. No fractions possible.

Sample Vials

Sample Containers, PP, VITLAB

Transparent. With snap-on lid made of PE-LD. Conical shape.
Suitable for contact with foodstuffs according to ordinance (EC) No. 10/2011.

Volume ml	Height mm	Ø mm	Order No.	PU pc/Pack
5	25	20	**22 85 00101**	25
18	57	22	**22 85 00110**	25
50	97	30	**22 85 00119**	10
160	110	50	**22 85 00122**	10

Available only in original packaging units. No fractions possible.



Sample Containers, PE-LD, VITLAB

Transparent. With attached snap-on lid made of PE-LD.

Volume ml	Height mm	Ø mm	Order No.	PU pc/Pack
1	32	8	**22 85 00201**	500
2,5	32	14	**22 85 00204**	100
5	50	15	**22 85 00207**	100
8	57	17	**22 85 00210**	100
7	32	23	**22 85 00213**	100
20	74	25	**22 85 00216**	100
25	52	31	**22 85 00219**	50
35	74	31	**22 85 00222**	50

Available only in original packaging units. No fractions possible.



Sample Containers, PFA, VITLAB

With screw cap made of PFA. Cylindrical, tall shape. Ideal for sample collection, transport and storage of samples.
Autoclavable at 121°C (2 bar) according to DIN EN 285.

Volume ml	Ø mm	Height mm	Thread GL	PU	Order No.
30	38	54	40	1 pcs.	**22 85 13024**
60	38	90	40	1 pcs.	**22 85 13034**
90	54	62	56	1 pcs.	**22 85 13044**
180	54	112	56	1 pcs.	**22 85 13054**



Sample Tubes, PFA, VITLAB

Sample tubes made from PFA for sample preparation and for use in autosampler racks. With or without individually calibrated ring mark at 10 ml with GL 25 screw cap made from PFA or PE stopper.

Volume ml	Ring mark at ml	Ø mm	Lid	Height mm	Order No.
12	–	16	–	110	**22 85 10370**
12	10	16	Stopper	110	**10 85 30375**
15	–	22	–	110	**10 85 30385**
15	10	22	Screw cap GL 25	110	**22 85 10380**



Centrifuge Tubes, Racks

webcode WWRJN117



Centrifuge Bottles, Thermo Scientific Nalgene, IDL

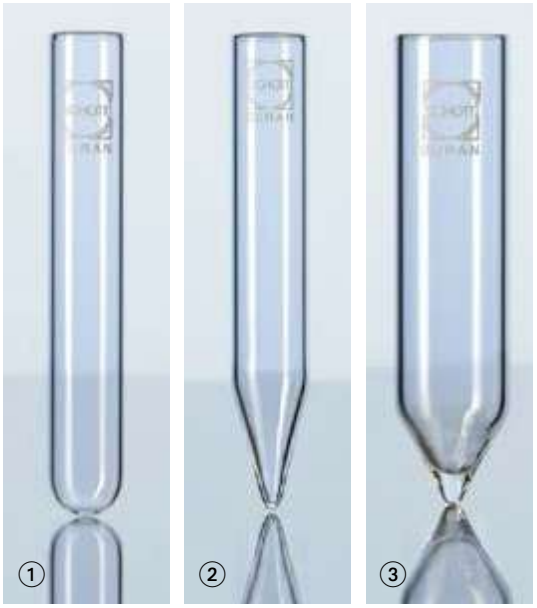
Autoclavable centrifuge bottles made of polypropylene copolymer with polypropylene screw closure. Translucent bottles have excellent chemical resistance. Strong and rigid. Sealing cap available for 1000-ml capacity bottles. When using the 250-ml bottle in the Sorvall GSA rotor, use the NALGENE centrifuge bottle adapter. Order No. 23 87 31202 is designed for use with IEC rotors. Before autoclaving, set closure on top of the bottle without engaging the threads. The 2000-ml bottle is also available as a sterile version; for both variants, the support adapter (Art. No. 75007686) is required, see picture. For proper performance these bottles must be filled to at least 80% of the total capacity, except for Order No. 23 87 31203, which must NOT be filled to more than 75% of total capacity.

Volume ml	load capacity up to g	Order No.	PU pc/Pack
250	13200	**23 87 31201**	4
500	4800 (for IEC rotors)	**23 87 31202**	4
500	4800	**23 87 31203**	4
1000	7100	**23 87 31204**	4
1000	7100 (for IEC rotors)	**23 87 31205**	4
2000	7333 (for H-12000 rotors)	**10 87 31206**	6
2000 (steril)	7333 (for H-12000 rotors)	**10 87 31207**	24

Available only in original packaging units. No fractions possible.

N.B.: An adapter is essential for Sorvall GSA rotors (see Order No. 23 87 31250).

webcode WWEQ2050



Centrifuge Tubes, DURAN®, DURAN Group / IDL

① **Centrifuge tubes with round bottom, DIN 58970 (Part 2)**

Ø mm	Height mm	Volume ml	Order No.	PU pc/Pack
12	100	6	**11 21 60110**	50
16	100	12	**11 21 60111**	50
24	100	25	**11 21 60114**	10
34	100	50	**11 21 60117**	10
40[1)]	115	80	**11 21 60124**	10
44	100	80	**11 21 60126**	10
56[1)]	147	250	**11 21 60136**	10

② **Centrifuge tube with conical bottom, angle 30°**

Ø mm	Height mm	Volume ml	Order No.	PU pc/Pack
16	100	12	**11 24 26309**	50

③ **Centrifuge tubes with conical bottom, angle 60°**

Ø mm	Height mm	Volume ml	Order No.	PU pc/Pack
24	100	25	**11 21 61114**	10
34	100	50	**11 21 61117**	10

[1)] Non-DIN size

webcode WWFNK001



Centrifuge Tubes, Starke

Article	Order No.
④ **ASTM centrifuge tubes, 37 mm Ø, cylindrical, with conical bottom, according to ASTM D 91 and ASTM D 96, 8 in., 100 ml**	**11 59 04955**

Graduation: 0 to 1 ml : 0.05 ml, 1 to 2 ml : 0.10 ml, 2 to 3 ml : 0.20 ml, 3 ot 5 ml : 0.5 ml, 5 to 10 ml : 1 ml, 10 to 25 ml : 5 ml, 25 to 100 ml : 25 ml.
Also available with brown graduation and small beading.

Article	Order No.
⑤ **ASTM centrifuge tubes, pear-shaped, with cylindrical bottom part, according to ASTM D 96, 100 ml**	**11 59 04956**

Graduation: 0 to 1.5 ml : 0.1 ml, 1.5 to 3.0 ml : 0.5 ml, 3.0 to 5.0 ml : 0.5 ml, 5.0 to 10.0 ml : 1 ml, 10 to 25 ml : 5 ml, 25 to 100 ml : 25 ml.

Article	Order No.
⑥ **ASTM centrifuge tubes, 44 mm Ø, cylindrical, with conical bottom part, according to ASTM D 96, 6 in., 100 ml**	**11 59 04957**

Graduation: 0 to 0.5 ml : 0.05 ml, 0.5 to 2 ml : 0.10 ml, 2 to 3 ml : 0.20 ml, 3 to 5 ml : 0.5 ml, 5 to 10 ml : 1 ml, 10 to 25 ml : 5 ml, with markings at 50 and 100 ml.

All made of borosilicate glass 3.3

Centrifuge Tubes, Racks

Centrifuge Tubes with Thread, LAT



WWW4U098

Centrifuge tubes with thread
Thick-walled centrifuge tubes with thread, made of borosilicate glass.

Volume ml	Ø mm	Height mm	NS	Bottom conical Order No.	round Order No.
9	16	100	GL14	**10 20 10151**	**10 20 10161**
9	16	100	GL18	**10 20 10152**	**10 20 10162**
23	24	100	GL25	**10 20 10153**	**10 20 10163**
45	34	100	GL25	**10 20 10154**	**10 20 10164**
75	40	115	GL32	**10 20 10155**	**10 20 10165**
75	44	100	GL32	**10 20 10156**	**10 20 10166**
240	56	147	GL45	**10 20 10157**	**10 20 10167**

Centrifuge Tube Racks, neoLab®



WW2NY330

5 interlocking plastic racks for 50 ml centrifuge tubes in a set.
Each rack can be used as stand-alone rack.
Molded circular base ring keeps conical or round-bottom tubes in place. Autoclavable.
The set consists of one rack in blue, green, yellow, pink and orange colour.
Dimensions: 53 × 70 × 67 mm

Article	Order No.	PU pc/Pack
Rack for centrifuge tubes 50 ml	**10 01 26612**	5

Available only in original packaging units. No fractions possible.

Centrifuge Tube Racks, neoLab®

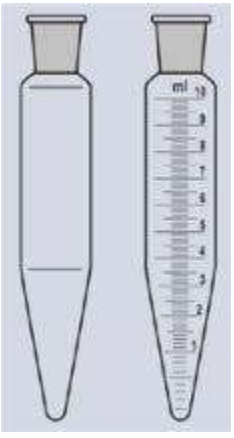


WW2NY173

Centrifuge tube racks made of epoxy-coated wire, autoclavable, for conical 50 ml centrifuge tubes type "Blue Max" and for 250 ml centrifuge flasks.

Quantity compartments	Outer dimensions L × W × H mm	Compartment size mm	Order No.
1	Ø 67 × 67	Ø 30	**39 01 13108**
2 × 3	208 × 135 × 102	60 × 60	**39 01 62130**
2 × 4	147 × 80 × 89	30 × 30	**39 01 13110**
4 × 4	158 × 150 × 92	30 × 30	**39 01 13111**
6 × 6	229 × 229 × 89	30 × 30	**39 01 13112**

Centrifuge Tubes, Neubert-Glas



Cylindrical with conical end, standard-ground neck, no stopper, Boro 3.3

Centrifuge tubes, non-graduated

Volume ml	Graduation ml	Outer dimensions mm	NS	Order No.
10	-	17×1.2×120	12.5/21	**11 11 43112**
10	-	17×1.2×120	14.5/23	**11 11 43114**
15	-	17×1.2×155	14.5/23	**11 11 43115**

Centrifuge tubes, blue, graduated

Volume ml	Graduation ml	Outer dimensions mm	NS	Order No.
10	1/10	17×1.2×120	12.5/21	**11 11 43212**
10	1/10	17×1.2×120	14.5/23	**11 11 43214**
15	1/10	17×1.2×155	14.5/23	**11 11 43215**

Other sizes available on request.

Specimen Jars

WWEQ2158



Specimen Jars, DURAN®, DURAN Group / IDL

Specimen jars with ground-in knobbed lid.

Volume approx. ml	Height mm	Ø mm	Order No.	PU pc/Pack
80	63	65	**12 24 20902**	10
175	103	65	**12 24 20909**	10
460	103	115	**12 24 20911**	10
530	153	90	**12 24 20924**	1
890	153	115	**12 24 20926**	1
1875	153	162	**12 24 20928**	1
1150	203	115	**12 24 20938**	1
2675	203	162	**12 24 20939**	1
1575	253	115	**12 24 20949**	1
3475	253	162	**12 24 20950**	1



Specimen Jars, Neubert-Glas

Specimen jars with foot, cover with ground joint and handle, 3.3 borosilicate glass

Ø mm	Height mm	Order No.
60	60	**12 11 70960**
60	100	**12 11 70965**
80	80	**12 11 70980**
80	120	**12 11 70984**

Ø mm	Height mm	Order No.
100	100	**12 11 70990**
100	150	**12 11 70992**
100	200	**12 11 70995**

Other sizes available on request.

Inspection Glasses

WWEQ2182



DURAN® Specimenjar, DURAN Group / IDL

Sample glasses, cylindrical, standing on stopper.

Vol. ml	Ø mm	H mm	Ground Ø mm	Order No.	PU pc/Pack
100	52	135	34.5	**12 21 58024**	10
300	69	163	45	**12 21 58039**	10
600	81	214	50	**12 21 58048**	10
750	90	240	60	**12 21 58051**	10
1200	100	253	60	**12 21 58058**	10

Use the webcode on our website to see a larger selection of products from a specific manufacturer.

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Test Vials

Combi-Racks for Microtubes, neoLab®

Racks made of PP, autoclavable. Front for 1.5 ml and 2 ml tubes, rear for 0.5 ml tubes, 96 wells.
Dimensions: 210 × 115 × 28 mm (L × W × D)

Combi-Racks, 96 wells

Article	Colour	Order No.
Combi-Rack	yellow	**29 01 22570**
Combi-Rack	orange	**29 01 22571**
Combi-Rack	red	**29 01 22572**
Combi-Rack	violet	**29 01 22573**
Combi-Rack	blue	**29 01 22574**
Combi-Rack	green	**29 01 22575**
Combi-Rack	transparent	**29 01 22576**

Accessories

Article	Order No.
Lid made of PP	**29 01 22595**



for my lab neoLab®

webcode WW2NY197

Combi Racks, neoLab®

webcode WW2NY292

Rack with snap-fit lid for 96 microtubes on one side or 96 reaction vessels 1.5 – 2.0 ml on the other side. Safe to carry with **wide gripper bars on either side.**
Material: polypropylene
Dimensions: 246 × 121 × 50 mm

Article	Colour	Order No.
Combi rack with snap-fit lid	nature	**29 01 21835**
Combi rack with snap-fit lid	blue	**10 01 21836**
Combi rack with snap-fit lid	yellow	**10 01 21837**
Combi rack with snap-fit lid	green	**10 01 21838**



webcode To see other variants and accessories, please enter the webcode on our website.

Test Vials



webcode WW2NY237

for my lab neoLab

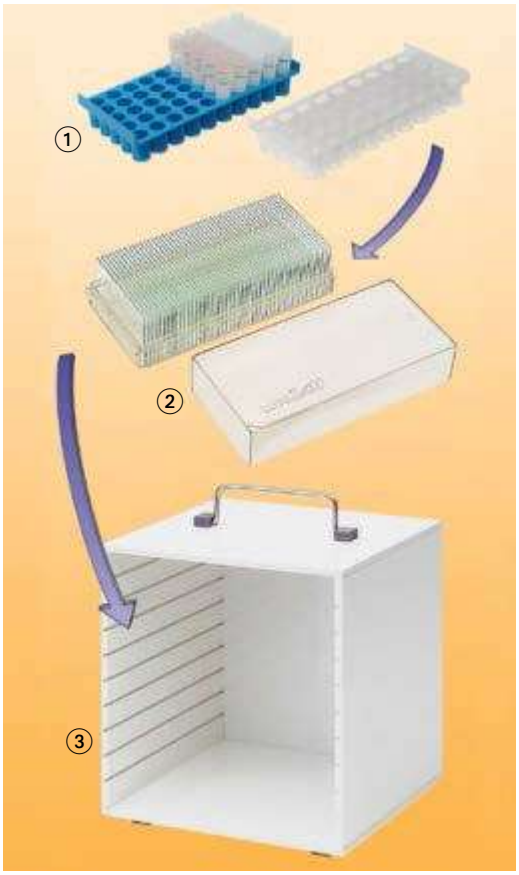
webcode WW2NY207

Aluminium Blocks for Tubes, neoLab®

Aluminum blocks for tempering tubes and PCR microtubes. Ideal for all temperature-critical work. Practical microtitration format, handy and compact. Uniform temperature distribution in the block. Fits all tubes and PCR microtubes from leading manufacturers.
Material: solid aluminium
Dimensions: 118 × 80 × 30 mm

Quantity wells	for	Order No.
96 (8 × 12)	0.2 ml PCR tubes	**29 01 78005**
24 (4 × 6)	1.5 / 2 ml test tubes	**29 01 78006**
24 (4 × 6)	2.2 ml test tubes	**29 01 78007**
24 (4 × 6)	1+2 ml cryo tubes	**29 01 78008**
30 (5 × 6)	0.5 ml test tubes	**29 01 78009**
8 (2 × 4)	5 ml test tubes	**10 01 78004**

LaboBox-System, neoLab®



① **The racks**
At the heart of the LaboBox®-System are the **racks for reaction flasks, microtubes, cryo-tubes or test tubes**, which can also be used as bench stands. The bottoms are closed. For ease of identification, **the wells are numbered and lettered**. The rack has two handles on the sides for carrying. The racks can **with stand temperatures of -130°C to +130°C and can be autoclaved.**

Material: PC
Dimensions: 164 × 76 × 28 mm (L×W×H)

Colour	for	Hole	Places	Order No.
transparent	Reation vessels 1.5 ml	conical	5 × 12	**24 01 22311**
blue	Reation vessels 1.5 ml	conical	5 × 12	**24 01 22332**
transparent	Vials up to 12.5 mm Ø	cylindrical	5 × 10	**24 01 22312**
blue	Vials up to 12.5 mm Ø	cylindrical	5 × 10	**24 01 22333**
transparent	Vials up to 15.0 mm Ø	cylindrical	4 × 9	**24 01 22313**
blue	Vials up to 15.0 mm Ø	cylindrical	4 × 9	**24 01 22334**

② **The cases**
Stackable LaboBox®cases with covers to encase the LaboBox® racks, **in two different height sizes.** Simply choose the cases according to the loading height of the rack. The taller case is also suitable for slides 76 × 45 mm. The cases are **autoclavable, suitable for cryo-use,** and withstand temperatures of -130°C to +130°C. **Material:** PC, transparent

Colour	Inner height mm	L × W × H mm	Order No.
transparent	39	170 × 83 × 43	**24 01 22316**
transparent	49	170 × 83 × 55	**24 01 22317**

③ **The magazine**
There's room to transport and store all types of racks in the LaboBox®System slot-in magazine. Each level in the magazine takes two cases one behind the other, 3 or 4 levels high depending on the height of the cases. **Material:** Polypropylene, not suitable for cryo-use

Colour	Length × Width × Height mm	Order No.
white	185 × 175 × 200	**24 01 22318**

webcode WW2NY041



Microtube Racks, neoLab®

Acrylic glass racks, model Klinikum Heidelberg, for Eppendorf microtubes, glued and screwed together, for heavy duty.

④ **For microtubes 1.5 ml**

Quantity wells	Length mm	Width mm	Height mm	Order No.
2 × 12	262	50	50	**24 01 15136**
2 × 6	132	50	50	**24 01 15137**
4 × 12	262	100	50	**24 01 15138**
6 × 12	262	125	50	**24 01 15139**

For microtubes 0.5 ml

Quantity wells	Length mm	Width mm	Height mm	Order No.
2 × 12	262	50	50	**24 01 15134**
4 × 12	262	100	50	**24 01 15135**

Continued on next page

Test Vials

For microtubes 2.2 ml

Quantity wells	Length mm	Width mm	Height mm	Order No.
2 × 12	262	50	50	**24 01 15129**
4 × 12	262	100	50	**24 01 15130**

For microtubes 5.0 ml

Quantity wells	Length mm	Width mm	Height mm	Order No.
2 × 8	224	50	55	**10 01 15125**

Microtube Racks, neoLab®

webcode WW2NY266



Rack fits 1.5 ml and 2 ml Eppendorf microtubes and cryovials, with 8 × 8 slots, square. Simply insert the tiers into the side panels.
Fits perfectly into the neoRack system (part number 23 01 22999), so it is very well suited for stacking when filled with tubes. Sturdy bottom so that you can firmly press down caps, alphanumeric marking on openings.

Material: PP, autoclavable at 121°C
Dimensions: 143 × 143 × 34 mm high
Rows: 8 × 8
Hole Ø: 12,7 mm

Article	Colour	Places	Order No.
neoRack®	red/white	8 × 8	**29 01 21642**
neoRack®	red/yellow	8 × 8	**29 01 21643**

Racks for Microtubes, neoLab®

webcode WW2NY195



Racks for microtubes, **1.5/2.0 and 5.0 ml**
- autoclavable up to 121°C, made of PP
- with numbered wells

Colour	fits	Places	Length mm	Height mm	Width mm	Order No.
yellow	1.5/2.0 ml	2 × 10	210	50	73	**29 01 21969**
red	1.5/2.0 ml	2 × 10	210	50	73	**29 01 21975**
green	1.5/2.0 ml	2 × 10	210	50	73	**29 01 21976**
blue	1.5/2.0 ml	2 × 10	210	50	73	**29 01 21973**
yellow	5.0 ml	2 × 8	250	45	80	**10 01 21900**

Top Racks for Microtubes, neoLab®



webcode WW2NY198

Rack made of polypropylene
With grip bars
- 80 wells for microtube sizes 1.5 and 2 ml
- temperature-resistant from -80 to +125°C, autoclavable

Dimensions: 225 × 65 × 28 mm (L × W × H)

Colour	Order No.
yellow	**29 01 22560**
orange	**29 01 22561**
red	**29 01 22562**
violet	**29 01 22563**
blue	**29 01 22564**
green	**29 01 22565**
natural colored/transparent	**29 01 22566**

Accessories

Article	Order No.
Box with lid, for 1 Top-Rack	**10 01 22569**

webcode To see other variants and accessories, please enter the webcode on our website.

Test Vials

webcode WWQED039

BRAND









Microcentrifuge Tube Racks, BRAND

① Microcentrifuge tube racks

PP. Microcentrifuge tube racks are stackable, with alphanumerical positions. Racks are made of PP (fdensity 1,2 g/cm³), will not float in waterbath. Operating temperature -20 to 90°C. Autoclavable at 121°C, (2 bar) acc. DIN EN 285. Sturdy construction racks are supplied in two-pieces for convenient and permanent assembly. Available in four different colors.

L × W × H: 265 × 126 × 38 mm. Packs of 5.

for Ø up to mm	Positions	Colour	Order No.	PU pc/Pack
11	8 × 16	white	**29 49 43550**	5
11	8 × 16	blue	**29 49 43551**	5
11	8 × 16	red	**29 49 43552**	5
13	6 × 14	white	**29 49 43600**	5
13	6 × 14	blue	**29 49 43601**	5
13	6 × 14	red	**29 49 43602**	5

Available only in original packaging units. No fractions possible.

② Microcentrifuge tube rack, PP, grey

Numbered positions for 20 microcentrifuge tubes, 1.5 ml. Autoclavable (121°C), (2 bar) acc. DIN EN 285

Positions	Length × Width × Height mm	Order No.
20	210 × 70 × 37	**10 49 80605**

③ adapter 0,5 ml for microcentrifuge tube rack, PP, grey

PP. Microcentrifuge tube racks can be equipped with inserts to accommodate 0.5 ml microcentrifuge tubes. Easy permanent assembly.

Pack of 20.

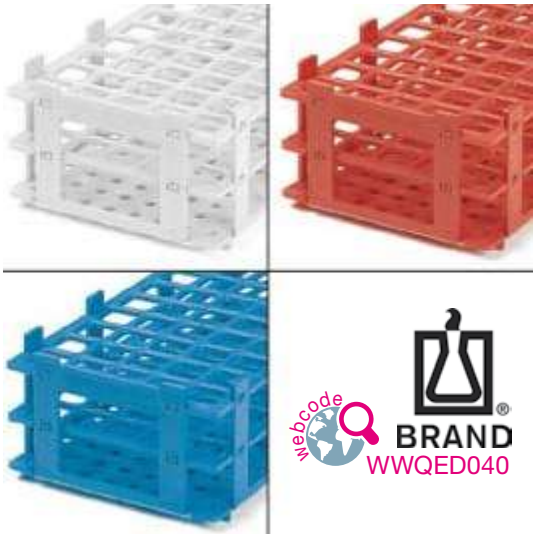
Article	Order No.	PU pc/Pack
0.5 ml adapter	**10 49 80608**	20

④ Mini cooler

PC. Mini coolers are designed to protect a wide range of solutions (enzymes, DNA, RNA, cell suspensions) by helping to maintain freezer temperatures on the lab bench. Durable polycarbonate filled with non-toxic gel. Mini coolers hold twelve 0.5 ml to 2.0 ml tubes.

Maintained temperature °C	Duration min	Colour	Order No.
0	60	red	**10 49 14930**
-20	60	yellow	**10 49 14935**
-70	45	white	**10 49 14940**

Test Tubes



webcode WWQED040

BRAND

Test Tube Racks, BRAND

PP. Versatile and inexpensive racks for common diameters test tubes. Sturdy construction, stackable. Test tube racks are made of PP (filled PP, density 1,2 g/cm³), will not float in waterbath. Alphanumerical positions for clear sample identification. Wide spaces between positions. Operating temperature -20 to 90°C. Autoclavable at 121°C. Racks are supplied in three-pieces for convenient and permanent assembly. Six sizes each available in four different colors.

for Ø up to mm	Positions	L × W × H mm	Colour	Order No.	PU pc/Pack
13	6 × 14	265 × 126 × 75	white	**29 49 43400**	5
13	6 × 14	265 × 126 × 75	blue	**29 49 43401**	5
13	6 × 14	265 × 126 × 75	red	**29 49 43402**	5
16	5 × 11	265 × 126 × 75	white	**29 49 43460**	5
16	5 × 11	265 × 126 × 75	blue	**29 49 43461**	5
16	5 × 11	265 × 126 × 75	red	**29 49 43462**	5
18	5 × 11	265 × 126 × 75	white	**29 49 43410**	5
18	5 × 11	265 × 126 × 75	blue	**29 49 43411**	5
18	5 × 11	265 × 126 × 75	red	**29 49 43412**	5

Continued on next page

Test Tubes

for Ø up to mm	Positions	L × W × H mm	Colour	Order No.	PU pc/Pack
20	4 × 10	265 × 126 × 75	white	**29 49 43420**	5
20	4 × 10	265 × 126 × 75	blue	**29 49 43421**	5
20	4 × 10	265 × 126 × 75	red	**29 49 43422**	5
25	4 × 8	265 × 126 × 88	white	**29 49 43430**	5
25	4 × 8	265 × 126 × 88	blue	**29 49 43431**	5
25	4 × 8	265 × 126 × 88	red	**29 49 43432**	5
30	3 × 7	265 × 126 × 88	white	**29 49 43440**	5
30	3 × 7	265 × 126 × 88	blue	**29 49 43441**	5
30	3 × 7	265 × 126 × 88	red	**29 49 43442**	5

Available only in original packaging units. No fractions possible.

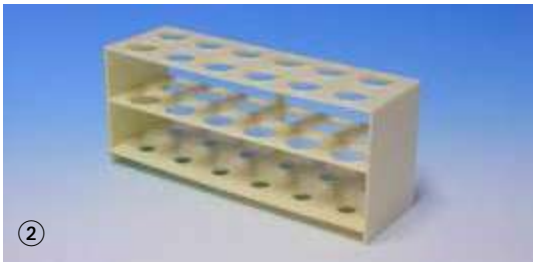


Test Tube Racks, Hecht-ASSISTENT



① **Test tube racks made of Plexiglas®**
with number at each hole, one level

Article	Order No.
For 12 tubes up to approx. 13 mm Ø, without rods	**24 18 08070**
For 6 tubes up to approx. 18 mm Ø, without rods	**24 18 08086**
For 12 tubes up to approx. 18 mm Ø, without rods	**24 18 08082**
For 24 tubes up to approx. 18 mm Ø, without rods	**24 18 08084**
For 33 tubes up to approx. 18 mm Ø, without rods (Takata rack)	**24 18 08083**
For 12 tubes up to approx. 18 mm Ø, with 6 rods	**24 18 08092**



② **Test tube racks made of polystyrene**

Article	Order No.
For 12 tubes up to approx. 20 mm Ø, without rods	**24 18 08140**



③ **Test tube racks made of wire with white plastic coating**
for test and centrifuge tubes

Article	Order No.
For 12 tubes up to approx. 17 mm Ø, height approx. 80 mm	**24 18 08152**
For 24 tubes up to approx. 17 mm Ø, height approx. 80 mm	**24 18 08154**
For 36 tubes up to approx. 17 mm Ø, height approx. 80 mm	**24 18 08156**
For 48 tubes up to approx. 17 mm Ø, height approx. 80 mm	**24 18 08158**
For 48 tubes up to approx. 13 mm Ø, height approx. 40 mm (4 rows of 12 holes)	**24 18 08160**

Unwire™ -Test Tube Half-Racks, Thermo Scientific Nalgene, IDL

webcode WWRJN128

Autoclavable racks based on RESMER manufacturing technology, half the size of the Unwire™ test tube racks 24 87 59701 to 59746.

Colour	Quantity wells	Tubing Ø mm	L × W × H mm	Order No.
white	6×6	13	102×102×56	**24 87 59811**
blue	6×6	13	102×102×56	**24 87 59814**
green	6×6	13	102×102×56	**24 87 59815**
red	6×6	13	102×102×56	**24 87 59816**
white	6×6	16	126×126×68	**24 87 59821**
blue	6×6	16	126×126×68	**24 87 59824**
green	6×6	16	126×126×68	**24 87 59825**
red	6×6	16	126×126×68	**24 87 59826**
white	4×5	20	128×103×83	**24 87 59831**
blue	4×5	20	128×103×83	**24 87 59834**
green	4×5	20	128×103×83	**24 87 59835**
red	4×5	20	128×103×83	**24 87 59836**
white	4×4	25	122×122×75	**24 87 59851**
blue	4×4	25	122×122×75	**10 87 59854**
white	3×3	30	109×109×84	**24 87 59841**
blue	3×3	30	109×109×84	**24 87 59844**
green	3×3	30	109×109×84	**24 87 59845**
red	3×3	30	109×109×84	**24 87 59846**



Test Tubes

webcode WWRJN130







Unwire™ -Test Tube Racks, Thermo Scientific Nalgene, IDL

Autoclavable racks based on RESMER TECHNOLOGY or enhanced chemical-resistant polypropylene in various colors. Alphanumeric identification of holes on the upper tier. Racks of same size are stackable. Will not float in water bath. Wire-free design eliminates rust and risk of injury.

Racks made of polyketone

Colour	Quantity wells	Tubing Ø mm	Length × Width × Height mm	Order No.
white	6×12	13	200×102×57	**24 87 59701**
orange	6×12	13	200×102×57	**24 87 59702**
yellow	6×12	13	200×102×57	**24 87 59703**
blue	6×12	13	200×102×57	**24 87 59704**
green	6×12	13	200×102×57	**24 87 59705**
red	6×12	13	200×102×57	**24 87 59706**
white	6×12	16	248×127×70	**24 87 59711**
orange	6×12	16	248×127×70	**24 87 59712**
yellow	6×12	16	248×127×70	**24 87 59713**
blue	6×12	16	248×127×70	**24 87 59714**
green	6×12	16	248×127×70	**24 87 59715**
red	6×12	16	248×127×70	**24 87 59716**
white	4×10	20	250×102×83	**24 87 59721**
orange	4×10	20	250×102×83	**24 87 59722**
yellow	4×10	20	250×102×83	**24 87 59723**
blue	4×10	20	250×102×83	**24 87 59724**
green	4×10	20	250×102×83	**24 87 59725**
red	4×10	20	250×102×83	**24 87 59726**
white	4×10	25	300×121×92	**24 87 59731**
orange	4×10	25	300×121×92	**24 87 59732**
yellow	4×10	25	300×121×92	**24 87 59733**
blue	4×10	25	300×121×92	**24 87 59734**
green	4×10	25	300×121×92	**24 87 59735**
red	4×10	25	300×121×92	**24 87 59736**
white	8×3	30	283×108×83	**24 87 59741**
orange	8×3	30	283×108×83	**24 87 59742**
yellow	8×3	30	283×108×83	**24 87 59743**
blue	8×3	30	283×108×83	**24 87 59744**
green	8×3	30	283×108×83	**24 87 59745**
red	8×3	30	283×108×83	**24 87 59746**

Racks made of polypropylene

Colour	Quantity wells	Tubing Ø mm	Length × Width × Height mm	Order No.
white	6×12	13	200×102×57	**24 87 59761**
blue	6×12	13	200×102×57	**24 87 59762**
green	6×12	13	200×102×57	**24 87 59763**
red	6×12	13	200×102×57	**24 87 59764**
white	6×12	16	248×127×70	**24 87 59771**
green	6×12	16	248×127×70	**24 87 59773**
red	6×12	16	248×127×70	**24 87 59774**
blue	6×12	16	248×127×70	**10 87 59772**


①

webcode WWQ7J091

Test Tube Stands, Detachable, BOCHEM

- The frame is detachable
- Space-saving transport possible
- Displayed model is for test tubes with Ø 17 mm

Custom-made models are possible on request.

	Material	Length × Width × Height mm	Ø mm	Type	Places	Order No.
①	18/10 stainless steel	145×52×90	17	2×6	12	**10 05 08240**
	18/10 stainless steel	278×52×90	17	2×12	24	**10 05 08241**
	18/10 stainless steel	287×97×90	17	4×12	48	**10 05 08242**

Test Tubes

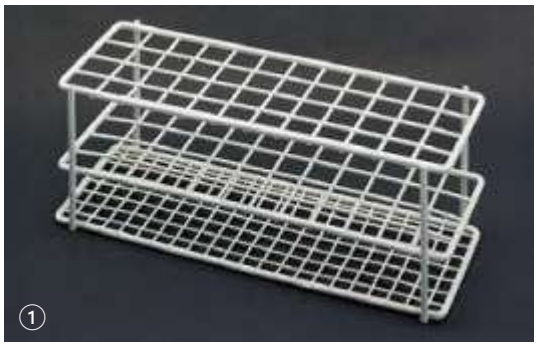
Test Tube Racks, LINKER

webcode WWJTQ003

LINKER INDUSTRIE-TECHNIK

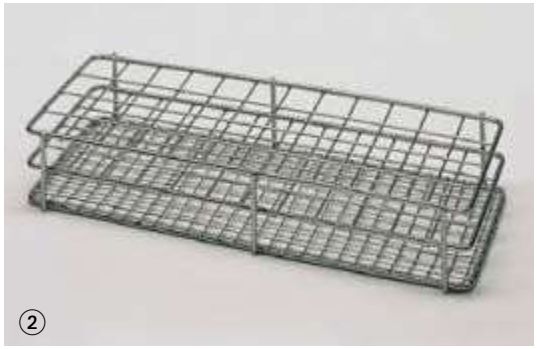
① **Racks with plastic coating**
Can temporarily withstand temperatures of up to 150°C.

Compartment size mm	Height mm	Quantity rows	Order No.
14 × 14	40	4 × 12	**39 73 11816**
14 × 14	70	4 × 12	**39 73 11826**
18 × 18	70	2 × 6	**39 73 11831**
18 × 18	70	2 × 10	**39 73 11832**
18 × 18	70	2 × 12	**39 73 11833**
18 × 18	70	4 × 6	**39 73 11834**
18 × 18	70	3 × 12	**39 73 11835**
18 × 18	70	4 × 12	**39 73 11836**
18 × 18	70	10 × 10	**39 73 11837**
18 × 18	100	2 × 12	**39 73 11843**
18 × 18	100	4 × 12	**39 73 11846**
22 × 22	70	2 × 6	**39 73 11851**
22 × 22	70	2 × 12	**39 73 11853**
26 × 26	70	2 × 6	**39 73 11861**
26 × 26	70	2 × 12	**39 73 11863**
26 × 26	70	3 × 12	**39 73 11865**
26 × 26	70	4 × 12	**39 73 11866**
26 × 26	100	2 × 6	**39 73 11871**
26 × 26	100	2 × 12	**39 73 11873**
26 × 26	100	3 × 12	**39 73 11875**
26 × 26	100	4 × 12	**39 73 11876**



② **Racks made of stainless steel, electrochemically polished**

Compartment size mm	Height mm	Quantity rows	Order No.
14 × 14	40	4 × 12	**39 73 11916**
14 × 14	70	4 × 12	**10 73 01918**
18 × 18	40	4 × 12	**39 73 11926**
18 × 18	70	2 × 6	**39 73 11931**
18 × 18	70	2 × 12	**39 73 11933**
18 × 18	70	4 × 6	**39 73 11934**
18 × 18	70	3 × 12	**39 73 11935**
18 × 18	70	4 × 12	**39 73 11936**
18 × 18	70	10 × 10	**39 73 11937**
18 × 18	100	2 × 12	**39 73 11943**
18 × 18	100	4 × 6	**39 73 11944**
18 × 18	100	3 × 12	**39 73 11945**
18 × 18	100	4 × 12	**39 73 11946**
18 × 18	100	10 × 10	**39 73 11947**
26 × 26	70	2 × 6	**39 73 11961**
26 × 26	70	2 × 12	**39 73 11963**
26 × 26	70	3 × 12	**39 73 11965**
26 × 26	70	4 × 12	**39 73 11966**
26 × 26	100	2 × 6	**39 73 11971**
26 × 26	100	2 × 12	**39 73 11973**
26 × 26	100	3 × 12	**39 73 11975**
26 × 26	100	4 × 12	**39 73 11976**



Combi Vial Racks, neoLab®

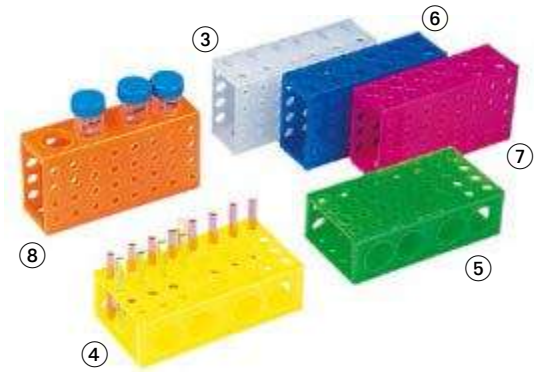
webcode WW2NY218

for my lab neoLab®

All sides of the rack can be used individually.
Material: PP, temperature-resistant from -90°C to +121°C, autoclavable.
- 4 holes 30 mm dia. for 50 ml tubes
- 12 holes 20 mm dia. for 15 ml tubes
- 32 holes 12 mm dia. for test tubes 1.5 and 2.0 ml
- 32 holes 10 mm dia. for test tubes 0.5 ml

Dimensions: 180 × 90 × 52 cm (L × W × H)

	Article	Colour	Order No.
③	Combi vial rack	transparent	**24 01 22685**
④	Combi vial rack	yellow	**24 01 22686**
⑤	Combi vial rack	green	**24 01 22687**
⑥	Combi vial rack	blue	**24 01 22688**
⑦	Combi vial rack	pink	**24 01 22689**
⑧	Combi vial rack	orange	**24 01 22690**
	Combi vial rack Extrapack, 6 pc./pack	colored sorted	**10 01 22693**



webcode To see other variants and accessories, please enter the webcode on our website.

Test Tubes



①



②

webcode WW2NY042

Test Tube Racks, neoLab®

Acrylic glass racks, model Klinikum Heidelberg, glued and screwed together, for heavy duty.

① **1-level version**

Quantity wells	Hole Ø mm	Length mm	Width mm	Height mm	Order No.
2 × 5	18	132	64	57	**24 01 15101**
2 × 6	18	155	64	57	**24 01 15102**
2 × 10	18	272	64	57	**24 01 15103**
2 × 12	18	322	64	57	**24 01 15104**
3 × 12	18	322	83	57	**24 01 15105**
4 × 12	18	322	120	57	**24 01 15106**
2 × 5	18	132	64	77	**24 01 15110**
2 × 6	18	155	64	77	**24 01 15111**
2 × 10	18	272	64	77	**24 01 15112**
2 × 12	18	322	64	77	**24 01 15113**
3 × 12	18	322	83	77	**24 01 15114**
4 × 12	18	322	120	77	**24 01 15115**

② **2-level version**

Quantity wells	Hole Ø mm	Length mm	Width mm	Height mm	Order No.
2 × 6	18	155	64	145	**24 01 15121**
2 × 10	18	272	64	145	**24 01 15122**

webcode WW2NY220



Test Tube Racks, neoLab®

Polypropylene test tube rack, square, for all standard microtube sizes.

The racks are open at the front. There are openings in the side and back panels. The tiers of the rack are inserted into the side - back panel and locked in placed. Extremely stable design, very simple construction makes them easy to assembly. Alphanumeric marking at the openings, stackable. The side / back panel and the lowest tier are blue on all size racks. Both upper tiers that hold the microtubes are color coded by size.

Dimensions: 146 × 146 × 70 mm high

for jar Ø mm	Places	Colour	Order No.
13 mm	9 × 9	orange	**24 01 21630**
16 mm	7 × 7	yellow	**24 01 21631**
20 mm	6 × 6	green	**24 01 21632**
25 mm	5 × 5	white	**24 01 21633**
30 mm	4 × 4	red	**24 01 21634**

webcode WWZ71008



Test Tube Racks, Wagner & Munz

Made of blue PP in two versions: for 12 and for 24 tubes. Their advantage is that they are unbreakable and sterilizable (autoclavable) up to + 120°C.

Article	Order No.
Test tube rack, for 12 tubes up to 18 mm Ø	**24 62 50740**
Test tube rack, for 24 tubes up to 18 mm Ø	**24 62 50750**

Webcode

Use the webcode on our website to see a larger selection of products from a specific manufacturer.

Test Tubes

neoLabLine Multifunctional Rack, neoLab®

neoLabLine Multifunctional rack
neoLabLine multifunctional rack - the rack with many possibilities.
Suitable for tubes with a diameter of 12 to 30 mm or cans with a diameter of max. 50 mm. Depending on the equipment, a different number of seats is available. The positions of the individual compartments are designed so that tubes with screw cap fit perfectly next to each other without hindering each other. At the bottom of the rack, there are matching holes for each tube position so that all tubes stand securely in all positions. The height of the compartments can be adjusted and each compartment is alphanumerically coded. The coding can be continued via 2 connected racks. This connection is made using brackets (accessories). The multifunctional rack can also be used with only one grid insert, instead of 2. (Then you need a support frame as an accessory for stabilization).
The multifunctional racks for tubes with 13 mm diameter are available with capacities of 50 and 72. The multi-function racks art. no. 10 01 62602/10 01 62603 with a capacity of 50 places have the tubes arranged in such a way that the distance between the tubes is greater than the multifunction racks art. no. 10 01 62600/10 01 62601 with a capacity of 72 places. The multifunctional rack is also available as a basket (item number 10 01 62610 / 10 01 62611). With the accessories handle, support frame and clamps (item number 10 01 62612 / 10 01 62613) a rack can be converted into a basket.
• stackable
• autoclavable

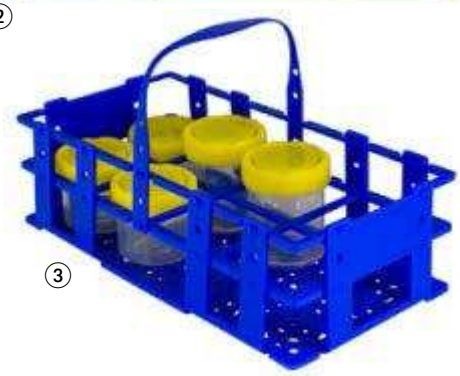
	Article	Colour	Capacity pc	Order No.
	Multifunctional rack	blue	72×12–13 mm Ø	**10 01 62600**
	Multifunctional rack	yellow	72×12–13 mm Ø	**10 01 62601**
	Multifunctional rack	blue	50x12–13 mm Ø	**10 01 62602**
	Multifunctional rack	yellow	50x12–13 mm Ø	**10 01 62603**
①	Multifunctional rack	blue	50×16 mm Ø	**10 01 62604**
	Multifunctional rack	yellow	50×16 mm Ø	**10 01 62605**
	Multifunctional rack	blue	18×30 mm Ø	**10 01 62606**
②	Multifunctional rack	yellow	18×30 mm Ø	**10 01 62607**
③	Multifunctional rack	blue	8×50 mm Ø	**10 01 62608**
	Multifunctional rack	yellow	8×50 mm Ø	**10 01 62609**
	Multifunctional rack, only basket	blue		**10 01 62610**
	Multifunctional rack, only basket	yellow		**10 01 62611**

Accessories

Article	Order No.
Hand strap, belts and clips for multifunction rack, blue	**10 01 62612**
Hand strap, belts and clips for multifunction rack, yellow	**10 01 62613**


① WW2NY406


②


③

Lead Rings, Cork Rings

Stabilizing Ring, BOCHEM

Stabilizing ring for Erlenmeyers or flasks, PVC coated.

Material	Ø mm	Weight g	Order No.
18/10 steel	50	207	**10 05 05660**
18/10 steel	70	340	**10 05 05661**
18/10 steel	100	470	**10 05 05662**


WWQ7J073

Lead Rings, Vinyl Coated, neoLab®

Lead rings for weighing down glass vessels in a water bath.
Reduces glass breakage and escaping chamicals.
Vinyl-coated to be particularly resistant to chemicals.

Type	Inner Ø mm	fits	Weight g	Order No.
closed	18	cylinder 5-10 ml	165	**31 01 61010**
closed	48	flask 125-500 ml	237	**31 01 61011**
closed	51	flask 250-1000 ml	454	**31 01 61012**
closed	57	flask 500-1000 ml	681	**31 01 61013**
closed	70	flask 1000-4000 ml	908	**31 01 61014**
open	50	flask 50-250 ml bottle 100-500 ml	650	**10 01 31625**
open	70	flask 200-500 ml bottle 1000-2000 ml	900	**10 01 31627**
open	100	flask 750-1500 ml	1200	**10 01 31630**


WW2NY226

To see other variants and accessories, please enter the webcode on our website.

Lead Rings, Cork Rings

webcode WW7R3013



Cork Rings, IDL

Rings made of cork for placing underneath round bottom flasks, top quality.

O.D. mm	I.D. mm	Height mm	for flask size ml	Order No.
80	30	30	100	**24 00 20080**
110	60	30	250 – 500	**24 00 20110**
140	90	30	1000 – 2000	**24 00 20140**
170	120	30	2000 – 5000	**24 00 20170**

Storage Boxes



webcode WW2NY027



webcode WW2NY028

Storage Containers for Vials, neoLab®

With divider insert with 5 × 10 compartments for vials with max. 12 mm Ø, with tight-closing cover.

Overall size: 140 × 70 × 40 mm high
Suitable for: Autosampler tubes 1,2 ml
Micro-tubes 1,5 ml
PP conic vials

Article	Order No.
Storage container made of crystal clear polystyrene	**23 01 27209**
Storage container made of polypropylene, autoclavable	**23 01 21535**

Collection Containers, neoLab®

Made of crystal-clear polystyrene, complete with hinged lid and divider, temperature-resistant from -40 to +70°C, with 2 rows of 10 compartments.

Overall size: 300 × 170 × 45 mm high
Compartment: 77 × 27 × 38 mm deep

Article	Order No.
Collection box with 20 compartments	**23 01 21540**

Spatulas

webcode WWQ7J024



Spatulas, BOCHEM

Twin spatulas made of 18/10 steel, material 4301, polished

	L mm	Blade L mm	Blade W mm	Order No.
①	130	40	9	**33 05 03100**
	150	45	9	**33 05 03101**
	185	50	9	**33 05 03102**
	210	60	11	**33 05 03103**
	250	70	11	**33 05 03104**

L mm	Blade L mm	Blade W mm	Order No.
300	75	16	**33 05 03105**
350	85	16	**33 05 03106**
400	100	16	**33 05 03107**
500	100	20	**33 05 03108**

Twin spatulas made of pure nickel (99,5%), polished

L mm	Blade L mm	Blade W mm	Order No.
130	40	9	**33 05 03110**
150	45	9	**33 05 03111**
185	50	9	**33 05 03112**

L mm	Blade L mm	Blade W mm	Order No.
210	55	11	**33 05 03113**
250	60	11	**33 05 03114**

Twin spatulas made of 18/10 steel, PTFE coated

L mm	Blade L mm	Blade W mm	Order No.
150	45	9	**33 05 03700**
185	50	9	**33 05 03701**

L mm	Blade L mm	Blade W mm	Order No.
210	55	11	**33 05 03702**

Continued on next page

Spatulas

Micro-spatulas made of 18/10 steel, material 4301, polished

	L mm	Blade L mm	Blade W mm	Order No.
②	100	30	2	**33 05 03010**
	130	40	2	**33 05 03011**
	130	40	3	**33 05 03014**
	150	40	3	**33 05 03015**
	130	40	4	**33 05 03017**
	150	40	4	**33 05 03018**
	185	50	4	**33 05 03019**
	130	40	5	**33 05 03021**
	150	40	5	**33 05 03022**
	185	50	5	**33 05 03023**
	210	55	5	**33 05 03024**
	150	40	6	**33 05 03025**
	185	50	6	**33 05 03026**
	210	55	6	**33 05 03027**



Micro-spatulas made of pure nickel (99,5%), polished

L mm	Blade L mm	Blade W mm	Order No.
130	40	8	**33 05 03047**
150	50	8	**33 05 03053**
220	55	8	**33 05 03057**

Micro-spatulas made of 18/10 steel, PTFE coated

L mm	Blade L mm	Blade W mm	Order No.
150	40	3	**33 05 03710**
185	50	4	**33 05 03711**
185	50	5	**33 05 03712**
210	55	6	**33 05 03713**



Twin spatulas made of 18/10 steel, material 4301, polished, 2 ends curved in spoon form

	L mm	Blade L mm	Blade W mm	Order No.
③	130	10	5	**33 05 03180**
	185	10	5	**33 05 03181**
	210	12	5	**33 05 03182**
	150	15	7	**33 05 03183**
	200	17	7	**33 05 03184**
	250	20	7	**33 05 03185**
	180	25	7	**33 05 03186**
	210	25	12	**33 05 03187**

Twin spatulas made of 18/10 steel, material 4301, polished, one end curved in spoon form

	L mm	Blade L mm	Blade W mm	Order No.
④	130	10	5	**33 05 03210**
	185	10	5	**33 05 03211**
	210	12	5	**33 05 03212**
	180	25	8	**33 05 03213**
	210	25	12	**33 05 03214**
	230	25	12	**33 05 03215**
	235	25	18	**33 05 03216**



Twin spatulas made of 18/10 steel, PTFE coated, one end curved in spoon form

	L mm	Blade L mm	Blade W mm	Order No.
④	180	25	8	**33 05 03720**
	210	25	12	**33 05 03721**
	230	25	12	**33 05 03722**

Spatulas made of 18/10 steel, material 4301, polished, one end curved in spoon form

	L mm	Blade L mm	Blade W mm	Order No.
⑤	130	10	5	**33 05 03200**
	185	10	5	**33 05 03201**
	210	12	5	**33 05 03202**
	180	25	8	**33 05 03203**
	210	25	12	**33 05 03204**



Mortar spatulas made of 18/10 steel, material 4301, 10 mm round material, very stury, polished

	L mm	Blade L mm	Blade W mm	Order No.
⑥	150	40	20	**33 05 03260**
	200	40	20	**33 05 03261**
	250	60	25	**33 05 03262**
	300	60	25	**33 05 03263**
	400	60	25	**33 05 03264**



Micro-spades made of 18/10 steel, material 4301, polished

	L mm	Blade L mm	Blade W mm	Order No.
⑦	130	40	4	**33 05 03300**
	130	40	9	**33 05 03301**
	150	45	4	**33 05 03302**
	150	45	9	**33 05 03303**
	185	50	4	**33 05 03304**
	185	50	9	**33 05 03305**
	210	60	4	**33 05 03306**
	210	60	9	**33 05 03307**



Micro-spade made of 18/10 steel, material 4301, PTFE coated

L mm	Blade L mm	Blade W mm	Order No.
150	45	9	**33 05 03740**

Continued on next page

Spatulas





Micro-spoons made of 18/10 steel, material 4301, polished

	L mm	Blade L mm	Blade W mm	Wire Ø mm	Spoon L × W mm	Order No.
①	150	40	5	2.5	9 × 5	**33 05 03340**
	180	40	5	2.5	9 × 5	**33 05 03341**
	150	40	5	2	7 × 5	**33 05 03342**
	150	45	5	1.5	6 × 4	**33 05 03343**
	150	45	5	1.5	5 × 3	**33 05 03344**

② **Double spatula made of titanium**

Titanium is particularly suitable for applications where high corrosion-resistance, strength and low weight are important. The metal has a white-metallic shine, featuring light weight as well as high strength, ductility, corrosion resistance and thermal resistance. Due to the complicated production process, titanium is ten times as expensive as normal steel. Titanium is resistant to diluted sulphuric acid, hydrochloric acid, solutions containing chloride, cold nitric acid as well as most organic acids and alkaline solutions, such as sodium hydroxide.

Material	Length mm	Blade length mm	Blade width mm	Ø mm	Order No.
Titanium	210	60	11	4	**10 05 03910**

webcode WWQ7J025



Dosing Spatulas for Powder, BOCHEM

Dosing spatula

	Article	Order No.
③	**Dosing spatula made of 18/10 steel, plastic handle** Length 190 mm, blade 50 × 12 mm. Dosing of powder and the like by turning the knurled wheel.	**33 05 33540**

Powder spatula

	Article	Order No.
④	**Powder spatula made of 18/10 steel, material 4301, polished** spade dimensions 40 × 10 mm, 170 mm long	**33 05 03360**

webcode WWQ7J027



Pharmacist Spatulas, BOCHEM

⑤ **Pharmacist spatulas made of 18/10 steel, material 4301, polished**
with flexible non-rusting blade and wooden shaft

Length mm	Blade size mm	Order No.	Length mm	Blade size mm	Order No.
165	75 × 14	**33 05 03490**	275	165 × 27	**33 05 03494**
190	100 × 18	**33 05 03491**	310	200 × 32	**33 05 03495**
230	130 × 20	**33 05 03492**	365	250 × 38	**33 05 03496**
250	150 × 22	**33 05 03493**	415	300 × 42	**33 05 03497**

⑥ **Pharmacist spatula made of 18/10 steel, PTFE coated**

Length mm	Blade size mm	Order No.
230	130 × 20	**33 05 03760**

webcode WWR4Q074

Spoon Spatulas Stainless Steel, BÜRKLE



The spatula-spoon can be used in many different applications. The double-sided multi-purpose spoon is a spoon on one side and a spatula on the other. This makes it possible to sample and process a variety of media such as powders, granulates, pastes and liquids. The spoon side of the spoon-spatula holds 4 ml or 11 ml respectively.
Manufactured from a single piece of stainless steel, the spoon-spatula has no edges, crevices or undercuts. Because of this, product residue or cleaning agents cannot be deposited and the possibility of cross-contamination or impurities is excluded. That makes the poly-spoon ideal for use in chemistry, the pharmaceutical industry, cosmetics and the food industry.

- Stainless steel (1.4301)
- High-gloss polished
- Double-sided function

	Article	Order No.
⑦	Spoon spatula, length 180 mm, 4 ml	**10 04 56022**
⑧	Spoon spatula, length 300 mm, 11 ml	**10 04 56025**

Spatulas

Micro Spatula Stainless Steel, BÜRKLE

webcode WWR4Q072

The micro spatula can be used for reliably measuring, sampling or processing small amounts of powder, chemicals, pastes, creams or active ingredients. The laboratory scoop is made of stainless steel and is manufactured entirely without edges, crevices or undercuts. This excludes the possibility of impurities or cross-contamination, since no product residue or cleaning agents can be deposited.
The micro spatula is ideal for use in the pharmaceutical industry as well as food & beverage and cosmetics.
- Stainless steel (1.4301)
- High-gloss polished
- Contents 1.25 ml

Article	Order No.
Micro spatula stainless steel, length 170 mm, 1.25 ml	**10 04 56001**

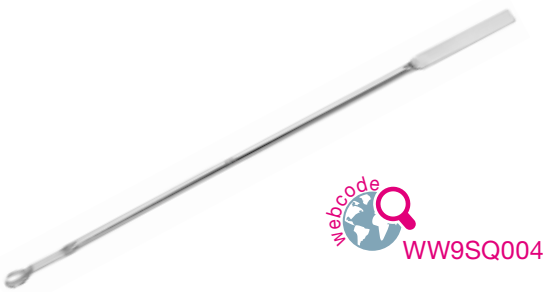


Micro Spoon Spatula, RSG Rostfrei-Schneidwerkzeuge GmbH

webcode WW9SQ004

Micro spoon spatula made of stainless steel 1.4301, available in different lengths and two widths.

Length mm	Width mm	Order No.	PU pc/Pack
100	5	**10 24 25100**	5
150	5	**10 24 25150**	5
185	5	**10 24 25185**	5
210	5	**10 24 25210**	5
300	5	**10 24 25300**	5
400	5	**10 24 25400**	5
150	7	**10 24 27150**	5
185	7	**10 24 27185**	5
210	7	**10 24 27210**	5



Spatula Set, RSG Rostfrei-Schneidwerkzeuge GmbH

webcode WW9SQ005

Spatula set in sheath (leather substitute), 7pcs. inside, stainless steel 18/10

Content:
- 1 Tweezers, blunt, straight, 145 mm
- 1 Micro spoon spatula, 150/5 mm
- 1 Double spatula, 150/9 mm
- 1 Micro powder spatula, 150/4 mm
- 1 Micro spoon spatula, 150/7 mm
- 1 Powder spatula, 150/9 mm
- 1 Micro double spatula, 150/4 mm

Article	Order No.
Spatula set in sheath	**10 24 20105**



Spetulas and Scissors Set, ISOLAB

webcode WWMUE004

A practical set of 6 most common and frequently used spatulas all manufactured from high quality, chemical and corrosion resistant AISI 304 grade stainless steel.
Set consists of one of each micro spoon / curved and ground / chattaway spatula with all 180 mm length and dissecting forcep / blunt - sharp scissors with 160 mm length.
All spatulas are placed into suitable holding pockets of the wallet that keeps the spatulas away from disorder and exterior effects.

Article	Order No.
Spatula set	**10 66 40500**
Empty wallet	**10 66 40501**



Spatulas

webcode WWQ7J028



① ②

Section Lifters, BOCHEM

① **Section lifters made of 18/10 steel, material 4301, polished, with hardwood handle, rigid blade**

Length mm	Blade size mm	Order No.
150	50 × 10	**33 05 03530**
150	50 × 15	**33 05 03531**
150	50 × 20	**33 05 03532**

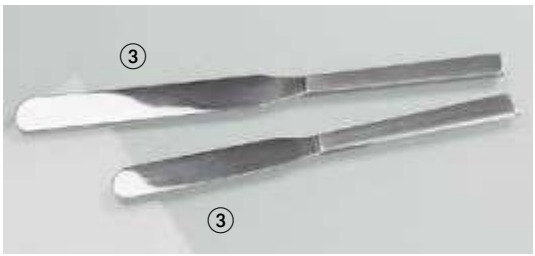
Section lifters made of 18/10 steel, material 4301, polished, with hardwood handle, fexible blade

Length mm	Blade size mm	Order No.
150	50 × 10	**33 05 03535**
150	50 × 15	**33 05 03536**
150	50 × 20	**33 05 03537**

② **Section lifters made of 18/10 steel, material 4301, blade and handle made of stainless steel, fexible blade**

Length mm	Blade size mm	Order No.
150	50 × 10	**33 05 03445**
150	50 × 15	**33 05 03446**
150	50 × 20	**33 05 03447**

webcode WWR4Q073



③ ③

Palette Knife Spatulas Stainless Steel, BÜRKLE

Similar to a pallet or dispensing chemist's spatula, this palette knife spatula is suitable for applying or distributing viscous media such as pastes and creams, or for spreading them smoothly. The high-quality stainless steel spatula is manufactured entirely from one piece, with no edges or crevices. That makes cleaning easier and prevents product residue and cleaning agents from accumulating.

- Stainless steel (1.4301)
- Manufactured from a single piece
- Very sturdy

Article	Order No.
③ Patette knife spatula stainless steel, L×W 200 × 21 mm	**10 04 56010**
④ Patette knife spatula stainless steel, L×W 250 × 25 mm	**10 04 56012**

webcode WWQED080



Sealing Paddle for Sealing Films, BRAND

To securely and easily apply self-adhesive films. The sealing paddle helps to attach the film to the plate with a uniform pressure. Especially suited for plates with raised rim.

Article	Order No.	PU pc/Pack
Sealing paddle for sealing films	**10 49 71381**	2

Spoons



⑤ ⑥ ⑦ ⑧ ⑪ ⑫

Spoons and Spatulas, Hammacher / IDL

Weighing spoons

Material	Form	Length mm	Spoon W × L m	Order No.
⑤ Wironit	with spatula end	150	15 × 30	**33 51 13010**
Wironit	with spatula end	180	15 × 30	**33 51 13013**
⑥ Wironit	with spatula end	150	16 × 26	**33 51 13016**

Chemical spoons

Material	Form	Length mm	Spoon W × L mm	Order No.
⑦ Wironit	single-ended	150	20 × 25	**33 51 13019**
Wironit	single-ended	180	24 × 32	**33 51 13022**
Wironit	single-ended	210	27 × 35	**33 51 13025**
Wironit	single-ended	250	30 × 40	**33 51 13028**
Wironit	single-ended	300	35 × 45	**33 51 13031**
⑧ Wironit	double-ended	150	20 × 25	**33 51 13034**
Wironit	double-ended	180	24 × 32	**33 51 13037**
Wironit	double-ended	210	27 × 35	**33 51 13040**
Wironit	double-ended	250	30 × 40	**33 51 13043**
Wironit	double-ended	300	35 × 45	**33 51 13046**

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Spoons

Laboratory spoon

	Length mm	Spoon dimensions mm	Order No.
⑨	195	60 × 44	**10 51 14319**

Weighing scoop

	Length mm	Shovel size mm	Order No.
⑩	170	10 × 40	**10 51 11217**

Weighing spatulas

	Material	Width mm	Length mm	Ø mm	Order No.
⑪	Wironit	6	120	2.5	**33 51 13049**
	Wironit	9	150	3.5	**33 51 13052**
	Wironit	9	180	3.5	**33 51 13055**
	Wironit	9	210	3.5	**33 51 13058**

Micro weighing spatulas

	Material	Width mm	Length mm	Ø mm	Order No.
⑫	Wironit	4	130	2	**33 51 13061**
	Wironit	4	150	2	**33 51 13064**
	Wironit	5	180	2	**33 51 13067**

Micro spatulas

	Material	Form	Width mm	Length mm	Ø mm	Order No.
⑬	Wironit	single-ended	5	130	2	**33 51 13070**
	Wironit	single-ended	5	185	2	**33 51 13073**
	Wironit	single-ended	5	210	2	**33 51 13076**
⑭	Wironit	double-ended	5	130	2	**33 51 13079**
	Wironit	double-ended	5	185	2	**33 51 13082**
	Wironit	double-ended	5	210	2	**33 51 13085**

Twin spatulas

	Material	Width mm	Length mm	Ø mm	Order No.
⑮	Wironit	4	120	2.0	**33 51 13088**
	Wironit	6	120	2.5	**33 51 13091**
	Wironit	9	150	3.5	**33 51 13094**
	Wironit	11	150	4.0	**33 51 13097**
	Wironit	9	180	3.5	**33 51 13100**
	Wironit	11	180	4.0	**33 51 13103**
	Wironit	9	210	3.5	**33 51 13106**
	Wironit	11	210	4.0	**33 51 13109**
	Wironit	12	240	4.0	**33 51 13112**
	Wironit	13	300	5.0	**33 51 13115**
⑯	Wironit	12	210	4.0	**33 51 13118**
	Wironit	10	180	3.5	**33 51 13121**
	Wironit	9	150	3.5	**33 51 13124**

Micro twin spatulas

	Material	Width mm	Length mm	Ø mm	Order No.
⑰	Wironit	4	150	2	**33 51 13127**
	Wironit	5	180	2	**33 51 13130**

Micro spatulas

	Material	Form	Width mm	Length mm	Order No.
⑱	Wironit	single-ended	2	140	**33 51 13133**
	Wironit	single-ended	3	140	**33 51 13136**
⑲	Wironit	single-ended	4	140	**33 51 13139**
	Wironit	single-ended	5	140	**33 51 13142**
⑳	Wironit	curved in spoon shape	4	140	**33 51 13154**
	Wironit	curved in spoon shape	5	140	**33 51 13157**

Micro powder spatulas

	Material	Width mm	Length mm	Order No.
㉑	Wironit	3	140	**33 51 13145**
	Wironit	4	140	**33 51 13148**
	Wironit	5	140	**33 51 13151**

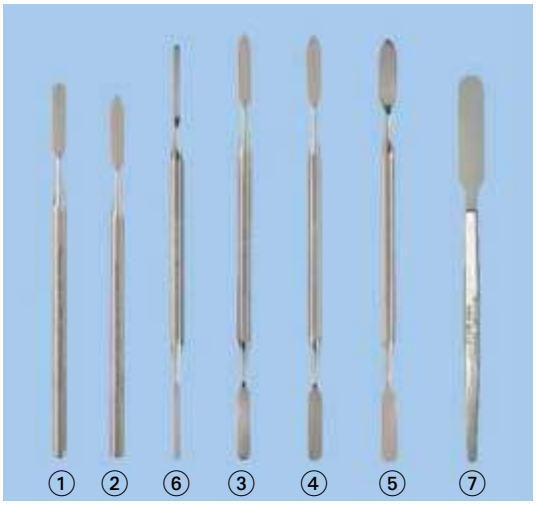
Micro spoons

	Material	Width mm	Length mm	Order No.
㉒	Wironit	5	140	**33 51 13160**



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Spoons



Mixing spatulas

	Material	Form	Length mm	Spatula W × L mm	Order No.
①	Wironit	single-ended	155	5 × 30	**33 51 13168**
②	Wironit	single-ended	155	5 × 30	**33 51 13169**
③	Wironit	double-ended	180	5 × 30	**33 51 13175**
④	Wironit	double-ended	180	6 × 30	**33 51 13178**
⑤	Wironit	double-ended	180	7 × 30	**33 51 13181**

Separating spatulas

	Material	Length mm	Spatula W × L mm	Order No.
⑥	Wironit	175	3 × 30	**33 51 13172**

Micro spatulas with metal haft

	Material	Length mm	Spatula W × L mm	Order No.
⑦	Wironit	150	10 × 55	**33 51 13184**



Spatula knifes

	Material	Overall length approx. mm	Spatula W × L mm	Order No.
⑧	rust-proof, flexible	180	10 – 15 × 80	**33 51 13187**
	rust-proof, flexible	205	10 – 18 × 105	**33 51 13190**
	rust-proof, flexible	230	10 – 20 × 130	**33 51 13193**
⑨	rust-proof, flexible	180	10 – 17 × 80	**33 51 13205**
	rust-proof, flexible	205	12 – 20 × 105	**33 51 13208**
	rust-proof, flexible	230	13 – 23 × 130	**33 51 13211**
⑩	rust-proof, flexible	180	11 – 21 × 80	**33 51 13214**
	rust-proof, flexible	205	11 – 24 × 105	**33 51 13217**
	rust-proof, flexible	230	11 – 24 × 130	**33 51 13220**

Spoon spatulas

	Material	Length mm	Spoon W × L mm	Spatula width mm	Order No.
⑪	Wironit	150	25 × 35	15 – 20	**33 51 13223**
	Wironit	180	25 × 35	18 – 22	**33 51 13226**
	Wironit	210	25 × 35	20 – 24	**33 51 13229**

Twin spoons

	Material	Length mm	Spoon W × L mm	Order No.
⑫	Wironit	150	25 × 35	**33 51 13232**
	Wironit	180	25 × 35	**33 51 13235**
	Wironit	210	25 × 35	**33 51 13238**



Spatula knifes

	Material	Width mm	Length mm	Spatula length mm	Order No.
⑬	Wironit	18	180	90	**33 51 13241**
	Wironit	18	200	110	**33 51 13244**
	Wironit	18	220	125	**33 51 13247**
	Wironit	20	250	150	**33 51 13250**
	Wironit	20	275	180	**33 51 13253**
	Wironit	20	295	195	**33 51 13256**

Mixing spatula

	Material	Form	Length mm	Order No.
⑭	Wironit	double-ended	190	**33 51 13259**

Mixing and laboratory spatula

	Material	Length mm	Order No.
⑮	Plastic	160 mm	**10 51 13260**

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Spoons

Alginate spatula

	Material	Width mm	Length mm	Spatula length mm	Order No.
⑯	Wironit	30	210	115	**33 51 13262**

Section lifter

	Material	Width mm	Length mm	Spatula length mm	Order No.
⑰	Wironit	8	155	55	**33 51 13265**
	Wironit	10	155	55	**33 51 13268**
	Wironit	15	155	55	**33 51 13271**

Pharmacist spatulas

	Material	Spatula length mm	Overall length approx. mm	Order No.
⑱	rust-proof, flexible	80	160	**33 51 13274**
	rust-proof, flexible	105	190	**33 51 13277**
	rust-proof, flexible	130	220	**33 51 13280**
	rust-proof, flexible	160	255	**33 51 13283**
	rust-proof, flexible	180	285	**33 51 13286**
	rust-proof, flexible	210	310	**33 51 13289**

Wironit (material number 1.4301) is a special alloy and exhibits the following advantages: rust-proof, nonmagnetically, acid-proof.

Rust-proof material: material number 1.4024



Spoons and Spatulas, Hammacher / IDL

Digalski spatulas (stirring rod)

	Material	Length mm	Leg length mm	Form	Order No.
⑲	Wironit	150	25		**33 51 27110**
⑳	Wironit	190	45	offset 10°	**33 51 27115**

㉑ Micro-spatulas with black plastic handle

Material	Length mm	Spatula length mm	Spatula width mm	Order No.
rust-proof	160	45	3	**33 51 27163**
rust-proof	160	45	4	**33 51 27164**
rust-proof	160	45	5	**33 51 27165**
rust-proof	160	45	6	**33 51 27166**

㉒ Micro powder spatulas with plastic handle

Material	Length mm	Spatula length mm	Spatula width mm	Order No.
rust-proof	160	45	3	**33 51 27263**
rust-proof	160	45	4	**33 51 27264**
rust-proof	160	45	5	**33 51 27265**
rust-proof	160	45	6	**33 51 27266**

Vibrations aptual with acid-proof plastic handle

with extra-fine and slender working part

	Material	Length mm	Order No.
㉓	PTFE-coated	220	**10 51 27220**

Inoculation Rods

	Article	Order No.
㉔	Inoculation rod (Drigalski) made of Wironit, triangular, 195 mm, Ø 4 mm	**33 51 25007**

Wironit (material number 1.4301) is a special alloy and exhibits the following advantages: rust-proof, nonmagnetically, acid-proof.

Rust-proof material: material number 1.4024





Have any questions?
Just give us a call!

Spoons

webcode WWQ7J026



①



②



③



④



⑤



⑥



⑦



⑧



⑨

Laboratory and Chemical Spoons, BOCHEM

Spoons made of 18/10 steel, material 4301, polished

	Spoon dimensions mm	Length mm	Order No.	Spoon dimensions mm	Length mm	Order No.
①	30 × 16	200	**33 05 03370**	20 × 10	150	**33 05 03385**
②	30 × 15	150	**33 05 03380**			

Poly-spoons made of 18/10 steel, material 4301, polished

	Spoon dimensions mm	Length mm	Order No.	Spoon dimensions mm	Length mm	Order No.
③	15 × 35	150	**33 05 03400**	28 × 65	210	**33 05 03410**
	15 × 35	180	**33 05 03401**	28 × 65	250	**33 05 03411**
	15 × 35	210	**33 05 03402**	28 × 65	300	**33 05 03412**
	15 × 35	250	**33 05 03403**	28 × 65	400	**33 05 03413**
	15 × 35	300	**33 05 03404**			

Chemical spoons made of 18/10 steel, material 4301, polished, with spatula handle

	Spoon dimensions mm	Length mm	Order No.	Spoon dimensions mm	Length mm	Order No.
④	23×31	120	**33 05 03420**	28×40	210	**33 05 03423**
	27×38	150	**33 05 03421**	35×50	250	**33 05 03424**
	28×40	180	**33 05 03422**	41×55	300	**33 05 03425**

Chemical spoons made of pure nickel (99,5%), polished

Spoon dimensions mm	Length mm	Order No.	Spoon dimensions mm	Length mm	Order No.
23×31	120	**33 05 03430**	28×40	180	**33 05 03432**
27×38	150	**33 05 03431**	28×40	210	**33 05 03433**

Chemical spoons made of 18/10 steel, PTFE coated

Spoon dimensions mm	Length mm	Order No.
28×40	180	**33 05 03750**

Chemical spoons made of 18/10 steel, material 4301, polished, single-ended

	Spoon dimensions mm	Length mm	Order No.	Spoon dimensions mm	Length mm	Order No.
⑤	22×30	120	**33 05 03450**	29×40	210	**33 05 03453**
	22×30	150	**33 05 03451**	35×48	250	**33 05 03454**
	29×40	180	**33 05 03452**	35×48	300	**33 05 03455**

Chemical spoons made of 18/10 steel, material 4301, polished, double-ended

	Spoon dimensions mm	Length mm	Order No.	Spoon dimensions mm	Length mm	Order No.
⑥	17×23 + 22×30	120	**33 05 03460**	22×30 + 29×40	210	**33 05 03463**
	17×23 + 22×30	150	**33 05 03461**	29×40 + 29×48	250	**33 05 03464**
	22×30 + 29×40	180	**33 05 03462**	29×40 + 29×48	300	**33 05 03465**

Chemical spoons made of 18/10 steel, material 4301, polished, with spade

	Spoon dimensions mm	Length mm	Order No.	Spoon dimensions mm	Length mm	Order No.
⑦	22×30	120	**33 05 03470**	29×40	210	**33 05 03473**
	22×30	150	**33 05 03471**	35×48	250	**33 05 03474**
	29×40	180	**33 05 03472**	35×48	300	**33 05 03475**

Laboratory spoons made of 18/10 steel, material 4301, polished

	Spoon dimensions mm	Length mm	Order No.	Spoon dimensions mm	Length mm	Order No.
⑧	26×40	120	**33 05 03480**	45×60	195	**33 05 03483**
	31×45	135	**33 05 03481**	70×85	280	**33 05 03484**
	38×55	180	**33 05 03482**			

⑨ **Chemical spoon made of titanium**

Titanium is particularly suitable for applications where high corrosion-resistance, strength and low weight are important. The metal has a white-metallic shine, featuring light weight as well as high strength, ductility, corrosion resistance and thermal resistance. Due to the complicated production process, titanium is ten times as expensive as normal steel. Titanium is resistant to diluted sulphuric acid, hydrochloric acid, solutions containing chloride, cold nitric acid as well as most organic acids and alkaline solutions, such as sodium hydroxide.

Material	Length mm	Blade length mm	Blade width mm	Ø mm	Spoon dimensions mm	Order No.
Titanium	180	32	22	1	40×28	**10 05 03920**

Spoons

Portioning Ladle, BOCHEM

webcode WWQ7J089

Made of 18/10 stainless steel, ml indication reached with filling until rim.

Material	Volume ml	Order No.
18/10 stainless steel	125	**10 05 03805**
18/10 stainless steel	250	**10 05 03806**
18/10 stainless steel	500	**10 05 03807**



Disposable Measuring and Dosing Spoons, BÜRKLE

webcode WWR4Q075

With the measuring and dosing spoons, small quantities of powder, granulates and liquids can be accurately measured and dosed. For exact measuring, excess medium is scraped off at the upper edge of the spoon. The holding capacity is embossed on the handle. The flat front edge of the measuring spoon is ideal for picking up medium from the bottom of the container or for reaching into the corners of the container for thorough emptying of residual content. Thanks to its flat bottom, the measuring spoon can be put down without spilling the contents. The disposable measuring spoon is also suitable as a sample spoon for taking small sample quantities. Since the plastic measuring spoon is designed for single use, they are disposed of after use so that cross-contamination or contamination is excluded.
The measuring and dosing spoons are suitable for accurate measuring in the chemical, pharmaceutical, cosmetics, feed, as well as food & beverage industries.

- With scrape-off edge
- Designed for single use
- Produced in the cleanroom (cleanroom class 7)
- Individual packaging and sterilization as an option
- Pursuant to EU food directives and FDA regulations



① Dosing spoons, PS, white

Vol. ml	PU pc/Pack	sterile no Order No.	yes Order No.
0.5	100	**10 04 54002**	**10 04 54005**
1.0	100	**10 04 54006**	**10 04 54007**
2.5	100	**10 04 54008**	**10 04 54009**
5.0	100	**10 04 54010**	**10 04 54011**
10.0	100	**10 04 54012**	**10 04 54013**
15.0	100	**10 04 54014**	**10 04 54015**
25.0	100	**10 04 54016**	**10 04 54017**
50.0	100	**10 04 54018**	**10 04 54019**



② Measuring spoons, blue
These measuring spoons are blue, a colour which does not occur naturally in food. Therefore, should a spoon or parts of a spoon get into a production machine, they are easily visible and can be reliably detected by visual inspection.

Volume ml	PU pc/Pack	sterile no Order No.	yes Order No.
0.5	100	**10 04 54044**	**10 04 54045**
1.0	100	**10 04 54046**	**10 04 54047**
2.5	100	**10 04 54048**	**10 04 54049**
5.0	100	**10 04 54050**	**10 04 54051**
10.0	100	**10 04 54052**	**10 04 54053**
15.0	100	**10 04 54054**	**10 04 54055**
25.0	100	**10 04 54056**	**10 04 54057**
50.0	100	**10 04 54058**	**10 04 54059**



③ Measuring spoons, blue detectable
In addition to the blue colour, the material of these measuring spoons has a special additive which makes them detectable by metal detectors or in an X-ray examination. Thus, even though the spoons are made of plastic, they can be removed via the usual contaminant separation systems.

Vol. ml	sterile	Order No.	PU pc/Pack
0.5	yes	**10 04 54085**	100
1.0	yes	**10 04 54087**	100
2.5	yes	**10 04 54089**	100
5.0	yes	**10 04 54091**	100

Vol. ml	sterile	Order No.	PU pc/Pack
10.0	yes	**10 04 54093**	100
15.0	yes	**10 04 54095**	100
25.0	yes	**10 04 54097**	100
50.0	yes	**10 04 54099**	100

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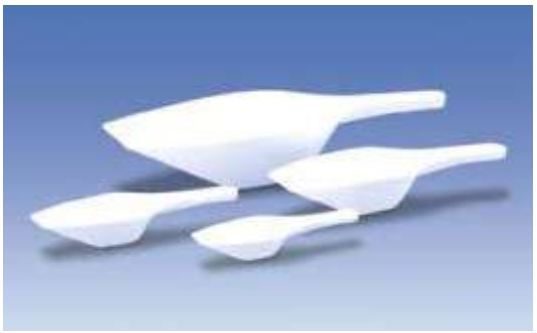
Spoons



Measuring spoon set
- PS
- White or blue
- Set of measuring spoons in eight sizes
- Holding capacity: 0.5; 1.0; 2.5; 5.0; 10; 15; 25; and 50 ml

Article	Order No.
Set of measuring spoons, PS, white (8 spoons, 0.5 – 50 ml)	**10 04 54120**
Set of measuring spoons, PS, blue (8 spoons, 0.5 – 50 ml)	**10 04 54125**

Shovels



Measuring Scoops, PP, VITLAB

White. Also suitable as weighing scoops. With precision formed filling edge and comfortable, stable handle. Easily readable volume quantities on the upper side of the handle. Suitable for contact with foodstuffs according to ordinance (EU) No. 10/2011.

Contents ml	Length mm	Order No.	PU pc/Pack
2	60	**10 85 34391**	12
5	82	**10 85 34392**	12
10	100	**10 85 34393**	12
25	135	**10 85 34394**	12
50	160	**10 85 34395**	12
100	200	**10 85 34396**	12
250	260	**10 85 34397**	6
500	315	**10 85 34398**	6
1000	385	**10 85 34399**	6



Measuring Scoops, coloured, PP, VITLAB

Measuring scoops in different colours. Also suitable as weighing scoops. With precisely formed filling edge and comfortable, stable handle. Easily readable volume specification on the upper side of the handle. Suitable for food stuffs according to EU directive No. 10/2011.

Colour	Volume ml	Order No.	PU pc/Pack
red	50	**10 85 35940**	12
ultramarine	50	**10 85 35950**	12
red	100	**10 85 36940**	12
grey	100	**10 85 36943**	12
black	100	**10 85 36944**	12
yellow	100	**10 85 36946**	12
blue	100	**10 85 36950**	12
green	100	**10 85 36952**	12
light blue	100	**10 85 36955**	12
ultramarine	100	**10 85 36956**	12
red	250	**10 85 37941**	6
ultramarine	250	**10 85 37950**	6
Set, 9 colours (incl. white), per 1 scoop	100	**10 85 36911**	1

Available only in original packaging units. No fractions possible.

Webcode

Use the webcode on our website to see a larger selection of products from a specific manufacturer.

Shovels

Scoops, IDL

Polyethylene scoops, white, high density.

Volume ml	Length mm	Order No.
15	115	**22 00 00015**
25	135	**22 00 00025**
65	185	**22 00 00063**
110	215	**22 00 00110**
150	250	**22 00 00150**
350	310	**22 00 00350**
750	350	**22 00 00500**



webcode WW7R3010

Shovels, IDL

Shovels made of aluminium, cast type.

Overall L approx. mm	Volume g	Order No.
65	5	**33 00 08814**
85	10	**33 00 08815**
135	40	**33 00 08816**
155	60	**33 00 08817**
185	90	**33 00 08818**
210	130	**33 00 08819**

Overall L approx. mm	Volume g	Order No.
250	250	**33 00 08820**
290	375	**33 00 08821**
310	450	**33 00 08822**
350	800	**33 00 08823**
400	1500	**33 00 08824**
430	2500	**33 00 08825**



webcode WW7R3213

Weighing Shovels, BOCHEM

webcode WWQ7J029

Weighing shovels made of 18/10 steel, material 4301, polished

Length mm	Shovel size mm	Order No.
200	70 × 31	**33 05 03600**
220	90 × 31	**33 05 03601**

Length mm	Shovel size mm	Order No.
235	105 × 31	**33 05 03602**
250	120 × 31	**33 05 03603**

Weighing shovels made of 18/10 steel, PTFE coated

Length mm	Shovel size mm	Order No.
235	105 × 31	**33 05 08265**



Chemical Shovels, BOCHEM

webcode WWQ7J030

Chemical shovels made of 18/10 steel, material 4301, polished.

Overall length mm	Bowl length mm	Ø mm	Volume l	Order No.
190	100	50	0.12	**33 05 08800**
250	145	75	0.45	**33 05 08801**
320	190	105	1.00	**33 05 08802**
350	230	120	1.50	**33 05 08803**
370	250	150	2.00	**33 05 08804**

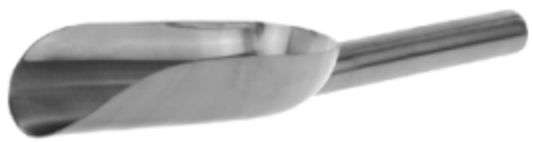


Chemical Shovels, Heavy Model, BOCHEM

webcode WWQ7J078

Chemical shovels made of 18/10 steel, material 4301. Handle welded. Qualified for food.

Overall length mm	Shovel length mm	Ø mm	Volume l	Order No.
215	100	40	0,15	**10 05 08809**
310	160	82	0,25	**10 05 08810**
350	200	102	0,50	**10 05 08811**
390	220	120	1,00	**10 05 08812**
450	300	160	2,00	**10 05 08813**



Shovels

webcode WWQ7J080



①



②

Pharma Scoop, BOCHEM

① **Pharma scoop made of 18/10 steel, handle soldered**

Overall length mm	Shovel length mm	Ø mm	Order No.
220	120	50	**10 05 08830**
280	165	75	**10 05 08831**

② **Pharma scoops made of 18/10 steel**
Seamless fixed handle, extremly high processing. With hanging loop.
Qualified for food.

Material	Overall length mm	Shovel size mm	Volume ml	Order No.
18/10 stainless steel	215	120×60	100	**10 05 08835**
18/10 stainless steel	230	140×75	200	**10 05 08836**
18/10 stainless steel	245	155×85	250	**10 05 08837**
18/10 stainless steel	350	220×130	500	**10 05 08838**

LABORBEDARF BOCHEM LAB SUPPLY



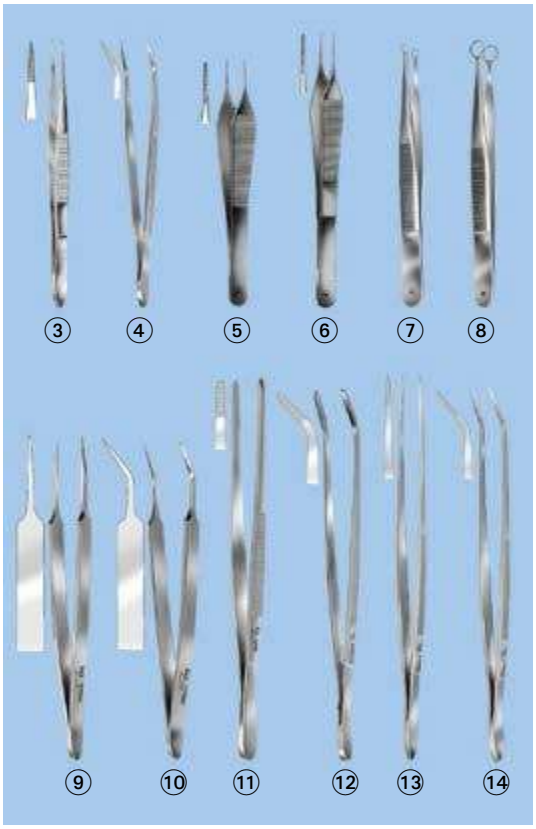
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Scoops, BOCHEM

Scoops made of 18/10 steel, material 4301, polished.

Volume ml	Ø mm	Order No.
200	90	**33 05 08741**
220	100	**33 05 08742**
1000	160	**33 05 08744**
1400	180	**33 05 08745**

Pincettes



③ ④ ⑤ ⑥ ⑦ ⑧

⑨ ⑩ ⑪ ⑫ ⑬ ⑭

Forceps, Hammacher / IDL

Forceps, simple design

	Material	Form	Length mm	Order No.
③	rust-proof	pointed, straight	105	**33 51 27305**
	rust-proof	pointed, straight	115	**33 51 27315**
	rust-proof	pointed, straight	130	**33 51 27330**
	rust-proof	pointed, straight	145	**33 51 27345**
	rust-proof	pointed, straight	160	**33 51 27360**
	rust-proof	pointed, straight	200	**33 51 27370**
④	rust-proof	pointed, curved	105	**33 51 27405**
	rust-proof	pointed, curved	115	**33 51 27415**
	rust-proof	pointed, curved	130	**33 51 27430**
	rust-proof	pointed, curved	145	**33 51 27445**
	rust-proof	pointed, curved	160	**33 51 27460**
	rust-proof	pointed, curved	200	**33 51 27470**

Micro-forceps

	Material	Form	Length mm	Order No.
⑤	rust-proof	anatomical	120	**33 51 27520**
⑥	rust-proof	anatomical	150	**33 51 27550**

Holding forceps for tissue and tumors

	Material	Length mm	Outer Ø mm	Order No.
⑦	Wironit	90	3	**33 51 27693**
⑧	Wironit	90	6	**33 51 27696**

Titanium dissecting forceps, simple design

	Material	Form	Length mm	Order No.
⑨	Titanium	anatomical	110	**33 51 27710**
⑩	Titanium	anatomical	105	**33 51 27705**

Continued on next page

Pincettes

Titanium forceps, simple design

	Material	Form	Length mm	Order No.
⑪	Titanium	anatomical, straight	200	**33 51 27820**
⑫	Titanium	anatomical, curved	200	**33 51 27822**
⑬	Titanium	pointed, straight	200	**33 51 27824**
⑭	Titanium	pointed, curved	200	**33 51 27826**

Staining forceps

	Material	Form	Length mm	Order No.
⑮	Wironit	smooth tips	150	**33 51 10010**
	Wironit	fluted tips	150	**33 51 10013**

Laboratory forcep

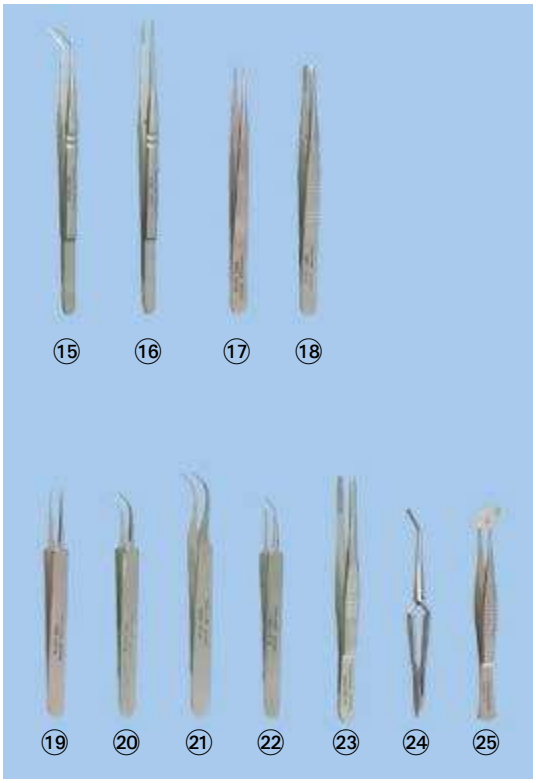
	Material	Form	Length mm	Order No.
⑯	Wironit	fluted tips	155	**33 51 10016**

Working forceps

	Material	Form	Length mm	Order No.
⑰	Wironit	pointed	120	**33 51 10022**
	Wironit	pointed	140	**33 51 10025**
	Wironit	pointed	160	**33 51 10028**
⑱	Wironit	blunt	120	**33 51 10031**
	Wironit	blunt	140	**33 51 10034**
	Wironit	blunt	160	**33 51 10037**

Micro-dissecting forceps

	Material	Form	Length mm	Order No.
⑲	Wironit	straight	105	**33 51 10046**
⑳	Wironit	curved	105	**33 51 10049**
㉑	Wironit	curved	105	**33 51 10052**
㉒	Wironit	angled	105	**33 51 10109**

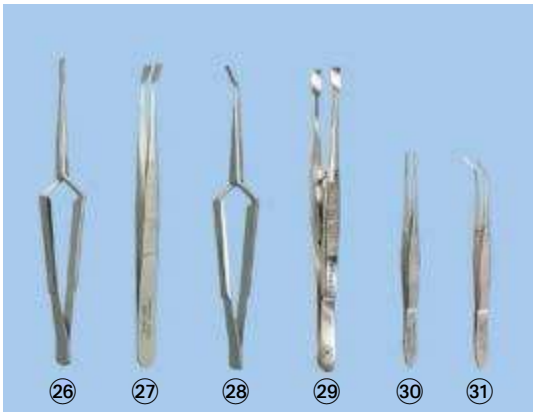


Anatomical forceps

	Material	Length mm	Order No.
㉓	Wironit	120	**33 51 10055**
	Wironit	130	**33 51 10058**
	Wironit	145	**33 51 10061**
	Wironit	160	**33 51 10064**
	Wironit	180	**33 51 10067**
	Wironit	200	**33 51 10070**
	Wironit	250	**33 51 10073**

Cover glass forceps

	Material	Form	Length mm	Order No.
㉔	rust-proof	curved, crossed	105	**33 51 10076**
㉕	Wironit		105	**33 51 10079**
㉖	rust-proof	straight, crossed	160	**33 51 10080**
㉗	Wironit		160	**33 51 10082**
㉘	rust-proof	curved, crossed	160	**33 51 10083**
㉙	Wironit	with fixing spring	160	**33 51 10085**



Micro-dissecting forceps

	Material	Form	Length mm	Order No.
㉚	Wironit	straight, with pin	105	**33 51 10088**
	Wironit	straight, with pin	115	**33 51 10091**
	Wironit	straight, with pin	130	**33 51 10094**
㉛	Wironit	curved, with pin	105	**33 51 10097**
	Wironit	curved, with pin	115	**33 51 10100**
	Wironit	curved, with pin	130	**33 51 10103**

Forcep

	Material	Length mm	Order No.
㉜	rust-proof	200	**33 51 10106**

Light-weight forceps

	Material	Form	Length mm	Order No.
㉝	Clock spring steel strip	blunt	100	**33 51 10112**
㉞	Clock spring steel strip	pointed	100	**33 51 10115**



Continued on next page

Pincettes



Anatomical micro-forceps

	Material	Form	Length mm	Order No.
	rust-proof	straight	175	**10 51 10121**
	rust-proof	curved	175	**10 51 10122**

Laboratory forceps with plastic coated tips

For a safe gripping of smallest parts. Sterilizable, heat resistant up to 130°C.

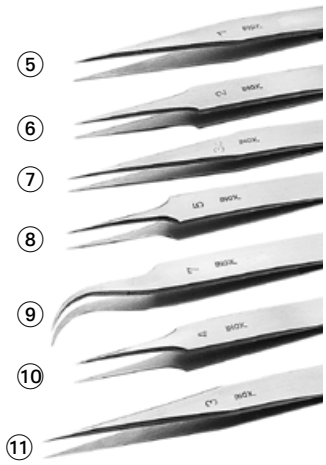
	Model	Form	Length mm	Order No.
①	HSC 525-30	angled	300	**10 51 10131**
②	HSC 524-16	angled	165	**10 51 10132**

Holders

	Article	Order No.
③	Stand for tweezers, 140 × 140 × 120 mm	**10 51 16400**
④	Ergo Brush holder	**10 51 16300**

Wironit (material number 1.4301) is a special alloy and exhibits the following advantages: rust-proof, nonmagnetically, acid-proof.

Rust-proof material: material number 1.4024



for my lab neoLab

webcode WW2NY092

Forceps, neoLab®

Original Swiss DUMONT forceps

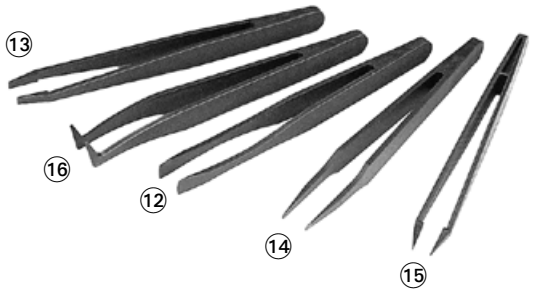
Highest precision, hand-forged from Inox stainless steel with ultra-fine tips for biology, electronic microscopy, and and wherever top quality is important. Individually packed in a case.

	Article	Type	Order No.
⑤	Dumont pincette	No. 1, straight	**33 01 21030**
⑥	Dumont pincette	No. 2, straight	**33 01 21031**
⑦	Dumont pincette	No. 3c, straight	**33 01 21032**
⑧	Dumont pincette	No. 5, straight	**33 01 21033**
⑨	Dumont pincette	No. 7, curved	**33 01 21034**
⑩	Dumont pincette	No. 4, straight	**33 01 21035**
⑪	Dumont pincette	No. 3, straight	**33 01 21036**

Antistatic forceps acc. to DIN 53 482

Made of antistatic Vestamide with 20% fiberglass reinforcement. Good rigidity and practically unbreakable. The forceps are electrically conductive. Excellent chemical resistance to acids and lyes.

Temperature resistance: up to 180°C
Total length: 120 mm
Color: black



	Width mm	Form	Tip	Order No.
⑫	6 mm	straight	without teeth	**33 01 21215**
⑬	3 mm	straight	with teeth	**33 01 21216**
⑭	2 mm	straight	without teeth	**33 01 21217**
⑮	1 mm	straight	with teeth	**33 01 21218**
⑯	1 mm	curved	without teeth	**33 01 21219**

DUMONT forceps made of Dumoxel®

Original high-precision Swiss Dumont forceps, forged from Dumoxel® stainless steel. Dumoxel® precision forceps are extremely sturdy, **autoclavable**, easy to repair, and require very little maintenance. As a rule, the Dumoxel® forceps have 4 – 6 times the useful life of forceps made of Inox alloys. The difference is due to the higher corrosion resistance and the softness of the material. This makes the forceps easier to repair. The matte finishes reduces reflections when working under the microscope.

Delivery: Individually, with tip protector, and in a box with hinged lid.



	Tip style	Surface	Tip thickness mm	Tip width mm	Length mm	Order No.
⑰	standard	polished	0.08	0.13	110	**10 01 21042**
⑰	biology	polished	0.02	0.06	110	**10 01 21043**
⑱	standard	matt	0.06	0.10	110	**10 01 21044**
⑱	biology	matt	0.01	0.05	110	**10 01 21045**
⑲	standard	polished	0.10	0.17	115	**10 01 21046**
⑲	biology	matt	0.03	0.07	115	**10 01 21047**

Pincettes

Tweezers Set, RSG Rostfrei-Schneidwerkzeuge GmbH

webcode WW9SQ006

Tweezers set, filled with 4 parts, in a case with press stud.

Content:
- Special tweezer, bent, 120 mm
- Tweezer straight blunt, 130 mm
- Tweezer with guide pin, straight/pointed, 130 mm
- Cover glass tweezer, bent, 115 mm

Including tweezers guide book

Article	Order No.
Tweezers set, 4 parts	**10 24 20120**



Forceps, Stainless Steel, BÜRKLE

webcode WWR4Q076

The sturdy stainless steel tweezers are ideal for use in laboratories. Ends with a fluted internal structure ensure reliable handling of different samples. The fluted handle offers a good grip. The laboratory tweezers are suitable for use in precise work in chemistry, the pharmaceutical industry, cosmetics and food & beverage.
- stainless steel (1.4301)
- available in three sizes: 105 mm, 130 mm und 160 mm
- three different types: sharp/bent, sharp/straight, blunt/straight







① **Forceps stainless steel sharp/bent**

Article	Order No.
Forceps, stainless steel, sharp, bent form, 105 mm	**10 04 58611**
Forceps, stainless steel, sharp, bent form, 130 mm	**10 04 58612**
Forceps, stainless steel, sharp, bent form, 160 mm	**10 04 58614**

② **Forceps stainless steel sharp/straight**

Article	Order No.
Forceps, stainless steel, sharp, straight form, 105 mm	**10 04 58620**
Forceps, stainless steel, sharp, straight form, 130 mm	**10 04 58622**
Forceps, stainless steel, sharp, straight form, 160 mm	**10 04 58624**

③ **Forceps stainless steel blunt/straight**

Article	Order No.
Forceps, stainless steel, blunt, straight form, 105 mm	**10 04 58630**
Forceps, stainless steel, blunt, straight form, 130 mm	**10 04 58632**
Forceps, stainless steel, blunt, straight form, 160 mm	**10 04 58634**

Forceps, BOCHEM

webcode WWQ7J023

Forceps made of 18/10 steel, self-clamping

	Material	Form	Length mm	Order No.
④	polished	very pointed	120	**33 05 01640**
⑤	polished	very pointed, curved	120	**33 05 01641**



Cover glass forceps made of 18/10 steel

	Material	Form	Width point mm	Length mm	Order No.
⑥	polished	curved	6	105	**33 05 01722**
⑦	PTFE coated	curved	6	105	**33 05 01830**

Weight forcep made of 18/10 steel

	Material	Version	Length mm	Order No.
⑧	polished	Plastic tip	100	**33 05 01740**



Continued on next page

Pincettes

















Forceps made of 18/10 steel

	Material	Form	Length mm	Order No.
1	polished	blunt	105	**33 05 01000**
	polished	blunt	115	**33 05 01001**
	polished	blunt	130	**33 05 01002**
	polished	blunt	145	**33 05 01003**
	polished	blunt	160	**33 05 01004**
	polished	blunt	200	**33 05 01005**
	polished	blunt	250	**33 05 01006**
	polished	blunt	300	**33 05 01007**
2	PTFE coated	blunt	115	**33 05 01800**
	PTFE coated	blunt	130	**33 05 01801**
	PTFE coated	blunt	145	**33 05 01802**
3	polished	pointed, without guide-pin	105	**33 05 01010**
	polished	pointed, without guide-pin	115	**33 05 01011**
	polished	pointed, without guide-pin	130	**33 05 01012**
	polished	pointed, without guide-pin	145	**33 05 01013**
	PTFE coated	pointed, with guide-pin	115	**33 05 01810**
	PTFE coated	pointed, with guide-pin	130	**33 05 01811**
	PTFE coated	pointed, with guide-pin	145	**33 05 01812**
4	polished	pointed, curved, with guide-pin	115	**33 05 01020**
	polished	pointed, curved, with guide-pin	130	**33 05 01021**
	polished	pointed, curved, with guide-pin	145	**33 05 01022**
	PTFE coated	pointed, curved	115	**33 05 01820**
	PTFE coated	pointed, curved	130	**33 05 01821**
	PTFE coated	pointed, curved	145	**33 05 01822**
5	polished	very pointed	120	**33 05 01600**
	polished	very pointed	130	**33 05 01601**
	PTFE coated	very pointed	120	**33 05 01860**
	PTFE coated	very pointed	130	**33 05 01861**
6	polished	very pointed	105	**33 05 01610**
7	PTFE coated	very pointed	105	**33 05 01865**
8	polished	very pointed, curved	105	**33 05 01620**
	PTFE coated	very pointed, curved	105	**33 05 01867**

Forceps made of titanium

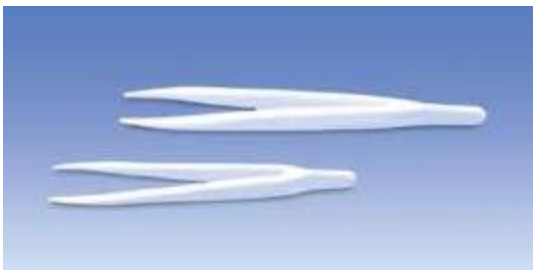
	Material	Form	Length mm	Order No.
14	Titanium	blunt	115	**10 05 01900**
15	Titanium	pointed, without guide-pin	115	**10 05 01910**

Precision forceps made of titanium

	Material	Form	Length mm	Order No.
16	Titanium	extra pointed, without ridges	105	**10 05 01930**
17	Titanium	curved, extra pointed, without ridges	105	**10 05 01940**
18	Titanium	extra pointed, without ridges	130	**10 05 01950**

Precision forceps "De Bakey" made of titanium

	Material	Length mm	Order No.
19	Titanium	160	**10 05 01960**



Forceps made of PMP, VITLAB

Forceps made of PMP, white, pointed, elastic, very good recovery.
Autoclavable at 121°C (2 bar) according to DIN EN 285.

Colour	Length mm	Order No.	PU pc/Pack
white	115	**33 85 00115**	10
white	145	**33 85 00145**	10

Available only in original packaging units. No fractions possible.

Pincettes

Disposable Forceps, BÜRKLE

webcode WWR4Q077

Designed for precise laboratory operations, the disposable forceps are ideal for gripping, holding and moving small items such as pieces of fine tissue, small objects or solid samples. The knurled handles ensure easy and safe handling as well as highly accurate working.
The light-weight disposable plastic forceps provide for working without fatigue. Produced under cleanroom conditions, the forceps meet the highest standards and prevent cross-contamination or soiling of the sample to be examined.
The laboratory forceps are suitable for the chemical, pharmaceutical, cosmetics, and food industry as well as applications in science.

- Three models: pointed/angled, pointed/straight, wide tip
- Designed for single use
- Produced in the cleanroom (cleanroom class 7)
- Individual packaging and sterilization as an option
- Pursuant to EU food directives and FDA regulations
- Overall length 130 mm



① **Forceps PS, white**

Version	PU pc/Pack	sterile no Order No.	yes Order No.
Sharp, bent form	100	**10 04 57840**	**10 04 57940**
Sharp	100	**10 04 57841**	**10 04 57941**
Wide tip	100	**10 04 57842**	**10 04 57942**



② **Disposable forceps, blue**
These disposable forceps are blue, a colour which does not occur naturally in food. Therefore, should a pair of forceps or parts of them get into a production machine, they are easily visible and can be reliably detected by visual inspection.

Version	sterile	Order No.	PU pc/Pack
Sharp, bent form	yes	**10 04 57850**	100
Sharp	yes	**10 04 57851**	100
Wide tip	yes	**10 04 57852**	100



③ **Sterile forceps, blue, detectable**
In addition to the blue colour, the material of these disposable forceps has a special additive which makes them detectable by metal detectors or in an X-ray examination. Thus, even though the forceps are made of plastic, they can be removed via the usual contaminant separation systems.

Version	sterile	Order No.	PU pc/Pack
Sharp, bent form	yes	**10 04 57860**	100
Sharp	yes	**10 04 57861**	100
Wide tip	yes	**10 04 57862**	100

Disposable Forceps, ISOLAB



ISOLAB Laborgeräte GmbH

webcode WWMUE005

Manufactured under germ-free gamma sterile conditions with extreme sterility control from ABS. Certified as "DNase, RNase and pyrogen-free" since sterilised by gamma irradiation after production step.
Individually single packed with lot number, production date and expiry date printed on the package.

Article	Order No.
Disposable forceps	**10 66 40502**

Scissors

Universal Scissor, BOCHEM

BOCHEM

webcode WWQ7J069



Plastic handle outside, persistant metal handle inside and therefore very robust.

Material	Overall length approx. mm	Cutting length mm	Order No.
rust-proof	190	40	**33 05 04250**

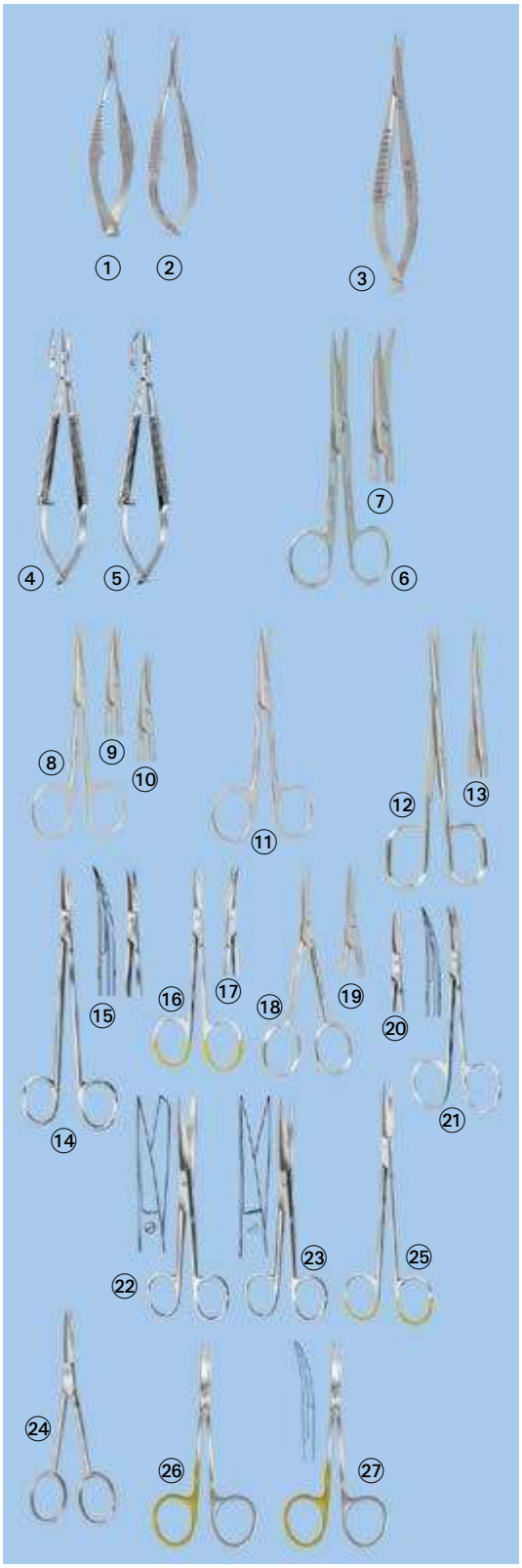
Scissors

webcode WWQ7J081



Dressing Scissor, BOCHEM

Material	Overall length mm	Cutting length mm	Order No.
Titanium	140	45	**10 05 04109**



Scissors, Hammacher / IDL

Micro-scissors

	Material	Form	Length mm	Order No.
1	rust-proof	straight (Vanas)	80	**33 51 14022**
2	rust-proof	curved (Vanas)	80	**33 51 14025**
3	rust-proof	straight	105	**33 51 14034**
4	rust-proof	straight	110	**10 51 14041**
5	rust-proof	curved	110	**10 51 14043**
	rust-proof	straight	140	**10 51 14052**
	rust-proof	curved	140	**10 51 14054**

Scissors for physiology

	Material	Form	Length mm	Order No.
6	Wironit	straight, pointed/blunt	130	**33 51 14055**
	Wironit	straight, pointed/blunt	145	**33 51 14058**
	Wironit	straight, pointed/blunt	160	**33 51 14061**
7	Wironit	curved, pointed/blunt	130	**33 51 14064**
	Wironit	curved, pointed/blunt	145	**33 51 14067**
	Wironit	curved, pointed/blunt	160	**33 51 14070**

Micro-dissecting scissors

	Material	Form	Length mm	Order No.
8	Wironit	straight, pointed/pointed	110	**33 51 14073**
9	Wironit	slightly curved, pointed/pointed	110	**33 51 14076**
10	Wironit	very curved, pointed/pointed	110	**33 51 14079**

Ligature and artery scissors

	Material	Form	Length mm	Order No.
11	Wironit	straight, pointed/blunt	110	**33 51 14088**

Dissecting scissors

	Material	Form	Length mm	Order No.
12	Wironit	straight	145	**33 51 14097**
13	Wironit	curved	145	**33 51 14100**
14	rust-proof	straight	160	**10 51 15101**
15	rust-proof	curved	160	**10 51 15102**
16	rust-proof	straight, pointed/pointed	105	**10 51 15104**
17	rust-proof	curved, pointed/pointed	105	**10 51 15105**

Scissors for microscopy

	Material	Form	Length mm	Order No.
18	rust-proof	straight	110	**33 51 14103**
19	rust-proof	curved	110	**33 51 14106**
20	rust-proof	straight, pointed	105	**10 51 14110**
21	rust-proof	curved, pointed	105	**10 51 14111**
20	rust-proof	straight, pointed	115	**10 51 14112**
21	rust-proof	curved, pointed	115	**10 51 14113**

Operating scissors, standard

	Material	Form	Length mm	Order No.
22	rust-proof	straight, pointed/blunt	115	**10 51 14125**
22	rust-proof	straight, pointed/blunt	130	**10 51 14126**
22	rust-proof	straight, pointed/blunt	145	**10 51 14127**
23	rust-proof	straight, pointed/pointed	115	**10 51 14128**
23	rust-proof	straight, pointed/pointed	130	**10 51 14129**
23	rust-proof	straight, pointed/pointed	145	**10 51 14130**

Continued on next page

Scissors

Operating scissors, delicate

	Material	Form	Length mm	Order No.
24	rust-proof	straight, pointed/pointed	130	**10 51 10813**
25	rust-proof	straight, pointed/pointed	140	**10 51 14131**
	rust-proof	curved, pointed/pointed	140	**10 51 14132**

Preparation scissors, with extra large grip rings, Super Cut

	Material	Form	Length mm	Order No.
26	stainless steel	straight	115	**10 51 14011**
27	stainless steel	curved	115	**10 51 14012**

Laboratory scissors

	Form	Length mm	Order No.
28	straight	145	**33 51 14109**
29		120	**33 51 14118**
30		180	**33 51 14121**

Universal scissor

	Material	Length mm	Order No.
31	rust-proof	180	**33 51 14115**

Universal scissors

	Material	Length mm	Order No.
32	Handle covered with plastic	145	**33 51 14133**

Working scissors

	Material	Length mm	Order No.
33	nickel-plated	160	**33 51 14157**

Suture and ligature scissors (Spencer), sterilizable

	Model	Form	Length mm	Order No.
34	HSB 287-11	angled	115	**10 51 14161**

Tissue scissors

	Form	Length mm	Order No.
35	curved, pointed/pointed	90 mm	**10 51 14165**



Wironit (material number 1.4301) is a special alloy and exhibits the following advantages: rust-proof, nonmagnetically, acid-proof.

Rust-proof material: material number 1.4024

Attention! All scissors are deliverable also with "Micro-Toothing", i.e. easy cutting, no slipping off.

The colour of the handles can vary.

Tongs, Holders

Test Tube Clamps, IDL

webcode WW7R3201

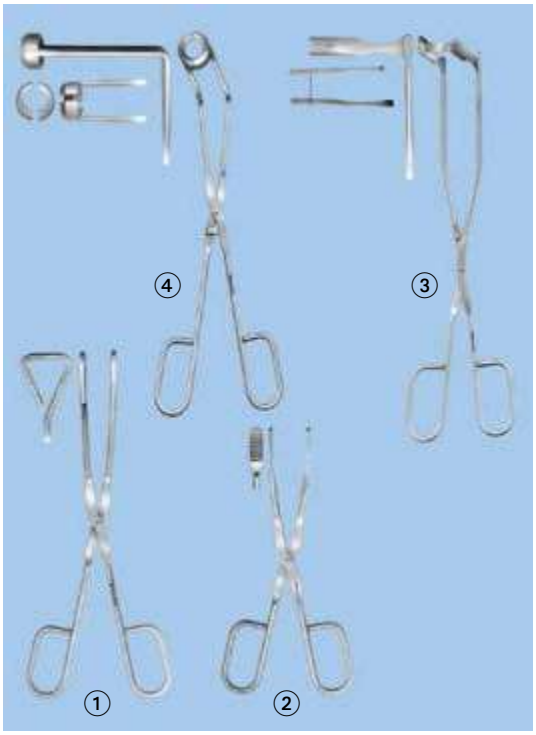
Test tube clamps made of wood, with wire spring

Article	Order No.
Test tube holder, medium, up to 20 mm Ø	**37 00 00102**
Test tube holder, large, up to 30 mm Ø	**37 00 00103**
Test tube holder XXL, up to approx. 30 mm Ø extreme strong spring, length approx. 230 mm	**10 00 00105**



Failed to find what you are looking for?
Give us a call!

Tongs, Holders



Crucible Tongs, Hammacher / IDL

Wironit (material number 1.4301) is a special alloy and exhibits the following advantages:
- rust-proof
- nonmagnetically
- acid-proof

Universal tongs

	Material	Length mm	Order No.
①	Wironit	255	**33 51 27010**
②	Wironit	195	**33 51 27020**

Special gripping tongs for lead pots

	Material	Angle length mm	Order No.
③	Wironit	70	**33 51 27030**

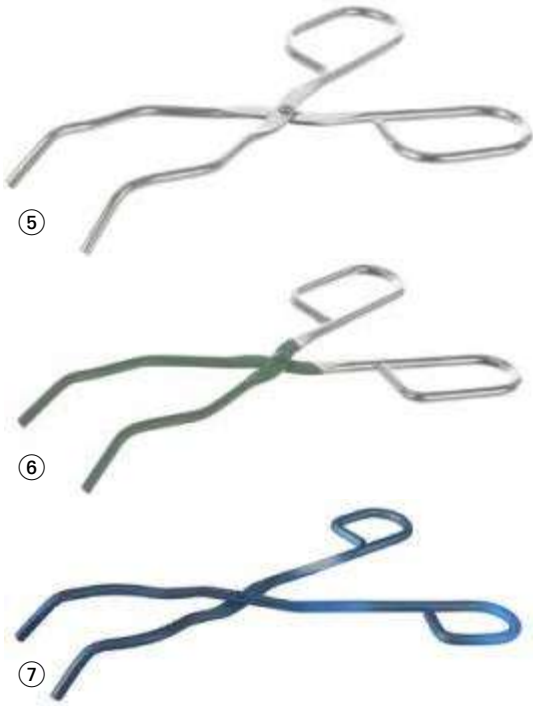
④ Tongs for isotope vials with special holder

Material	Length mm	Angle length mm	Order No.
Wironit	250	100	**33 51 27060**

BOCHEM LABORBEDARF LAB SUPPLY

Webcode WWQ7J034

Crucible Tongs with ridges, BOCHEM



⑤ Crucible tongs made of 18/10 steel, material 4301, polished

Length mm	Wire Ø mm	Order No.	Length mm	Wire Ø mm	Order No.
160	4.0	**33 05 02099**	300	5.0	**33 05 02103**
200	4.5	**33 05 02100**	400	6.0	**33 05 02104**
220	4.5	**33 05 02101**	500	6.0	**33 05 02105**
250	4.5	**33 05 02102**	600	8.0	**33 05 02106**

Crucible tongs made of pure nickel (99,5%), polished

Length mm	Wire Ø mm	Order No.
200	4.0	**10 05 02110**

⑥ Crucible tongs made of 18/10 steel, point PTFE coated

Length mm	Wire Ø mm	Order No.	Length mm	Wire Ø mm	Order No.
200	4.5	**33 05 02400**	250	4.5	**33 05 02401**

⑦ Crucible tong made of titanium

Titanium is particularly suitable for applications where high corrosion-resistance, strength and low weight are important. The metal has a white-metallic shine, featuring light weight as well as high strength, ductility, corrosion resistance and thermal resistance. Due to the complicated production process, titanium is ten times as expensive as normal steel. Titanium is resistant to diluted sulphuric acid, hydrochloric acid, solutions containing chloride, cold nitric acid as well as most organic acids and alkaline solutions, such as sodium hydroxide.

Material	Length mm	Wire Ø mm	Order No.
Titanium	220	4.5	**10 05 02910**

Webcode

Use the webcode on our website to see a larger selection of products from a specific manufacturer.

Tongs, Holders

Laboratory Tongs, BOCHEM

webcode WWQ7J035

Laboratory tongs made of 18/10 steel, material 4301, polished, points polyamid coated

Flask tongs

	Nominal Ø mm	Length mm	Wire Ø mm	Order No.
①	20	250	5.0	**33 05 02179**
	30	250	5.0	**33 05 02180**
	40	250	5.0	**33 05 02181**
	50	250	5.0	**33 05 02182**
	60	250	5.0	**33 05 02183**
②	15 – 60	230	5.0	**33 05 02250**

Beaker tongs covered with silicone tube

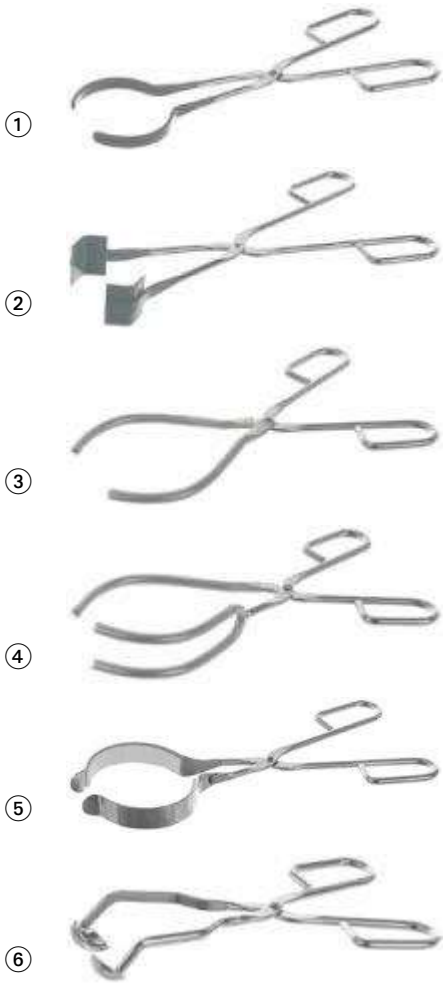
	Nominal Ø mm	Length mm	Wire Ø mm	Order No.
③	55 – 100	250	6.0	**33 05 02190**
④	25 – 100	250	6.0	**33 05 02200**

Beaker tongs, temperature-insulated with ceramic

	Nominal Ø mm	Length mm	Wire Ø mm	Order No.
⑤	60 – 100	300	6.0	**33 05 02220**

Sample tongs

	Length mm	Wire Ø mm	Order No.
⑥	220	6.0	**33 05 02240**



Multipurpuse Tong, BOCHEM

webcode WWQ7J082

Multipurpuse tong made of 18/10 steel.
9 pieces. Including belt bag.

Material	Length mm	Order No.
18/10 steel	100	**10 05 12240**



Scalpels, Knives

Blades, neoLab®

webcode WW2NY098

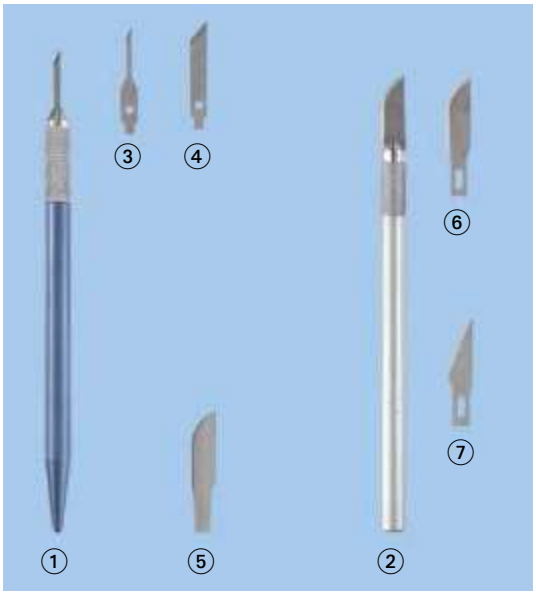
Blades with grip bar, razor-sharp. Ideal for scraping DC plates, for making sections, for cleaning away residues, for shaving etc.

Article	Cutting width mm	Order No.	PU pc/Pack
Blades with grip bar	40	**33 01 27110**	5
Blades with grip bar	57	**33 01 27111**	5

Available only in original packaging units. No fractions possible.



Scalpels, Knives



Foil Knives, Hammacher / IDL

Foil Knives

	Article	Order No.
①	Foil knife with aluminium handle, with blade 26004	**33 51 26001**
②	Foil knife with aluminium handle, with blade 26044	**33 51 26041**

Spare blades

	Article	Order No.	PU pc/Pack
③	Spare blades for foil knife 26001	**33 51 26004**	10
④	Spare blades for foil knife 26001	**33 51 26007**	10
⑤	Spare blades for foil knife 26001	**33 51 26019**	10
⑥	Spare blades for foil knife 26041	**33 51 26044**	10
⑦	Spare blades for foil knife 26041	**33 51 26047**	10

❗ Available only in original packaging units. No fractions possible.

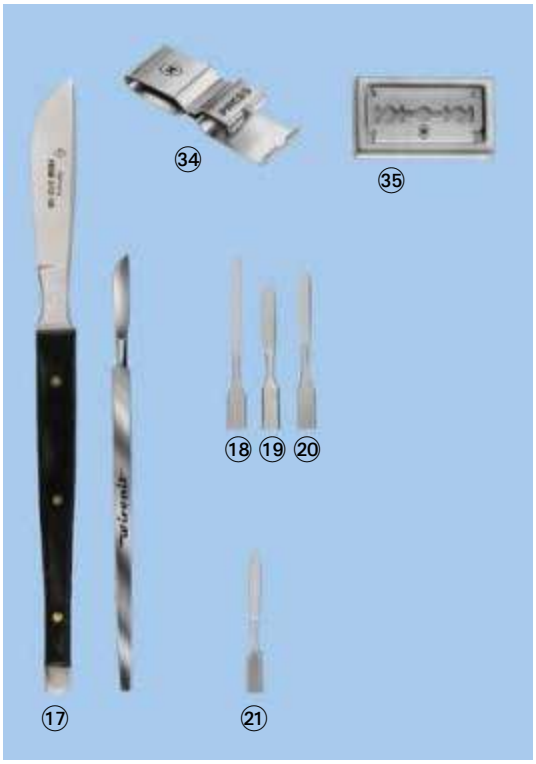


BRAUN Disposable Scalpels, IDL

CUTFIX®
Disposable scalpels, gamma-ray sterilized, individually packed to be sterile. With double precision ground joint, secure blade seat. Packs of 10.

	Figure	Order No.
⑧	10	**29 42 00101**
⑨	11	**29 42 00102**
⑩	12	**29 42 00103**
⑪	15	**29 42 00104**
⑫	20	**29 42 00105**

	Figure	Order No.
⑬	21	**29 42 00106**
⑭	22	**29 42 00107**
⑮	23	**29 42 00108**
⑯	24	**29 42 00109**



Knives and Scalpels, Hammacher / IDL

Cartilage knives

	Version	Length mm	Order No.
⑰	with scraper	180	**33 51 18016**
	without scraper	180	**33 51 18019**

Scalpelsfor microscopy

	Material	Length mm	Blade length mm	Order No.
⑱	Wironit	125	26	**33 51 18025**
⑲	Wironit	120	20	**33 51 18028**
⑳	Wironit	125	22	**33 51 18031**
㉑	Wironit	120	20	**33 51 18037**

Scalpel handle

	Material	Length mm	Order No.
㉒	rust-proof	135	**33 51 18061**

Interchangeable blades for scalpel handle 33 51 18061

	Figure	Form	Cutting length approx. mm	Order No.	PU pc/Pack
㉓	10	bellied	23	**33 51 18064**	100
㉔	11	pointed/angled	18	**33 51 18067**	100
㉕	12	sickle-bellied	13	**33 51 18070**	100
㉖	15	bellied	10	**33 51 18073**	100

❗ Available only in original packaging units. No fractions possible.

Scalpel handle

	Material	Length mm	Order No.
㉗	rust-proof	135	**33 51 18076**

Continued on next page

Scalpels, Knives

Interchangeable blades for scalpel handle 33 51 18061

	Figure	Form	Cutting length approx. mm	Order No.	PU pc/Pack
28	20	bellied	25	**33 51 18079**	100
29	21	bellied	30	**33 51 18082**	100
30	22	bellied	35	**33 51 18085**	100
31	23	pointed	30	**33 51 18088**	100
32	24	pointed	35	**33 51 18091**	100
33	25	pointed/angled	22	**33 51 18094**	100

Available only in original packaging units. No fractions possible.

Scalpel Blade Removers

	Article	Order No.
34	Scalpel blade remover Kling-EX made of Wironit	**33 51 28050**

Razor blades

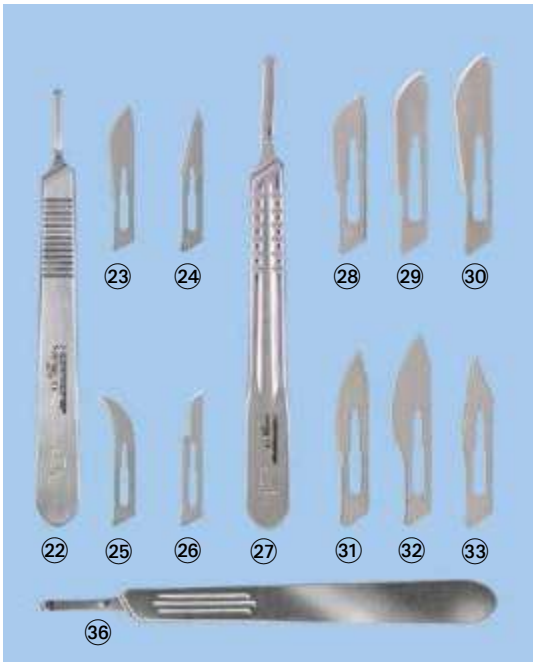
	Article	Order No.	PU pc/Pack
35	Razor blades	**33 51 18103**	10

Safety scalpel handle

	Article	Length mm	Order No.
36	Safety scalpel handle No. 3	125	**10 51 18125**

Wironit (material number 1.4301) is a special alloy and exhibits the following advantages: rust-proof, nonmagnetically, acid-proof.

Rust-proof material: material number 1.4024



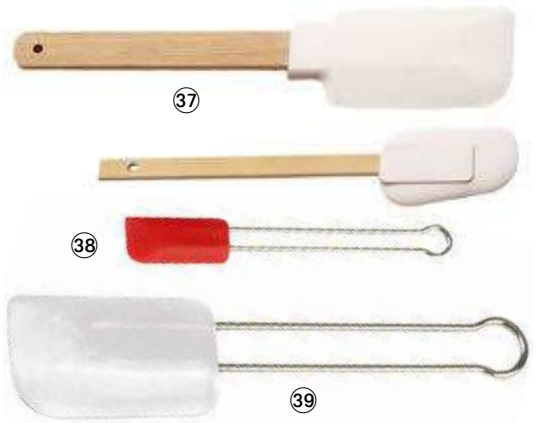
Wipers

Wipers, neoLab®

webcode WW2NY054

Wipers for removing gluey, viscous or adhesive substances from beakers or cylindrical containers.

	Article	Order No.
37	**Rubber wipers with wooden handle, 2 pieces in a set** Wiping surface 70×120 and 50×80 mm	**27 01 15200**
38	**Silicone wiper, small, red, with stainless steel handle** Wiping surface 60×30 mm, total length 20 cm	**27 01 15203**
	Silicone wiper, medium, black, with stainless steel handle Wiping surface 90×50 mm, total length 26 cm	**10 01 15206**
39	**Silicone wiper, large, white, with stainless steel handle** Wiping surface 120×75 mm, total length 32 cm	**27 01 15205**



Funnels

Funnels, Short Stem, DURAN®, DURAN Group / IDL

Funnel with short stem, DIN ISO 4798.

Rim O.D. mm	Stem length mm	Stem O.D. mm	H mm	matching paper filter Ø mm	Order No.	PU pc/Pack
35	35	6	60	45 – 55	**11 21 35123**	10
45[1)]	45	6	80	55 – 70	**11 21 35128**	10
55	55	8	95	70 – 90	**11 21 35133**	10
70[1)]	70	8	125	110 – 125	**11 21 35138**	10
80	80	10	140	125 – 150	**11 21 35141**	10
100	100	10	180	150 – 185	**11 21 35146**	10
120[1)]	120	16	210	185 – 240	**11 21 35151**	10
150	150	16	265	240 – 270	**11 21 35157**	10
180[1)]	150	20	290	270 – 320	**11 21 35159**	1
200[1)]	175	26	325	320 – 385	**11 21 35161**	1
300[1)]	175	30	409	500	**11 21 35169**	1

[1)] Non-DIN ISO size.



webcode WWEQ2018

Funnels

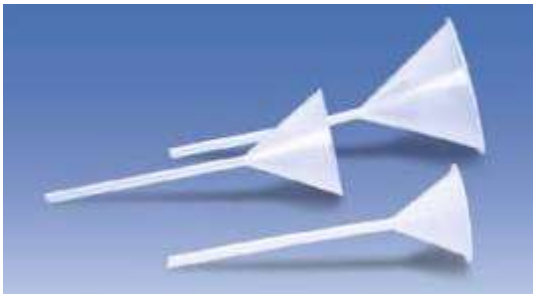


webcode WWEQ2021

Analytical Funnels, DURAN®, DURAN Group / IDL

Analytical funnels for for rapid filtration.

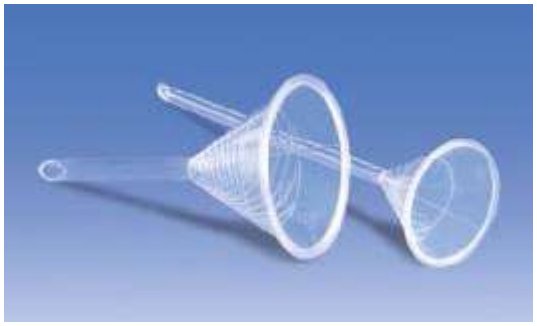
Rim O.D. mm	Stem L mm	Stem O.D. mm	Stem I.D. mm	H mm	matching round filter Ø mm	Order No.	PU pc/Pack
65	150	9	3	200	70 – 90	**11 21 33137**	10
80	150	9	3	210	110 – 125	**11 21 33141**	10
110	180	9	3	265	150 – 185	**11 21 33148**	10



Analytical Funnels, PP, VITLAB

Transparent. With long stem and grooves. Rigidified by a thickened edge. Rapid flow due to a steep 60° angle.

Volume ml	Ø mm	Outlet length mm	Outlet Ø mm	Order No.	PU pc/Pack
50	50	150	5	**10 85 30162**	10
100	72	143	5	**10 85 30164**	10
225	91	145	5	**10 85 30165**	10



Urbanti Funnels, PMP, VITLAB

Crystal clear. The spiral-shaped ribs increase the rate of filtration and prevent the trapping of air between the filter paper and the funnel. With long stem.

Volume approx. ml	Ø mm	Length mm	Outlet Ø mm	Order No.	PU pc/Pack
30	51	195	3	**23 85 16205**	6
80	70	210	3	**23 85 16207**	6
250	100	198	7	**23 85 16210**	4
630	140	247	10	**23 85 16214**	3
1800	196	315	20	**23 85 16219**	2

webcode WW7R3242



Funnels, Short Stem, Soda-Lime, IDL

Funnels, angle 60°, with short stem.

Rim O.D. mm	Stem length mm	Stem O.D. mm	Order No.	PU pc/Pack
35	35	6	**11 00 35123**	10
45	45	7	**11 00 35128**	10
55	55	8	**11 00 35133**	10
70	70	9	**11 00 35138**	10
80	80	9	**11 00 35141**	10
100	100	10	**11 00 35146**	10

Funnels

Funnels, Quartz Glass, QGT Bad Harzburg



Quartz glass funnels acc. to DIN 12445.

Funnel Ø mm	Stem L mm	Stem I.D. mm	Order No.
35	35	3	**18 36 73003**
45	45	3	**18 36 73004**
55	55	5	**18 36 73005**
70	70	5	**18 36 73007**
80	80	6	**18 36 73008**
100	100	6	**18 36 73010**
150	150	12	**18 36 73015**

Powder Funnels, DURAN® or Soda-Lime Glass, DURAN Group / IDL



webcode WWEQ2153

Powder funnels with short wide stem

Ø mm	Height mm	Material	Order No.	PU pc/Pack
55	60	DURAN®-Glass	**11 21 35433**	10
70	72	DURAN®-Glass	**11 21 35438**	10
80	79	DURAN®-Glass	**11 21 35441**	10
100	94	DURAN®-Glass	**11 21 35446**	10
120	105	DURAN®-Glass	**11 21 35451**	10
160	140	DURAN®-Glass	**11 21 35455**	1
200	170	DURAN®-Glass	**11 21 35461**	1

Funnels, IDL

webcode WW7R3094

① Funnels made of polypropylene

Ø mm	Length mm	Order No.
30	45	**23 00 47005**
40	65	**23 00 47010**
50	85	**23 00 47015**
75	110	**23 00 47020**

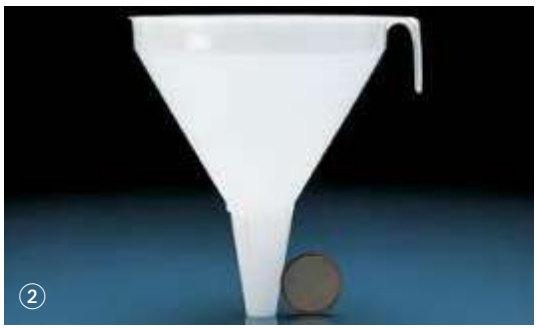
Ø mm	Length mm	Order No.
100	155	**23 00 47025**
120	180	**23 00 47030**
150	220	**23 00 47035**



② Funnels made of polypropylene, fast draining off due to steep 60° angel

Ø mm	Length mm	Order No.
200	200	**23 00 47040**
250	260	**23 00 47045**

Ø mm	Length mm	Order No.
350	440	**23 00 47050**



③ Powder funnels transparent, made of polypropylene

Ø mm	Length mm	Order No.
65	68	**23 00 48020**
80	75	**23 00 48025**
100	94	**23 00 48030**

Ø mm	Length mm	Order No.
120	110	**23 00 48035**
150	138	**23 00 48040**



Funnels



Half-Round Funnels, PP, VITLAB

Transparent. For multi-neck flasks, laterally flattened, suitable for standard joint necks of various sizes. Suitable for the filling of liquid or powdered reagents into a reaction flask, especially for loading of multi-neck flasks during a reaction.
Suitable for contact with foodstuffs according to ordinance (EU) No. 10/2011.

for ground joint NS	Length mm	Order No.	PU pc/Pack
14/23	75	**23 85 16114**	10
19/26	95	**23 85 16119**	10
29/32	135	**23 85 16129**	5

webcode WWQ7J054



Funnels, BOCHEM

① **Funnels made of 18/10 steel, 60° ∢, tube conical shape**

Funnel Ø mm	Tubing Ø mm	Overall H mm	Tube length mm	Order No.
80[1)]	13/17	115	50	**38 05 08840**
120	13/17	145	80	**38 05 08842**
250	21/27	260	90	**38 05 08845**

[1)] without handle

② **Funnels made of 18/10 steel with straight outlet tube, 60° ∢, especially for powder**

Funnel Ø mm	Tubing Ø mm	Overall H mm	Tube length mm	Order No.
120	20	135	60	**38 05 08720**
155	30	140	60	**38 05 08721**
200	30	175	60	**38 05 08722**
250	30	200	60	**38 05 08723**

③ **Mini funnel made of 18/10 stainless steel**
Drawed seamless

Material	Hole Ø mm	Order No.
18/10 stainless steel	4	**10 05 08855**
18/10 stainless steel	6	**10 05 08856**
18/10 stainless steel	8	**10 05 08857**
18/10 stainless steel	10	**10 05 08858**



BOLA Buchner Funnel, Bohlender

Made of PTFE. Two-part version demountable in upper and lower part for easy cleaning and removal of filter cake. Suitable for vacuum filtration. Nominal sizes and dimensions as per DIN 12 905. Suitable for commercial filter papers (not included in the scope of delivery). Universal chemical resistance, the medium is only exposed to PTFE.
Applications: For suspension of solids.

Technical data:

Material:	PTFE
Temperature resistance:	from -200°C to +250°C
Chemical resistance:	+++ universal
Autoclave:	121°
Vacuum:	suitable

Nominal size acc. to DIN	Volume ml	for filter paper Ø mm	Total height mm	Order No.
45	50	45	94	**10 17 65402**
55	75	55	117	**10 17 65404**
70	135	70	142	**10 17 65406**
90	290	90	165	**10 17 65408**

Funnels

Funnels, Stainless Steel, BÜRKLE

webcode WWR4Q078

The stainless steel funnel can be used to pour and transfer free-flowing powders, liquids and slightly viscous media easily. An air channel on the discharge tube ensures a complete, unobstructed flow. Depending on the diameter, this pouring aid is suitable for dispensing applications, from small amounts in laboratories to large quantities in industry. Larger versions of the funnel feature a handle to ensure easy handling.

- Stainless steel AISI 304 (1.4301)
- Air channel for unobstructed flow

Outer Ø mm	Order No.	Outer Ø mm	Order No.
60	**10 04 59641**	150	**10 04 59645**
100	**10 04 59643**	300	**10 04 59648**



Tubing

Tube Cutters, Rettberg

webcode WWQVD150

Article	Order No.
Tube cutter (type 2012) for cutting laboratory tubing of all types (except metal tubes). For outer diameters of up to 28 mm, with replaceable blade	**10 70 00141**
Spare blades for tube cutter (packs of 3)	**10 70 00142**

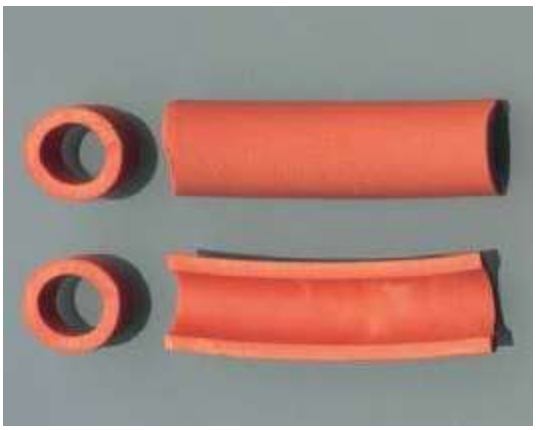


Tubing, Deutsch & Neumann

Tubing made of natural rubber (NR), red, smooth, spec. weight 1,16 – 1,20 g/cm³. 25-m reels, hardness: 50 Shore A, temperature resistant from -30°C to +60°C.

I.D. mm	O.D. mm	Wall mm	Order No.	PU m/Roll
3	5	1	**27 34 30305**	25
4	7	1.5	**27 34 30407**	25
5	8	1.5	**27 34 30508**	25
5	9	2	**27 34 30509**	25
6	9	1.5	**27 34 30609**	25
6	10	2	**27 34 30610**	25
7	11	2	**27 34 30711**	25
8	12	2	**27 34 30812**	25
9	13	2	**27 34 30913**	25
10	14	2	**27 34 31014**	25
12	17	2.5	**27 34 31217**	25
15	21	3	**27 34 31521**	25
20	28	4	**27 34 32028**	25

Minimum order quantity 5 meters and in 5-meter-steps!



Use the webcode on our website to see a larger selection of products from a specific manufacturer.

Tubing

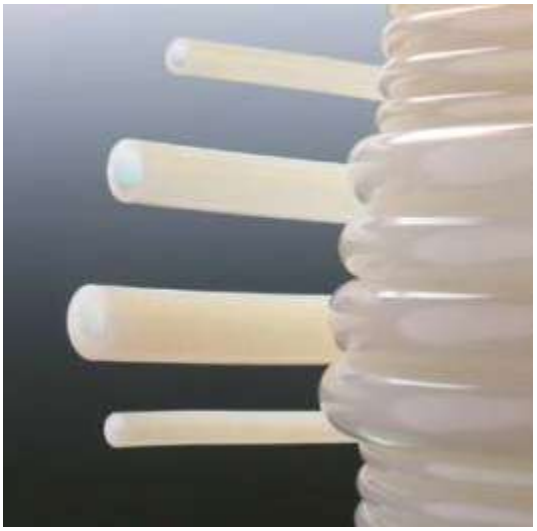


Vacuum Tubing, Deutsch & Neumann

Tubing made of natural rubber (NR), red, smooth, spec. weight 1,16 – 1,20 g/cm³. 25-m reels, hardness: 50 Shore A, temperature resistant from -30°C to +60°C.

I.D. mm	O.D. mm	Wall mm	Order No.	PU m/Roll
4	12	4	**27 34 40412**	25
5	15	5	**27 34 40515**	25
6	14	4	**27 34 40614**	25
6	16	5	**27 34 40616**	25
7	15	4	**27 34 40715**	25
7	17	5	**27 34 40717**	25
8	18	5	**27 34 40818**	25
8	20	6	**27 34 40820**	25
10	20	5	**27 34 41020**	25
10	26	8	**27 34 41026**	25
12	22	5	**27 34 41222**	25

Minimum order quantity 5 meters and in 5-meter-steps!



Tubing, Deutsch & Neumann

Tubing made of silicone rubber (VMQ), meets the following standards: BFR XV, FDA CFR 21§ 177.2600, EP-Europ. Pharmacopoeia. Test for biocompatibility according to ISO 10993-1, transparent, durometer 60 Shore A, temperature range -60°C to +200°C, short periods up to +260°C.

I.D. mm	O.D. mm	Wall mm	Order No.	PU m/Roll
0.5	2.5	1	**27 34 60061**	25
1	1.8	0.4	**27 34 60003**	25
1	3	1	**27 34 60004**	25
1.5	3.5	1	**27 34 60008**	25
1.5	4	1.25	**27 34 60068**	25
2	4	1	**27 34 60011**	25
2	6	2	**27 34 60012**	25
3	5	1	**27 34 60015**	25
3	6	1.5	**27 34 60016**	25
3	7	2	**27 34 60017**	25
4	6	1	**27 34 60019**	25
4	7	1.5	**27 34 60020**	25
4	8	2	**27 34 60021**	25
5	7	1	**27 34 60023**	25
5	8	1.5	**27 34 60024**	25
5	9	2	**27 34 60025**	25
5	10	2.5	**27 34 60085**	25
6	8	1	**27 34 60026**	25
6	9	1.5	**27 34 60027**	25
6	10	2	**27 34 60028**	25
7	10	1.5	**27 34 60029**	25
7	11	2	**27 34 60030**	25
8	10	1	**27 34 60090**	25
8	11	1.5	**27 34 60031**	25
8	12	2	**27 34 60032**	25
9	13	2	**27 34 60036**	25
10	13	1.5	**27 34 60037**	25
10	14	2	**27 34 60038**	25
10	16	3	**27 34 60040**	25
12	16	2	**27 34 60042**	25

Minimum order quantity 5 meters and in 5-meter-steps!

Tubing

Vacuum Tubing, Deutsch & Neumann



Tubing made of silicone rubber (VMQ), meets the following standards: BFR XV, FDA CFR 21§ 177.2600, EP-Europ. Pharmacopoeia. Test for biocompatibility according to ISO 10993-1, transparent, durometer 60 Shore A, temperature range -60°C to +200°C, short periods up to +260°C.

I.D. mm	O.D. mm	Wall mm	Order No.	PU m/Roll
5	15	5	**27 34 70515**	15
6	12	3	**27 34 70612**	25
7	13	3	**27 34 70713**	25
7	15	4	**27 34 70715**	25
8	16	4	**27 34 70816**	25
8	18	5	**27 34 70818**	15
10	20	5	**27 34 71020**	15

Minimum order quantity 5 meters and in 5-meter-steps!

Tubing, IDL

webcode WW7R3270

Tubing made of PVC, transparent. The PVC tube is perfectly suited for laboratory applications for its resistance to chemicals, acids, bases, as well as for its flexibility, high transparency and excellent ageing resistance. Heat-proof up to 60°C.



I.D. mm	O.D. mm	Wall mm	Order No.	PU m/Roll
1	1.8	0.4	**27 00 33118**	100
1.5	2.1	0.3	**27 00 33121**	100
2	3	0.5	**27 00 33203**	100
3	4	0.5	**27 00 33304**	100
4	5	0.5	**27 00 33405**	100
4	6	1	**27 00 33406**	100
4	7	1.5	**27 00 33407**	100
5	8	1.5	**27 00 33508**	100
5	9	2	**27 00 33509**	100
6	8	1	**27 00 33608**	100
6	9	1.5	**27 00 33609**	100
6	10	2	**27 00 33610**	100
7	10	1.5	**27 00 33710**	100
7	11	2	**27 00 33711**	100
8	11	1.5	**27 00 33811**	50
8	12	2	**27 00 33812**	50
9	12	2	**27 00 33912**	50
9	13	2	**27 00 33913**	50
10	14	2	**27 00 34014**	50
12	16	2	**27 00 35216**	50
12	18	3	**27 00 35218**	50
13	19	3	**27 00 35319**	50
16	20	2	**27 00 35620**	50
18	22	2	**27 00 35822**	50
18	24	3	**27 00 35824**	50
19	27	4	**27 00 35927**	50
22	28	3	**27 00 36228**	50
30	39	4.5	**27 00 37039**	25
40	50	5	**27 00 38050**	25

Order quantity only in 5-meter-steps!



We are also glad to help you in person.
Give us a call!

Tubing

webcode WW7R3271





Tubing, IDL

PVC tubing with reinforcing webbing
These tubes have a layer of non-slip, embedded synthetic fiber between the inner tube and outer jacket, allowing the tubes to be highly pressure resistant throughout a wide temperature range. With glass clear construction, flow-through media can be easily observed. Exceptional chemical resistance and non-aging characteristics. Also very resistant to oil and petrol.

I.D. mm	O.D. mm	Wall mm	Op. pressure bar	Order No.	PU m/Roll
6	12	3	25[1)]	**27 00 43612**	50
8	14	3	24[1)]	**27 00 43814**	50
10	16	3	21[1)]	**27 00 44016**	50
12	21	4.5	17[1)]	**27 00 44221**	50
13	20	3.5	16[1)]	**27 00 44320**	50
16	24	4	15[1)]	**27 00 44624**	50
25	34	4.5	10[1)]	**27 00 45534**	25

[1)] Based on water at 20°.
Order quantity only in 5-meter-steps!





BOLA Tubing made of Fluoroplastics (PTFE, FEP and PFA), Bohlender

BOLA Tubing
Fluoroplastic tubing are perfect for aggressive and pure liquids or gases. They are free from extractable agents, resistant to irradiation and weather, physiologically safe, flame retardant according to UL94V0 and they have very good sliding characteristics as well as a non-adhesive surface.

Bending radius[1)]: Minimum radius at room temperature of 23° C / Burst pressure[2)]: computed value at 23°C.
Recommendation: Restriction of the maximum working pressure to 25% of the burst pressure.

Technical data:

Materials:	PTFE (white) / PFA/FEP (transparent, pore-free)
Temperature resistance:	PTFE/PFA :-200°C to +260°C / FEP:-200°C to +205°C
Chemical resistance:	almost universal

Inner Ø approx. mm	Outer Ø approx. mm	Bending radius[1)] mm	Burst pressure[2)] bar	Minimum order quantity m	PTFE Order No.	PFA Order No.	FEP Order No.
0.5	1.0	4	140	25	**27 17 30004**		
0.5	1.6 (1/16″)	5	308	25	**10 17 61009**		
0.8 (1/32″)	1.6 (1/16″)	7	140	25	**27 17 30005**	**10 17 61102**	**27 17 81504**
1.0	1.6 (1/16″)	8	140	25	**27 17 30032**		
1.0	2.0	9	280	25	**27 17 30006**		
1.0	3.0	8	76	25	**10 17 61016**		
1.2	1.8	8	70	25	**27 17 30033**		
1.5	2.1	14	46	25	**10 17 61020**		
1.5	3.0	12	140	25	**27 17 30036**		
1.6 (1/16″)	2.4	14	70	25	**10 17 61024**		
1.6 (1/16″)	3.2 (1/8″)	13	140	25	**27 17 30009**	**10 17 61104**	**27 17 81508**
1.9	2.5	20	44	25	**10 17 61028**		
2.0	3.0	18	70	10	**27 17 30011**		
2.0	4.0	16	140	10	**27 17 30012**	**10 17 61106**	**27 17 81512**
3.0	4.0	32	46	10	**10 17 61034**		
4.0	6.0	36	70	10	**27 17 30016**	**10 17 61110**	**27 17 81520**
4.35 (11/64″)	6.35 (1/4″)	40	64	10	**27 17 30041**	**10 17 61114**	**10 17 61528**
5.0	7,0	49	56	10	**10 17 61046**		
6.0	8.0	64	46	10	**27 17 30020**	**10 17 61118**	**27 17 81536**
8.0	10.0	100	35	10	**27 17 30023**	**10 17 61124**	**27 17 81548**
8.0	12.0	72	70	10	**10 17 61062**		
10.0	12.0	144	28	10	**27 17 30026**	**10 17 61130**	**27 17 81560**

Please note the minimum order quantity.

Tubing

BOLA Antistatic Explosion Proofness Tubing, Bohlender

A - The black tubing has a very good conducting capacity. It is typically used in antistatic applications. This tubing is made of an Antistatic Compound which only contains pure PTFE and very fine coal parts. The excellent chemical resistance of PTFE remains almost the same. (Exception: substances with a high reactivity to coal). The load resistance is at least 10 MOhm/m.
B - The Zebra Tubing with black PFA conducting stripes on surface is made of high-purity PFA. Thanks to the shielding effect of the conducting PFA this tubing is ideal to prevent fires that could occur due to sparking between an atmosphere of transported flammable gases and the exterior surface of the tube.





	Version	Inner Ø mm	Outer Ø mm	Min. order qty m	Order No.
①	A	0.8	1.6	10	**10 17 62710**
	A	1.6	3.2	10	**10 17 62726**
	A	2	3	10	**10 17 62730**
	A	4	6	5	**24 17 82740**
	A	4.35	6.35	3	**10 17 62742**
	A	6	8	3	**24 17 82750**
	A	8	10	3	**24 17 82760**
	A	10	12	3	**24 17 82764**
	A	12	14	1	**10 17 62768**
②	B	2	3	1	**10 17 65530**
	B	4	6	1	**10 17 65540**
	B	6	8	1	**10 17 65550**
	B	8	10	1	**10 17 65560**
	B	10	12	1	**10 17 65564**

BOLA Flexible Tubing, Bohlender



Corrugated tubing with circular corrugations around the longitudinal axis and cylindrical tubing ends with a length of 40 mm which can for example be connected directly to fittings, stopcocks or hose connectors. Together with BOLA Laboratory Screw Joints, the connection is absolutely tight and suitable for vacuum.
- flexible to highly flexible
- tight bending radius only causes little cross-section reduction
- non-porous
- translucent
- ideal for connections under vibrations
- usable with a small bending radius
- for compensation of thermal expansions
- for easy handling of liquids

Technical data:

Material:	PFA
Temperature resistance:	from -270°C to +260°C
Chemical resistance:	+++ universal
Transparency:	transparent
Vacuum:	suitable

Tubing size	Inner Ø tubing end mm	Outer Ø tubing end mm	Bending radius[1] mm	Pressure max. bar	Length m	Order No.
NW 4.5	2	4	5	1.7	0.5	**10 17 62201**
NW 8	6	8	15	2	0.5	**10 17 62202**
NW 10	8	10	18	2	0.5	**10 17 62204**
NW 13	10	12	23	2	0.5	**10 17 62206**
NW 8	6	8	15	2	1.0	**10 17 62220**
NW 10	8	10	18	2	1.0	**10 17 62222**
NW 13	10	12	23	2	1.0	**10 17 62224**
NW 13	10	12	23	2	2.5	**10 17 62264**
NW 10	8	10	18	2	2.5	**10 17 62260**
NW 8	6	8	15	2	0.25	**10 17 62292**
NW 10	8	10	18	2	0.25	**10 17 62293**

[1] Bending radius: minimum bending radius in mm at a room temperature of 23°C

Tubing



BOLA Flanged Tubing, Bohlender

Flanged PTFE tubing with black tube end fittings UNF ¼″ 28 G made of PP and washers made of PA. The tubing is ready for use.
Applications: Connection to BOLA distributors for bottles or BOLA chromatography adaptors.

Technical data:

Material:	PTFE, PA
Temperature resistance:	from 0°C to +100°C
Chemical resistance:	+++ universal
Pressure:	30 bar

Tubing inner Ø × outer Ø mm	Overall length mm	Order No.
0.8 × 1.6 (1/32″×1/16″)	100	**10 17 64002**
0.8 × 1.6 (1/32″×1/16″)	250	**10 17 64004**
0.8 × 1.6 (1/32″×1/16″)	500	**10 17 64006**
0.8 × 1.6 (1/32″×1/16″)	750	**10 17 64008**
0.8 × 1.6 (1/32″×1/16″)	1000	**10 17 64010**
1.6 × 3.2 (1/16″×1/8″)	100	**10 17 64021**
1.6 × 3.2 (1/16″×1/8″)	250	**10 17 64022**
1.6 × 3.2 (1/16″×1/8″)	500	**10 17 64024**
1.6 × 3.2 (1/16″×1/8″)	750	**10 17 64026**
1.6 × 3.2 (1/16″×1/8″)	1000	**10 17 64028**



Tubing, Deutsch & Neumann

Tubing made of Viton (fluoroelastomer rubber - FPM), black, temperature-resistant from -10 to 250°C. 25-m reels. Good resistance to ozone and weather influences, as well as to petrol and mineral oils.

I.D. mm	O.D. mm	Wall mm	Order No.	PU m/Roll
4	6	1	**27 34 80406**	25
5	7	1	**27 34 80507**	25
6	8	1	**27 34 80608**	25
6	10	2	**27 34 80610**	25
7	9	1	**27 34 80709**	25
7	11	2	**27 34 80711**	25
8	10	1	**27 34 80810**	25
8	12	2	**27 34 80812**	25
9	13	2	**27 34 80913**	25
10	12	1	**27 34 81012**	25

Minimum order quantity 5 meters and in 5-meter-steps!

Hoses for Gas Burners



Safety Gas Hose, Deutsch & Neumann

DVGW Reg. No. DG-4607AU2366 D&N, with end sleeves and reinforcement. For gas burners meeting DIN 30 665 and all gases meeting DVGW Work Code G 260. Working pressure up to 100 mbar.

Length m	Sleeve Ø L.W. mm	Order No.
0.50	10 +0/-1	**27 34 86050**
0.60	10 +0/-1	**27 34 86060**
0.75	10 +0/-1	**27 34 86075**
1.00	10 +0/-1	**27 34 86100**
1.25	10 +0/-1	**27 34 86125**
1.50	10 +0/-1	**27 34 86150**
2.00	10 +0/-1	**27 34 86200**
3.00	10 +0/-1	**27 34 86300**

Hoses for Gas Burners

Gas Hose for Gas Burners, Deutsch & Neumann

According to DIN 30664, Part 1, DIN-DVGW Reg. No. NG-4607AU2362 D&N, without jacket and reinforcement. Reels 36 to 44 m. For all gases meeting DVGW-Work Code G 260. Working pressure 100 mbar.

I.D. mm	O.D. mm	Wall mm	**Order No.**	PU m/Roll
10	14	2	**27 34 85010**	36



Connectors, Clips

Flow indicator, BÜRKLE-LaboPlast®

made of SAN for aqueous solutions or PMP (TPX/polymethylpentene) sterilizable, with good chemical resistance. Pressure loading max. 2 bar. Fits tubes from 6 to 11 mm in diameter.

Material	Colour	**Order No.**
SAN	red	**27 05 26001**
SAN	blue	**27 05 26002**
SAN	black	**27 05 26003**

Material	Colour	**Order No.**
PMP	red	**27 05 25001**
PMP	blue	**27 05 25002**
PMP	black	**27 05 25003**



webcode WWR4Q044

Tubing Fittings, BÜRKLE-LaboPlast®

Tubing connectors made of PP and PVDF, hose couplings made of PE. Tubing connectors are used to extend, connect, branch off, combine, or repair hoses.

The tubing connectors made PVDF have an excellent chemical resistance, are temperature resistant up to +160°C, can be sterilized and are food-safe.

webcode WWR4Q007







① Angle form, PP

Tube I.D. mm	PU pc/Pack	PP **Order No.**	PVDF **Order No.**
3 – 5	10	**27 05 53205**	**10 04 51304**
5 – 7	10	**27 05 53210**	**10 04 51306**
7 – 9	10	**27 05 53215**	**10 04 51308**
9 – 11	10	**27 05 53220**	**10 04 51310**
11 – 13	10	**27 05 53225**	**10 04 51312**
13 – 15	10	**27 05 53230**	**10 04 51314**

② T-form, PP

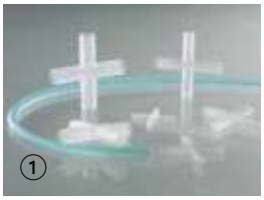
Tube inner Ø mm	PU pc/Pack	PP **Order No.**	PVDF **Order No.**
3 – 5	10	**27 05 52800**	**10 04 51104**
5 – 7	10	**27 05 52803**	**10 04 51106**
7 – 9	10	**27 05 52805**	**10 04 51108**
9 – 11	10	**27 05 52810**	**10 04 51110**
11 – 13	10	**27 05 52815**	**10 04 51112**
13 – 15	10	**27 05 52820**	**10 04 51114**

③ Y-form, PP

Tube inner Ø mm	PU pc/Pack	PP **Order No.**	PVDF **Order No.**
3 – 5	10	**27 05 52900**	**10 04 51204**
5 – 7	10	**27 05 52903**	**10 04 51206**
7 – 9	10	**27 05 52905**	**10 04 51208**
9 – 11	10	**27 05 52907**	**10 04 51210**
11 – 13	10	**27 05 52910**	**10 04 51212**
13 – 15	10	**27 05 52915**	**10 04 51214**

Continued on next page

Connectors, Clips















① Cross form, PP, PVDF

Tube inner Ø mm	PU pc/Pack	PP Order No.	PVDF Order No.
3 – 5	10	**27 05 53105**	**10 04 51704**
5 – 7	10	**27 05 53110**	**10 04 51706**
7 – 9	10	**27 05 53115**	**10 04 51708**
9 – 11	10	**27 05 53120**	**10 04 51710**
11 – 13	10	**27 05 53125**	**10 04 51712**
13 – 15	10	**27 05 53130**	**10 04 51714**

② Straight nozzles, PP

Tube inner Ø mm	PU pc/Pack	PP Order No.	PVDF Order No.
3 – 5	10	**27 05 52605**	**10 04 51005**
5 – 7	10	**27 05 52610**	**10 04 51006**
7 – 9	10	**27 05 52615**	**10 04 51008**
9 – 11	10	**27 05 52620**	**10 04 51010**
11 – 13	10	**27 05 52625**	**10 04 51012**
13 – 15	10	**27 05 52630**	**10 04 51014**

③ Conical nozzles, PP

Tube I.D. mm	Order No.	PU pc/Pack
3 – 5	**27 05 52250**	10
5 – 7	**27 05 52255**	10
7 – 10	**27 05 52260**	10

Tube I.D. mm	Order No.	PU pc/Pack
9 – 12	**27 05 52265**	10
11 – 14	**27 05 52270**	10
13 – 15	**27 05 52275**	10

④ Reduced nozzles, PP

Tube I.D. mm	Order No.	PU pc/Pack
4–8/8–12	**27 05 52550**	10
4–8/12–16	**27 05 52555**	10

Tube I.D. mm	Order No.	PU pc/Pack
8–12/12–16	**27 05 52560**	10

⑤ Universal fittings with tube connectors, PP

Tube inner Ø mm	PU pc/Pack	PP Order No.	PVDF Order No.
4 – 17	10	**27 05 52400**	**10 04 50417**

⑥ Connectors with nozzles, PE

Tube I.D. mm	Order No.	PU pc/Pack
3 – 5	**27 05 52350**	10
5 – 7	**27 05 52355**	10
7 – 10	**27 05 52360**	10

Tube I.D. mm	Order No.	PU pc/Pack
9 -12	**27 05 52365**	10
11 – 14	**27 05 52370**	10
13 – 16	**27 05 52375**	10

Assortment, PP

Connectors for all needs. 68 of the most common tube connectors (universal straight, T-form, Y-form, X-form, angle form and reduced). All in a practical case, always to hand.

Article	Order No.
⑦ Assortment	**27 05 52500**

webcode WW2NY052

for my lab neoLab



Tubing Connectors, Miniature, neoLab®

Special tubing connectors made of polypropylene, also for small tube diameters. Precision nipples ensure that the tubes sit securely and without leaks. Sizes refer to the tube inner diameter.

for tube inner Ø mm	Order No.	PU pc/Pack
2 × 1.0 – 2.0	**27 01 21800**	10
1 × 1.0 – 2.0, 1 × 2.0 – 3.5	**27 01 21801**	10
1 × 1.5 – 2.5 / 1 × 2.0 – 3.5	**27 01 21802**	10
2 × 6.0 – 7.0	**27 01 21805**	10

❗ Available only in original packaging units. No fractions possible.

Connectors, Clips

T-Type Tubing Connectors, Miniature, neoLab®

webcode WW2NY051



Special T-pieces made of polypropylene, also for small tube diameters. Precision nipples ensure that the tubes sit securely and without leaks. Sizes refer to the tube inner diameter.

for tube inner Ø mm	Order No.	PU pc/Pack
1.0 – 2.0	**27 01 21810**	10
1.5 – 2.5	**27 01 21811**	10
2.0 – 3.5	**27 01 21812**	10
3.5 – 4.5	**27 01 21813**	10
4.0 – 5.5	**27 01 21814**	10
6.0 – 7.0	**27 01 21815**	10
7.5 – 10.0	**27 01 21816**	10

Available only in original packaging units. No fractions possible.

Tubing Couplings, neoLab®

webcode WW2NY050



Thermoplastic quick-release couplings made of polypropylene or Delrin acetal for the leak-free and reliable connection of plastic tubing for liquids, air and gas. Temperature resistant 0°C to +71°C for PP models with EPDM seal, -40°C to +82°C for models made from Acetal or PP with Buna-N- seal.

Quick couplings without shut-off

	Ø inch	Version	Material	for tube I.D. mm	Order No.
①	1/8	Male part	PP	3.2	**27 01 21864**
①	1/4	Male part	PP	6.4	**27 01 21865**
②	1/8	Male part, angle part	Acetal	4.8	**27 01 21866**
②	1/4	Male part, angle part	Acetal	6.4	**27 01 21867**
③	1/4	Male part	Acetal	6.4	**27 01 21871**
③	5/16	Male part	Acetal	7.9	**27 01 21872**
③	3/8	Male part	Acetal	9.5	**27 01 21873**
④	1/4	Male part, angle part	Acetal	6.4	**27 01 21874**
④	3/8	Male part, angle part	Acetal	9.5	**27 01 21875**

Quick couplings with shut-off

	Ø inch	Version	Material	for tube I.D. mm	Order No.
⑤	1/8	Female part	PP	3.2	**27 01 21862**
⑤	1/4	Female part	PP	6.4	**27 01 21863**
⑥	1/4	Female part	Acetal	6.4	**27 01 21868**
⑥	5/16	Female part	Acetal	7.9	**27 01 21869**
⑥	3/8	Female part	Acetal	9.5	**27 01 21870**
⑦	1/16	Male part	Acetal	1.6	**27 01 20864**
⑦	1/8	Male part	Acetal	3.2	**27 01 20865**
⑦	3/16	Male part	Acetal	4.8	**27 01 20866**
⑧	1/4	Male part	Acetal	6.4	**27 01 20870**
⑧	5/16	Male part	Acetal	7.9	**27 01 20871**
⑧	3/8	Male part	Acetal	9.5	**27 01 20872**
⑨		Subminiature quick-release coupler	PP	1.6	**27 01 20860**
⑨		Subminiature quick-release coupler	PP	4.0	**27 01 21861**

Clamp coupler with shut-off

	Ø inch	Ø mm	Version	Material	for outer/inner Ø mm	Order No.
⑩		4	Female part	Acetal	4 × 2	**27 01 20861**
⑩	5/32		Female part	Acetal	4 × 2.5	**27 01 20862**
⑩	1/4		Female part	Acetal	6.4 × 4.3	**27 01 20863**
⑪	1/4		Female part	Acetal	6.4 × 4.3	**27 01 20867**
⑪		8	Female part	Acetal	8 × 6	**27 01 20868**
⑪		10	Female part	Acetal	10 × 8	**27 01 20869**

Continued on next page

Connectors, Clips



Quick couplings with shut-off, PP
Non-leaking quick couplings 3/8□ and 1/2□ coupling connector for tubes and screw connections

- High chemical resistance
- Within each size independent of the connector exchangeable
- Easy and quick handling
- Operating pressure up to 4.2 bar
- Temperature range from 0°C to 110°C
- Type-tested

	Ø inch	Version	for tube I.D. mm	Order No.
①	1/4	coupling with barbed hose connection, female	6.5	**10 01 20800**
②	1/4	coupling with barbed hose connection, female	9.6	**10 01 20801**
③	1/4	coupling with male thread 1/4″, female		**10 01 20802**
④	1/4	coupling with male thread 3/8″, female		**10 01 20803**
⑤	1/4	plug nozzle with barbed hose connection, male	6.5	**10 01 20804**
⑥	1/4	plug nozzle with barbed hose connection, male	9.6	**10 01 20805**
⑦	1/4	plug nozzle with male thread 3/8″, male		**10 01 20806**
⑦	1/4	plug nozzle with male thread 1/4″, male		**10 01 20816**
⑧	3/8	coupling with barbed hose connection, female	9.6	**10 01 20807**
⑨	3/8	coupling with barbed hose connection	12.7	**10 01 20808**
⑩	3/8	coupling with male thread 3/8″, female		**10 01 20809**
⑩	3/8	coupling with male thread 1/2″, female		**10 01 20817**
⑪	3/8	coupling with unscrewable barbed hose connection, female	9.6	**10 01 20810**
⑫	3/8	coupling with unscrewable barbed hose connection	12.7	**10 01 20811**
⑬	3/8	plug nozzle with barbed hose connection, male	9.6	**10 01 20812**
⑭	3/8	plug nozzle with barbed hose connection, male	12.7	**10 01 20813**
⑮	3/8	plug nozzle with male thread 3/8″, male		**10 01 20814**
⑯	3/8	plug nozzle with male thread 1/2″, male		**10 01 20815**

Quick couplings 2-in-1 without shut-off
With the 2-in-1 quick coupling, two separate flow paths can easily be connected or disconnected with a single click. The freely rotating quick coupling prevents kinking of the tubes.

	Ø mm	Version	Order No.
⑰	2× 1.6	Female part	**10 01 20828**
	2× 3.3	Female part	**10 01 20829**
⑱	2× 1.7	Male part	**10 01 20830**
	2× 3.3	Male part	**10 01 20831**

Quick couplings 6-in-1 without shut-off
With the 6-in-1 quick coupling, six separate flow paths can easily be connected or disconnected with a single click. The freely rotating quick coupling prevents kinking of the tubes.

	Ø mm	Version	Order No.
⑲	6× 1.7	Female part	**10 01 20832**
	6× 3.3	Female part	**10 01 20833**
⑳	6× 1.7	Male part	**10 01 20834**
	6× 3.3	Male part	**10 01 20835**

Quick couplings Mini
The mini quick couplings are the smallest quick couplings with shut-off available on the market. The lock-out allows for drip-free disconnection of the houses. The freely rotating quick coupling prevents kinking of the tubes.

	Ø	Version	Order No.
㉑	3.3 mm	Female part	**10 01 20818**
㉒	Inner thread 1/4-28	Female part	**10 01 20819**
	Outer thread 1/4-28	Female part	**10 01 20820**
㉓	3.3 mm	Male part	**10 01 20821**
㉔	Inner thread 1/4-28	Male part	**10 01 20822**
㉕	Outer thread 1/4-28	Male part	**10 01 20823**

Quick couplings Duo
With the Duo quick coupling, two separate flow paths can easily be connected or disconnected independently of each other. For disconnecting, press the shut-off on the left- or right-hand side. Or press the centre of the shut-off to separate the two flow paths simultaneously.

	Ø mm	Version	Order No.
㉖	6.5	Female part	**10 01 20824**
㉗	9.6	Female part	**10 01 20825**
㉘	6.5	Male part	**10 01 20826**
㉙	9.6	Male part	**10 01 20827**

Continued on next page

Connectors, Clips

Screw caps with quick coupling for GL45 laboratory bottles
The GL45 screw cap with integrated tube connection. The tube can be connected via quick coupling, plug-in sleeve or tube clip. The GL45 screw cap additionally comprises a polyethylene foam seal and a hydrophobic ventilation filter.

	Ø	Version	Order No.
30	1/4″	Female part	**10 01 20836**
31	1/4″	Male part	**10 01 20837**
32	6.5 mm	with olive	**10 01 20838**



BOLA Laboratory Screw Joints, Bohlender

Red screw cap made of glass-fibre reinforced ETFE, inner parts consisting of a v-ring (ETFE), a tapered ring and a sealing ring (both PTFE) as well as an o-ring for tubing diameters under 3 mm. The medium is only exposed to PTFE.
Perfect for connecting equipment and fittings with GL threads with hard-walled tubing or tubes made of glass, plastic oder metal.

for tube/ pipe outer Ø mm	for thread GL	33 Screw joints complete Order No.	34 Inner part separately Order No.	35 Screw cap separately Order No.
4.0	14	**10 17 69004**	**10 17 69704**	**10 17 66004**
6.0	14	**10 17 69006**	**10 17 69706**	**10 17 66004**
(1/8″)-3.2	14	**10 17 69008**	**10 17 69709**	**10 17 66004**
6.0	18	**10 17 69012**	**10 17 69713**	**10 17 66008**
8.0	18	**10 17 69016**	**10 17 69716**	**10 17 66008**
10.0	18	**10 17 69017**	**10 17 69718**	**10 17 66008**
(1/8″)-3.2	18	**10 17 69020**	**10 17 69720**	**10 17 66008**
6.0	25	**10 17 69028**	**10 17 69728**	**10 17 66012**
8.0	25	**10 17 69030**	**10 17 69730**	**10 17 66012**
10.0	25	**10 17 69032**	**10 17 69732**	**10 17 66012**
12.0	25	**10 17 69033**	**10 17 69734**	**10 17 66016**
14,0	25	**10 17 69036**	**10 17 69736**	**10 17 66016**
(1/4″)-6.35	14	**10 17 69062**	**10 17 69762**	**10 17 66004**
(1/16″)-1.6	14	**10 17 69306**	**10 17 69806**	**10 17 66004**







BOLA Laboratory Screw Joints EX, Bohlender

Screw cap made of conductive black PPS-EX reinforced with glass fibres, inner parts made of conductive PTFE-EX.
Applications: Connecting equipment and fittings with GL threads with hard-walled tubing or tubes made of glass, plastic or metal. Fixing probes, thermometers, dip tubes or cables in reaction vessels.

Technical data:

Material:	PTFE-, PPS-EX
Temperature resistance:	from -200°C to +250°C
Chemical resistance:	++ very good
Pressure:	10 bar
Vacuum:	suitable
Conductivity:	10^6 Ohm

for tubing outer Ø mm	Thread GL	Order No.
4	14	**10 17 64066**
6	14	**10 17 64074**
4	18	**10 17 64146**
6	18	**10 17 64154**
8	18	**10 17 64162**
10	18	**10 17 64174**
8	25	**10 17 64262**
10	25	**10 17 64274**
12	25	**10 17 64280**
14	25	**10 17 64290**



Connectors, Clips



BOLA GL Tube Fittings Elbow EX, Bohlender

Tube fitting elbow-shaped made of PTFE-EX, two connections with GL thread. Connection of tubing or tube with BOLA Laboratory Screw Joints EX.
Applications: For distributing liquids or gases. As reduction for connecting different diameters of tubes or tubing.

Technical data:

Material:	PTFE-EX
Temperature resistance:	from -200°C to +250°C
Chemical resistance:	++ very good
Pressure:	10 bar
Vacuum:	suitable
Conductivity:	10^6 Ohm

Thread GL	Through bore mm	Length without screw joint mm	Wrench size square mm	Order No.
14	6.5	37	20	**10 17 65814**
18	10.5	39	20	**10 17 65818**
25	14.5	51	27	**10 17 65825**



BOLA GL Tube Fittings EX, Bohlender

Straight tube fitting made of PTFE-EX, two connections with GL thread. Connection of tubing or tube with BOLA Laboratory Screw Joints EX.
Applications: For distributing liquids or gases. As reduction for connecting different diameters of tubes or tubing.

Technical data:

Material:	PTFE-EX
Temperature resistance:	from -200°C to +250°C
Chemical resistance:	++ very good
Pressure:	10 bar
Vacuum:	suitable
Conductivity:	10^6 Ohm

Thread GL	Through bore mm	Length without screw joint mm	Wrench size square mm	Order No.
14	6.5	50	15	**10 17 65614**
18	10.5	50	19	**10 17 65618**
25	14.5	56	27	**10 17 65625**



BOLA GL Tube Fittings T EX, Bohlender

Tube fitting T-shaped made of PTFE-EX, three connections with GL thread. Connection of tubing or tube with BOLA Laboratory Screw Joints EX.
Applications: For distributing liquids or gases. As reduction for connecting different diameters of tubes or tubing.

Technical data:

Material:	PTFE-EX
Temperature resistance:	from -200°C to +250°C
Chemical resistance:	++ very good
Pressure:	10 bar
Vacuum:	suitable
Conductivity:	10^6 Ohm

Thread GL	Through bore mm	Length without screw joint mm	Wrench size square mm	Order No.
14	6.5	50	20	**10 17 65714**
18	10.5	56	20	**10 17 65718**
25	14.5	70	27	**10 17 65725**

Webcode

Use the webcode on our website to see a larger selection of products from a specific manufacturer.

Connectors, Clips

BOLA GL-Tube Fittings, Bohlender

BOLA GL fittings are couplings made of PTFE with "GL" connecting thread. They are used to connect tubing made from PTFE, PFA, FEP and glass or metal tubes securely to each other. The fittings are resistant to almost all chemicals and temperature-resistant up to approx. +250°C. Operating pressures of up to 10 bar (at room temperature) can be withstood in combination with BOLA laboratory screw joints.
A major advantage is that you can connect hard tubes or pipes with a variety of outside diameters to one single basic part. For easy connection we recommend BOLA laboratory screw joints. These must be ordered separately according to the outside diameter of your chosen tubing, see page 183.







BOLA GL-Tube Fittings

	Version	Connection thread GL	Bore mm	Order No.
①	passage	14	6.5	**24 17 53814**
	passage	18	10.5	**24 17 53818**
	passage	25	14.5	**24 17 53825**
②	Angle	14	6.5	**24 17 53914**
	Angle	18	10.5	**24 17 53918**
	Angle	25	14.5	**24 17 53925**
③	T	14	6.5	**24 17 54014**
	T	18	10.5	**10 17 64018**
	T	25	14.5	**10 17 64025**

BOLA Hose Connectors with Sleeve Nut, Bohlender

BOLA hose connectors made of PTFE, non-porous surface, with elastic sealing lip and FPM O-ring, screw caps made of glass fiber-reinforced PPS (max. +250°C). The flow media is exposed only to PTFE.





	Version	Thread GL	Tube connector outer Ø mm	Order No.
④	straight	14	8.7	**24 17 58102**
	straight	18	10.4	**24 17 58104**
⑤	curved	14	8.7	**24 17 58202**
	curved	18	10.4	**24 17 58204**

Tube Clamps, Worm Drive, IDL

NORMA worm-drive tube clamps acccording to DIN 3017 made of rust-proof steel (material No. 1.4016) with galvanized worm screw, strip width 9 mm.



webcode WW7R3249

for clamping range mm	Order No.	PU pc/Pack
8 – 16	**31 00 24001**	10
12 – 22	**31 00 24002**	10
16 – 27	**10 00 24003**	10
20 – 32	**31 00 24004**	10
25 – 40	**31 00 24005**	10
32 – 50	**31 00 24006**	10

Tubing Clamps, IDL

webcode WW7R3248

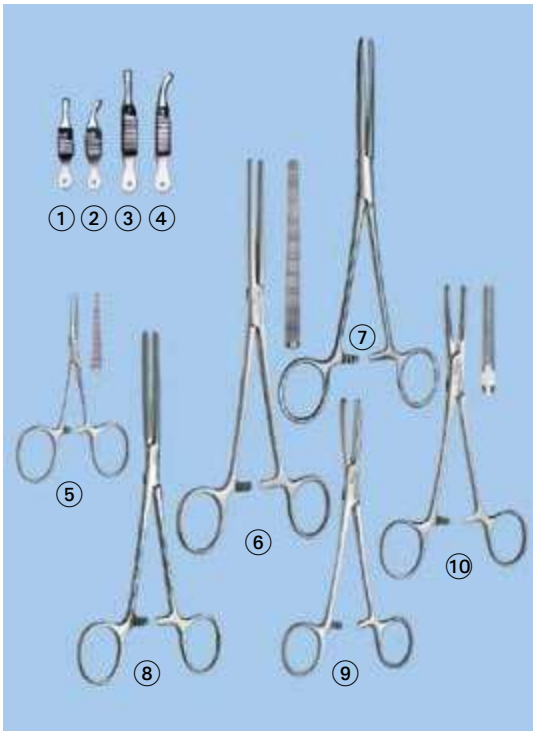
NORMA tubing clamps made of rust-protected steel, with cylinder screws, or from strip width 12 mm with slotted hex screw.



for O.D. mm	Strip W mm	Order No.	PU pc/Pack
6	7	**31 00 23006**	10
7	7	**31 00 23007**	10
8	7	**31 00 23008**	10
9	9	**31 00 23009**	10
10	9	**31 00 23010**	10
11	9	**31 00 23011**	10
12	9	**31 00 23012**	10
13	9	**31 00 23013**	10
14	9	**31 00 23014**	10
15	12	**31 00 23015**	10
16	12	**31 00 23016**	10
17	12	**31 00 23017**	10
19	12	**31 00 23019**	10
20	12	**31 00 23020**	10

webcode To see other variants and accessories, please enter the webcode on our website.

Stopcocks, Valves, Clamps



Clamps/Forceps, Hammacher / IDL

Vascular clamps

	Material	Form	Length mm	Order No.
①	rust-proof	straight	28	**33 51 11010**
②	rust-proof	curved	28	**33 51 11013**
③	rust-proof	straight	35	**33 51 11016**
④	rust-proof	curved	35	**33 51 11019**

Arterial clamps

	Material	Form	Length mm	Order No.
⑤	rust-proof	straight	90	**33 51 11022**
	rust-proof	straight	120	**33 51 11025**
	rust-proof	straight	140	**33 51 11028**
	rust-proof	anatomical, straight	120	**33 51 11034**
⑥	rust-proof	straight	200	**33 51 11038**

Tubing clamps

	Material	Form	Version	Length mm	Order No.
⑦	rust-proof	straight	smooth jaw	200	**33 51 11041**
⑧	rust-proof	straight	plastic-coated	180	**33 51 11043**
	rust-proof	straight	plastic-coated	200	**33 51 11046**
⑨	rust-proof	straight	wide jaw	160	**33 51 11049**
⑩	rust-proof			150	**33 51 11052**
	rust-proof			190	**33 51 11055**

The colour of the plastic coating can vary.

Rust-proof material: material number 1.4024

webcode WWQ7J093

Titanium Tube Clamps, Selftension, BOCHEM



Titanium is particularly suitable for applications where high corrosion-resistance, strength and low weight are important. The metal has a white-metallic shine, featuring light weight as well as high strength, ductility, corrosion resistance and thermal resistance. Titanium is resistant to diluted sulphuric acid, hydrochloric acid, solutions containing chloride, cold nitric acid as well as most organic acids and alkaline solutions, such as caustic soda.

Material	Length mm	Order No.
Titanium	140/40	**10 05 02900**

webcode WW7R3220

Wilo Clamps, IDL



Tubing clamps or pinck cocks, open at the side, sturdy construction. Made of galvanized steel, passivated, temperature-resistant up to 150°C.

Clamp width mm	Order No.	PU pc/Pack
10	**31 00 13010**	50
15	**31 00 13015**	50
20	**31 00 13020**	50
30	**31 00 13021**	50

Stopcocks, Valves, Clamps

Tubing Clamps KT, IDL

webcode WW7R3239

Made of thermoplastic polyester (PBT). Infinitely variable control of flow rates through tubes with just one finger.

for tube O.D. up to mm	Colour	Order No.	PU pc/Pack
4.5	red	**31 00 10045**	10
6	yellow	**31 00 10060**	10
10	blue	**31 00 10100**	10
14	red	**31 00 10140**	10



Clamps, USBECK

webcode WWTVV002

	Article	Order No.
①	**Table clamp** aluminium powdercoated, for rods up to 13 mm Ø, for benches up to 60 mm, hinged screws	**10 64 22050**
②	**Rubber belt clamp** cam type closure, cork lined jaws, capacity Ø 60 – 170 mm, rod Ø 10 mm	**10 64 22825**



Cylinder Holder for Gas Cylinders, USBECK

webcode WWTVV003

- aluminium, powdercoated
- for gas cylinders
- up to 230 mm Ø
- safety belt
- with snap buckle
- cross holes 6,5 mm
- for wall fixing
- for benches up to 65 mm

Article	Order No.
Cylinder holder for gas cylinders	**10 64 22070**
Spare belt for cylinder holder	**10 64 22071**



Tubing Clamps stop-it, BÜRKLE-LaboPlast®

webcode WWR4Q045

③ **Tubing Clamps stop-it**
By means of the micro set screw, a sensitive flow regulation or complete stop is possible at the existing hose connections by means of the hose clamp stop-it. Continuously adjustable, the hose is squeezed against the stable steel hook.

The stop-it models are made of PVDF, are heat-resistant to up to 140°C and can be opened and closed in each position (Easy-Click).

- Sizes from 1 to 20 mm
- Colour coding with 4 fresh colours
- Easy-Click-lock

Tube Ø max. mm	Colour	Order No.
up to 10	red	**10 04 59102**
up to 15	red	**10 04 59152**
up to 20	red	**10 04 59202**
up to 10	yellow	**10 04 59104**
up to 15	yellow	**10 04 59154**
up to 20	yellow	**10 04 59204**

Tube Ø max. mm	Colour	Order No.
up to 10	blue	**10 04 59105**
up to 15	blue	**10 04 59155**
up to 20	blue	**10 04 59205**
up to 10	green	**10 04 59106**
up to 15	green	**10 04 59156**
up to 20	green	**10 04 59206**











Continued on next page

Stopcocks, Valves, Clamps



① **Tubing clamps, metal**
Tubing clamps can regulate or stop the flow through of tubings that carry fluids or gases.

Step-less flow regulation: The knurled screw allows very fine stepless flow control. The flow can also be shut off completely and that also with already existing hose connections. The fully adjustable pressure plate squeezes the hose against the stable steel hook. The hose is compressed over a wide area, in order to prevent it from being damaged. Stop-it can be mounted on hoses after they have been connected.

Stop-it metal is extremely heat resistant and robust due to the materials galvanised steel and aluminium. The hose clamp is available in four different sizes up to a maximum hose diameter of 30 mm.

Tube Ø max. mm	Order No.	Tube Ø max. mm	Order No.
10	**10 04 59510**	20	**10 04 59520**
15	**10 04 59515**	30	**10 04 59530**

webcode WW7R3262

Air Shutter, IDL



- For exact controlling of air or gas throughout
- Proven on distillations with boiling capillaries
- No need to make capillary threads
- Body made of plastic, needle with fine thread made of brass
- Tapered tip, suitable for fitting thin tube
- Inserted Gaco ring ensures absolute gas tightness by pressing in NS sleeve 14.5/23

Article	Order No.
Air controller HM-2	**27 00 11011**

webcode WWRJN158

Stopcocks and Three-Way Stopcocks, Thermo Scientific Nalgene, IDL





Polypropylene Autoclavable stopcocks with PTFE TFE plugs
Connectors for tubes with 6,4 to 9,5 mm I.D.

	Bore mm	Version	Order No.
②	2	Two-way stopcock	**27 87 64601**
	4	Two-way stopcock	**27 87 64602**
③	2	Three-way stopcocks, T-shape	**27 87 64701**
	4	Three-way stopcocks, T-shape	**27 87 64702**

webcode WWR4Q043

2- and 3-Way Valves, BÜRKLE-LaboPlast®





Two and three-way valves are used for transfer of liquids or gases in order to release the flow, to block it or to change its direction.

Article	Mat.	Tube I.D. mm	Order No.
2-way valve	PP/PE red/white	5 – 7	**27 05 24001**
2-way valve	PP/PE red/white	7 – 9	**27 05 24002**
2-way valve	PP/PE red/white	9 – 11	**27 05 24003**
2-way valve	PP/PE red/white	11 – 13	**10 04 54004**
3-way valve	PP/PE red/white	5 – 7	**27 05 23101**
3-way valve	PP/PE red/white	7 – 9	**27 05 23102**
3-way valve	PP/PE red/white	9 – 11	**27 05 23103**
3-way valve	PP/PE red/white	11 – 13	**10 04 53104**
2-way valve	PVDF transparent	5 – 7	**27 05 21001**
2-way valve	PVDF transparent	7 – 9	**27 05 21002**
2-way valve	PVDF transparent	9 – 11	**27 05 21003**
2-way valve	PVDF transparent	11 – 13	**10 04 51004**
3-way valve	PVDF transparent	5 – 7	**27 05 23001**
3-way valve	PVDF transparent	7 – 9	**27 05 23002**
3-way valve	PVDF transparent	9 – 11	**27 05 23003**
3-way valve	PVDF transparent	11 – 13	**10 04 53004**

Stopcocks, Valves, Clamps

Non-Return Valves, BÜRKLE

webcode WWR4Q065



Retaining valve with embossed directional arrow or printed in black. With conical nozzles. Various uses.
- Resistant to compression max. 4 bar
- Operating temperature +0 to +40°C
- With PP valve ball, on request also with ball made of stainless steel or PTFE

for Ø mm	Imprint	Order No.
6 – 8	embossed	**10 04 54060**
8 – 10	embossed	**10 04 54080**
10 – 14	embossed	**10 04 50100**
6 – 8	black	**10 04 54106**
8 – 10	black	**10 04 54108**
10 – 14	black	**10 04 54110**

BOLA Miniature 3-Way Stopcocks, Bohlender





3-way stopcock with "L"-shaped or "T"-shaped bore and three connections. Available either with three female threads UNF ¼" 28G or with two female threads UNF ¼" 28G and one male thread UNF ¼" 28G. Total height including stopcock plug made of FEP: 20 mm.

Technical data:

Material:	PTFE, FEP
Temperature resistance:	from -200°C to +205°C
Chemical resistance:	+++ universal
Pressure:	8 bar

	for tubing i. Ø x o. Ø mm	Connections female thread	Connections male thread	Bore shape stopcock	Overall length mm	Order No.
①	0.8 × 1.6 (1/32"×1/16")	3		L	32	**10 17 63102**
	0.8 × 1.6 (1/32"×1/16")	3		T	32	**10 17 63106**
②	0.8 × 1.6 (1/32"×1/16")	2	1	L	42	**10 17 63110**
	0.8 × 1.6 (1/32"×1/16")	2	1	T	42	**10 17 63114**
①	1.6 × 3.2 (1/16"×1/8")	3		L	32	**10 17 63104**
	1.6 × 3.2 (1/16"×1/8")	3		T	32	**10 17 63108**
②	1.6 × 3.2 (1/16"×1/8")	2	1	L	42	**10 17 63112**
	1.6 × 3.2 (1/16"×1/8")	2	1	T	42	**10 17 63116**

BOLA Pressure-Relief Valve with Manual Ventilation, Bohlender



Pressure control valve with adjustable opening pressure. For preventing pressure drop during filling. Body made of PTFE with two connections with GL 18 thread, valve made of PPS with toggle for manual ventilation by pulling and adjusting screw with counternut for adjusting and fixing of requested pressure in a range between 0.1 and 10 bar. Universal chemical resistance, the flowing product is only exposed to PTFE.

Technical data:

Material:	PTFE, PPS
Temperature resistance:	-20°C to +250°C
Chemical resistance:	universal
Pressure:	factory setting 1.5 bar

Connection thread GL	Through bore mm	Outer dimensions L × D × H mm	Order No.
18	6	88×54×116	**10 17 68318**

Other valves see page 322

Stoppers



BOLA Stoppers, Bohlender

Made of PTFE, with ground joint and sealing rings on the outside; knurled or hexagonal grip. Compared with glass stoppers, they are easily removable and can be used without grease. The stoppers can expand under heat which might lead to a breaking of the ground joint sockets. For closing ground joint parts.

Technical data:

Material:	PTFE
Temperature resistance:	from -200°C to +250°C
Chemical resistance:	+++ universal

Article	Minimum order quantity pc	Order No.
BOLA Stopper NS 14/23	3	**10 17 63604**
BOLA Stopper NS 29/32	3	**10 17 63607**

webcode WW7R3245



Poly Stoppers, IDL

Stoppers with standard ground joint (NS) made of polyethylene, with fluting for good sealing effect, embossed size marking, indifferent to nearly all lyes and acids, temperature-resistant up to ca. 125°C.

Ground joint size	Order No.
7/16	**24 00 39105**
10/19	**24 00 39110**
12/21	**24 00 39112**
14/23	**24 00 39114**
19/26	**24 00 39119**
24/29	**24 00 39124**
29/32	**24 00 39129**
34/35	**24 00 39134**
45/40	**24 00 39145**

webcode WW7R3012



Cork Stoppers, IDL

Height mm	Ø at top mm	Ø at bottom mm	Order No.	PU pc/Pack
16	6	3	**24 00 11101**	100
16	7	4	**24 00 11102**	100
16	8	5	**24 00 11103**	100
17	9	6	**24 00 11104**	100
18	10	7	**24 00 11105**	100
20	11	8	**24 00 11106**	100
20	12	9	**24 00 11107**	100
22	13	10	**24 00 11108**	100
22	14	11	**24 00 11109**	100
22	15	12	**24 00 11110**	100
22	16	13	**24 00 11111**	100
22	17	14	**24 00 11112**	100
22	18	15	**24 00 11113**	100
23	19	16	**24 00 11114**	100
26	20	17	**24 00 11115**	100
26	21	18	**24 00 11116**	100
26	22	18	**24 00 11117**	100
26	23	19	**24 00 11118**	100

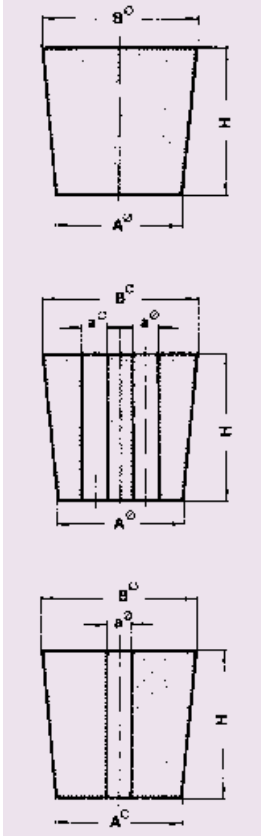
Webcode

Use the webcode on our website to see a larger selection of products from a specific manufacturer.

Stoppers

Stoppers acc. to DIN 12871, Deutsch & Neumann

O.D. mm	B Ø mm	H mm	O.D. mm	Holes	Natural rubber gray NR Order No.	PU pc/Pack	Silicone VMQ Order No.	PU pc/Pack
3.5	6.5	15	-	-	**24 34 10101**	100	**24 34 14101**	100
5	9	20	-	-	**24 34 10102**	100	**24 34 14102**	100
8	12	20	-	-	**24 34 10103**	100	**24 34 14103**	100
10.5	14.5	20	-	-	**24 34 10104**	100	**24 34 14104**	100
10.5	14.5	20	3	1	**24 34 10105**	100	**24 34 14105**	100
12.5	16.5	20	-	-	**24 34 10106**	100	**24 34 14106**	100
12.5	16.5	20	3	1	**24 34 10107**	100	**24 34 14107**	100
14	18	20	-	-	**24 34 10108**	100	**24 34 14108**	100
14	18	20	3	1	**24 34 10109**	100	**24 34 14109**	100
14	18	20	3	2	**24 34 10110**	100	**24 34 14110**	100
17	22	25	-	-	**24 34 10111**	100	**24 34 14111**	100
17	22	25	4	1	**24 34 10112**	100	**24 34 14112**	100
17	22	25	4	2	**24 34 10113**	100	**24 34 14113**	100
18	24	30	-	-	**24 34 10114**	100	**24 34 14114**	100
18	24	30	4	1	**24 34 10115**	100	**24 34 14115**	100
18	24	30	4	2	**24 34 10116**	100	**24 34 14116**	100
21	27	30	-	-	**24 34 10117**	100	**24 34 14117**	100
21	27	30	5	1	**24 34 10118**	100	**24 34 14118**	100
21	27	30	5	2	**24 34 10119**	100	**24 34 14119**	100
23	29	30	-	-	**24 34 10120**	100	**24 34 14120**	100
23	29	30	5	1	**24 34 10121**	100	**24 34 14121**	100
23	29	30	5	2	**24 34 10122**	100	**24 34 14122**	100
26	32	30	-	-	**24 34 10123**	100	**24 34 14123**	100
26	32	30	6	1	**24 34 10124**	100	**24 34 14124**	100
26	32	30	6	2	**24 34 10125**	100	**24 34 14125**	100
29	35	30	-	-	**24 34 10126**	100	**24 34 14126**	100
29	35	30	6	1	**24 34 10127**	100	**24 34 14127**	100
29	35	30	6	2	**24 34 10128**	100	**24 34 14128**	100
31	38	35	-	-	**24 34 10129**	50	**24 34 14129**	50
31	38	35	7	1	**24 34 10130**	50	**24 34 14130**	50
31	38	35	7	2	**24 34 10131**	50	**24 34 14131**	50
36	44	40	-	-	**24 34 10132**	50	**24 34 14132**	50
41	49	40	-	-	**24 34 10133**	25	**24 34 14133**	25
47	55	40	-	-	**24 34 10134**	25	**24 34 14134**	25
50.5	59.5	45	-	-	**24 34 10135**	5	**24 34 14135**	5
56	65	45	-	-	**24 34 10136**	5	**24 34 14136**	5
60	70	50	-	-	**24 34 10137**	5	**24 34 14137**	5
64.5	75.5	55	-	-	**24 34 10138**	5	**24 34 14138**	5
71	83	60	-	-	**24 34 10139**	1	**24 34 14139**	1
79	92	65	-	-	**24 34 10140**	1	**24 34 14140**	1
87	100	65	-	-	**24 34 10141**	1	**24 34 14141**	1
94	107	65	-	-	**24 34 10142**	1	**24 34 14142**	1





Also available in NR red, NBR black and CR red-brown

Silicone Foam Stoppers, neoLab®

webcode WW2NY219

Same chemical and thermal properties as silicone, but extremely lightweight. Suitable as a stopper for round containers or necks. Can be drilled as easily as cork. Withstands temperatures from -60°C to +200°C, autoclavable, odor-free and non-toxic.

Height mm	Ø at bottom mm	Ø at top mm	Colour	Order No.	PU pc/Pack
20	8.0	12.0	white	**24 01 24250**	10
22	11.0	15.0	pink	**24 01 24251**	10
25	13.0	17.5	yellow	**24 01 24252**	10
27	15.5	20.0	green	**24 01 24253**	10
30	19.0	25.0	blue	**24 01 24254**	10
33	23.0	30.0	white	**24 01 24255**	5
35	28.0	35.0	pink	**24 01 24256**	5
40	33.0	40.0	yellow	**24 01 24257**	5
42	38.0	46.0	green	**24 01 24258**	1
48	44.0	52.0	blue	**24 01 24259**	1
52	49.0	58.0	white	**24 01 24260**	1



Stoppers

webcode WWQVD056



Stoppers, Rettberg

Stoppers with conical ground joint, DIN 12252, form C, hollow, made of borosilicate glass 3.3.

Ground joint NS	Order No.	Ground joint NS	Order No.
5/13	**13 40 39105**	19/26	**13 40 39119**
7.5/16	**13 40 39107**	24/29	**13 40 39124**
10/19	**13 40 39110**	29/32	**13 40 39129**
12.5/21	**13 40 39112**	34.5/35	**13 40 39134**
14.5/23	**13 40 39114**	45/40	**13 40 39145**

BRAND

webcode WWQED078



Joint Stoppers, BRAND

Conical joint stopper, amber, Boro 3.3, honed.

Ground joint NS	Order No.
10/19	**10 49 14671**
12/21	**10 49 14672**
14/23	**10 49 14673**
19/26	**10 49 14674**
24/29	**10 49 14676**

Foils

webcode WW2NY158



Aluminium Foil, neoLab®

Aluminium foil for covering, sealing, packing, etc. Different thickness options. The 60 cm roll fits into a practical holder with tear off mechanism which you can stand up or hang on a wall.

Article	Width cm	Thickness mm	Length m	Order No.
Aluminium foil	30	0.013	25	**38 01 16596**
Aluminium foil	60	0.021	100	**38 01 16601**
Aluminium foil, extra thick	30	0.030	100	**38 01 16595**
Aluminium foil, extra thick	45	0.030	100	**38 01 16597**
Aluminium foil, extra thick	50	0,030	100	**10 01 16003**
Aluminium foil, extra thick	60	0.030	100	**38 01 16599**
Aluminium foil, extra thick	60	0,050	100	**10 01 16598**
holder for 60 cm rolls				**38 01 16600**

for my lab neoLab

webcode WW2NY275



Parafilm Dispensers, neoLab®

Parafilm Dispensers
Dispensers made of Plexiglas for standard reels of Parafilm 10 cm wide.
With hinged lid and cutting knife. Film is kept tidy, clean and in view. With improved parafilm guide device and smooth moving cutting knife.
Dimensions: 12 × 16 × 17 cm (W × L × H) with lid.

Article	Colour	Order No.
Parafilm dispenser	transparent	**28 01 31010**
Parafilm dispenser	orange	**28 01 31003**
Parafilm dispenser	blue	**28 01 31004**
Parafilm dispenser	red	**28 01 31008**

Parafilm

Article	Width mm	Length m	Order No.
Parafilm® M	100	38	**28 01 31011**
Parafilm® M	100	75	**28 01 31012**

Foils

Parafilm Dispenser, ISOLAB

webcode WWMUE006

Perfect tool for safe and easy cutting of 100 mm and 50 mm width parafilms. Keeps the remaining part uneffected from enviromental conditions.

Can cut one roll of 100 mm or simultaneously 2 rolls of 50 mm width parafilm.

Manufactured from ABS and featured with a double action cutting blade that silides and cuts. The clear hinged lid enables visual control of the remaining parafilm roll. Unique design of the blade holder guarantees easy handling. The cutting blade can easily slide in both directions providing a clean and uninterrupted cut. The cutting blade is embedded in a holding block ensuring finger safety.

Article	Order No.
Parafilm dispenser, blue	**10 66 40600**
Parafilm dispenser, purple	**10 66 40601**
Parafilm dispenser, ruby	**10 66 40602**



Sealing Film, BRAND

webcode WWQED081

① **Sealing film Seal-R-film™**
- Protects against evaporation, leakage, and contamination
- Easy sealing with 300% elasticity
- Lot identification of each roll

No more spilling, evaporation, and contamination! Seal-R-film™ sealing film seals beakers, flasks, and other vessels.
The sealing film can be stretched to three times its original length. This means that Seal-R-film™ always fits, even with irregular shapes. For traceability, each roll has a lot identification. With the BRAND cutter for sealing film you can cut rolls with widths of 50 and 100 mm efficiently and economically and store them cleanly.

Technical data:

Thickness:	0.14 ± 0.02 mm
Toxicity:	non-toxic
Melting point:	> 66°C (151°F)
Boiling point:	> 288°C (550°F)
Continuous service temperature:	-20°C to 46°C
Elasticity (25°C):	300%
Tear strength (25°C):	1.5 MPa

Gas permeability in 24h at room temperature and a pressure of 0.1 MPa:

CO_2 (carbon dioxide):	< 1000 cm^3/m^2
O_2 (oxygen):	< 350 cm^3/m^2
Water vapor permeability:	< 0.8 g/m^2

Product	Length m	Width mm	Order No.
BRAND Seal-R-film™	38	100	**10 49 71620**
BRAND Seal-R-film™	75	50	**10 49 71622**
BRAND Seal-R-film™	75	100	**10 49 71624**
BRAND Seal-R-film™	15	500	**10 49 71626**



① 

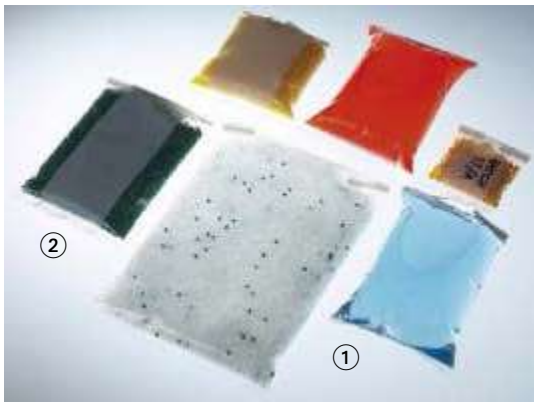
Sealing Film
The handy Cutter is convenient for clean storage and cutting of sealing film such as BRAND Seal-R-film®. Suitable for 50 mm and 100 mm wide rolls. Easy to use: 1. Inserting, 2. Dispensing, 3. Cutting, 4. Taking.

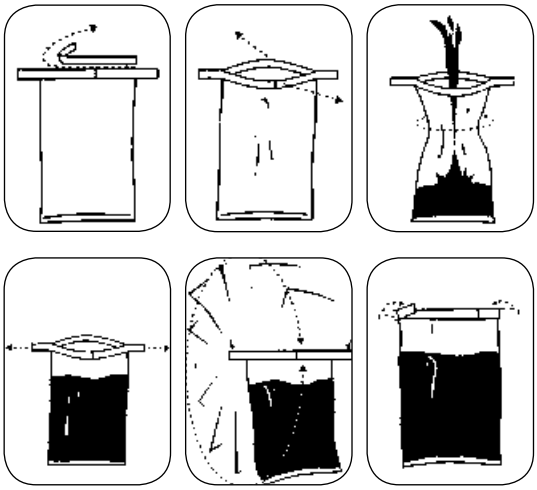
Article	Order No.
② Cutter for Sealing film	**10 49 71650**

②

Bags

webcode WWR4Q054









Sterilized Packaging Bag SteriBag, BÜRKLE

Appliance
1. Tear off perforated top. 2. To avoid contamination, open bag by spreading pull-tabs apart. 3. Pour sample into bag, either liquid or solid. 4. Grab both pull-tabs of the plastic band to close bag. 5. Twirl the bag 3 or 4 times around the plastic band. 6. Fold both pull-tabs to ward each other. Air-tight and leak-proof closure.

① Sampling bag SteriBag without labelling area
The sterilized sampling bags for samples in chemistry, pharmaceuticals, medicine, veterinary science and foodstuffs are made of super-polyethylene and consequently are exceptionally tear-proof and leakproof. SteriBag is also distinguished by its safe handling. When used according to instructions, samples are sterile. Integrated safety: The tab-ends are sealed in plastic film to prevent skin injuries.
- Sterile, RNase, DNase and pyrogen-free
- Can be labelled
- Leakproof
- Space-saving
- Choice of 6 sizes
- Transparent
- With practical closure to tear-open

Article	Contents ml	Width × Length mm	Order No.	PU pc/Pack
SteriBag	60	76 × 127	**10 04 50060**	500
SteriBag	150	76 × 178	**10 04 50180**	500
SteriBag	450	114 × 229	**10 04 50540**	500
SteriBag	650	140 × 229	**10 04 50720**	500
SteriBag	800	114 × 305	**10 04 50810**	500
SteriBag	1650	178 × 305	**10 04 51650**	250

② Sampling bag SteriBag with labelling area

Article	Contents ml	Width × Length mm	Order No.	PU pc/Pack
SteriBag	60	76 × 127	**10 04 50061**	500
SteriBag	150	76 × 178	**10 04 50181**	500
SteriBag	450	114 × 229	**10 04 50541**	500
SteriBag	650	140 × 229	**10 04 50721**	500
SteriBag	800	114 × 305	**10 04 50811**	500
SteriBag	1650	178 × 305	**10 04 51651**	250

③ Sampling bag SteriBag StandUp
SteriBag StandUp is a sterile sample bag with a stand-up base. The special bottom unfolds as soon as the bag is filled. This makes SteriBag StandUp stable and able to stand on its own without a separate stand or support, leaving both your hands free to take the sample and fill the bag. The wire bracket at the closure keeps the bag open, making it easy and convenient to fill.
The sample bag is the ideal space-saving, unbreakable, inexpensive and sterile replacement for bottles and beakers.
- Can be used for samples available as liquids, powders, solids and pastes; suitable for foods and can be frozen
- The stable standing SteriBag StandUp sample bag is easy and safe to transport
- SteriBag StandUp, the sample bag for easy handling of samples

Article	Contents ml	Width × Length mm	Order No.	PU pc/Pack
SteriBag StandUp	400	229 × 114	**10 04 54440**	500
SteriBag StandUp	600	229 × 152	**10 04 54460**	500

④ Sampling bag SteriBag Blue
The sterile sample bag SteriBag Blue is especially suitable for use in the food, feed, and pharmaceutical industries. In order to prevent the risk of foreign bodies in production, the sample bag and the tear-off seal are blue, a colour which does not occur naturally in food. Therefore, should a bag or parts of a bag get into a production machine, they are easily visible and can be reliably detected by visual inspection. The disposable sample bag is approved for contact with food. It is suitable for storing and transporting solid, semi-solid and liquid media.
- PE, blue
- Leak-tight
- With labelling space
- Sterile, RNase-, DNase- and pyrogenic free

Article	Contents ml	Width × Length mm	Order No.	PU pc/Pack
SteriBag Blue	650	229 × 140	**10 04 57008**	500
SteriBag Blue	1650	305 × 178	**10 04 57012**	250

Continued on next page

Bags

⑤ **Sampling bag SteriBag Cleanroom**
The SteriBag Cleanroom sample bag with double packaging can be brought directly into the cleanroom. There are 25 sample bags in each double outer packaging, which can be removed one after the other and are therefore ideal for introduction into the cleanroom.
SteriBag Cleanroom is sterile inside and outside. This guarantees contamination-free storage and transport of solid, semi-solid and liquid samples. The sample bag is perfect for use in chemical and pharmaceutical applications.
- Sterile, double packaging
- RNase-, DNase- und pyrogenic free
- PE, transparent
- Leak-tight
- With labelling space

Article	Contents ml	Width × Length mm	Order No.	PU pc/Pack
SteriBag Cleanroom	800	305 × 114	**10 04 58010**	500
SteriBag Cleanroom	1650	305 × 178	**10 04 58012**	250


⑤

⑥ **Sampling bag SteriBag Premium**
The SteriBag Premium sample bags uniquely combine a high degree of security, sterility, tamper evident closure and traceability, they are used to securely transport and for the storage of samples.
After sampling, the sample can be filled directly into the sterile sample bag. The tamper-evident closure seals the bag liquid-tight and secure. When trying to open the closure again, the word ”STOP“ appears clearly visible. Both the sample bag and the tear-off field are labeled with a unique tracking number, this allows a complete documentation and traceability.
SteriBag Premium is suitable for many demanding applications in the food, pharmaceutical, medical area as well as in cleanroom or biotechnology sectors.
- Sterilised by gamma rays (10-6)
- With integrated tamper-proof closure for manipulation evidence
- Unique identification via tracking number
- Suitable for the use with foodstuffs

Contents ml	Length × Width mm	Order No.	PU pc/Pack
300	200 × 145	**10 04 54480**	100


⑥

Sampling bag SteriPlast Kit
The sampling set SteriPlast Kit consists of ten sample spatulas or ten sample scoops and ten SteriBag Premium tamper-proof sample bags. Thus the SteriPlast Kit is the ideal combination for sampling where purity and sterility is essential. All parts are sterilised by gamma rays and suitable for use with foodstuffs.
The scoops or spatulas are clean room manufactured and individually packed. The sample bag SteriBag Premium has an integrated sealing and is liquid-tight. A unique tracking code on both the bag and the tear-off field guarantees complete documentation and traceability.
SteriPlast Kit including scoop 50 ml or spatula 150 mm insertion depth, and SteriBag Premium 300 ml.

	Version	Order No.	PU pc/Pack
⑦	Scoop & bag	**10 04 58803**	10
	Spatula & bag	**10 04 58809**	10


⑦

LDPE-Bags, neoLab®

webcode WW2NY305

LDPE bags with practical fast closure. Press the bag together to close tightly.
Film 0.05 mm thick.

⑧ **Black LDPE-Bags with white label field**
For light-sensitive samples.

Article	Width mm	Length mm	Order No.	PU pc/Pack
Plastic bag, black	70	100	**29 01 17130**	100
Plastic bag, black	100	150	**29 01 17131**	100
Plastic bag, black	120	170	**29 01 17132**	100
Plastic bag, black	160	220	**29 01 17133**	100
Plastic bag, black	200	300	**29 01 17134**	100

❗ Available only in original packaging units. No fractions possible.


⑧

Continued on next page

Bags



① ②

① Transparent LDPE-Bags with white label field

Article	Width mm	Length mm	Order No.	PU pc/Pack
Plastic bag	40	60	**28 01 17089**	100
Plastic bag	70	100	**28 01 17090**	100
Plastic bag	100	150	**28 01 17092**	100
Plastic bag	120	170	**28 01 17094**	100
Plastic bag	160	220	**10 01 17091**	100
Plastic bag	200	300	**28 01 17093**	100

Available only in original packaging units. No fractions possible.

② Transparent LDPE-Bags without label field

Article	Width mm	Length mm	Order No.	PU pc/Pack
Plastic bag	60	80	**28 01 17120**	100
Plastic bag	60	130	**28 01 17121**	100
Plastic bag	80	120	**28 01 17122**	100
Plastic bag	150	220	**28 01 17123**	100
Plastic bag	180	250	**28 01 17124**	100
Plastic bag	220	310	**28 01 17125**	100
Plastic bag	300	400	**28 01 17126**	100

Available only in original packaging units. No fractions possible.

for my lab neoLab

Foil Tubing, neoLab®

webcode WW2NY088



Polyethylene foil tubing, thick, transparent, suitable for welding with foil welders, closed at both sides, on cardboard reel.

Width mm	Foil thickness mm	Order No.	PU m/Roll
100	0.2	**32 01 14011**	100
150	0.2	**32 01 14012**	100
200	0.2	**32 01 14013**	100
250	0.2	**32 01 14014**	100
300	0.2	**32 01 14015**	100
710	0.2	**32 01 14016**	100

Sheet Welders, neoLab®



③

③ Sheet welder Folio

Seals and separates in one operation. High performance air extraction, ideal for packaging all types of goods for freezing. Operation warning light with automatic cut-out.

Technical data:

Mains supply: 230 V~ / 60 Hz
Sealing width: 29 cm

Article	Order No.
Sheet welder Folio, complete with 1 reel of sheet	**32 01 21095**
Foil tubing for sheet welder 29 cm, 10 m length, pack of 3	**32 01 21096**



④

webcode WW2NY087

④ Sheet welder Futura Junior

For use on the bench, with continuous heat, for wrapping materials of PE, PP and thin laminates with a film thickness of 2 – 15 µm. Depending on the material and the thickness, the film is sealed within 1 – 3 seconds. Takes approx 1 minute for the machine to warm up.

Technical data:

Seam length: max. 300 mm
Seam width: 1 mm
Power input: 25 W
Weight: 2 kg

Article	Order No.
Sheet welder Futura Junior	**32 01 21097**

Continued on next page

Bags

⑤ **Sheet welder Sealboy**

For use on benches, manually operated, for wrapping film made of PE and PP and thin laminates with film thickness of 2 – 20 µm. Equipped with timer to set duration and intensity of sealing operation and a buzzer to indicate when process is completed. Suitable for permanent operation. Cutter inclusive.

Technical data:

Sealing length:	max. 235 mm
Sealing width:	3 mm
Power supply:	230 V/50 Hz
Power requirement:	210 W
Dimensions (L × W × H):	445 × 140 × 190 mm

Article	Order No.
Sheet welder Sealboy	**32 01 21099**



⑤

Accessories for Sealboy

Article	Order No.
Table Hinged, makes cutting easier. Assembled dimensions (L × W × H): 330 × 280 × 130 mm	**32 01 21090**
Table dispenser incl. sheet holder for a better hold on the foil reel and even feeding of the foil.	**32 01 21091**

Stand Components

Standbases, DIN 12892, BOCHEM

webcode WWQ7J002

3 fixed feet, 1 adjustable foot, hole with thread M 10

⑥ **Standbases made of 18/10 steel**

Feet with non-slip rubber covering

L mm	W mm	H mm	Wght kg	Order No.
210	130	3	1.6	**31 05 05000**
250	160	3	1.9	**31 05 05001**
300	150	3	2.0	**31 05 05002**
315	200	3	2.4	**31 05 05003**

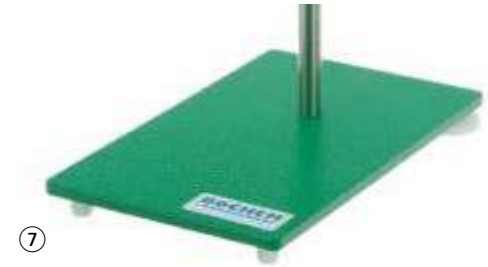


⑥

⑦ **Standbases made steel, enameled green**

Thread M 10, 1 adjustable foot, feet with plastic guard caps

L mm	W mm	H mm	Wght kg	Order No.
180	100	6	0.8	**10 05 05030**
210	130	6	1.3	**31 05 05031**
250	160	6	2.0	**31 05 05032**
300	150	6	2.2	**31 05 05033**
315	200	6	3.0	**31 05 05034**
210	130	8	1.8	**31 05 05035**
250	160	8	2.6	**31 05 05036**
315	200	8	4.0	**31 05 05037**
315	200	10	5.0	**31 05 05038**



⑦

⑧ **Bushings for all support rods**

for rods without thread

Material	Order No.
18/10 steel, dia. 12 mm	**31 05 05014**
Malleable iron, painted, dia. 12/13 mm	**31 05 05044**



⑧

LABORBEDARF BOCHEM LAB SUPPLY

LABOMECA® Frame Foot, BOCHEM

Frame foot for fastening frame rods to the wall, floor or ceiling.

Material	for rod Ø mm	Ø mm	Order No.
Aluminium alloy	12 – 13	50	**31 05 25001**



webcode WWQ7J003

Stand Components

webcode WWQ7J007



LABOMECA® Large Stands, BOCHEM

Large stands with H-type foot with 1 hole for rods. Leveling facility on one side of the foot.
Stand rod 16 × 1000 mm (1.280 kg) made of stainless steel 18/10 (M12 × 30 mm)
Base 420 × 400 mm (8.5 kg) made of cast iron, green-painted

Article	Order No.
Large stand with foot in H-form	**31 05 31001**

webcode WWQ7J006



①

Frame Rods for Standbases, DIN 12893, BOCHEM

① **Frame rods made of 18/10 steel, material 4301**

Length mm	Ø mm	With thread M 10 Order No.	Without thread Order No.
500	12	**31 05 05110**	**31 05 05120**
600	12	**31 05 05111**	**31 05 05121**
750	12	**31 05 05112**	**31 05 05122**
1000	12	**31 05 05113**	**31 05 05123**
1000	16	**31 05 05116**	**31 05 05126**
1250	12	**31 05 05114**	**31 05 05124**
1250	16	**31 05 05117**	**31 05 05127**
1500	12	**31 05 05115**	**31 05 05125**
1500	16	**31 05 05118**	**31 05 05128**



②

② **Frame rods made of aluminium, hard bright grade**

Length mm	Ø mm	With thread M 10 Order No.	Without thread Order No.
500	12	**31 05 05130**	**31 05 05140**
600	12	**31 05 05131**	**31 05 05141**
750	12	**31 05 05132**	**31 05 05142**
1000	12	**31 05 05133**	**31 05 05143**

① **Frame rods made of steel, zincked**

Length mm	Ø mm	With thread M 10 Order No.	Without thread Order No.
500	12	**31 05 05150**	**31 05 05160**
600	12	**31 05 05151**	**31 05 05161**
750	12	**31 05 05152**	**31 05 05162**
1000	12	**31 05 05153**	**31 05 05163**
1250	12	**31 05 05154**	**31 05 05164**
1500	12	**31 05 05155**	**31 05 05165**

webcode WWQ7J008



③

Clamp Holders/Frame Clamps, DIN 12895, BOCHEM

Different screw types:
- Type 1: thumb screw M8/M10
- Type 2: heart screw M6/M8
- Type 3: socket screw M6/M8
- Type 4: safety screw ”heart“ type M8
- Type 5: safety screw ”thumb“ type M10

Article	Order No.
③ **Bosshead**	**31 05 05300**
18/10 steel, clamping width 16,5 mm, type 2, M6	
Safety bosshead	**31 05 05305**
18/10 steel, clamping width 16,5 mm, same as Fig. **3**, type 4, M8	
Bosshead	**31 05 05360**
malleable cast iron, chromium plated, clamping width 16,5 mm, type 1, M8	

Continued on next page

Stand Components

	Article	Order No.
	Bosshead malleable cast iron, chromium plated, clamping width 20 mm, type 1, M8	**31 05 05359**
	Bosshead malleable cast iron, chromium plated, clamping width 36 mm, type 1, M8	**31 05 05369**
	Safety bosshead malleable cast iron, chromium plated, clamping width 16,5 mm, same as Fig. **3**, type 4, M8	**31 05 05365**
④	**Cross-type bosshead** 18/10 steel, clamping width 16,5 mm, type 2, M6	**31 05 05301**
	Safety cross-type bosshead 18/10 steel, clamping width 16,5 mm, same as Fig. **4**, type 4, M8	**31 05 05306**
	Cross-type bosshead malleable cast iron, chromium plated, clamping width 16,5 mm, type 1, M8	**31 05 05361**
	Safety cross-type bosshead mall. cast iron, chromium plated, clamp. width 16,5 mm, as Fig. **4**, type 4, M8	**31 05 05366**
⑤	**Bosshead rotatable** 18/10 steel, clamping width 16,5 mm, type 2, M6	**31 05 05302**
	Bosshead rotatable malleable cast iron, chromium plated, clamping width 16,5 mm, type 1, M8	**31 05 05362**
⑥	**Bosshead for grids** 18/10 steel, clamping width 13 mm, type 2, M6	**31 05 05303**
	Bosshead for grids malleable cast iron, chromium plated, clamping width 13,5 mm, type 2, M6	**31 05 05363**
⑦	**Hook-type bosshead** 18/10 steel, clamping width 13 mm, type 2, M8	**31 05 05304**
	Hook-type bosshead steel, nickel plated, clamping width 13 mm, type 2, M8	**31 05 05364**
⑧	**Bosshead** aluminium, clamping width 16,5 mm, type 1, M8	**31 05 05332**
	Safety bosshead aluminium, clamping width 16,5 mm, as Fig. **8**, type 4, M8	**31 05 05337**
⑨	**Universal bosshead** aluminium, clamping width 13 mm, type 1, M8	**31 05 05334**
⑩	**Cross-type bosshead** aluminium alloy, clamping width 16,5 mm, type 1, M8	**31 05 05350**
	Safety cross-type bosshead aluminium alloy, clamping width 16,5 mm, as Fig. **10**, type 4, M8	**31 05 05356**
	Cross-type bosshead aluminium alloy, clamping width 27 mm, type 1, M10	**31 05 05352**
	Safety cross-type bosshead aluminium alloy, clamping width 27 mm, as Fig. **10**, type 5, M10	**31 05 05357**
⑪	**Safety screw M8** made of stainless steel, with rotatable steel button, type 4, length 65 mm	**10 05 55250**



Bosshead TECHNO, BOCHEM

Ideal for supporting overhead stirrers.

Material	Clamp width mm	Thread	Angle °	Order No.
Aluminium	5 – 22	M8	90	**10 05 05670**

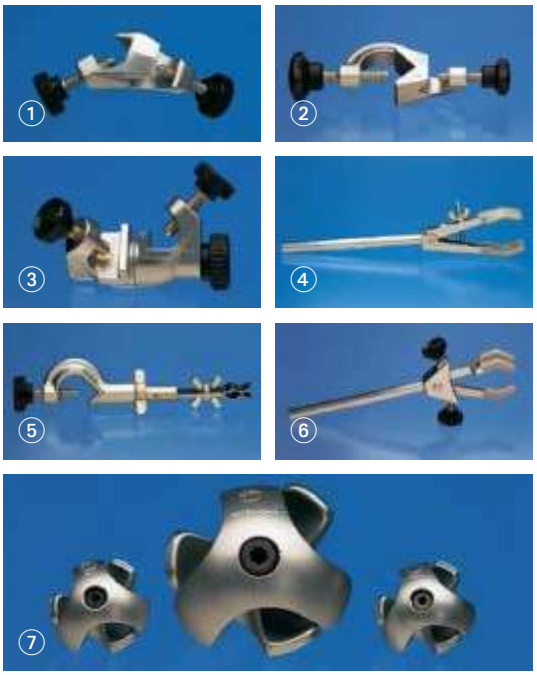


webcode WWQ7J085

Everything for your laboratory – from one source

Stand Components

webcode WW7R3200



Clamp Holders and Clamps, IDL

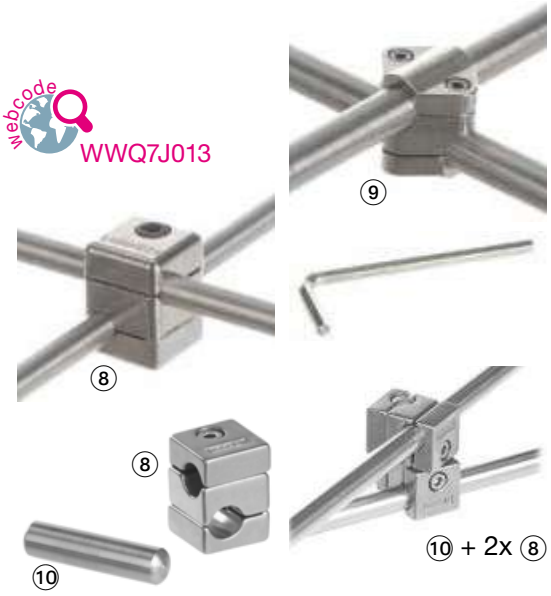
Clamp holders and clamps made of die-cast zinc, chromium-plated

	Article	Order No.
①	**Double bosshead with clamping width 5 to 17 mm**	**31 00 10010**
②	**Double bosshead with extra wide clamping width** 30 mm for main frame, 20 mm for side frame	**31 00 10020**
③	**Bosshead with clamping width 5 to 15 mm** with PVC-coated jaws and 3 wheel screws, for holding frame rods from various directions	**31 00 10030**
④	**Burette clamp with PVC-coated jaws** Length approx. 210 mm, for diameters between 0 and 45 mm	**31 00 10050**
⑤	**Thermometer clamp with wheel screws** Length up to holder approx. 90 mm	**31 00 10055**

Clamp holders and clamps made of duralumin (aluminium alloy)

	Article	Order No.
⑥	**Clamp with PVC-coated jaws** With 2 wheel screws, length approx. 230 mm, for diameters between 10 and 60 mm	**31 00 10040**
⑦	**Clamp holder "Trio" for diameters between 9 and 13 mm**	**31 00 10072**
⑦	**Clamp holder "Trio" for diameters between 19 and 25 mm**	**31 00 10074**

webcode WWQ7J013



LABOMECA® Frame Clamps, BOCHEM

These frame clamps are particularly suitable for sturdy frame walls. Fixing with hexagon socket screws.

Frame clamps for fastening frame rods at right angles

	Material	for rod Ø mm	Order No.
⑧	Aluminium alloy	12-13 × 12-13	**31 05 21001**
⑧	18/10 steel	12-13 × 12-13	**31 05 21002**
⑨	Aluminium alloy	12-13 × 16	**31 05 21003**
⑨	Aluminium alloy	16 × 16	**31 05 21004**
⑩	Connection bar 360°	for 2× 31 05 21002	**10 05 99126**
⑪	Allen key		**10 05 00995**

webcode WWQ7J014



LABOMECA® Clamp Holders/Frame Clamps, BOCHEM

Form	Material	Clamp width mm	Order No.
Cross bosshead	18/10 steel	2.0 – 16	**31 05 23002**
Cross bosshead	Aluminium alloy	2.0 – 16	**31 05 23003**
Cross bosshead	Aluminium alloy	8.0 – 27	**31 05 23005**
Cross bosshead	18/10 steel	8.0 – 27	**31 05 23006**

Stand Components

Clamps, BOCHEM

Clamps with flexible shaft, shaft nickel-plated.

	Article	Mat.	Clamp W mm	Shaft Ø mm	Shaft L mm	Order No.
①	Round clamp	18/10 steel	40	12	290	**31 05 05830**
②	Burette clamp	18/10 steel	0 – 20	12	290	**31 05 05850**
③	Angled clamp	18/10 steel	40	12	290	**31 05 05840**
④	Three-finger	Aluminium alloy	0 – 30	8	220	**31 05 26007**
⑤	Round clamp	Aluminium alloy	15 – 65	12	225	**31 05 27001**

Other clamps with flexible shaft are also available in request.

without the illustrated accessories and clamp holders

webcode WWQ7J010



Retort Clamp MAXI, BOCHEM

Finger covered with stabilised glass fibre.

Material	Length mm	Shaft length mm	Ø mm	Order No.
Steel chromium plated	400	210	80 – 180	**10 05 05567**



webcode WWQ7J072

LABORBEDARF BOCHEM LAB SUPPLY

LABOMECA® 3- and 4-Finger Clamps, BOCHEM

webcode WWQ7J016

Three-finger clamps

	Material	Shaft	Clamp width mm	Rod Ø mm	Rod L mm	Order No.
⑥	Aluminium alloy	flexible	0 – 30	8	220	**31 05 26007**
⑦	Aluminium alloy/PVC[1)]		12 – 100	12	140	**31 05 26003**

Four-finger clamps

	Material	Clamp width mm	Rod Ø mm	Rod L mm	Order No.
⑧	18/10 steel/silicone[1)]	35 – 100	12	140	**31 05 26004**

[1)] Span width independently adjustable by 2 regulating screws.



LABOMECA® Clamps, BOCHEM

Clamps, round jaws, plastic coating

	Material	Clamp width mm	Rod Ø mm	Rod L mm	Order No.
⑨	LABORAL alloy/PVC	8 – 30	8	125	**31 05 27005**
⑩	18/10 steel/silicone	8 – 30	8	125	**31 05 27006**
⑨	LABORAL alloy/PVC	15 – 65	12	140	**31 05 27002**
⑩	18/10 steel/silicone	20 – 75	12	140	**31 05 27003**
⑩	LABORAL alloy/PVC	22 – 70	12	140	**31 05 27004**

Clamp, flexible shaft, plastic coating

	Material	Clamp width mm	Rod Ø mm	Rod L mm	Order No.
⑪	Aluminium alloy	15 – 65	12	225	**31 05 27001**

webcode WWQ7J017



Stand Components



for my lab neoLab

webcode WW2NY045

Burette Clamps/Stands, neoLab®

For all standard burette sizes and for stand rods from 11 to 13 mm dia. One-hand operation, without screws, made completely of plastic. The burette is elastically supported. Easy vertical positioning of the burette for filling or reading.
Burette rod 680 mm long, plastic bottom 240 × 240 mm.

	Article	Order No.
①	**Burette clamp**	**24 01 22240**
②	**Burette stand**	**24 01 22241**
	Plastic plate with white field and support rod.	

Supplied without the illustrated accessories

webcode WWQ7J009

BOCHEM LABORBEDARF LAB SUPPLY

Clamps, DIN 12894, BOCHEM





Micro clamps, one-sided with shaft

	Material	Clamp width mm	Length mm	Ø mm	Order No.
③	18/10 steel	0 – 20	150	10	**31 05 05415**
④	Steel, galvanised	0 – 20	150	12	**31 05 05475**

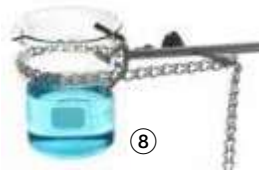




Burette clamps with clamp holder

	Version	Material	Clamp width mm	Order No.
⑤	single-sided	18/10 steel	0 – 20	**31 05 05416**
	single-sided	Steel, galvanised	0 – 20	**31 05 05476**
⑥	double-sided	18/10 steel	0 – 20	**31 05 05417**
	double-sided	Steel, galvanised	0 – 20	**31 05 05477**





Universal clamps

	Material	Clamp width mm	Shaft length mm	Shaft Ø mm	Order No.
⑦	18/10 steel	0 – 80	150	12	**31 05 05425**
	Aluminium	0 – 80	180	12	**31 05 05444**

Chain clamps, chain 70 cm

	Material	Clamp width mm	Shaft length mm	Shaft Ø mm	Order No.
⑧	18/10 steel	50 – 160	250	12	**31 05 05424**
	Steel, galvanised	50 – 160	250	12	**31 05 05485**





Special clamps made of 18/10 steel, finger with silicone coating

	Version	Clamp width mm	Shaft length mm	Shaft Ø mm	Order No.
⑨	3-finger system	0 – 120	190	12	**31 05 05420**
⑩	4-finger system	0 – 120	150	12	**31 05 05423**





Clamps made of 18/10 steel, electrolytically polished, with cork inlay

	Jaws	Clamp width mm	Shaft length mm	Shaft Ø mm	Order No.
⑪	round/round	15	150	10	**31 05 05400**
	round/round	25	150	10	**31 05 05401**
	round/round	40	150	10	**31 05 05402**
	round/round	60	150	10	**31 05 05403**
	round/round	80	180	12	**31 05 05404**
	round/round	100	180	12	**31 05 05450**
	round/round	120	180	12	**31 05 05451**
	round/round	150	180	12	**31 05 05452**
⑫	straight/angled	10 – 15	150	10	**31 05 05405**
	straight/angled	15 – 25	150	10	**31 05 05406**
	straight/angled	25 – 40	150	10	**31 05 05407**
	straight/angled	40 – 60	150	10	**31 05 05408**
	straight/angled	60 – 80	180	12	**31 05 05409**





Clamps made of malleable cast iron, painted, with cork inlay

	Jaws	Clamp width mm	Shaft Ø mm	Shaft length mm	Order No.
⑬	round/round	15	12	150	**10 05 05460**





Continued on next page

Stand Components

Clamps made of malleable cast iron, chromium plated, with cork inlay

Jaws	Clamp width mm	Shaft Ø mm	Shaft length mm	Order No.
round/round	25	12	150	**31 05 05461**
round/round	40	12	150	**31 05 05462**
round/round	60	12	150	**31 05 05463**


⑰

Condenser clamp made of malleable cast iron, chromium plated, silicone coated

	Clamp width mm	Length mm	Ø mm	Order No.
⑭	50 – 100	150	10	**31 05 05474**

3-finger-clamps made of aluminium

	Material	Clamp width mm	Overall length approx. mm	Ø mm	Order No.
⑮	Al / PVC	0 – 70	140	8	**31 05 05562**
⑯	Al / corc	0 – 100	140	8	**31 05 05565**
⑰	Al / PVC	0 – 125	130	10	**31 05 05566**

webcode WWQ7J011



Burette Clamps, BOCHEM

Burette clamps made of aluminium two-sided. with roller type fastener and clamp holder for rods up to 13 mm dia., clamping range: 0 to 25 mm. Roller spacing 170 mm, rollers made of PVC.

Article	Order No.
Burette holder	**31 05 05600**

Supplied without the illustrated accessories

Burette Clamps, BOCHEM

webcode WWQ7J066

⑱ **Burette clamp with shaft**

Material	Shaft length mm	Shaft Ø mm	Clamp width mm	Order No.
chromium-plated	130	10	4 – 20	**31 05 05623**


⑱

⑲ **Burette + thermometer clamp "AUTOMATIC" with shaft**

Material	Length mm	Shaft Ø mm	Clamp width mm	Order No.
chromium-plated	115	8	0 – 25	**31 05 05624**


⑲

⑳ **Burette + Thermometer clamp "AUTOMATIC" with bosshead (13,5mm)**

Material	Shaft Ø mm	Clamp width mm	Angle °	Order No.
chromium-plated	13.5	0 – 25	90	**31 05 05625**


⑳

Support Rings, IDL

webcode WW7R3199

Outer Ø mm	Material	Order No.
60	Steel, galvanized	**31 00 20060**
80	Steel, galvanized	**31 00 20080**
100	Steel, galvanized	**31 00 21100**
113	Steel, galvanized	**31 00 20120**
134	Steel, galvanized	**31 00 20140**



Stand Components



①

webcode WWQ7J012



②

Support Rings, BOCHEM

① **Support Rings**

Material	Wire Ø mm	Inner Ø mm	Shaft L mm	Order No.
18/10 steel	8	50	160	**31 05 05500**
18/10 steel	8	70	200	**31 05 05501**
18/10 steel	10	100	220	**31 05 05502**
18/10 steel	10	120	220	**31 05 05503**
18/10 steel	10	140	220	**31 05 05504**
Steel, galvanized	8	50	160	**10 05 05580**
Steel, galvanized	8	70	200	**10 05 05581**
Steel, galvanized	8	100	220	**10 05 05582**
Steel, galvanized	8	130	220	**10 05 05583**
Steel, galvanized	8	160	220	**10 05 05584**

② **Crucible retort ring**

Ideal for clamping of crucibles for heating substances over a gas flame.

- Oriental clamp for crucibles, which can be fixed easily by hand according to the used crucible size: 0 to 70 mm
- 3-point-clamp: ring with 3 guide sleeves pointing to the center, the clamping rods inside the guide sleeves can be scrolled
- Clamping rods: ceramic rods ”Degussit“ (max. 2030°C)
- Application with support stands or tripods; with the support stands the distance between the gas flame and crucible bottom can be adjusted
- Fits also for platinum crucibles

Article	Material	Ø mm	Order No.
Crucible retort ring	18/10 stainless steel	0 – 70	**10 05 05505**

LABORBEDARF BOCHEM LAB SUPPLY

webcode WWQ7J021



Tripods, DIN 12889, BOCHEM

Tripods with plastic guard caps

Material	Feets	Inner Ø mm	Height mm	Order No.
18/10 steel	welded	100	180	**32 05 05200**
18/10 steel	welded	120	210	**32 05 05201**
18/10 steel	welded	140	210	**32 05 05202**
18/10 steel	welded	160	240	**32 05 05203**
Malleable iron, galvanized	screwed	100	180	**32 05 05230**
Malleable iron, galvanized	screwed	120	210	**32 05 05231**
Malleable iron, galvanized	screwed	140	210	**32 05 05232**
Malleable iron, galvanized	screwed	150	240	**32 05 05233**



③

USBECK

webcode WWTVV004



④



Stainless Steel Stand, USBECK

③ **Stainless 4-feet stand**

- stainless steel
- excellent stability
- space saving delivery and storage due to dismountable feet
- double benefit: Top plate can also be used as a heat-insulating mat

Length mm	Width mm	Height mm	Order No.
120	120	210	**10 64 25151**
160	160	210	**10 64 25152**
200	200	210	**10 64 25153**

④ **Accessories**

Glass ceramic plates

- thickness 3.8 mm
- chamfered edges
- usable above open burner flame

Length mm	Width mm	Order No.
120	120	**10 64 25111**
160	160	**10 64 25112**
200	200	**10 64 25113**

Lifting Platforms

Jacks BOY, LAT

webcode WWW4U007

BOY is an adjustable-height table for supporting oil baths, heating plates, electrical instruments, Dewar jars, etc. at the desired height without having to be locked in place. A scissors-type mechanism is used to adjust the height. Manual operation using a rotary knob or motor assist.
BOY can simply be placed on a tabletop or can be mounted on a stand up to 16 mm Ø using additional stand plates. It is made of anodized light alloy and is corrosion resistant.













Jacks BOY

	Type	Platform size mm	Stroke mm	Load capacity kg	Order No.
	100	50 × 40	31 – 93	10	**31 20 21100**
①	105	80 × 75	49 – 147	15	**31 20 21105**
②	110	120 × 140	60 – 243	30	**31 20 21110**
③	115	122 × 150	80 – 278	40	**31 20 21115**
	116	180 × 216	95 – 398	60	**31 20 21116**
④	116MS	180 × 216	95 – 398	50	**31 20 21117**
⑤	118	240 × 320	120 – 500	70	**31 20 21118**
	122	400 × 400	253 – 629	110	**31 20 21122**
	122R	400 × 400	253 – 629	110	**31 20 21123**
	122M	400 × 400	253 – 629	90	**31 20 21124**
⑥	122MR	400 × 400	253 – 629	90	**31 20 21125**

Type 116MS, 122M and 122MR with motor drive
Type 122R and 122MR: with rollers

Additional platforms

Type	Platform size mm	for type	Order No.
130	200 × 200	110 and 115	**31 20 22130**
131	300 × 300	110 and 115	**31 20 22131**
132	180 × 260	110 and 115	**31 20 22132**
135	320 × 220	110 and 115	**31 20 22135**
134	400 × 500	118	**31 20 22134**

Accessories

Article	Order No.
Platform type 133, size 200 × 200 mm For fastening to frames	**31 20 22133**
Frame rod type 177, size 12 × 650 mm For use together with 2 additional platforms size 130	**31 20 22177**
Clap holder type 199 For fastening the BOY 105, 110, 115, 116 lab frames to the frame holder	**31 20 22199**

Jacks, BOCHEM

webcode WWQ7J065





Jacks "MAXI" made of 18/10 steel

Scissor-construction made of 18/10 steel, with setting wheel.
PLUS: 30% more height.

Platform size mm	Stroke min. mm	Stroke max. mm	Operating load dynamic max. kg	Operating load static max. kg	Order No.
160 × 130	75	400	7	30	**31 05 11132**
200 × 200	75	400	7	30	**31 05 11122**

Jacks "MAXI" made of aluminium

Green, EPOXI powder-coated, with setting wheel. Scissor-construction made of 18/10 steel. PLUS: 30% more height.

Platform size mm	Stroke min. mm	Stroke max. mm	Operating load dynamic max. kg	Operating load static max. kg	Order No.
160 × 130	75	400	7	30	**31 05 11022**
200 × 200	75	400	7	30	**31 05 11032**

webcode To see other variants and accessories, please enter the webcode on our website.

Lifting Platforms

Jacks, DIN 12897, BOCHEM

webcode WWQ7J018



①



②



③



④



⑤

① Jacks made of aluminium, green, powder-coated, with adjusting wheel

	Platform size mm	Stroke min. mm	Stroke max. mm	Operating load dynamic max. kg	Operating load static max. kg	Order No.
	100 × 100	55	120	5	10	**31 05 11015**
	130 × 160	60	275	7	30	**31 05 11020**
	200 × 200	60	275	7	30	**31 05 11030**
	240 × 240	60	275	7	30	**31 05 11040**
④	300 × 300[1)]	90	470	12	60	**31 05 11080**
④	400 × 400[1)]	90	470	15	60	**31 05 11090**

② Jacks made of aluminium, blue, anodized, with adjusting wheel

	Platform size mm	Stroke min. mm	Stroke max. mm	Operating load dynamic max. kg	Operating load static max. kg	Order No.
	100 × 100	55	120	5	10	**31 05 11016**
	130 × 160	60	275	7	30	**31 05 11021**
	200 × 200	60	275	7	30	**31 05 11031**
	240 × 240	60	275	7	30	**31 05 11041**
④	300 × 300[1)]	90	470	12	60	**31 05 11081**
④	400 × 400[1)]	90	470	15	60	**31 05 11091**

③ Jacks made of 18/10 steel, polished, with adjusting wheel

	Platform size mm	Stroke min. mm	Stroke max. mm	Operating load dynamic max. kg	Operating load static max. kg	Order No.
	100 × 100	55	120	5	10	**31 05 11115**
	130 × 160	60	275	7	30	**31 05 11120**
	200 × 200	60	275	7	30	**31 05 11130**
	240 × 240	60	275	7	30	**31 05 11140**
④	300 × 300[1)]	90	470	12	60	**31 05 11180**
④	400 × 400[1)]	90	470	15	60	**31 05 11190**

[1)] with adjusting wheel for ratchet. Ratchet inclusive.

Jacks made of 18/10 steel, polished, with adjusting wheel
Ratchet for adjusting wheel

	Material	Length mm	Order No.
⑤	18/10 steel	190	**10 05 11088**

Electrical Lift ”Lift 240“, BOCHEM

webcode WWQ7J087



⑥



⑦

Electrical lab jack of compact design!
The ”Lift 240“ comes with motor and control system integrated in the lab jack. Ensuring an absolutely stable stand and wobble-free lifting and lowering, it offers perfect safety. The extremely robust, highly precise scissor technology of 18/10 steel and the electronic components are durably protected using a bellows of chemically resistant PTFE.

The design of the electrical ”Lift 240“ is identical with that of the mechanical 240 × 240 mm BOCHEM lab jack. Both variants can be used and replaced in existing structures. An end stop can be manually adjusted at the outside.

Technical data:

Dimensions, retracted (L×W×H):	240 × 240 × 120 mm
Max. height:	300 mm
Workspace (L×W):	240 × 240 mm
Weight:	6 kg
Lifting speed:	180 mm/min
Max. lifting of scissor:	180 mm
Max. load capacity (dynamic):	25 kg
Nominal torque:	8 Nm
Degree of protection:	IP 30
Supply voltage transformer:	100–240 VAC, 50/60 Hz
Output:	24 V
Battery remote control:	3 V, lithium cell CR2430
Permissible ambient temperature:	5 to 45°C
Noise emission:	less than 40 dB (A)
Material work space:	18/10 stainless steel
Material body:	18/10 stainless steel
Material corrugated bellows:	PUR

	Article	Remote control	Order No.
⑥	Electrical lift ”Lift 240“	incl.	**10 05 11220**
⑦	Remote control for ”Lift 240“ (spare part)		**10 05 11230**

Pens, Labeling Systems

Markers Edding 3000, IDL

webcode WW7R3164

Felt markers with fiber tip 1.5 to 3 mm wide for signing, marking etc. Wipe- and water-proof.

	Colour	Line thickness mm	Order No.
	black		**28 00 00010**
①	blue		**28 00 00020**
	red		**28 00 00030**
	green		**28 00 00040**
②	black	1.0	**10 00 08014**
③	black	0.75	**10 00 08015**



Lab Pens and Markers, Thermo Scientific Nalgene, IDL

webcode WWRJN162

A special quick-drying black ink, which is highly resistant to chemicals and water, was specially developed for these felt-tip pins to write on PolyPaper®. The pens can be used to permanently record information, and they are also excellent for writing on glass and plastic. The ink remains clearly legible even after repeated autoclaving. Cap with handy clip. Lab markers are the same as the lab pens, except that the marker has a wider felt tip.

Article	Order No.	PU pc/Pack
Laboratory pins with narrow tip	**28 87 63100**	4
Laboratory marker with wide felt tip	**28 87 63110**	4

Available only in original packaging units. No fractions possible.



Engraving Device, BOCHEM

webcode WWQ7J037

Article	Order No.
Engraving device for permanent labeling of metal, glass and plastic Engraving through vibration principle, incl. Carrying case with 4 points, 220 Volt, EU-Plug, spare poart points available	**10 05 12601**
Solid carbide extra fine engraving point	**10 05 12602**
Standard carbide engraving points – 2 pack	**10 05 12603**
Standard engraving points for softer material – 5 Pack	**10 05 12604**
Abrassive engraving point	**10 05 12605**



Identification Labels

PolyPaper labels, Thermo Scientific Nalgene, IDL

webcode WWRJN163

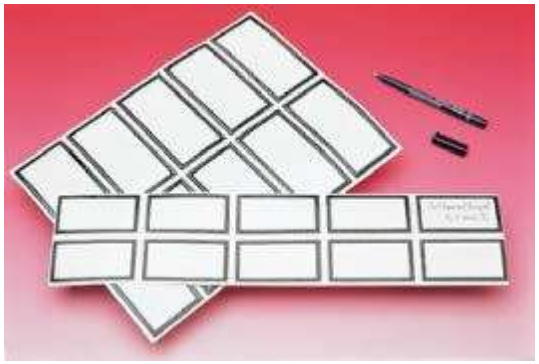
- Waterproof
- Resistant to most chemicals and tearing (Some chemicals may dissolve label adhesive without harming the label paper)
- Will stick to plastic and glass
- Autoclaveable
- Rated to -29°C
- Laser and ink jet printer compatible
- Accepts a variety of inks including copier, marker, ballpoint, gels, and technical markers (pretest specific inks for suitability prior to use) -does NOT accept pencil
- **New Feature: formatted for easy set-up in most word processing label printing programs; easy set-up instructions included with each pack**

Label length mm	Label width mm	Order No.	PU pc/Pack
22	22	**10 87 63191**	800
20	38	**10 87 63192**	650
25	67	**10 87 63193**	300
13	44	**10 87 63194**	800
51	102	**10 87 63195**	100



Identification Labels

webcode WW7R3210



Labels Blank, IDL

According to DIN 12069 C, made of pure white special foil, self-adhesive with black edge, for the user to mark himself.
Light-fast, ageing-resistant, washable and largely resistant to acid, lye and alcohol. Not suitably for laser printers.

Article	Order No.	PU pc/Pack
Labels 74×37 mm for bottles of 100 ml and bigger	**28 00 21092**	10
Labels 105×52 mm for bottles of 500 ml and bigger	**28 00 21094**	10
Protective covering for 28 00 21092	**28 00 21081**	10
Protective covering for 28 00 21094	**28 00 21083**	10
Fiber pen for light-fast marking, blue	**28 00 22003**	1

Safety Labels

webcode WW5PT025



Danger Labels (GHS), WINLAB®

Use harmonized symbols to label your products and warn against hazards!

From 01 Dec.2010, it is mandatory that all substances are classified and labeled pursuant to GHS.
The world-wide harmonization is based on the United Nations "Globally **H**armonized **S**ystem of Classification and Labelling of Chemicals" (GHS) for classification and labeling of sustances.
As a consequence, the differences in the regulations on transport of hazardous goods and in the regulations for handling hazardous goods no longer apply.

WINLAB GHS symbols on sheets of foil
Self-adhesive, sticks to smooth undergrounds, suitable for indoor and outdoor use.
Water-, oil- and base-resistant, temperature resistant from -25 to +60°C

Size 18 × 26 mm (sheet with 30 pc.)
Size 26 × 37 mm (sheet with 12 pc.)

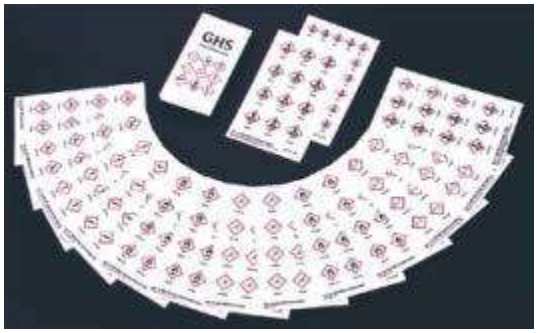
Danger symbol	Inscription	Size 18 × 26 mm Order No.	26 × 37 mm Order No.
Explosives GHS 01	Attention	**10 03 10010**	**10 03 10060**
Explosives GHS 01	Danger	**10 03 10012**	**10 03 10062**
Flammable GHS 02	Attention	**10 03 10014**	**10 03 10064**
Flammable GHS 02	Danger	**10 03 10016**	**10 03 10066**
Oxidizing GHS 03	Attention	**10 03 10018**	**10 03 10068**
Oxidizing GHS 03	Danger	**10 03 10020**	**10 03 10070**
Gases under pressure GHS 04	Attention	**10 03 10022**	**10 03 10072**
Skin corrosion, serious eye damage GHS 05	Attention	**10 03 10024**	**10 03 10074**
Skin corrosion, serious eye damage GHS 05	Danger	**10 03 10026**	**10 03 10076**
Acute toxicity GHS 06	Danger	**10 03 10028**	**10 03 10078**
Acute toxicity, skin and eye irritation GHS 07	Attention	**10 03 10030**	**10 03 10080**
Carcinogenic, mutagenic GHS 08	Attention	**10 03 10032**	**10 03 10082**
Carcinogenic, mutagenic GHS 08	Danger	**10 03 10034**	**10 03 10084**
Hazardous to the aquatic environment GHS 09	Attention	**10 03 10036**	**10 03 10086**

Continued on next page

Safety Labels

GHS symbol sets

Article	Order No.
GHS symbol set with 5 important symbols Consisting of: GHS 02 Flammables (Attention) / GHS 03 Oxidizing (Attention) / GHS 05 Skin corrosion, serious eye damage (Attention) / GHS 06 Acute toxicity (Danger) / GHS 07 Skin and eye irritation (Attention) On film, 30 pc. each, size 18 × 26 mm	**10 03 10099**
GHS symbols – complete Full set, consisting of all symbols GHS 01 to GHS 09 (14 sheets of film with Attention and Danger labels) On film, 30 pc. each, size 18 × 26 mm	**10 03 20099**



Prohibition Labels, WINLAB®

webcode WW5PT024

WINLAB®

According to ASR A 1., 3DIN EN ISO 7010
Self-adhesive plastic foil, light-fast, and largely resistant to chemicals.
Diameter 200 mm.

Article	Order No.
No smoking	**28 03 31001**
No naked flames, fire, naked ignition source and no smoking	**28 03 31002**
Not drinking water	**28 03 31005**
Eating and drinking prohibited	**28 03 31007**
Access for unauthorized is prohibited	**28 03 31006**
No entry for persons with pacemakers or implanted defibrillators	**28 03 31008**
Metal parts of all kinds and watches prohibited	**28 03 31009**
Do not extinguish with water	**28 03 31004**
Switched on mobile phones prohibited	**10 03 31012**
No admittance for persons with metal containing implants	**10 03 31013**



Order Labels, WINLAB®

webcode WW5PT026

WINLAB®

Self-adhesive plastic foil, light-fast, and largely resistant to chemicals
Diameter 200 mm. According to ASR A 1.3, DIN EN ISO 7010.

Article	Order No.
Wear goggles	**28 03 32001**
Use a breathing mask	**28 03 32002**
Wear a mask	**10 03 32012**
Use hand protectors	**28 03 32005**
Use a face protector	**28 03 32007**
Wear ear protectors	**28 03 32004**
Wear a protective apron	**10 03 32013**
Wear ear protectors and eye protectors	**10 03 32014**
Wear ear protectors and eye protectors	**28 03 32009**



Safety Labels

webcode WW5PT039



WINLAB®

Warning Labels, WINLAB®

In compliance with ASR A1.3, DIN EN ISO 7010. Triangular labels made of self-adhesive, light-fast film resistant to most chemicals. Side length 200 mm.

Article	Order No.
Bio-hazard	**28 03 13314**
Warning about general hazard If applicable, this label must be used together with an additional sign identifying the type of danger.	**28 03 00496**
Warning about gas cylinder	**28 03 00589**
Warning about hazardous or irritating substances	**28 03 17048**
Warning about caustic substances	**28 03 00449**
Warning about inflammable substances	**10 03 00450**
Warning about fire promoting substances	**28 03 00530**
Warning about toxic substances	**28 03 00437**
Warning about explosive substances	**28 03 00426**
Warning about radioactive or ionising radiation	**28 03 00463**
Warning about laser rays	**28 03 02653**

Training Materials, WINLAB®



The perfect help for all those who do not constantly deal with hazardous substances symbols and the use of H/P statements.

Article	Order No.
Information board, H/P statements	**10 03 20296**

Information board with all H and P statements according to GHS.
A useful help for everybody who works in the warehouse, production, or laboratory, and a valuable teaching tool. Plastic board, 500 × 700 mm

Article	Order No.
Information board, GHS hazard symbols	**10 03 47825**

Information board on the topic of hazardous working substances, GHS symbols, plastic board, 600 × 400 mm
This information board on the topic of hazardous working substances shows the most common GHS hazard symbols. The board helps employees and apprentices/trainees to correctly identify and interpret the GHS hazard symbols.



webcode WW5PT028

Adhesive Tapes



for my lab neoLab

webcode WW2NY055

Adhesive Warning Tapes, neoLab®

BIOHAZARD: Yellow adhesive tape with black symbol and inscription
TOXIC: Adhesive tape with skull symbol and inscriptin TOXIC
CAREFUL RADIOACTIVITY: Yellow adhesive tape with red radioactivity symbol and inscription

Adhesive Warning Tapes

Imprint	Width mm	Length mm	Order No.
BIOHAZARD	25	66	**28 01 27010**
TOXIC	25	66	**28 01 27011**
CAREFUL RADIOACTIVITY	19	66	**28 01 17500**

Accessories

Article	Order No.
Adhesive tape dispenser	**28 01 17501**

Adhesive Tapes

Laboratory labeling Tape, neoLab®



webcode WW2NY056

Specially coated plastic adhesive tape with synthetic adhesive; can be written on with any pen, temperature-resistant from -70 to + 95°C, resistant to moisture. Useful dispenser with special writing platform is also available. Reels of 55 m, ca. 20 mm wide

Article	Order No.
Laboratory labeling tape	**28 01 17260**
Adhesive tape dispenser	**28 01 17261**

Adhesive Acrylic Tape, neoLab®



webcode WW2NY057

Acrylic adhesive insulating and labeling tape, colored, with high adhesion. Indispensable in every lab, office and workshop for marking, fixing, insulating and sealing in countless applications. Reels of 66 m, 19 mm wide.

Article	Order No.
Adhesive acrylic tape, yellow	**28 01 23250**
Adhesive acrylic tape, green	**28 01 23251**
Adhesive acrylic tape, blue	**28 01 23252**
Adhesive acrylic tape, red	**28 01 23253**
Adhesive tape dispenser	**28 01 17501**

neoTape Label, neoLab®

webcode WW2NY223

for my lab neoLab

Self-adhesive, colored marking tapes for countless uses, can be marked with a pencil, ball-point, fiber-tip, ink, typewriter, etc. Removable without a trace for use a second time. Resistant to oil, water and acid.
Temperature-resistant from -23°C to +121°C. Reels: 12.7 m long, inner diameter: 2,54 cm

neoTape, single rolls

Colour	Width mm 13	19	25
	Order No.	**Order No.**	**Order No.**
white	**28 01 26101**	**28 01 26201**	**28 01 26221**
yellow	**28 01 26102**	**28 01 26202**	**28 01 26222**
green	**28 01 26103**	**28 01 26203**	**28 01 26223**
pink	**28 01 26104**	**28 01 26204**	**28 01 26224**
red	**28 01 26105**	**28 01 26205**	**28 01 26225**
orange	**28 01 26106**	**28 01 26206**	**28 01 26226**
blue	**28 01 26107**	**28 01 26207**	**28 01 26227**
beige	**28 01 26108**	**28 01 26208**	**28 01 26228**
salmon	**28 01 26109**	**28 01 26209**	**28 01 26229**
copper	**28 01 26110**	**28 01 26210**	**28 01 26230**
rosé	**28 01 26111**	**28 01 26211**	**28 01 26231**
violet	**28 01 26112**	**28 01 26212**	**28 01 26232**
lavender	**28 01 26113**	**28 01 26213**	**28 01 26233**
gray	**28 01 26114**	**28 01 26214**	**28 01 26234**
black	**28 01 26118**	**28 01 26218**	**28 01 26238**



neoTape, assortment packs

Article	Order No.
neoTape assortment pack 5 colours, 19 mm wide Colours: white, yellow, green, red, blue	**10 01 26200**
neoTape assortment pack 10 colours, 13 mm wide, incl. dispenser Colours: white, yellow, green, orange, red, pink, blue, rose, violet, lavender	**10 01 26240**



Dispenser
Handy dispenser made of resistant plastic, especially suitable for neoTape-label tapes.

Article	Order No.
Hand dispenser for 1 roll Suitable for 1 piece of neoTape with a length of 12.7 m or all adhesive tapes with a inner Ø of max. 2.54 cm. With 2 spacers and plastic clip for locking.	**28 01 26250**
Multitape dispenser for inner Ø 2,54 cm Suitable for up to 15 pieces of neoTape with a length of 12.7 m or all adhesive tapes with a inner Ø of max. 2.54 cm. L×W×H: 25 × 11.4 × 8.6 cm	**28 01 26251**
Multitape dispenser for inner Ø 7,6 cm Suitable for neoTape with a length of 55 m or all adhesive tapes with a inner Ø of max. 7.6 cm. L×W×H: 25 × 18.4 × 15.2 cm	**10 01 26180**

webcode To see other variants and accessories, please enter the webcode on our website.

Boiling Aids

webcode WWQVD111



Boiling Rods, Rettberg

Article	Order No.
Boiling rod made of borosilicate glass/DURAN	**15 40 00010**
Length: approx. 220 mm	
Diameter: approx. 6 mm	

webcode WW7R3261







Boiling Stones, IDL

① **Boiling stones A for preparative work**
- For use in aqueous, neutral and base solvents, also under vacuum.
- Effective in very small quantities of liquid.
- Ready for use again after interruptions.
- To prevent surging.

Article	Order No.
Boiling stones type A, pack of 250 g/approx. 2400 pieces	**21 00 70001**

② **Boiling stones B for analytical work**
- For distillations in acidic, neutral and base solvents.
- Not suitable for vacuum distillations.
- Effective in very small quantities of liquid.
- Ready for use again after interruptions.
- Ceramic product of high purity.

Article	Order No.
Boiling stones type B, pack of 200 g/approx. 9000 pieces	**21 00 70002**

③ **"Resistent" boiling stones for preparative and analytical work**
- In biochemistry, biotechnology, microbiology and microanalysis.
- For vacuum and high-vacuum distillations.
- Absolute resistance to the strongest acids, lyes, solvents and oxidation agents.
- No abrasion and no absorption of substances.
- Sterilization by burn-out, softening at 2500°C.
- Effective in very small quantities of liquid.

Article	Order No.
Boiling stones Resistant, glass 50 g/approx. 1800 pieces	**21 00 70003**
Boiling stones Resistant, glass 20 g/approx. 715 pieces	**21 00 70004**

Operating Resources, Aids



webcode WW2NY111

Label Eliminator, neoLab®

Label eliminator for removing labels with ease from wherever they are a nuisance, e.g. on diskettes, printer cylinders, equipment and bottles.

Article	Order No.
Label eliminator, can of 200 ml	**35 01 16247**



Oil Pen, Hammacher / IDL

- synthetic maintenance oil
- 12 ml
- vapour permeable and high temperature stability up to 260°C
- odourless, transparent and free of silicone
- does not leave any brown stains on the instruments
- precise dosage by the safety/anti-drip valve

Article	Contents ml	Order No.
Oil pen	12	**10 51 99712**

Operating Resources, Aids

Dedusting Spray, Compressed Air Spray, neoLab®



webcode WW2NY113

Blows away dust. Excellent for cleaning and dust removal on electronic components and dusty precision instruments such as scales, microscopes, etc. Attach the pliable 15 cm capillary tube and point at the dusty area. Non-toxic, non-flammable.

Article	Contents ml	Order No.
Compressed air spray, Super	200	**35 01 16240**
Compressed air spray, 4 times stronger blowing power	340	**10 01 16242**

Cooling Spray, neoLab®



for my lab neoLab

webcode WW2NY114

For fast cooling. Cools down to -52°C. For rapid detection of faults in the electronics sector and for testing the operation of thermostats. Cooling spray for dental work and sports. Shock freezing of small samples.

Article	Order No.
Cooling spray, can of 200 ml	**35 01 16241**

PTFE Spray, neoLab®



webcode WW2NY115

Lubrication, anti-seizing and separating agent to perform the most demanding tasks in the laboratory and the workshop. The spray delivers a grease-free, dry film that **withstands temperatures up to 265°C**. Suitable for lubricating machine parts, tools and equipment. Good anti-friction action. Prevents adhesion of foreign substances. No soiling or smearing.

Article	Order No.
PTFE spray, can of 400 ml	**35 01 21170**

Drying Beads, IDL

webcode WW7R3027

IDL



Drying beads made of alumosilicate gel with indicator orange/colorless
- Uniform bead form (bead diameter over 80% 3 to 5 mm),
- Good mechanical strength (low abrasion),
- Very high adsorption capacity (spec. surface approx. 700 m^2),
- Long life and good regeneration capability (regeneration at +100°C, max. at +180°C).

The bead shape of the individual particles together with the uniform distribution of bead size guarantees low gas resistance and and trouble-free gas throughput without formation of channels or cavities.

Article	Order No.
Drying beads, 1 l	**35 78 01100**
Drying beads, 2 l	**35 78 02100**
Drying beads, 5 l	**35 78 05100**
Drying beads, 10 l	**35 78 10100**

Operating Resources, Aids

webcode WW2NY014



Drying Beads, neoLab®

Indicator silica gel adsorbent KC drying beads for moisture control. Spherical silica gel with very high mechanical strength. Free of heavy metal and eco-friendly. A very good visual changing of colour guarantees a clear moisture indication. The level of the moisture absorption is indicated by a change of colour from orange to colourless with an approx. 6 % w/w water content. Even afterwards, the drying beads adsorb water until reaching the maximum absorption capacity. They can be dried again in the drying cabinet with 100°C to 110°C and are then usable again. **Grain size:** 2 to 5 mm

Article	Contents ml	Order No.
Drying beads	1000	**12 01 17031**
Drying beads	5000	**12 01 17035**





SICCO Desiccant, Bohlender

Dehumidifies the air inside a desiccator. Do not raise the silica gel for more than approx. 10 mm in the tray. 500 g of the desiccant can absorb up to 16 g humidity in 24 hours. Can be regenerated at 90 to 110°C in an oven. Must be stored in a dry, closed and hermetically sealed jar.
Silica gel with colour indicator from orange to dark brown and black (does not contain cobalt-II-chloride). Grain size 2.0 to 5.0 mm, loss after drying <=4%.

Type	Weight g	Order No.
Bottle	360	**10 17 69504**
Bottle	720	**10 17 69508**
Canister	8000	**10 17 69512**



Budde Joint Grease, Buddeberg

Budde Joint Grease
For all glass joints. Transparent, vacuum tight, water washable and water soluble. Maintains practically the consistency between -30°C and +200°C, non-solidifying. Compatible with most elastomers. Tube of 80g.

Article	Order No.
Budde Joint Grease	**10 14 53296**

webcode WW7R3018



Joint and Stopcock Grease, IDL

Joint and stopcock grease glisseal red N (standard grade)
Silicone-free, with excellent resistance to temperature and chemicals, no melting or dripping within a range of +40 to 300°C. Easy to remove with deconex.

Pack	Order No.
10 g	**35 00 99010**
60 g	**35 00 99020**
1 kg	**35 00 99030**

Joint and stopcock grease glisseal blue HV (high vacuum grade)
Silicon-free, with very good vacuum resistance. Other properties as for glisseal red N. Easy to remove with deconex. Stable at temperatures of up to 320°C.

Pack	Order No.
10 g	**35 00 99110**
60 g	**35 00 99120**
1 kg	**35 00 99130**

webcode WW7R3264



Rotation Joint Grease, IDL

Alsirol rotation joint greasewithout silicone
For greasing all rotating glass and metal parts
- **Food compatible,** certified by LGA Bayern
- Biodegradable
- Excellent adhesion and viscosity
- Stable film for reliable long-term applications
- Little heat of rotation, even in continuous use
- For sealing stirring systems with glass/metal stirrers
- Protects rotating, precision ground sleeves and stirring shafts
- Resistant to acids and lyes
- Operating range **-40 to +200°C**, vapour pressure up to 0,00001 mbar
- Makes glass repairs possible

Article	Order No.
Alsirol rotations joint grease, can of 50 ml	**35 00 42004**

Operating Resources, Aids

Joint Grease, IDL

webcode WW7R3265

KWS joint grease without silicone
- **Food compatible,** certified by LGA Bayern
- Biodegradable
- Created as a vacuum and high-vacuum grease
- Excellent adhesion and viscosity
- Resistant to acids and lyes
- Operating range **-40 to +200**°C, vapour pressure up to 0.000001 mbar
- Jammed ground joints can be disconnected by heating briefly
- No polymerisation, no sticking

Article	Order No.
KWS joint grease, can of 30 ml	**35 00 42003**



Silicone Grease, Vaseline, neoLab®

webcode WW2NY116

① **Bayer silicone grease**

Article	Order No.
Silicone grease, low viscosity, 35 g	**35 01 12070**
Silicone grease, medium viscosity, 35 g	**35 01 12071**
Silicone grease, high viscosity, 35 g	**35 01 12072**



① ② **Vaseline DAB**
For applying to hands, ground joints, desiccators, etc.

Article	Order No.
Vaseline, 50 g	**35 01 12075**



②

BASF Joint Grease, neoLab®

webcode WW2NY118

Water-soluble joint grease, suitable for all ground glass joints, transparent, vacuum-proof, with practically the **same consistency from -30 to +200°C,** does not gum, can be washed off with water without solvents, no problem for glass blowers, compatible with most elastomers, biodegradable, harmless to health in normal use.

Article	Order No.
BASF joint grease, 50 g	**35 01 12060**



Heat-Transfer Fluids LABOTHERMOL®, neoLab®

webcode WW2NY108

For oil baths and melting point measuring equipment, for gentle heating, for prevention of overheating, for heat transfer in the lab and workshop, according to requirements.

Article	Order No.
③ **LABOTHERMOL® O, heating bath liquid on a mineral oil basis**	**35 01 16060**

dark colored, high resistance to oxidation, canisters of 5 l
Operating range: -10 to +280°C
Viscosity at 40°C: 43.5 mm^2s^{-1} (20 cSt.)

Article	Order No.
④ **LABOTHERMOL® S, silicone oil heating bath liquid**	**35 01 16070**

colorless and hence also ideal for melting point measuring equipment. With stabilizing additive, bottles of 1000 ml
Operating range: 0 to +150°C
Viscosity at 25°C: 1000 cSt.

Article	Order No.
⑤ **LABOTHERMOL® K, safety cold and heat transfer fluid on an alcohol basis**	**35 01 16065**

nearly colorless, water-soluble and hence washable, canisters of 5 l
Operating range: -20 to +150°C
Flashpoint: >+255°C acc. to DIN 51758



③



④



⑤

webcode To see other variants and accessories, please enter the webcode on our website.

Operating Resources, Aids



webcode WW2NY107

Water Bath Additives BAD-Stabil, neoLab®

Concentrate to prevent build-up of algae, bacteria and fungus in water baths or thermostat loops. **Add 1 ml BAD-Stabil per liter of water.** The blue indicator show the effectiveness of the additive. When the blue coloring disappears, renew the bath. Bio-degradable, non-toxic, bactericidal, fungicidal.

Article	Order No.
Water bath additive BAD-Stabil Bottle of 100 ml for 100 l bath liquid	**35 01 16095**



Heating Bath Liquid Budde, Buddeberg

Heating bath liquid Budde
Use:
The crucial advantages of heating bath liquid BUDDE compared to the oils or other organic liquid mainly used are: Accidental spillage of water into the bath does not lead to dangerous spitting at temperatures over 100°C, as the water dissolves in the heating bath liquid and subsequently evaporates safely. Heating bath liquid BUDDE can be used continuously as a heating medium up to approx. 170°C. Higher temperatures (below flash point) are possible, but will result in rapid darkening. The low pour point allows the bath liquid also to be used as a cooling medium. Mixtures with 10% to 30% water have proved best for this. Heating bath liquid BUDDE can easily be rinsed away with water which eases cleaning of laboratory equipment, e.g. distillation flasks, and also bench or floor if the bath liquid is accidentally spilled. Heating bath liquid BUDDE does not foam when mixed with water.

Viscosity on addition of water:
Heating bath liquid BUDDE is quite viscous at ambient or low temperatures, and therefore sometimes difficult to dispense. The addition of 10 to 20% water reduces the viscosity and enables easier handling. If the mixture is then heated to 100°C, the water evaporates without boiling. Further heating is only shortly delayed by this. Before next heating, water can be added again.

- Water solubility: Heating bath liquid BUDDE can be mixed with water in any ratio. The hardness of the water has no effect on the bath liquid.
- Chemical character: Modified polyglycolether
- Appearance: Clear, colourless or lightly yellowish liquid
- Storage time: (unlimited at present knowledge) When stored for long periods (over 2 years) the product may become darker. This does not affect the performance of the product.
- Density (DIN 51757, ASTM 1298, 23°C): approx. 1.13 g/cm^3 to 1.17 g/cm^3
- Flashpoint acc. to DIN EN ISO 2592: > 290°C
- Water solubility: Heating bath liquid BUDDE is miscible with water in each ratio. No susceptibility to water hardness in mixed water.
- Temperature range: -20°C to +170°C
- Water soluble

Article	Order No.	PU l/Canister
Heating bath liquid Budde	**10 14 53852**	5

Tools



webcode WWQ7J090

HACCP Cutting Board, BOCHEM

Made of polyethylene, not toxic, suitable for dish washer, heat resistant up to 90°C, hygienic, heavy quality.

Material	Colour	Length × Width × Height mm	Order No.
Polyethylene	blue	610×460×25	**10 05 12615**
Polyethylene	white	610×460×25	**10 05 12616**

webcode WWQ7J063



Glass Tubing Cutters, BOCHEM

Article	Order No.
Glass tubing cutter with hard metal wheel (without glass) Ms-Ni	**33 05 12210**
Spare hard metal wheel	**33 05 12211**

Tools

Cork Borer Sets, BOCHEM

webcode WWQ7J036

Cork borer made of nickel-plated brass, with ejector

Quantity borers	Borer Ø mm	Order No.
3	5.00 – 7.50	**33 05 12430**
6	8.75 – 11.25	**33 05 12431**
9	12.50 – 15.00	**33 05 12432**
12	16.25 – 18.75	**33 05 12433**
15	20.00 – 22.50	**33 05 12434**
18	23.75 – 26.25	**33 05 12435**

Accessories

Article	Order No.
Cork borer sharpener for all cork borer tubes up to 27 mm Ø	**33 05 12440**



LED LENSER Torches and Head Lamps, Rettberg

webcode WWQVD179

LED lamps for professionals and users with highest demands.

	Article	Order No.
①	**Lamp P7.2 High End Power LED**	**10 70 00218**

Length 130 mm, weight 175 g, 320 lm, beam range 260 m, burning time up to 50 hours

	Article	Order No.
②	**Lamp P17 High End Power LED**	**10 70 00219**

Length 315.5 mm, weight 799 g, 220 lm, beam range 330 m, burning time up to 480 hours

	Article	Order No.
③	**SEO 5 head lamp**	**10 70 00220**

1 x High End Power LED white, 1 x High End Power LED red, rotating head, homogeneous light (defocused) or focused light, glare-free red LED light, high comfort level, low weight 105 g, washable headband, beam range up to 120 m, 180 lm, burning time up to 25 hours

More LED Lenser products on request



①



②



③

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webcode

Demonstration Aids

webcode WW2VA016

LABOR-PILZ SEIT 1921



Fire Brigade Experimentation Kit, Labor-Pilz

Basics of combustion and effect of various fire extinguishing agents

The fire brigade developed this experimental to investigate the basics of combustion and the effects of different extinguishing agents.
The case has been specifically designed to supplement industrial health and safety training events in the laboratory, engineering, and production sector with practice experiments. Furthermore, many groups of young firefighters use the case for teaching purposes.
All the experiments selected for the case can be carried out in classrooms or teaching rooms. The participants can also carry out the experiments themselves to be ready for action in case of emergency.
The case comprises detailed instructions as well as all relevant utensils for carrying out 15 different experiments. Chemicals such as baking powder, diesel, petrol, steel wool etc. are not comprised but must be procured by the user via the usual sources.

Article	Order No.
Fire brigade experimentation kit	**10 47 44800**

webcode

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First Aid

First Aid Kit with Occupational Filling, neoLab®

webcode WW2NY242

First aid kit with basic supply according to DIN 13 157 and occupational supplementary equipment. The kit is made of orange ABS plastic and is provided with the necessary coloured pictograms.
Dimensionally stable, impact-resistant, temperature-resistant, splashproof, dustproof, no servicing required. Wall mounting with 90° stop adjustment.
Measures: 40 × 30 × 15 cm

The sterile bandaging materials are marked with the CE marking, manufacturing date and a expiry date of 20 years. The additional special contents are the result of different job-related requirements. These are, depending on accident risk and need, e.g. eye rinsing for immediate emergency, respiratory mask, cooling spray, cold pads, disinfection, replantation bag, special bandages, instruments etc..



Article	Order No.
First-aid kit “Science and Research”	**36 01 22109**
First aid kit “Laboratory and Chemistry”	**10 01 22104**
first aid kit “Galvo” for chemical sectors	**36 01 22101**

First-Aid Kits, neoLab®

Acc. to DIN 13157, plus important additional items such as a rescue blanket, compression bandages, mouth-to-mouth resuscitator, Dermotekt bandages, etc.

Dimensions (W × H × D): 310 × 130 × 210 mm



webcode WW2NY147

Article	Order No.
First-aid kit	**36 01 22100**

webcode To see other variants and accessories, please enter the webcode on our website.

First Aid

webcode WW2NY149



First-Aid Cupboards, neoLab®

Practical bandage cabinet, very solid build. The compact size makes it ideally suited for smaller companies and departments. Made of white painted sheet metal with lockable door.

Contents complies with DIN 13157 acc. to ASR A4.3
Dimensions: 302 × 362 × 140 mm (L × W × D)

Article	Order No.
First-aid cupboard with contents	**36 01 22102**

Emergency Showers, Eye Baths

webcode WWR4Q063



Eyes Fresh Mini Eyewash Station, BÜRKLE

Mini eyewash station ideal for the lab, filling stations or all work places where aggressive substances are used. Eyes Fresh can be attached to any standard cold water tap. For normal use of the tap, just press the button and the function changes back from the eye wash (returns automatically to eyewash-function when the tap is closed). Can be fitted onto taps with M22x1, 1/2″ or 3/8″ outer thread. With sufficient water pressure provided, performance according to DIN EN 15154-2.

	Article	Order No.
①	Eyes Fresh mini eyewash station	**10 04 51510**

webcode WWZTQ001











Eye Wash Bottles, EKASTU

EKASTU eye wash bottles
Eye wash bottles are used to rinse the eyes in the frame of first aid following an accident involving the eyes. Use of an eye wash bottle does not replace an ophthalmological examination, but can help to minimize injuries. The filled EKASTU eye rinsing bottles are eye wash units without water connection, according to the standard DIN EN 15154-4. All filled eye wash bottles are medical products. The bottles are made of transparent polyethylene (PE) and are leak-proof. The eye funnel optimally encloses the eye socket and at the same time guarantees a safe and protected contact with the eyeball. During rinsing, water collects in the funnel, which forms a rinsing bath. Contaminated water flows out through a separate outlet. The EKASTU eye rinsing bottles of the MINI series are ideal for carrying in breast or coat pockets.

	Article	Order No.
②	**Eye wash bottle ECO with funnel, full, approx. 600 ml**	**10 52 37111**
③	**Eye wash bottle ECO-MINI with funnel, full, approx. 200 ml**	**10 52 37112**
	Eye wash bottle ECO with funnel, empty, approx. 600 ml	**10 52 37011**
	Eye wash bottle ECO-MINI with funnel, empty, approx. 200 ml	**10 52 37012**
④	**Eye wash station (EPS), complete** with 2 EKASTU eye wash bottles approx. 200 + 600 ml	**10 52 37999**

Accessories

Article	Order No.
Eye wash station (EPS), empty for 2 EKASTU eye wash bottles	**10 52 37955**
⑤ **Wall box with transparent lid for 1 eye wash bottle**	**36 52 20120**
⑥ **Wall holder for 1 eye wash bottle**	**10 52 37950**

Emergency Showers, Eye Baths

Eye Wash Bottles, WINLAB®

Ready within seconds to protect your eyes!
This fast, flexible and simple eye wash is a sterile solution (0.9% salt solution) which prevents dirt and dust particles or micro-organisms from penetrating further into the eye. The eyewash bottles have an ergonomically shaped eye cover to keep the eyelids open during washing so that the eyewash gets directly to the eye. Unopened bottles keep for up to three years. No maintenance required.

	Article	Order No.
①	**Small bottle, 200 ml** For personal protection kits.	**36 43 60001**
④	**DUO Eye wash bottle, 1000 ml** with 1,000 ml sodium chloride solution, for simultaneous washing of both eyes	**10 03 60010**
②	**Eye wash station, 500 ml** With 1 bottle, a practical wall holder and pictures giving directions for use. Approx. 3 minutes rinsing time.	**36 43 60003**
⑥	**Storage box for eye wash bottles WINLAB** Midi Box (236×225×125 mm) for storing 200 ml and 500 ml eye wash bottles, also suitable for 500 ml DUO eye wash bottle	**10 03 60011**

Neutralizing eye rinse solution
For protection in case of accidents with acids and lyes. The eyewash bottle is filled with 4.9% phosphate buffer solution which neutralizes the harmful substances in acids and lyes and, if the eye is washed sufficiently, returns the pH level in the area of the eye to the normal pH of 7.3.

	Article	Order No.
③	**Small bottle, 200 ml** For personal protection kits.	**36 43 60005**
⑤	**DUO Eye wash bottle, 500 ml** pH neutral, for simultaneous washing of both eyes	**10 03 60012**



webcode WW5PT020













webcode WW5PT060

WINLAB®

Eye Wash Station, WINLAB®

For optimum first-aid in case of eye accidents.
For effective eye washing in just 1 to 2 steps!

Complete with a 200 ml sterile pH-NEUTRAL bottle as an effective phosphate buffer in case of accidents involving acids, and 500 ml 0.9% sodium chloride solution for further washing.

	Article	Order No.
⑦	**Emergency eye wash station on a wall holder with mirror** Thanks to the wall holder with mirror, both bottles are INSTANTLY TO HAND!	**36 43 60008**
⑧	**DUO emergency eye wash station with wall holder** Eye wash station DUO for simultaneous washing of both eyes. With a pH-neutral DUO eye wash bottle containing 500 ml of sterile phosphate buffer solution (4.9%) and a DUO eye wash bottle with 1,000 ml sodium chloride solution (0.9%). With wall mount, pictogram, and mirror. Eye emergency care plan is comprised in the delivery. Suitable in particular for use at workstations where the eyes may come into contact with acids, bases, and foreign particles.	**10 03 60014**
⑨	**Emergency eye wash station in a dust-proof wall box for flipping open** With mirror and separate adhesive sign with directions for use. Wall box 265×227×110 mm (H×W×D), sign 290×90 mm.	**36 43 60009**
⑩	**DUO emergency eye wash station in a dust-proof wall box** Eye wash station DUO for simultaneous washing of both eyes, supplied in a dust-proof wall box. With a pH-neutral DUO eye wash bottle containing 500 ml of sterile phosphate buffer solution (4.9%) and a DUO eye wash bottle with 1,000 ml sodium chloride solution (0.9%). With wall mount, pictogram, and mirror. Suitable in particular for use at workstations where the eyes may come into contact with acids, bases, and foreign particles.	**10 03 60016**









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Emergency Showers, Eye Baths

webcode WW5PT021

WINLAB®















Eye Wash Station, WINLAB®

Eye wash station

Very easy to use eye wash station in he event of an emergency.
When the eye wash station is opened via the large arm lever, flushing begins automatically, thus freeing the individual's hands so they can hold their eyelids open, for example. The eye wash station must be connected to a cold water line that supplies drinking water. The power of the water stream can be set via a ball valve when mounting.

Features:
- Extremely wide spray heads that not only cover both eyes, but the entire face (even those models with only one spray head) with a gentle water stream
- Supple rubber prevents eyes from being further injured if they come into contact with the molding
- Spray heads always remain clean, as cap seals automatically pop off during the wash cycle
- Station meets DIN EN 15154-2:2006

Article	Order No.
① **Compact eye wash station 1/2 IG**	**10 03 00084**
For connecting to existing outlets. With integrated BALLOFIX ballcock for regulating the jet, plus self-adhesive notice. With 2 shower heads (2 nozzles).	

Eye wash bottles

Manual eye wash stations with locking release lever and shower head. Due to one-hand operation, one hand is free in case of an emergency.
With 1.5 m silicon hose covered with stainless steel, integrated flow rate limitation and backflow prevention. Thanks to the 1.5 m tube, the hose can also be used on a reclined person.

Article	Order No.
② **Manual eye wash, with 1 spray head, sprays vertically upwards**	**36 43 00080**
Version for wall fixing and table fixing	
③ **Manual eye wash, with 1 spray head, angled by 45°**	**36 43 00062**
Version for wall fixing and table fixing	
④ **Manual eye wash, with 2 spray heads, angled by 45°**	**10 03 00065**
Version for wall fixing and table fixing	

Emergency Showers, Eye Baths

webcode WW5PT035

WINLAB®





Laboratory Aprons, WINLAB®

Nova model, made of highly tear resistant, PVC- coated (on both sides) base material, hemmed seams, rot free, well suited for mechanical and chemical stress. Two-piece, fixed apron ties, neck strap infinitely adjustable via patented buckle.

Article	Order No.
Apron, green	**36 43 00505**
Resistant in particular to acids and lyes. Size 90 × 120 cm.	

Webcode

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Protective Clothing

PVC Apron, WINLAB®

webcode WW5PT036

WINLAB

Standard laboratory aprons made of PVC, with neck and side straps. Smooth edges, no fabric. The straps are fastened in plain PE eyelets.

Dimensions: 900 × 1100 mm
Thickness: 0.5 mm

Article	Order No.
Standard laboratory apron	**36 43 39220**



Student's Laboratory Coats, neoLab®

webcode WW2NY345

Fashionable students' laboratory coat at a favourable price, close fit, with lapel collar and slit in the back.
- Length 105 cm
- 100% cotton, 205 g/m²
- Tab in the back
- Long sleeves, with strap for holding the rolled-up sleeve
- Hidden snap fasteners
- 96°C wash
- Dryer-proof

① **For women**

Size	Order No.	Size	Order No.
36	**10 01 41580**	42	**10 01 41583**
38	**10 01 41581**	44	**10 01 41584**
40	**10 01 41582**	46	**10 01 41585**

② **For men**

Size	Order No.	Size	Order No.
44	**10 01 41590**	52	**10 01 41594**
46	**10 01 41591**	54	**10 01 41595**
48	**10 01 41592**	56	**10 01 41596**
50	**10 01 41593**		



for my lab neoLab

Laboratory Coats with Cuffs, neoLab®

webcode WW2NY389

Stylish lab coat with convenient cuffs, slim fit, with lapel collar and back slit.
- Length approx. 105 cm
- 100% cotton
- Belted back
- Hidden patent fasteners
- Machine washable 96°C
- Machine dry

For women

Size	Order No.	Size	Order No.
36	**10 01 41480**	42	**10 01 41483**
38	**10 01 41481**	44	**10 01 41484**
40	**10 01 41482**	46	**10 01 41485**

For men

Size	Order No.	Size	Order No.
44	**10 01 41490**	52	**10 01 41494**
46	**10 01 41491**	54	**10 01 41495**
48	**10 01 41492**	56	**10 01 41496**
50	**10 01 41493**		



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Protective Clothing

webcode WW2VA010



Laboratory Coats, Labor-Pilz

Lab coats ladies/men
professional lab coats with excellent wear comfort and stylish, figure flattering pattern!
- 100% cotton, ca 220 g/m²
- Two roomy lower pockets, one chest pocket (all with extra reinforcement)
- Suitable for industrial laundering, easy-care-textile and can be washed and boiled at up 95°C
- Concealed buttons (snaps)
- Longsleeve (1/1 arm), knee-length
- Banded collar for the ladies, notched collar for men

Model	Size	Order No.
women	32	**10 47 44732**
women	34	**10 47 44734**
women	36	**10 47 44736**
women	38	**10 47 44738**
women	40	**10 47 44740**
women	42	**10 47 44742**
women	44	**10 47 44744**
women	46	**10 47 44746**

Model	Size	Order No.
men	40	**10 47 44840**
men	42	**10 47 44842**
men	44	**10 47 44844**
men	46	**10 47 44846**
men	48	**10 47 44848**
men	50	**10 47 44850**
men	52	**10 47 44852**
men	54	**10 47 44854**
men	56	**10 47 44856**
men	58	**10 47 44858**

webcode WW2NY227



Protection Overalls, neoLab®

Breathable protective coveralls with or without hood.
Ideally suitable for type 6 applications (according to EN 13034) and strenuous type 5 applications (EN ISO 13982-1 and 2). With type 4 splash guard. Perfectly suitable for e.g. crime scene investigation, developed in cooperation with the criminal investigation department.
- Fell seam for increased liquid protection
- Anti-static according to EN 1149-1
- Non-fuzzing
- Protection against radioactive dust according to EN 1073-2
- Maskable zipper
- Elastic band on hood, sleeves, legs, waist

Bursting strength: 167 kPA
Meets all requirements to flammability, antistatic, particle penetration, spray test.

Article	Size	Order No.
Protection overalls without hood	M	**36 01 22170**
Protection overalls without hood	L	**36 01 22171**
Protection overalls without hood	XL	**36 01 22172**
Protection overalls with hood	M	**36 01 22174**
Protection overalls with hood	L	**36 01 22175**
Protection overalls with hood	XL	**36 01 22176**

webcode WW2NY280



Sleeve Protectors, neoLab®

Sleeve protectors in 2 lengths with rubber tie at both ends.
For use under laminar flows, also suitable for the food industry. Protects against aggressive substances and fine dust. No fluff, resistant to abrasion, active breathing.
- PP/PE laminate
- water repelling
- tear-proof

Article	Length approx. cm	Order No.	PU pc/Pack
Sleeve protectors, short	38	**36 01 22480**	50
Sleeve protectors, long	58	**36 01 22481**	20

Available only in original packaging units. No fractions possible.

Goggles, Eye Protection

Face Shield, EKASTU

EKASTU face shield k1 plus
DIN EN 166 1 3-S, full protection of the complete face area and unlimited view, robust plastic design, maximum comfort due to low weight (approx. 150 g), visor is made of approx. 1 mm high-quality polycarbonate, visor with special comfort bends, shatterproof and scratch-proof, upward-folding and unbuttoning, resistant to acids and bases, also for fastening to helmet.

	Article	Order No.
①	EKASTU face shield k1 plus	**36 52 30004**
	Spare visor k1 plus	**10 52 32604**



webcode WWZTQ002

EKASTU Safety

webcode WWZTQ003

Goggles, EKASTU

EKASTU-safety eyewear with 100% UV protection with innovative UV 380 technology!

	Article	Order No.
②	**Goggles CLARELLO clear**	**36 52 77395**

DIN EN 166 1-F. Ideal for factory visitors and assembly and laboratory workers. High mechanical strength. Scratch-resistant. Excellent visibility and safety all-round. Also for wearers of spectacles.



	Article	Order No.
③	**Goggles CARINA KLEIN DESIGN™ 12720 clear**	**10 52 37376**

DIN EN 166 1-FT. Optimal wearing comfort, fits all faces. Optimal side protection. Excellent field of vision. Scratch-resistant, fog-free.



	Article	Order No.
④	**Goggles CARINA KLEIN DESIGN™ 12750 clear**	**10 52 37377**

DIN EN 166 1-FT. Maximum wear comfort. Good side protection. Soft nose pad for greater comfort. Scratch-resistant, fog-free. 4-position adjustable temples.



	Article	Order No.
⑤	**Goggles CLAREX clear**	**36 52 77379**

DIN EN 166 1-FT. Modern styling. Adapts to every shape of head. Outstanding field of vision. Scratch-resistant. Non-fogging. 4-position adjustable temples.



	Article	Order No.
⑥	**Goggles CARINA KLEIN DESIGN™ 12710 clear**	**10 52 37374**

DIN EN 166 1–FT, trendy safety spectacles with additional protection against reflective light and particles, frame internal side with soft component, pull up frame as protection of eyebrows, anti-fogging, anti-scratching, non-reflecting and distortion-free PC visor.



	Article	Order No.
⑦	**Goggles CARINA KLEIN DESIGN™ EXTASE clear**	**10 52 37373**

DIN EN 166 1-FT, maximum wear comfort with unrestricted field of vision, soft, formed nose pad for greater comfort, pleasant and soft temple construction, fashionable and sporty Design, scratch-resistant, fog-free.



	Article	Order No.
⑧	**Goggles CARINA KLEIN DESIGN™ EXTASE tinted**	**10 52 37375**

like model EXTASE clear, only in tinted (also suitably for leisure activities).



	Article	Order No.
⑨	**Goggles CARINA KLEIN DESIGN™ coolex clear**	**10 52 37389**

DIN EN 166 1 – F and DIN EN 170. This sportive model with its dynamic look convinces by premium wearing comfort, low weight, and perfect fit for different head sizes. Soft nose pad and arms made of a two-component material prevent slipping and ensure maximum comfort. 100% UV protection, fog-free and scratch-resistant.



	Article	Order No.
⑩	**Goggles CARINA KLEIN DESIGN™ PRESTIGE**	**10 52 37383**

DIN EN 166 1349-BT. Full view goggles against coarse dust and liquid splashes. Clear, scratch-proof, anti-fog lens. Extreme large field of vision. Supreme wearing comfort. Also suitable for people who wear glasses and respiratory masks from EKASTU.



	Article	Order No.
⑪	**Goggles CLARO clear**	**36 52 31007**

DIN EN 166 1349-BT. Full visibility goggles. For protection against dust and splashes of liquid. Colorless, scratch-resistant replaceable antifog glass element. Large field of vision. Also suitable for people who wear glasses and respiratory masks from EKASTU.



Accessories

	Article	Order No.
⑫	**EKASTU anti-fogging spray (100 ml)**	**36 52 66952**

Long-term impacted antifogging and cleaning agent additionally antistatic and thus dust-repellent.



webcode To see other variants and accessories, please enter the webcode on our website.

Goggles, Eye Protection



webcode WW2NY123

Goggles, Simplex, neoLab®

Plain goggles made of plastic, with large side guards. Universal size, also for wearers of spectacles. In accordance with DIN 58211 and EN 166.

Article	Order No.
Goggles Simplex	**36 01 22073**

webcode WW5PT031



Goggles, WINLAB®

Safety glasses with rubber protection according to DIN EN 166
Better protection for the eyebrows. Fully foam-lined, these glasses offer excellent protection from splashing from above and below.
Anti-fog and anti-scratch wraparound lenses with good side protection.
Adjustable length and angle of arms. Removable headband for extra comfort and security. Great wearing comfort, also due to soft adjustable nosepad.

Article	Order No.
① Safety glasses with rubber protection according to DIN EN 166	**10 03 50600**



Goggles with colored side frames acc. DIN EN166
Extremely light goggles with extraordinarily **great eyebrow protection** and wearing comfort due to soft frame with rubber padding, as well as 6-fold angle and 4-fold longitudinal adjustment of the side frames.
The inward soft padding offer safe and excellent eyebrow protection!
Two modern frames available - colour versions available.

Article	Order No.
② Soft frame, mint	**10 03 93951**
③ Soft frame, orange	**10 03 93961**









webcode WW2NY125

Goggles, neoLab®

Extra-light protective eyewear (34 g) with unlimited side perception.
Frame made of polyamide in 4 modern colours.
- Frame length individually adjustable in 4 steps
- Shield made of polycarbonate, coated to be scratch-proof
- 3-step shield inclination
- Integrated side protection

UV-protection 2-1,2. DIN EN 166-168 and 170 or 172. DIN certified.

Article	Colour	Order No.
Goggles	yellow/black	**36 01 24177**
Goggles	blue	**36 01 24178**
Spare glass elements (PC)		**36 01 24169**

Failed to find what you are looking for?
Give us a call!

Goggles, Eye Protection

UV Protection Full Vision Goggles, neoLab®

webcode WW2NY124

The lightweight UV protection full vision goggles provides an absolutely snug, soft, and pinch-free fit.

Extremely scratch resistant on the outside (HC), non fogging on the inside (AF).
- slips easily over prescription eyewear
- optimal ventilation
- UV protection 2-1,2
- highest values according to EN 166 standards
- light weight goggles

Article	Order No.
UV protection full vision goggles	**10 01 22029**



UV Goggles i-vo, with Duo Component Technology, neoLab®

Duo Component Technology, the latest technology for your eyes!
Four comfort cushions of the side frame ensure pressure-free and comfortable wear. Ideal and permanent wearing comfort due to soft components in the sensitive zones.
Frame: blue/orange
Shields:
optidur 3000 UV: scratch-proof, chemical resistant
HC-AF: outside extremely scratch-proof, inside with anti-fog

Article	UV protection	Order No.
UV goggles, clear, optidur 3000 UV	2-1.2	**10 01 11611**
UV goggles, clear, supravision HC-AF	2-1.2	**10 01 11612**
UV goggles, SCT brown, optidur 3000 UV	5-2.5	**10 01 11613**





webcode WW2NY126

Goggles, WINLAB®

Safety glasses with improved technical features and a better look. Wrap-around shield with anti-scratch and anti-fogging coating. Thanks to rubber padding and soft earpieces, the temples perfectly adjust to the shape of the wearer's face. This avoids disagreeable pressure from excessively tight temples.
Length and inclination of the temples can be adjusted. The bridge is soft and adjustable for perfect wearing comfort.

Article	Order No.
Goggles with panoramic lens	**10 03 50701**





webcode WW5PT041

Panorama Goggles, WINLAB®

webcode WW5PT049

Plain panorama goggles made of polycarbonate acc. to EN 166.

Light-weight, comfortable version, also suitable for wearing over spectacles.

Article	Order No.
Panorama goggles	**36 43 50000**



Goggles, Eye Protection





webcode WW5PT048



Goggles according to DIN EN 166 + 170, WINLAB®

Goggles according to DIN EN 166 + 170
Extremely lightweight, comfortable safety goggles designed to be worn over prescription glasses.
Scratch-proof polycarbonate shield with large integrated side protection. The area above the eyes is covered as well for additional protection. With soft bridge. Length and inclination of the soft temples are easy to adjust.

Article	Order No.
① Goggles for spectacle wearers, soft sides	**10 03 53502**

Goggles universal type safe + soft
Overspecs with excellent safety features and high wearing comfort thanks to:
- Rubber padding which safely covers the entire eye area
- Length and angle of the arms can be adjusted
- Soft padding protects from side impacts
- Can be worn over almost all kinds of prescription glasses
- Scratch-proof polycarbonate lenses

Article	Order No.
② Goggles universal type safe + soft	**10 03 90901**

WINLAB®

webcode WW5PT073



Full Sight Glasses with Elastic Strap acc. to DIN EN 166 + 170, WINLAB®

Modern full-sight glasses with excellent all-round sealing effect!
The highly effective indirect ventilation system ensures good air circulation, preventing fast fogging of the glass.

With extra-wide face contact area and wide elastic head strap for high wearing comfort.

The sight glass is made of unbreakable polycarbonate and is highly resistant to fogging.

Article	Order No.
Full sight glasses, frame colour anthracite	**10 03 53503**
Full sight glasses, frame colour red	**10 03 53504**





webcode WW5PT032



Goggle Boxes, WINLAB®

Designed to keep your goggles protected, clean, and placed directly where you need to access them. The box protects your goggles with its impact-resistant ABS plastic housing, which comes in signal color with international symbols. The box is very easy to use and can be mounted with adhesive or screws. With new, quick access opening clip.

Mini Box (236 × 120 × 120 mm)

Article	Order No.
Mini box for goggles (transparent)	**36 43 01000**
Mini box for goggles (blue lid)	**36 43 01002**
Mini box for a breathing mask	**36 43 01004**
Mini box for safety gloves	**36 43 01006**

Midi Box (236 × 225 × 125 mm)

Article	Order No.
for goggles (transparent)	**36 43 02000**
③ **for 4 goggles**	**10 03 08002**
complete with storage element for 4 pairs of goggles	
for goggles (blue lid)	**36 43 02002**
for ear protectors (blue lid)	**36 43 03002**
for ear protectors (blue lid)	**36 43 04000**
for a breathing mask (blue lid)	**36 43 04002**
for safety gloves (blue lid)	**36 43 05002**

Maxi Box (236 × 315 × 200 mm)

Article	Order No.
④ **for 12 goggles**	**10 03 09002**
complete with storage element for 12 pairs of goggles	
Maxi box for a full-face mask (blue lid)	**36 43 06002**
Maxi box for a face visor (blue lid)	**36 43 07002**

Mouth Protection, Respiratory Protection

Disposable Masks, neoLab®



webcode WW2NY131

Breathing-proof disposable masks with 2 rubber bands for looping around the ears. Single layer from paper.

Article	Order No.	PU pc/Pack
Disposable masks	**36 01 22086**	100

Filtering Facepieces, EKASTU

webcode WWZTQ004

EKASTU Safety

Mandil

With paint coded nose clip respective exhalation valve to identify the protection class.

Filter masks of the Mandil range (DIN EN 149:2009) stand out owing to their low weight, innovative precast, low breathing resistance and high level of comfort.



②

Article	Order No.
① **Filtering facepiece Mandil FFP1**	**36 52 41111**

Protects against particles of inert substances up to 4 times the critical value. Packs of 12.

Article	Order No.
② **Filtering facepiece Mandil FFP2/V**	**36 52 11281**

With Cool Down exhale valve. Protects against slightly poisonous and harmful particles up to 10 times the critical value. Packs of 12.



③

Article	Order No.
③ **Filtering facepiece Mandil FFP2/Soft/V**	**10 52 32084**

Innovative, wide and supple cotton-lined internal sealing lip for high wearing comfort and guaranteed safety. With **Cool Down** exhalation valve and infinitely adjustable straps. Protects from harmful / noxious particles to a maximum of ten times the limit value. Package of 5 masks.



①

Article	Order No.
④ **Odour filtering facepiece Mandil FFP2/Combi/V**	**36 52 11250**

With Cool Down exhale valve. Protects against slightly toxic and harmful particles as well as unpleasant organic odours up to 10 times the critical value, activated charcoal layer included. Packs of 12.



④

Article	Order No.
⑤ **Filtering facepiece Mandil FFP3/V**	**36 52 12183**

With Cool Down exhale valve. Protects against poisonous and highly harmful particles up to 30 times the critical value. Wide cotton-lined inner sealing lip and continous adjustable bands. Packs of 5.



⑤

cobra foldy

in 3D panel design (DIN EN 149:2009). The low breathing resistance and the ultimative wearing comfort point out the cobra foldy series. Single packed in hygienic polybags.



⑥

Article	Order No.
⑥ **Filtering facepiece cobra foldy FFP1**	**10 52 39210**

Protects against particles of inert substances up to 4 times the critical value. Packs of 20.



⑦

Article	Order No.
⑦ **Filtering facepiece cobra foldy FFP2/V**	**10 52 39281**

Protects against slightly poisonous and harmful particles up to 10 times the critical value. With Cool Down exhale valve. Packs of 12.



⑧

Article	Order No.
⑧ **Filtering facepiece cobra foldy FFP3/V**	**10 52 39283**

Protects against poisonous and highly harmful particles up to 30 times the critical value. With Cool Down exhale valve. Packs of 12.

webcode To see other variants and accessories, please enter the webcode on our website.

Mouth Protection, Respiratory Protection

webcode WW19X001

DR. WIELAND



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⑤

Respiratory Protection, Dr. Wieland

Respiratory protection against respirable dust, liquid and gaseous media.

Fine dust masks
SMART series single-use fine dust masks. ActivForm® for automatic adjustment to the wearer's face contours. External structure with DuraMesh® for stability and a long service life. Soft seal in the nose area for additional comfort and fight fit. The strap and clip allows you to hang the mask comfortably around the neck whilst not in use. Optionally with climate valve for additional supply of cool air under the mask for greater breathing and wearing comfort. Silicone-free. Ideal for use in laboratories, tested pursuant to DIN EN 149:2001 and A1:2009, fulfils the requirements of the dolomite dust test.
Filter class FFP1:
Protection from non-toxic dusts and aerosols on water and oil basis, up to 4 × Maximal Voluntary Ventilation (MVV)
Filter class FFP2:
Protection from hazardous dusts, fumes and aerosols on water and oil basis, up to 10 × Maximal Voluntary Ventilation (MVV)
Filter class FFP3:
Protection from hazardous and carcinogenic dusts and aerosols on water and oil basis, up to 30 × Maximal Voluntary Ventilation (MVV)

	Article	Order No.	PU pc/Pack
	Typ 2380, FFP1 D without valve	**10 58 12380**	20
①	Typ 2385, FFP1 D with valve	**10 58 12385**	20
	Typ 2480, FFP2 D without valve	**10 58 12480**	20
②	Typ 2485, FFP2 D with valve	**10 58 12485**	20
③	Typ 2505, FFP3 D with valve	**10 58 12505**	10

Other mask types available on request!

④ **Half mask series 7000 with EasyLock® connectors**
Mask body made of thermoplastic, skin-friendly TPE, optimum distribution of tension on straps. The strap and clip allows you to hang the mask comfortably around the neck whilst not in use. Easy servicing and cleaning thanks to freely accessible components, EasyLock® filter system for easy and direct filter assembly. Very low breathing resistance for longer periods of use. Ultra-light mask body, variable size system, sizes S – L, ideal for laboratory applications, tested pursuant to DIN EN 140:1998.

Article	Order No.
Mask body series 7000, size S	**10 58 17001**
Mask body series 7000, size M	**10 58 17002**
Mask body series 7000, size L	**10 58 17003**

Full face masks series 9000 available on request!

⑤ **EasyLock® particulate filters for mask bodys series 7000 and series 9000**
EasyLock® filter system for easy and direct filter assembly (two filters required per mask body). Silicone-free, ideal for use in laboratories, tested pursuant to DIN EN 143:2000 and A1:2006.
Filter class P1 R:
Protection from non-toxic dusts and aerosols on water and oil basis, up to 4 × Maximal Voluntary Ventilation (MVV)
Filter class P2 R:
Protection from hazardous and carcinogenic dusts, fumes and aerosols on water and oil basis, up to 10 × Maximal Voluntary Ventilation (MVV), with full face masks up to 15 × MVV
Filter class P3 R:
Protection from hazardous and carcinogenic dusts, fumes and aerosols on water and oil basis, up to 30 × Maximal Voluntary Ventilation (MVV), with full face masks up to 400 × MVV

Article	Order No.	PU pc/Pack
Typ 9010, P1 R	**10 58 19011**	20
Typ 9020, P2 R	**10 58 19020**	20
Typ 9030, P3 R	**10 58 19030**	12

Continued on next page

Mouth Protection, Respiratory Protection

⑥ **EasyLock® gas filters for mask bodys series 7000 and series 9000**
EasyLock® filter system for easy and direct filter assembly (two filters required per mask body). Silicone-free, ideal for use in laboratories, tested pursuant to DIN EN 14387:2004 and A1:2008.
Filter class A1:
Protection from organic gases (flash point > 65°C, 0.1 Vol.-%)
Filter class A2:
Protection from organic gases (flash point > 65°C, 0.5 Vol.-%)
Filter class ABEK1:
Protection from organic gases, inorganic gases, acid gases, and ammonia
Filter class AX:
Protection from organic gases (flash point < 65°C)

Article	Order No.	PU pc/Pack
Typ 9100, A1	**10 58 19100**	10
Typ 9200, A2	**10 58 19200**	8
Typ 9400, ABEK1	**10 58 19400**	10
Typ 9600, AX	**10 58 19600**	8

Other filter types available on request!



⑥

⑦ **EasyLock® pre-assembled filters for mask bodys series 7000 and series 9000**
EasyLock® filter system for easy and direct filter assembly (two filters required per mask body). Silicone-free, ideal for use in laboratories, tested pursuant to DIN EN 14387:2004 and A1:2008.
Filter class A1P2 R:
Protection from organic gases (flash point > 65°C, 0.1 Vol.-%), and from hazardous dusts, fumes and aerosols on water and oil basis, up to 10 × Maximal Voluntary Ventilation (MVV), with full face masks up to 15 × MVV
Filter class A2P3 R:
Protection from organic gases (flash point > 65°C, 0.5 Vol.-%), and from hazardous and carcinogenic dusts, fumes and aerosols on water and oil basis, up to 30 × Maximal Voluntary Ventilation (MVV), with full face masks up to 400 × MVV
Filter class ABEK1P3 R:
Protection from organic gases, inorganic gases, acid gases, and ammonia, as well as from hazardous and carcinogenic dusts, fumes and aerosols on water and oil basis, up to 30 × Maximal Voluntary Ventilation (MVV), with full face masks up to 400 × MVV

Article	Order No.	PU pc/Pack
Typ 9120, A1P2 R	**10 58 19120**	8
Typ 9230, A2P3 R	**10 58 19230**	6
Typ 9430, ABEK1P3 R	**10 58 19430**	6



⑦

Half-Masks, EKASTU

Half-masks

Article	Order No.
⑧ **Half-mask Polimask 230**	**36 52 32100**

Mask body made of EPDM. Wide, supple inner sealing lips ensure a tight fit. Special design with large field of vision and low breathing resistance. Can also be worn by wearers of spectacles.

Article	Order No.
⑨ **Half-mask Polimask GAMMA/Silicone**	**36 52 33227**

Anatomically shaped mask body made of skin-friendly silicone. Adapts easily and comfortably to every shape of face. Exhaled air guided with wearers of spectacles in mind. New-type 4-point strap for optimum weight distribution. Good, tight fit with low weight. Short distance between filter and mask for more comfort.


⑧

EKASTU Safety
webcode WWZTQ007


⑨

Continued on next page

Mouth Protection, Respiratory Protection



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Respiratory filters for half-mask Polimask 230 and GAMMA/Silicone

	Article	Order No.
①	**Particle filter 230 P3R D[1)]**	**36 52 33041**

Protection against particles of toxic and highly toxic substances. Packs of 2.

	Article	Order No.
②	**Combination filter 230 A1-P3R D[1)]**	**36 52 33043**

Protection against organic gases and vapors with a boiling point >65°C and particles of toxic and highly toxic substances (P3). Packs of 2.

	Article	Order No.
③	**Multi-range combination filter 230 A2B2E2K1-P3R D[1)]**	**36 52 33047**

Protection against organic gases and vapors with a boiling point >65°C, inorganic gases and vapors, sulfur dioxide, ammonia and particles of toxic and highly toxic substances (P3). Packs of 2.

[1)] D = additionally with dolomite dust test

Accessories

	Article	Order No.
④	**Protective hood 230** made of dust-proof and breathable fleece material. Encloses the complete head, face and neck area, with large window shield made of triacetate. 10 pieces per pack.	**10 52 32082**


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EKASTU Safety

webcode WWZTQ006


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Respiratory Protection Masks, EKASTU

Respiratory protection masks

	Article	Order No.
⑤	**Half mask Polimask ALFA**	**10 52 36620**

with standard thread connection according to DIN EN 148-1, anatomically shaped mask body made of particularly skin-friendly silikone. Adapts easily and comfortably to every shape of face. 4-point harness ensures optimum weight distribution. Exhaled air guided with wearers of spectacles in mind.

	Article	Order No.
⑥	**Full face mask C 607/Selecta (Class 2)**	**36 52 66611**

with standard thread connection according to DIN EN 148-1, non-fogging, non-mirroring and non-distorting polycarbonate visor with a very large field of vision. Mask body made of skin-friendly, age-proof EPDM to guarantee excellent mechanical and chemical resistance.

Respiratory filter with round thread acc. to DIN EN 148-1

	Article	Order No.
⑦	**Screw-in particle filter DIRIN 230 P3R D**	**36 52 33050**

Protection against particles of toxic and highly toxic substances.

	Article	Order No.
⑧	**Combined filter DIRIN 230 A2-P3R D[1)]**	**10 52 32786**

Protection against organic gases and vapours with a boiling point > 65°C, as well as particles of toxic and highly toxic substances (P3).

	Article	Order No.
⑨	**Multi-range combination filter DIRIN 230 A2B2E2K2-P3R D**	**36 52 22782**

Protection against organic gases and vapors with a boiling point >65°C, inorganic gases and vapors, sulfur dioxide and ammonia, and particles of toxic and highly toxic substances (P3).

	Article	Order No.
⑩	**Multi-range combination filter DIRIN 230 A2B2E2K2-HG-P3R D[1)]**	**36 52 33022**

Protection against organic gases and vapors with a boiling point >65°C, inorganic gases and vapors, sulfur dioxide, ammonia and mercury vapors and particles of toxic and highly toxic substances (P3).

[1)] D = additionally with dolomite dust test

Accessories

	Article	Order No.
⑪	**Mobile wall cabinet for masks** With wall fixture. Can be removed for transport. Impact-proof and dust-proof. With transparent door and 2 shelves. For 1 full-face mask or 3 half-face masks, each with filter. Outer dimensions (H×W×D) 39.4 × 26.0 × 13.5 cm	**36 52 32028**
	EKASTU anti-fogging spray (100 ml)	**36 52 66952**
	EKASTU mask cleaning agent (250 ml)	**36 52 66962**
	EKASTU mask disinfectant (250 ml)	**36 52 32025**

Gas Detection Systems

Gas Detection Systems, Dewert Labortechnik

webcode WWGZA024

BW Ultra multi-gas warning system
The BW Ultra gas detector allows for simultaneous monitoring and indication of up to five gas hazards including carbon dioxide (CO_2), oxygen (O_2), combustible gases (LEL) and a wide range of other gases. Activated gas detectors automatically carry out an internal diagnosis test every 24 hours (sensors, battery, switching circuit). The BW Ultra is compatible with the IntelliDoX.
Alerting is by means of visual and acoustic alarm (95dB) as well as vibration.
Protection class IP 66/68.

Technical data:
Dimensions: 148 × 85 × 40 mm
Weight: 411 g (with clip)
Approval (excerpt): ATEX II1G Ex ia IIC T4 Ga

Article	Order No.
① **BW Ultra with pump (yellow)**	**10 08 88801**
Gas hazard: CO_2, H_2S, UEG, O_2, CO	
Float probe	**10 08 88802**
Chest strap	**10 08 50122**



①

② **Single gas detector BW Clip series**
Up to three years maintenance-free permanent protection from lack of oxygen and from carbon dioxide, hydrogen sulfide or sulfur dioxide. This single-gas detector is available in versions designed for two or three years of operation. It is particularly low-maintenance since it does not require any calibration, change of sensors, or change or charging of batteries. Activated gas detectors automatically carry out an internal diagnosis test every 24 hours. Certified to ATEX II 1 G Ex ia IICT 4 Ga, among others.
The BW Clip is compatible with the IntelliDoX. The single-gas detectors are delivered ready for use, complete with shockproof housing, specified sensor, stainless steel crocodile clip, calibration adapter, and operating instructions.

Technical data:
Dimensions: 41 × 50 × 87 mm
Weight: 92 g

BW Clip 2
Detector for 2 years

Gas hazard	Alarm set points	Order No.
Hydrogen sulphide	10 ppm / 15 ppm	**10 08 24115**
Hydrogen sulphide	5 ppm / 10 ppm	**10 08 24105**
Carbon monoxide	35 ppm / 200 ppm	**10 08 24235**
Carbon monoxide	30 ppm / 200 ppm	**10 08 24230**
Carbon monoxide	50 ppm / 200 ppm	**10 08 24250**
Sulphur dioxide	5 ppm / 10 ppm	**10 08 24205**
Oxygen	19.5 % / 23.5 %	**10 08 24923**



②

BW Clip 3
Detector for 3 years

Gas hazard	Alarm set points	Order No.
Hydrogen sulphide	10 ppm / 15 ppm	**10 08 36115**
Hydrogen sulphide	5 ppm / 10 ppm	**10 08 36105**
Carbon monoxide	35 ppm / 200 ppm	**10 08 36235**
Carbon monoxide	30 ppm / 200 ppm	**10 08 36230**
Carbon monoxide	50 ppm / 200 ppm	**10 08 36250**

③ **BW Solo**
Maintainable single-gas detection system
The Honeywell BW Solo is easy to operate and to maintain and comprises a wide range of sensor options. The profile is small and light-weight, the robust design is fit for many years of reliable operation. For general maintenance such as replacing sensors, batteries and filters, no disassembling of the gas detector is required.
In the wireless version, the system can be managed via the user's smartphone.
Certified to ATEX Sira18ATEX2243, among others.
The single-gas detectors are delivered ready for use, complete with shockproof housing, specified sensor, stainless steel crocodile clip, calibration adapter, and operating instructions.

Technical data:
Dimensions: 70 × 67 × 36 mm
Weight: 103 – 116 g, depending on the installed probe

Article	Order No.
BW Solo – (CO) Standard	**10 08 88803**
BW Solo – (H_2S) Standard	**10 08 88804**
BW Solo – (O_2) Standard	**10 08 88805**
BW Solo – (CO) Wireless	**10 08 88806**
BW Solo – (H_2S) Wireless	**10 08 88807**
BW Solo – (O_2S) Wireless	**10 08 88808**

Also available in SO2, NH3, PH3, Cl2, ClO2, NO, NO2, HCN, ETO, O3, H2 configurations



③

Continued on next page

Gas Detection Systems



①

IntelliDox docking system
Automated instrument management system
The IntelliDox system combines intelligent docking modules and the device management software to provide automated instrument management for compatible alarm systems. Can be extended to up to five modules, each with its own LCD display and keyboard for independent use.
Once the detector is inserted into the docking module, it automatically tests the gas detector and sensors while data is transmitted to the system.
Efficient transmission of the function tests via Ethernet or USB.
The package comprises as a standard: IntelliDox module with factory-installed nest for a specific portable gas detector, integrated fold-in stand/wall mount, brief instructions, Fleet Manager II software CD

Technical data:

Dimensions:	138 × 362 × 109 mm
Weight:	1.91 kg
Data storage:	2 GB internal

Article	Order No.
IntelliDox docking system for BW Ultra	**10 08 88809**
IntelliDox docking system for BW Clip	**10 08 88810**
① **IntelliDox docking system for BW Solo**	**10 08 88811**
IntelliDox enabler Kit, EU version	**10 08 88812**
absolute precondition for use of the IntelliDox	

Accessories for alarm transmission and quality assurance see page 627

Gloves

webcode WW2NY141

for my lab neoLab

neoProtect-Nitrile Gloves, Powder-Free, neoLab®



②

Wearable on both hands, powder-free examination gloves made of nitrile.
- roughened palm
- contains no proteins
- tear resistance: 14 Mpa m/m
- extensibility: 500% m/m
- in compliance with Directive 93/42/ECC, EN 455, AQL 1.5, PSA (EU) 2016/425, EN 420, EN 374
- CE certificate: category III (water-tight gloves protecting the user from chemical hazards)
- Medical device class I

Length: 240 ± 10 mm
Material thickness:
Cuff 0.10 mm ± 0.02 mm
Hand 0.12 mm ± 0.02 mm
Finger 0.16 mm ± 0.03 mm



③

② **neoProtect-Nitrile gloves, blue**

Size	Order No.	PU pc/Pack	Size	Order No.	PU pc/Pack
S	**10 01 18101**	100	L	**10 01 18103**	100
M	**10 01 18102**	100	XL	**10 01 18104**	100

Available only in original packaging units. No fractions possible.

③ **neoProtect-Nitrile gloves, black**

Size	Order No.	PU pc/Pack	Size	Order No.	PU pc/Pack
S	**10 01 18300**	100	L	**10 01 18302**	100
M	**10 01 18301**	100	XL	**10 01 18303**	100

Available only in original packaging units. No fractions possible.

Gloves

neoLabLine Multismart Dispenser “simple”, neoLab®

webcode WW2NY405



The universal neoLabLine Multismart dispenser “simple” can be flexibly used for holding gloves, tissues, disposable hoods etc.. Various boxes can be held by 2 sturdy rubber bands. This makes a quick and easy removal of the desired consumables possible. The simple PVC plate can be screwed to the wall, providing a stable base.

Contents:
- 1 base plate
- 4 dowels (S 8)
- 4 screws 4.5 × 35 mm
- 4 spacers
- 10 elastic bands

Article	Order No.
neoLabLine Multismart Dispenser “simple”	**10 01 16799**

BRAUN Disposable Gloves, IDL



① **MANUPLAST®**
Disposable gloves made of transparent polyethylene, non-sterile. Fit both right and left hands.

Size	Order No.	PU pc/Pack
small	**36 42 50001**	100
large	**36 42 50002**	100

Available only in original packaging units. No fractions possible.



② **MANUFIX® sensitive**
Disposable gloves for special uses. No powder or liquid lubricants thanks to special surface treatment.

Size	Order No.	PU pc/Pack
6 – 7, small	**36 42 52101**	100
7 – 8, medium	**36 42 52102**	100
8 – 9, large	**36 42 52103**	100

Available only in original packaging units. No fractions possible.



③ **VASCO® powdered**
Disposable latex gloves, non-sterile. With very good sense of touch. Fit both right and left hands.

Size	Order No.	PU pc/Pack
6 – 7, small	**36 42 52201**	100
7 – 8, medium	**36 42 52202**	100
8 – 9, large	**36 42 52203**	100

Available only in original packaging units. No fractions possible.



④ **VASCO® Nitril light**
Thin nitrile examination glove, non-sterile, powder-free, latex-free, lavender-colored. Light glove design for excellent grip sensitivity. Recommended for persons allergic to latex. Suitable for food processing.

Size	Order No.	PU pc/Pack
XS extra-small	**10 42 17708**	100
S small	**10 42 17716**	100
M medium	**10 42 17724**	100
L large	**10 42 17732**	100
XL extra-large	**10 42 17740**	90

Available only in original packaging units. No fractions possible.



⑤ **VASCO® Nitril white**
Thin nitrile examination gloves, non-sterile, powder-free, latex-free, white. Light glove design for excellent grip sensitivity. Recommended for persons allergic to latex. Suitable for food processing.

Size	Order No.	PU pc/Pack
XS extra-small	**10 42 17902**	100
S small	**10 42 17910**	100
M middle	**10 42 17929**	100
L large	**10 42 17937**	100
XL extra-large	**10 42 17945**	90

Available only in original packaging units. No fractions possible.

Gloves



webcode WW7R3177

① = 1

Protective Gloves, IDL

① Light-weight powdered gloves made of latex

Very thin, flat form for use on right or left hand, particularly flexible latex film for good sense of touch, micro-roughened surface for good wet grip. CE Category I.

Size	Thickness approx. mm	Colour	Length mm	Order No.	PU pc/Box
S (6.5)	0.18	natural	240	**36 00 10506**	100
M (7.5)	0.18	natural	240	**36 00 10507**	100
L (8.5)	0.18	natural	240	**36 00 10508**	100
XL (9.5)	0.18	natural	240	**36 00 10509**	90

Available only in original packaging units. No fractions possible.

Powder-free gloves made of latex

Particularly reliable grip thanks to new coloring process. With inner coating, extra thin. CE Category I.

Size	Thickness approx. mm	Colour	Length mm	Order No.	PU pc/Box
XS (5.5)	0.18	natural	240	**36 00 10605**	100
S (6.5)	0.18	natural	240	**36 00 10606**	100
M (7.5)	0.18	natural	240	**36 00 10607**	100
L (8.5)	0.18	natural	240	**36 00 10608**	100
XL (9.5)	0.18	natural	240	**36 00 10609**	90

Available only in original packaging units. No fractions possible.

webcode WW7R3357



Powder-free Examination Gloves made of Nitrile Butadiene Rubber (NBR), IDL

Skin-friendly, pure composition, free from chlorine, without natural rubber latex proteins, produced without vulcanisation accelerator.

Technical data:

Material:	Nitrile-butadiene rubber (NBR), free of latex accelerators
Type:	powder-free, unsterile
Colour:	mint green
Glove shape:	flat with rolled rim (ambidexter)
Total length pursuant to EN 455-2:	240 mm
Wall thickness (double) in palm area:	min. 0.12 mm typ. 0.14 mm
Impermeability pursuant to EN 455-1:	AQL 1.5
Tear resistance pursuant to EN 455-2:	≧ 6 N
Durability in original packaging if stored pursuant to ISO 2230:	3 years
Sizes:	XS, S, M, L, XL
Packaging:	Available in dispenser carton with 180/200 gloves each, XS, S, M, L 200 / XL 180 gloves each
Labelling:	EN 455-1/ -2/ -3/ -4, EN 420, EN ISO 374-1, EN 374-2, EN 16523-1, EN 374-4, ISO EN 374-5, ISO 15223-1
Purpose as set out in MD Directive:	Disposal glove for medical purposes class I
PPE pursuant to Directive 93/42/EEC:	Disposable protective glove category III (protects from chemical action for a limited period of time)
Directive (EU) 2017/425	

Size	Packing type	Order No.	PU pc/Pack
XS	dispenser box	**10 00 10701**	200
S	dispenser box	**10 00 10702**	200
M	dispenser box	**10 00 10703**	200
L	dispenser box	**10 00 10704**	200
XL	dispenser box	**10 00 10705**	180

Gloves

Nitrile Gloves, Disposable, IDL

webcode WW7R3228



Nitrile gloves, interior with no powdering, light blue, recyclable.
Boxes of hundred.
- Short-term protection from chemicals
- Latex-free, 100% nitrile
- Non-sterile
- Structured surface of the fingers
- Fit both hands
- Thickness: 0.10 mm
- Length: 240 mm

Size ranges: S = 5.0-6.5
M = 7.0-8.0
L = 8.5-9.5
XL = 10.0-11.0

Size	Version	Order No.	PU pc/Box
S	powder-free, mediically suitable	**36 00 10015**	100
M	powder-free, mediically suitable	**36 00 10017**	100
L	powder-free, mediically suitable	**36 00 10018**	100
XL	powder-free, mediically suitable	**36 00 10020**	100

Available only in original packaging units. No fractions possible.

Chemical-Protective-Gloves, EKASTU



webcode WWZTQ011

M2-PLUS Chemical Protective Gloves
Category 3, colour: midnight blue, made of polychloroprene, approx. 31 cm long, anatomical shape with good gropeability, sanitised, cotton lined, patterned for a non-slip grip, cotton flocked, high abrasion resistance, resistant to many chemical substances such as acids, bases and organic oils and fats as well as bacteriological contamination, glove can be used universally for laboratory, trade and industry, excellent abrasion resistance and thereby very long service life.

Type	Size	Order No.
M2-PLUS	7 – 7½	**36 52 45708**
M2-PLUS	8 – 8½	**36 52 45709**
M2-PLUS	9 – 9½	**36 52 45710**
M2-PLUS	10 – 10½	**36 52 45711**

Chemical-Protective-Gloves, EKASTU



webcode WWZTQ010

Category 3, very durable version, colour: green, fully coated with polyvinyl chloride, cotton lined and extremely abrasion-resistant, durable through double-dipping process, protection against mechanical risks and certain chemicals such as fats, oils, most acids and bases.
New: Better palpation ability and around up to 50% less tiredness for the hand, maximum abrasion resistance according to DIN EN 388, thereby maximum service life.

Type	Length cm	Size	Order No.
EKASTU gloves 628	28	10	**10 52 31628**
EKASTU gloves 629	28	9	**10 52 31629**
EKASTU gloves 635	35	10	**10 52 31635**
EKASTU gloves 636	35	9	**10 52 31636**
EKASTU gloves 640	40	10	**36 52 46100**
EKASTU gloves 660	60	10	**36 52 81660**

Chemical-Protective-Gloves, EKASTU



webcode WWZTQ014

M3-PLUS Chemical Protective Gloves
Category 3, colour: green, made of nitrile perbunan, approx. 31 cm long, anatomical shape with very good gropeability, sanitized, cotton lined, patterned for a non-slip grip, cotton flocked, non-abrasive, resistant to many chemical substances such as oils and fats, pesticide, solvents and fuels as well as bacteriological contamination, max. abrasion resistance according to DIN EN 388, thereby maximum service life.

Type	Size	Order No.
M3-PLUS	7 – 7½	**36 52 81120**
M3-PLUS	8 – 8½	**36 52 81121**
M3-PLUS	9 – 9½	**36 52 81122**
M3-PLUS	10 – 10½	**36 52 81123**

webcode To see other variants and accessories, please enter the webcode on our website.

Gloves

webcode WWW4U032



Protective Gloves, LAT

Neoprene, high resistance to chemicals, black, short or long models, non-slip profile on palm side, velour interior, sizes S - XL.

Length mm	Size	Order No.
30	S	**36 20 10130**
30	M	**36 20 10230**
30	L	**36 20 10330**
30	XL	**36 20 10430**
40	M	**36 20 20140**
40	L	**36 20 20240**

webcode WW2NY139



Textile Gloves, neoLab®

Gloves made of non-fluff perlon or agreeable cotton fabric. Can be used as weighing gloves or under-gloves.

Perlon gloves

Size	Order No.	Size	Order No.
7	**36 01 17200**	10	**36 01 17203**
8	**36 01 17201**	11	**36 01 17204**
9	**36 01 17202**	12	**36 01 17190**

Cotton gloves

Size	Order No.	Size	Order No.
7	**36 01 17205**	11	**36 01 17209**
8	**36 01 17206**	12	**36 01 17199**
9	**36 01 17207**	13	**36 01 17219**
10	**36 01 17208**		

webcode WW5PT033







Heat Protective Gloves, WINLAB®

Kevlar is a material with universal properties, one of them being a very high resistance to thermal loads. Kevlar can protect against temperatures up to around 300°C (physical contact) and 450 to 500°C (radiant heat).
Additionally, this Kevlar glove is very durable and does an excellent job of protecting against cut and puncture injuries. Double knit (two-layer) construction! Length approx. 40 cm, with knitted cuffs for better fit.

Article	Order No.
Kevlar gloves (universal size approx. 8 – 10)	**36 43 00090**



webcode WW2NY136

Heat and Cold Protective Gloves, neoLab®

Five-finger gloves, carbon-silicon fiber knit, for protection against heat and cold. Material is heat-resistant up to 95°C and withstands cold to -80°C. Sizes: short length up to the wrist and long length up to the elbow (360 mm). Not suitable for liquid nitrogen. EN 407 4/1/4/1.

Article	Form	Size	Order No.
Heat/cold protection gloves	short	7 – 8.5	**36 01 24095**
Heat/cold protection gloves	short	9 – 10	**36 01 24096**
Heat/cold protection gloves	long	7 – 8.5	**36 01 24075**
Heat/cold protection gloves	long	9 – 10	**36 01 24076**

Gloves

Heat and Cold Protective Gloves, WINLAB®

webcode WW5PT034





Breathable protective gloves, comfortable to wear, with excellent heating protection properties.

Features of the protective gloves:
- Protection against heat (contact heat up to +250 °C acc. to EN 407)
- Protection against cold
- Breathable
- Good protection against cutting injuries
- With cuff as wrist protection

Lined with cotton terrycloth

Article	Size	Length approx. mm	Order No.
Heat and cold protective gloves	11	400	**10 03 00108**

Heat Protective Gloves, WINLAB®

webcode WW5PT052



Heat protective gloves made of Kevlar loop-knit fabric.
With Kevlar felt lining and double Kevlar textile layer for better protection when in contact with heat.
Cuffs made of tough aramide fabric. Resistant to up to 500°C for short term.

Article	Order No.
Heat protective gloves	**36 43 00095**

Thermogrip Gloves, neoLab®



webcode WW2NY138

Good gripping feel, despite high degree of insulation and abrasion resistance.
Textile basis, double layer insulated. Gloves protect against mechanical abrasion with nitrile lace, which also gives them a secure grip and a high degree of wear resistance. The gloves can be worn on both the right and left hands, making them very economical. **In universal size 9.** EN 388 1/2/4/1

Article	Order No.
Thermogrip gloves	**36 01 24210**

Protective Gloves and Aprons, IDL



webcode WW7R3282

CRYO GLOVES® and CRYO APRON® with CE certificate. Protective gloves and aprons provide protection at temperatures of up to -160°C, which makes this gear ideal for working in deep freezers and with cooled liquids, as well as handling dry ice (-72°C) and liquid nitrogen in the gas phase.
CRYO GLOVES® come in standard and waterproof versions (WP). WP = 100% waterproof for use with infectious and toxic substances; cryo gloves also have an internal glove made of Teflon.
CRYO GLOVES®/CRYO APRON® are registered trademarks.
Originals only from Tempshield Inc.

CRYO GLOVES® protective gloves, standard version

	Model	Type	Size	Length cm	Order No.
①	Wrist length	WRS	small	30	**36 00 03000**
	Wrist length	WRM	medium	30	**36 00 03002**
	Wrist length	WRL	large	30	**36 00 03004**
	Wrist length	WRXL	xlarge	30	**36 00 03006**
②	Forearm length	MAS	small	40	**36 00 04000**
	Forearm length	MAM	medium	40	**36 00 04002**
	Forearm length	MAL	large	40	**36 00 04004**
	Forearm length	MAXL	xlarge	40	**36 00 04006**
③	Elbow length	EBM	medium	50	**36 00 05002**
	Elbow length	EBL	large	50	**36 00 05004**
	Elbow length	EBXL	xlarge	50	**36 00 05006**
④	Shoulder length	SHM	medium	70	**36 00 07002**
	Shoulder length	SHL	large	70	**36 00 07004**
	Shoulder length	SHXL	xlarge	70	**36 00 07006**

Caution: Wear protective clothing at cryogenic workplaces.
CRYO GLOVES® are not suitable for immersing in liquid nitrogen or other ultra-cold liquids!
More models on request.

Gloves

webcode WW2NY211



Protective Gloves HOT HAND®, neoLab®

For touching hot beakers and other hot objects. The thick-walled silicone rubber can withstand temperatures ranging **from +250°C** down to -57°C, while still maintaining its flexibility. Both grip openings (for thumb and finger) fit all sizes of hands. The gripping surface has nubs, making it antislip. With eyelet for hanging up.

Article	Order No.
HOT HAND® protective gloves	**36 01 24098**

webcode WW5PT042



Gloves for Glove Boxes, WINLAB®

In three materials: latex, neoprene, butyl.
Work gloves fit most glove boxes, 750 mm total length, suitable for Glove-Box cuffs with a diameter of 186 mm. Thickness of gloves 6/10 mm.

Materials
Latex:
general resistance[1)] against medium- and weak-concentrated acids, diluted leaches as well as some ketonic solvents

Neoprene:
medium gas permeability, resistant against acids and leaches, oils, limited against aliphatic solvents

Butyl:
mostly gas-impermeable, resistant against ozone, acids and leaches as well as ketonic solvents

[1)]The areas of usage stated here are just for orientation! They are not absolutele reliable! Please ask your expert dealer for specific resistances.

Material	Size	Order No.
Latex	8	**36 43 11118**
Latex	9	**36 43 11119**
Neoprene	8	**36 43 11128**
Neoprene	9	**36 43 11129**

Material	Size	Order No.
Butyl	8	**36 43 11138**
Butyl	9	**36 43 11139**

Skin Protection

webcode WW2NY142



① ②

Skinguard Cream Laboderm®, neoLab®

The neoLab Laboderm® skin protection lotion has proven its worth 100.000-fold!

The lotion was developed especially for sensitive skin and skin stressed by day-to-day laboratory activities. Consisting of high-quality ingredients and UV protection, the Laboderm® skin proection lotion not only nourishes but also protects. The skin-neutral pH value is particularly gentle for the skin. Through the special recipe the lotion is absorbed quickly and supports the natural regreasing of the skin.

The odourless **Laboderm® N** is particularly gentle without any perfume.
A light perfume gives the **Laboderm®** a pleasant scent.
- Dermatologically tested by a specialist
- Made in Germany

Application:
Apply Laboderm skin protection cream to the hands after washing and if necessary. It is also recommended to use the cream before daily work in cold or damp conditions.

	Article	Order No.
①	LABODERM® N, 50 ml tube	**36 01 16039**
②	LABODERM®, 50 ml tube	**36 01 16040**

Skin Protection

Skinguard Cream, Dr. Wieland

webcode WW19X028



① **Stokoderm® 4in1 / Stokoderm® Advanced**
Protects the skin from oily and aqueous substances with an emulsion base in combination with film formers, wax, and special emulsifying agents. Reduces the strain on the skin by making subsequent washing easier. Scented, silicone-free.

Article	Order No.
Stokoderm® Advanced skinguard cream 100 ml tube	**36 34 91600**
STOKODERM® 4in1 skinguard cream 1000 ml soft bottle	**36 34 91700**
Vario dispenser for all soft bottles STOKO Vario Ultra®, white	**36 34 90300**

② **Stokolan® Hand & Body moisturising lotion**
Activating basic care for face and body with long-term moisturizing effect, for normal skin, is absorbed very quickly, pH neutral, special recipe which moistures the skin and promotes natural skin regeneration, dermatologically proven skin compatibility, suitable for allergics, free of silicone and parabene, scented.

Article	Order No.
Stokolan® Hand & Body 100 ml tube	**10 58 11213**
Stokolan® Hand & Body 1000 ml soft bottle	**10 58 13376**
Vario dispenser for all soft bottles STOKO Vario Ultra®, white	**36 34 90300**

③ **Stokolan® Classic care cream**
Regenerating skincare cream for hands and face with high moisturizing effect. Contains urea and glycerine. Also suitable for sensitive skin prone to eczema. ECARF certified.

Article	Order No.
Stokolan® Classic 100 ml tube	**10 58 13501**
Stokolan® Classic 1000 ml soft bottle	**10 58 13502**
Vario dispenser for all soft bottles STOKO Vario Ultra®, white	**36 34 90300**

Other STOKO® products available on request.

Skinguard Creams, WINLAB®

webcode WW5PT040



LINDESA skinguard and care products contain beeswax. Beeswax is insoluble in water and many organic solvents.

Article	Order No.
LINDESA skinguard cream slightly fat restoring, is quickly absorbed. 50 ml tube	**36 43 00450**
LINDESA K skin protection and care cream is quickly absorbed, contains camomile and glycerine. 100 ml tube	**36 43 00455**

Use the webcode on our website to see a larger selection of products from a specific manufacturer.

Wipes, Cleaning Cloths

Washing Room Systems, Kimberly-Clark













FSC

KLEENEX® towels
Towel system using AIRFLEX™ material.
KLEENEX® towels for a well cared for and stylish hygienic environment. Unlike traditional paper hand towels, the highly absorbent AIRFLEX™ material will not get torn or soggy. Pleasant to use with high moisture absorbency.

KLEENEX® Ultra Super-Soft towels
Super-soft, brilliant white 3-ply towels, interfold, made from AIRFLEX™ material. Kind to the skin. Soft and highly absorbing. Optimum care and comfort. Ideal for frequent drying of hands.

Article	Order No.	PU Pack/ Box
large 21.5 × 41.5 cm, 30 pack of 72 pieces	**10 80 06773**	30

Available only in original packaging units. No fractions possible.

KLEENEX® Ultra towels
Soft, brilliant white 2-ply towels, interfold, made from AIRFLEX™ material. Kind to the skin. Highly absorbing. Efficient and economical. Optimum quality for every washroom.

Article	Order No.	PU Pack/ Box
large, 21.5 × 41.5 cm, 30 pack of 94 pieces	**10 80 06772**	30

Available only in original packaging units. No fractions possible.

KLEENEX® folding towels large
Soft, white 2-ply towels, made from AIRFLEX™ material. Highly absorbing. Certified for contact with foods.

	Article	Order No.	PU Pack/ Box
①	21.5 × 10.6 × 13.0 cm, 15 pack of 124 pieces	**10 80 06778**	15

Available only in original packaging units. No fractions possible.

SCOTT® Performance towels
Fast-absorbing single-ply towels, AIRFLEX™ material, Efficient drying of hands guaranteed by high moisture absorbency and good wet strength, 21.5 × 31.5 cm, interfolded. 15 Packs of 212 towels.

	Article	Order No.	PU Pack/ Box
②	SCOTT® Performance towels, white	**37 80 06661**	15

Available only in original packaging units. No fractions possible.

SCOTT® ESSENTIAL™ folding towels
1-ply, white, AIRFLEX™ technology. Certified for contact with foods. Suitable for Aquarius dispenser.
Towel large: 31.8 × 20.0 cm
Towel small: 21.2 × 20.0 cm

	Article	Order No.	PU Pack/ Box
③	Large 20.0 × 10.6 × 13.3 cm, 15 pack of 240 pieces	**10 80 06669**	15
④	Small 20.0 × 10.6 × 13.3 cm, 15 pack of 340 pieces, interfold	**10 80 06617**	15

Available only in original packaging units. No fractions possible.

SCOTT® CONTROL™ folding towels
1-ply, white, AIRFLEX™ technology. Suitable for Aquarius dispenser.

	Article	Order No.	PU Pack/ Box
⑤	21.5 × 10.5 × 13.0 cm, 15 pack of 212 pieces	**10 80 06663**	15

Available only in original packaging units. No fractions possible.

HOSTESS® NATURA towels
Large format Natura quality, white, 2-ply.

	Article	Order No.	PU Pack/ Box
⑥	25 × 50 cm, 20 pack of 84 pieces, C fold, natural	**37 80 06812**	20

Continued on next page

Wipes, Cleaning Cloths

AQUARIUS™ dispensers from Kimberly-Clark Professional
- Patented overfill protection
  prevents overfilling and jamming
- Clever sight window
  Check the fill level at a glance to ensure there are always enough towels
- Compact design
  Small footprint
- Covered locking mechanism
  Can be locked - with our without key, for easy handling and cost control
- The hood of the dispenser covers the rear plate
  Dust and dirt cannot penetrate



⑦

AQUARIUS™ folded hand towel dispenser – interleaved
AQUARIUS™ folded hand towel dispenser – C fold small
AQUARIUS™ folded hand towel dispenser – C fold
Single-sheet hand towel dispenser from a wide portfolio of dispensers for washroom products which improve hygiene, increase wellbeing, and contribute to keep costs down.
Ideal as a folded hand towel dispenser; counteracts contamination and spreading of germs. Our unique patented mechanism prevents overfilling of the dispenser, making it easy to remove a single sheet. This avoids jamming and wastage.
Available as an easy-refill dispenser in elegant contemporary design with white high-gloss, easy-clean finish and no dirt or dust traps, a window (so you can see when a refill is needed) plus an option for customising the dispenser to match your color scheme.

AQUARIUS™ toilet tissue dispenser – folded
Single-sheet toilet tissue dispenser from a wide portfolio of dispensers for washroom products which improve hygiene, increase wellbeing, and contribute to keep costs down.
Ideal as a folded toilet tissue dispenser; counteracts contamination and spreading of germs. Our unique patented mechanism prevents overfilling of the dispenser, making it easy to remove a single tissue. This avoids jamming and wastage.
Available as an easy-refill dispenser in elegant contemporary design with white high-gloss, easy-clean finish and no dirt or dust traps, a window (so you can see when a refill is needed) plus an option for customising the dispenser to match your colour scheme.



⑧

	Article	Order No.
⑦	**AQUARIUS* folded hand towel dispenser – interleaved** made of an impact-resistant plastic, white, H 39.9 × W 26.5 × D 13.6 cm	**10 80 06945**
	AQUARIUS* folded hand towel dispenser - C fold small made of an impact-resistant plastic, white, H 15.9 × W 28.7 × D 14.2 cm	**10 80 06956**
	AQUARIUS* folded hand towel dispenser - C fold made of an impact-resistant plastic, white, W 31.7 × H 40.7 × D 15 cm	**10 80 06954**
⑧	**AQUARIUS* toilet tissue dispenser – folded** made of an impact-resistant plastic, white, H 33.8 × W 16.9 × D 12.3 cm	**10 80 06946**

Single Sheet Toilet Tissue
Kimberly-Clark's single sheet systems abolish once and for all the problems associated with traditional rolls of toilet paper, such as misuse, high consumption and non-availability. The dispensers release individual sheets and have a quantity indicator to reduce cost and minimize loss. No need to dispose of empty rolls.



⑨

	Article	Order No.	PU Clip/Box
⑨	**KLEENEX® Ultra Toilet Tissue** Brilliant white, 2-ply, micro-stamping with KLEENEX® pattern, 12.5 × 18.6 cm, 200 sheets per clip	**10 80 08408**	36

❗ Available only in original packaging units. No fractions possible.

Continued on next page

Wipes, Cleaning Cloths



Kimberly-Clark washing lotion and foam soap

Article	Order No.	PU pc/Pack
SCOTT® antibacterial hand cleanser	**10 80 06336**	6

Liquid hand cleanser that improve personal hygiene, care for your skin and reduce bacteria.
Ideal for washrooms in hygiene-critical areas such as healthcare, food processing and food service environments; being kind to skin when hands are washed frequently; reducing the risk of contamination, infection and illness; dispensing the ideal amount of soap for each wash, preventing overuse; keeping costs down in areas of moderate use and reducing waste.
Available as liquid hand cleanser without any colouring in strong, hygienically sealed 1-litre cassettes that are quick and easy to install, shrink to save space when empty and are recyclable (when the pump's removed).

Article	Order No.	PU pc/Pack
KLEENEX® standard washing lotion	**37 80 06331**	6

Contains moisturizing and skin-caring additives. Looks after your hands and keeps them smooth and supple. 6 refills of 1000 ml, pink, with perfume.

Article	Order No.	PU pc/Pack
① **KLEENEX® gentle washing lotion**	**37 80 06333**	6

Special composition to prevent allergic skin reactions. Particularly suitable wherever hands are often washed as part of the daily routine. No perfume or colorants. 6 refills of 1000 ml, transparent, no perfume.

Article	Order No.	PU pc/Pack
SCOTT® Control foam soap, transparent	**10 80 06342**	6

for frequent use

Article	Order No.	PU pc/Pack
② **KLEENEX® Luxurious foam hand cleaner, rose**	**10 80 06340**	6

For daily use

Article	Order No.	PU pc/Pack
③ **KLEENEX® luxury foam hand cleanser, Energy, gelb**	**10 80 06385**	6

KLEENEX® Fragrant Luxury Foam Hand Cleanser are specifically designed for frequent hand washing. They moisturize the skin and make your hands feel fresh and enriched. 6 refills of 1000 ml.

Article	Order No.	PU pc/Pack
④ **KLEENEX® luxury foam hand cleanser, Fresh, green**	**10 80 06386**	6

Article	Order No.	PU pc/Pack
⑤ **KLEENEX® luxury foam hand cleanser, Joy, rose**	**10 80 06387**	6

❗ Available only in original packaging units. No fractions possible.

⑥ **AQUARIUS™ hand cleanser dispenser**

Soap dispensers, from a coordinated range of washroom dispenser products, that promote hygiene, improve comfort and care, and help control costs.
Ideal for dispensing either liquid soap or foam for maximum versatility and cost-efficiency; easy refilling, in a high capacity format, offering a smart solution for any washroom environment.
Available as quick-fill dispenser in a sleek and contemporary design, with a white, high-gloss, easy-clean finish and no dirt or dust traps, a window (so you can see when a refill is needed) plus an option for customising the dispenser to match your colour scheme.

Article	Order No.
AQUARIUS™ hand cleanser dispenser - cartridge/1 litre	**10 80 06948**
optionally with push-button or lockable, made of an impact-resistant plastic, white, H 23.5 × W 11.6 × D 11.4 cm	
Electronic foam soap dispenser – contact-free	**10 80 02147**
made from impact-resistant plastic, white with window, 25 × 15 × 13 cm	

Towel baskets

Article	Order No.
⑦ **AQUARIUS™ Towel basket, made of an impact-resistant plastic, white, 68 × 38 × 28 cm, 2 pcs/pack**	**10 80 06993**

KIMBERLY-CLARK PROFESSIONAL™ offer a range of freestanding waste bins which provide practical and convenient solutions for appropriate waste disposal, keeping areas clean and tidy and promoting user hygiene. Ideal for all commercial environments where a waste bin is required; easy dispensing of waste with a chute style lid designed to make the disposal of waste effortless and without need to touch the bin. Available in 45 litre capacity; ABS impact resistant plastic, providing durability and easy clean surface.

Continued on next page →

Wipes, Cleaning Cloths

Cleaning Tissue Systems, Kimberly-Clark

① **KIMTECH Science* cleaning tissues**

Special cleaning wipes for use in the laboratory. Highly absorbent, extremely soft and chemically neutral material. Ideal for wiping up small quantities of fluid and for cleaning pipettes and slides. 2-ply wipes in a practical water-repellent pop-up box with a polyshield to retain lint. Packed in cartons.

Article	Order No.	PU Box/Pack
KIMTECH Science* cleaning tissues 15 boxes of 200 wipes, 20.5 × 20 cm, white	**10 80 07558**	15
KIMTECH Science* cleaning tissues 24 boxes of 100 wipes, 21 × 20 cm, white	**10 80 07557**	24

❗ Available only in original packaging units. No fractions possible.



①

② **KIMTECH Science* precision tissues**

Manufactured using specially treated and extremely absorbent fibres, low in lint-content, and suitable for precision use in sensitive environments for the cleaning of electronic components and contacts, as well as for optical lenses. The finest particles are completely removed from delicate surfaces. Single-ply material in a practical pop-up box with polyshield.

Article	Order No.	PU Box/Pack
KIMTECH Science* precision tissues 15 boxes of 196 wipes, 30 × 30 cm	**37 80 07551**	15
KIMTECH Science* precision tissues 30 boxes of 280 wipes, 11 × 21 cm	**37 80 07552**	30

❗ Available only in original packaging units. No fractions possible.


②

KIMTECH process wipes

Strong wipes, with low lint-content, for cleaning with detergents and solvents. Reusable. Ideal for wiping up oil and grease. Polypropylene.

Article	Order No.
KIMTECH process wipes from a large reel Perforated, embossed, blue, 34 × 38 cm, 500 sheets per roll	**37 80 07643**
KIMTECH process wipes folded in quarters, embossed, blue, 49 × 38 cm, 12 polybags of 35 wipes	**37 80 07622**

❗ Available only in original packaging units. No fractions possible.


③ ④

WYPALL* L assorted wipes

The all-purpose range of wipes for the complete removal of dirt and fluids, made from AIRFLEX* material. Unlike fabric cleaning cloths, every single WYPALL* L wipe is always 100% fresh and ready for use. They provide a convenient, cost-effective cleaning performance at consistently high quality. For almost all your cleaning needs - from the most demanding to the simplest jobs, wet or dry, for use with grease or oil - there is always the right WYPALL* L wipe to make work noticeably easier.

Article	Order No.
WYPALL* L30 ULTRA+ wipes from a large reel Highly absorbent wipes, resistant to tearing even when wet. For soaking up spills quickly and wiping surfaces really clean. Blue, perforated, 3-ply, 750 wipes, 33 × 38 cm.	**37 80 07426**

Article	Order No.
WYPALL* L10 EXTRA+ wipes from a large reel Versatile wipes for daily use in cleaning away dirt and liquids. White, perforated, single-ply, 1000 wipes, 33 × 38 cm	**37 80 07241**

Dispenser systems from Kimberly-Clark

Article	Order No.
③ **Mobile floor stand for large reels, wide** Metal, blue, with refuse sack, 109 × 50 × 74 cm, suitable for large rolls	**37 80 06155**

Article	Order No.
④ **Wall holder for large reels, can also be used as a table dispenser** Metal, blue, suitable for all large rolls Wall holder (H×W×D): 33 × 51.5 × 30 cm Table dispenser (H×W×D): 50 × 51.5 × 33 cm	**37 80 06146**


④

Continued on next page

Wipes, Cleaning Cloths







KIMTECH WETTASK* DS wipes
Reduce the risk of cross contamination in the health sector.

A closed wet cleaning tissue system which is safe, simple and reliable. Reduce the use of cleaning tissue and disinfectants. The single sheet dispenser guarantees controlled use of tissue and disinfectant.
- use with disinfectant and hygiene cleaners
- ideal for taking in liquids
- light, soft tissues for **cleaning** with disinfectants and hygiene cleaners **on smooth surfaces**
- **dispenser for limited use**
- dispensing bucket is not autoclavable

	Article	Order No.
①	**KIMTECH WETTASK* DS wipes, small roll** perforated, white, 30.5 × 31.5 cm, 6 rolls with 90 wipes	**10 80 07767**
	KIMTECH WETTASK* 4.5 l dispensing bucket	**10 80 07919**

For smaller application sites

Article	Order No.
KIMTECH WETTASK* DS wipes, small roll perforated, white, 30.5 × 31.5 cm, 12 rolls with 35 wipes, incl. 1 dispenser box	**10 80 07732**

KLEENEX® ULTRA Multifold Towels with Branding, Kimberly-Clark



② **KLEENEX® ULTRA Multifold hand towels with branding**
Optimized towel design with embossed KLEENEX® brand for improved image.

2-ply, 23.8 × 20.3 cm, white. 16 packs of 150 towels each, carton with 2,400 towels.

Article	Order No.	PU Pack/Box
KLEENEX® ULTRA Multifold hand towels	**10 80 04632**	16



③ **AQUARIUS* Multifold hand towel dispenser**
made of nonbreakable plastic, white
Dimensions (H×W×D): 45.10 × 29.40 × 12.00 cm

Article	Order No.
AQUARIUS* Multifold towel dispenser	**10 80 07023**

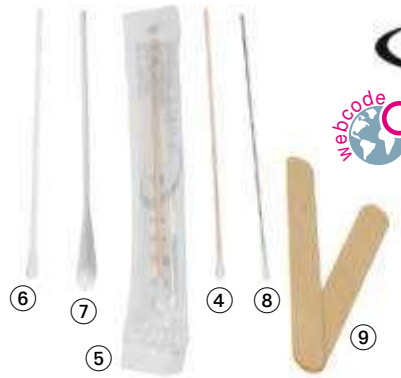
webcode WW7R3348

Cleansing Tissues, IDL



Article	Order No.
Cleansing tissues white, 2 layers, 26 × 22 cm, box with 8 × 4 rolls	**10 00 89932**

Cleaning Sticks



webcode WW2NY064

Cotton Sticks, Wooden Spatulas, neoLab®

Strong stick with cotton head at one end. For cleaning hard-to-reach places. **Wooden spatulas,** 150 mm long, 20 mm wide.
290121021 Cotton-head sticks in an autoclavable bag with indicator.

	Article	Mat.	L mm	Stem Ø mm	Head Ø mm	Order No.	PU pc/Pack
④	Cotton sticks, non-sterile	Wood	150	2.5	4.0-5.5	**29 01 21021**	100
⑤	Cotton sticks, sterile	Wood	150	2.2	4.0–5.5	**10 01 21019**	100
⑥	Cotton sticks, non-sterile	PP	150	2.5	4.0-5.5	**29 01 21017**	100
⑦	Cotton sticks, non-sterile	PP	150	4.0	10.0-12.0	**29 01 21018**	100
⑧	Cotton sticks, sterile	Alu	150		2.0	**29 01 21022**	100
⑨	Wood spatula	Wood	150			**29 01 21020**	100

Cleaning Sticks

ESD Swabs, neoLab®

webcode WW2NY347

ESD swabs with a surface resistance of $1 \times 10^6\ \Omega \leqq Rs \leqq 1 \times 10^{10}\ \Omega$.

The swabs are made of polyurethane foam with 100 ppi, or of polyester. The head is fastened to the stem without glue. The swabs are suitable for a wide range of applications, such as cleaning lenses, sensors, semiconductors and microchips; they are also fit for use in cleanrooms.

	Head shape	Head	Stem L mm	Overall L mm	Order No.	PU pc/Pack
①	acute	PP, 6 × 2.4 mm Ø	69	75	**10 01 21057**	100
②	flat	PU, 12 × 3.5 mm	58	70	**10 01 21058**	100
③	acute-conical	PU, 10 × 3.3 mm Ø	65	75	**10 01 21059**	100
④	flat	PE, 8 × 3.2 mm	60	68	**10 01 21060**	100
⑤	flat	PE, 15 × 6.2 mm	145	160	**10 01 21061**	100
⑥	paddel shaped	PU, 15 × 6.5 mm	145	160	**10 01 21062**	100



Cleaning Agents, Disinfecting Agents

TICKOPUR Cleaning Agents, BANDELIN

webcode WWFH8007

BANDELIN Ultraschall seit 1955

Bio-degradable cleaning and disinfection products especially for use with **SONOREX ultrasonic bathes**, gentle on items being cleaned and the cleaning tank, enhances ultrasonic cavitation, can be thinned with water, high yield. Choice of alkali, neutral or acidic, emulsion or non-emulsifying TICKOPUR cleaning agents depending on the cleaning task. 1-l and 2-l bottles, 5-l and 25-l cans. 200-l barrels and other cleaning and disinfecting products on request.

TICKOPUR R 33 - Universal cleaner, EXAM examined

Concentrate, dosage 3 – 5%, mild alkaline, pH 9.9 (1%), also suitable for metal alloy, gentle on material, provides corrosion protection. May be corrosive on parts made of pewter and zink. Can be used for dip and wipe cleaning and for cleaning laboratory equipment and fixtures. Can be used as contact fluid in an ultrasonic bath.

Volume	Order No.	Volume	Order No.
1 l bottle	**35 07 16001**	5 l canister	**35 07 16002**
⑦ 2 l bottle	**35 07 16003**	25 l canister	**35 07 16005**



TICKOPUR R 30 - Neutral cleaning agent

Concentrate, dosing 1 – 5%, neutral, pH 7, suitable for light metals. Pre-testing is recommded for sensitive materials. Emulsifying, gentle acting, with corrosion protection.

Volume	Order No.	Volume	Order No.
1 l bottle	**35 07 15001**	5 l canister	**35 07 15002**
⑧ 2 l bottle	**35 07 15003**	25 l canister	**35 07 15005**



TICKOPUR R 27 - Special intensive cleaning agent

Concentrate, based on phosphoric acid, dosing 5%, acidic, pH 1.9 at 1%. Removes lime deposits, mineral residues and rust. Not for light metals, pewter and zinc. Special care is required in case of defective chromium plating.

Volume	Order No.	Volume	Order No.
1 l bottle	**35 07 14001**	5 l canister	**35 07 14002**
⑨ 2 l bottle	**35 07 14003**	25 l canister	**35 07 14005**



TICKOPUR RW 77 - Special cleaning agent with ammonia

Concentrate, dosing 5%, alkaline, pH 9,9 at 1%, emulsifying, with ammonia, phosphate-free. Powerful cleaning action with slightly deoxidizing effect. Special care is required in case of light metals.

Volume	Order No.	Volume	Order No.
1 l bottle	**35 07 12001**	5 l canister	**35 07 12002**
⑩ 2 l bottle	**35 07 12003**	25 l canister	**35 07 12005**



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webcode To see other variants and accessories, please enter the webcode on our website.

Cleaning Agents, Disinfecting Agents









STAMMOPUR 24 - Desinfection and intensive cleaning-certified (VAH/EXAM)

Free of aldehydes, chlorine and phenolene. Bactericidal, levurocidal, virucidal against vaccines, BVDV, HBV, HCV, HIV, H5N1. Application 1 – 2%, mildly alkaline, pH 9,4 (1%). With corrosion protection. Very high material compatibility.

	Volume	Order No.	Volume	Order No.
①	2 l bottle	**35 07 19002**	25 l canister	**35 07 19025**
	5 l canister	**35 07 19005**		

TICKOPUR TR 2 - demulsifying - special cleaning agent

Concentrate, dosing 0.1 – 5%, acidic, pH 3.6 at 1%, with corrosion protection. Also removes mineral contaminants, greases, oil and pigments. Special care is required in case of light metal, pewter and zinc.

	Volume	Order No.	Volume	Order No.
②	2 l bottle	**35 07 10103**	25 l canister	**35 07 10105**
	5 l canister	**35 07 10102**		

TICKOPUR TR 7 - demulsifying universal cleaning agent

Concentrate, dosing 0,1 – 5%, mildly alkaline, pH 8,9 at 1%, with corrosion protection, phosphate-free. Can also be used in immersion and wiping processes.

	Volume	Order No.	Volume	Order No.
③	2 l bottle	**35 07 10003**	25 l canister	**35 07 10005**
	5 l canister	**35 07 10002**		

TICKOPUR TR 13 - demulsifying - special cleaning agent

Concentrate, dosing 0,1 – 10%, alkaline, pH 11,9 at 1%, not for alloys, tin, zinc. Silicate-free. Removes gumming, soot, coking pigments.

	Volume	Order No.	Volume	Order No.
④	2 l bottle	**35 07 10203**	25 l canister	**35 07 10205**
	5 l canister	**35 07 10202**		

TICKOPUR TR 3 - special cleaning agent

Concentrate, based on citric acid. Application 5%, weakly acidic, pH 3 at 1%. For non-ferrous, precious, and light metals. Removes mineral residues, flash rust, greases, oils, and waxes.

Volume	Order No.	Volume	Order No.
1 l bottle	**10 07 30913**	5 l canister	**10 07 30935**
2 l bottle	**10 07 30923**	25 l canister	**10 07 30937**

webcode WWQED012

Detergents and Disinfectants, BRAND

Detergents and disinfecting detergents from BRAND are available for a broad spectrum of applications. Therefore, only a small number of products are needed for a great variety of procedures. Even at low concentrations best results are achieved. All these detergents and disinfecting detergents can be removed without residue.



⑤ **Universal detergents Mucasol®**

Liquid, alkaline high-performance concentrate for immersion and ultrasonic baths. Universal cleaner for laboratory equipment and instruments made of glass, porcelain, plastic, rubber and metal. Items are cleaned in approx. 10 – 30 minutes, without mechanical help. Mucasol® replaces chromosulfuric acid, is free from chlorine and caustic alkalis, is non-toxic, nonaggressive and biodegradable. Prolonged exposure of zinc and non-anodized aluminium surfaces should be avoided. (Mucasol® is also suitable for cleaning by wiping). **Ingredients:** > 30% phosphates, < 5% anionic surfactants, amphoteric surfactants, complexing agents, corrosion inhibitors, auxiliary agents. **Concentration for use:** Ultrasonic bath: 0.2 – 2% (1.4 – 14 ml/l), Immersion bath 0.7 – 3% (5 – 22 ml/l).

Article	Order No.	PU pc/Pack
Mucasol® 2-l bottle (2.8 kg)	**35 49 44003**	5
Mucasol® 5-l canister (7 kg)	**35 49 44005**	1

❗ Available only in original packaging units. No fractions possible.

⑥ **Universal detergents Edisonite® CLASSIC**

Pulverized alkaline detergent for immersion and ultrasonic baths. Ideal for removal of natural fats and oils, proteins and blood. Use on zinc an non-anodized aluminium is restricted. **Ingredients:** > 30% phosphates, < 5% anionic surfactants, non-ionic surfactants, corrosion inhibitors, auxiliary agents. **Concentration for use:** 0.5-1% (5-10 g/l). Durable protection against corrosion damage.

Article	Order No.	PU pc/Pack
Edisonite® CLASSIC 1-kg tub	**35 49 44301**	1
Edisonite® CLASSIC 5-kg bucket	**35 49 44205**	1

Continued on next page

Cleaning Agents, Disinfecting Agents

⑦ **Universal detergents Edisonite®-SUPER**

Pulverized, neutral detergent for immersion and ultrasonic baths. Ideal removal of natural fats and oils, proteins and blood. It is recommended for optical glass and alkali-sensitive plastics and rubbers. **Ingredients:** > 30% phosphates, 5 – 15% anionic surfactants, corrosion inhibitors, auxiliary agents.**Concentration for use:** 0.5 – 1% (5 – 10 g/l).

Article	Order No.	PU pc/Pack
Edisonite®-SUPER 1-kg tube	**35 49 44361**	1
Edisonite®-SUPER 5-kg bucket	**35 49 44365**	1

Disinfecting detergents

Extremely powerful through modern ingredients, wide spectrum of use. Removes contamination by blood and proteins and inactivates bacteria, fungi and viruses, especially HBV and HIV, in one operation. Meets requirements of the German Hygiene and Microbiology Society.

⑧ **Mucocit®-T Instrument disinfection**

Particularly suited for sensitive instruments. Free of phosphates, aldehydes, phenols and chlorine derivates. The solution has a pleasant, fresh fragrance. CE marked in according to MPG.
Ingredients: 100 g Mucocit®-T contain: 3,9 g didecyl-dimethyl-ammonium chloride, 4.5 g alkylpropylendiamine-1,5-bisguanidiniumacetate, 2 g bis(-aminopropyl)-laurylamine, 2.8 g laurylpropylenediamine, 5-15 % non-ionic tenside surfactants, auxiliary agents.
Microbiological efficiency / concentration for use:
Disinfection of instruments:
Bacteria (incl. Tuberculosis and mycobacteria) and fungi with high organic burden according to DGHM/VAH directives:
1% (10 ml/l) / 1 hour
2% (20 ml/l) / 30 min.
3% (30 ml/l) / 15 min.
Limited virucidal efficacy[1)] (incl. HIV, HBV, HCV): 1% (10 ml/l) / 5 min.
Inactivation of rotaviruses: 2% (20 ml/l) / 5 min.
[1)] As recommended by the RKI, Bundesgesundheitsblatt 01/2004.

Chemical and physical specifications:

Appearance:	clear, blue liquid
Fragrance of the solution:	pleasant fresh smell
Density (20 °C):	approx. 1 g/ml
pH value (1% solution, 20 °C):	approx. 10.5

Article	Order No.	PU pc/Pack
Mucocit®-T 2-l bottle	**35 49 44822**	5
Mucocit®-T 5-l canister	**35 49 44825**	1

❗ Available only in original packaging units. No fractions possible.

⑨ **Pursept®-A Xpress, surface disinfection**

Pursept®-A Xpress is a ready-to-use preparation for rapid disinfection and cleaning of surfaces and instruments (e.g., liquid handling instruments). It works in only 15 seconds - even before the surface dries. DGHM tested and RKI compliant. Skin tolerance dermatologically tested.
For RKI compliant use, apply Pursept®-A Xpress full strength to a disposable cloth. Then thoroughly wipe off the area to be disinfected with the wet cloth. Be sure to wipe everything completely. The surface should remain moist during the entire working time.
Ingredients:
100 g Pursept®-A Xpress contain:
55 g ethanol, 0.03 g N-alkyl aminopropyl glycine; auxiliary agents.
Microbiological efficiency / concentration for use:
Surface disinfection:
Bacteria and fungi with little organic burden with mechanics acc. to DGHM/VAH directives: 15 seconds.
Limited virucidal efficacy[1)] (incl. HIV, HBV, HCV): 15 seconds.
Effectiveness against TbB: 30 seconds.
[1)] As recommended by the RKI, Bundesgesundheitsblatt 01/2004.

Chemical and physical specifications of the active agent solution:

Appearance:	clear, colorless liquid
Fragrance:	pleasant fresh smell
Density (20 °C):	approx. 0.9 g/cm^3
pH value (20 °C):	approx. 7.5
Aldehyde-free	

Article	Order No.	PU pc/Pack
Pursept®-A Xpress 1-l bottle, incl. spray top	**35 49 44830**	10
Pursept®-A Xpress 5-l canister	**35 49 44835**	1
Spray top	**35 49 44832**	1

❗ Available only in original packaging units. No fractions possible.


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Continued on next page

Cleaning Agents, Disinfecting Agents



① **Pursept®-AF disinfection concentrate**
Cleaning and disinfection of floors, walls and fittings in one operation. The solution has a pleasant, fresh fragrance. Appropriate for use in the foods sector. CE marked in according to MPG.
Ingredients/100 g:
12.5 g didecyl-dimethylammoniumchloride, 1.5 g bis(aminopropyl)laurylamine, < 5% NTA, < 5% non-ionic surfactants, auxiliary agents, fragrance substances.
Microbiological efficiency / concentration for use:
Surface disinfection:
Bacteria and fungi with high organic burden according to DGHM/ VAH directives: 0.25% (2.5 ml/l) / 4 hours, 0.5% (5 ml/l) / 1 hour, 1% (10 ml/l) / 30 minutes, 2% (20 ml/l) / 15 minutes.
Limited virucidal efficacy[1)] (incl. HIV, HBV, HCV): 1% (10 ml/l) / 15 minutes.
Inactivation of rotaviruses: 0.25% (2.5 ml/l) / 2 minutes.
Effectiveness against TbB: 2% (20 ml/l) / 1 hour.
[1)] As recommended by the RKI, Bundesgesundheitsblatt 01/2004.

Chemical and physical specifications:

Appearance:	clear, green liquid
Density:	approx. 1 g/ml
pH value (1%):	approx. 9,5 (1%ig)

Article	Order No.	PU pc/Pack
Pursept®-AF 2-l bottle	**35 49 44850**	5
Pursept®-AF 5-l canister	**35 49 44855**	3

Available only in original packaging units. No fractions possible.



② **Pursept® Wipes XL fleece wipes**
Fleece wipes for impregnation with universal or disinfecting detergents.
The lint-free and tear-proof wipes are designed for both optimal disinfectant delivery and excellent contaminant uptake. Due to their size they are particularly suitable to disinfect your workplace, lab table or clean bench quickly and reliably.
The wipes can be stored in the convenient dispenser box.
For high-volume use, wipes can be soaked with liquid disinfectant directly in the handy dispenser box (lasts up to 28 days).
We recommend the usage of the surface disinfecting detergent Pursept®-A Xpress.
Technical Information:
Fleece wipes made of 100% polyester, dry
70 wipes (230 × 280 mm) per roll

Article	Order No.	PU pc/Pack
Pursept® Wipes XL fleece wipes, 6 rolls (70 wipes per roll)	**10 49 44870**	6

Available only in original packaging units. No fractions possible.



③ **Dispenser box for Pursept® Wipes XL, empty**
Refillable dispenser box for practical and space-saving storage of Pursept® Wipes XL, a perfect way to keep pre-soaked wipes from drying out.

Article	Order No.
Dispenser box for 70 Pursept® Wipes XL fleece wipes	**10 49 44875**



④ **Disinfection tissues mikrozid®**
Gentle on surface materials, mikrozid® universal wipes premium are the uncomplicated solution for quick disinfection of surfaces of all types. They are also suitable for sensitive surfaces such as Makrolon, acrylic glass, polysulphone or synthetic leather, as well as surfaces, displays, keyboards, operating panels and touch screens of medical equipment and devices.

Ingredients/composition:
100 g solution contain the following active ingredients: 17.4 g Propan-2-ol, 12.6 g ethanol (94% w/w), designation pursuant to Directive (EC) No. 648/2004: < 5% anionic tensides

Article	Order No.	PU pc/Pack
Disinfection tissues mikrozid®	**10 49 44860**	100

We are also glad to help you in person.
Give us a call!

Cleaning Agents, Disinfecting Agents

rea Detergents, Hirschmann

webcode WW4ZV059

HIRSCHMANN

Detergent concentrates for the gentle and thorough cleaning of laboratory glassware, porcelain, metal, plastic and rubber. For use in low concentrations in a variety of applications, hence very economical.



①



②



③



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⑥



⑦

① **rea-pur®**
Powdery high-speed cleaning agent, 0.5% solution, for immersion and wiping processes.

Pack	Order No.	Pack	Order No.
2-kg box	**35 37 97102**	5-kg bucket	**35 37 97105**

② **rea-sol®**
Liquid high-speed cleaning concentrate, 1% solution, for immersion and wiping processes.

Pack	Order No.	Pack	Order No.
1 l bottle	**35 37 97201**	5 l canister	**35 37 97205**

③ **rea-des® 2000**
Liquid cleaning and disinfecting concentrate, inactivates HIV and Hepatitis virus, 1% solution, non-foaming.

Pack	Order No.	Pack	Order No.
1 l bottle	**35 37 97311**	5 l canister	**35 37 97315**

④ **rea-phos®**
Liquid high-speed cleaning concentrate, 1% solution, phosphate-free.

Pack	Order No.
1 l bottle	**35 37 97401**

⑤ **rea-mat®**
Powdery high-speed cleaning agent for laboratory dishwashers, non-foaming, 0.1...0.4% solution.

Pack	Order No.	Pack	Order No.
2-kg box	**35 37 97502**	5-kg bucket	**35 37 97505**

rea-calc®
Liquid lime deposit eliminator, no pungent smells, for stubborn layers and crusts, 2.5% solution.

Pack	Order No.
1 l bottle	**35 37 97600**

⑥ **rea-stabil®**
Liquid stabilizing concentrate, for example for warm water baths, thermostats and something similar, 0.1% solution.

Pack	Order No.
0.2 l bottle	**35 37 97800**

⑦ **rea-clean®**
Phosphate-free cleaning concentrate, particularly economical and environmentally friendly, fully biodegradable, strong dislodging effect on grease, gentle on materials, for all lab surfaces.

Pack	Order No.	Pack	Order No.
0.5 l spray bottle	**35 37 97900**	5 l canister	**35 37 97905**
1 l refill bottle	**35 37 97901**		

rea-son® low foam
Special fast cleaning concentrate for ultrasonic cleaning of instruments and devices in all areas of application.

Pack	Order No.	Pack	Order No.
1 l bottle	**10 37 97101**	10 l canister	**10 37 97110**
5 l canister	**10 37 97105**	30 l canister	**10 37 97130**

webcode To see other variants and accessories, please enter the webcode on our website.

Cleaning Agents, Disinfecting Agents

webcode WW7R3280

Cleaning Agents for Automatic Washing Machines, IDL



② ①

① Cleaning agent deconex 21 SOLID

Mild alkali main cleaning agent, gentle on instruments and suitable for sensitive materials (zinc and aluminum), defoaming action. Broad range of applications. Removes a wide variety of contaminants. NTA-free

Dosing: 2 to 5 g/l water
pH-value: approx. 11.4 at 0.3% solution

Pack	Order No.
1.5 kg	**35 00 90501**
10 kg	**35 00 90510**

② Cleaning agent deconex 21 CLF

Same as deconex 21 SOLID, except liquid. NTA-free.

Dosing: 3 to 10 ml/l water
pH-value: approx. 10.7 at 0.5% solution

Pack	Order No.
6 kg	**35 00 90706**
12 kg	**35 00 90712**



③ ④

③ Cleaning powder deconex 22 PF

Alkali main cleaner containing no phosphates or surfactants that is gentle on materials. Broad range of applications. Removes a wide variety of contaminants. Great for phosphate-critical applications and heavy contamination with heavy metals. Good emulsifying and dispersing capability for grease, oil and pigments. NTA-free.

Dosing: 3 to 10 g/l water
pH-value: approx. 11.5 at 0.5% solution

Pack	Order No.
1.5 kg	**35 00 90801**
10 kg	**35 00 90810**

Cleaning agent deconex 22 LIQ-x

Same as deconex 22 PF, but liquid. NTA-free.

Dosing: 5 to 10 ml/l water
pH-value: approx. 11.8 at 0.5% solution

Pack	Order No.
12 kg	**35 00 90912**

④ Cleaning agent deconex 22 HPF-x

Same as deconex 22 LIQ, but highly alkaline. NTA-free.

Dosing: 3 to 10 ml/l water
pH-value: approx. 12.1 at 0.5% solution

Pack	Order No.
6 kg	**35 00 91006**
12 kg	**35 00 91012**



⑥ ⑤

⑤ Cleaning powder deconex 24 FORTE

High alkali main cleaner for very stubborn contamination. Active chlorine provides good disinfectant action. Good emulsifying and dispersing capability for grease, oil, blood, albumen, resin, wax, etc. NTA-free.

Dosing: 2 to 5 g/l water
pH-value: approx. 12.1 at 0.3% solution

Pack	Order No.
1.5 kg	**10 00 92115**
10 kg	**35 00 92110**

⑥ Cleaning agent deconex 24 LIQ

Same as deconex 24 FORTE, but liquid. NTA-free.

Dosing: 3 to 10 ml/l water
pH-value: approx. 11.9 at 0.5% solution

Pack	Order No.
7 kg	**35 00 92207**
14 kg	**35 00 92214**

Continued on next page

Cleaning Agents, Disinfecting Agents

⑦ **Cleaning agent deconex 25 ORGANACID**
Mild acid neutralization and rinsing agent based on organic acids. For neutralization of entrained alkali remnants. Contains no surfactants. Great for phosphate-critical applications. NTA-free.

Dosing: 1 to 3 ml/l washing solution
pH-value: approx. 3.0 at 0.3% solution

Pack	Order No.
5 kg	**35 00 92305**
10 kg	**35 00 92310**

Cleaning agent deconex 26 MINERALACID
Mineral acid based pre-rinse and neutralization agent, surfactant-free, dissolves albumen, organic bases, carbonates and hydroxides to make subsequent alkali cleaning easier. Can also be used to neutralize entrained alkali remnants when high alkali rinsing agents are used. Dissolves lime deposits in washing machines. NTA-free.

Dosing: 1 to 3 ml/l washing solution
pH-value: approx. 2.0 at 0.3% solution

Pack	Order No.
5 kg	**35 00 92407**
10 kg	**35 00 92414**

⑧ **Cleaning agent deconex 26 PLUS**
Same as deconex 26 Mineralcid, but highly concentrated. Suitable for neutralizing deconex 22 HPF; 24 LIQ and 24 Forte. NTA-free.

Dosing: 0.5 to 2 ml/l washing solution
pH-value: approx. 2.0 at 0.2% solution

Pack	Order No.
7 kg	**35 00 92607**
12 kg	**35 00 92612**



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⑧

Cleaning Agents for Manual Cleaning, IDL

webcode WW7R3019

Suitable for immersion baths and ultrasonic system.

Cleaning agent deconex 11 UNIVERSAL
Versatile concentrated cleaning agent with good wetting properties and disinfectant action with active chlorine. Also suitable for radioactive decontamination. Can be used as a substitute for a chromic-sulfuric acid mixture. Removes stubborn organic and inorganic dirt such as grease, oil, wax, blood, albumen, dye residue, pigments, silicone, etc. NTA-free.

Dosing: 2 to 10% in demineralized water
pH-value: approx. 9.8 at 1% solution

Pack	Order No.
1 kg	**35 00 90101**
5 kg	**35 00 90105**
10 kg	**35 00 90110**

Cleaning agent deconex 12 PA-x
Mild alkali, low-phosphate and strong-acting cleaning concentrate with good wetting properties. Very gentle on the skin and on material in sensitive equipment. Also suitable for radioactive decontamination. Highly concentrated and economical. Removes stubborn organic and inorganic dirt such as grease, oil, wax, blood, albumen, dye residue, pigments, silicon, etc. Filtered to 1 µm. NTA-free.

Dosing: 0.5 to 2% in tap water
pH-value: approx. 11.2 at 1% solution

Pack	Order No.
1.3 kg	**35 00 90201**
7 kg	**35 00 90207**
14 kg	**35 00 90214**

Cleaning agent deconex 15 PF-x
Strong-acting, alkali cleaning concentrate for removal of stubborn dirt. Contains no phosphates and silicates. Gentle on material and particularly well suited for phosphate-critical applications. Removes stubborn organic and inorganic dirt such as grease, oil, wax, blood, albumen, dye residue, pigments, silicon, etc. Filtered to 1 µm. NTA-free.

Dosing: 1 to 5% in demineralized water
pH-value: approx. 11.4 at 1% solution

Pack	Order No.
1 kg	**35 00 90301**
5 kg	**35 00 90305**
10 kg	**35 00 90310**





Continued on next page

Cleaning Agents, Disinfecting Agents



Cleaning agent deconex 16 NT
Neutral cleaning concentrate to meet highest demands in research, medicine, biology and chemistry as well as for optical and electronic parts. Contains no phosphates and silicates. Suitable for sensitive metal and metal alloy parts including aluminum and zinc. Reliable cleaner for removing lightly adhering organic and inorganic dirt. NTA-free.

Dosing: 3 to 5% in demineralized water
pH-value: approx. 7

Pack	Order No.
1 kg	**35 00 90401**
10 kg	**35 00 90410**

Cleaning agent deconex 20 NS-x
Very versatile surfactant-free alkali cleaning concentrate for immersion baths and laboratory washing machines. Suitable for radioactive decontamination. Covers a broad range of applications. Very good emulsifying properties. Removes a very wide range of contaminants (oil, grease, pigments, dyes, heavy metals, blood and albumen). Filtered to 1 µm. NTA-free.

Dosing manual: 2 to 5% in tap water
Dosing machine: 3 to 10 ml/L water

Pack	Order No.
5 kg	**35 00 91205**
10 kg	**35 00 91210**

Cleaning Detergent LABOSOL® S, neoLab®

webcode WW2NY120



Powerful concentrated cleaner for dirty laboratory glass devices, porcelain, instruments and materials made of plastic and rubber.

Thorough, self-acting cleaner. Does not attack the material being cleaned or the skin. Also suitable for use in ultrasonic cleaners.

Use a 0.5 – 2% solution with warm water depending on how dirty the items are. LABOSOL® S contains no chlorine or caustic potash, is bio-degradable and can be used as a substitute for a chromic-sulfuric acid mixture.

	Article	Volume l	Order No.
①	Labosol® S, 5 liter	5	**35 01 16090**
	Labosol® S, 1 liter	1	**35 01 16091**

Rinsing Detergent LABOSOL® M for Washing Machines, neoLab®

webcode WW2NY119



Powerful alkali cleaner in powder form for washing machines to remove residue from containers and from devices or instruments in chemical or bacteriological laboratories. Non-foaming. Dosage 1 to 3 g/l.

	Article	Conts kg	Order No.
②	Labosol® M	10	**35 01 16100**
	Labosol® M	1	**35 01 16102**

Hand Disinfectant Sterrillium®, neoLab®

webcode WW2NY355



③ **Hand disinfectant Sterillium®**
The classical hand disinfectant. Particularly gentle on the skin, re-moisturizing. Bactericidal, fungicidal, tuberculocidal, virucidal against specific viruses (incl. HBV, HIV, HCV). Effective against herpes simplex virus, influenza A virus, SARS virus, adeno-, polyoma- and rotaviruses. Approx. 3 ml are sufficient for one application.
Thoroughly effective against bacteria, fungi, and enveloped viruses. **RKI list** range A, VAH. 1.5 minutes exposure time for surgical hand disinfection. Extremely skin tolerant also when used regularly.
Cannot be sold to physicians, veterinarians, hospitals and dealers in accordance with AMG § 52a.

Contents ml	Order No.
100	**10 01 16092**
500	**10 01 16093**

Contents ml	Order No.
1000	**10 01 16094**
5000	**10 01 16103**

④ **Hand disinfectant Sterillium® classic pure**

Contents ml	Order No.
100	**10 01 16113**
500	**10 01 16114**

Contents ml	Order No.
1000	**10 01 16115**

Continued on next page

Cleaning Agents, Disinfecting Agents

⑤ **Hand disinfectant Sterillium® Virugard**

Contents ml	Order No.	Contents ml	Order No.
100	**10 01 16135**	1000	**10 01 16137**
500	**10 01 16136**		

⑥ **Hand disinfectant Sterillium® Gel pure**

Contents ml	Order No.	Contents ml	Order No.
475	**10 01 10690**	1000	**10 01 10691**



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Disinfectants, IDL

webcode WW7R3028

Disinfectant spray and refill solution
Ready-to-use disinfectant for disinfection of all types of surfaces and items. Bactericidal, fungicidal and virostatic (HBV, HIV, rotaviruses). Free of formaldehydes, phenols, chlorine, iodine, peroxides, alcohol, and mercury. Ideal also for cleaning the interiors of cleanroom workbenches, disinfection in the field of cell culture, egg incubators, incubators, and for microbiological applications. Suitable for instruments, objects, and the outside of tissue culture dishes. Biodegradable.

	Article	Order No.
⑦	Disinfectant spray, ready for use, 50 ml spray bottle	**35 78 73512**
⑧	Disinfectant spray, ready for use, 1 l spray bottle	**35 78 73612**
⑨	Disinfectant wipes	**35 78 73700**
⑩	Disinfectant solution, ready for use, 5 l refill canister	**35 78 73712**
	Disinfectant solution, ready for use, 10 l refill canister	**10 78 73722**



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DWP Monitor Detergent, Dr. Wieland

webcode WW19X008

DWP Monitor Detergent
- Removes dirt, nicotine and grease
- For monitors made of glass and plastic, glass panels, mirrors, lenses of copying machines and microfilm readers
- Tried and tested by well-known equipment manufacturers for professional maintenance and cleaning
- Spray on or apply a thin coat with a paper wipe, leave to work, wipe dry

Article	Order No.
DWP monitor detergent with antistatic agent, 200 ml pump bottle	**35 34 10032**
Refill bottle 1000 ml	**35 34 10054**

DWP Monitor Detergent
- Removes ball-point pen marks, ink, felt-tip pen marks, nicotine, marks caused by ink ribbons and carbon paper
- For all surfaces made of plastic and enameled metal housings, keyboards, cables
- Tried and tested by well-known equipment manufacturers for professional maintenance and cleaning
- Spray on or apply a thin coat with a paper wipe, leave to work, wipe dry

Article	Order No.
DWP plastic cleaner with antistatic agent, 200 ml pump bottle	**35 34 20032**
Refill bottle 1000 ml	**35 34 20054**





Cleaning Agents, Disinfecting Agents

webcode WWJSG001

DR. WEIGERT

neodisher Cleaners, Dr. Weigert


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⑤



⑥



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neodisher® EM
Detergent component – liquid concentrate
Improves the cleaning performance of alkaline and acidic detergents in particular when removing solid particles, paraffins, oils, and greases in aqueous solutions. With emulsifying, dispersing, and foam control properties.

	Article	Conts	Order No.
①	neodisher® EM	5 l	**10 27 63033**

neodisher® FA
“Classical” alkaline cleaner – liquid concentrate – free of surfactants and oxidants
Excellent cleaning properties with high material compatibility. Removes blood, protein, serum, culture medium residues, and gelatin.

	Article	Conts	Order No.
②	neodisher® FA	5 l	**10 27 61133**

neodisher® LaboClean A 8
Alkaline universal detergent – powder – free of surfactants
For universal application, excellent cleaning performance and high dirt carrying properties. Removes blood, serum, food residues, pharmaceuticals, dyes, paints, gelatine, and other organic residues.

	Article	Conts	Order No.
③	neodisher® LaboClean A 8	10 kg	**10 27 61276**

neodisher® LaboClean FLA
Alkaline universal detergent – liquid concentrate – free of surfactants, phosphor connections and oxidants.
For universal application. Excellent cleaning performance. Removes stubborn oil-based residues and other organic contaminations.

	Article	Conts	Order No.
④	neodisher® LaboClean FLA	10 l	**10 27 61230**

neodisher® LaboClean FT
Alkaline detergent – liquid concentrate – with oxidation effect, free of surfactants
Specifically for residue-free cleaning of glassware for cell and tissue cultures, pharmacy glass bottles and infusion flasks, utensils for microbiology and nuclear medicine. Removes residues of culture media, blood, proteins, radioactive contamination, as well as other organic residues.

	Article	Conts	Order No.
⑤	neodisher® LaboClean FT	12 kg	**10 27 61030**

neodisher® LaboClean UW
Alkaline detergent – powder – free of phosphates
Especially suitable for the automated cleaning of laboratory glassware and utensils in water analysis laboratories, in serological institutes and in the phosphates industry, where residues of phosphorous compounds would adulterate analysis results.

	Article	Conts	Order No.
⑥	neodisher® LaboClean UW	10 kg	**10 27 61976**

neodisher® LM 3
Alkaline detergent – liquid concentrate – free of phosphates
For manual cleaning and pre-cleaning of laboratory glass and for cleaning pipettes and viscosimeters in special dishwashers. Particularly well suited for cleaning laboratory glasses water, phosphate, and metal laboratories and for use in labs carrying out enzymatic and serological examinations. Also for use in machines. Low-foaming.

	Article	Conts	Order No.
⑦	neodisher® LM 3	10 l	**10 27 64030**

neodisher® MA
Alkaline detergent – powder – free of oxidants
Excellent cleaning performance combined with high material compatibility.

	Article	Conts	Order No.
⑧	neodisher® MA	10 kg	**10 27 61776**

neodisher® MediClean forte
Alkaline universal detergent – liquid concentrate – contains alkalinity donors, enzymes and surfactants
Excellent material compatibility, universally applicable. Residues of dried and denatured blood are reliably removed. A redeposition of protein residues is prevented.

	Article	Conts	Order No.
⑨	neodisher® MediClean forte	5 l	**10 27 65033**

Continued on next page

Cleaning Agents, Disinfecting Agents

neodisher® N
Acid neutralising agent and detergent – liquid concentrate – Free of surfactants
For neutralising any carried over alkaline residues on laboratory glassware or for acid pre-cleaning resp. cleaning. Lime or other acid-soluble residues are easily removed. Easy to rinse off. Based on phosphoric acid.

	Article	Conts	Order No.
⑩	neodisher® N	5 l	**10 27 62133**
⑪	neodisher® N	25 kg	**10 27 62126**

neodisher® Z
Acid neutralising agent and detergent – liquid concentrate – Free of surfactants and phosphates
For neutralising any carried over alkaline residues on laboratory glassware and for removing acid-soluble residues in laboratories where residues of phosphates, nitrogen and surfactants would adulterate sensitive analyses and where particular gentleness on material is vital. Based on organic acids.

	Article	Conts	Order No.
⑫	neodisher® Z	5 l	**10 27 62233**
⑬	neodisher® Z	10 l	**10 27 62230**

weigoman®
Hand disinfectant – ready-made solution – bactericidal, tuberculocidal, fungicidal, virucidal to a limited degree, effective against rota and noro viruses
Alcoholic hand disinfectant for topical application to skin. Excellent skin tolerability, with highly effective lipid replenishers. Suitable for sensitive skin. VAH listed, entered in the IHO list of virucidal products. Dosage by means of the triformin® dispenser 1.0 and the triformin® dispenser 0.5.

	Article	Conts	Order No.
⑭	weigoman®	500 ml	**10 27 69097**
⑮	weigoman®	1000 ml	**10 27 69059**

weigoman® perfume-free
Hand disinfectant – ready-made solution – baktericidal, tuberculocidal, fungicidal, virucidal to a limited degree, effective against rota and noro viruses
Unscented alcoholic hand disinfectant for topical application to skin. Excellent skin tolerability, with highly effective lipid replenishers. Suitable for sensitive skin. VAH listed, entered in the IHO list of virucidal products. Dosage by means of the triformin® dispenser 1.0 and the triformin® dispenser 0.5.

	Article	Conts	Order No.
⑯	weigoman®	500 ml	**10 27 69197**
⑰	weigoman®	1000 ml	**10 27 69159**

neoform® Rapid
Bactericidal, yeasticidal, fungicidal, tuberculocidal, limited spectrum virucidal activity, active against enveloped viruses, active against Norovirus. Alcohol-based solution for disinfecting surfaces of medical devices, surfaces in the laboratory area as well as surfaces and equipment in the pharmaceutical and cosmetics area. Application: wiping method. VAH listed and included in the IHO list of virucidal products.

	Article	Conts	Order No.
⑱	neoform® Rapid	750 ml	**10 27 64347**

neoform® wipes RTF
Disposable non-woven wipes dispenser system for the use of surface disinfectants. Disinfection of surfaces, equipment, medical devices and medical inventory in combination with suitable Dr. Weigert surface disinfectants in hospitals, medical practices, old people's and nursing homes, in chemical and pharmaceutical areas, laboratories as well as in food processing companies and communal kitchens. Also suitable for high-risk areas such as neonatology or haemato-oncology according to VAH recommendation. Versatile, approved pursuant to the 4-field test (EN 16615).

	Article	Conts	Order No.
⑲	neoform® wipes RTF	115 pcs.	**10 27 61388**


⑩ ⑪


⑫ ⑬


⑭ ⑮ ⑯ ⑰

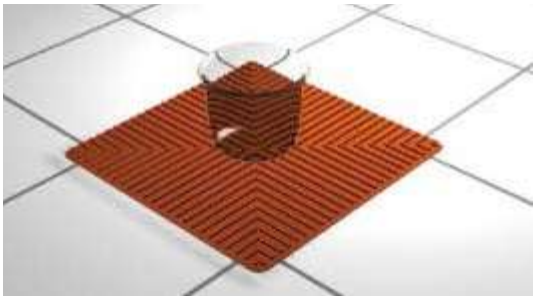

⑱ ⑲

Covering Films

Laboratory Mats, Deutsch & Neumann

Laboratory mats made of silicone, non-slip, temperature-resistant up to 260°C, available in the colors red or black.

Colour	Length mm	Width mm	Order No.
red	250	250	**24 34 20250**
black	250	250	**24 34 20251**
red	350	350	**10 34 10350**
black	350	350	**10 34 10351**



Covering Films

webcode WW6PB006

Hahnemühle



Absobent Paper with Polyethylene, Hahnemühle

The highly absorbent protective paper 295PE offers total protection of surfaces in the laboratory thanks to its double layer.

- Cellulose layer: One layer of pure filter paper enables a large quantity of liquids to be absorbed.
- Polyethylene layer: totally waterproof, prevents liquids from reaching the protected surface.
- The high purity of the filter paper allows for recovery and re-use of the spilled liquid.
- Type 295PE weighs 120g/sqm, is 0.2 mm thick and absorbs 110 mg of water per sqm.

Grade	Weight g/m²	Thickness mm	Size	Packing type	Order No.
295 PE	120	0.2	460 mm × 50 m	1 roll	**10 15 95865**
295 PE	120	0,2	1200 mm × 50 m	1 roll	**10 15 95874**
295 PE	120	0.2	460 mm × 570 mm	100 sheets	**10 15 95885**

Other sizes on request.



High-Tack Mats, Weidner

Tack mats for effective dust collection and contamination control for class 100, 10 and nuclear clean rooms. When entering a sterile room, it is the first and second steps that transmit harmful germs, bacteria-infested dust particles and dirt of all types. The coated mat effectively combats this with its powerful adhesive, which traps dirt from shoes, carts and other roller-mounted equipment when passing over the mat. Soiled foils are simply pulled off. Use of the mat inside the isolation rooms prevents germ-infested dust particles from escaping to the outside.

1 box contains 6 mats, each with 40 layers of pull-off foil

L × W × H mm	Colour	Order No.
1150 × 450 × 2	white	**36 58 18240**

Chemical Binders

webcode WWR4Q056

bürkle



Mercury Collector, BÜRKLE

Bürkle's mercury collector enables the easy collection of spilt mercury, which can then be used again.

The mercury collector is composed of a PE tub. Within the screw cap lid there is a special plastic foam insert. On pressing this foam gently on the spilt mercury, the foam's pores are opened and the mercury globules are absorbed. When raised, the foam's pores are sealed again, thus keeping hold of the mercury.

The cap is then screwed on the tub, the globules are released again and fall through the perforated separation into the tub.

	Article	Order No.
①	Mercury collector	**10 04 58901**

Webcode

Use the webcode on our website to see a larger selection of products from a specific manufacturer.

Chemical Binders

WIELA-SAFE Oil and Chemical Binder, Dr. Wieland

webcode WW19X012

WIELA-SAFE can be used as a universal chemical binder when dealing with oil and chemical accidents on land.
Years of practical experience have shown that WIELA-SAFE can also be used on strongly reacting and oxidizing substances.
Areas of use: Laboratories, haulage companies, chemical companies, service vehicles, transportation of hazardous materials, stores, railways, special waste vehicles, emergency services, etc.

Article	Order No.
WIELA-SAFE, 2 l	**36 34 71067**
WIELA-SAFE, 5 kg	**36 34 71073**

Contact us to inquire about other container volumes and scale prices!



FastSorb Absorbent, Laborgeräte-Süd

Absorption agent for oils and chemicals FastSorb 4.0
FastSorb 4.0 is a flowable absorption agent which quickly binds hazardous fluids. This quick binder should be available at every workplace where there is a risk of dangerous leakages.
- Tested by TÜV Rheinland pursuant to the method specified by the Federal Institute for Materials Testing
- Safe absorption agent in compliance with occupational health and environmental protection regulations

Optional wall mount with hand broom and scoop available.

	Article	Order No.
①	**FastSorb 4.0, 1500 g**	**10 88 10761**
	FastSorb 4.0, 50 l	**10 88 10760**
②	**Wall mount**	**10 88 10762**
	Wall mount incl. hand brush with rubber bristles, scoop, plastic bag and mounting kit (FastSorb 4.0 not comprised)	



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Waste Collection

BRAUN Waste Bins, IDL

MEDIBOX® waste needle bins
Special push-off device for safe disposal of needles.
Integrated cap.
GS label: tested safety
The maximum filling volume complies approx. 80% of the total volume of the containers.

Article	Max. filling volume l	Order No.	PU pc/Pack
MEDIBOX® 0.8 liters	0.67	**10 42 13424**	18
MEDIBOX® 2.4 liters	2.00	**10 42 13600**	27
MEDIBOX® 4.7 liters	3.90	**10 42 13618**	25

Available only in original packaging units. No fractions possible.



MBT Plastic Bags, IDL

webcode WW7R3065

Bags for disposing of infectious material

With stand for placing directly where you are working. The bags are hung in the stand. Disposable bags for once-only sterilization.

Article	Order No.
Polypropylene bags For sterilizing in steam autoclaves up to 121°C. Dispenser box of 100 bags. Dimensions (L × W): 300 × 200 mm	**29 78 11000**
Stand for polypropylene bags White, with hygienic epoxy resin coating. Dimensions (I.D. × H): 120 × 250 mm	**29 78 13000**



Waste Collection



webcode WW2NY293



Desktop Rack for Waste Bags, neoLab®

Desktop racks for waste bags
- **Material:** Steel wire with impact-resistant epoxy resin coating, high chemical stability.
- Sturdy version with tripod and rubber pads

Article	Height cm	Ø at top cm	Ø at bottom cm	Order No.
Desktop rack large	35	18.0	21.0	**29 01 17028**
Desktop rack small	25	11.5	14.8	**29 01 17106**

Accessories

Article	Dimensions cm	Order No.	PU pc/Pack
PE flat bag for tall racks	30 × 45	**29 01 21449**	500
Waste bags (PP) f. tall racks	30 × 50	**29 01 72100**	500
Biohazard bags (HDPE) f. tall racks	30 × 61	**29 01 31042**	100
Waste bags (PP) for small racks	20 × 30	**29 01 17105**	100
Waste bags (PA) for small racks	20 × 30	**10 01 17104**	50

for my lab neoLab



webcode WW2NY062

BIOHAZARD Bags for Autoclaves, neoLab®

For biohazard waste, stable for vapour autoclaving up to 121°C, strong model. Made of HDPE, translucent, with BIOHAZARD-imprint.
Not printed made of PP, resistant to vapour sterilisation up to 135°C.

Version	Order No.	PU pc/Pack
61 × 76 cm, with imprint, HDPE	**29 01 31047**	100
30 × 61 cm, with imprint, HDPE	**29 01 31042**	100
61 × 91 cm, with imprint, HDPE	**29 01 31043**	100
20 × 30 cm, without imprint, PP	**29 01 17105**	100
30 × 50 cm, without imprint, PP	**29 01 72100**	500
60 × 80 cm, without imprint, PP	**29 01 72101**	500
70 × 110 cm, without imprint, PP	**29 01 72102**	350

Available only in original packaging units. No fractions possible.



webcode WW2NY283

Polyethylene Waste Bags, neoLab®

The proven waste bags made of PE for every use.
- strong and tearproof
- not imprinted
- colour: blue

Contents l	Dimensions cm	Foil thickness mm	Order No.	PU pc/Roll
60	57,5 × 100	0,05	**10 01 17095**	25
120	70 × 110	0,07	**10 01 17097**	25
120	80 × 100	0,05	**10 01 17098**	25

Your specialized laboratory dealer –
fast, competent and economical

Waste Collection

Waste Bag Holders, neoLab®



webcode WW2NY284

Aluminium-coloured, powder-coated steel rack with 4 steerable smooth-running rolls (50 mm Ø). Elastic bars guarantee protection of the waste bags. Wall deflector made of rubber. Fits under counter tops. Rack open to 3 sides, full bags can be removed without problems.
Accessories: plastic lid in grey/white with stainless hinge, can be removed easily for cleaning. Pedal bin, rustless

Article	W × D × H cm	Order No.
Waste bag holder, 60 l	380 × 380 × 834	**10 01 23182**
Waste bag holder, 120 l	470 × 380 × 834	**10 01 23183**
Plastic flap lid for 60 l-stand		**10 01 23184**
Plastic flap lid for 120 l-stand		**10 01 23185**
Pedal mechanism for opening		**10 01 23186**

Flame Protection Waste Bin, BOCHEM



webcode WWQ7J058

Bins with flame protection. Anti-corrosion finish prevents leaks. With swing lid. Material No. 4301/5, 70 liters, fine-ground surface.
Dimensions (W × H × D): 410 × 745 × 310 mm handles left and right, each side +25 mm

Waste bin made of chromium-nickel steel

Article	Order No.
Waste bin made of chromium-nickel steel	**10 05 11422**

Waste bags

Article	Order No.
PVC waste bags for waste bin, 25 pieces	**38 05 11421**

PVC waste bags, BOCHEM



webcode WWQ7J092

Article	Order No.
PVC waste bags for waste bin, 25 pieces	**38 05 11421**

Brushes

Laboratory Brushes Set, neoLab®



webcode WW2NY153

Brushes for the gentle cleaning of laboratory equipment, special design with plastic-coated wire. **Consisting of 10 brushes with dia. 10 to 80 mm,** incl. brush with wooden handle and a washing brush. The plastic-coated wire prevents scratching the glass.

Article	Order No.
Laboratory brush set, 10 pieces	**37 01 17032**

Brushes for Round Bottom Flasks, neoLab®



webcode WW2NY152

Suitable for universal use. An articulated joint on the brush lets you easily reach the upper inner portion of the flask neck. The shape of the natural bristle brush matches the curvature of the flask allowing you to reach any spot on the inside wall of the flask. The brush fits into any NS 29/32 ground flask from 100 ml volume upwards, and a long wooden handle provides a good grip.

Article	Order No.
Brush for round bottom flask	**37 01 16010**
Spare brush	**37 01 16011**

webcode To see other variants and accessories, please enter the webcode on our website.

Brushes

webcode WW2NY154



Vat Brushes, neoLab®

Article	Order No.
Sturdy cleaning brush	**37 01 23280**

with a long handle. Knot-free beechwood body and strong natural bristles guarantee long life and good cleaning results.

Length: 45,0 cm
Brush head width: 6,5 cm
Bristle height: 6,0 cm

Article	Order No.
Scrubbing brush without handle	**37 01 23275**

Length: 22,0 cm



webcode WW2NY229

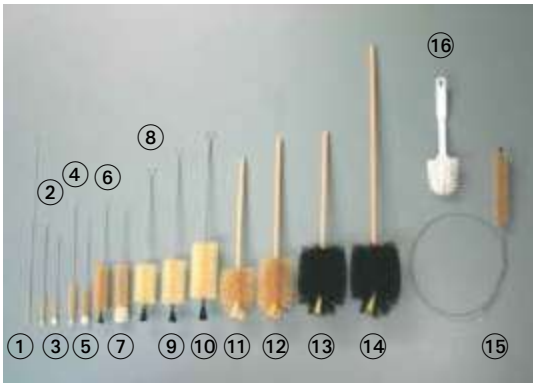
Brushes for Sedimenting Glasses, neoLab®

Conical cleaning brush made of horsehair / Nylon, with pencil tip for large conical containers, in particular for Imhoff sedimenting glasses. Galvanized steel wire with angled handle to allow you to rotate the brush in sedimenting glasses.
The soft, powerful bristles provide fast, thorough cleaning of glasses even when the glasses are very dirty.

Upper diameter: 13 cm
Total length: approx. 70 cm
Brush length: approx. 50 cm

Article	Order No.
Cleaning brush for sedimentation vessels	**37 01 23285**

webcode WW7R3321



Brushes, IDL

	Article	L mm	Brush L × Ø mm	Order No.
①	Pipette brush (pipe cleaner)	480	100 × 5	**37 03 10001**
②	Test tube brush, head bundle	250	50 × 10	**37 03 10002**
③	Test tube brush, wool tip	260	50 × 10	**37 03 10003**
④	Test tube brush, head bundle	280	70 × 15	**37 03 10004**
⑤	Test tube brush, wool tip	280	70 × 15	**37 03 10005**
⑥	Test tube brush, head bundle	290	110 × 30	**37 03 10006**
⑦	Test tube brush, wool tip	270	100 × 30	**37 03 10007**
⑧	Bottle brush, head bundle	390	85 × 50	**37 03 10008**
⑨	Bottle brush, head bundle	420	100 × 55	**37 03 10009**
⑩	Bottle brush, head bundle	470	120 × 63	**37 03 10010**
⑪	Beaker brush, wooden handle	390	125 × 85/60	**37 03 10011**
⑫	Beaker brush, wooden handle	430	140 × 85/60	**37 03 10012**
⑬	Beaker brush, wooden handle	430	140 × 100/80	**37 03 10013**
⑭	Jar brush, horsehair-nylon mix	630	140 × 100/80	**37 03 10015**
⑮	Pipe and tube brush	1000	150 × 30	**37 03 10014**
⑯	Screen brush (washing brush), plastic handle	220	Ø 60	**37 03 10016**



"da Vinci" Brushes and Spun Glass Burnishers, DEFET

Original brush size, measured at upper edge of ferrule

⑰ **Series 1520L water-color brushes**
Genuine red marten hair, with very fine tip, seamless silver ferrule, short brown handle (picture shows brush size 6).

Size	Order No.
0	**37 26 10000**
1	**37 26 10001**
2	**37 26 10002**
3	**37 26 10003**
4	**37 26 10004**
5	**37 26 10005**

Size	Order No.
6	**37 26 10006**
8	**37 26 10008**
10	**37 26 10010**
12	**37 26 10012**
14	**37 26 10014**
16	**37 26 10016**

Continued on next page

Brushes

⑱ **Series 1570L NOVA water-color brushes**
Extra fine, gold-colored synthetic fibers, seamless silver ferrule, short green handle (picture shows brush size 8)

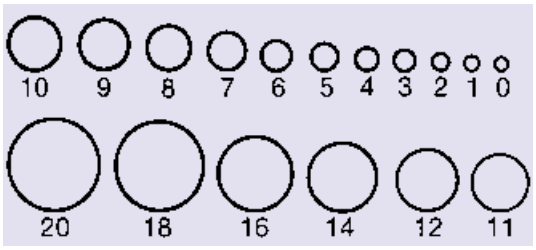
Size	Order No.	Size	Order No.
0	**37 26 60000**	6	**37 26 60006**
1	**37 26 60001**	8	**37 26 60008**
2	**37 26 60002**	10	**37 26 60010**
3	**37 26 60003**	12	**37 26 60012**
4	**37 26 60004**	14	**37 26 60014**
5	**37 26 60005**	16	**37 26 60016**



⑲ **Series 1587L water-color brushes**
Light-colored cow ear hair, seamless silver ferrule, short maroon handle (picture shows brush size 4)

Size	Order No.	Size	Order No.
0	**37 26 20000**	6	**37 26 20006**
1	**37 26 20001**	8	**37 26 20008**
2	**37 26 20002**	10	**37 26 20010**
3	**37 26 20003**	12	**37 26 20012**
4	**37 26 20004**	14	**37 26 20014**
5	**37 26 20005**	16	**37 26 20016**





⑳ **Series 1990L quill brush pointed**
Squirrel hair, no metal ferrule, in natural quill (picture shows brush size 1)

Size	Order No.	Size	Order No.
0	**37 26 30000**	5	**37 26 30005**
1	**37 26 30001**	6	**37 26 30006**
2	**37 26 30002**	7	**37 26 30007**
3	**37 26 30003**	8	**37 26 30008**
4	**37 26 30004**	9	**37 26 30009**

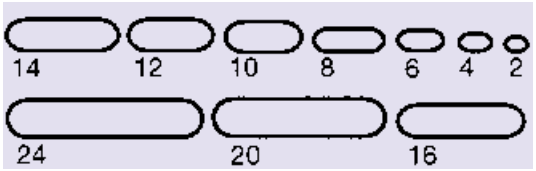




㉑ **Series 7179L bristle brush flat**
White bristles, sheet metal ferrule, long natural handle (picture shows brush size 12)

Size	Order No.	Size	Order No.
2	**37 26 40002**	14	**37 26 40014**
4	**37 26 40004**	16	**37 26 40016**
6	**37 26 40006**	18	**37 26 40018**
8	**37 26 40008**	20	**37 26 40020**
10	**37 26 40010**	22	**37 26 40022**
12	**37 26 40012**	24	**37 26 40024**





㉒ **Series 640L glass fiber brush**
Wound in cotton thread, length 200 mm (picture shows 15 mm diameter)

Ø mm	Order No.	Ø mm	Order No.
10	**37 26 50010**	20	**37 26 50020**
15	**37 26 50013**	25	**37 26 50025**



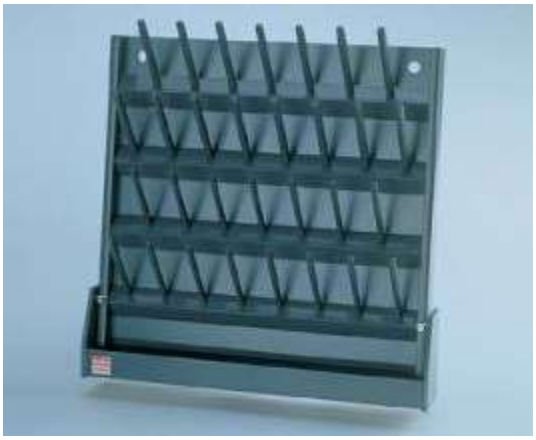
Draining Racks

behroplast® Draining Racks, Behr

webcode WWXKS006

behroplast® draining racks made of solid PVC, for hanging on or leaning against a wall, with drip tray, gray, incl. screws and dowels.

Width cm	Height cm	Rods quantity	Order No.
40	40	25	**24 48 15035**
50	50	50	**24 48 15050**
60	60	69	**24 48 15069**



Draining Racks



Draining Racks, BRAND

webcode WWQED014

Draining racks, PS
Integrated wide draining trough. Pegs can be inserted as required. Peg holes are closed at the back - preventing leakage toward the wall. Supplied complete with drain tubing and accessories for wall mounting.
W × H: 450 × 630 mm, 72 pegs (Ø 16 mm, L 120 mm)

Article	Order No.
Draining rack, PS	**24 49 95105**

Accessories
For narrow neck vessels (O.D. 6 mm, length 120 mm). 1 set of 11

Article	Order No.
Special rods, PS	**24 49 95111**

Draining Racks, BÜRKLE-LaboPlast®

webcode WWR4Q022



Plastic draining racks (PVC), largely chemically resistant, breakproof, used in the lab by the thousand and adapted to individual requirements.
The sturdy rods can be inserted in the holes as required and clicked in place. Using a combination of three different lengths of rod (60 mm, 100 mm and 150 mm) the rack can be adapted to take any item. The rods can be removed and repositioned at any time. With a removable draining channel plus a connection for a draining tube (to direct the water into the sink).
Available in 3 different sizes.
Supplied in strong cardboard boxes, complete with peel-off foil to protect from dust and scratching, rods and dowels and wall mounting.

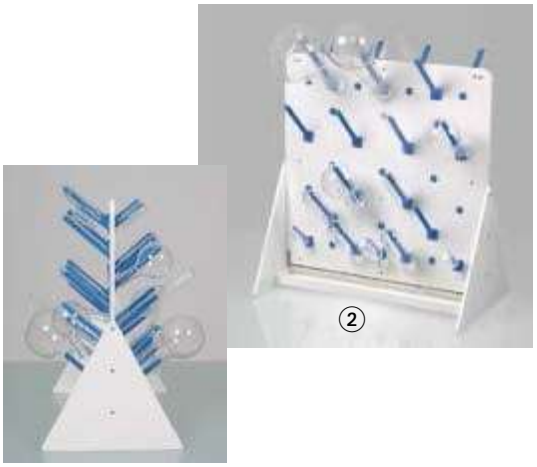
① **Draining racks with channel complete with rods**

Length cm	Width cm	Qty rods 60 mm	Qty rods 100 mm	Qty rods 150 mm	Order No.
40	40	5	26	2	**24 05 64040**
50	50	10	39	4	**24 05 64050**
60	60	15	56	6	**24 05 64060**

Rods, replaceable/repositionable

Length mm	Rod Ø mm	Order No.
60	6	**24 05 64460**
100	10	**24 05 64410**
150[1)]	12	**24 05 64415**

[1)] Rods only usable together with 100 mm.



② **Draining rack, benchtop, with collecting pan complete with rods**
The draining rack is easy and flexible to set down on a table or working surface. Two large supports with wide bases ensure sufficient stability. Since both sides of the draining board can be used, it provides twice the hanging space. The collecting pan can simply be removed for emptying.

Length cm	Width cm	Qty rods 60 mm	Qty rods 100 mm	Qty rods 150 mm	Order No.
40	40	5	26	2	**10 04 53041**
50	50	10	39	4	**10 04 53051**
60	60	15	56	6	**10 04 53061**



Draining Racks, Hecht-ASSISTENT

Dimensions: 35 × 30 cm
Material: Plexiglas® with 23 rods, rear wall white, rods blue
Rod arrangement: 1st row with 4 rods
2nd row with 5 rods
3rd and 4th rod with 7 rods each

Article	Order No.
Draining rack with draining trough	**24 18 10001**

Rinsing Equipment, Drying Equipment

Air Dryer for Laboratory Glassware, Irmeco

webcode WWR5C001

IRMECO

For drying various types of laboratory glassware, e.g. bulbs, pipettes, beakers, test tubes, etc. The device has 24 drying pipes with 16 mm diameter, 16 drying pipes with 14 mm diameter and 16 drying pipes with 12 mm diameter. The outlet pipes are made of acid-resistant steel.
Temperature and timer are set via a rotary switch. It is protected against overheating by a temperature limit fuse. The built-in air filter can be easily dissambled and replaced.

Technical data:

Drying mode:	hot or cold
Number of drying pipes:	56
Timer:	15 – 180 min, and continuous operation
Overall dimensions (W×H×D):	310 × 920 × 320 mm
Power supply:	230 V, 50 Hz
Airflow rating:	1000 W

Article	Order No.
Air dryer for laboratory glassware	**10 15 85010**



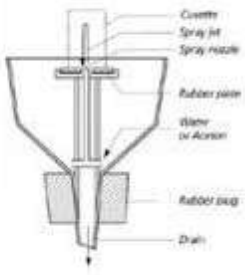
Cuvette and Small Vessels Rinser VAKUWASCH, schuett-biotec

Cuvette and small vessels rinser VAKUWASCH

Polyethylene. Practically unbreakable. The easiest way to clean (e.g. acetone/ethanol) and to dry glass vessels in a few seconds and in one cycle. All you need is a vacuum flask (with rubber stopper with a bore hole and vacuum tube) and a low level of vacuum.

	Article	Order No.
①	VAKUWASCH cuvette and small vessels rinser	**19 31 35001**
	Rubber stopper with hole	**19 31 35012**
	Suction bottle DURAN®, 500 ml	**19 31 35011**
	Vacuum tube per meter	**19 31 35013**





More than 20,000 articles in this catalogue –
and still more on our website!

BANDELIN
Ultraschall seit 1955

NOTES ON CLEANING IN ULTRASONIC BATH



What is ultrasound

Oscillations with frequencies above 18 kHz (18,000 waves per second) are called ultrasound. These oscillations lead to the generation of millions of small vacuum bubbles in all liquids during the expansion phase. These bubbles implode during the pressure phase and generate highly effective pressure impulses. This process is called cavitation.

Low frequencies around 20 kHz, which are for example used for cell disruption, generate bubbles of bigger diameters with strong pressure impulses as opposed to higher frequencies around 35 kHz, which are preferably used for intensive and gentle cleaning.

For generating the ultrasound, a ultrasonic generator converts the power frequency to the respective frequency of the device and passes it on to the wave systems for generating mechanical waves in the liquids.

Advantages of ultrasonic cleaning

The cavitation has the effect that residue dirt and infectious agents are divulsed from the parts in the liquid, even from cavities and drillings - **electronic brushing**. Ultrasound cleans within a few minutes and excels in cleanliness compared to manual cleaning.

At the same time, it works gently, because mechanical damages such as scratches are avoided.

Advantages in chemical engineering and sono-chemistry

Cavitation is used for many applications. For example, an emulsion made of oil and water will be finer and more stable under the influence of ultrasound than with any other techniques.

For sonochemical processes in an ultrasonic bath, the reaction vessel should have a thin-walled bottom. Then, the ultrasonic energy radiating from the bottom of the tank will be effectively transmitted to the reaction vessel.

Which ultrasonic bath do I choose?

Ultrasonic baths work with 35kHz as cleaning-intensive high frequency. The size and type of the cleaning objects and sample vessels defines the size of the tank and thus the required device type. When selecting the device, the basket dimensions have to be considered. In order to avoid overloading the device, it is recommended to choose a slightly bigger device. This also provides tolerance for other applications which might be added for future use. The diversity of SONOREX ultrasonic baths, ultrasonic special baths and ultrasonic baths for built-in shows that every user can find the bath that is right for him.

Does an ultrasonic bath have to have a heating?

Heated cleaning liquids shorten the cleaning time. Stains can be removed quicker in heated liquids. In a laboratory, devices with heatings are usually used for cleaning tasks. Disinfection liquids must not be heated, because this can result in a protein coagulation at 40°C , which makes cleaning and disinfecting more difficult. For this task, devices without heating are used.

Which accessories are necessary?

The cleaning objects and reaction vessels must never stand on the bottom of the tank. The basket avoids scratches at the cleaning object and the bottom of the tank. Containers for cleaning smaller objects or for working with aggressive solutions are hooked in the hole lid.

Which liquids can be used?

Direct cleaning:
In ultrasonic baths, special substances are used, which have been developed especially for use in ultrasonic baths. Water without cleaners does not clean.
Do not use household cleaners or pure desalinated water.

Indirect cleaning:
Indirect cleaning is carried out in containers or tanks. To transmit the ultrasound in the container, a contract liquid which contains tenside, e.g. water with TICKOPUR, is filled in the tank. To work with acids or if acid residues have to be removed, a plastic tank is to be used.

It is not allowed to fill solvents like gasoline, alcohol, acetone etc. directly into the ultrasonic bath because of the flammability and explosion hazard.

Checking the cleaning performance of ultrasound devices by means of foil tests

It is often of interest to evaluate the performance of an ultrasonic bath. In the standard IEC/TR 60886 (1987-03), procedures for proving the cavitation are explained.
Cavitation strength and distribution in a liquid volume can be determined by means of the so-called foil test. A thin aluminum foil is tightened on a frame and then inserted in an ultrasonic bath and exposed to the waves. The emerging erosions of the foil within a defined time (max. 3 min) provide a measurement for the effect of the cavitation. The foils can be stored easily.



www.folientest.info

Ultrasonic Cleaning

Ultrasonic Equipment-Survey, BANDELIN

webcode WWFH8001

BANDELIN Ultraschall seit 1955

① **SONOREX high power ultrasonic baths**
for intensive cleaning, degasifying of liquids, process acceleration and sample preparation.

② **SONOREX SUPER ultrasonic baths**
SweepTec for continuous sound field oscillation. Stainless steel tank with a 9.0 to 90.0 l capacity. Labor-saving workflow starting with the RK 102 H. H models with heating 30 to 80°C. RK 31 H fixed 65°C heating. Rugged stainless steel housing, drip proof, degree of protection IP 32, adjustable temperature range, 35 kHz oscillation system, pulse function, operating voltage 230 V~ (±10 %), optionally 115 V~ (±10 %), 50/60 Hz. High cleaning performance, very deep acting, low noise, refer to page 267.

③ **SONOREX DIGITEC digital ultrasonic baths**
4-step operation as “plug and clean”, “H” units with heater for 20 to 80°C, adjustable temperature range, with LED for temperature and heating phase.
Warning LED for overheating, time setting 1, 2, 3, 4, 5, 10, 15, 30 min, ± 5 % or continuous operation (∞), DEGAS – freely selectable sound pulse – with LED, Stainless steel housing, spray-water proof, IP 33 protection. Sweep for continuous sound field oscillation, operating voltage 230 V~ (±10 %), optionally 115 V~ (±10 %), 50/60 Hz. Refer to page 267.

④ **SONOREX DIGIPLUS ultrasonic baths**
Power setting 20 to 100%, otherwise like SONOREX DIGITEC.

Special baths

Gentle cleanign of test sieves: RK 106, RK 1028 C, refer to page 267.

Cleaning of long parts: RK/DT 156/BH, RK 170 H

Pipette cleaner PR 140 DH for pipettes up to 755 mm, burettes refer to page 272.

Fast degasifying of liquids with DEGAS function: SONOREX DIGITEC and SONOREX DIGIPLUS

SONOREX TECHNIK – welded tanks
volumes up to 230 l and internal length up to 100 cm. Frequency 40 kHz, RM 110 and upwards 25 kHz, refer to page 271.

TICKOPUR/STAMMOPUR cleaning agents
for use in ultrasonic baths, refer to page 247.

SONOPULS ultrasonic homogenizers
For homogenisation, disagglomeration, emulgation, suspension, acceleration of chemical reactions or cell disruption. With pulsation circuit continuous amplitude adjustment providing reproducible results, refer to page 205.



①



②

SONOREX SUPER Ultrasonic Baths, BANDELIN

SONOREX SUPER ultrasonic baths
- Class I medical device
- For aqueous cleaning agents
- Stainless steel vibration tanks, volumes 0.9 to 90.0 liters
- Drip-proof stainless steel housing
- Time setting 1 – 15 min, ± 5 %, or continuous operation (∞)
- Ultrasonic frequency 35 kHz
- RK 1028 CH and RK 1050 CH welded oscillation tanks made of stainless steel 1.4404
- RK 102 H oscillation tank hard chromium-plated
- RK 102 H and up with ball valve drain
- H types with heating, adjustable temperature range 30 – 80°C. RK 31 H: heating permanently set to 65°C
- Pulse function
- Operating voltage 230 V~ (±10 %), optionally 115 V~ (±10 %), 50/60 Hz



③



④

Type	Bath dimensions L × W × D mm	Bath vol. l	Ultrasonic max. output W	Ultrasonic nominal power W	Order No.
RK 31	190 × 85 × 60	0.9	160	40	**96 07 21009**
RK 31 H	190 × 85 × 60	0.9	160	40	**96 07 20532**
RK 52	150 × 140 × 100	1.8	240	60	**96 07 20552**
RK 52 H	150 × 140 × 100	1.8	240	60	**96 07 20553**
RK 100	240 × 140 × 100	3.0	320	80	**96 07 21006**
RK 100 H	240 × 140 × 100	3.0	320	80	**96 07 21007**
RK 102 H	240 × 140 × 100	3.0	480	120	**96 07 23001**
RK 103 H	240 × 140 × 150	4.0	560	140	**96 07 23003**
RK 106	Ø 240 × 130	5.6	480	120	**96 07 23004**

Ultrasonic max. output corresponds to four times higher value of the ultrasonic nominal power

Continued on next page

Ultrasonic Cleaning

webcode WWFH8002

BANDELIN Ultraschall seit 1955



①



②



③



④



⑤

	Type	Bath dimensions L × W × D mm	Bath vol. l	Ultrasonic max. output W	Ultrasonic nominal power W	Order No.
	RK 156	500 × 140 × 100	6.0	640	160	**96 07 23027**
	RK 156 BH	500 × 140 × 150	9.0	860	215	**96 07 23018**
	RK 170 H	1000 × 200 × 200	39.0	1520	380	**96 07 23039**
	RK 255	300 × 150 × 150	5,5	640	160	**10 07 33066**
①	RK 255 H	300 × 150 × 150	5.5	640	160	**96 07 23007**
	RK 510	300 × 240 × 150	9.7	640	160	**96 07 23026**
	RK 510 H	300 × 240 × 150	9.7	640	160	**96 07 23008**
	RK 512 H	300 × 240 × 200	13.0	860	215	**96 07 23024**
②	RK 514	325 × 300 × 150	13.5	860	215	**96 07 23009**
	RK 514 H	325 × 300 × 150	13.5	860	215	**96 07 23016**
	RK 514 BH	325 × 300 × 200	18.7	860	215	**96 07 23010**
	RK 1028	500 × 300 × 200	28.0	1200	300	**96 07 23011**
	RK 1028 H	500 × 300 × 200	28.0	1200	300	**96 07 23012**
	RK 1028 C	500 × 300 × 300	45.0	2000	500	**96 07 23041**
	RK 1040	Ø 500 × 195	39.5	1520	380	**96 07 23014**
	RK 1050	600 × 500 × 200	58.0	2400	600	**96 07 23015**
③	RK 1028 CH	500 × 300 × 300	45.0	1200	300	**96 07 23042**
④	RK 1050 CH	600 × 500 × 300	90.0	2400	600	**96 07 23043**

Ultrasonic max. output corresponds to four times higher value of the ultrasonic nominal power

⑤ **SONOREX DIGITEC digital ultrasonic baths**

- Class I medical device
- Mixing of samples
- Homogenisation of samples for analysis
- Rapid degassing of solvents for HPLC
- 4-step operation as “plug and clean”
- “H” units with heater for 20 to 80 °C, with adjustable temperature range, with LED for temperature and heating phase
- Warning LED for overheating
- Time setting 1, 2, 3, 4, 5, 10, 15, 30 min, ± 5 % or continuous operation (∞)
- DEGAS rapid degassing function – freely selectable sound pulse – with LED
- Stainless steel housing, spray-water proof, IP 33 protection thanks to permanently connected mains cable and liquid-proof front panel
- Sweep – continuous sound field oscillation for gentle, even cleaning
- RC version with infrared interface
- Automatic short-term ultrasound activation during heating to avoid retardation of boiling; can be switched off
- Automatic safety switch-off 12 hours after last button activation
- Pulse function
- Operating voltage 230 V~ (±10 %), optionally 115 V~ (±10 %), 50/60 Hz
- Fill level mark for safe dosing
- Outlet valve for easy emptying, one-piece welded outlet elbow

Type	Bath dimensions L × W × D mm	Bath vol. l	Ultrasonic max. output W	Ultrasonic nominal power W	Order No.
DT 31	190×85×60	0.9	160	40	**96 07 33200**
DT 31 H	190×85×60	0.9	160	40	**96 07 33220**
DT 52	150×140×100	1.8	240	60	**96 07 33205**
DT 52 H	150×140×100	1.8	240	60	**96 07 33225**
DT 100	240×140×100	3.0	320	80	**96 07 33210**
DT 100 H	240×140×100	3.0	320	80	**96 07 33230**
DT 102 H	240×140×100	3.0	480	120	**96 07 33235**
DT 103 H	240×140×150	4.0	560	140	**96 07 33201**
DT 156	500×140×100	6.0	640	160	**96 07 33275**
DT 255	300×150×150	5.5	640	160	**96 07 33215**
DT 255 H	300×150×150	5.5	640	160	**96 07 33240**
DT 510	300×240×150	9.7	640	160	**96 07 33245**
DT 510 H	300×240×150	9.7	640	160	**96 07 33206**
DT 512 H	300×240×200	13.0	860	215	**96 07 33226**
DT 514	325×300×150	13.5	860	215	**96 07 33250**
DT 514 H	325×300×150	13.5	860	215	**96 07 33211**
DT 514 BH	325×300×200	18.7	860	215	**96 07 33216**

Ultrasonic max. output: corresponds to four times higher value of the ultrasonic nominal power. Accessories as for RK units.

SONOREX DIGITEC DT...-RC Units with Infrared Interface

	Type	Bath dimensions L × W × D mm	Bath vol. l	Ultrasonic max. output W	Ultrasonic nominal power W	Order No.
⑥	DT 102 H-RC	240×140×100	3.0	480	120	**10 07 33071**
	DT 255 H-RC	300×150×150	5.5	640	160	**10 07 33081**
	DT 510 H-RC	300×240×150	9.7	640	160	**10 07 33091**
	DT 514 BH-RC	325×300×200	18.7	860	215	**10 07 33095**

Continued on next page

Ultrasonic Cleaning

Accessories for Digitec DT...-RC Units

Article	Order No.
WINSONIC® DT remote control consisting of: software and infrared adapter IR 1	**10 07 33090**



⑥

SONOREX DIGIPLUS DL High-power ultrasonic baths with power control

- Cleaning of sensitive materials
- Mixing of samples
- Homogenizing of samples for analysis
- Fast degassing of solvents for HPLC
- Power control from 20 to 100%
- Heating 20 to 80 °C, with adjustable temperature range, LED
- Optical signal in case of excess temperature
- Automatic short-time ultrasound during heating up period to avoid delay in boiling – switch-off possible
- Time setting 1, 2, 3, 4, 5, 10, 15, 30 min, ± 5 % or continuous operation (∞)
- DEGAS – quick degassing
- Sweep – permanent sound field oscillation ensures even and gentle ceaning
- Automatical safety shut-down 12 hours after last keypress
- Marking of filling level for safe dosage
- Drain valve for simple emptying, one-piece welded drain bow
- Protection class IP 33 at highest possible level through liquid-tight mains cable and housing front without openings

	Type	Bath dimensions L × W × D mm	Bath vol. l	Ultrasonic max. output W	Ultrasonic nominal power W	Order No.
⑦	DL 102 H	240×140×100	3.0	480	120	**10 07 37180**
	DL 156 BH	500×140×150	9.0	860	215	**10 07 37181**
	DL 255 H	300×150×150	5.5	640	160	**10 07 37182**
	DL 510 H	300×240×150	9.7	640	160	**10 07 37183**
	DL 512 H	300×240×200	13.0	860	215	**10 07 37184**
	DL 514 BH	325×300×200	18.7	860	215	**10 07 37185**
	DL 1028 H	500×300×200	28.0	1200	300	**10 07 37186**



⑦

SONOREX accessories for ultrasonic baths

Vessels or items to be cleaned may not be placed on he bottom of the tank!
Stainless steel baskets - required accessories - for suspension in the tank.
Stainless steel equipment holder, model GH 1 for 1 liter glass columns up to Ø 105 mm, other equipment holders bottom with mesh size 12,5 × 12,5 mm. **DE perforated stainless steel cover** for holding insert beakers (glass, plastic stainless steel).
ES insert strips, hold 4 insert beakers, SH 28 C strainer holder for 5 test sieves. SH 7 = sieve holder for 1 test sieve. **Sieve inserts** fit insert containers.


⑧

Insert baskets made of stainless steel

	Type	fits	Order No.
	K 08	RK/DT 31/H	**96 07 31116**
⑧	K 3C	RK/DT 100/H, RK 102 H, DT 102 H/H-RC, DL 102 H	**96 07 33025**
	K 3CL	RK/DT 103 H	**96 07 33026**
	K 6	RK/DT 106	**96 07 31103**
	K 6BL	RK/DT/DL 156 BH	**96 07 31113**
	K 7	RK 170 H	**96 07 31121**
	K 5C	RK 255/H, DT 255/H/H-RC, DL 255 H	**96 07 33027**
⑨	K 10	RK 510/H, DT 510/H/H-RC, DL 510 H	**96 07 31105**
	K 10B	RK/DT/DL 512 H	**96 07 31106**
	K 14	RK/DT 514/H	**96 07 31107**
	K 14B	RK/DT/DL 514 BH	**96 07 31108**
	K 28	RK/DT 1028/H, DL 1028 H	**96 07 31109**
	K 28C	RK 1028 C/CH, DT 1028 CH	**96 07 31110**
	K 40	RK 1040	**96 07 31119**
	K 50	RK 1050	**96 07 31111**
	K 50C	RK/DT 1050 CH	**96 07 31112**


⑨

Equipment holder made of stainless steel

	Type	fits	Order No.
⑩	GH 1	RK 52/H, DT 52/H RK 100/H, DT 100/H RK 102 H, DT 102 H/H-R RK 103 H, DT 103 H DL 102 H	**96 07 32009**
	SH 7	RK 106, DT 106	**96 07 32000**
	SH 28C	RK 1028 C/CH, DT 1028 CH	**96 07 31307**
⑪	GH 10	RK 510/H, DT 510/H/H-RC, DL 510 H	**96 07 32001**
	GH 28	RK/DT 1028/H, RK 1040, DL 1028 H	**96 07 32005**


⑩


⑪

Continued on next page

Ultrasonic Cleaning



Lids made of stainless steel – when using insert baskets

	Type	fits	Order No.
	D 08	RK 31/H, DT 31/H	**96 07 35016**
	D 52	RK 52/H, DT 52/H	**96 07 33002**
①	D 100	RK 100/102 H, RK 103 H, DT 100/H, DT 102 H/H-RC, DT 103 H, DL 102 H	**96 07 33003**
	D 6	RK 106, DT 106	**96 07 35005**
	D 156	RK 156/BH, DT 156 BH, DL 156 BH	**96 07 33004**
	D 170	RK 170 H	**96 07 33006**
	D 255	RK 255/H, DT 255/H/H-RC, DL 255 H	**96 07 33007**
	D 510	RK 510/H, RK 512 H, DT 510/H/H-RC, DT 512 H, DL 510 H, DL 512 H	**96 07 33008**
	D 514	RK 514/H/BH, DT 514/H/BH/BH-RC, DL 514 BH	**96 07 33010**
	D 1028	RK 1028/H, DT 1028/H, DL 1028 H	**96 07 33011**
	D 1028C	RK 1028 C/CH, DT 1028 CH mit K 28 C	**96 07 33012**
	D 40	RK 1040	**96 07 35020**
	D 1050 C	RK 1050/CH, DT 1050 CH mit K 50 C	**96 07 33013**



Positioning lids made of stainless steel for holding insert beakers

	Type	fits	Order No.
	DE 8	RK 31/H, DT 31/H	**96 07 36009**
	DE 52	RK 52/H, DT 52/H	**96 07 33016**
②	DE 100	RK 100/H, RK 102 H, RK 103 H, DT 100/H, DT 102 H/H-RC, DT 103 H, DL 102 H	**96 07 33017**
	DE 6	RK 106, DT 106	**96 07 36004**
	DE 156	RK 156/BH, DT 156/BH, DL 156 BH	**96 07 33040**
	DE 255	RK 255/H, DL 255 H, DT 255/H/H-RC	**96 07 33028**
	DE 510	RK 510/H, RK 512 H, DT 510/H/H-RC, DT 512 H, DL 510 H, DL 512 H	**96 07 33038**
	DE 514	RK 514/H/BH, DT 514/H/BH/BH-RC, DL 514 BH	**96 07 33039**
	ES 4	RK 1028/H/C/CH, RK 1050/CH, DT 1028/H/CH, DT 1050 CH, DL 1028 H	**96 07 36010**

Insert beakers
With holding ring and plastic cover for SD 06, EB 05 und PD 06, for hanging in perforated stainless steel cover or insert strip.
(Type SD 04/SD 05/KB 04 only for RK 31/H and stainless steel perforated lid DE 08).

Type	Version	Ø mm	Height mm	Volume ml	Order No.
SD 06	Glas	84	125	600	**96 07 36101**
PD 06	Plastic	86	125	600	**96 07 36103**
EB 05	Stainless steel	88	110	600	**96 07 36102**
SD 09	Glas	91	180	1000	**96 07 36111**
SD 05	Glas	76	150	600	**96 07 36112**
SD 04	Glas	75	110	400	**10 07 31113**
KB 04	Plastic	76	110	400	**10 07 31114**



Insert baskets
KD 0 mesh width 1×1 mm, for small parts, for use in insert beakers.
PD 04 floor mesh fabric, mesh width 1×1 mm.

	Type	Version	fits	Ø mm	Order No.
③	KD 0	Stainless steel	SD 06/09, EB 05, PD 06	75	**96 07 36202**
④	PD 04	Plastic	KB 04, SD 04, SD 05, SD 06, SD 09, EB 05, PD 06	60	**96 07 36204**



⑤ **Mounting clips**
Made of stainless steel, for holding laboratory flasks in insert baskets, equipment and glass holders made from stainless steel with mesh size up to 12.5 × 12.5 mm.

Type	Use	Ø mm	Order No.
EK 10	for 10 ml laboratory flasks	31	**96 07 37010**
EK 25	for 25 ml laboratory flasks	42	**96 07 37025**
EK 50	for 50 ml laboratory flasks	52	**96 07 37050**
EK 100	for 100 ml laboratory flasks	65	**96 07 37100**
EK 250	for 250 ml laboratory flasks	85	**10 07 37250**

⑥ **Adjustable handle**
2 pcs., for insert baskets and equipment holder

Type	fits	Order No.
GV 3	K 1 C, K 3 C, K 3 CL, K 5 C, K 6 BL	**96 07 32879**
GV 10	K 10, K 10 B, K 14, K 14 B, K 28, K 28 C, GH 10, GH 28	**96 07 32892**

Continued on next page

Ultrasonic Cleaning

Plastic baskets
Bottom perforated, for cleaning parts with delicate surfaces.

	Type	fits	Order No.
⑦	PK 2 C	RK 100/H, RK 102 H, DT 100/H, DT 102 H/H-RC, DL 102 H	**10 07 33082**


⑦

Plastic basins
with lid – for cleaning in aggressive fluids. KW 3 and KW 5 are temperature resistant to max. 60°C.

	Type	fits	Order No.
	KW 3	RK 100/H, RK 102 H, RK 103 H, DT 100/H, DT 102 H/H-RC DT 103 H, DL 102 H	**96 07 38100**
	KW 5	RK 255/H, DT 255/H/H-RC, DL 255 H	**96 07 38101**
	KW 10-0	RK 510/H, DT 510/H/H-RC, DL 510 H	**96 07 38110**
⑧	KW 14	DT/RK 514/H	**96 07 38102**
	KW 14 B	RK 514 BH, DT 514 BH, DT 514 BH/H-RC, DL 514 BH	**96 07 38103**
	KW 28-0	RK 1028/H/C/CH, DT 1028/H/CH, DL 1028 H, ZE 1031/1032/… DT	**96 07 38104**
	KW 50-0	RK 1050	**96 07 38105**
	KW 50 B-0	DT/RK 1050 CH	**10 07 38106**


⑧

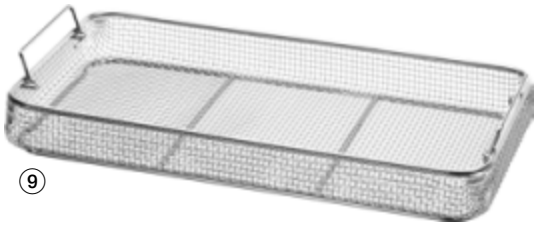
SONOREX special accessories for ultrasonic baths in medical applications

Stainless steel basket holder
KT 30 for insert basket K 29 EM or 1/1 DIN basket.

Type	fits	Order No.
KT 30	RK 1028/H, DT 1028/H, ZE 1031/1032/ … DT	**10 07 38330**

Stainless steel insert baskets
4 × 4 mm mesh width, for placement on a holder

	Type	fits	Order No.
⑨	K 29 EM	RK 1028/H DT 1028/H, DT 1058 M, ZE 1031/1032/1058/1059/ … DT	**96 07 38302**


⑨

Silicone studded mats
For hanging baskets or insert baskets, for non-contact placement of instruments, especially micro instruments. SM 6 and SM 29 two pcs. each.

Type	fits	Order No.
SM 3	K 3 C	**96 07 38503**
SM 5	K 5 C	**96 07 38505**
SM 6	K 6 L	**96 07 38506**

Type	fits	Order No.
SM 14	K 14 EM	**96 07 38514**
SM 29	K 28/K 29 EM	**96 07 38529**

SONOREX TECHNIK Ultrasonic Baths, BANDELIN

webcode WWFH8005

BANDELIN Ultraschall seit 1955

SONOREX TECHNIK ultrasonic baths
Devices available in different versions.
Type “H” with heating 30 – 80°C (on request).
Type “U” with ultrasonic or as rinsing tank without heat and ultrasound (on request).
Type “UH” ultrasonic with heating.
Built-in ultrasonic generator. Types of series RM 16.2 to 75.2 with inclined tank floor.

Frequency: 40 kHz, RM 110 and above alternatively 25 kHz
Mains: RM 16.2 UH-RM 75.2 UH 230 V~ (±10%), 50–60 Hz
RM 110 UH-RM 210 UH 400 V~ (±10%), 50–60 Hz
Cekon connector 16 A
Welded tank, 2 mm stainless steel, 1.4404
Overflow pocket. Drain. Timer 1 – 15 min or continuous operation.



Type	Inner L × W × D mm	Ultra-sonic max. output W	Ultrasonic nominal power W	Work. fill qty l	Heating cap. W	Order No.
RM 16.2 UH	325×275×200/210[1)]	1200	1 × 300	13.0	800	**96 07 38200**
RM 40.2 UH	480×300×300/315[1)]	2000	1 × 500	30.0	1250	**96 07 38210**
RM 75.2 UH	580×500×300/315[1)]	4000	1 × 1000	60.0	1950	**96 07 38220**
RM 110 UH	600×450×450	4000	1 × 1000	110.0	4800	**96 07 38230**
RM 180 UH	1000×500×400	2 × 4000	2 × 1000	160.0	7200	**96 07 38250**
RM 210 UH	750×650×500	2 × 4000	2 × 1000	210.0	7200	**96 07 38270**

[1)] inclined tank floor
Ultrasonic max. output corresponds to four times higher value of the ultrasonic nominal power

Continued on next page

Ultrasonic Cleaning

Accessories for SONOREX TECHNIK ultrasonic baths

Insert baskets made from stainless steel

Type	fits	Order No.
MK 16 B	RM 16.2 UH	**96 07 38420**
MK 40 B	RM 40.2 UH	**96 07 38421**
MK 75 B	RM 75.2 UH	**96 07 38422**
MK 110	RM 110 UH, RM 112 UH, ZM 112 UHL	**96 07 38423**
MK 180	RM 180 UH, RM 182 UH, ZM 182 UHL	**96 07 38424**
MK 210	RM 210 UH, RM 212 UH, ZM 212 UHL	**96 07 38425**

Stainless steel covers

Type	fits	Order No.
MD 16	RM 16.2 UH	**96 07 38440**
MD 40	RM 40.2 UH	**96 07 38442**
MD 75	RM 75.2 UH	**96 07 38444**
MD 110	RM 110 UH, RM 112 UH, ZM 112 UHL	**96 07 38446**
MD 180	RM 180 UH, RM 182 UH, ZM 182 UHL	**96 07 38447**
MD 210	RM 210 UH, RM 212 UH, ZM 212 UHL	**96 07 38448**

webcode WWFH8004

BANDELIN Ultraschall seit 1955

Ultrasonic Pipette Cleaners, BANDELIN

Ultrasonic cleaning of glass and plastic pipettes, burettes and other glass devices. Short cleaning time. No chrome-sulfuric acid. Water soluble cleaning concentrates. Easy to operate, no glass breakage. Fast, intensive, gentle, environmentally friendly. Sound radiation surface Ø 150 mm.

- For volumetric glass ware and long parts of max. 755 mm length
- With heating to help remove greasy residues
- Biologically degradable preparations TICKOPUR for gentle dissolving of stubborn grease residues (R 33) or mineral contaminations (TR 3)
- Simultaneous cleaning and disinfection with STAMMOPUR 24 in case of contamination with infectious samples
- The cleaning fluids are fit for multiple use
- Stainless steel tank made of 1.4404 (material thickness 2 mm)
- “Sweep” frequency modulation for a highly homogeneous ultrasonic field; gentle on the glass surfaces of the devices; an attack of the graduation and glass abrasion are almost excluded, the process of a volume change of the glass device, compared to manual cleaning with rough sponges or brushes, is greatly reduced.
- Can be placed on the floor near a drain
- Folding handles for easier transport
- Control field – membrane keypad – level and flush with device front – easy to clean by wiping the surfaces
- Select time, DEGAS and optionally temperature at the push of a button – also when wearing gloves
- Outlet with ball valve for quick and easy draining





SONOREX PR 140 DH with heater

Technical data:

Oscillating tank made from stainless steel, with ball valve drain

Interior dimensions (L×W×D):	150 × 150 × 895 mm
Operable depth:	850 mm

Housing made from stainless steel, handles on sides

Outer dimensions without handles and ball valve (L×W×H):	330 × 330 × 1003 mm
Ultrasonic peak output:	860 W
Ultrasonic nominal output:	215 W
Ultrasonic frequency:	35 kHz
Timer:	Time setting 1, 2, 3, 4, 5, 10, 15, 30 min, ± 5 % or continuous operation (∞)
Protection class:	IP 33
Pulse function:	
Tank volume:	min. 9, max. 18 l
Operating voltage:	230 V ~ (± 10%), 50/60 Hz
Rapid degassing:	DEGAS
Heater:	20 – 80 °C adjustable temperature range, heating power 700 W

	Article	Order No.
①	**SONOREX PR 140 DH with heater**	**10 07 32070**

Ready-to-use set:

- Pipette cleaner PR 140 DH
- Pipette basket K 140 B
- Lid D 140 D
- TICKOPUR R 33 – 5 liters
- TICKOPUR TR 3 – 1 liters

Ultrasonic Cleaning

SONOREX DIGITEC Ultrasonic Baths, BANDELIN

webcode WWFH8009

SONOREX DIGITEC DT 510 F / DT 1028 F
Ultrasonic baths with flat oscillating tubs with fast degassing function for sample preparation
- Uniform sonication of samples irrespective of size and arrangement of the flasks
- Same power densities in all 2 bath sizes are followed by same results in each one
- Homogenizing
- Fast degassing of samples at the push of the button
- Sample preparation in laboratory flasks
- DEGAS
- Sweep

TICKOPUR R 33: concentrate for producing the contact liquid.
Spring clamps EK are necessary to fix the laboratory flasks fast and easy to the flask holder GL. Floating or canting of flasks is prevented.

Technical Data:

	DT 510 F	DT 1028 F
Internal tank dimensions (l×w×d mm):	300×240×65	500×300×65
Capacity:	4.3 l	9.5 l
External dimensions (l×w×h mm):	325×265×195	535×325×205
Ultrasonic peak output:	560 W	1280 W
Ultrasonic nominal power:	140 W	320 W
Timer:	1, 2, 3, 4, 5, 10, 15, 30 min, ± 5% or continuous operation (∞)	
Operating voltage:	230 V~ (± 10%), 50/60 Hz, alternative 115 V~ (± 10%), 50/60 Hz	

[1] Corresponds to four times higher value of the ultrasonic nominal power



①



② 



	Article	Order No.
①	**SONOREX DIGITEC DT 510 F** Basic set: Ultrasonic bath SONOREX DIGITEC DT 510 F, flask holder GL 510 F, 250 ml TICKOPUR R 33	**10 07 33242**
②	**SONOREX DIGITEC DT 1028 F** Basic set: Ultrasonic bath SONOREX DIGITEC DT 1028 F, 2 flask holders GL 510 F, 250 ml TICKOPUR R 33	**10 07 33243**

Accessories

Article	Order No.
Mounting clip for flasks 10 ml, EK 10	**96 07 37010**
Mounting clip for flasks 25 ml, EK 25	**96 07 37025**
Mounting clip for flasks 50 ml, EK 50	**96 07 37050**
Mounting clip for flasks 100 ml, EK 100	**96 07 37100**
Mounting clip for flasks 250 ml, EK 250	**10 07 37250**

BANDELIN
Ultraschall seit 1955

SONOSHAKE, BANDELIN

webcode WWFH8010

③ **Ultrasonic bath SONOREX DIGITEC DT 1028 F combined with shaking device SA 1028**
SONOSHAKE offers a wide range of possible applications for sample preparation in many areas of analysis, for example, in environmental and foodstuffs analytics. Ideal for sonication of samples in laboratory flasks. The samples can be sonicated either for a selected period or in continuous mode. Quick degassing using the DEGAS function is also possible.
With four different shaking frequencies, the shaking device enables gentle to vigorous reciprocating motion up to a maximum of 20 mm. Both procedures can be carried out simultaneously or separately. This means that, for example, a sample can be pre-homogenized at a specified shaking frequency, and then final homogenization can be achieved in a very short time using ultrasound.

SONOREX DIGITEC DT 1028 F
- Internal tank dimensions: 500 × 300 × 65 mm (l×w×d)
- Capacity 9,5 liters
- External dimensions: 535 × 325 × 205 mm (l×w×h)
- Ultrasonic peak output 1280 W
- Sweep
- Ultrasonic nominal power 320 W



③ 

Continued on next page

webcode To see other variants and accessories, please enter the webcode on our website.

Ultrasonic Cleaning



①

Shaking device SA 1028

- Analogue setting: rotary handle for time setting 1 – 15 min., ± 5% or continuous (∞) and shaking frequency, rotary handle for power selector switch for 0, 25, 50, 75 or 100%
- Reciprocating motion: settings in 4 steps possible of up to 200 rpm
- Constant amplitude of 20 mm independently of loading
- Rack easy to remove
- Easy mounting of the laboratory clamps EK 10 – 250 (ordering separately)
- Shaking platform approx. 410 × 280 mm (l×w)
- Mounting of 36 × 10-ml-flasks or 36 × 25-ml-flasks or 18 × 50-ml-flasks or 12 × 100-ml-flasks or 10 × 250-ml-flasks
- Required floor space of SONOSHAKE approx. 850 × 360 mm (l×w)

The shaking device SA 1028 can also be added to existing SONOREX DIGITEC DT 1028 F ultrasonic baths.

Article	Order No.
SONOREX DIGITEC DT 1028 F Basic set: Ultrasonic bath SONOREX DIGITEC DT 1028 F, 2 flask holders GL 510 F, 250 ml TICKOPUR R 33	**10 07 33243**
① **Shaking device SA 1028**	**10 07 33249**

webcode WWFH8012

BANDELIN Ultraschall seit 1955

SONOCOOL Ultrasonic Bath with Cooling, BANDELIN



②



② **Ultrasonic bath SONOCOOL® with cooling for use in pathology and analysis laboratories**

Decalcification of bone tissue in pathology
Decalcifying of bone tissue is an important step of histological preparation of samples (e.g. in oncology). Only decalcified samples can be used artefact-free for followed diagnosis. Compared to standard methods, the processing time is extremely shortened. No destroying of the morphologic structure of samples, quantity of aggressive decalcifying liquids is reduced, faster results of diagnosis.

Use in analysys laboratories
With SONOCOOL® the cathalytic effect of ultrasound can also be used when sonicating temperature-sensitive samples. Exotherm reactions are possible because of the integrated cooling system, processes are faster and more effective.

Ready-to-operate set consisting of:
Ultrasonic device, sample holder PH 255-11 for 11 inset beakers SD 01.2, lid D 255 G, 20 inset beakers SD 01.2 à 100 ml, TICKOPUR TR 3 (concentrate for producing the contact liquid) - 250 ml

Technical Data:

Inner tank dimensions:	280 × 150 × 150 mm (l×w×d)
Tank volume:	5 litres (contact liquid)
Adjustable bath temperature:	15 – 40°C (at 20°C room temperature)
Cooling power:	200 W
Ultrasonic power:	180 W, adjustable in 4 steps
Ultrasonic frequency:	35 kHz, Sweep
Countdown operation:	up to 100 h
External dimensions:	360 × 605 × 385 mm (l×w×d)
Housing:	aluminium, coated with flush pulls (grips recessed inside the housing)
Outlet:	front left, concealed
Current consumption:	1.6 A
Mains connection:	230 V~, (±10%) 50/60 Hz
Weight:	27.5 kg

Article	Order No.
Ultrasonic bath SONOCOOL	**10 07 33500**

Ultrasonic devices, Elma

webcode WWH5B001

③ **Elmasonic S ultrasonic table top units**
are available in 13 sizes and provide all most frequently used functions in everyday lab work.

Ultrasonic frequency:
37 kHz

Features:

- Regular mode: Optimized for laboratory applications, e.g. loosening, mixing, dispersing etc.
- Sweep function: For faster and more thorough cleaning by a homogeneous ultrasound distribution in the ultrasonic bath
- Degas / Autodegas function
  - Degas: Degasifying of liquids before analysis
  - Autodegas: Automatic degasifying before start of cleaning; for even cleaning results

Continued on next page

Ultrasonic Cleaning

- Start / auto-start option:
  - Start: manual activation of immediate cleaning process
  - Autostart: Cleaning process starts when the preselected temperature is reached
- Individual temperature preselection
- Electronic time control up to 30 min. + permanent operation. Optimized process control by:
  - display of pre-selected operation time (fix LED)
  - display of remaining runtime (blinking LED)

Type	Bath dimensions L × W × D mm	Bath volume l	HF output W_{eff}	Version without heating **Order No.**	with heating **Order No.**
S 10 /H	190×85×60	0.8	30	**10 15 74010**	**10 15 72010**
S 15 /H	151×137×100	1.75	35	**10 15 74015**	**10 15 72015**
S 30 /H	240×137×100	2.75	80	**10 15 74030**	**10 15 72030**
S 40 /H	240×137×150	4.25	140	**10 15 74040**	**10 15 72040**
S 60 /H	300×151×150	5.75	150	**10 15 74060**	**10 15 72060**
S 70 /H	505×137×100	6.9	150	**10 15 74070**	**10 15 72070**
S 80 /H	505×137×150	9.4	150	**10 15 74080**	**10 15 72080**
S 100 /H	300×240×150	9.5	150	**10 15 74100**	**10 15 72100**
S 120 /H	300×240×200	12.75	200	**10 15 74120**	**10 15 72120**
S 150	505×300×100	14	300	**10 15 74150**	
S 180 /H	327×300×200	18	200	**10 15 74180**	**10 15 72180**
S 300 /H	505×300×200	28	300	**10 15 74300**	**10 15 72300**
S 450 H	500×300×300	45	400		**10 15 72450**
S 900 H	600×500×300	90	800		**10 15 72900**



③

④ **Elmasonic P ultrasonic units**
with multi-frequency function, high-performance. Available in 6 sizes.

Features:
- Self-explanatory digital display, all values clearly legible, target and actual values visible at a glance.
- Two frequencies (switchable) in one unit:
  - 37 kHz ultrasound: for coarse contaminations, for loosening, mixing, dispersing, and degasifying
  - 80 kHz ultrasound: silent operation, ideal for quiet working areas, for cleaning the interiors of e.g. capillaries and all kinds of microstructures.
- Regular mode: Laboratory applications as e. g. loosening, mixing, dispersing.
- Pulse function: Optional additional “power” by increase of peak capacity.
- Sweep function: Distributes the power evenly over the entire unit.
- Degas function: For quick degasifying of samples or solvents in the HPLC.
- Temperature-controlled auto start for automatic start of the ultrasound when the preselected temperature is reached.
- Pause function: Interruption of the current ultrasound treatment. All parameters are stopped. Press key 1x to stop the process. Press the key a second time to continue the process with the retained parameters.
- Setting the power: 30 – 100% for optimum application of energy for the selected frequency for cleaning jobs and laboratory applications.



④

Type	Bath dimensions L × W × D mm	Bath volume l	HF output W_{eff}	**Order No.**
P 30 H	240×137×100	3	120/100	**10 15 73030**
P 60 H	300×151×150	5.75	180/150	**10 15 73060**
P 70 H	505×137×100	6.90	220	**10 15 73070**
P 120 H	300×240×200	12.75	330	**10 15 73120**
P 180 H	327×300×200	18	330	**10 15 73180**
P 300 H	505×300×200	28	380	**10 15 73300**

⑤ **Elmasonic S 50 R and S 350 R**
Elmasonic S 50 R and S 50 R “Lab Technology” – for the cleaning of analysing sieves, the degassing of HPLC solvents and the ultrasonic processing of samples. Microprocessor-controlled ultrasonic modes and special predefined programmes assist every standard laboratory and cleaning application.

Features
- for easy cleaning of analysing sieves of 200 – 500 mm with program-control ultrasound (Sieve Cleaning)
- integrated special programs for sample preparation for mixing, dissolving, dispersing
- effective and simple degassing of samples and HPLC solvents via the preset degas function
- level marks for working with small vessels and for reducing the water consumption
- 37 kHz ultrasonic frequency
- user-friendly clearly arranged operating panel
- continued and short-period setting operation from 1 to 30 min
- LED display for both pre-set and actual temperature, and for the remaining operating time
- connection rack for laboratory holder, noise-reduced operation



⑤

Continued on next page

Ultrasonic Cleaning



①

Technical data:	Elmasonic S 50 R	Elmasonic S 350 R
Tank internal dimensions (Ø × H):	240 × 130 mm	600 × 245 mm
Basket internal dimensions (Ø × H):	220 × 70 mm	545 × 70 mm
Max. filling capacity:	5.3 l	57.0 l

Article	Order No.
Elmasonic S 50 R	**10 15 75010**
Elmasonic S 350 R	**10 15 75011**
Basket for S 50 R	**10 15 75021**
Basket for S 350 R	**10 15 75026**
Filter holder for S 50 R	**10 15 75022**
Plastic cover	**10 15 75023**
Stainless steel cover for S 350 R	**10 15 75027**
Plastic cover for beaker	**10 15 75024**
Bracket kit	**10 15 75025**

Test sieve holder für S 350 R on demand



②



②

① **Noise protection box for ultrasonic table top units**
Available sizes:
- M – for Elma 0.8 – 6 liter units
- L – for Elma 9 – 13 liter units

Features:
- Reduces the typical cavitation noises by approx. 20 dBA, achieving a 75% noise reduction
- Suitable for use directly at noise-sensitive workplaces in laboratories, doctor's surgeries, or workshops
- Vapours are removed by suction
- Plexiglass hatch

The noise protection box M can be used with the following units:
Elmasonic S 10; S 15; S 30 / P 30; S40; S 60 / P 60 and all units with similar dimensions.

The noise protection box L can be used with the following units:
Elmasonic S 100; S 120 / P 120 and all units with similar dimensions.

Type	Outer dimensions W × D × H mm	Inner dimensions W × D × H mm	Order No.
Noise protection box size M	465×360×415	380×240×315	**10 15 71901**
Noise protection box size L	530×375×520	440×310×480	**10 15 71902**

② **Cleaning concentrate Elma Lab Clean**

Elma Lab Clean A10	—	All-purpose cleaner, mild alkaline liquid concentrate
Elma Lab Clean A20sf	—	Surfactant free mild alkaline liquid concentrate
Elma Lab Clean A25	—	Strong alkaline liquid concentrate
Elma Lab Clean N10	—	Neutral concentrate
Elma Lab Clean S10	—	acidic concentrate
Elma Lab Clean S20	—	Strong acidic concentrate

Type	pH value (concentrate)	Suggested dosage	Delivery containers 1 liter Order No.	2.5 liters Order No.	10 liters Order No.	25 liters Order No.
Elma Lab Clean A10	11.3	US*: ca. 1–2% DW*: ca. 0.5–1%	**10 15 70180**	**10 15 70181**	**10 15 70182**	**10 15 70183**
Elma Lab Clean N10	8.2	US*: ca. 2% DW*: ca. 1%	**10 15 70075**	**10 15 70076**	**10 15 70077**	**10 15 70078**
Elma Lab Clean S10	2.5	US*: ca. 2% DW*: ca. 0.5%	**10 15 70095**	**10 15 70096**	**10 15 70097**	**10 15 70098**
Elma Lab Clean A25	–14	US*: ca. 1–2% DW*: ca. 0.5–1%	**10 15 70085**	**10 15 70086**	**10 15 70087**	**10 15 70088**
Elma Lab Clean A20sf	11.5	US*: ca. 1% DW*: ca. 0.5%	**10 15 70055**	**10 15 70056**	**10 15 70057**	**10 15 70058**
Elma Lab Clean S20	< 1	US*: ca. 1–2% DW*: ca. 0.5–1%	**10 15 70190**	**10 15 70191**	**10 15 70192**	**10 15 70193**

US* = Ultrasonic unit
DW* = Dishwasher

Have any questions?
Just give us a call!

MACHINE PREPARATION OF LABORATORY GLASSWARE

When machine-cleaning laboratory glassware, you need to choose a cleaning system which is capable of adequately removing contamination for the use to which the glassware is put. The cleaning system is comprised of the laboratory washing machine, load carriers and the cleaning program.

Lab washers

The choice of lab washer is based on criteria such as: capacity/charge or the quantity of glassware per day, available space, type of installation (undercounter or free-standing), separation of clean and unclean sides, control program options, etc.

Load carriers

To load the glassware in the lab washer, mobile units, baskets and inserts are required. The geometry of the glassware (diameter of opening, diameter of body, height of the glassware) will decide whether it can be cleaned and rinsed using injection nozzles or rotating spray arms.

Mobile units, baskets and inserts fitted with injection nozzles are required for narrow-necked glassware, e.g. volumetric flasks, round-bottomed flasks and narrow-necked Erlenmeyer flasks. The injection nozzles project into the glassware and guarantee thorough internal cleaning, rinsing and drying. The machine's rotating spray arms clean and rinse the glassware externally.

Pipettes are placed in sleeves so that, during the washing/rinsing cycles, water is fed from bottom to top, and for the drying cycle, hot air is fed likewise from bottom to top.

Beakers, Petri dishes, wide-necked Erlenmeyer flasks and test tubes are placed in special inserts. These are then placed in the upper and lower baskets. The spray arms on the upper basket and in the machine ensure that glassware is cleaned and rinsed both inside and out.

Cleaning programs

The aim of cleaning is to remove contamination adequately from the glassware for the use to which it is put. Therefore it is particularly important when selecting a cleaning program and cleaning agents to have an understanding of the physical and chemical properties of the contamination. The physical and chemical properties of the contamination include e.g. solubility in water (pH 2-7-13), chemical change as a result of hydrolysis or oxidation, the melting or deformation point, potential for emulsification, etc.

Any cleaning program consists of several cycles. The UNIVERSAL Program runs as follows: cold pre-rinse, hot alkaline wash, acid neutralization, 1-2 rinses, hot final rinse and drying. This program is suitable for removing water soluble residues and a variety of organic contamination. For cell and tissue cultures, an oxidizing agent based on hydrogen peroxide or hypochlorite should be added during the alkaline wash cycle.



For laboratory glassware which is soiled and even heavily soiled with grease and paraffin wax (food and petro-chemical industries), the ORGANIC Program works well, as it includes two hot alkaline washes at higher temperatures compared to UNIVERSAL Program. Due to the double hot alkaline wash, the amount of grease and paraffin wax can be better transported from the lab washer. During the first cleaning, an emulsifier can be additionally dosed to emulsify the organic residues.

With inorganic contamination (e.g. metal salts) the INORGANIC Program is preferable, which includes a hot acid pre-wash before the alkaline wash in comparison to UNIVERSAL Program. Acids such as citric acid and phosphoric acid can be used.

Author:
Dr. rer. nat. Roy Schneider

Laboratory Glassware Cleaners/Disinfectors



Lab washers of PG 85 series, MIELE

Laboratory glassware cleaner PG 8583
For reprocessing laboratory glassware used in analytical experiments in industry, environmental and research laboratories.
- Reprocessing per cycle: e.g. 128 laboratory flasks, or 196 vials together with up to 64 laboratory flasks, or 98 pipettes together with other laboratory glassware
- Powerful circulation pump Qmax. = 500 l/min
- TouchControl with 14 programs + 2 free program positions
- Drying function EcoDry
- Depending on the version, max. two integrated dosing pumps for liquid media (cleaning or neutralisation agent)
- Process documentation according to customer's preferences either via software (with Ethernet module or DataDiary) or via printer (with RS232 module)

Laboratory glassware cleaner PG 8583 CD
Same as PG 8583, but with:
- TouchControl with 15 programs + 2 free program positions
- Integrated DryPlus drying function
- Two integrated dosing pumps for liquid media (cleaning or neutralisation agent)
- Compartment for 2 x 10 l canister or 3 x 5 l canister
- Conductivity monitoring

Laboratory glassware cleaner PG 8593
Same as PG 8583, but with:
- TouchControl with 15 programs + 2 free program positions
- Integrated DryPlus drying function
- Integrated dosing pump for liquid cleaning agent
- Comes with additional external dosing module for liquid media
- Conductivity monitoring (depending on model)

Miele ProCare Lab process chemicals are suitable for a wide number of applications and designed for optimum reprocessing of laboratory utensils in Miele glassware washers. We will be happy to advise you!

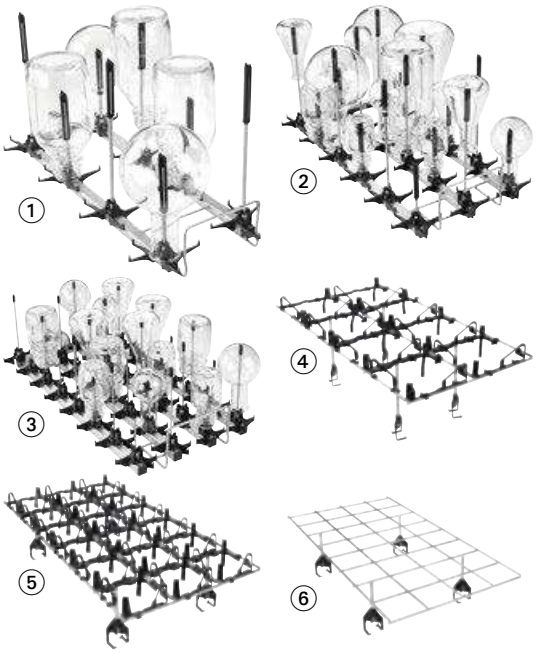
Technical data:
Water connections: 2× cold, 1× hot, and 1× DI water
Freestanding unit (with lid) or as base unit in a row of wall-mounted cabinets
Dimensions PG 8583 / 8593 (H×W×D): 835 (820 without lid) × 600 × 600 mm
Dimensions PG 8583 CD (H×W×D): 835 (820 without lid) × 900 × 700 mm (600 without lid)
Mains connection: 3N AC / 400 V / 50 Hz / 9.3 kW

Article	Order No.
PG 8583 AW/WW/AD/LD	**10 53 88302**
PG 8583 AW/WW/AD/PD	**10 53 88301**
PG 8583 AE/WW/AD/LD	**10 53 88304**
PG 8583 AE/WW/AD/PD	**10 53 88303**
PG 8583 AE/WW/ADP/LD	**10 53 88306**
PG 8583 AE/WW/ADP/PD	**10 53 88305**
PG 8583 AE/WW/AD/LD/OIL	**10 53 88371**

Article	Order No.
PG 8583 AE/WW/AD/PD/OIL	**10 53 88370**
PG 8583 CD AE/WW/AD/CM	**10 53 88350**
PG 8583 CD AE/WW/ADP/CM	**10 53 88351**
PG 8583 CD AE/WW/AD/CM/OIL	**10 53 88373**
PG 8593 AE/WW/ADDOS	**10 53 89300**
PG 8593 AE/WW/AD/CMDOS	**10 53 89302**
PG 8593 AE/WW/AD/OILDOS	**10 53 89372**

AW Casing in white
AE Stainless-steel casing
LD Liquid dosing
ADP Aqua Destillata pump
WW Warm water
PD Powder dosing
AD Aqua Destillata
OIL Oil-resistent gaskets
CM Conductivity Monitoring

EASYLOAD



Accessories
The new loading system EasyLoad

Article	Order No.
A 150 lower drawer for modules	**10 53 82400**
A 151 lower drawer/carriage	**10 53 82410**
A 100 upper injection basket for modules	**10 53 81000**
A 101 upper basket/carriage	**10 53 81010**
① **A 300/3 module for laboratory glassware 2×4** equipped with 4× A840, 4× A841	**10 53 86900**
② **A 301/5 module for laboratory glassware 3×6** equipped with 9× A 842, 9× A 843	**10 53 86950**
③ **A 302/3 module for laboratory glassware 4×8** equipped with 16× A844, 16× A845	**10 53 86960**
A 303 module for pipettes	**10 53 83030**
A 304 module for vials	**10 53 83040**
A 306/1 module for measuring cylinders	**10 53 85210**
A 802 nozzle for injector modules	**10 53 88020**
④ **A 860 support grid 2×4**	**10 53 86800**
⑤ **A 861 support grid 3×6**	**10 53 86810**
⑥ **A 862 support grid 4×8**	**10 53 86820**

Inserts

Article	Order No.
AK 12, insert 1/2 for funnels, beakers, wide-mouth glassware Fits in upper and lower basket	**96 53 01201**
E 109/1, insert 1/2 for beakers up to 250 ml Fits in lower basket	**10 53 80901**

Sterilization Indicators

MBT Adhesive Indicator Tapes, IDL

webcode WW7R3068

For monitoring sterilization processes. Reliable and positive identification of sterilization quality.

	Article	Order No.
①	**Stericlavable indicator tape, 1 reel of 55 m, 18 mm wide**	**29 78 55191**

The indicator on the tape changes from light beige to dark brown during steam sterilization in autoclaves. It also reacts on the action of pressure and temperature after a minimum time - at 120°C after 20 minutes and at 135°C after 7 minutes.
Application: Sensitive sterilization products in steam sterilizers, e.g. culture solutions and the like.

	Article	Order No.
②	**Hot air indicator tape, 1 reel of 55 m, 18 mm wide**	**29 78 55192**

The indicator in the tape changes from light green to brown during hot-air sterilization. It also reacts to temperature and time - at 160°C after 60 minutes and at 180°C after 30 minutes.
Applications: Non-sensitive equipment and aids.

	Article	Order No.
③	**Hand dispenser for indicator tape**	**29 78 55193**

Stable. For reliable dispensing and cutting of the indicator tape.







Pipette Boxes, Sterilization Containers

Instrument Cases, BOCHEM

webcode WWQ7J043

Instrument cases made of 18/10 steel, with special lid, stackable. Deep-drawn bottom in single piece.

Length mm	Width mm	Height mm	Order No.
230	133	45	**38 05 08475**
315	215	60	**38 05 08476**



Use the webcode on our website to see a larger selection of products from a specific manufacturer.

webcode

Pipette Boxes, Sterilization Containers



webcode WWQ7J042

Sterilizing Boxes for Petri Dishes, BOCHEM

Sterilizing boxes made of 18/10 steel, with frame insert for 100-mm dishes.

Capacity dishes	Ø mm	Height mm	Order No.
10	120	250	**38 05 08961**



webcode WWQ7J088

Insulate Container, 18/10 Stainless Steel, BOCHEM

With 3 locking clamps, lid and silicone gasket.
Possible over-/underpressure can be compensated through a valve in the lid.

Material	Height cm	Ø cm	Volume l	Order No.
18/10 stainless steel	16	24	6.5	**10 05 08085**
18/10 stainless steel	25	24	10.5	**10 05 08086**
18/10 stainless steel	23	30	15.5	**10 05 08087**



Universal Containers UNICON, schuett-biotec

Pure aluminium. Round. With slip-over lid. For the sterilization and storage of pipette tips and small parts made of glass or plastic. Fitting pipette tip inserts on request.

Type	suitable e.g.	Height mm	Ø mm	Order No.
UNICON 1	for centrifuge tubes	115	120	**38 31 51115**
UNICON 2	for test tubes	175	120	**38 31 51175**
UNICON 3	for accommodating pipette tip insertable racks	170	170	**38 31 51170**
UNICON 4	for small parts made of glass or plastic	270	170	**38 31 51300**



webcode WW2NY230

Sterilization Containers, neoLab®

Sterilization containers made of stainless steel for steam sterilization and retention of sterility during storage and transport. This neoLab container with valve lid is a mechanical, maintenance-free system. No consumables required. No need to change filters. Non-perforated as a standard feature: deep-drawn stainless steel ensures that the container will not leak. No leaking welds. **Also suitable for autoclaving critical liquid waste.**
Material: stainless steel (X5 CrNi 18/9-10)

Article	Length × Width × Height cm	Order No.
Autoclaving bath	60 × 30 × 26	**38 01 78190**
Autoclaving bath	30 × 30 × 26	**38 01 78191**

webcode WWQ7J041



Pipette Boxes, BOCHEM

Pipette boxes made of 18/10 steel, stackable. Silicone coating on the base and in the lid. Sterilizable at 205°C.
Raw dimensions: 70 × 70 mm

Overall length approx. mm	Useful length mm	Order No.
210	180	**38 05 08870**
290	257	**38 05 08871**
340	307	**38 05 08872**
430	412	**38 05 08873**
490	458	**38 05 08874**

Pipette Boxes, Sterilization Containers

Aluminium Pipette Boxes, Square, neoLab®

webcode WW2NY161

Pipet boxes, aluminium, for storage and sterilisation of glass and plastic pipets. Including lid, length 12 cm and 17 cm respectively. The **extra long lid** (17 cm) ensures an even larger variability. A protection layer of heat resistant silicone (up to +160°C) covers the inner lid and bottom to protect the pipets. With tread surface for strong grip.

Made of **deep drawn aluminium, ground dimensions:** ca. 65 x 65 mm

Cover cm	Useful length mm	**Order No.**
12	160 – 250	**10 01 22093**
12	260 – 340	**10 01 22094**
12	320 – 410	**10 01 22095**
17	320 – 470	**10 01 22096**



Variable Pipette Containers VARICON, schuett-biotec

Made of two overlapping **aluminium** parts, which can be pushed in and out of each other in telescope fashion to match the length/volumina of the pipettes in question.
The cover is slipped over the lower part of container to a greater or lesser degree depending on the length of the pipettes.
Only one container size for all standard pipettes 280 to 420 mm (RS) and only one container size for all short or pasteur pipettes from 145 to 235 mm (RK).
Fitting SILICON silicone insert, made of 2 mm thick silicone rubber. For insertion in VARICON RS (lower part) pipette containers. Design to prevent damage to pipettes caused by sudden shock.

Type	adjustable length mm	Inner Ø mm	**Order No.**
VARICON RK	145 – 235	60	**38 31 60101**
VARICON RS	280 – 420	60	**38 31 60100**
SILICON silicone insert		58	**38 31 60261**



Racks for Pipette Containers GESTICON, schuett-biotec

Stainless steel rack with fixed angular position. Available in 3 versions.
For holding **round** pipette containers (i.e. VARICON RS) or all types **rectangular** pipette containers up to 72 × 72 mm. Handy storage solution for pipettes of different sizes at your working place or in the safety cabinet.

Type	for accommodating	W × H × D mm	**Order No.**
GESTICON E4	4 pipette containers	195 × 229 × 235	**38 31 12004**
GESTICON E6	6 pipette containers	195 × 315 × 235	**38 31 12006**
GESTICON E8	8 pipette containers	195 × 405 × 235	**38 31 24182**



Everything for your laboratory –
from one source

HMC EUROPE
Labor- & Sterilisationstechnik

STERILISATION

Sterilisation means killing or irreversibly inactivating all fertile micro-organisms. Basically there are two procedures available for thermal inactivation - steam sterilisation and hot-air sterilisation.

Why steam sterilisation?

The principle of steam sterilisation is based on the thermo instability of micro-organisms and is about 100 years old. The high heat storage capacity of water, the additional heat released during the condensation of steam and the humidity of the steam are the basis of an outstanding germicidal effect. Different from the chemical sterilisation or the sterilisation with hot air, which are only suitable for thermo-stable devices (glass, instruments, etc.), steam sterilisation established itself in micro-biological laboratories because hot air or steam are significantly more efficient than dry heat of the same temperature. Its heat content is higher and the germs, especially arid spores, swell up and thus become more heat-sensitive.

The steam "under pressure", which is generated by heating up water in a closed container, condenses at the sterilising good and the released energy leads to cell death or inactivation of viruses by means of protein coagulation. From sample preparation to destruction sterilisation, a steam steriliser (autoclave) can be used in an environmentally friendly manner. Steam can be well controlled in a technical way, it is not toxic, does not strain the environment, does not leave residues on the sterilising good and can be generated at relatively low costs.

Sterilisation is a function of temperature and time

Only sufficient exposure time of the destruction temperature can ensure sterilisation success. In microbiological laboratories, the sterilisation time is usually 15 to 20 minutes. It should be noted that liquids and media take much longer to reach the sterilisation temperature due to delayed heat conduction. The sterilisation can only start when the "core sterilisation temperature" has been reached. For liquids this is done by a temperature probe in a reference flask inside the autoclave's chamber. After the residence time is over, the materials in the chamber are sterile. Glass and instruments can be removed quickly once the steam and the pressure have been removed. Liquids should be cooled quickly and without losses. The laboratory staff must never be endangered by delayed boiling (explosion-like over-boiling).

Safety

Steam sterilisers should be manufactured in modern production facilities according to the most recent state-of-the-art technology. The Pressure Container Regulation makes it mandatory to check the following safety elements:

- safety valve
- pressure monitoring of the max. pressure
- automatic door lock
- safety thermostat for working space and heating elements



Procedure - Exhaust



The gravitation procedure is one of the procedures that are used. It is a flow procedure during which the saturated steam replaces the air from the sterilisation chamber via an exhaust valve. Generally, the sterilisation always takes place in a saturated steam atmosphere without residue air inside the pressure vessel. Depending on the sterilising good and the micro-organisms, which have to be decontaminated, the work temperature lies at 121°C or 135°C which is about 1.1 respectively 2.2 bar overpressure. In order to attain a safe pressure-temperature correlation, the residue air has to be evacuated carefully (exhaust). During the exhaust phase the chamber insides are not yet sterile (sterilisation temperature and residence time have not been reached yet) and therefore a contaminated steam-air mixture leaves the autoclave. In this case the use of an exhaust air filter is reasonable and even mandatory for some applications.

Selection criteria

- Which statutory regulations have to be met? Law on Genetic Engineering, Federal Epidemic Law, etc.
- Are there any other regulations that have to be met? GLP, GMP, etc.
- Available space (floor-mounted or table-top unit), which chamber volume is necessary (also for the next 1-2 years)?
- Mode of use: sample preparation, liquids, highly infectious material (waste sterilisation) - equipped with exhaust air filter and/or thermo-lock...
- Record keeping: integrated printer or software?
- Calibration, validation, qualification – which requirements have to be met?
- Structural conditions, power, fully desalinated water, disposal, etc.
- Operational costs, follow-up costs or customer service?
- Charging baskets or charging buckets?
- Wheels for mobile use?

Steam Sterilizers

Laboratory Autoclaves, CertoClav

webcode WWSCB003

CERTOCLAV Since 50 years.

① **CertoClav Classic with thermostat control**
- Ideal for sterilization of unpacked solids without hollow bodies, bottles, instruments and synthetics
- Robust construction
- Simple operation
- 2 temperature ranges
- Thermostat control
- Integrated timer
- Precise processes and perfect results thanks to precision thermostat, control valve and precision manometer with drag indicator

Scope of delivery incl. stable instrument plate with feet and minimum water level indicator, power cable

Technical data:

Ventilation:	flow method
Chamber material:	stainless steel 316L
Chamber volume:	18 l
Chamber diameter/depth:	260 × 350 mm
Operating temperature:	125/140°C or 115/121°C
Max. operating pressure:	2,7 bar
Heating capacity:	1300 W, heating integrated in the floor
Power supply:	230 V ±10%/50 – 60 Hz
Certificate:	CE

Article	Order No.
CertoClav Classic 125°C/140°C	**10 22 60174**
CertoClav Classic 115°C/121°C	**10 22 60184**



①

Accessories for CertoClav Classic with thermostat control

Article	Order No.
Wire basket with handle (25 cm), stainless steel	**10 22 60149**
Service set 2	**10 22 60186**
Exhaust steam tank (5 l) with tube (1.0 m)	**10 22 62020**
Exhaust steam tube (1.0 m)	**10 22 62016**
Distillation unit for water	**10 22 60482**

CertoClav EL with thermostat control
- Ideal for sterilization of unpacked solids without hollow bodies, bottles, instruments and synthetics
- Robust construction
- Simple to use
- 2 temperature ranges
- Thermostat control
- High heating capacity
- Precise processes and perfect results thanks to precision thermometer, control valve and precision manometer with drag indicator

Scope of delivery incl. stable instrument plate with feet and minimum water level indicator, power cable

Technical data:

Ventilation:	flow method
Chamber material:	3103 aluminum
Chamber volume:	12 l or 18 l
Chamber diameter/depth:	240 × 260 mm resp. 240 × 390 mm
Operating temperature:	125/140°C or 115/121°C
Max. operating pressure:	2.7 bar
Heating capacity:	1900 W, heating integrated in the floor
Power supply:	230 V ±10%/50 – 60 Hz
Certificate:	CE

Article	Order No.
② CertoClav EL 12 125/140°C	**10 22 61312**
CertoClav EL 12 115/121°C	**10 22 61313**
③ CertoClav EL 18 125/140°C	**10 22 61318**
CertoClav EL 18 115/121°C	**10 22 61319**



②



③

Accessories for CertoClav EL

Article	Order No.
Wire basket with handle (23 cm), stainless steel	**10 22 68583**
Service set 1	**10 22 68599**
Exhaust steam tank (5 l) with tube (1.0 m)	**10 22 62020**
Exhaust steam tube (1.0 m)	**10 22 62016**
Distillation unit for water	**10 22 60482**

Continued on next page

webcode To see other variants and accessories, please enter the webcode on our website.

Steam Sterilizers



①

① CertoClav MultiControl

- Ideal for material testing & quality control, sterilization of liquids and culture media
- Microprocessor controlled
- Automatic venting
- Electronic process control with PT100 temperature sensor
- Control unit with LCD display
- Time and temperature can be selected individually
- Multi-step programs only with PC software Professional version
- RS232 port, USB

Scope of delivery incl. stable instrument plate with feet and minimum water level indicator, power cable, MC2 control unit, PC software basic version

Technical data:

Ventilation:	fractionated flow process
Chamber material:	3103 aluminum
Chamber volume:	12 l
Chamber diameter/depth:	240 × 260 mm
Operating temperature:	20°C to 140°C, adjustable
Max. operating pressure:	2.7 bar
Heating capacity:	1900 W, heating integrated in the floor
Power supply:	230 V ±10%/50 – 60 Hz
Certificate:	CE

Article	Order No.
CertoClav MultiControl 12	**10 22 62313**

Accessories for CertoClav MultiControl ALU

Article	Order No.
Wire basket with handle (23 cm), stainless steel	**10 22 68583**
Service set 1	**10 22 68599**
Exhaust air filter (0.01 Mikron)	**10 22 62010**
Filter cartridge (0.01 Mikron)	**10 22 62011**
Exhaust steam tank (5 l) with tube (1.0 m)	**10 22 62020**
Exhaust steam tube (1.0 m)	**10 22 62016**
PC software Pro	**10 22 60210**
Log printer	**10 22 60187**
Distillation unit for water	**10 22 60482**



②

② CertoClav MultiControl 2

- Ideal for material testing & quality control, sterilization of liquids and culture media
- Microprocessor controlled
- Automatic venting
- Electronic process control with PT100 temperature sensor
- Control unit with LCD display
- Time and temperature can be selected individually
- Multi-step programs only with Professional version of the PC software
- RS232 port, USB, Ethernet, LAN, WiFi
- 7 Inch tablet with video assistant

Scope of delivery incl. stable instrument plate with feet and minimum water level indicator, MC2 control unit, power cable, PC software basic version

Technical data:

Ventilation:	fractionated flow process
Chamber material:	stainless steel 316L
Chamber volume:	18 l
Chamber diameter/depth:	260 × 350 mm
Operating temperature:	20°C to 140°C, adjustable
Max. operating pressure:	2.7 bar
Heating capacity:	1300 W, heating integrated in the floor
Power supply:	230 V ±10%/50 – 60 Hz
Certificate:	CE

Article	Order No.
CertoClav MultiControl 2	**10 22 60175**

Accessories for CertoClav MultiControl 2

Article	Order No.
Wire basket with handle (25 cm), stainless steel	**10 22 60149**
Service set 2	**10 22 60186**
Exhaust air filter (0.01 Mikron)	**10 22 62010**
Filter cartridge (0.01 Mikron)	**10 22 62011**
Exhaust steam tank (5 l) with tube (1.0 m)	**10 22 62020**
Exhaust steam tube (1.0 m)	**10 22 62016**
PC software Pro	**10 22 60210**
Log printer	**10 22 60187**
Distillation unit for water	**10 22 60482**

Continued on next page

Steam Sterilizers

③ CertoClav MultiControl 2 Touch

- Ideal for material testing & quality control, sterilization of liquids and culture media
- Microprocessor controlled
- Automatic venting
- Electronic process control with PT100 temperature sensor
- Control unit with LCD display
- Time and temperature can be selected individually
- Multi-step programs only with Professional version of the PC software
- RS232 port, USB, Ethernet, LAN, WiFi
- 7 Inch tablet with video assistant
- CertoCloud connection
- Automatic documentation (GLP compliant)

Scope of delivery incl. stable instrument plate with feet and minimum water level indicator, MC2 control unit, power cable, tablet, PC software basic version



Technical data:

Ventilation:	fractionated flow process
Chamber material:	stainless steel 316L
Chamber volume:	18 l
Chamber diameter/depth:	260 × 350 mm
Operating temperature:	20°C to 140°C, adjustable
Max. operating pressure:	2.7 bar
Heating capacity:	1300 W, heating integrated in the floor
Power supply:	230 V ±10%/50 – 60 Hz
Certificate:	CE

Article	Order No.
CertoClav MultiControl 2 Touch	**10 22 60298**

Accessories for CertoClav MultiControl 2 Touch

Article	Order No.
Wire basket with handle (25 cm), stainless steel	**10 22 60149**
Service set 2	**10 22 60186**
Exhaust air filter (0.01 Mikron)	**10 22 62010**
Filter cartridge (0.01 Mikron)	**10 22 62011**
Exhaust steam tank (5 l) with tube (1.0 m)	**10 22 62020**
Exhaust steam tube (1.0 m)	**10 22 62016**
PC software Pro	**10 22 60210**
CertoServer	**10 22 60508**
CertoCloud premium license	**10 22 60212**
Log printer	**10 22 60187**
Distillation unit for water	**10 22 60482**

④ CertoClav Connect

- Ideal for material testing & quality control, sterilization of liquids and culture media
- Fully automated
- Automatic venting
- Electric exhaust valve
- Optional flexible media sensor (PT100) for autoclaving liquids
- Control unit with LCD display
- Time and temperature can be selected individually
- Ethernet, LAN, WiFi
- 7 Inch tablet with video assistant
- CertoCloud connection
- Automatic documentation (GLP compliant)
- Electronic safety locking system

Scope of delivery incl. stable instrument plate with feet and minimum water level indicator, tablet, interface boxpower cable



Technical data:

Ventilation:	fractionated flow process
Chamber material:	stainless steel 316L
Chamber volume:	18 l
Chamber diameter/depth:	260 × 350 mm
Operating temperature:	20°C to 140°C, adjustable
Max. operating pressure:	2.7 bar
Heating capacity:	1300 W, heating integrated in the floor
Power supply:	230 V ±10%/50 – 60 Hz
Certificate:	CE

Article	Order No.
CertoClav Connect	**10 22 60176**

Accessories for CertoClav Connect

Article	Order No.
Wire basket with handle (25 cm), stainless steel	**10 22 60149**
Media sensor	**10 22 60185**
CertoServer	**10 22 60508**
CertoCloud premium license	**10 22 60212**

Steam Sterilizers

webcode WWSCB004

CERTOCLAV Since 50 years.

Laboratory Autoclaves Vacuum Pro, CertoClav

Vacuum Pro 12L & 22L

- Stand-Alone device – no water connection necessary!
- Ideal for sterilization of culture media in bottles and for material testing & quality control
- 12 pre-installed programs, 1 of them user definable
- Electric door locking system
- Water quality sensor
- Fast sterilization cycle incl. drying of about 20 minutes
- Flexible media sensor (PT1000)
- Vacuum pump Made in Germany
- Integrated fresh and waste water tanks
- Bacteria filter
- 7 inch tablet
- RS232, RS485, USB, SD card
- Ethernet, LAN, WiFi
- CertoCloud connection
- Automatic documentation (GMP/GLP compliant)
- Fully automatic repeat function
- Connections for protocol printers, label printers and barcode scanners

Scope of delivery incl. tray set with 3 trays, power cable, Quick Connect waste water hose, 7-inch tablet, interface box



①

Technical data:

Cooling system:	air cooling
Chamber material:	stainless steel 316L
Chamber volume:	12 l or 22 l
Chamber diameter/depth:	200 × 360 mm resp. 250 × 450 mm
Operating temperature:	105°C to 134°C, adjustable
Max. operating pressure:	230 kPa
Heating capacity:	2400 W
Power supply:	220 V ±10%/50 – 60 Hz
Certificate:	CE

	Article	Order No.
①	CertoClav Vac Pro 12	**10 22 60487**
②	CertoClav Vac Pro 22	**10 22 60489**



②

Accessories for CertoClav Vacuum Pro 12L & 22L

Article	Order No.
Trays for CertoClav 12 Vac Pro	**10 22 60479**
Trays for CertoClav 22 Vac Pro	**10 22 60481**
SET wire basket & drip tray for Vac Pro 12	**10 22 60408**
SET wire basket & drip tray for Vac Pro 22	**10 22 60410**
Service Set 3	**10 22 60495**
Bacteria filter	**10 22 60705**
Log printer	**10 22 60187**
Label printer	**10 22 60502**
Barcode reader	**10 22 60503**
Distillation unit for water	**10 22 60482**



③

CertoClav Vacuum Pro 45

- Stand-Alone device – no water connection necessary!
- Ideal for sterilization of culture media in bottles and for material testing & quality control
- 8 pre-installed programs, 1 of them user definable
- Electric door locking system
- Water quality sensor
- Flexible media sensor (PT1000)
- Vacuum pump Made in Germany
- Integrated fresh and waste water tanks
- Bacteria filter
- 7 inch tablet
- RS232, RS485, USB, SD card
- Ethernet, LAN, WiFi
- CertoCloud connection
- Automatic documentation (GMP/GLP compliant)
- Fully automatic repeat function
- Connections for protocol printers, label printers and barcode scanners

Scope of delivery incl. tray set with 3 trays, power cable, Quick Connect waste water hose, 7-inch tablet, interface box

Continued on next page

Steam Sterilizers

Technical data:

Cooling system:	Air cooling
Chamber material:	stainless steel 316L
Chamber volume:	45 l
Chamber diameter/depth:	319 × 617 mmx
Operating temperature:	105°C to 134°C, adjustable
Max. operating pressure:	230 kPa
Heating capacity:	2400 W
Power supply:	220 V ±10%/50 – 60 Hz
Certificate:	CE

Article	Order No.
③ CertoClav Vacuum Pro 45	**10 22 60610**



Accessories for CertoClav Vacuum Pro 45

Article	Order No.
Trays for CertoClav 45 Vac Pro	**10 22 60404**
SET wire basket & drip tray for Vac Pro 45	**10 22 60411**
Service Set 5	**10 22 60407**
Log printer	**10 22 60187**
Label printer	**10 22 60502**
Barcode reader	**10 22 60503**
Distillation unit for water	**10 22 60482**

Laboratory Autoclaves CertoClav Cibus, CertoClav

CERTOCLAV Since 50 years.

webcode WWSCB006

CertoClav Cibus

- Ideal for sterilization of culture media, demineralized water in closed bottles, food, beverages and sealed containers
- Fully automatic
- Flexible media sensor (PT100 temperature sensor)
- Time and temperature can be selected individually
- Active rapid cooling
- Support pressure
- Ethernet, LAN, WiFi
- 7 Inch tablet with video assistant
- CertoCloud connection
- Automatic documentation (GLP compliant)

Scope of delivery incl. stable instrument plate with feet and minimum water level indicator, tablet, power cable



Technical data:

Ventilation:	fractionated flow process
Chamber material:	stainless steel 316L
Chamber volume:	18 l
Chamber diameter/depth:	260 × 350 mm
Operating temperature:	25°C to 140°C, adjustable
max. operating pressure:	2.7 bar
Heating capacity:	1300 W, heating integrated in the floor
Power supply:	230 V ±10%/50 – 60 Hz
Certificate:	CE

Article	Order No.
CertoClav Cibus	**10 22 61185**

Autoclaves / Steam Sterilizers, HMC

HMC EUROPE Labor- & Sterilisationstechnik

webcode WWPKJ005

Vertical and table-top autoclaves for microbiological tasks:
High safety standards and low life cycle costs, convenient and easy to use. You will be provided with detailed safety instructions, for After-sales support is very important to us. Therefore we also bring the autoclave into service and offer service contracts.



Premium vertical autoclaves of the HG-Series – fulfilling highest demands regarding performance and comfort

Intuitive operation and enhanced operating comfort with premium user protection.

Features at a glance:

- Certified according to the Pressure Equipment Directive 2014/68/EU
- Available in 4 sizes with 50, 80, 113 and 130 litres of effective usable volume
- Innovative locking system with motorized lid including pressure and temperature monitoring
- Steam generation in the chamber
- High energy efficiency and long service life
- Rapid cooling for short cooling times
- Optionally available with flexible temperature sensor for the sterilization of liquids
- Timer function and 4 program groups with 3 subgroups each, including night and pressure cooker program, adaptations for customized programs are always possible

Continued on next page

Steam Sterilizers



- Coasters ensure mobility of the unit
- Easy-to-clean plastic surface with rounded corners at contact points (avoids burns and concussions)
- Electrical, mechanical and constructional factors guarantee the highest level of quality and user protection
- Does not require any water/waste water installations, except with automatic water supply (models HGS and HGD)
- With our wide range of accessories from the printer to the media temperature sensor, we can customise our autoclaves to your needs

Autoclaves of the HG series with special equipment:
HGS autoclaves with integrated steam generator
- 113 or 133 litres of effective usable volume
- Extremely short heating times due to highly efficient steam generator directly at the chamber
- Dynamic multi-directional steam inlet ensures that steam is permanently available
- Preheating program
- Segmented jacket heating
- No heating elements in the boiler
- Pyrolytic self-cleaning program
- Insulation jacket
- Rapid water recooling as a standard
- Automatic water infeed and automatic drain

HGD autoclaves with steam generator (s. HGS) and additional vacuum pump, directly coupled to boiler
- 113 or 133 litres of effective usable volume
- Extremely short heating times due to highly efficient steam generator directly at the chamber (s. HGS)
- Pre- and drying vacuum for the sterilisation of fabrics, hollow components, tubes, bottles, pipettes, glass vessels, all open-pore materials, mixing fractions in garbage bags or filters
- Powerful water ring pump (vacuum) saves time and ensures highest level of efficiency



HG series, electrical heated directly in the chamber, with rapid cooling system

		①	②	③	④
Type		**HG 50**	**HG 80**	**HG 113**	**HG 133**
Chamber volume	l	60	85.1	131.7	152.2
Useful volume	l	50.2	76	108	129
Chamber dim. Ø×H	mm	364×482	364×730	500×552	500×656
Outer dim. W×D×H	mm	455×691×890	455×691×1030	686×870×930	686×870×1034
Space required W×D×H	mm	465×970×1250	465×970×1390	700×1150×1350	700×1150×1450
Weight	kg	62	73	137	145
Power	kW	3	3.8	5.8	5.8
Voltage	V	AC 230/240	AC 230/240	AC 400	AC 400
Working temperature	°C	60 – 135	60 – 135	60 – 135	60 – 135
Max. working pressure	bar	2.5	2.5	2.5	2.5
Documentation		Integrated printer/RS232/ USB (optional)	Integrated printer/RS232/ USB (optional)	Integrated printer/ USB (optional)	Integrated printer/ USB (optional)
Order No.		**10 60 52101**	**10 60 52102**	**10 60 52103**	**10 60 52104**

Carriage on request



HGS series with steam generator and water-cooling

Type		**HGS 113**	**HGS 133**
Chamber volume	l	131.7	153.4
Useful volume	l	113	133
Chamber dim. Ø×H	mm	500×576	500×680
Outer dim. W×D×H	mm	686×870×930	686×870×1034
Space required W×D×H	mm	700×1150×1350	700×1150×1450
Weight	kg	153	161
Power	kW	6.8	7.1
Voltage	V	AC 400	AC 400
Working temperature	°C	60 – 135	60 – 135
Max. working pressure	bar	2.5	2.5
Documentation		Integrated printer/ USB (optional)	Integrated printer/ USB (optional)
Order No.		**10 60 52105**	**10 60 52106**

Carriage on request

Continued on next page

Steam Sterilizers

HGD series with vacuum, steam generator and water-cooling

Type		HGD 113	HGD 133
Chamber volume	l	131.7	153.4
Useful volume	l	113	133
Chamber dim. Ø×H	mm	500×576	500×680
Outer dim. W×D×H	mm	686×870×930	686×870×1034
Space required W×D×H	mm	700×1150×1350	700×1150×1450
Weight	kg	184	192
Power	kW	6.8	7.1
Voltage	V	AC 400	AC 400
Working temperature	°C	60 – 135	60 – 135
Max. working pressure	bar	2.5	2.5
Documentation		Integrated printer/ USB (optional)	Integrated printer/ USB (optional)
Order No.		**10 60 52107**	**10 60 52108**

Carriage on request

⑤



Options and accessories

Article	Order No.
Flexible thermo couple	**10 60 55101**
Modular printer	**10 60 55116**
Exhaust air filter	**10 60 55111**
⑤ **Lifting device**	**10 60 55135**
Automatic water supply HG 50	**10 60 55112**
Automatic water supply HG 80	**10 60 55113**
Automatic water supply HG 113/133	**10 60 55136**
GLP Set (printer and exhaust air filter)	**10 60 55130**
Validation connection	**10 60 55180**
Process documentation SEGO® Soft, 1 license	**10 60 55030**
Process documentation SegoSoft®, fully automated documentation, data output in graphic or table form, digital preservation in PDF/A1 format with advanced digitale signature	

Matching loading baskets and buckets available on request.



⑥ **Loading baskets / loading buckets**

Article	Inner Ø mm	Inner height mm	Order No.
HG 50/80 Loading basket	345	235	**10 60 55109**
HG 50/80 Loading basket with collecting tub	345	235	**10 60 55110**
HG 80 Loading basket	345	315	**10 60 55118**
HG 80 Loading basket with collecting tub	345	315	**10 60 55123**
HG 50/80 Double basket with tub	345	460	**10 60 55105**
HG 80 Triple basket with collecting tub	345	700	**10 60 55134**
HG 50-80 Bucket with hole	345	190	**10 60 55107**
HG 50-80 Bucket without hole	345	190	**10 60 55108**
HG 50-80 Bucket without hole (21 litres)	340	306	**10 60 55106**
HG 113/133 Basket A (small)	480	235	**10 60 55124**
HG 113/133 Basket A (small) with collecting tub	480	235	**10 60 55125**
HG 113/133 Basket B (medium)	480	275	**10 60 55126**
HG 113/133 Basket B (medium) with collecting tub	480	275	**10 60 55127**
HG 113/133 Basket C (tall)	480	325	**10 60 55132**
HG 113/133 Basket C (tall) with collecting tub	480	325	**10 60 55133**
HG 113/133 Bucket	490	340	**10 60 55128**
HG 113/133 Bucket with lid	490	340	**10 60 55129**

⑥



Steam Sterilizers

webcode WWPKJ001

HMC EUROPE Labor- & Sterilisationstechnik



Steam Sterilizers, HMC

Vertical steam sterilizers HV series
Easy to use, long service life, premium user protection

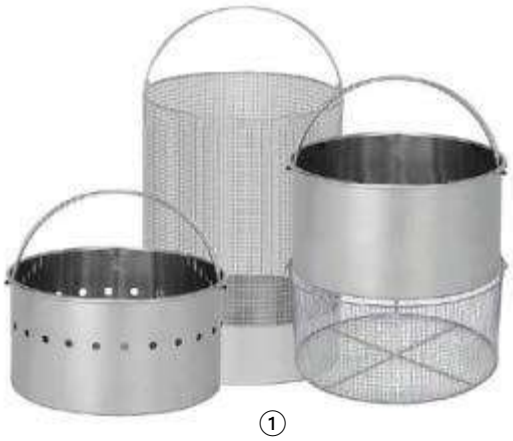
Features at a glance
- Certified according to the Pressure Equipment Directive 2014/68/EU
- Available in 4 sizes with 25, 50, 85 and 110 litres of effective usable volume
- Simple, reliable and with a long service life, your perfect choice for standard tasks
- Optionally available with flexible temperature sensor for the sterilization of liquids
- For all devices up to 110 litres, only a single-phase power supply (220/240 V; 50/60 Hz) is required
- Timer function and 3 program groups, maximum 6 programs including pressure cooker program, adaptations for customized programs are always possible
- Does not require any water/waste water installations
- Coasters ensure mobility of the unit
- Easy-to-clean plastic surface with rounded corners at contact points (avoids burns and concussions)
- Electrical, mechanical and design factors guarantee the highest level of quality and user protection
- With our wide range of accessories from the printer to the media temperature sensor, we can customise our autoclaves to your needs

Type	**HV 25**	**HV 50**	**HV 85**	**HV 110**
Chamber volume l	28	54.2	98.8	123.7
Useful volume l	25	50	85	110
Chamber dim. Ø×H mm	240 × 550	300 × 710	420 × 615	420 × 795
Ou. dimen. W×D×H mm	480×460×950	540×530×1040	660×650×1000	660×650×1180
Space requ. W×D×H mm	495×750×1250	560×810×1400	680×930×1450	680×930×1650
Weight kg	41	57	71	81
Power kW	1.5	2.0	3.0	4.0
Voltage V	1.5	2.0	3.0	4.0
Working temperature °C	60 – 126	60 – 135	60 – 128	60 – 123
Max. working press. bar	1.4	2.2	1.6	1.2
Documentation	Integr. printer/ USB (optional)	Integr. printer/ USB (optional)	Integr. printer/ USB (optional)	Integr. printer/ USB (optional)
Order No.	**48 60 20000**	**48 60 20001**	**48 60 20002**	**48 60 20003**

Carriage on request

Options and accessories

Article	**Order No.**
Flexible thermo couple, media probe	**48 60 50001**
Built-in printer	**48 60 50003**
Air cooling	**48 60 50002**
Exhaust air filter for sterilisation	**48 60 50004**
Automatic feed water	**10 60 50017**
GLP package, with built-in printer and exhaust air filter	**48 60 50021**
Lifting gear	**10 60 55032**
Process documentation SEGO® Soft, 1 license Process documentation SegoSoft®, fully automated documentation, data output in graphic or table form, digital preservation in PDF/A1 format with advanced digitale signature	**10 60 55030**



①

① **Loading baskets / tubs**

Article	Inner Ø mm	Inner height mm	**Order No.**
HV 25 loading basket	210	255	**48 60 50006**
HV 25 loading basket with collecting tub	210	255	**48 60 50027**
HV 25 loading basket tall with collecting tub	210	420	**10 60 50058**
HV 50 loading basket	270	215	**48 60 50007**
HV 50 loading basket with collecting tub	270	215	**48 60 50028**
HV 50 loading basket tall with collecting tub	270	600	**10 60 50057**
HV 85 loading basket	382	278	**48 60 50008**
HV 85 loading basket with collecting tub	382	278	**48 60 50029**
HV 85/110 loading basket tall with collecting tub	382	600	**10 60 50061**
HV 110 loading basket	382	373	**48 60 50009**
HV 110 loading basket with collecting tub	382	373	**48 60 50030**
HV 25 loading bucket	210	255	**48 60 50010**
HV 50 loading bucket	270	220	**48 60 50011**
HV 85 loading bucket, without holes	390	284	**10 60 50012**
HV 85 loading bucket, 1 row of holes	390	284	**48 60 50012**
HV 110 loading bucket, without holes	390	372	**10 60 50060**
HV 110 loading bucket, 2 rows of holes	390	372	**48 60 50013**

Steam Sterilizers

Steam Sterilizers, HMC

webcode WWPKJ004

HMC EUROPE Labor- & Sterilisationstechnik

Steam sterilizers HMT series
Table-top autoclaves – space-saving and convenient

Designed for sterilising all heat resistant laboratory instruments if they are suitable for sterilization: B-series autoclaves, e.g. our HMT 260/300 MB with vacuum, drying function and printer



HMT 260/300 MB - Premium table-top autoclave:
- Certified to 93/42/EEC
- Available in 2 sizes with a volume of 24 or 40 litres
- Powerful integrated vacuum pump, an essential feature for sterilizing hollow components
- 5 sterilisation programs, fully automatic:
  Sterilisation of wrapped items: 121°C – 30 min.; 134°C – 15 min.
  Sterilisation of unwrapped items: 121°C – 15 min.; 134°C – 4 min.
  Individual temperature selection from 105° – 135 °C
  Preset prion program
- 3 test programs: leakage test, helix test, Bowie-Dick test
- Controlled by a microprocessor
- Very easy operation with a LCD display
- Documentation / data storage via SD card and printer
- Drying program, 1 – 60 minutes
- 4 litres water tank, to be filled manually or automatically (deionised water)
- Modern design, easy maintenance

Designed for sterilising instruments of simple design: S-series autoclaves HMT 230/260 FA or 230/260/300 MA.



①

HMT 230/260 FA - for standard tasks:
- Certified to 93/42/EEC
- Available in 2 sizes with a volume of 16 or 24 litres
- 9 sterilisation programs, fully automatic:
  121°C – wrapped / unwrapped solid items; with or without drying
  135°C – wrapped / unwrapped solid items; with or without drying
  Liquid program: 121°C, 40 min.
- Controlled by a microprocessor
- Simple digital display
- Water tank
- Electromechanical overheating protection
- Pressure relief valve
- Safety valve
- Mechanical pressure-dependent door lock
- Reset/emergency button
- Easy maintenance



②

Versatile table-top autoclave: HMT 230/260/300 MA
- Certified to 93/42/EEC
- Available in 3 sizes with a volume of 16, 24 or 40 litres
- Powerful integrated vacuum pump, an essential feature for sterilising hollow components
- 7 sterilization programs, fully automatic:
  121°C – wrapped / unwrapped (vacuum)
  134°C – wrapped / unwrapped (vacuum)
  Liquid and prion programs
  Bowie-Dick test
- Controlled by a microprocessor
- Progress indicator
- Internal water tank
- Electromechanical overheating protection
- Electronic overpressure protection
- Pressure safety valve
- Mechanical pressure-dependent door lock
- Reset/emergency button
- Easy maintenance

			①					②
Type		HMT 230 FA	HMT 260 FA	HMT 230 MA	HMT 260 MA	HMT 300 MA	HMT 260 MB	HMT 300 MB
Chamber volume	l	16	24	16	24	40	24	40
Chamber dim. Ø×H	mm	230×410	260×450	230×410	260×450	300×570	260×450	300×570
Out. dimens. W×D×H	mm	522×594×410	533×655×442	522×594×410	533×655×442	620×900×489	533×655×442	620×766×489
Weight	kg	43	51	44	54	68	59	87
Power	kW	1.9	2.4	2.0	2.8	3.2	2.7	2.7
Voltage	V	AC 220/240	AC 220/240	AC 220/240	AC 220/240	AC 220/240	AC 220/240	AC 220/240
Water tank	l	4.2	4.2	4.2	4.2	4.2	4.2	4.2
Working temperature	°C	121 or 135	121 or 135	121 or 135	121 or 135	121 or 135	105 – 135	105 – 135
Max. working pressure	bar	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Documentation		Recorder[1] (SD-card)/USB	Recorder[1] (SD-card)/USB	Recorder[1] (SD-card)/USB	Recorder[1] (SD-card)/USB	Recorder[1] (SD-card)/USB	Printer, SD-card	Printer, SD-card
Order No.		**10 60 52204**	**10 60 52205**	**10 60 52202**	**10 60 52203**	**10 60 52212**	**10 60 52214**	**10 60 52221**

[1] On request
Carriage on request

Continued on next page

Steam Sterilizers





webcode WWT3F001

Accessories

Article	Order No.
Spiral holder	**10 60 55210**

① **Sterilisation boxes**
Insertion with lid, side panel with lockable perforation.

for	Length × Width × Height mm	Order No.
HMT 230 FA/MA	345 × 183 × 130	**10 60 55212**
HMT 260 FA/MA/MB	375 × 215 × 135	**10 60 55217**
HMT 300 MA/MB	500 × 205 × 185	**10 60 55239**

Baskets

for	Length × Width × Height mm	Order No.
HMT 230 FA/MA	340 × 180 × 120	**10 60 55236**
HMT 260 FA/MA/MB	370 × 220 × 120	**10 60 55237**
HMT 300 MA/MB	500 × 245 × 160	**10 60 55238**

② **Tray frame sets**
Consisting of a shelf with trays or grids and tray pulling holder.

for	Length × Width × Height mm	Order No.
HMT 230 FA/MA	330 × 225 (max.) × 192 (max.)	**10 60 55224**
HMT 260 FA/MA/MB	390 × 250 (max.) × 205 (max.)	**10 60 55225**
HMT 300 MA/MB	550 × 290 (max.) × 245 (max.)	**10 60 52054**

Steam Sterilizers, SHP Steriltechnik





Steam Sterilizer LABOKLAV 25

The compact table top unit with a huge capacity and the performance of a big autoclave. No feed water or waste water connection required, ven with fast recoolng, just plug it in and start

Configuration Basic unit:
- 25 l useable chamber volume, table top unit
- Chamber size 275 mm diameter and 465 mm length
- Up to 5 × 1 l laboratory flasks
- Up to 5 kg instruments or waste
- Max. permiseable pressure 2.8/-1 bar
- Sterilisation temperature 98°C to 135°C
- Integrated steam generator
- Automatic feed water pump
- Motorized quick closing system
- Chamber lid made from safety glass with illuminated vision area
- Front cover from safety glass with colored illumination (LED)
- Thermo locking acc. DIN EN (IEC) 61010-2-40 with flexible media temperature sensor
- Fully automated control by up to 10 programmes
- All programmes can be individualized and code protected
- Integrated feed water tank and condensate tank
- RS 485 interface
- Internal 4 MB memory chip, stores cycle data of approx. 150 cycles
- Validation duct prepared
- Heating power 2.0 kW, 230 V~, 16 A

Available options:
Fast recooling (air cooling)
Vacuum system (single and fractionated pre vacuum, drying vacuum)
Combination of cooling and vacuum

Technical specifications:

Outer dimensions:	
Dimensions (W×H×D):	440 × 540 × 660 mm
Required table space:	440 × 550 mm + 110 mm door overhang
Loading:	
Instrument or waste:	max. 5 kg
Laboratory flasks, 1 l:	max. 5 Pieces
Electrical connections:	
Power connection:	230 V, 50 Hz, 16 A
Max. power requirements:	3350 W
Average consumtion per cycle:	0.75 kW/h

Article	Order No.
Steam Sterilizer LABOKLAV 25 B Basic unit for the sterilisation of liquids, solids and waste	**10 16 02510**
Steam Sterilizer LABOKLAV 25 M integrated fast cooling system (air cooling)	**10 16 02511**
Steam Sterilizer LABOKLAV 25 V integrated vacuum system	**10 16 02514**
Steam Sterilizer LABOKLAV 25 MV vacuum system and fast cooling system	**10 16 02515**
Transport, packing, assembly, introduction LABOKLAV 25 (optional)	**10 16 02599**

Continued on next page

Steam Sterilizers

Accessories

Article	Order No.
Batch printer for the documentation of all relevant parameters, real paper printer, stored data can be printed out at a later stage	**10 16 03020**
Air filtration As the unit is equipped with an air filtration, it is appropriate for use in areas with protection/safety class 2 or higher.	**10 16 02501**

Steam Sterilizers, SHP Steriltechnik

webcode WWT3F002

Steam Sterilizer LABOKLAV 55 – 195

Installation of the unit as either front- or top loader possible. When set up as front loader the units are stackable. Integrated, separate and powerful steam generator for shorter cycle times.
Low in energy consumption due to optimized size of steam generator in relation to chamber volume.

Steam sterilizer fort he universal use in the laboratory, in full compliance with
- DIN 58950 (pharmaceutical applications)
- DIN 58951 (laboratory applications)
- Pressure Device Directive 2014/68 EU
- IEC 61010 – 2 - 40 (Thermo locking device)

LABOKLAV 55 – 195

Basic unit with 55, 80, 100, 135, 160 and 195 Litre chamber volume, Useable as either front- or top loader
- max. permissible pressure 2,8/-1 bar
- sterilization temperature 98 °C to 135 °C
- TÜV tested motor-driven safety quick-action lock with lip seal
- separate integrated latest-generation steam generator with new technology of 4, 6 or 10 kW heating capacity, according to the chamber volume
- integrated storage tank for fully demineralized water for steam generation (for automatic or manual filling), level monitoring function
- thermo-lock pursuant to TRB 402 and DIN 61010-2-40
- flexible PT100 reference sensor for fluid sterilization (time triggered via media temperature)
- gravitation ventilation and pressure change ventilation (waste sterilization)
- integrated evaporation condensation, water-cooled, temperature-controlled, adjustable
- validation adapters
- internal memory chip for storing up to 150 cycles (may be read out later)
- RS484 interface for data transmission
- collective connection to drain pipe
- floor support inside
- timer function
- housing made of powder-coated steel. Choose between 3 color combinations: blue/light gray, emerald/light gray, purple/light gray
- automatic feed water pump
- microprocessor control with 20 pre-assigned programs
- individual assignment of all program slots by the user
- V4A stainless steel pressure vessel (stainless steel 1.4404 or SS 316L)
- units with full double jacket made of stainless steel from version M or V
- easy operation
- code protected access levels
- safety chains for a safe state of the unit
- several cycle data can be documented



Fast Cooling of liquids

All units can be supplied with different cooling versions as an option. The cooling time can be reduced dramatically between 50 and 80%. Main feature to achieve short cooling cycles is the double jacket. VE-Water is pumped through the double jacket during cooling, the full contact surface of the chamber ensures a fast heat transfer into the cooling media. No valuable demineralised cooling water is wasted. The cooling water is fed back into the integrated tank and is reused for the next cycle. Automatic cooling of the VE-Water by means of tap water (heat exchange precept).



Vacuum

A powerful watering vacuum pump guarantees a fast and secure deaeration of the sterilisation goods Fractionated or single pre-vacuum programmes are integrated. If ordered with vacuum system vacuum drying is a standard feature. During the drying vacuum hot steam is pulsed through the double jacket to support the drying process.

Available variants of LABOKLAV 55 – 195

B:	Basic
M:	integrated fast coolling
MS:	integrated fast recooling with counter pressure
MSL:	integrated fast recooling with counter pressure and additional fan
V:	Vacuum system
MV:	Vacuum system, integrated fast recooling
MSV:	Vacuum system, integrated fast recooling with counter pressure
MSLV:	Vacuum system, integrated fast recooling with counter pressure and additional fan

Continued on next page

Steam Sterilizers



Type	Chamber-vol.	Chamber-dimensions (Ø × T)	Installation space vertical unit D×W×H[1] (Horizontal unit W×H×D)	Loading capacity[2]	Steam generator	Electr. requirements
	l	mm	mm			
Laboklav 55	55	410×460	740×765×600 (740×600×765)	approx. 9×1 l Schott	4 kW	3N 400V~16A (1N 230V~36A)
Laboklav 80	80	410×610	740×915×600 (740×600×915)	approx. 18×1 l Schott	4 kW	3N 400V~16A (1N 230V~36A)
Laboklav 100	100	410×760	740×1065×600 (740×600×1065)	approx. 27×1 l Schott	6 kW	3N 400V~16A (1N 230V~36A)
Laboklav 135	135	510×660	840×965×700 (840×700×965)	approx. 30×1 l Schott	10 kW	3N 400V~16A (1N 230V~36A)
Laboklav 160	160	510×760	840×1065×700 (840×700×1065)	approx. 45×1 l Schott	10 kW	3N 400V~16A (1N 230V~36A)
Laboklav 195	195	510×990	840×1215×700 (840×700×1215)	approx. 45×1 l Schott	10 kW	3N 400V~16A (1N 230V~36A)

Technical changes alloed
[1]Total height, loading height less 90 mm
[2]Front loading approx. 15% less

Type	Order No.
55 B	**10 16 05510**
55 M	**10 16 05511**
55 MS	**10 16 05512**
55 MSL	**10 16 05513**
55 V	**10 16 05514**
55 MV	**10 16 05515**
55 MSV	**10 16 05516**
55 MSLV	**10 16 05517**
80 B	**10 16 08010**
80 M	**10 16 08011**
80 MS	**10 16 08012**
80 MSL	**10 16 08013**
80 V	**10 16 08014**
80 MV	**10 16 08015**
80 MSV	**10 16 08016**
80 MSLV	**10 16 08017**
100 B	**10 16 01000**
100 M	**10 16 01001**
100 MS	**10 16 01002**
100 MSL	**10 16 01003**
100 V	**10 16 01004**
100 MV	**10 16 01005**
100 MSV	**10 16 01006**
100 MSLV	**10 16 01007**

Type	Order No.
135 B	**10 16 01350**
135 M	**10 16 01351**
135 MS	**10 16 01352**
135 MSL	**10 16 01353**
135 V	**10 16 01354**
135 MV	**10 16 01355**
135 MSV	**10 16 01356**
135 MSLV	**10 16 01357**
160 B	**10 16 01600**
160 M	**10 16 01601**
160 MS	**10 16 01602**
160 MSL	**10 16 01603**
160 V	**10 16 01604**
160 MV	**10 16 01605**
160 MSV	**10 16 01606**
160 MSLV	**10 16 01607**
195 B	**10 16 01950**
195 M	**10 16 01951**
195 MS	**10 16 01952**
195 MSL	**10 16 01953**
195 V	**10 16 01954**
195 MV	**10 16 01955**
195 MSV	**10 16 01956**
195 MSLV	**10 16 01957**



Accessories

Article	Order No.
Printer for LABOKLAV 55 – 195 Integrated printer for the documentation of all relevant prozcess parameters, real paper printer, stored data can be printed out at a later stage	**10 16 02030**
Touchdisplay • Operation possible via touch panel or integrated keypad • Documentation available as pdf files via integrated USB port (includes all relevant information such as process and batch data, error messages as well as a graphical analysis which are all combined into a single file protocol for each run) • Internal memory saves up to 15.000 cycles • Network access via LAN to remotely view live data of the process. • Remote maintenance option	**10 16 02090**
Exhaust air filtration for safety laboratories BSL 2 and 3	**10 16 02010**
Loading system for LABOKLAV 135/160 Comprises the trolley and the loading slide	**10 16 00160**
Loading system for LABOKLAV 195 Comprises the trolley and the loading slide	**10 16 00195**
Lifting device for loading and unloading the LABOKLAV 135 - 195 with swivel arm, for loading and unloading heavy material	**10 16 02040**

Buckets an baskets made of stainless steel on request

Steam Sterilizers

Horizontal Front-loading Table Top Autoclaves Systec D-Series, Systec

webcode WWQMA002

Specially designed for the requirements in laboratories, these autoclaves make sterilization processes safe, accurate, reproducible and validatable.

Three model ranges with different performance

Systec DX
For all laboratory applications, including sophisticated state-of-the-art sterilization processes.

With numerous options for validatable sterilization.

Systec DE
For basic laboratory applications. With limited options for process optimization.

Systec DB
For simple process applications. No options available for process optimization.



Technical data:	Chamber dimen. Ø×depth in mm	Chamber volume in l total / nominal	External dimen. H×W×D in mm	Heating cap. DX-series kW	Heating cap. DE/DB-series kW
D-45	344 × 500	50 / 45	585×620×755	3.5	3.7
D-65	400 × 500	70 / 65	630×750×770	9.0	3.7
D-90	400 × 700	95 / 90	630×750×970	9.0	5.5
D-100	500 × 500	113 / 100	730×850×805	9.0	3.7
D-150	500 × 750	162 / 150	730×850×1055	9.0	5.5
D-200	500 × 1000	211 / 200	730×850×1305	9.0	5.5

Electrical connections for Systec D-23 and D-45: 220 – 240 V, 50 / 60 Hz, 16 A.
Electrical connections for Systec D-65 to D-200: 380 – 400 V, 50 / 60 Hz, 16 A.
Other voltages and single-phase available on request.
Country-specific deviations are possible.

Standard Features	Systec DX	Systec DE	Systec DB
Integrated, separate steam generator	•		
Internal heating elements within the autoclave chamber		•	•
Housing, support frame and pressure vessel made of corrosion-resistant stainless steel	•	•	•
Temperature and pressure range 140°C, 4 bar (except for Systec D-23)	•	•	•
LCD display and fully automatic microprocessor control	•	•	•
Number of sterilization programs (Systec DB incl. cleaning program)	Up to 25[1)]	12	4
Code-secured access rights for changing parameters and further safety-relevant intervention	•	•	•
Internal memory for storing up to 10 sterilization cycles	•	•	
Timer for starting programs	•	•	
Autofill: automatic demineralized water feed for steam generation	•	•	
Flexible PT-100 temperature sensor	•	•	•
Additional temperature sensor in condense exhaust	•		
Temperature holding function for liquids after program finish	•	•	
Special program for Durham tubes	•	•	
Calculation of F0 value	•	•	
Special program for waste sterilization with pulsed heat-up for more efficient air exhaust	•	•	
Water-cooled steam exhaust, thermostatically controlled	•	•	
Programmable automatic door-opening on completion of program	•	•	
RS-232 interfaces for external data transmission (network-compatible via adapter)	•	•	
Available options			
Extension of temperature and pressure ranges to 150 °C / 5 bar (from chamber volume 65 liters and more)	+	+	
Options for process optimization			
Rapid cooling for efficient and safe cooling of liquids	+	+	
Vacuum system for validatable sterilization of solids and waste materials in disposal bags	+		
Superdry: for drying solids (only in combination with optional vacuum system)	+		
Exhaust filtration (including condensate inactivation) for safe sterilization of hazardous biological substances	+	+	
Options for documentation			
Integrated printer for batch documentation	+	+	+
Systec ADS documentation software package for comprehensive documentation	+	+	
Data storage on SD card for up to 10,000 sterilization cycles and transmission of data to a PC	+	+	

Systec autoclaves are delivered ready for subsequent installation of all options.
Further options and special programs as well as baskets and inserts, transport and loading systems on request.
[1)] On request

Type	Order No.
Systec DX-45	**10 12 91945**
Systec DE-45	**10 12 91545**
Systec DB-45	**10 12 91910**
Systec DX-65	**10 12 92065**
Systec DE-65	**10 12 91565**
Systec DB-65	**10 12 91920**
Systec DX-90	**10 12 92090**
Systec DE-90	**10 12 91590**
Systec DB-90	**10 12 91930**

Type	Order No.
Systec DX-100	**10 12 92100**
Systec DE-100	**10 12 91600**
Systec DB-100	**10 12 91940**
Systec DX-150	**10 12 92150**
Systec DE-150	**10 12 91650**
Systec DB-150	**10 12 91950**
Systec DX-200	**10 12 92201**
Systec DE-200	**10 12 91700**
Systec DB-200	**10 12 91960**

Steam Sterilizers

webcode WWQMA004



①



Horizontal Pass-through and Floor-standing Autoclaves, Systec H series, Systec

STANDARD FEATURES for Systec H series / Systec H series 2D

- Integrated steam generator with AutoFill for automatic supply of demineralised water
- Housing and carrying structure made of corrosion-resistant stainless steel (AISI 304)
- Pressure vessel made of pharmaceutical stainless steel (AISI 316)
- All fittings and valves in the supply lines (from media connection to sterilisation chamber) for demineralised water, steam or compressed air are made of stainless steel. All pipelines made of FDA-certified PTFE.
- Annular door locking system for extended security
- Flexible PT-100 temperature sensor for monitoring the temperature in the sterilisation chamber or in a reference vessel
- Temperature and pressure range up to 140°C/4 bar
- Additional PT-100 sensor in the condensate outlet for temperature control at the coldest place in the autoclav
- Water-cooled steam exhaust, thermostatically controlled, to protect the autoclave from heat
- Extended HMI and PLC with touchscreen control
- Optimised HMI for faster navigation/adjustment of processes & settings
- Newly developed software for the entire autoclave system (PLC) reduces the total process time by up to 25%
- Up to 100 sterilisation programmes can be added, disabled, or adapted by the operator in every detail
- Secure access control for adjustment of programmes and parameters
- Timer for time-controlled start of sterilisation processes
- F0 value can be calculated individually for all liquid programmes
- Individual activation of temperature holding function for liquids after end of programme
- Special programme for waste sterilisation for fractional heating for more efficient release of air from waste bags (in the absence of the optional vacuum system)
- Individual entry of batch information before start of process
- Thanks to the extended internal memory, documentation files can be saved for at least 10 years
- Via the USB connection, documentation files can be downloaded from the autoclav to a USB flash drive.
- All documentation data can be collected directly from the autoclav in PDF and/or CSV file format (MS Excel). Reading the documentation data does not require installation of any proprietary software on a PC.
- Complete backup of the autoclav control on a USB stick, including all individual settings
- Ethernet interface for connecting the autoclav to a computer network
- Time synchronisation with time servers. Internet connection required.
- Remote service function. Requires Internet connection and authorisation by the operating company
- Systec can adjust all the settings in-house and save them to a configuration file on a USB flash drive for easy and convenient implementation of new configurations by the customer.

OPTIONAL FUNCTIONS

- Extended temperature and pressure range of up to 150 °C/5 bar
- Optionally, up to 5 additional flexible PT-100 temperature sensors are available, each of which can be configured individually.
- Extended user control – up to 100 users and groups can be generated. All users or groups can use the same program list, or a single program list with individual programmes and settings.
- Personalised electronic certificates for electronic transfer of documentation files
- Save to folder: automatic data transfer (via FTP/SFTP) from documentation data. When 21 CFR Part 11 is ordered, AuditTrail data is saved to predefined files on a network drive (server, PC, or other network-based memory devices)

FDA 21 CFR Part 11 package (onboard)

- All documentation data can be downloaded via a USB flashdrive in PDF and/or CSV file format (MS Excel). The PDF and the CSV files have an electronic signature related to the autoclav which generated the files; it indicates whether the data is valid (i.e. no manipulation). Any manipulation will render the files immediately invalid, which is directly indicated in the respective electronic signature.
- Extended user control – up to 100 users and groups can be generated. All users or groups can use the same program list, or a single program list with individual programmes and settings. Furthermore, every user can be assigned roles (e.g. user, operator, supervisor, administrator, etc.).
- Includes the AuditTrail for following up and recording all measures, adjustments and alarms sorted by date, time, and user
- Comprises up to five fields for electronic signing of the PDF and/or CSV files on a PC (or other device) capable of executing a PDF or CSV viewer and processing electronic signatures

OTHER OPTIONS

- FAT / SAT, IQ, OQ and PQ (validation) with extensive GMP-/GLP-compliant documentation available on request
- Special programmes such as steam/air mix, pharmacopoeia programmes [1] Test programm,e for hydrolytic resistence of glassware (European Pharmacopoeia chapter 3.2.1) and United States Pharmacopoeia (USP <660>) [2] Pursuant to chapter 3.2.9 of the European Pharmacopoeia and USP <381>, for testing rubber caps for pharmaceutical jars etc.) and material test programmes are available on request
- Customer-specific process evaluation, design and development are available on request

Continued on next page

Steam Sterilizers

① **Horizontal Floor-standing Autoclaves, Systec H-Series**

Specially designed for the requirements in laboratories, these autoclaves make sterilization processes safe, accurate, reproducible and validatable.
Autoclaves of the performance category HX can be used for all laboratory applications, even for sophisticated sterilization processes. All additional optional accessories can be fitted to obtain validatable processes.
In spite of the high loading capacity, these autoclaves are compact and have a comparatively low weight.

Type	Useful space Ø × depth mm	Useful volume total / nominal l	H × W × D mm	Net weight kg	**Order No.**
HX-65	400×500	70 / 65	1610×704×865	220	**10 12 92212**
HX-90	400×750	105 / 90	1610×704×1065	300	**10 12 92213**
HX-100	500×500	115 / 100	1710×804×900	350	**10 12 92214**
HX-150	500×750	165 / 150	1710×804×1150	400	**10 12 92215**
HX-200	500×1000	215 / 200	1710×804×1400	450	**10 12 92216**
HX-210	740×500	280 / 210	1865×944×980	600	**10 12 92220**
HX-320	740×750	385 / 320	1865×944×1230	670	**10 12 92230**
HX-430	740×1000	495 / 430	1865×944×1480	740	**10 12 92240**
HX-540	740×1250	600 / 540	1865×944×1730	810	**10 12 92250**
HX-650	740×1500	710 / 650	1865×944×1980	880	**10 12 92260**
HX-580	1000×750	750 / 580	2025×1269×1340	950	**10 12 92270**
HX-780	1000×1000	930 / 780	2025×1269×1590	1050	**10 12 92280**
HX-980	1000×1250	1130 / 980	2025×1269×1840	1150	**10 12 92290**
HX-1180	1000×1500	1325 / 1180	2025×1269×2090	1250	**10 12 92300**
HX-1380	1000×1750	1520 / 1380	2025×1269×2340	1350	**10 12 92310**
HX-1580	1000×2000	1715 / 1580	2025×1269×2590	1450	**10 12 92320**

Electrical connections for the Systec HX-65 to HX-200: 380 – 400 V, 50 / 60 Hz, 16 A.
Electrical connections for the Systec HX-210 to HX-1580: 380 – 400 V, 50 / 60 Hz, 32 A.
Different voltage available upon request.
Country-specific deviations are possible.



②

② **Horizontal Pass-through Autoclaves, Systec H-Series 2D**

Triple safety aspects

- One door only can be opened at a time. If one door is open, the other is automatically locked.
- If the autoclave is switched off or if no current is available (e.g. power failure), both doors remain locked.
- If the door at the non-sterile side is opened, a sterilization program hast o be performed before the door at the sterile side can be opened.

The locking system can be adapted to customers' wishes. Doors and control panel are made of heat-insulating plastic, the housing completely of stainless steel and the stainless steel edges specially processed for smooth junctions with walls. Operation, however, can be carried out from both sides, the position (open or closed) of

the opposite door being indicated on the display.

For use under the most stringent clean room and safety conditions

- For biological safety laboratories. Fitting as a sterilization and pass-through lock for protecting the external environment.
- For clean rooms in laboratories and production facilities as a sterilization and pass-through lock separating sterile and non-sterile areas.

Type	Useful space Ø × depth mm	Useful volume total / nominal l	H × W × D mm	**Order No.**
HX-90 2D	400×750	100 / 90	1610×704×690	**10 12 92096**
HX-150 2D	500×750	160 / 150	1710×804×695	**10 12 92156**
HX-200 2D	500×1000	210 / 200	1710×804×950	**10 12 92207**
HX-320 2D	740×750	370 / 320	1865×944×740	**10 12 92235**
HX-430 2D	740×1000	480 / 430	1865×944×990	**10 12 92245**
HX-540 2D	740×1250	590 / 540	1865×944×1240	**10 12 92255**
HX-580 2D	740×1500	700 / 650	2025×1269×785	**10 12 92271**
HX-650 2D	1000×750	680 / 580	1865×944×1450	**10 12 92265**
HX-780 2D	1000×1000	880 / 780	2025×1269×1035	**10 12 92275**
HX-980 2D	1000×1250	1075 / 980	2025×1269×1285	**10 12 92285**
HX-1180 2D	1000×1500	1270 / 1180	2025×1269×1535	**10 12 92295**
HX-1380 2D	1000×1750	1465 / 1380	2025×1269×1785	**10 12 92305**
HX-1580 2D	1000×2000	1665 / 1580	2025×1269×2035	**10 12 92315**

Electrical connections for the Systec HX-90 2D to HX-200 2D: 380 – 400 V, 50 / 60 Hz, 16 A.
Electrical connections for the Systec HX-320 2D to HX-1580 2D: 380 – 400 V, 50 / 60 Hz, 32 A.
Different voltage available upon request.
Country-specific deviations are possible.

webcode To see other variants and accessories, please enter the webcode on our website.

Steam Sterilizers

webcode WWQMA001

Systec the autoclave company



Vertical Top-loading Autoclaves Systec V-Series, Systec

Specially designed for the requirements in laboratories, these autoclaves make sterilization processes safe, accurate, reproducible and validatable.

Three types with diffenent performance categories

Systec VX
For all laboratory applications even for sophisticated state-of-the-art sterilization processes. With all possibilities to add additional options for process optimization to enable validatable sterilization to be carried out.

Systec VE
For basic laboratory applications and media sterilization. With limited possibilities to add additional options for process optimization.

Systec VB
For simple process applications. No options available for process optimization.

Technical data:	Chamber dimen. Ø × depth	Chamber volume in l total / nominal	Extern. dimen. H×W×D in mm	Heating cap. VX-series kW	Heating cap. VE/VB-series kW
V-40	344 × 450	45 / 40	950×500×680	3.5	3.6
V-55	344 × 600	59 / 55	950×500×680	3.5	3.6
V-65	400 × 500	73 / 65	995×550×780	9.0	9.3
V-75	400 × 600	85 / 75	995×550×780	9.0	9.3
V-95	400 × 750	104 / 95	1080×550×780	9.0	9.3
V-100	500 × 500	117 / 100	985×650×900	9.0	9.3
V-120	500 × 600	137 / 120	985×650×900	9.0	9.3
V-150	500 × 750	166 / 150	1115×650×900	9.0	9.3

Electrical connections for Systec V–40 and V–55: 220 – 240 V, 50 / 60 Hz, 16 A.
Electrical connections for Systec V–65 to V–150: 380 – 400 V, 50 / 60 Hz, 16 A.
Other voltages and single-phase available on request. Country-specific deviations possible.

Standard Features	Systec VX	Systec VE	Systec VB
Integrated, separate steam generator	•		
Internal heating elements within the autoclave chamber		•	•
Housing, support frame and pressure vessel made of corrosion-resistant stainless steel	•	•	•
Temperature and pressure range 140°C, 4 bar	•	•	•
LCD display and fully automatic microprocessor control	•	•	•
Number of sterilization programs	Up to 25[1)]	12	4
Code-secured access rights for changing parameters and further safety-relevant intervention	•	•	•
Internal memory for storing up to 10 sterilization cycles	•	•	
Timer for starting programs	•	•	
Autofill: automatic demineralized water feed for steam generation	•	•	
Flexible PT-100 temperature sensor	•	•	•
Additional temperature sensor in condense exhaust	•		
Temperature holding function for liquids after program finish	•	•	
Special program for Durham tubes	•	•	
Calculation of F0 value	•	•	
Special program for waste sterilization with pulsed heat-up for more efficient air exhaust	•	•	
Water-cooled steam exhaust, thermostatically controlled	•	•	
Programmable automatic door-opening on completion of program	•	•	
RS-232 interfaces for external data transmission (network-compatible via adapter)	•	•	
Available options			
Touch-Screen control	+		
Extension of temperature and pressure ranges to 150°C / 5 bar (from chamber volume 65 liters and more)	+	+	
Options for process optimization			
Rapid cooling for efficient and safe cooling of liquids	+	+	
Vacuum system for validatable sterilization of solids and waste materials in disposal bags	+		
Superdry: for drying solids (only in combination with optional vacuum system)	+		
Exhaust filtration (including condensate inactivation) for safe sterilization of hazardous biological substances	+	+	
Options for documentation			
Integrated printer for batch documentation	+	+	+
Systec ADS documentation software package for comprehensive documentation	+	+	
Data storage on SD card for up to 10,000 sterilization cycles and transmission of data to a PC	+	+	
AuditTrail: unalterable and traceable documentation and conformity to FDA 21 CFR Part 11 [2)]	+		

Systec autoclaves are delivered ready for subsequent installation of all options.
Further options and special programs as well as baskets and inserts, transport and loading systems on request.
[1)] On request
[2)] For Systec VX-65 up to Systec VX-150 in combination with the optional touch display

Type	Order No.
Systec VX-40	**10 12 91040**
Systec VE-40	**10 12 91240**
Systec VB-40	**10 12 91400**
Systec VX-55	**10 12 91055**
Systec VE-55	**10 12 91255**
Systec VB-55	**10 12 91410**

Type	Order No.
Systec VX-95	**10 12 91095**
Systec VE-95	**10 12 91295**
Systec VB-95	**10 12 91440**
Systec VX-100	**10 12 91100**
Systec VE-100	**10 12 91300**
Systec VB-100	**10 12 91450**

Type	Order No.
Systec VX-65	**10 12 91065**
Systec VE-65	**10 12 91265**
Systec VB-65	**10 12 91420**
Systec VX-75	**10 12 91075**
Systec VE-75	**10 12 91275**
Systec VB-75	**10 12 91430**

Type	Order No.
Systec VX-120	**10 12 91120**
Systec VE-120	**10 12 91320**
Systec VB-120	**10 12 91460**
Systec VX-150	**10 12 91150**
Systec VE-150	**10 12 91350**
Systec VB-150	**10 12 91470**

Steam Sterilizers

Mediapreparators, Mediaprep, Systec

webcode WWQMA003

Systec the autoclave company

Media preparators of the Mediaprep-Series for preparation and sterilization of microbiological media. 10 to 120 Liters nominal volume.

Designed for preparation and sterilization of agar-containing nutrient media and other sterile liquids, with microprocessor-controlled fully automatic program sequence. The Systec Mediaprep-Series includes stronger heating elements, rapid cooling, magnetic stirring, inner vessel, temperature controlled door lock, dispensing outlet and inlet port for adding additives.







Characteristics:
- Fully automatic microprocessor control incorporating 12 programs
- Sterilization temperature pre-selectable up to 136°C / 3.5 bar
- Novel automatic door closure with safety-lock system, lip-gasket out of silicone and opening at the push of a button
- Temperature- and pressure dependent interlock for the door, inlet port and dispensing port
- Thermal door lock, controlled by pressure and medium temperature according to Pressure Vessel Regulations
- Pressure vessel made of stainless steel (AISI 316), electro polished, resistant against chemicals, easy to clean
- All sterilization programs with pre-selectable sterilization parameters and automatic program sequence
- Rapid cooling with recirculating sterile water, heat exchanger and recirculation pump
- Sterilization time activation based on medium temperature
- Electronic pressure transducer for pressure and temperature regulation
- Autofill - automatic de-mineralized water feed for steam generation
- Steam exhaust condensation - water-cooled with thermostatic control
- Validation port
- Start by clock / timer for programmable start-time
- Prepared for subsequent printer connection
- RS 232 interface for data transfer
- Temperature holding program for keeping agar solutions warm
- Base plate for vessels, baskets etc. when used as autoclave
- Wheels with stop breaks for portable use
- Thermal insulation out of Hanno-Tect, no risk of particle dissociation
- Support frame and housing out of stainless steel
- Safety pressure release valve
- Safety cut off at low water level
- Safety cut off at excess temperature
- Direct electrical heated through strong heating elements for fast heat-up
- Continuous mixing through a stirrer on the bottom of the media-vessel, contact free driven by a strong magnetic motor
- Permanent temperature control with a PT-100 temperature load sensor, directly inside the media
- Inlet-nozzle with safety screw-closure for filling of additives after sterilization
- Media removal through a flexible silicone tubing (either by selectable internal pressure inside the chamber and an electronically controlled pinch valve or with an optional peristaltic pump). Furthermore all filling lines for petri-dishes available on the market or other dispensing devices can be connected, without any exception. The inner filling tube and the dispensing nozzle are sterilized in-line, during the sterilization cycle
- Easy cleaning and operational readiness through exchangeable, removable inner vessel. Thereby no risk of cross-contamination between the different batches

Type	Chamber vol. l	Chamber Ø mm	Chamber H mm	Vol. inner container l	Dimensions inner cont. Ø × D mm	Outer W × H × D mm	Heating cap. kW	**Order No.**
Systec Mediaprep-10	17	296	250	12/10	270×222	480×555×635	3.6	**10 12 91710**
Systec Mediaprep-20	30	296	450	23/20	270×422	715×555×635	9.3	**10 12 91720**
Systec Mediaprep-30	44	296	650	34/30	270×622	915×555×635	9.3	**10 12 91730**
Systec Mediaprep-45	65	400	485	51.3/45	380×452	1080×550×780	20.0	**10 12 91745**
Systec Mediaprep-65	90	400	690	74.5/65	380×657	1210×550×780	20.0	**10 12 91765**
Systec Mediaprep-90	126	500	610	103.5/90	480×572	1110×650×895	20.0	**10 12 91790**
Systec Mediaprep-120	162	500	790	136.1/120	480×752	1240×650×895	20.0	**10 12 91820**

Power supply for **Systec** Mediaprep-10: 220-240 V, 50/60 Hz, 16 A
Power supply for **Systec** Mediaprep-20 and 30: 380-400 V, 50/60 Hz, 16A
Power supply for **Systec** Mediaprep-45, -65, -90, and -120: 380-400 V, 50/60 Hz, 32 A
Modification to other voltage available on request
Prices for Systec mediapreparators, options and accessories available on request

GLASS APPARATUS PRODUCTION FOR LABORATORY, TECHNICAL CENTRES AND PRODUCTION





We produce glass apparatus as one-off productions or in series.

Our scope of services includes:

- Creating engineering drawings
- Handling and processing of glass tubes, glass stirrers and pre-processed parts, connecting the parts to apparatus and devices.
- Processing of produced apparatus, e.g. by means of grinding, silvering, etching, radiating, setting up scales and labels, volume determination, quality control, voltage tests
- Rack construction
- Repair of defective glass apparatus and devices

Material glass

As the glass type which is used most frequently, Borosilicate glass 3.3 or Duran® 8330 is an essential part of laboratory and chemical systems engineering. It forms the basis for finding customised solutions for specific problems of our customers. Products made of borosilicate 3.3 are known for their stability, their great processability and for their extensive insensitiveness against quick changes in temperature. They are corrosion-resistant and act absolutely neutral in almost all chemical fields, even with aggressive chemicals. This characteristics distinguishes them from other materials.

For special tasks, other glass types such as soft glass and quartz glass are processes.

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Ground Flasks

Round Bottom Flasks with Ground Joints, Rettberg

Round bottom flasks, central neck, standard ground (NS) conical socket, DIN 12348, borosilicate glass 3.3.

Volume ml	Neck NS	Order No.
5[1)]	14.5	**13 40 20007**
10[1)]	14.5	**13 40 20108**
25[1)]	14.5	**13 40 20114**
50	14.5	**13 40 20117**
① 100	14.5	**13 40 20124**
250[1)]	14.5	**13 40 20136**
50	29	**13 40 20217**
100	29	**13 40 20224**
250	29	**13 40 20236**
500	29	**13 40 20244**
1000	29	**13 40 20254**
2000	29	**13 40 20264**
3000	29	**13 40 20268**

Volume ml	Neck NS	Order No.
4000[1)]	29	**13 40 20271**
5000	29	**13 40 20273**
6000[1)]	29	**13 40 20276**
250	45	**13 40 20436**
500	45	**13 40 20444**
1000	45	**13 40 20454**
2000	45	**13 40 20464**
3000	45	**13 40 20468**
4000	45	**13 40 20471**
5000	45	**13 40 20473**
6000	45	**13 40 20476**
10000	45	**13 40 20486**
20000	45	**13 40 20491**

[1)] Non-DIN size.

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① 100 ml

Rounded Bottom Flasks, Quartz Glass, QGT Bad Harzburg

Quartz glass round-bottom flasks with grounded joint, DIN 12348.

Narrow neck form

Vol. ml	O.D. neck approx. mm	Flask Ø approx. mm	Height mm	Ground joint NS	Order No.
50	22	51	105	19/26	**18 36 22017**
100	22	64	115	19/26	**18 36 22024**
250	34	85	145	29/32	**18 36 22036**
500	34	105	175	29/32	**18 36 22044**
1000	34	131	210	29/32	**18 36 22054**
2000	34	166	260	29/23	**18 36 22063**

Wide neck form

Vol. ml	O.D. neck approx. mm	Flask Ø approx. mm	Height mm	Ground joint NS	Order No.
50	34	51	105	29/32	**18 36 23017**
100	34	64	115	29/32	**18 36 23024**
250	50	85	145	45/40	**18 36 23036**
500	50	105	175	45/40	**18 36 23044**
1000	50	131	210	45/40	**18 36 23054**
2000	50	165	260	45/40	**18 36 23063**



Ground Flasks



Round Flasks, PFA, VITLAB

Transparent, neck with NS 29/32. Suitable as safety flask for use with rotary evaporators (operation at room temperature) to collect the distilled off liquid. High thermal stability and chemical resistance.
Autoclavable at 121°C (2 bar) according to DIN EN 285.

Volume ml	NS	Ø mm	Height mm	Order No.
100	29/32	65	117	**23 85 18024**
250	29/32	88	147	**23 85 18036**
500	29/32	107	177	**23 85 18044**



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Flat Bottom Flasks with Ground Joints, Rettberg

Erlenmeyer flasks with standard ground (NS) conical socket, DIN 12387, borosilicate glass 3.3.

Volume ml	Ground joint NS	Height mm	Flask Ø mm	Order No.
10[1)]	14	55	30	**13 40 31108**
25	14	70	42	**13 40 31114**
50	14	85	51	**13 40 31117**
100	14	105	64	**13 40 31124**
50	29	85	51	**13 40 31217**
100	29	105	64	**13 40 31224**
200[1)]	29	131	79	**13 40 31232**
250	29	140	85	**13 40 31236**
300[1)]	29	156	87	**13 40 31239**
500	29	175	105	**13 40 31244**
1000	29	220	131	**13 40 31254**
2000	29	280	166	**13 40 31263**
250	45	140	85	**13 40 31436**
300	45	164	87	**13 40 31439**
500	45	175	105	**13 40 31444**
1000	45	220	131	**13 40 31454**
2000	45	280	166	**13 40 31463**

[1)] Non-DIN size
With chicanes on request



Erlenmeyer Flasks, Quartz Glass, QGT Bad Harzburg

Quartz glass Erlenmeyer flasks with grounded joint, DIN 12387.

① **Narrow neck form**

Volume ml	Flask Ø mm	Height mm	Socket NS	Order No.
25	42	70	14/23	**18 36 25014**
50	51	85	14/23	**18 36 25017**
100	64	105	14/23	**18 36 25024**
250	85	140	29/32	**18 36 25036**
500	105	175	29/32	**18 36 25044**
1000	131	220	29/32	**18 36 25054**
2000	166	280	29/32	**18 36 25063**

② **Wide neck form**

Volume ml	Flask Ø mm	Height mm	Socket NS	Order No.
50	51	85	29/32	**18 36 26017**
100	64	105	29/32	**18 36 26024**
250	85	140	45/40	**18 36 26036**
500	105	175	45/40	**18 36 26044**
1000	131	220	45/40	**18 36 26054**

Ground Flasks

BOLA Round Bottom Flasks, Bohlender

Transparent, non-porous. Made of PFA, temperature resistance from -200°C to +250°C, universal chemical resistance.

	Contents ml	Total height mm	Ball Ø mm	Middle neck	Side necks	Order No.
①	100	117	67	1 × NS 29	1 × NS14/23	**10 17 65512**
①	250	149	88	1 × NS 29	1 × NS29/32	**10 17 65520**
①	500	177	107	1 × NS 29	1 × NS29/32	**10 17 65536**
②	100	117	67	1 × NS 29	2 × NS14/23	**10 17 65612**
②	250	149	88	1 × NS 29	2 × NS29/32	**10 17 65620**
②	500	177	107	1 × NS 29	2 × NS29/32	**10 17 65636**
③	100	117	67	1 × NS 29	—	**10 17 65806**
③	250	149	88	1 × NS 29	—	**10 17 65808**
③	500	177	107	1 × NS 29	—	**10 17 65809**







Round Bottom Flasks, Two Necks, Rettberg

Round bottom flasks, conical ground sockets, borosilicate glass 3.3.

④ **Side neck straight, DIN12392**

Vol. ml	Middle neck NS	Side neck NS	Order No.
50	14	14	**13 40 21117**
100[1)]	14	14	**13 40 21124**
250[1)]	14	14	**13 40 21136**
100	29	29	**13 40 21224**
250	29	29	**13 40 21236**
500	29	29	**13 40 21244**
1000	29	29	**13 40 21254**
2000	29	29	**13 40 21264**
50[1)]	29	14	**13 40 21319**
100	29	14	**13 40 21324**
250	29	14	**13 40 21336**
500	29	14	**13 40 21344**
1000	29	14	**13 40 21354**

⑤ **Side neck at 20° angle, DIN 12394**

Vol. ml	Middle neck NS	Side neck NS	Order No.
25[1)]	14	14	**13 40 23113**
50	14	14	**13 40 23117**
100	14	14	**13 40 23124**
250	14	14	**13 40 23136**
250	29	29	**13 40 23236**
500[1)]	29	29	**13 40 23244**
1000[1)]	29	29	**13 40 23254**
2000	29	29	**13 40 23264**
50[1)]	29	14	**13 40 24219**
100	29	14	**13 40 24224**
250	29	14	**13 40 24236**
500	29	14	**13 40 24244**
1000	29	14	**13 40 24254**

[1)] Non-DIN size
More sizes available on request





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Everything for your laboratory –
from one source

Ground Flasks



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①



②

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GLASAPPARATEBAU • LABORATORY GLASSWARE

Round Bottom Flasks, Three Necks, Rettberg

Round bottom flasks with three necks, standard ground (NS) conical sockets, borosilicate glass 3.3.

① **Side necks straight (parallel), DIN 12392**

Vol. ml	Middle neck NS	Side neck NS	Order No.
50[1)]	14	14	**13 40 25217**
100[1)]	14	14	**13 40 25225**
250[1)]	29	29	**13 40 25236**
500	29	29	**13 40 25244**
1000	29	29	**13 40 25254**
2000	29	29	**13 40 25263**
3000	29	29	**13 40 25268**
4000	29	29	**13 40 25271**
50[1)]	29	14	**13 40 26219**
100	29	14	**13 40 26224**

Vol. ml	Middle neck NS	Side neck NS	Order No.
250[1)]	29	14	**13 40 26236**
500[1)]	29	14	**13 40 26244**
1000[1)]	29	14	**13 40 26254**
2000[1)]	29	14	**13 40 26263**
3000	45	29	**13 40 26468**
4000	45	29	**13 40 26471**
5000	45	29	**13 40 26473**
6000	45	29	**13 40 26477**
10000[1)]	45	29	**13 40 26486**
20000[1)]	45	29	**13 40 26491**

② **Side necks at 20° angle, DIN 12394**

Vol. ml	Middle neck NS	Side neck NS	Order No.
25[1)]	14	14	**13 40 27213**
50[1)]	14	14	**13 40 27220**
100[1)]	14	14	**13 40 27225**
250[1)]	29	29	**13 40 27236**
500[1)]	29	29	**13 40 27244**
1000[1)]	29	29	**13 40 27254**
2000[1)]	29	29	**13 40 27263**
50[1)]	29	14	**13 40 28227**
100[1)]	29	14	**13 40 28224**
250	29	14	**13 40 28236**

Vol. ml	Middle neck NS	Side neck NS	Order No.
500	29	14	**13 40 28244**
1000	29	14	**13 40 28254**
2000	29	14	**13 40 28263**
1000[1)]	45	29	**13 40 28454**
2000[1)]	45	29	**13 40 28463**
4000[1)]	45	29	**13 40 28471**
6000[1)]	45	29	**13 40 28477**
10000[1)]	45	29	**13 40 28486**
20000[1)]	45	29	**13 40 28491**

[1)] Non-DIN size.

Nitrogen Flasks, Round Bottom, Rettberg

Nitrogen round bottom flasks made of borosilicate glass, DURAN®, with side straight stopcock and hose connection, or with side PTFE high-vacuum valves with fine thread and hose connection.

Volume ml	Socket NS	③ Stopcock NS 2.5 mm Order No.	④ Valve 0 – 3 mm Order No.
25	14.5/23	**13 40 29114**	**10 70 00193**
50	14.5/23	**13 40 29117**	**10 70 00194**
100	14.5/23	**13 40 29124**	**10 70 00195**
250	14.5/23	**13 40 29136**	**10 70 00196**
500	14.5/23	**13 40 29144**	**10 70 00197**
50	29/32	**13 40 29217**	**10 70 00198**
100	29/32	**13 40 29224**	**10 70 00199**
250	29/32	**13 40 29236**	**10 70 00200**
500	29/32	**13 40 29244**	**13 40 29944**
1000	29/32	**13 40 29254**	**13 40 29954**



③ ④

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Nitrogen Tubes, Rettberg

Nitrogen round bottom flasks made of borosilicate glass 3.3, non-graduated, round bottom, with side straight stopcock and hose connection, or side PTFE valve and hose connection.

Nitrogen tubes with cock

Volume ml	Ground joint NS	Stopcock NS mm	⑤ Cone Order No.	⑥ Socket Order No.
10	14.5/23	1.5	**13 40 29308**	**13 40 29408**
25	14.5/23	2.5	**13 40 29314**	**13 40 29414**
50	14.5/23	2.5	**13 40 29317**	**13 40 29417**
100	14.5/23	2.5	**13 40 29324**	**13 40 29424**
250	14.5/23	2.5	**13 40 29336**	**13 40 29436**
100	29/32	2.5	**13 40 29327**	**13 40 29427**
250	29/32	2.5	**13 40 29337**	**13 40 29437**



⑤ ⑥

Continued on next page

Ground Flasks

⑦ **Nitrogen tubes with PTFE high-vacuum valve with fine thread, graduated**

Volume ml	Ground socket NS	Valve passage mm	Order No.
10	14.5/23	0 – 3	**10 70 00160**
25	14.5/23	0 – 3	**10 70 00161**
50	14.5/23	0 – 3	**10 70 00162**
100	14.5/23	0 – 3	**10 70 00163**
250	14.5/23	0 – 3	**10 70 00164**
100	29/32	0 – 3	**10 70 00165**
250	29/32	0 – 3	**10 70 00166**



⑦

⑧ **Nitrogen tubes, thick-walled**
Thicked-walled nitrogen tubes with high-vacuum valve, for storing air-sensitive substances.

Design:
Made of borosilicate glass 3.3, valve passage 0 – 8 mm, hose connection A.-Ø 9 mm

Article	Order No.
Nitrogene tube, thick-walled, 25 ml	**13 40 29514**
Nitrogene tube, thick-walled, 50 ml	**13 40 29517**
Nitrogene tube, thick-walled, 100 ml	**13 40 29524**
Nitrogene tube, thick-walled, 250 ml	**13 40 29536**

⑨ **Nitrogen tubes**
Non-graduated nitrogen tubes with high-vacuum valve and rectangular sleeve NS 14.5/23, for storing air-sensitive substances.

Design:
Made of borosilicate glass 3.3, valve passage 0 – 8 mm, hose connection A.-Ø 9 mm

Article	Order No.
Nitrogene tube, 25 ml	**10 70 80026**
Nitrogene tube, 50 ml	**10 70 80027**
Nitrogene tube, 100 ml	**10 70 80028**
Nitrogene tube, 250 ml	**10 70 80029**



⑧



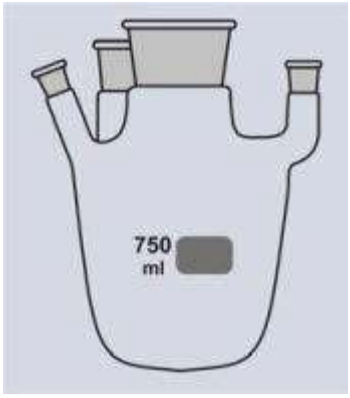
⑨

Sulphuration Flask, Neubert-Glas

Sulphuration flask made of 3.3 borosilicate glass.

Volume ml	Middle neck NS	side neck straight NS	Side neck angled NS	Side neck angled	Order No.
100	29/32	14/23	–	14/23	**13 11 81024**
200	29/32	29/32	14/23	14/23	**13 11 81032**
350	45/40	29/32	14/23	14/23	**13 11 81040**
500	45/40	14/23	14/23	14/23	**10 11 51515**
750	60/46	14/23	29/32	14/23	**13 11 81051**
1500	71/51	29/32	29/32	14/23	**13 11 81061**
2500	71/51	29/32	29/32	14/23	**13 11 81066**
4000	71/51	29/32	29/32	14/23	**13 11 81072**
6000	71/51	29/32	29/32	14/23	**13 11 81077**

More sizes on request.



Separatory Funnels

Separatory Funnels, Rettberg

Separatory funnels, conical shape, ISO 4800, made of borosilicate glass 3.3, standard ground (NS) polyethylene stopper, standard ground stopcock plug and stopcock plug fastener.

⑩ **Non-graduated with standard ground glass plugs, solid**

Volume ml	Stopper NS	Cock plug NS	Cock plug hole Ø mm	Order No.
50	19/26	12.5	2.5	**11 41 11017**
100	19/26	12.5	2.5	**11 41 11024**
250	29/32	14.5	4.0	**11 41 11036**
500	29/32	14.5	4.0	**11 41 11044**
1000	29/32	18.8	6.0	**11 41 11054**
2000	29/32	18.8	6.0	**11 41 11063**
4000[1)]	45/40	29.0	10.0	**11 41 11072**
6000[1)]	45/40	29.0	10.0	**11 41 11077**
10000[1)]	45/40	29.0	10.0	**11 41 11086**

[1)] near pear shape, not acc. to ISO



⑩

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Separatory Funnels



① ② ③

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① Graduated with standard ground glass plugs, solid

Volume approx. ml	Stopper NS	Cock plug NS	Cock plug hole Ø mm	Order No.
50	19/26	12.5	2.5	**11 41 11117**
100	19/26	12.5	2.5	**11 41 11124**
250	29/32	14.5	4.0	**11 41 11136**
500	29/32	14.5	4.0	**11 41 11144**
1000	29/32	18.8	6.0	**11 41 11154**
2000	29/32	18.8	6.0	**11 41 11163**

② Non-graduated with PTFE cock plugs

Volume ml	Stopper NS	Cock plug NS	Cock plug hole Ø mm	Order No.
50	19/26	12.5	2.5	**11 41 12017**
100	19/26	12.5	2.5	**11 41 12024**
250	29/32	14.5	4.0	**11 41 12036**
500	29/32	14.5	4.0	**11 41 12044**
1000	29/32	18.8	6.0	**11 41 12054**
2000	29/32	18.8	6.0	**11 41 12063**
4000[1)]	45/40	29.0	10.0	**11 41 12072**
6000[1)]	45/40	29.0	10.0	**11 41 12077**
10000[1)]	45/40	29.0	10.0	**11 41 12086**

1) near pear shape, not acc. to ISO

③ Graduated with PTFE cock plugs

Volume approx. ml	Stopper NS	Cock plug NS	Cock plug hole Ø mm	Order No.
50	19/26	12.5	2.5	**11 41 12117**
100	19/26	12.5	2.5	**11 41 12124**
250	29/32	14.5	4.0	**11 41 12136**
500	29/32	14.5	4.0	**11 41 12144**
1000	29/32	18.8	6.0	**11 41 12154**
2000	29/32	18.8	6.0	**11 41 12163**

Separatory Funnels, Rettberg

Separatory funnels, conical shape, Squibb type, made of borosilicate glass 3.3, with standard ground (NS) polyethylene stopper, standard ground stopcock plug and stopcock plug fastener.



④ ⑤ ⑥ ⑦

④ Non-graduated with standard ground glass plugs, solid

Volume ml	Stopper NS	Cock plug NS	Cock plug hole Ø mm	Order No.
50	19/26	12.5	2.5	**11 41 31017**
100	19/26	12.5	2.5	**11 41 31024**
250	29/32	14.5	4.0	**11 41 31036**
500	29/32	14.5	4.0	**11 41 31044**
1000	29/32	18.8	6.0	**11 41 31054**
2000	29/32	18.8	6.0	**11 41 31063**

⑤ Graduated with standard ground glass plugs, solid

Volume approx. ml	Stopper NS	Cock plug NS	Cock plug hole Ø mm	Order No.
50	19/26	12.5	2.5	**11 41 31117**
100	19/26	12.5	2.5	**11 41 31124**
250	29/32	14.5	4.0	**11 41 31136**
500	29/32	14.5	4.0	**11 41 31144**
1000	29/32	18.8	6.0	**11 41 31154**
2000	29/32	18.8	6.0	**11 41 31163**

⑥ Non-graduated with PTFE cock plugs

Volume ml	Stopper NS	Cock plug NS	Cock plug hole Ø mm	Order No.
50	19/26	12.5	2.5	**11 41 32017**
100	19/26	12.5	2.5	**11 41 32024**
250	29/32	14.5	4.0	**11 41 32036**
500	29/32	14.5	4.0	**11 41 32044**
1000	29/32	18.8	6.0	**11 41 32054**
2000	29/32	18.8	6.0	**11 41 32063**

⑦ Graduated with PTFE cock plugs

Volume approx. ml	Stopper NS	Cock plug NS	Cock plug hole Ø mm	Order No.
50	19/26	12.5	2.5	**11 41 32117**
100	19/26	12.5	2.5	**11 41 32124**
250	29/32	14.5	4.0	**11 41 32136**
500	29/32	14.5	4.0	**11 41 32144**
1000	29/32	18.8	6.0	**11 41 32154**
2000	29/32	18.8	6.0	**11 41 32163**

Dropping Funnels, Cosing Funnels

Dropping Funnels, Rettberg

cylindrical, drain tube with standard ground cone and dropping point, with graduation, approximate readings of sub-volumes, borosilicate glass 3.3.

Available in 3 versions:
Version **A**: with solid glass plus with standard ground joint
Version **B**: with PTFE plug with standard ground joint



Dropping funnels without pressure compensation tube

	Vers.	Vol. ml	Ground joint NS	Plug Ø mm	Bore Ø mm	Order No.
	A	10	14	12.5	2.5	**13 40 42108**
	A	25	14	12.5	2.5	**13 40 42113**
	A	50	14	12.5	2.5	**13 40 42117**
	A	100	14	12.5	2.5	**13 40 42124**
	A	50	29	12.5	2.5	**13 40 42217**
	A	100	29	12.5	2.5	**13 40 42224**
①	A	250	29	14.5	4.0	**13 40 42236**
	A	500	29	14.5	4.0	**13 40 42244**
	A	1000	29	18.8	6.0	**13 40 42254**
	B	10	14	12.5	2.5	**13 40 44108**
	B	25	14	12.5	2.5	**13 40 44113**
	B	50	14	12.5	2.5	**13 40 44117**
	B	100	14	12.5	2.5	**13 40 44124**
	B	50	29	12.5	2.5	**13 40 44217**
	B	100	29	12.5	2.5	**13 40 44224**
②	B	250	29	14.5	4.0	**13 40 44236**
	B	500	29	14.5	4.0	**13 40 44244**
	B	1000	29	18.8	6.0	**13 40 44254**

Dropping funnels with pressure compensation tube

	Vers.	Vol. ml	Ground joint NS	Plug Ø mm	Bore Ø mm	Order No.
	A	10	14	12.5	2.5	**13 40 46108**
	A	25	14	12.5	2.5	**13 40 46113**
	A	50	14	12.5	2.5	**13 40 46117**
	A	100	14	12.5	2.5	**13 40 46124**
	A	50	29	12.5	2.5	**13 40 46217**
	A	100	29	12.5	2.5	**13 40 46224**
③	A	250	29	14.5	4.0	**13 40 46236**
	A	500	29	14.5	4.0	**13 40 46244**
	A	1000	29	18.8	6.0	**13 40 46254**
	B	10	14	12.5	2.5	**13 40 48108**
	B	25	14	12.5	2.5	**13 40 48113**
	B	50	14	12.5	2.5	**13 40 48117**
	B	100	14	12.5	2.5	**13 40 48124**
	B	50	29	12.5	2.5	**13 40 48217**
	B	100	29	12.5	2.5	**13 40 48224**
④	B	250	29	14.5	4.0	**13 40 48236**
	B	500	29	14.5	4.0	**13 40 48244**
	B	1000	29	18.8	6.0	**13 40 48254**



Dropping Funnels with Temp. Jacket, Rettberg



Dropping funnels with temp. jacket without pressure compensation tube, graduated
Borosilicate glass 3.3, hollow glass stopcock, temperature control couplings with screw thread GL 14, cap and plastic tube connector (PP).

	Vol. approx. ml	Socket NS	Cone NS	Stopcock NS	Stopcock Ø mm	Order No.
⑤	50	14.5	14.5	14.5	2.5	**13 40 41008**
	100	29	29	14.5	2.5	**13 40 41024**
	250	29	29	14.5	4.0	**13 40 41036**
	500	29	29	14.5	4.0	**13 40 41045**
	1000	29	29	18.8	6.0	**13 40 41055**
	2000	29	29	18.8	6.0	**13 40 41063**

Dropping funnels with temp. jacket with pressure compensation tube, graduated
Borosilicate glass 3.3, hollow glass stopcock, temperature control couplings with screw thread GL 14, cap and plastic tube connector (PP).

	Vol. approx. ml	Socket NS	Cone NS	Stopcock NS	Stopcock Ø mm	Order No.
⑥	50	14.5	14.5	14.5	2.5	**13 40 41108**
	100	29	29	14.5	2.5	**13 40 41124**
	250	29	29	14.5	4.0	**13 40 41136**
	500	29	29	14.5	4.0	**13 40 41145**
	1000	29	29	18.8	6.0	**13 40 41155**
	2000	29	29	18.8	6.0	**13 40 41163**



Bottles



webcode WWEQ2150

Woulfe Bottles, DURAN®, DURAN Group / IDL

With 3 necks NS, DIN 12480, vacuum resistant due to the wall thickness and geometry.

Volume ml	Ø mm	Necks NS	Order No.
500	87	19/26	**12 24 70944**
1000	113	24/29	**12 24 70954**
2000	135	29/32	**12 24 70963**
5000	185	34/35	**12 24 70973**



webcode WWQVD180

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Woulfe Bottles, Rettberg

Rettberg Woulfe bottles, safety bottles made of borosilicate glass 3.3, for jobs using vacuum, with plastic coating as splinter and implosion protection, with 2 necks
Fittings: Suction tube with non-return valve, dial pressure gauge with 2 scales (1000 to 0 mbar, 760 to 0 mm Hg), integrated vent valve.

Volume ml	Middle neck GL	Side neck GL	Order No.
500	32	18	**10 70 00264**
1000	32	18	**10 70 00265**
2000	32	18	**10 70 00266**
5000	32	18	**10 70 00267**

webcode WWQVD134



Woulfe Bottles, Rettberg

Woulfe bottles, Erlenmeyer shape made of borosilicate glass 3.3 (5000 ml bottle), thick walls, for jobs using vacuum, with plastic coating as splinter and implosion protection, glass insert with screw-off plastic hose connections (PP), intermediate piece with vent valve, pressure gauge with 2 scales (1000 to 0 mbar, 760 to 0 mm Hg). Also available with non-return valve at the side.

Volume ml	Diameter mm	Version without non-return valve Order No.	with non-return valve Order No.
500	110	**12 70 42044**	**10 70 42144**
1000	140	**12 70 42054**	**10 70 42154**
2000	170	**12 70 42063**	**10 70 42163**
3000	165	**10 70 00089**	**10 70 42164**
5000[1)]	185	**12 70 42073**	**10 70 42173**
10000[1)]	240	**12 70 42086**	**10 70 42186**
15000[1)]	255	**12 70 42088**	**10 70 42188**
20000[1)]	290	**12 70 42091**	**10 70 42191**

[1)] Bottle shape

Webcode

Use the webcode on our website to see a larger selection of products from a specific manufacturer.

Bottles

Gas Washing Bottles, DURAN®, DURAN Group / IDL

Gas washing bottles with screw cap system, Drechsel top, **without** filter disk, adjustable immersion height.

Gas washing bottles with filter disk

	Vol. ml	Thread GL	Porosity	Bowl Ø mm	Order No.
①	500	45	1	25	**11 25 70401**

Gas washing bottles without filter disk

	Volume ml	Thread GL	Order No.
②	500	45	**11 24 71300**

Individual parts: Bottle

Article	Order No.	PU pc/Pack
Laboratory bottle, 500 ml (thread GL 45)	**11 21 80144**	10

Tops

Article	Order No.
Drechsel top without filter disk	**11 24 71302**
Drechsel top with filter disk of porosity 1	**11 25 75401**

Plastic hose connectors

Article	Order No.	PU pc/Pack
Plastic tubing connector, straight	**13 29 25506**	10
Screw cap, GL 14	**13 29 22705**	10
Screw cap, GL 45	**13 29 22710**	10
VMQ Silicone ring 26 × 42 × 5 mm	**11 29 22825**	10



webcode WWEQ2084



Gas Washing Bottles, Rettberg

Gas washing bottle

Drechsel type gas washing bottles, DIN 12596, conical standard ground joint size 29, bottle height 200 mm, working height 250 mm, bottles in SBW borosilicate glass 6.5, inserts in borosilicate glass 3.3 (not included in the scope of delivery).

	Volume ml	Order No.
③	100	**11 44 52924**
	250	**11 44 52936**

Volume ml	Order No.
500	**11 44 52944**

Gas washing bottle insert

With cone size 29, borosilicate glass 3.3, uniform overall height 200 mm, DIN 12463.

	Article	Order No.
④	Insert without fritted glass	**11 44 52970**
⑤	Insert with fritted glass, porosity 1	**11 44 52972**



webcode WWQVD022

BOLA Gas Washing Bottles, Bohlender

⑥ **BOLA gas washing bottles**

Gas washing bottles made of transparent fluoroplastic (PFA), chemically resistant to practically all chemicals, temperature resistant from -270 to +260°C (PFA).
The fine porous frits made of fluoroplastic (PTFE) allow optimal bubbling of the gas to be washed. Because the products are unbreakable, a high level of occupational safety is achieved.
Each of the gas washing bottles is equipped with 2 connectors made of fluoroplastic (PTFE) (dia. 4 × 6 mm hose for the 250 and 500-ml bottles; dia. 6 × 8 mm hose for the 1000-ml bottle).

Volume ml	Height approx. mm	Material	Order No.
250	175	PFA	**22 17 11801**
500	200	PFA	**22 17 11802**
1000	240	PFA	**22 17 11803**



Continued on next page

webcode To see other variants and accessories, please enter the webcode on our website.

Bottles



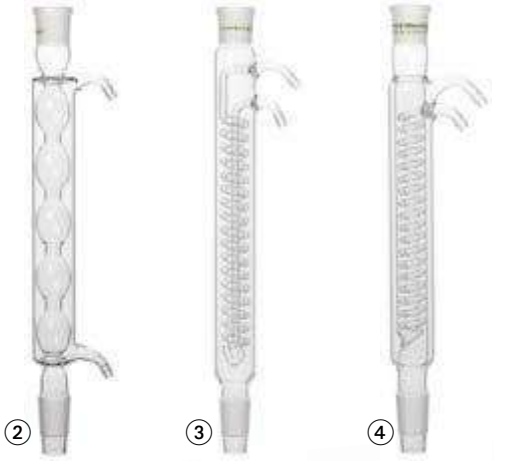
① **BOLA scrubber columns**
Transparent scrubber column made of FEP. Inlet and outlet tube as well as riser tube are made of FEP (5.6 × 8 mm), bottom and top are made of pure PTFE. The standard PTFE frit has a pore size of approx. 3 µm and is screwed on the riser tube with an M8×1 thread.

Technical data:

Temperature resistance:	-200°C from +205°C	
Chemical resistance:	universal	
Pressure:	no pressure	
Outer-Ø of column:	54 mm	
Connection for tubing outer-Ø:	2 × 8 mm	
Flow rate	**A 117-04 (500 ml)**	**A 117-08 (1000 ml)**
System pressure 0.1 bar:	15 l/h	5 l/h
System pressure 0.3 bar:	62.5 l/h	50 l/h
System pressure 0.6 bar:	130.0 l/h	117.5 l/h

Volume ml	Height mm	Order No.
500	400	**10 17 61704**
1000	700	**10 17 61708**

Condensers



webcode WWQVD080

Condensers, Rettberg

② **Allihn condensers, borosilicate glass 3.3, DIN 12581**

Gr. joint NS	Jacket L mm	Order No.	Gr. joint NS	Jacket L mm	Order No.
14.5/23[1)]	160	**13 40 83120**	29/32[1)]	400	**13 40 83240**
29/32	250	**13 40 83225**			

③ **Dimroth condensers, borosilicate glass 3.3, DIN 12591**

Gr. joint NS	Jacket L mm	Order No.	Gr. joint NS	Jacket L mm	Order No.
14.5/23[1)]	160	**13 40 85116**	29/32	400	**13 40 85240**
29/32	250	**13 40 85225**			

④ **Intensive condensers, borosilicate glass 3.3, DIN 12593**

Gr. joint NS	Jacket L mm	Order No.	Gr. joint NS	Jacket L mm	Order No.
14.5/23	160	**13 40 86120**	29/32	400	**13 40 86240**
29/32	250	**13 40 86225**			

⑤ **Liebig condensers (West condensers), borosilicate glass 3.3, DIN 12576**

Gr. joint NS	Jacket L mm	Order No.	Gr. joint NS	Jacket L mm	Order No.
14.5/23	160	**13 40 82116**	29/32	400	**13 40 82240**
29/32	250	**13 40 82225**			

[1)] Non-DIN size

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webcode WWQVD008

Stainless Steel Condenser and Casing Tube, Rettberg

Article	Order No.
Stainless steel condenser	**13 70 50030**

with 2 hose shafts and cone NS 29, immersion depth approx. 300 mm

Article	Order No.
Stainless steel condenser	**10 70 00129**

with 2 hose shafts and cone NS 29, immersion depth approx. 155 mm

Article	Order No.
Casing tube for 300 mm	**13 70 50033**

to match, made of borosilicate glass 3.3, cone and socket NS 29/32, side socket NS 14,5/23

Article	Order No.
Casing tube for 155 mm	**10 70 00130**

to match, made of borosilicate glass 3.3, cone and socket NS 29/32, side socket NS 14,5/23

Article	Order No.
PTFE seal	**24 70 10029**

to match, knurled, joint NS 29

Columns

Distilling Columns, Rettberg



① Hempel type columns without glass jacket
for simple fractioning, with packing carrier, borosilicate glass 3.3.

Gr. joint NS	I.D. mm	Filling H mm	Order No.	Gr. joint NS	I.D. mm	Filling H mm	Order No.
14.5/23	15	200	**13 40 65214**	29/32	30	300	**13 40 65329**
14.5/23	15	300	**13 40 65314**	29/32	30	500	**13 40 65529**

② Hempel type columns with slip-on glass jacket
for simple fractioning, with packing carrier, borosilicate glass 3.3.

Gr. joint NS	I.D. mm	Filling H mm	Order No.	Gr. joint NS	I.D. mm	Filling H mm	Order No.
14.5/23	15	200	**13 40 65614**	29/32	30	300	**13 40 65829**
14.5/23	15	300	**13 40 65714**	29/32	30	500	**13 40 65929**

③ Vigreux columns with slip-on glass jacket
Borosilicate glass 3.3

Gr. joint NS	I.D. mm	Filling H mm	Order No.	Gr. joint NS	I.D. mm	Filling H mm	Order No.
14.5/23	15	200	**13 40 66215**	29/32	25	300	**13 40 66330**
14.5/23	15	300	**13 40 66315**	29/32	25	600	**13 40 66630**

Column Packings, Rettberg



④ Glass beads, solid, AR-GLAS®

Ø mm	Order No.	Ø mm	Order No.
2	**13 40 69102**	5	**13 40 69105**
3	**13 40 69103**	6	**13 40 69106**
4	**13 40 69104**		

⑤ Raschig rings, AR-GLAS® (glass rings)

Length mm	Ø mm	Order No.	Length mm	Ø mm	Order No.
3	3	**13 40 69203**	5	5	**13 40 69205**
4	4	**13 40 69204**	6	6	**13 40 69206**

Distillation Components

Distilling Apparatus, Rettberg



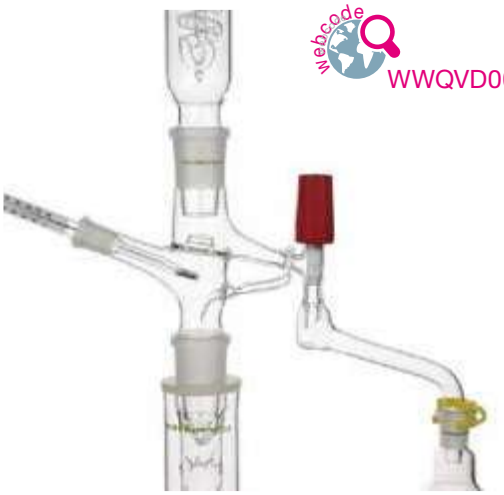
Distilling apparatus, complete
Made of borosilicate glass 3.3, consisting of the components listed below.

Article	Order No.
Distilling apparatus, complete unit	**13 70 75000**

Individual components

Article	Order No.
Distilling link/Claisen type with fused Liebig condenser, 2 standard ground sockets 14.5, 2 × standard ground cones 29, jacket length approx. 330 mm (fitted length approx. 250 mm), condensing up to below the cone at the outlet, condensing water connections with unscrewable plastic hose connections (PP)	**13 40 75014**
Intermediate receiver Anschütz-Thiele type, with inclined stub, capacity 50 ml, graduated, standard ground cone and socket 29, vacuum connection with unscrewable plastic hose connections (PP).	**13 40 91424**
Round bottom flask 250 ml, NS 29	**13 40 20236**
Evaporator flask 1 ltr., middle neck ground joint 29, side neck ground joint 14.5, inclined	**13 40 24254**
Stopper with conical ground joint NS 14.5	**13 40 39114**
Gas supply tube, NS 14.5 with PTFE valve	**13 40 37211**
Thermometer with standard ground joint with standard ground joint 14.5, 0 to +250°C, fitted length 75 mm	**10 70 00128**
Ground retaining device, NS 29 (3 pieces needed)	**13 70 12029**
Heater 1000 ml	**13 70 21110**
Scissor-type table	**13 70 75060**
Stand set	**13 70 75070**

Distillation Components



webcode WWQVD003

Distilling Controller, Rettberg

Manually controlled, made of borosilicate glass 3.3, with ground socket 29/32 for a recirculating condenser, ground cone 29/32 for a distilling column, ground joint-socket 14.5/23 for a thermometer with ground joint (or similar), and side PTFE valve (adjustable) for setting the return flow with ground cone 14.5/23 for a collecting flask.

Article	Order No.
Distilling controller	**13 40 66700**

Supplied without the illustrated accessories



webcode WWQVD070

Distilling Links, Rettberg

Distilling links with fused Liebig condenser, borosilicate glass 3.3, standard ground socket size 14, with offset vacuum stub with cone and dropping point.

Ground cone NS	Condenser jacket length mm	Order No.
14	160	**13 40 63214**
29	250	**13 40 63329**
29	400	**13 40 63429**

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webcode WWQVD072

Distilling Links, Claisen Type, Rettberg

Claisen-type distilling links with fused Liebig condenser, 2 standard ground joint-sockets14, with offset vacuum stub with dropping point, borosilicate glass 3.3.

Ground cone NS	Condenser jacket length mm	Order No.
14	160	**13 40 64214**
29	250	**13 40 64329**
29	400	**13 40 64429**



webcode WWQVD086

Distilling Receivers, Rettberg

Distilling receivers
with 1 socket, short outlet, borosilicate glass 3.3.

	Ground joint NS	Form	Order No.
①	14	bent in an angle of 105°C	**13 40 90014**
	29	bent in an angle of 105°C	**13 40 90029**

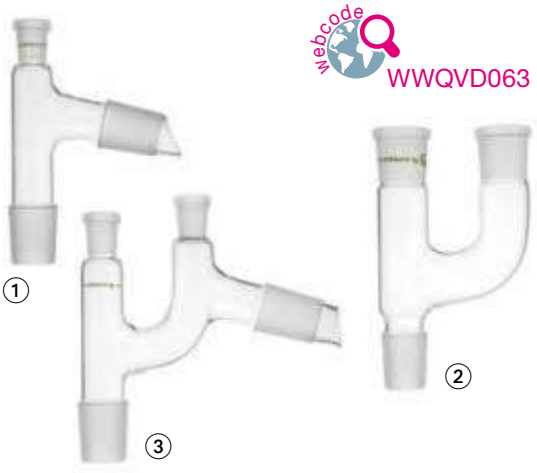
Vacuum receivers
with drip tip and suction tube with ground cone and socket, borosilicate glass 3.3.

	Ground joint NS	Form	Order No.
②	14	straight	**13 40 90114**
	29	straight	**13 40 90129**
③	14	bent in an angle of 105°C	**13 40 90214**
	29	bent in an angle of 105°C	**13 40 90229**

Distillation Components

Stillheads, Rettberg

webcode WWQVD063



① **Stillheads borosilicate glass 3.3 with 1 socket and 2 cones**

Cones NS	Sockets NS	Order No.
14.5/23	14.5/23	**13 40 60914**
29/32	14.5/23	**13 40 60929**

② **Two-neck adaptors borosilicate glass 3.3 with 2 sockets and 1 cone, with parallel necks**

Cones NS	Sockets NS	Order No.
14.5/23	14.5/23	**13 40 60514**
29/32	29/32	**13 40 60529**

③ **Claisen heads borosilicate glass 3.3 with 2 sockets and 2 cones**

Cones NS	Sockets NS	Order No.
14.5/23	14.5/23	**13 40 61114**
29/32	14.5/23	**13 40 61129**

Bends, Rettberg

webcode WWQVD066

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	Ground joint NS at bottom	Ground joint NS on side	Angle °	Order No.
④	Cone 14.5/23	Cone 14.5/23	90	**13 40 61214**
	Cone 29/32	Cone 29/32	90	**13 40 61229**
⑤	Cone 14.5/23	Cone 14.5/23	75	**13 40 61314**
	Cone 29/32	Cone 29/32	75	**13 40 61329**
⑥	Cone 14.5/23	Socket 14.5/23	90	**13 40 61414**
	Cone 29/32	Socket 29/32	90	**13 40 61429**
	Cone 14.5/23	Socket 29/32	90	**13 40 61514**
	Cone 29/32	Socket 14.5/23	90	**13 40 61529**

Distilling Receivers, Rettberg



webcode WWQVD087

Bredt-type distilling receivers

inclined receiver, with 4 flasks, incl. clamps, borosilicate glass 3.3.

side socket NS	vertical ground joints NS cone/socket	Flask ground joint NS	Flask vol. ml	Order No.
14/23	14/23 / 14/23	14/23	25	**13 40 91112**
14/23	14/23 / 14/23	14/23	50	**13 40 91115**
29/32	29/32 / 29/32	14/23	100	**13 40 91110**

Individual parts

	Article	Order No.
	Receiver with 1 socket NS 14/23 and 1 cone NS 14/23	**13 40 91214**
	Receiver with 1 socket NS 29/32 and 1 cone NS 29/32	**13 40 91229**
	Distributor with 1 socket NS 14/23 and 4 cones NS 14/23	**13 40 91234**
	Distributor with 1 socket NS 29/32 and 4 cones NS 14/23	**13 40 91239**
	Flask NS 14/23, capacity 25 ml	**13 40 20114**
	Flask NS 14/23, capacity 50 ml	**13 40 20117**
⑦	Flask NS 14/23, capacity 100 ml	**13 40 20124**
	Flask NS 14/23, capacity 250 ml	**13 40 20136**

Separators, Cooling Traps

Cooling Traps, Rettberg



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webcode WWQVD085

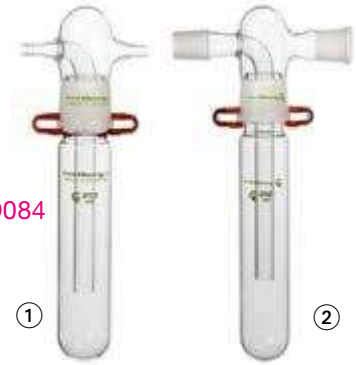
Cooling traps made of borosilicate glass 3.3, one-piece, GL 45 with cap at top, side connections with GL 14 threads with caps and plastic hose connectors.

Volume approx. ml	Order No.
250	**13 40 51036**

Dewar vessel to match: page 640, Order No. 17 50 10309.

Separators, Cooling Traps

webcode WWQVD084



Cooling Traps, Rettberg

Cooling traps made of borosilicate glass 3.3, two-piece, side connections with hose connectors or ground joints, incl. Keck clamp.

	Vol. approx. l	Bottom part cone NS	Top part socket NS	side connections	Order No.
	100	29	29	Tubing connectors	**13 40 50024**
①	250	45	45	Tubing connectors	**13 40 50036**
	100	29	29	Cone/socket NS 29	**13 40 50124**
②	250	45	45	Cone/socket NS 29	**13 40 50136**

Dewar vessel to match: page 640, Order No. 17 50 10309.

webcode WWQVD169

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Cooling Traps, Rettberg

Cooling Traps
Lower section removable, complete unit, suitable for use in vacuum conditions, 3.3 borosilicate glass, capacity approx 500 ml (condensate liquid approx 200 ml).
Lower section with small flange, 50 mm, seal and clamp.
Upper section with 2 small lateral flanges 16 mm (thick-walled),
for fitting to high vacuum leads, metal flange components and similar.

Article	Order No.
Cooling trap, 2-piece	**13 40 51144**
Cooling trap 2-part with an additional small flange DN 16 (standard flange) for fitting a Pirani probe	**13 40 51244**

Supplied without the stand shown in the illustration.

Accessories

Article	Order No.
Clamp-ring holder with rod for fastening the cooling trap to a stand	**13 40 51410**

webcode WWQVD170



Cooling Traps, Rettberg

Cooling Traps
Lower section removable, complete unit, suitable for use in vacuum conditions, borosilicate glass 3.3, capacity approx 1000 ml (liquid condensate volume approx 500 ml)
Lower section with flange DN 60, seal and clamp
Upper section with 2 small lateral flanges DN 25 mm (thick-walled),
for fitting to high vacuum leads, metal flange components and similar.

Article	Order No.
Cooling trap 2-piece	**13 40 51154**
Cooling trap 2-part with an additional small flange DN 16 (standard flange) for fitting a Pirani probe	**13 40 51254**

Supplied without the stand shown in the illustration.

Accessories

Article	Order No.
Clamp-ring holder with rod for fastening the cooling trap on a stand	**13 40 51420**





Cooling Trap with Dewar Vessel, KGW-Isotherm

The cooling traps KF 29-GL and KFL 29-GL consist of a Dewar vessel Type 12 C or 18 C, the cooling trap with GL 18 glass thread and PTFE-Olive, as well as a plastic top ring. The type KF 29-GL-A and KFL 29-GL-A additionally have a spout GL 32 with a screw cap at the cooling finger.
Further sizes and connections available on request.

The cold traps are produced solely from borosilicate glass 3.3 (DIN/ISO 3585).

	Type	Dewar	Condensate volume ml	Order No.
③	KF 29-GL	12 C	150	**10 50 12900**
	KFL 29-GL	18 C	250	**10 50 12901**
④	KF 29-GL-A	12 C	150	**10 50 12910**
	KFL 29-GL-A	18 C	250	**10 50 12911**

Separators, Cooling Traps

Cooling Trap made of Stainless Steel, KGW-Isotherm

Stainless steel cooling trap with Dewar flask made of borosilicate glass 3.3 type 18C or stainless steel Dewar flask type DSS 2000. To condensate water, solvents, or gases in connection with a vacuum pump.

Applications:
- Laboratory technology
- Medical engineering
- Life science
- Vacuum engineering

Characteristics:
- Reliable and easy handling
- No stand material for holding the cooling trap necessary
- Dewar flasks according to DIN 12492
- Protective casing of Dewar flask made of blue coated metal, aluminum stucco or stainless steel
- For liquid cooling agents, e.g. LN2 (approx. -196°C)
- For solid cooling agents CO_2 (approx. -77°C) with solvent (CO_2 wire basket necessary)

Technical data:	**Dewar flask type 18 C**	**Dewar flask type DSS 2000**
Material:	(DURAN) borosilicate glass 3.3 ISO 3585	Stainless/nickel chromium steel
Coolant capacity:	approx. 1.6 liter	approx. 1.2 liter
Coolant compartment:	unpressurized	unpressurized
Support ring:	PE, white, two-piece	PE, white, two-piece
Cooling trap:	**KF54V**	
Connections:	KF NW 16	
Two-piece:	KF NW 50	
Material:	V2A / 1.4301	
Condensate capacity:	200 ml	
Pressure range:	vacuum to max. 10^{-6} mbar	
Pressure:	to max. 3 bar overpressure	







Article	Order No.
① Cold trap made of stainless steel KF54V with Dewar Vessel made of borosilicate glass 3.3	**10 50 11710**
② Cold trap made of stainless steel KF54V with Dewar Vessel made of stainless steel	**10 50 11711**
③ CO_2 wire basket for cold trap type 18 C for easy handling	**10 50 11720**
③ CO_2 wire basket for cold trap type DSS 2000 for easy handling	**10 50 11721**

Standard Ground Components, Threaded Components

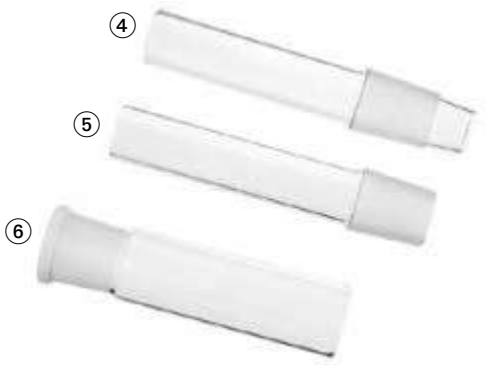
Joint Cones and Sockets, Conical, Rettberg

webcode WWQVD034

DIN 12242, made of borosilicate glass 3.3

Joint sockets and cones

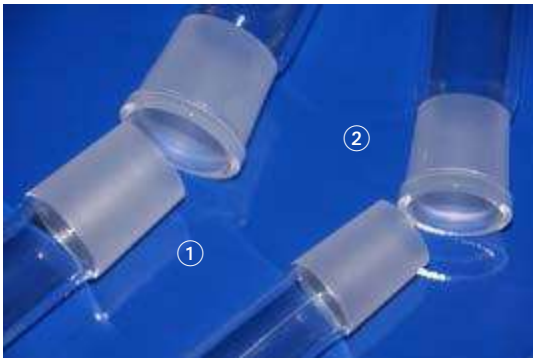
Ground joint NS	⑥ Socket Order No.	⑤ Cone Order No.
5/13	**13 40 11005**	**13 40 11105**
7/16	**13 40 11007**	**13 40 11107**
10/19	**13 40 11010**	**13 40 11110**
12/21	**13 40 11012**	**13 40 11112**
14/23	**13 40 11014**	**13 40 11114**
19/26	**13 40 11019**	**13 40 11119**
24/29	**13 40 11024**	**13 40 11124**
29/32	**13 40 11029**	**13 40 11129**
34/35	**13 40 11034**	**13 40 11134**
45/40	**13 40 11045**	**13 40 11145**
60/46	**13 40 11060**	**13 40 11160**
71/51	**13 40 11071**	**13 40 11171**
85/55	**13 40 11085**	**13 40 11185**
100/60	**13 40 11100**	**13 40 11101**



④ **Joint cones with extension**

Ground joint NS	Order No.
14/23	**13 40 11314**
19/26	**13 40 11319**
24/29	**13 40 11324**

Ground joint NS	Order No.
29/32	**13 40 11329**
34/35	**13 40 11334**
45/40	**13 40 11345**



Conical Ground Joints, Quartz Glass, QGT Bad Harzburg

Quartz glass conical ground joints acc. to DIN 12250.

① **Joint-cones**

NS	Tubing Ø mm	Overall L mm	Order No.
5/13	4	120	**18 36 30001**
7/16	6	120	**18 36 30002**
10/19	8	120	**18 36 30003**
12/21	11	120	**18 36 30004**
14/23	13	120	**18 36 30005**
19/26	17	120	**18 36 30006**
24/29	22	150	**18 36 30007**

NS	Tubing Ø mm	Overall L mm	Order No.
29/32	26	150	**18 36 30008**
34/35	30	150	**18 36 30009**
45/40	40	150	**18 36 30010**
60/46	56	180	**18 36 30011**
71/51	65	200	**18 36 30012**
85/55	80	200	**18 36 30013**

② **Joint-sockets**

NS	Tubing Ø mm	Overall L mm	Order No.
5/13	8	120	**18 36 30101**
7/16	10	120	**18 36 30102**
10/19	13	120	**18 36 30103**
12/21	15	120	**18 36 30104**
14/23	17	120	**18 36 30105**
19/26	22	15	**18 36 30106**
24/29	28	135	**18 36 30107**

NS	Tubing Ø mm	Overall L mm	Order No.
29/32	34	135	**18 36 30108**
34/35	40	150	**18 36 30109**
45/40	50	150	**18 36 30110**
60/46	65	180	**18 36 30111**
71/51	75	200	**18 36 30112**
85/55	90	200	**18 36 30113**

webcode WWQVD035

rettberg.biz



Spherical Joints, DIN 12244, Rettberg

made of borosilicate glass 3.3

Ground joint KS	③ Dish Order No.	④ Ball Order No.
13/2	**13 40 12013**	**13 40 12113**
13/5	**13 40 12015**	**13 40 12115**
19/9	**13 40 12019**	**13 40 12119**
29/15	**13 40 12029**	**13 40 12129**
35/20[1)]	**13 40 12035**	**13 40 12135**
40/25	**13 40 12040**	**13 40 12141**
51/30	**13 40 12051**	**13 40 12151**
64/40	**13 40 12065**	**13 40 12165**

[1)] Non-DIN size



Spherical Ground Joints, Quartz Glass, QGT Bad Harzburg

Quartz glass spherical ground joints acc. to DIN 12265.

⑤ **Balls**

KS	Tubing Ø mm	Overall L mm	Order No.
13	8	100	**18 36 35013**
19	13	100	**18 36 35019**
29	19	120	**18 36 35029**

KS	Tubing Ø mm	Overall L mm	Order No.
40	30	150	**18 36 35040**
51	36	150	**18 36 35051**
64	48	150	**18 36 35064**

⑥ **Sockets**

KS	Tubing Ø mm	Overall L mm	Order No.
13	8	100	**18 36 35113**
19	13	100	**18 36 35119**
29	19	120	**18 36 35129**

KS	Tubing Ø mm	Overall L mm	Order No.
40	30	150	**18 36 35140**
51	36	150	**18 36 35151**
64	48	150	**18 36 35164**

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and still more on our website!

Standard Ground Components, Threaded Components

PTFE-Seals for Cones and Sockets, Rettberg

PTFE seals for cones and sockets made of pure virgin PTFE prevent seizing-up and create a gas-tight and liquid-tight joint between standard ground (NS) glass components. Practical, handy knurled grip allows easy separation of ground glass joints.
Vacuum tight without seal grease.

for ground joint NS	Order No.
10	**24 70 10010**
12.5	**24 70 10012**
14.5	**24 70 10014**
18.8	**24 70 10018**
29.2	**24 70 10029**
34.5	**24 70 10034**

for ground joint NS	Order No.
45	**24 70 10045**
60	**24 70 10060**
71	**24 70 10070**
85	**24 70 10085**
100	**24 70 10100**



webcode WWQVD112

BOLA Joint Sleeves, Bohlender

Fluoroplastic (PTFE) ground joint (NS) sleeves, resistant to nearly all chemicals, withstand temperatures between -200 and +260°C, for gas-tight and liquid-tight standard ground joints, suitable for vacuum up to 0.1 mbar. The grooves on the exterior prevent seizing-up of standard ground joints. The BOLA joint sleeves can easily be detached again and are re-usable. No need for vacuum grease.

NS size	Order No.	PU pc/Pack
14/23	**24 17 46004**	10
19/26	**24 17 46005**	10
24/29	**24 17 46006**	10
29/32	**24 17 46007**	10
34/35	**24 17 46008**	5

NS size	Order No.	PU pc/Pack
45/40	**24 17 46010**	5
60/46	**24 17 46013**	1
71/51	**24 17 46014**	1
85/55	**24 17 46015**	1

Available only in original packaging units. No fractions possible.



Ground Joint Clamps, IDL

webcode WW7R3237

Ground joint clamps made of spring steel, nickel-plated for use at very high temperatures over 150°C.

for ground joint NS	Order No.
14,5	**13 00 14014**
18,8	**13 00 14019**
24	**13 00 14024**
29,2	**13 00 14029**



Clamps for Conical Joints, Rettberg

① **Clamps for Conical Joints**
Fork-type clamps for conical joints, CrNi steel, without locking screw.

for ground joint NS	Order No.
14.5	**13 70 30014**
19	**13 70 30019**
24	**13 70 30024**

for ground joint NS	Order No.
29	**13 70 30029**
45	**13 70 30045**
Locking screw for all sizes	**13 70 30145**



① webcode WWQVD036

Ground glass joint locking system made from POM
Design:
- NS 14.5 (max. flanged socket A.-Ø 18 mm): long version suitable for grip collar joint sleeves / short version suitable for disposable joint sleeves
- NS 29 (max. flanged socket A.-Ø 34 mm): suitable for grip collar and disposable joint sleeves

for ground joint NS	Order No.
② 14.5, short version	**10 70 80050**
③ 14.5, long version	**10 70 80051**
④ 29	**10 70 80052**



② ③ ④

webcode WWQVD037



Clamps for Spherical Joints, Rettberg

① **Clamps for spherical joints**
Clamps for spherical joints, 18/8 steel, complete with locking screw.

for ground joint KS	Order No.	for ground joint KS	Order No.
13	**13 70 31013**	40	**13 70 31040**
19	**13 70 31019**	50	**13 70 31050**
28	**13 70 31028**	65	**13 70 31065**
35	**13 70 31035**		

② **Spherical joint locking system made from POM**

for ground joint KS	Order No.	for ground joint KS	Order No.
19/9	**10 70 80190**	29/15	**10 70 80191**

more sizes on request

webcode WWW4U067



Ground Joint Clamps Inox 18/8, LAT

Ground joint clamp (DBGM) for conical standard ground compounds:
- Made of best special Cr-Ni-spring steel wire, thus very temperature- and chemical-resistant
- Exact, safe fit even in case of tensile loading
- Constant elasticity over several years
- Hassle-free handling, thus simple, safe mounting and removing
- In declared single packaging
- Made in Germany

Type	for ground joint NS	Order No.
Ground Joint Clamp	5	**10 20 10050**
Ground Joint Clamp	7.5	**10 20 10075**
Ground Joint Clamp	10	**10 20 10100**
Ground Joint Clamp	12.5	**10 20 10125**
Ground Joint Clamp	14.5	**10 20 10145**
Ground Joint Clamp	19	**10 20 10190**
Ground Joint Clamp	24	**10 20 10240**
Ground Joint Clamp	29	**10 20 10290**
Ground Joint Clamp	34.5	**10 20 10345**
Ground Joint Clamp	45	**10 20 10450**

webcode WW7R3238



Ground Joint Clamps, IDL

Ground joint clamps made of polyacetal (POM), Delrin®. Melting point 175°C, heat-resistant up to approx. 150°C, very good chemical resistance.
- Easy, safe and quick to fit and remove.
- Each size in a different color for easy selection.
- No glass damage.
- No bending, constant shape.
- No corrosion.
- Cheaper than steel clamps, specially for spherical ground joints.

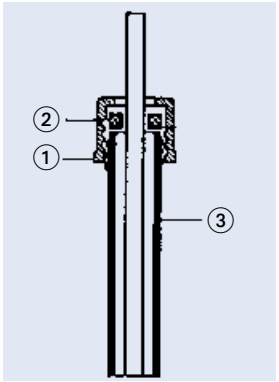
Type KC for conical ground joints

for ground joint NS	Colour	Order No.
10	green	**13 00 12010**
12	violet	**13 00 12012**
14	yellow	**13 00 12014**
19	blue	**13 00 12019**
24	green	**13 00 12024**
29	red	**13 00 12029**
34	orange	**13 00 12034**
40	yellow	**13 00 12040**
45	amber	**13 00 12045**

Standard Ground Components, Threaded Components

Screw Cap System, DURAN Group / IDL

Fitting example:
Slip the screw cap ① and the silicone seal (VQM) ② with the PTFE sleeve over the object (thermometer, tube etc.) to be passed through. The PTFE face has to point to the reaction chamber.
Place the screw cap ① over the silicone seal (VMQ) with the PTFE sleeve and screw it tight on the threaded tube ③.



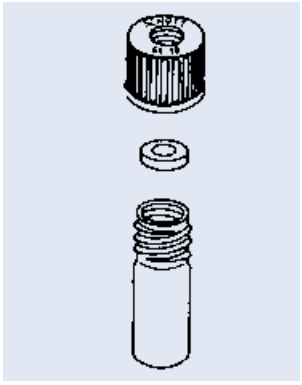
webcode WWEQ2096

Plastic Caps with DIN Threads, DURAN Group / IDL

The plastic caps for laboratory glassware with threads are available in two plastic versions:

Closed plastic caps (screw sealing caps) have seals that are fully coated with PTFE. Plastic caps with hole (screw connecting caps) are combined with matching silicon seals (VQM) with vulcanized PTFE sleeves for passing through tubes with various diameters.

A combination with closed seals (septum) is available for piercing, e.g. for inoculating culture media. All parts can be sterilized.



webcode WWEQ2097

Plastic Screw Caps made of PBT with Aperture, DURAN Group / IDL

Red screw caps with centric bore, temperature resistant up to +180°C. Autoclavable.

Thread GL	Bore Ø mm	Order No.	PU pc/Pack
14	9.5	**13 29 22705**	10
18	11	**13 29 22706**	10
25	15	**13 29 22709**	10
32	20	**13 29 22708**	10
45	34	**13 29 22710**	10

Available only in original packaging units. No fractions possible.



webcode WWEQ2099

Plastic Hose Connectors, DURAN Group / IDL

with silicone seal (VMQ), for screw cap GL 14. T_{max} = 140°C.

Tubing connectors made of polypropylene

	O.D. mm	I.D. mm	Form	Order No.	PU pc/Pack
④	8.6	5	straight	**13 29 25506**	10
⑤	8.6	4	curved	**13 29 24705**	10

Available only in original packaging units. No fractions possible.



webcode WWEQ2100



Accessories

Article	Order No.	PU pc/Pack
Spare seal made of silicone rubber (VMQ) for plastic tube connector	**13 29 22009**	10

Available only in original packaging units. No fractions possible.

webcode WWEQ2101



Silicone Rubber Sealing Rings, (VMQ), DURAN Group / IDL

Silicone rubber sealing rings with vulcanized-on PTFE sleeves and with centric bore (for screw caps with aperture). T_{max} = +130°C (vapour) and +200°C (dry heat).

Thread GL	O.D. mm	I.D. mm	for tube O.D. mm	Order No.	PU pc/Pack
14	12	6	5.5 – 6.5	**13 29 23406**	10
18	16	6	5.5 – 6.5	**13 29 23506**	10
18	16	8	7.5 – 9	**13 29 23508**	10
18	16	10	9 – 11	**13 29 23510**	10
25	22	8	7.5 – 9	**13 29 23708**	10
25	22	10	9 – 11	**13 29 23710**	10
25	22	12	11 – 13	**13 29 23712**	10
32	29	10	9 – 11	**13 29 23610**	10
32	29	12	11 – 13	**13 29 23612**	10
32	29	14	13 – 15	**13 29 23614**	10
32	29	16	15 – 17	**13 29 23616**	10
32	29	18	17 – 19	**13 29 23618**	10
45	42	26	25 – 27	**13 29 23826**	10
45	42	32	31 – 33	**13 29 23832**	10

Available only in original packaging units. No fractions possible.

webcode WWEQ2102



Silicone Rubber Septa (VMQ), DURAN Group / IDL

Seals for piercing (septa), for screw caps. Autoclavable. Heat resistance: +130°C (vapour) and +200°C (dry heat).

Thread GL	O.D. mm	Thickness mm	Order No.	PU pc/Pack
14	12	2	**13 29 24605**	100
18	16	2	**13 29 24606**	100
32	22	2	**13 29 24608**	100
25	29	2	**13 29 24609**	100
45	42	3	**13 29 24610**	100

Available only in original packaging units. No fractions possible.

webcode WWEQ2103



Plastic Screw Caps made of PBT, DURAN Group / IDL

Red screw caps with PTFE-coated silicone seals, temperature resistant up to +180°C. Autoclavable.

Thread GL	Order No.	PU pc/Pack
14	**11 29 24008**	10
18	**11 29 24011**	10
25	**11 29 24013**	10
32	**11 29 24019**	10
45	**11 29 24028**	10

Available only in original packaging units. No fractions possible.

webcode WWEQ2104



Silicone Rubber Seals, DURAN Group / IDL

Silicone seal (VQM), PTFE-coated, suitable for PBT screw caps. Heat resistance: +130°C (vapour) and +200°C (dry heat). Good chemical resistance due to PTFE coating. Autoclavable.

for screw caps GL	Order No.	PU pc/Pack
14	**13 29 24808**	10
18	**13 29 24811**	10
25	**13 29 24813**	10
32	**13 29 24819**	10
45	**13 29 24828**	10

Available only in original packaging units. No fractions possible.

Standard Ground Components, Threaded Components

BOLA Spherical Ground Joint Sleeves, Bohlender



Spherical ground joint sleeves made of PTFE, with gripping ring and sealing rings on the outside, high-vacuum tight sealing (low leak rate: < 0,001 mbar × l/s); solid construction for continued use.

Technical data:

Material:	PTFE
Temperature resistance:	from -200°C to +250°C
Chemical resistance:	+++ universal
Vacuum:	suitable
Feature:	reusable

SS	Order No.
13	**10 17 63402**
19	**10 17 63404**
29	**10 17 63406**
35	**10 17 63408**
40	**10 17 63412**
51	**10 17 63416**
64	**10 17 63418**

Adapters with Ground Joints, Rettberg



webcode WWQVD055

Adapters with standard ground (NS) joints, DIN 12257, borosilicate glass 3.3.

Ground socket NS	Ground cone NS	Order No.
14	29	**13 40 38012**
29	14	**13 40 38021**
45	29	**13 40 38042**
29	45	**13 40 38045**
60	29	**13 40 38060**
29	60	**13 40 38063**
29	71	**13 40 38071**
29	100	**13 40 38100**

Other types are available on request

Adapters, Rettberg

webcode WWQVD057

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Cones with ground joint NS and hose connection, made of borosilicate glass 3.3.



	Ground joint NS	Tube	Version	Order No.
①	Cone 14.5/23	rectangular		**13 40 39414**
	Cone 29/32	rectangular		**13 40 39429**
②	Cone 14.5/23	straight		**13 40 39614**
	Cone 29/32	straight		**13 40 39629**
③	Cone 14.5/23	rectangular	with stopcock NS 14.5/2.5 mm	**13 40 39514**
	Cone 29/32	rectangular	with stopcock NS 14.5/2.5 mm	**13 40 39529**
④	Cone 14.5/23	rectangular	with PTFE- valve 0 – 3 mm	**13 40 39814**
	Cone 29/32	rectangular	with PTFE- valve 0 – 3 mm	**13 40 39829**
⑤	Socket 14.5/23	rectangular	with stopcock NS 14.5/2.5 mm	**10 70 00178**
	Socket 29/32	rectangular	with stopcock NS 14.5/2.5 mm	**10 70 00179**
⑥	Socket 14.5/23		joint cap	**10 70 00180**
	Socket 29/32		joint cap	**10 70 00181**

Screw Thread Adapters, Rettberg



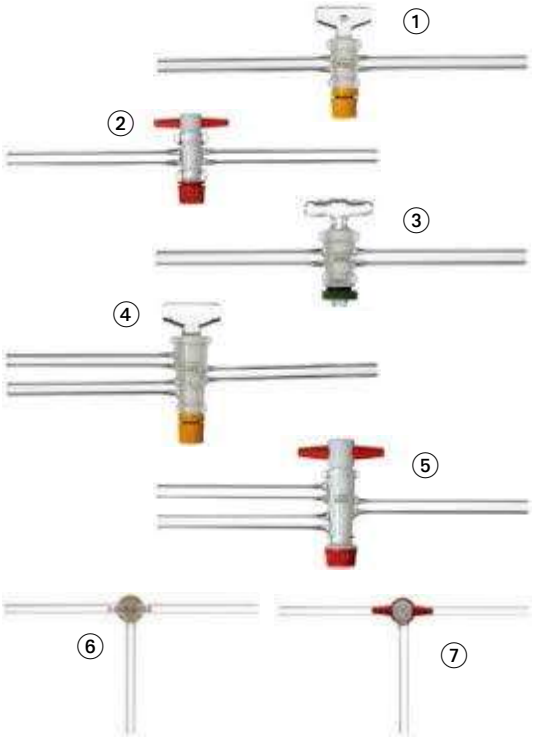
webcode WWQVD149

Screw thread adapters made of borosilicate glass 3.3 with ground cone DIN 12257.

Thread GL	Cone NS	Order No.
14	14/23	**13 40 01414**
14	19/26	**13 40 01419**
14	29/32	**13 40 01429**
18	14/23	**13 40 01814**
18	19/26	**13 40 01819**
18	29/32	**13 40 01829**
25	19/26	**13 40 02519**
25	29/32	**13 40 02529**
32	29/32	**13 40 03229**

Accessories, see: screw caps, silicon sealing rings, and septa.

Stopcocks, Valves



webcode WWQVD096

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Stopcocks, Rettberg

One-way connecting stopcocks
DIN 12541, made of borosilicate glass 3.3, with bent tube stubs and plug lock

Bore Ø mm	Ground joint NS	① Glass plugs, solid Order No.	② PTFE stopper Order No.	③ Glass plugs, hollow Order No.
1	10	**13 45 01101**		
1.5	12.5	**13 45 01102**	**13 45 01302**	
2.5	14.5	**13 45 01103**	**13 45 01303**	**13 45 01203**
4	18.8	**13 45 01104**	**13 45 01304**	**13 45 01204**
6	21.5	**13 45 01106**	**13 45 01306**	**13 45 01206**
2.5[1)]	12.5	**13 45 01108**	**13 45 01308**	
4[1)]	14.5	**13 45 01109**	**13 45 01309**	
6[1)]	18.8	**13 45 01107**	**13 45 01307**	
10	29.2	**13 45 01110**	**13 45 01310**	**13 45 01210**

[1)] Non-DIN size

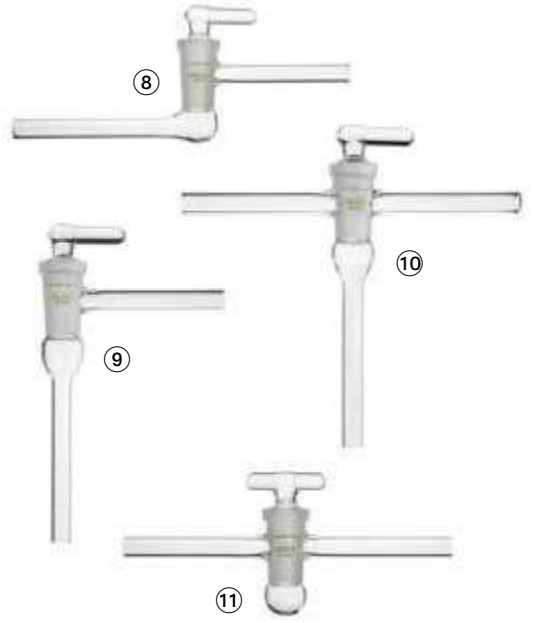
Two-way stopcocks
DIN 12553, made of borosilicate glass 3.3, with oblique parallel bores

Bore Ø mm	Ground joint NS	④ Glass plugs, solid Order No.	⑤ PTFE stopper Order No.
2.5	14.5	**13 45 05103**	**13 45 05303**
4	18.8	**13 45 05104**	**13 45 05304**

Three-way stopcocks with T-bore
made of borosilicate glass 3.3

Bore Ø mm	Ground joint NS	⑥ Glass plugs, solid Order No.	⑦ PTFE stopper Order No.
2.5	14.5	**13 45 06202**	**13 45 06402**
4	18.8	**13 45 06203**	**13 45 06403**

webcode WWQVD174



High-Vacuum Stopcocks, Rettberg

High vacuum stopcocks DIN 12545, borosilicate glass 3.3, with glass stopcocks, hollow, replaceable, with bent tube stubs

One-way type and angle type

Bore Ø mm	Ground joint NS	⑧ One-way type Legs parallel Order No.	⑨ Angule type Legs at right angles Order No.
2.5	14.5	**13 45 09203**	**13 45 10203**
4	18.8	**13 45 09204**	**13 45 10204**
6	21.5	**13 45 09206**	**13 45 10206**
8	24	**13 45 09208**	**13 45 10208**
10	29.2	**13 45 09210**	**13 45 10210**
15	45	**13 45 09215**	**13 45 10215**
20	50	**13 45 09220**	**13 45 10220**

Two-way type and bag type

Bore Ø mm	Ground joint NS	⑩ Two-way type Legs T-shaped Order No.	⑪ Bag shape straight hole[1)] Order No.
2.5	14.5	**13 45 11203**	**13 45 12203**
4	18.8	**13 45 11204**	**13 45 12204**
6	21.5	**13 45 11206**	**13 45 12206**
8	24	**13 45 11208**	**13 45 12208**
10	29.2	**13 45 11210**	**13 45 12210**
15	45	**13 45 11215**	
20	50	**13 45 11220**	

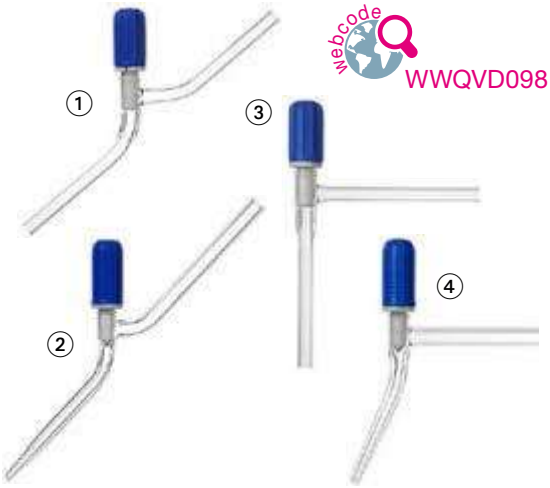
[1)] not DIN standard

Stopcocks, Valves

PTFE Valves, Rettberg

Standard version, PTFE spindle with additional sealing ring, glass part in borosilicate glass 3.3, with overturn guard.

	Valve type	Passage mm	Tubing O.D. mm	Order No.
①	Straight valve	0 – 3	8	**13 45 15001**
	Straight valve	0 – 6	10	**13 45 15006**
②	Angled valve	0 – 3	8	**13 45 15011**
	Angled valve	0 – 6	10	**13 45 15016**
③	Burette valve straight	0 – 3	8	**13 45 15021**
④	Burette valve lateral	0 – 3	8	**13 45 15031**

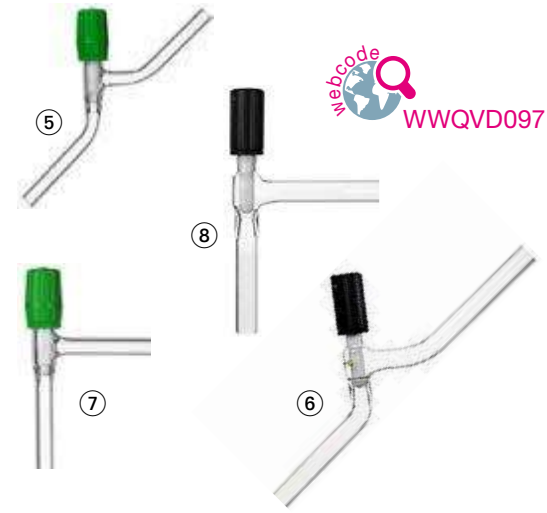


webcode WWQVD098

Vacuum Valves, Rettberg

Adjustable high-vacuum valves with PTFE spindle, borosilicate glass 3.3.

	Valve type	Passage mm	Stub tube O.D. mm	Order No.
⑤	Straight valve	0 – 0.25	9	**10 70 80082**
⑥	Straight valve	0 – 4	10	**10 70 80084**
⑥	Straight valve	0 – 6	10	**10 70 80086**
⑥	Straight valve	0 – 10	14	**10 70 00172**
⑥	Straight valve	0 – 15	24	**13 45 16015**
⑥	Straight valve	0 – 20	32	**10 70 00173**
⑦	Angle valve	0 – 0.25	9	**10 70 80182**
⑦	Angle valve	0 – 4	10	**10 70 80184**
⑦	Angle valve	0 – 6	10	**10 70 80186**
⑧	Angled valve	0 – 10	14	**10 70 00171**
⑧	Angled valve	0 – 15	24	**13 45 16115**
⑧	Angled valve	0 – 20	32	**10 70 00167**



webcode WWQVD097

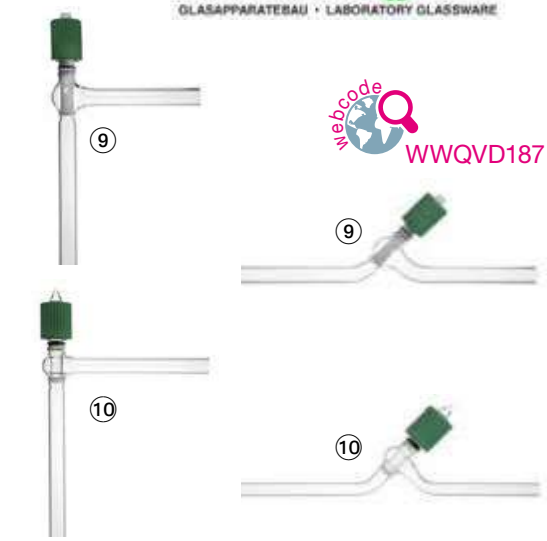
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High-Vacuum Valves, Rettberg

High vacuum valves with fine thread, PTFE or glass spindle, glass part made of borosilicate glass 3.3, glass spindle especially for use in low temperature ranges.

Valve type	Passage mm	Stub tube outer Ø mm	Version ⑨ PTFE spindle **Order No.**	⑩ Glass spindle **Order No.**
Straight valve	0 – 6	9	**10 70 00143**	**10 70 00243**
Straight valve	0 – 8	11	**10 70 00144**	**10 70 00244**
Straight valve	0 – 10	13	**10 70 00145**	**10 70 00245**
Straight valve [1)]	0 – 15	20	**10 70 00146**	
Angled valve	0 – 6	9	**10 70 00105**	**10 70 00205**
Angled valve	0 – 8	11	**10 70 00107**	**10 70 00207**
Angled valve	0 – 10	13	**10 70 00109**	**10 70 00209**
Angled valve [1)]	0 – 15	20	**10 70 00108**	

[1)] 15 mm with standard thread



webcode WWQVD187

Use the webcode on our website to see a larger selection of products from a specific manufacturer.

webcode

Stopcocks, Valves



Stopcocks, Quartz Glass, QGT Bad Harzburg

Quartz glass one-and three-way stopcocks acc. to DIN 12541 and DIN 12554.

① **One-way conical stopcocks (cone 1:10)**

Nominal size	Bore mm	Tube stub length approx. mm	Order No.
2	1.5 ±0.3	100	**18 36 78002**
3	2.5 ±0.3	100	**18 36 78003**
4	4.0 ±0.4	110	**18 36 78004**
6	6.0 ±0.4	120	**18 36 78006**
10	10.0 ±0.5	120	**18 36 78010**

② **Three-way stopcocks, T-bore**

Nominal size	Bore mm	Tube stub length approx. mm	Order No.
2	2.5 ±0.25	100	**18 36 78102**
4	4.0 ±0.5	120	**18 36 78104**
6	6.0 ±0.5	120	**18 36 78106**
10	10.0 ±0.5	120	**18 36 78110**







BOLA GL 2- and 3-Way Stopcocks, Bohlender

T-shaped bore and three connections with GL thread. Cylindrical stopcock plug for good tightness, stop valve with mark of flow direction. Suitable for pressure up to max. 6 bar, or for vacuum. Universal chemical resistance, the flowing product is only exposed to PTFE.

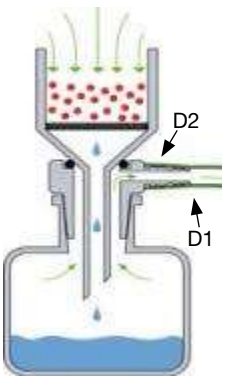
For distributing liquids or gases. Quick and easy disconnection of flow. Connection of tubing or tubes by means of BOLA Laboratory Screw Joints

Technical data:

Material:	PTFE
Temperature resistance:	from -30°C to +150°C
Chemical resistance:	+++ universal
Pressure:	6 bar
Vacuum:	suitable

	Type	Bore shape stopcock	Bore Ø mm	Connection thread GL	Outer dimensions L × D × H mm	Order No.
③	2-way	I	4	14	54×20×38	**24 17 68414**
	2-way	I	6	18	64×30×45	**24 17 68418**
	2-way	I	8	25	78×40×57	**24 17 68425**
④	3-way	L	4	14	64×47×43	**24 17 68614**
	3-way	L	6	18	74×57×57	**24 17 68618**
	3-way	L	6	25	78×59×57	**24 17 68625**
⑤	3-way	T	4	14	74×57×57	**24 17 68814**
	3-way	T	4	18	74×57×57	**24 17 68818**
	3-way	T	6	25	88×69×57	**24 17 68825**





BOLA Vacuum Adaptor GL, Bohlender

Made of PTFE. Pass-through with o-ring made of FKM for safe assembly of standard filter funnels made of glass or plastic on flasks with thread GL 45. Lateral 2-step hose connector made of PTFE for connection to a vacuum pump by means of suitable tubing.

Technical data:

Material:	PTFE
Temperature resistance:	from -15°C to +200°C
Chemical resistance:	+++ universal
Autoclave:	121°
Vacuum:	suitable

for thread GL	For funnel outlet max. Ø mm	2-step hose connector D1 outer Ø mm	Stufen-Olive D2 outer Ø mm	Order No.
45	22	9	12	**10 17 65645**

Stopcocks, Valves

BOLA Vacuum Adaptor with Ground Joint, Bohlender

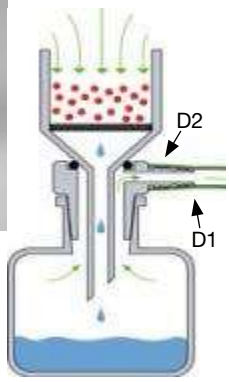
Made of PTFE. Pass-through with o-ring made of FKM for safe assembly of standard filter funnels made of glass or plastic on vessels and round- bottom flasks with ground joint. Lateral 2-step hose connector made of PTFE for connection to a vacuum pump by means of suitable tubing.

Technical data:

Material:	PTFE
Temperature resistance:	from -15°C to +200°C
Chemical resistance:	+++ universal
Autoclave:	121°
Vacuum:	suitable

ground cone NS	For funnel outlet max. Ø mm	2-step hose connector D1 outer Ø mm	Stufen-Olive D2 outer Ø mm	Order No.
14/19	8	9	12	**10 17 65501**
19/26	11	9	12	**10 17 65502**
29/32	22	9	12	**10 17 65504**
45/40	22	9	12	**10 17 65506**





Other valves see page 186

Flat Flange Vessels, Accessories

Reaction Vessels, Rettberg

Reaction vessels made of borosilicate glass 3.3, with temperature stabilizing jacket, cylindrical

Outer bottom flat, inner bottom slightly curved, thread GL 80 at top with screwing cap GL 80 (PP), tangential tempering connections GL 18 .

Volume	Outer Ø approx. mm	Vessel height w/o screw cap approx. mm	Order No.
500	130	185	**10 70 00055**
1000	130	250	**10 70 00056**
2000	160	290	**10 70 00057**

Supplied without the illustrated accessories



webcode WWQVD175

Accessories

Article	Order No.
Special screw head GL 80 made of PP, middle neck socket NS 29 lateral connection 2× GL18 and 2× GL14 with screwing caps	**10 70 00058**
Pressure compensation top for GL 18 with membrane filter	**10 70 00070**
Pressure compensation top for GL 14 with membrane filter	**10 70 00071**

Different tube feed-throughs see under gas distributor system on page 341

Reaction Vessels, Rettberg

Cylindrical reaction vessels made of borosilicate glass 3.3, Schott flat flange with annular groove.

Vol. ml	flange DN	O.D. mm	Overall H mm	① Bottom flat Order No.	② Bottom round Order No.
100	60	70	75	**13 42 10024**	**13 42 11024**
250	60	70	120	**13 42 10036**	**13 42 11036**
500	100	110	110	**13 42 10044**	**13 42 11044**
1000	100	110	175	**13 42 10054**	**13 42 11054**
2000	100	110	310	**13 42 10063**	**13 42 11063**
2000	120	130	200	**13 42 10163**	**13 42 11163**
2000	150	160	160	**13 42 10263**	**13 42 11263**
3000	150	160	220	**13 42 10268**	**13 42 11268**
4000	150	160	270	**13 42 10271**	**13 42 11271**
5000	150	160	320	**13 42 10273**	**13 42 11273**
6000	150	160	380	**13 42 10276**	**13 42 11276**
10000	200	215	350	**13 42 10286**	**13 42 11286**

Accessories: see following pages.

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webcode WWQVD102



① ②

Flat Flange Vessels, Accessories

webcode WWEQ2106



Flat Flange Beakers, DURAN®, DURAN Group / IDL

Flange with groove, vacuum resistant due to the wall thickness and geometry. Heating only in a water or oil bath. Into the groove an O-ring seal can the be used.

Vol. ml	full cap. approx. ml	DN	Flange O.D. mm	Beaker O.D. mm	Height mm	perm. operating pressure bar	Order No.
1000	1915	150	184	159	120	0.5[1)]	**13 24 39154**
2000	3070	150	184	153	200	0.5[1)]	**13 24 39163**
3000	4090	150	184	153	265	0.5[1)]	**13 24 39168**
1000	1360	120	158	130	125	0.5[1)]	**13 24 39454**
2000	2200	120	158	130	200	0.5[1)]	**13 24 39463**
3000	3220	120	158	130	290	0.5[1)]	**13 24 39468**

[1)] At max. 250°C.

webcode WWQVD104



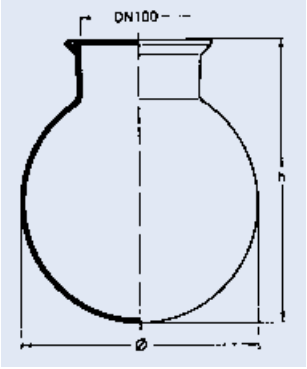
Reaction Vessels, Rettberg

Spherical reaction vessels made of borosilicate glass 3.3, Schott flat flange with annular groove.

Volume ml	flange DN	O.D. mm	Overall H mm	Order No.
2000	100	165	215	**13 42 12063**
4000	100	207	250	**13 42 12071**
6000	120	236	295	**13 42 12176**
10000	150	279	360	**13 42 12286**
20000	200	345	440	**13 42 12391**

Accessories: see following pages.

webcode WWEQ2107



Flat Flange Flasks, Round Bottom, DURAN®, DURAN Group / IDL

Flange with groove, vacuum resistant due to the wall thickness and geometry. Into the groove an O-ring seal can the be used.

Vol. ml	full cap. approx. ml	DN	Flange O.D. mm	Flask O.D. mm	Height mm	perm. operating pressure bar	Order No.
2000	2610	100	138	165	215	1.0[1)]	**13 24 39563**
4000	4660	100	138	206	265	1.0[1)]	**13 24 39571**
6000	6675	100	138	236	295	1.0[1)]	**13 24 39576**
10000	11720	100	138	280	340	0.5[1)]	**13 24 39586**
20000	21415	100	138	350	410	0.5[1)]	**13 24 39591**

[1)] At max. 250°C (temperature difference in the glass wall max. 30°C).

webcode WWEQ2108



Flat Flange Reaction Vessels, DURAN®, DURAN Group / IDL

Flange with groove, vacuum resistant due to the wall thickness and geometry. Into the groove an O-ring seal can the be used.

Vol. ml	full cap. approx. ml	DN	Flange O.D. mm	Vessel Ø mm	Height mm	perm. operating pressure bar	Order No.
100	195	60	100	70	85	2.5[1)]	**13 24 39024**
250	315	60	100	70	125	2.5[1)]	**13 24 39036**

[1)] At max. 250°C.

Flat Flange Vessels, Accessories

Flat Flange Reaction Vessels, DURAN®, DURAN Group / IDL



webcode WWEQ2109

Flange with groove, vacuum resistant due to the wall thickness and geometry. Into the groove an O-ring seal can the be used.

Vol. ml	full cap. approx. ml	DN	Flange O.D. mm	Vessel Ø mm	Height mm	perm. operating pressure bar	**Order No.**
500	740	100	138	106[2)]	120	1.5[1)]	**13 24 39044**
1000	1395	100	138	106[2)]	205	1.5[1)]	**13 24 39054**
2000	2620	100	138	140	270	1.5[1)]	**13 24 39063**

[1)] At max. 250°C.
[2)] Vessel completely cylindrical.

Flat Flange Reaction Vessels, DURAN®, DURAN Group / IDL



webcode WWEQ2110

Flange with groove, vacuum resistant due to the wall thickness and geometry. Into the groove an O-ring seal can the be used.

Vol. ml	full cap. approx. ml	DN	Flange O.D. mm	Vessel Ø mm	Height mm	perm. operating pressure bar	**Order No.**
4000	5765	150	184	200	290	1.0[1)]	**13 24 39071**
6000	7320	150	184	215	320	1.0[1)]	**13 24 39076**
10000	11935	150	184	240	410	0.5[1)]	**13 24 39086**

[1)] At max. 250°C.

Reaction Vessels, Rettberg



①

webcode WWQVD166

① Cylindrical reaction vessels made of borosilicate glass 3.3
Schott Flat Flange with annular groove, without graduation, round bottom **with drain valve**, coming off at the side with screw thread and quick release tube connector (PP).

Volume approx. ml	flange DN	Outer Ø approx. mm	Overall height without valve approx. mm	**Order No.**
100	60	70	75	**13 42 12424**
250	60	70	120	**13 42 12436**
500	100	110	110	**13 42 12444**
1000	100	110	175	**13 42 12454**
2000	100	110	310	**13 42 12463**
2000	120	130	200	**13 42 12563**
2000	150	160	160	**13 42 12663**
3000	150	160	220	**13 42 12668**
4000	150	160	270	**13 42 12671**
5000	150	160	320	**13 42 12673**
6000	150	160	380	**13 42 12676**
10000	200	215	350	**13 42 12686**



②

② Spherical reaction vessels made of borosilicate glass 3.3
Schott Flat Flange with annual groove, without graduation, **with drain valve**, coming off at the side with screw thread and quick release tube connector (PP).
With longer valve shaft, suitable for heating element with hole at base.

Volume approx. ml	flange DN	Outer Ø approx. mm	Overall height without valve approx. mm	**Order No.**
2000	100	165	215	**13 42 12763**
4000	100	207	250	**13 42 12771**
6000	120	236	295	**13 42 12776**
10000	150	279	360	**13 42 12786**
20000	200	345	440	**13 42 12791**

webcode To see other variants and accessories, please enter the webcode on our website.

Flat Flange Vessels, Accessories

webcode WWQVD105



Reaction Vessels, Rettberg

Reaction vessels with temperature stabilizing jacket, made of borosilicate glass 3.3, cylindrical, flat bottom, interior bottom slightly curved, Schott flat flange with annular groove, without graduation, tangential temperature stabilizing connections, choice of connections see below.

Vol. ml	flange DN	O.D. mm	I.D. mm	H mm	with GL thread **Order No.**	w. thick-walled GL 32 **Order No.**
100	60	90	60	135	**13 42 13241**	**10 70 13244**
250	60	90	60	185	**13 42 13361**	**10 70 13364**
500	100	130	100	200	**13 42 13441**	**10 70 13444**
1000	100	130	100	250	**13 42 13541**	**10 70 13544**
2000	100	130	100	380	**13 42 13631**	**10 70 13634**
2000	120	160	120	300	**13 42 14631**	**10 70 14634**
2000	150	190	150	250	**13 42 15631**	**10 70 15634**
4000	150	190	150	360	**13 42 15711**	**10 70 15714**
6000	150	190	150	480	**13 42 15761**	**10 70 15764**
10000	200	250	215	470	**13 42 16861**	**10 70 16864**
20000	200	350	315	600	**13 42 16911**	**10 70 16914**

Order No. with final digit 1: Temp. stab. jacket with thread GL 18
Order No. with final digit 4: Temp. stab. jacket with thick-walled GL 32 (adapter according to list of accessories)
Accessories: see following pages

webcode WWQVD106



Reaction Vessels, Rettberg

Reaction vessels with temperature stabilizing jack, made of borosilicate glass 3.3, cylindrical, round bottom, with drain valve low empty space, Schott flat flange with annular groove, without graduation, tangential temperature stabilizing connections, choice of connections: see below.

Without distribution ring for temperature stabilizing media

Vol. ml	flange DN	O.D. mm	I.D. mm	temp. H mm	with GL thread **Order No.**	w. thick-walled GL 32 **Order No.**
100	60	90	60	70	**13 42 22411**	**10 70 22414**
250	60	90	60	125	**13 42 23611**	**10 70 23614**
500	100	140	100	110	**13 42 24411**	**10 70 24414**
1000	100	140	100	180	**13 42 25411**	**10 70 25414**
2000	100	140	100	300	**13 42 26311**	**10 70 26314**
3000	100	190	150	230	**13 42 26811**	**10 70 26814**
4000	100	190	150	280	**13 42 27111**	**10 70 27114**
1000	120	160	120	150	**13 42 35411**	**10 70 35414**
2000	120	160	120	230	**13 42 36311**	**10 70 36314**
3000	120	190	150	230	**13 42 36811**	**10 70 36814**
2000	150	190	150	190	**13 42 46311**	**10 70 46314**
3000	150	190	150	250	**13 42 46811**	**10 70 46814**
4000	150	190	150	300	**13 42 47111**	**10 70 47114**
5000	150	190	150	350	**13 42 47311**	**10 70 47314**
6000	150	190	150	400	**13 42 47611**	**10 70 47614**
10000	200	250	200	400	**13 42 58611**	**10 70 58614**
20000	200	300	240	560	**13 42 59111**	**10 70 59114**

Order No. with final digit 1: Temp. stab. jacket with thread GL 18
Order No. with final digit 4: Temp. stab. jacket with thick-walled GL 32 (adapter according to list of accessoriess)
Accessories: see following pages

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webcode WWQVD107



①

Reaction Vessel Lids, Rettberg

Flat flange lids made of borosilicate glass 3.3, straight middle neck, side necks at angle of approx. 15° relative to middle neck or straight.

① **With middle neck**

flange DN	Middle neck NS	**Order No.**
60	14.5/23	**13 42 80034**
60	29/32	**13 42 80035**
100	14.5/23	**13 42 80046**
100	29/32	**13 42 80047**
100	45/40	**13 42 80048**
120	29/32	**13 42 80051**
120	45/40	**13 42 80052**
150	29/32	**13 42 80057**
150	45/40	**13 42 80058**
200	29/32	**13 42 80061**
200	45/40	**13 42 80062**

Continued on next page

Flat Flange Vessels, Accessories

② With middle neck and 1 side neck

flange DN	Middle neck NS	Side necks angled NS	Order No.
60	14.5/23	14.5/23	**13 42 81034**
60	29/32	14.5/23	**13 42 81035**
100	29/32	14.5/23	**13 42 81046**
100	29/32	29/32	**13 42 81047**
100	45/40	29/32	**13 42 81048**
120	29/32	29/32	**13 42 81051**
120	45/40	29/32	**13 42 81052**
150	29/32	29/32	**13 42 81057**
150	45/40	29/32	**13 42 81058**
200	29/32	29/32	**13 42 81061**
200	45/40	29/32	**13 42 81062**


②

③ With middle neck and 2 side necks

flange DN	Middle neck NS	Side necks angled NS	Order No.
60	14.5/23	14.5/23	**13 42 82034**
60	29/32	14.5/23	**13 42 82035**
100	29/32	14.5/23	**13 42 82046**
100	29/32	29/32	**13 42 82047**
100	45/40	29/32	**13 42 82048**
120	29/32	29/32	**13 42 82051**
120	45/40	29/32	**13 42 82052**
150	29/32	29/32	**13 42 82057**
150	45/40	29/32	**13 42 82058**
200	29/32	29/32	**13 42 82061**
200	45/40	29/32	**13 42 82062**


③

④ With middle neck and 3 side necks

flange DN	Middle neck NS	Side necks angled NS	Side necks straight NS	Order No.
60	14.5/23	14.5/23 (2×)	14.5/23 (1×)	**13 42 83034**
60	29/32	14.5/23 (2×)	14.5/23 (1×)	**13 42 83035**
100	29/32	14.5/23 (2×)	14.5/23 (1×)	**13 42 83046**
100	29/32	29/32 (2×)	14.5/23 (1×)	**13 42 83047**
100	45/40	29/32 (2×)	14.5/23 (1×)	**13 42 83048**
120	29/32	29/32 (2×)	14.5/23 (1×)	**13 42 83051**
120	45/40	29/32 (2×)	14.5/23 (1×)	**13 42 83052**
150	29/32	29/32 (2×)	14.5/23 (1×)	**13 42 83057**
150	45/40	29/32 (2×)	14.5/23 (1×)	**13 42 83058**
200	29/32	29/32 (2×)	14.5/23 (1×)	**13 42 83061**
200	45/40	29/32 (2×)	14.5/23 (1×)	**13 42 83062**


④

⑤ With middle neck and 3 side necks

flange DN	Middle neck NS	Side necks angled NS	Side necks straight NS	Order No.
100	29/32	29/32 (3×)	14.5/23 (1×)	**13 42 84034**
100	45/40	29/32 (3×)	14.5/23 (1×)	**13 42 84035**
120	29/32	29/32 (3×)	14.5/23 (1×)	**13 42 84046**
120	45/40	29/32 (3×)	14.5/23 (1×)	**13 42 84047**
150	29/32	29/32 (3×)	14.5/23 (1×)	**13 42 84057**
150	45/40	29/32 (3×)	14.5/23 (1×)	**13 42 84058**
200	29/32	29/32 (3×)	14.5/23 (1×)	**13 42 84061**
200	45/40	29/32 (3×)	14.5/23 (1×)	**13 42 84062**


⑤

Accessories: see following pages.

Also available with other connections on request (e.g. thread, ground spherical joints, flanges etc.).

Your specialized laboratory dealer –
fast, competent and economical

Flat Flange Vessels, Accessories













BOLA Tri-Clamp Adapters, Bohlender

① BOLA Tri-Clamp GL adapters
Fitting for transition of Tri-Clamp as per DIN 32 676 to a GL-threaded neck. Made of PTFE, temperature resistance -200°C to +250°C, universal chemical resistance.

Plate Ø mm	Nominal size acc. to DIN	for tube inner Ø mm	Thread GL	Order No.
25.5	DN 08	8	14	**10 17 60102**
25.5	DN 10	10	18	**10 17 60104**
25.5	DN 10	10	25	**10 17 60106**
34.0	DN 10	10	14	**10 17 60122**
34.0	DN 15	16	18	**10 17 60124**
34.0	DN 20	20	25	**10 17 60126**
50.5	DN 25	26	14	**10 17 60142**
50.5	DN 25	26	18	**10 17 60144**
50.5	DN 32	32	25	**10 17 60146**
50.5	DN 40	38	45	**10 17 60148**
91.0	DN 65	66	18	**10 17 60172**
91.0	DN 65	66	25	**10 17 60174**
91.0	DN 65	66	45	**10 17 60176**

BOLA Tri-Clamp multiple distributor
Fitting for transition of Tri-Clamp as per DIN 32 676 to two or three GL-threaded necks. Made of PTFE, temperature resistance -200°C to +250°C, universal chemical resistance.

Plate Ø mm	Nominal size acc. to DIN	for tube inner Ø mm	Thread GL	Bore Ø mm	Order No.
25.5	DN 10	10	2 × 14	2 × 4.5	**10 17 61103**
② 34.0	DN 20	20	2 × 14	2 × 8.5	**10 17 61122**
③ 50.5	DN 40	38	3 × 14	3 × 8.5	**10 17 61142**
50.5	DN 40	38	3 × 18	3 × 10.5	**10 17 61144**
91.0	DN 65	66	3 × 18	3 × 10.5	**10 17 61172**

④ BOLA adapter Tri-Clamp hose connector
Fitting for transition of Tri-Clamp as per DIN 32 676 to a hose connector. Made of PTFE, temperature resistance -200°C to +250°C, universal chemical resistance.

Plate Ø mm	Nominal size acc. to DIN	for tube inner Ø mm	Tube connector outer Ø mm	Order No.
25.5	DN 08	8	10.4	**10 17 61502**
34.0	DN 10	10	10.4	**10 17 61522**
50.5	DN 25	26	16.0	**10 17 61542**

⑤ BOLA Tri-Clamp gaskets
Silicone ring with double-sided, elastic washer made of PTFE. Suitable for Tri-Clamp connections as per DIN 32 676. Universal chemical resistance, the flowing product is only exposed to PTFE. Temperature resistance -60°C to +230°C, universal chemical resistance.

Plate Ø mm	Nominal size acc. to DIN	for tube inner Ø mm	Order No.
25.5	DN 08	8	**10 17 63002**
25.5	DN 10	10	**10 17 63004**
34.0	DN 10	10	**10 17 63022**
34.0	DN 15	16	**10 17 63024**
34.0	DN 20	20	**10 17 63026**
50.5	DN 25	26	**10 17 63042**
50.5	DN 32	32	**10 17 63044**
50.5	DN 40	38	**10 17 63046**
64.0	DN 50	50	**10 17 63062**
91.0	DN 65	66	**10 17 63072**

webcode WWEQ2116



O-Rings for Flat Flange Vessels, DURAN Group / IDL

O-rings made of silicone (VMQ), transparent and highly elastic. T_{max} = 200°C

fits flange DN	Ø mm	Thickness mm	Order No.	PU pc/Pack
60	75	4	**13 29 22534**	5
100	110	4	**13 29 22546**	5
120	133	4	**13 29 22551**	5
150	157	5	**13 29 22557**	5
200	215	5	**13 29 22561**	5

Flat Flange Vessels, Accessories

Quick Release Clamps for Flat Flange Vessels, DURAN Group / IDL

Stainless steel quick release clamps (with 3 holding segments).

fits flange DN	Order No.
60	**13 29 07134**
100	**13 29 07146**
120	**13 29 07151**
150	**13 29 07157**
200	**13 29 07161**



webcode WWEQ2118

Reaction Vessel Accessories, Rettberg

webcode WWQVD108

Accessories

Article	Order No.
① **Cap GL 14, with tubing connector made of PP, straight**	**13 42 90001**
② **Cap GL 18, with tubing connector made of PP, straight**	**13 42 90002**
③ **Adaption kit GL 18, made of plastic** to quickly separate the hose connector without loss of liquids, (temp. -40 to +138°C) for reaction vessels with tempering connection GL 18, tubing connector 11 mm for laboratory hoses I.W. 8 to 10 mm	**10 70 00025**
④ **Adaption kit GL 32 to thread M 16×1 (temp. -60 to +200°C)** for reaction vessels with tempering connection GL32, e.g. suitable to connect insulated metal hoses, consisting of special coupling cap, seal, stainless steel adapter M16×1	**10 70 00026**
⑤ **Adapter M 16×1 on hose nozzle 8.5 mm, stainless steel**	**10 70 00027**
Adapter M 16×1 on hose nozzle 11 mm, stainless steel	**10 70 00028**
Adapter M 16×1 on hose nozzle 13 mm, stainless steel	**10 70 00029**
⑥ **insulated metal tube (-90 to +150°C), M 16×1, 100 cm long**	**10 70 00031**
insulated metal tube (-60 to +350°C), M 16×1, 100 cm long	**10 70 00034**
⑦ **Adaption kit GL 32 on glass olive, olive 9 mm** for reaction vessels with tempering connection GL 32, for laboratory hoses I.W. 6 to 8 mm, consisting of special coupling cap, seal, glass adapter with tubing connector 9 mm, temp. -60 to +200°C	**10 70 00036**
Adaption kit GL 32 to glass olive for laboratory hoses I.W. 8 to 10 mm, tubing connector 11 mm	**10 70 00037**
Adaption kit GL 32 to glass olive for laboratory hoses I.W. 16 to 18 mm, tubing connector 19 mm	**10 70 00038**



⑧ Flange clamps

Article	Order No.
for DN 60, stainless steel	**13 42 90234**
for DN 100, stainless steel	**13 42 90246**
for DN 120, stainless steel	**13 42 90251**
for DN 150, stainless steel	**13 42 90257**
for DN 200, stainless steel	**13 42 90261**



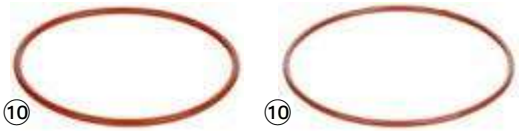
⑨ Flange closures

Article	Order No.
for hanging in carry-rack, for NW 100	**13 42 90346**
for hanging in carry-rack, for NW 150	**13 42 90357**
for hanging in carry-rack, for NW 200	**13 42 90361**



⑩ Flange seals

for	Version Silicone	Silicone, FEP-coated
	Order No.	**Order No.**
DN 150	**13 42 90457**	**13 42 90557**
DN 200	**13 42 90461**	**13 42 90561**
DN 60	**13 42 90434**	**13 42 90534**
DN 120	**13 42 90451**	**13 42 90551**
DN 100	**13 42 90446**	**13 42 90546**



Flat Flange Vessels, Accessories

webcode WWQ7J001





Supporting Devices for Reaction Vessels, BOCHEM

① **Three-fold holder for Schott flat flanges**
made of rust-proof special steel (material 1.4571), for alternate removal of vessel and lid. The special quick release closure is designed to join the two flat flanges of the reaction vessel and the lid as well as to provide individual support for the reaction vessel and/or lid.

fits flange NW	Order No.
100	**13 05 17021**
150	**13 05 17023**
200	**13 05 17024**

② **Centering stand holder**
made of stainless steel with stand rod 300 mm, 15 mm dia., material 18/10, DN 15.

Article	Order No.
Centering stand holder	**13 05 17031**

webcode WWQVD154







Small Flange Connection System (KF) with Glass Flanges, Rettberg

High-vacuum small flange connections made of borosilicate glass 3.3, complete connection system, consisting of:

③ **Glass flange, standard**
acc. to DIN 28403, also suitable for connecting DIN metal flanges

DN	Order No.	DN	Order No.
10	**13 40 13010**	40	**13 40 13040**
16	**13 40 13016**	50	**13 40 13050**
25	**13 40 13025**		

④ **Glass flange, thick-walled**

DN	Order No.	DN	Order No.
10	**13 40 14010**	40	**13 40 14040**
16	**13 40 14016**	50	**13 40 14050**
25	**13 40 14025**		

⑤ **Inner centering ring**
made of PTFE, with Viton O-ring, acc. to DIN 28403

DN	Order No.	DN	Order No.
10	**13 40 15010**	40	**13 40 15040**
16	**13 40 15016**	50	**13 40 15050**
25	**13 40 15025**		

⑥ **Inner centering ring**
made of PTFE, with FEP-coated silicone O-ring, acc. to DIN 28403

DN	Order No.	DN	Order No.
10	**13 40 15110**	40	**13 40 15140**
16	**13 40 15116**	50	**13 40 15150**
25	**13 40 15125**		

⑦ **Three-point clamp**
made of aluminium with stainless steel screws

for DN	Order No.	for DN	Order No.
10	**13 40 16010**	40	**13 40 16040**
16	**13 40 16016**	50	**13 40 16050**
25	**13 40 16025**		

⑧ **U-clamp**
made of plastic, black, with toggle screw (only for standard flanges)

for DN	Order No.	for DN	Order No.
10	**13 40 17010**	40	**13 40 17040**
16	**13 40 17016**	50	**13 40 17050**
25	**13 40 17025**		

⑨ **Smll flange screw fittings**
for thick-walled and standard small flanges

DN	Order No.	DN	Order No.
10	**10 70 80021**	40	**10 70 80024**
16	**10 70 80022**	50	**10 70 80025**
25	**10 70 80023**		

Flat Flange Vessels, Accessories

Supporting Constructions for Reaction Vessels, Rettberg

Mobile construction made of stainless steel for reaction vessels of up to 6 to 20 ltr. capacity, with 4 steering rollers, brakes, complete with stand (tube dia. 25 mm) for fitting stirrers etc., optionally with flange holder and closure, open at front bottom (to put in collecting vessels).

Technical data:
Material: cpl. 18/8 steel
Dimensions: 75 × 75 × 185 cm (L × W × H)

Article	Order No.
Rack without flange holder	**13 42 91200**
Rack with flange holder NW 150	**13 42 91205**
Rack with flange holder NW 200	**13 42 91220**
Mobile auxiliary rack 55 × 75 × 185 cm	**10 70 00212**

Supplied without the illustrated accessories

More racks on request.



webcode WWQVD014

Stirrer Seals, Stirrer Shafts

KPG Stirrer Shafts and KPG Stirrer Bearing, Rettberg

KPG Stirrer Shafts
made of borosilicate glass 3.3, with moveable PTFE sickle blade, to fit joint-socket size 29, in overall length of 340 mm and more with perforated blade.

	KPG part Ø mm	Length mm	Order No.
	10	310	**13 70 40031**
①	10	340	**13 70 40034**
	10	370	**13 70 40037**
	10	440	**13 70 40044**

② **KPG Stirrer Bearing**
made of borosilicate glass 3.3, with ground-glass joint, grease cup and KPG part.

Cone NS	KPG part Ø mm	Installed length mm	Order No.
29/32	10	135	**13 70 40100**
29/32	16	155	**10 70 40101**
45/40	16	165	**10 70 40102**



webcode WWQVD110

BUK Magnetic Stirrer Couplings With Ground Joint, Buddeberg

A compact design, permanent magnetic coupling allows space-saving installation. Ball bearings ensure rapid, easy replacement to facilitate maintenance and cleaning. Magnetic stirrer couplings are available in stainless steel, Hastelloy®, titanium, zirconium and other materials or offering alternative torque levels. Stirring shafts made from similar materials or glass may be fitted.

Technical data:
Material no.: 1.4435 (AISI 316L)
Temperature: max. 240°C
Seals: Viton
Bearings: Ball bearings stainless steel

③ **BUK with ground joint 29/32**

Type	Vol. max. ml	Viscosity up to mPa/s	Torque N/cm	Speed rpm	Order No.
BUK K20 S1	500	500	20	2500	**13 14 10120**
BUK K40 S1	1000	1500	40	2500	**13 14 10140**
BUK K60 S1	3000	6000	60	2500	**13 14 10160**
BUK K90 S1	5000	10000	90	2500	**13 14 10190**

④ **BUK with ground joint 45/40**

Type	Vol. max. ml	Visc. up to mPa/s	Torque N/cm	Speed rpm	Order No.
BUK K60 S2	5000	6000	60	2500	**13 14 10260**
BUK K90 S2	10000	10000	90	2500	**13 14 10290**

Drive shaft supplied with 6 mm external square stub and brass adapter Ø 8 mm.



Continued on next page

Stirrer Seals, Stirrer Shafts



① Connection couplings VK
Connection between magnetic stirer coupling and stirring shaft.

Type	for stirrer shaft Ø mm	Order No.
VK 7 × 8	8	**10 14 50362**
VK 7 × 10	10	**10 14 50363**

Alternativ diamters available on request.

Flexible glass stirrer coupling
For stirring tasks in glass devices and for compensation of installation inaccuracies. With clamping screw for 6 to 10 mm clamping width.

	Type	Specification	Order No.
②	K 10	Flex coupling receiver inner diam. 10 mm	**10 14 50547**
	K 10/13	Flex coupling receiver inner diam. 10/13 mm	**10 14 50554**
③	PK 10	Flex coupling receiver inner diam. 10 mm	**10 14 50585**
	PK 10/13	Flex coupling receiver inner diam. 10/13 mm	**10 14 50592**
④	FK 1	with clamping pin made of stainless steel Ø 8 mm for the use with chucks	**10 14 50595**

Double cardan coupling DCK 1
With 8 mm dia. hexagonal input drive receiver and 6 mm square socket drive output.

	Type	Specification	Order No.
⑤	DCK 1	Stainless steel, L = 110 mm	**10 14 51414**







BOLA Stirrer Bearings, Bohlender

⑥ Type GT
Made of borosilicate glass, with GL male thread and PPS screw cap, PTFE shaft guide with adjustable special PTFE/FPM gasket. All parts can be easily exchanged.

Cone NS	Thread GL	for stirrer shaft Ø mm	Order No.
29/32	25	8	**24 17 42508**
29/32	25	10	**24 17 42509**
45/40	25	10	**24 17 42512**

⑦ Shaft guides incl. special gasket

Article	Order No.
Shaft guide for stirrer shaft Ø 8 mm	**24 17 42558**
Shaft guide for stirrer shaft Ø 10 mm	**24 17 42559**

⑧ Type PTFE
With adjustable special PTFE/FPM coating

Cone NS	Thread GL	for stirrer shaft Ø mm	Order No.
29/32	18	6	**10 17 62412**
29/32	25	8	**24 17 42413**
29/32	25	10	**24 17 42414**

BOLA Stirring Shafts and Additional Blades, Bohlender

BOLA stirring shafts are made of a stainless steel shaft with PTFE shell and an all-PTFE stirring unit. The stainless steel core provides the required strength, allowing them to be clamped in the chuck. The medium comes into contact with PTFE only. The stirring shafts are resistant to nearly all chemicals and can be used at high temperatures.
Dimensions of the BOLA stirring shafts correspond to (KPG) glass stirring shafts, making them fully interchangeable.



⑨ Discs

Length mm	Shaft Ø mm	Clamp Ø mm	Stirring radius mm	Order No.
350	6	4	25	**10 17 69812**
350	6	4	38	**10 17 69816**
350	10	8	50	**10 17 69822**
600	10	8	50	**10 17 69826**
350	10	8	75	**10 17 69832**
600	10	8	75	**10 17 69836**

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Stirrer Seals, Stirrer Shafts

⑩ Crescents

Length mm	Shaft Ø mm	Clamp Ø mm	Stirring radius mm	Order No.
350	8	6.5	65	**24 17 37602**
450	8	6.5	90	**24 17 37608**
350	10	8.0	90	**24 17 37612**
450	10	8.0	90	**24 17 37614**
510	10	8.0	90	**24 17 37616**
600	10	8.0	90	**24 17 37618**
1000	10	8.0	90	**10 17 67619**
800	16	14.0	125	**10 17 67622**



⑪ Propellers

Length mm	Shaft Ø mm	Clamp Ø mm	Version	Stirring radius mm	Order No.
450	6	4.0	3-blades	50	**24 17 37808**
350	8	6.5	3-blades	75	**24 17 37812**
450	8	6.5	3-blades	75	**24 17 37814**
450	10	8.0	3-blades	50	**10 17 67817**
450	10	8.0	3-blades	75	**24 17 37818**
600	10	8.0	3-blades	75	**24 17 37820**
800	10	8.0	3-blades	75	**24 17 37822**
600	10	8.0	3-blades	140	**24 17 39234**
800	10	8.0	3-blades	140	**24 17 39240**
1200	10	8.0	3-blades	140	**10 17 69242**
1000	16	14.0	3-blades	140	**10 17 69246**
1000	16	14.0	3-blades	200	**10 17 69264**
350	6	4.0	3-blades	25	**10 17 68212**
350	6	4.0	3-blades	40	**10 17 68224**
350	8	6.5	4-blades	50	**10 17 68418**
600	10	8.0	4-blades	100	**10 17 68436**



⑫ Anchors

Length mm	Shaft Ø mm	Clamp Ø mm	Stirring radius mm	Order No.
350	8	6.5	40 × H 35	**10 17 68401**
350	8	6.5	60 × H 40	**24 17 38402**
450	8	6.5	80 × H 50	**10 17 68406**
600	8	6.5	100 × H 60	**24 17 38410**
350	10	8.0	80 × H 50	**10 17 68416**
450	10	8.0	80 × H 50	**10 17 68417**
600	10	8.0	100 × H 60	**24 17 38424**
800	10	8.0	100 × H 60	**10 17 68428**
800	10	8.0	130 × H 80	**10 17 68448**
1000	16	14.0	150 × H 120	**10 17 68458**
1200	16	14.0	150 × H 120	**10 17 68464**



⑬ One paddle

Length mm	Shaft Ø mm	Clamp Ø mm	Stirring radius mm	Order No.
600	10	8.0	110	**10 17 67908**
1000	16	14.0	140	**10 17 67918**



⑭ Centrifugal

Length mm	Shaft Ø mm	Clamp Ø mm	Stirring radius mm	Order No.
350	6	4.0	50	**10 17 67704**
450	10	8.0	90	**10 17 67714**
600	10	8.0	90	**10 17 67716**



⑮ BOLA Solo stirrer shafts

Stainless steel shaft, PTFE-coated, with welded-up bottom end. Perfectly suited as basic stirring shaft for fitting with BOLA additional stirrer blades which can be positioned on the shaft with a freely selectable height and sense of rotation. Can also be used for manual stirring.

Technical data:

Material: PTFE
Temperature resistance: -200°C up to +250°C
Chemical resistance: almost universal

Length mm	Ø Shaft mm	Clamp Ø mm	Order No.
350	10	8.0	**10 17 67408**
600	10	8.0	**10 17 67420**
800	10	8.0	**10 17 67430**
1000	10	8.0	**10 17 67434**
1200	16	14.0	**10 17 67440**



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Stirrer Seals, Stirrer Shafts







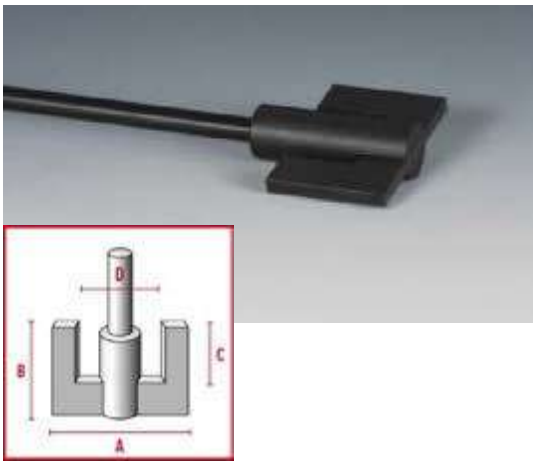






Additional Blades
The ideal addition to the company's existing stirring shafts with a fixed stirring unit. Additional blades can be freely positioned in height and direction of rotation on any shaft with a diameter of 8 or 10 mm (a matching fork wrench is included with each additional blade). The blades themselves are made of PTFE while the fasteners are made of a special PTFE compound. High chemical and thermal resistance is thus guaranteed.
With this "building block system", users can assemble their very own stirrers as required.

	Article	for shaft-Ø mm	Stirring radius mm	Order No.
	Propeller, three-blade	8	75	**24 17 44008**
①	Propeller, three-blade	10	75	**24 17 44010**
	Maxi propeller, three-blade	10	140	**24 17 44110**
	Propeller, four-blade	8	50	**10 17 64808**
②	Propeller, four-blade	10	100	**10 17 64810**
	Propeller, four-blade	10	140	**10 17 64820**
	Propeller, four-blade	10	140	**10 17 64836**
	Propeller, four-blade	10	200	**10 17 64842**
③	Anchor	10	80 × H 50	**24 17 44516**
	Anchor	10	100 × H 60	**10 17 64520**
	Anchor	16	150 × H 120	**10 17 64544**
	Blade	8	80	**24 17 44608**
④	Blade	10	80	**10 17 64610**
	Blade	10	110	**24 17 44612**
	Blade	16	140	**10 17 64616**
⑤	Impeller	10	60	**10 17 64308**
⑥	Crescent	10	90	**10 17 64210**



BOLA U-Shaped Stirrer Shafts EX, Bohlender

PTFE-EX jacketed stainless steel shaft, U-shaped stirrer blade completely made of static dissipative PTFE-EX. Good chemical resistance, the product is only exposed to PTFE.
Applications: Strong, tangential flow with high shear rate in the margin area, little sediments on the wall of the vessel. Ideal for mixing viscous liquids. Earthing is made for example via a stirrer bearing made of PTFE-EX.

Technical data:

Material:	PTFE-EX
Temperature resistance:	from -200°C to +250°C
Chemical resistance:	++ very good
Conductivity:	10^6 Ohm
Dimensions according to drawing:	A = 40 mm, B = 60 mm, C = 25 mm, D = 30 mm

Length mm	Ø Shaft mm	Clamp Ø mm	Order No.
350	8	6.5	**10 17 68402**



BOLA Propeller Stirrer Shafts EX, Bohlender

PTFE-EX jacketed stainless steel shaft, propeller completely made of static dissipative PTFE-EX with three 45° angled angular blades. Good chemical resistance, the product is only exposed to PTFE-EX.
Applications: The product is sucked bottom-up, good axial flow with low shear force. Earthing is made for example via a stirrer bearing made of PTFE-EX.

Technical data:

Material:	PTFE-EX
Temperature resistance:	from -200°C to +250°C
Chemical resistance:	++ very good
Conductivity:	10^6 Ohm
Dimensions according to drawing:	A = 75 mm, B = 18 mm, C = 3 mm

Length mm	Ø Shaft mm	Clamp Ø mm	Order No.
350	8	6.5	**10 17 67812**

Stirrer Seals, Stirrer Shafts

BOLA Globe Stirrer Couplings, Bohlender



Made of POM, a plastic material with a good mechanical strength, powerful transmission of up to 300 Ncm, suitable for a speed of up to 1.200 rounds per minute, maximum misalignment of axes 10 mm.
- very low centrifugal forces due to low weight
- suitable for both left- and right-handed rotation
- no resonance
- simple assembly by means of screw joints with clamp rings
- pivot (length 90 mm) can be shortened by the user

Ideal for balancing misalignment of axes between agitator and stirrer shaft, suitable for glass, metal or BOLA stirrer shafts.

Technical data:

Material:	POM
Temperature resistance:	from -20°C to +110°C
Chemical resistance:	++ very good

Opening for stirrer shaft mm	Upper dia. mm	Overall length mm	**Order No.**
Ø 4.0	8	190	**10 17 69401**
Ø 6.5 + 10	8	190	**10 17 69402**
Ø 8 +10	8	190	**10 17 69403**
Ø 4.0	10	190	**10 17 69804**
Ø 8 + 10	10	190	**24 17 39812**
Ø 6.5 + 10	10	190	**10 17 69808**
inner square SW6	SW8	180	**10 17 69912**

BOLA Magnetic Stirrer Heads (P-MRK), Bohlender



Ideal stirrer head for PTFE-jacketed stirrer shafts from BOLA. Consisting of capsuled drive shaft (stainless steel) with ball bearings, rotor and lower bearing made of PTFE/PEEK and a hollow shaft made of borosilicate glass. Requires little space due to compact construction. No leakage or memory effects due to non-porous, welded rotor. Compression fittings for safe fixing of stirrer shaft and optimum power transmission. Joint-Cone with nut (Safe-Lab) for easy locking and unlocking of the ground joint. Square size 6 mm for accepting an agitator or a stirrer coupling.
- gastight stirrer head for perfect vacuum
- stirrer shaft's height adjustable, approx. 40 m
- also suitable for shortened stirrer shafts
- powerful transmission of up to 90 Ncm
- excellent chemical resistance
- all products which are exposed to the medium do not contain any metals
- no grease required / save to run dry
- high speed of up to max. 1.500 rpm
- drive shaft fixed for your safety
- high durability
- easy disassembly of all parts for cleaning
- Suitable for all BOLA Stirrer Shafts jacketed with PTFE. Ideal for reactorlids with center ground joint.
- The max. shaft length corresponds to the internal height from the top of the ground joint to the vessel bottom.

Technical data:

Material:	PTFE/compound
Temperature resistance:	from -200°C to +250°C
Chemical resistance:	+++ universal FDA conform
Height:	145 mm
Insertion length of shaft:	95 mm
Drive shaft O.D.:	50 mm

With receiver made of borosilicate glass (type 1)
For universal chemical resistance.

for stirrer shaft Ø mm	for ground joint NS	**Order No.**
8	29/32	**10 17 62024**
10	29/32	**10 17 62028**
10	45/40	**10 17 62048**

With receiver made of Hastelloy® (type 2)
For improved durability.

for stirrer shaft Ø mm	for ground joint NS	**Order No.**
8	29/32	**10 17 65308**
10	29/32	**10 17 65310**
10	45/40	**10 17 65315**

webcode To see other variants and accessories, please enter the webcode on our website.

Stirrer Seals, Stirrer Shafts

webcode WWQVD177



Stirrer Coupling, Rettberg

Double cardan joint for compensation of an angle or axis offset between stirring unit and stirring shaft. Available in synthetic with max. torque of 1.3 Nm, or stainless steel with max. 3.4 Nm. Adapter for glass or metal shafts.

Double universal joint – plastic

Clamp Ø mm	Version for metal shafts Order No.	for glass shafts Order No.
6.5	**10 70 00271**	
8	**10 70 00272**	**10 70 00275**
10	**10 70 00273**	
14	**10 70 00274**	**10 70 00276**

Double universal joint – stainless steel

Clamp Ø mm	Version for metal shafts Order No.	for glass shafts Order No.
6,5	**10 70 00277**	
8	**10 70 00278**	**10 70 00281**
10	**10 70 00279**	
14	**10 70 00280**	**10 70 00282**

Miscellaneous Components

webcode WWQVD093



Bubble Counters, Rettberg

Bubble counters with non-return valve for monitoring the flow rate of gases.

Article	Order No.
Bubble counter with non-return valve	**13 70 25000**

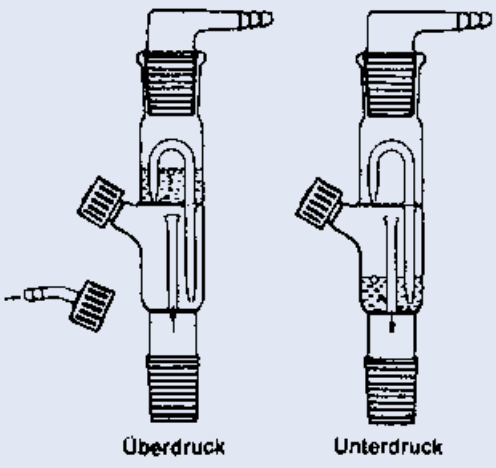
webcode WWQVD094



Bubble Counters, Rettberg

Bubble counter made of borosilicate glass 3.3 for monitoring the flow rate of gases.

Article	Order No.
Bubble counter	**13 70 82015**



Double-Chamber Gas Bubble Counters, Miethke

A recommended safety accessory for monitoring gas reactions and reactions in which gases are produced.
Convenient to fill and empty, easy to clean. Compact design, handy size. Built-in return guard. Pressure and vacuum mode operation.
Can be plugged in vertical position on any apparatus for use as bubble counter, pressure controller for inert gas atmosphere, mercury closure, dry tube, micro gas washing bottle, fermentation tube, etc.

Article	Order No.
Double-chamber gas bubble counter, with cone and socket NS 14.5	**13 47 20001**
Double-chamber gas bubble counter, with cone and socket NS 19	**13 47 20002**
Double-chamber gas bubble counter, with cone and socket NS 29	**13 47 20003**

Miscellaneous Components

Non-Return Valves, LAT

A spring-loaded spherical ground joint acts as pressure valve, with tightness guaranteed by a buffer liquid of higher viscosity. The spring pressure is adjustable, but the valve can also be pre-set and lead-sealed to order. Maximum pressure 0,1 bar.
Use as a non-return valve under vacuum is possible. An inserted riser tube prevents contamination by buffer liquid.
Where aggressive media are involved, the spring can be covered with inert fluid.

Cone NS	Standard cock with bore	Order No.
14.5 / 23	3 mm	**13 20 40145**
19 / 26	3 mm	**13 20 40219**
29 / 32	3 mm	**13 20 40229**
14.5 / 23	without stopcock	**13 20 41145**
19 / 26	without stopcock	**13 20 41219**
29 / 32	without stopcock	**13 20 41229**

webcode WWW4U035



Glass Tubing, AR Glass, IDL

webcode WW7R3006

Glass tubing in lengths of 750 mm, fused ends, in handy 1-kg packs.

Outer Ø mm	Wall mm	Tubes pc	Order No.	PU kg/Pack
4	0.9	approx. 70	**15 00 00004**	1
6	1.1	approx. 32	**15 00 00006**	1
7	1.1	approx. 27	**15 00 00007**	1
8	1.1	approx. 22	**15 00 00008**	1



Gas Distributors

Nitrogen Distribution Tubes, Rettberg

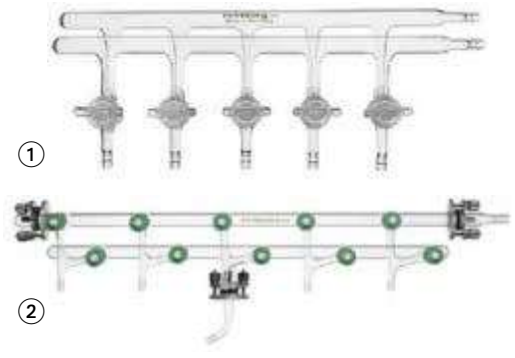
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Article	Order No.
① **Nitrogen distribution tube**	**13 40 30100**

made of borosilicate glass 3.3, with 5 patented 2-way glass stopcocks

Article	Order No.
② **Nitrogen distribution tube**	**10 70 00185**

made of borosilicate glass 3.3, with 5 patented 2-way PTFE valves with fine thread and 3 KF16 connections. Complete with blind cover and adapter KF16 to 8 mm olive; plus flange material.



webcode WWQVD048

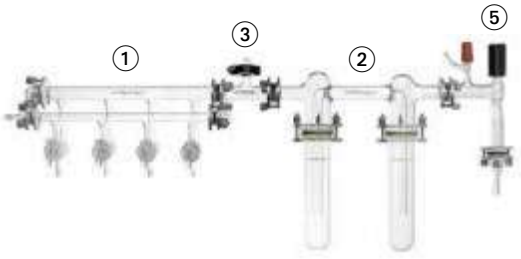
Vacuum Distributors, Rettberg

Vacuum distributors made of borosilicate glass 3.3, with PTFE high-vacuum valves with fine thread, passage 0 to 6 mm, with hose connectors.

Article	Quantity valves	Order No.
Vacuum distributor	3	**10 70 00182**
Vacuum distributor	4	**10 70 00183**
Vacuum distributor	5	**10 70 00184**



Gas Distributors







webcode WWQVD142



Nitrogen Vacuum Workplaces, Rettberg

Nitrogen Vacuum Workplaces made of borosilicate glass 3.3

Complete unit (building kit) consisting of **several parts** for assembly in various ways (left- or right-hand corner arrangements or in a straight line side by side), consisting of:

	Article	Order No.
①	**N2/vacuum interchangeable rack**	**13 70 79100**

4 two-way stopcocks (hollow) joint 21.5 / 6 mm, with glass hose connections 12 mm. Connection to double cooling trap KF 25 mm. Connection to N2 with link KF 16 mm to hose connection 12 mm. Both connections are interchangeable on the right or left, with dummy cap always placed opposite. Delivered complete with flange materials.
Dimensions: Overall height: approx. 19 cm, length: approx. 50 cm.

	Article	Order No.
②	**Vacuum double cooling trap**	**13 70 79500**

directly connected, side connections KF 25 mm, lower parts approx. 500 ml capacity with KF 50 mm. Length of lower parts approx. 230 mm. Delivered complete with flange materials. **Dimensions:** Overall height approx. 45 cm, length approx. 35 cm, assembly height above work top: 32 cm (from bottom of cooling traps).

	Article	Order No.
③	**Connecting piece for straight set-ups**	**13 70 79616**

between interchangeable racks and the double cooling trap 2 × KF 25 mm, with KF 16 mm for Pirani sensor and blind cap. Delivered complete with flange materials.
Dimensions: length: approx. 11 cm.

	Article	Order No.
④	**Connecting piece for corner set-ups**	**13 70 79625**

between interchangeable racks and the double trap 2 × KF 25 mm, with KF 16 mm for Pirani sensor and blind cap. Delivered complete with flange materials.
Dimensions: Length of legs: A = 10 cm, B = 20 cm.

	Article	Order No.
⑤	**Vacuum shut-off valve 0-15 mm**	**13 70 79715**

removable with KF 25 for connecting on the suctions side to the double cooling trap, with additional valve 0 to 6 mm and hose connection Olive 10 mm for vacuum or venting, connection to vacuum line KF 25 mm (e.g. for metal hose), removable link KF 25 mm to hose connection 16 mm (clear width 9 mm). Delivered with flange materials.

Optional

	Article	Order No.
⑥	**N2/vacuum interchangeable rack**	**13 70 79200**

4 two-way valves (vacuum 0 to 12 mm, N2 0 to 6 mm), working connections: 2 × hose 13 mm, 1 × conical joint 14.5, 1 × conical joint 29 (removable with small flanges; other set-ups possible on request). Connection to double cooling trap KF 25 mm. Connection to N2 with link KF 16 mm to hose connection 12 mm. Connections for N2 and vacuum are interchangeable on the right or left, with dummy cap always placed opposite. Delivered complete with flange materials. **Dimensions:** Overall height: approx. 25 cm, length: 50 cm

Further accessories and spare parts

Article	Order No.
Trap bottom, KF 50 mm	**13 70 79550**
Pirani vacuum gauge with digital indicator, matching sensor and connecting cable.	**13 70 79810**
Set of Dewar vessels suitable for cooling traps, with coating.	**13 70 79820**
Working connection with tube connector 12 mm, with glass flange	**13 70 79312**
Working connection with cone NS 14.5, with glass flange	**13 70 79314**
Working connection with cone NS 29, with glass flange	**13 70 79329**
Dummy cap KF 16 mm	**13 70 79416**
Dummy cap KF 25 mm	**13 70 79425**

(A variable stand system and suitable tripod materials for assembling the system are available on request.)

rettberg.biz
GLASAPPARATEBAU · LABORATORY GLASSWARE

webcode WWQVD181



Nitrogen Vacuum Workplaces, Rettberg

Complete unit (installation width approx. 115 cm), consisting of:
- Shutoff valve, 0 to 15 mm, removable, with KF16 for suction-side connection to double cooling trap with additional 0 to 8 mm valve and 10 mm olive for vacuum or ventilation
- Vacuum double cooling trap directly connected, KF16 connections at the side, bottom elements KF40 with approx. 350 ml volume. Length of bottom elements approx. 210 mm
- N2/vacuum manifold KF16 with 5 two-way valves 0 to 8 mm, connection for N2 or vacuum via KF16 or 10 mm olive

	Article	Order No.
⑦	Complete workstation	**10 70 00222**
	N2/vacuum interchangeable rack	**10 70 00223**
	Vacuum double cooling trap	**10 70 00224**
	Vacuum shut-off valve	**10 70 00225**

Gas Distributors

Gas Distributor, Rettberg

webcode WWQVD182

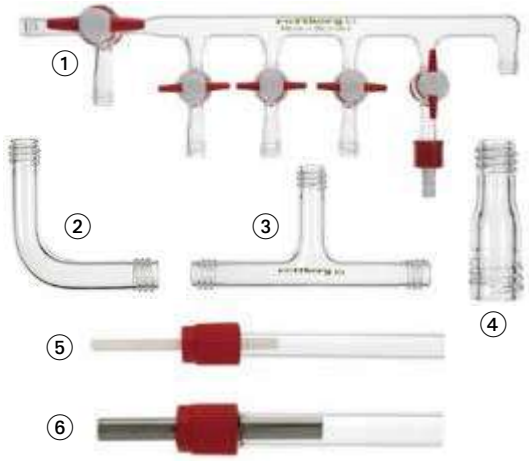
Distributor made of borosilicate glass 3.3
With 4 PTFE one-way connection valves NS 14.5/2.5 and three-way valve NS 18.8/4, total width approx. 320 mm, all connections GL14

	Article	Order No.
①	Distributors	10 70 00213
②	Arc adapter 90°	10 70 00214
③	T-piece	10 70 00215
④	Adapter GL14 on GL18	10 70 00216

More adapters on request.

Screw cap for tube feed-through made of PBT with PTFE inner part

Inner Ø mm	Version ⑤ GL 14 Order No.	⑥ GL 18 Order No.
1.6	10 70 00248	10 70 00291
3.2	10 70 00249	10 70 00292
4	10 70 00269	10 70 00226
5	10 70 00227	
6	10 70 00228	10 70 00229
8	10 70 00230	10 70 00231
10		10 70 00232



Specimen Preparing Methods

Circulation Apparatus, Rettberg

Solvent circulation apparatus
Low form, with stainless steel Dimroth condenser, cone size 29, apparatus made of borosilicate glass 3.3, socket and cone size 29/32, with 2-way PTFE valve with fine thread for return flow and removal, with vapor guide tube in the storage vessel. Suitable for hard boiling media. Additionally equipped with a PTFE throughfeed cock joint size 14.5/4 mm and socket size 14.5 (with septum) for removing very small quantities with a cannula.

Article	Order No.
Solvent circulation apparatus	10 70 00270

Accessories

	Article	Order No.
	Evaporator flask with nitrogen valve, 500 ml	10 70 00201
	Evaporator flask with nitrogen valve, 1000 ml	10 70 00202
	Evaporator flask with nitrogen valve, 2000 ml	10 70 00204
	PTFE seal NS 29/32	24 70 10029
⑦	Receiver flask 100 ml	13 40 20124
	Receiver flask 250 ml	13 40 20136
	Heater 500 ml	13 70 21105
	Heater 1000 ml	13 70 21110
	heater 2000 ml	13 70 21120
	Scissor-type table	13 70 21122
	Stand with holder	13 70 21125

Supplied without the illustrated accessories



webcode WWQVD005

Sublimation Apparatus, Vacuum, Rettberg

The vacuum sublimation apparatus made of borosilicate glass 3.3 allows you to effectively clean many chemicals and substances which, when heated, pass directly from the solid to the vapor state without first turning into a liquid and solidify again after cooling. The cleaned sublimated can be easily and completely recovered from the conical condenser at the end of the sublimation operation.

Micro-, semi-micro- and macro apparatuses

	Article	Order No.
⑧	**Micro apparatus complete, sublimate quantity 1 to 2 g**	13 70 22001
	Semi-macro apparatus complete, sublimate quantity 5 to 7 g	13 70 22002
⑨	**Macro apparatus complete, sublimate quantity 10 to 25 g**	13 70 22003
	Macro apparatus complete, sublimate quantity 10 to 25 g but with removable vacuum connection with KF 16 thick-wall flange and valve 0 to 10 mm	13 70 22004

Sublimation apparatuses

	Article	Order No.
⑩	**Sublimation apparatus 100 to 200 gram** Vacuum connection with thick-wall flanges KF 40 and valve 0 to 10 mm, complete, sublimate quantity 100 to 200 g, condensing surface approx. 200 cm^2	13 70 24001



webcode WWQVD090

webcode To see other variants and accessories, please enter the webcode on our website.

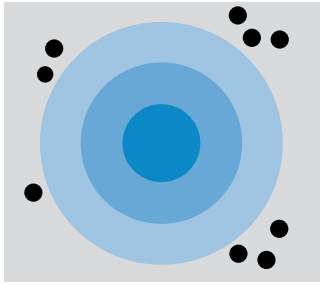
PRECISE VOLUMETRIC MEASUREMENT

A teamwork of error limit, accuracy, coefficient of variation and precision.



BRAND®

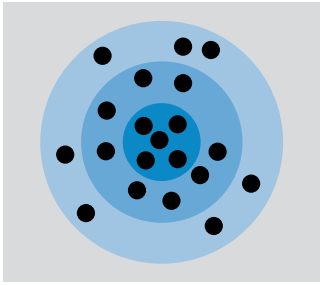
An illustration of precise and accuracy
The dart board simulates the volume range around the centered specified value (center), the black dots simulate the different measured values of a specified volume (nominal or partial volume).



Poor accuracy:
Hits far off center.

Poor reproducibility:
Hits widely scattered.

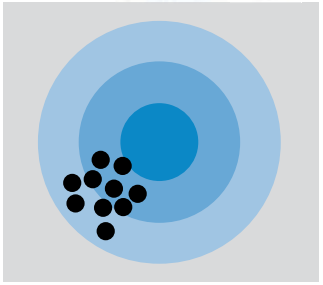
Result:
These volumetric instruments are of inferior quality.



Good accuracy:
On average, hits are evenly distributed around center.

Poor reproducibility:
No gross errors, but hits widely scattered.

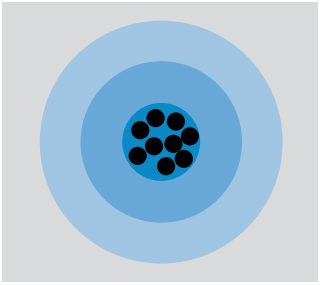
Result:
All deviations are "equally probable".
Instruments exceeding the permissible limit should be removed from service.



Poor accuracy:
Although all hits are close together, the center is still missed.

Good reproducibility:
All hits are close together.

Result:
Improperly controlled production, with systematic variation.
Instruments exceeding the permissible limit should be removed from service.



Good accuracy:
All hits are near the center.

Good reproducibility:
All hits are close together.

Result:
The volumetric instruments have minute systematic errors, narrow scatter; the permissible limit is not exhausted. These instruments should remain in service.

To describe precision, the term "Error limit" is used for glass volumetric devices, while for liquid handling devices the statistical terms "Accuracy [%]" and "Coefficient of Variation [%]" have become established.

Batch and individual certificates or DAkkS calibration certificates can be issued, depending on type of product, to confirm error limits.

❶ Error limit

The term "Error limit" (EL) in the corresponding standards defines the maximum permissible deviation from the specified value.

❷ Accuracy (A)

Accuracy (A) indicates the closeness of measured mean volume to the specified value, i.e., systematic measurement variation.
Accuracy is defined as the difference between the measured mean volume ($\bar{V}$) and the specified value ($V_{spec.}$), related to the specified value in percent.

❸ Coefficient of Variation (CV)

Coefficient of variation (CV) indicates the closeness of values of repeated measurements, i.e., random measurement variation.
Coefficient of variation is defined as standard deviation in percent, related to the mean volume.

❹ Partial volumes

Generally A and CV are related to the nominal volume ($V_{nominal}$). These values are in % and have to be converted for partial volumes ($V_{part.}$). In contrast, there is no conversion for partial volumes, if A and CV are stated in volume units (e.g., ml).

❺ Error limit of A and CV

A good estimate for the error limit (EL) of the instrument, e.g., for the nominal volume ($V_{nominal}$) can be calculated using the values for accuracy and coefficient of variation.

❻ Precision (reproducilibity)

It describes the closeness in volume units between the different values in a set of measurements.

❶ $$EL \geq \left| V_{measured} - V_{spec.} \right|$$

❷ $$A\,[\%] = \frac{\bar{V} - V_{spec.}}{V_{spec.}} \cdot 100$$

❸ $$CV\,[\%] = \frac{s \cdot 100}{\bar{V}}$$

❹ $$A_{part.}\,[\%] = \frac{V_{nominal}}{V_{part.}} \cdot A_{nominal}\,\%$$

(analog $CV_{part.}$ [%])

❺ $$EL \geq \frac{|A\%| + 2CV\%}{100\%} \cdot V_{nominal}$$

CHAPTER OVERVIEW

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Microliter Pipettes

Calibration of Single and Multichannel Pipettes acc. to DIN EN ISO 8655-6, Service



Scope of delivery:
- incoming goods, check for integrity
- previous check to determine function status
- function check, cleaning; if necessary greasing of O-rings and seals
- adjustment if necessary
- calibration according to DIN EN ISO 8655-6; in consideration of the specifications of the manufacturer and standadrs
- designation of the pipette with calibration label
- creation of a standard-conform test report
- packaging

Article	Order No.
Single-channel pipette, fixed volume	**10 99 51010**
Single-channel pipette, variable volume < 10 µl	**10 99 51020**
Single-channel pipette, variable volume > 10 µl	**10 99 51030**
Multi-channel pipette (2-8 channels), variable volume	**10 99 51040**
Multi-channel pipette (12 channels), variable volume	**10 99 51050**
Hand dispenser	**10 99 51060**
Burettes and bottle-top dispenser	**10 99 51070**

Necessary repairs are assessed on a T&M basis.

Micropipette Transferpette® S, BRAND



- Efficient: one-hand operation
- Flexible: ergonomic design for all hand sizes
- Reliable: volume-change protection prevents accidental adjustments

The Transferpette® S air displacement pipette allows you to work efficiently and ergonomically with both small and large volumes. Low operating forces and a short stroke ensure relaxed pipetting, even during long pipetting series. Due to its perfect ergonomics, the Transferpette® S provides a comfortable grip in any hand position, whether you are right- or left-handed, or have big or small hands. Changing your grip is not necessary, since the microliter pipette provides true one-hand operation: set the volume, pipette, eject the tip.

The volume-change protection is also easy to operate with gloves on and protects your set volume against accidental adjustment. The Transferpette® S also features Easy Calibration technology, which makes calibration a breeze. Calibration can be carried out without tools. A compatibility table shows which tips fit which device, so that you always order the correct pipette tips.

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Continued on next page

Microliter Pipettes

webcode WWQED088



① ②

Overview
- Volume range of single-channel pipette: from 0.1 µl to 10 ml
- Volume range of multi-channel pipette: from 0.5 µl to 300 µl
- Short stroke and low operating forces
- Universal tip cone
- Completely autoclaving at 121°C
- One-hand operation for right- and left-handed users
- Color code on volume adjustment wheel, shaft and volume-change protection
- Easy insertion and ejection of tips due to O-rings on multi-channel pipettes
- Can be calibrated easily and without tools thanks to Easy Calibration technology
- Slim shaft for sampling from narrow vessels (centrifuge tubes)
- Operating temperature from +15°C to +40°C
- Vapor pressure up to 500 mbar
- Viscosity up to 260 mPa s

Single channel micropipette Transferpette® S, fixed-volume, CE-IVD, DE-M
Items supplied: Transferpette® S type fixed volume, DE-M marked, with performance certificate, shelf/rack mount, labeling foil, silicone grease

	Volume µl	Model	Accuracy %	Accuracy µl	Variation coefficient %	Variation coefficient µl	Tip size	Order No.
	10	F-10	1	0.1	0.5	0.05	0,5–20	**10 49 75808**
	20	F-20	0.8	0.16	0.4	0.08	2–200	**10 49 75816**
	25	F-25	0.8	0.2	0.4	0.1	2–200	**10 49 75820**
	50	F-50	0,8	0.4	0.4	0.2	2–200	**10 49 75828**
	100	F-100	0.6	0.6	0.2	0.2	2–200	**10 49 75838**
①	200	F-200	0.6	1.2	0.2	0.4	2–200	**10 49 75844**
	500	F-500	0.6	3	0.2	1	50–1000	**10 49 75854**
	1000	F-1000	0.6	6	0.2	2	50–1000	**10 49 75862**
	2000	F-2000	0.8	16	0.3	6	500–5000	**10 49 75864**

Single channel micropipette Transferpette® S, adjustable, CE-IVD, DE-M
Items supplied: Transferpette® S type adjustable volume, DE-M marked, with performance certificate, shelf/rack mount, labeling foil, silicone grease

	Volume µl	Model	Accuracy %	Accuracy µl	Variation coefficient %	Variation coefficient µl	Tip size	Order No.
	0.1–1	D-1	2	0.02	1.2	0.012	0.1–20	**10 49 75868**
	0.1–2.5	D-2,5	1.4	0.035	0.7	0.018	0.5–20	**10 49 75869**
	0.5–10	D-10	1	0.1	0.5	0.05	0.5–20	**10 49 75870**
	2–20	D-20	0.8	0.16	0.4	0.08	2–200	**10 49 75872**
	5–50	D-50	0.8	0.4	0.3	0.15	2–200	**10 49 75873**
	10–100	D-100	0.6	0.6	0.2	0.2	2–200	**10 49 75874**
②	20–200	D-200	0.6	1.2	0.2	0.4	2–200	**10 49 75878**
	100–1000	D-1000	0.6	6	0.2	2	50–1000	**10 49 75880**
	500–5000	D-5000	0.6	30	0.2	10	500–5000	**10 49 75882**
	1000–10000	D-10000	0.6	60	0.2	20	1000–10000	**10 49 75884**



③

③ Pipette sets Transferpette® S, adjustable, CE-IVD, DE-M

Article	Order No.
Starter-Kit Micro 3 × pipettes (0.1–2,5 µl, 0.5–10 µl, 10–100 µl), 3 × TipBox pipette tips (2 × 0.5–20 µl, 2–200 µl), 3 shelf mounts	**10 49 75890**
Starter-Kit Midi 3 × pipettes (2–20 µl, 20–200 µl, 100–1000 µl), 3 × TipBox pipette tips (2 × 2–200 µl, 50–1000 µl), 3 shelf mount	**10 49 75891**
Starter-Kit Macro 3 × pipettes (100–1000 µl, 500–5000 µl, 1000–10000 µl), 3 × TipBox pipette tips (50–1000 µl, 0.5–5 ml, 1-10 ml), 3 shelf mounts	**10 49 75892**
Starter-Kit Standard 3 × pipettes (0.5–10 µl, 10–100 µl, 100–1000 µl), 3 × TipBox pipette tips (0.5–20 µl, 2–200 µl, 50–1000 µl), 3 shelf mounts	**10 49 75893**
Pipettes package 1 5 × pipettes (0.1–2,5 µl, 0.5-10 µl, 2–20 µl, 20–200 µl, 100–1000 µl), 3 × TipBox pipette tips (0.5–20 µl, 2–200 µl, 50–1000 µl), benchtop rack for 6 pipettes	**10 49 75896**
Pipettes package 2 5 × pipettes (0.5–10 µl, 10–100 µl, 20–200 µl, 50–1000 µl, 500–5000 µl), 4 × TipBox pipette tips (0.5–20 µl, 2–200 µl, 50–1000 µl, 0.5–5 ml), benchtop rack for 6 pipettes	**10 49 75897**

Continued on next page

Microliter Pipettes

Multichannel micropipette Transferpette® S -8, adjustable, CE-IVD, DE-M
Items supplied: Transferpette® S -8, DE-M marked, supplied with performance certificate, 2 × TipBox filled with pipette tips from BRAND, shelf mount, reagent reservoir, mounting tool, labeling foil, silicone grease and 1 set of sealing rings

Volume µl	Model	Accuracy %	Accuracy µl	Variation coefficient %	Variation coefficient µl	Tip size	Order No.
0.5–10	M8-10	1.6	0.16	1	0.1	0.5–20	**10 49 75900**
5–50	M8-50	0.8	0.4	0.4	0.2	2–200	**10 49 75906**
10–100	M8-100	0.8	0.8	0.3	0.3	2–200	**10 49 75908**
④ 20–200	M8-200	0.8	1.6	0.3	0.6	2–200	**10 49 75910**
30–300	M8-300	0.6	1.8	0.3	0.9	5–300	**10 49 75912**

Multichannel micropipette Transferpette® S -12, adjustable, CE-IVD, DE-M
Items supplied: Transferpette® S -12, DE-M marked, supplied with performance certificate, 2 × TipBox filled with pipette tips from BRAND, shelf mount, reagent reservoir, mounting tool, labeling foil, silicone grease and 1 set of sealing rings

Volume µl	Model	Accuracy %	Accuracy µl	Variation coefficient %	Variation coefficient µl	Tip size	Order No.
0.5–10	M12-10	1.6	0.16	1	0.1	0.5–20	**10 49 75920**
5–10	M12-50	0.8	0.4	0.4	0.2	2–200	**10 49 75926**
10–100	M12-100	0.8	0.8	0.3	0.3	2–200	**10 49 75928**
20–200	M12-200	0.8	1.6	0.3	0.6	2–200	**10 49 75930**
⑤ 30–300	M12-300	0.6	1.8	0.3	0.9	5–300	**10 49 75932**


④

⑤

Accessories

Article	Order No.
⑥ Benchtop rack (round) for pipettes Transferpette® S and S -8/-12	**10 49 74807**
Rack mount for pipettes Transferpette® S and S -8/-12	**10 49 74811**
Wall mount for pipettes Transferpette® S and S -8/-12	**10 49 74812**


⑥

Transferpette® electronic Single-/Multichannel Pipettes, BRAND

Transferpette® electronic pipettes combines the globally proven properties of mechanical piston operated air displacement pipettes by BRAND with the advantages of an electronic device.

Features:
- The pipette shaft can be unscrewed and is entirely autoclavable (121°C).
- Five convenient programs: pipetting, reverse pipetting, mixing, dispensing and GEL electrophoresis.
- Easy Calibration technique for making quick tool-free adjustments to the Transferpette® electronic.
- CE mark according to IVD Directive 98/79 EC.

Limitations of use:
- The Transferpette® electronic is intended for the pipetting of samples within the following limitations:
- Temperature of both the instrument and solution between +15°C and +40°C (59°F to 104°F). Consult the manufacturer for use in temperatures outside of this range.
- Vapour pressure up to 500 mbar
- Viscosity: 260 mPa s

webcode WWQED062

BRAND

Transferpette® electronic
DE-M marked and supplied with performance certificate, battery, power supply 100–240 V/50–60 Hz (not for 14 49 75339 – 14 49 75347) and silicone grease.

Volume µl	Graduation µl	With power supply unit for Europe **Order No.**	With power supply unit for UK/Ireland **Order No.**	Without power supply unit **Order No.**
0.5 – 10	0.01	**14 49 75299**	**14 49 75309**	**14 49 75339**
2 – 20	0.02	**14 49 75300**	**14 49 75310**	**14 49 75340**
10 – 200	0.2	**14 49 75303**	**14 49 75313**	**14 49 75343**
50 – 1000	1.0	**14 49 75306**	**14 49 75316**	**14 49 75346**
250 – 5000	5.0	**14 49 75307**	**14 49 75317**	**14 49 75347**



Transferpette®-8 electronic
DE-M marked and supplied with performance certificate, battery, power supply 100–240 V/50–60 Hz, device stand, TipBox, refill unit, reagent reservoir, mounting tool, silicone grease and 1 set of sealing rings made of FKM.

Volume µl	Graduation µl	With power supply unit for Europe **Order No.**	With power supply unit for UK/Ireland **Order No.**
0,5 – 10	0.01	**10 49 75399**	**10 49 75409**
1 – 20	0.02	**14 49 75400**	**14 49 75410**
5 – 100	0.1	**14 49 75403**	**14 49 75413**
10 – 200	0.2	**10 49 75404**	**10 49 75414**
15 – 300	0.5	**14 49 75406**	**14 49 75416**



Continued on next page

Microliter Pipettes





①

Transferpette®-12 electronic
DE-M marked and supplied with performance certificate, battery, power supply 100–240 V/50–60 Hz, device stand, TipBox, refill unit, reagent reservoir, mounting tool, silicone grease and 1 set of sealing rings made of FKM.

Volume µl	Graduation µl	With power supply unit for Europe **Order No.**	With power supply unit for UK/Ireland **Order No.**
0.5 – 10	0.01	**10 49 75449**	**10 49 75459**
1 – 20	0.02	**14 49 75450**	**14 49 75460**
5 – 100	0.1	**14 49 75453**	**14 49 75463**
10 – 200	0.2	**10 49 75454**	**14 49 75466**
15 – 300	0.5	**14 49 75456**	**10 49 75464**

Accessories

	Article	Order No.
①	3-unit charging stand incl. power supply unit Europe /Continent, 100-240V/50-60Hz	**14 49 75390**
①	3-unit charging stand incl. power supply unit UK/Ireland, 100-240V/50-60Hz	**14 49 75391**

Other AC adaptors on request



②

② **Reagent reservoirs for multichannel pipettes and automatic systems**
These reagent reservoirs were designed especially for use with automated liquid handling platforms. They can also be used with manual systems. Different partitions, bottom styles and profiles provide broas application flexibility.
- ANSI/SLAS standard format Compatible with nearly all liquid handling robots and other automated dispensing systems
- 5 different types for use with multichannel pipettes and automatic systems
- Excellent stability and chemical resistance made from high-quality polypropylene
- Very low dead volume due to pyramid bottoms
- Free from RNases and DNases
- Autoclavable (121°C, 20 min)
- Material PP

Specification	Working volume ml	Bottom shape	**Order No.**	PU pc/ Pack
1-column	220	pyramid bottom, 96-well	**10 49 71450**	10
12-column low profile	6	pyramid bottom	**10 49 71452**	10
4-column	60	pyramid bottom	**10 49 71454**	10
6-column	40	pyramid bottom	**10 49 71456**	10
1-column low profile	50	flat bottom	**10 49 71458**	10

The indicated volume applies to the use with automated systems

eppendorf

PhysioCare concept

webcode WWQJ3001

Eppendorf Pipettes Reference® 2, Eppendorf

Confirmed as user-tested and user-friendly.
The TÜV Rheinland found the new PhysioCare Concept Reference pipette to be exceptionally user-friendly.
In the new pipette Eppendorf Reference® 2, the known and proven premium characteristics of the “Reference”, such as highest precision, very long useful life and particularly ergonomical design are combined with innovative state-of-the-art technology. This makes it an ideal partner when you intend to achieve optimum pipetting results. New properties: Eppendorf TrackIt, integrated RFID chip with all relevant data relating to the pipette. For the first time, the new Reference 2 is available in multi-channel variants with channel indication. With spring loaded tip cone for optimum tip seat for reduced operating effort. The portfolio of the variable 1 channel pipettes has been extended by volume sizes 5 ml and 10 ml.

③ **Fixvolume pipette Eppendorf Reference® 2 fix**

Type	Vol. µl	A ≦ ± %	CV ≦ ± %	Tips ID	Color code	Version	**Order No.**
1 µl	1	2.5	1.8	10 µl	dark grey	1-channel	**10 69 50014**
2 µl	2	2.0	1.2	10 µl	dark grey	1-channel	**10 69 50022**
5 µl	5	1.5	0.8	10 µl	mid grey	1-channel	**10 69 50030**
10 µl	10	1.0	0.5	10 µl	mid grey	1-channel	**10 69 90049**
10 µl	10	1.0	0.5	20 µl	yellow	1-channel	**10 69 50057**
20 µl	20	0.8	0.3	20 µl	light grey	1-channel	**10 69 50065**
20 µl	20	1.0	0.3	200 µl	yellow	1-channel	**10 69 50073**
25 µl	5	1.0	0.3	200 µl	yellow	1-channel	**10 69 50081**
50 µl	50	0.7	0.3	200 µl	yellow	1-channel	**10 69 50090**
100 µl	100	0.6	0.2	200 µl	yellow	1-channel	**10 69 50103**

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Microliter Pipettes

Type	Vol. µl	A ≦ ± %	CV ≦ ± %	Tips ID	Color code	Version	Order No.
200 µl	200	0.6	0.2	200 µl	yellow	1-channel	**10 69 50111**
200 µl	200	0.6	0.2	1000 µl	blue	1-channel	**10 69 50120**
250 µl	250	0.6	0.2	1000 µl	blue	1-channel	**10 69 50138**
500 µl	500	0.6	0.2	1000 µl	blue	1-channel	**10 69 50146**
1000 µl	1000	0.6	0.2	1000 µl	blue	1-channel	**10 69 50154**
2 ml	2000	0.6	0.2	2500 µl	red	1-channel	**10 69 50162**
2,5 ml	2500	0.6	0.15	2500 µl	red	1-channel	**10 69 00170**



③

④ **Variable pipettes Eppendorf Reference® 2 variable**

With color coding and volume labeling for quick identification of the volume/tip size. Round upper part makes it possible to work in every position. 4-digit display for exact volume setting (clearly visible from every angle). Quick and secure volume setting, include volume lock. Fully autoclavable. Movable parts and external edges made from stainless steel equip the pipette with outstanding robustness at potential impact sites and for internal components. Simple visual adjustment by the user. With label field for individual identification.

Type	Vol.	A ≦ ± %	CV ≦ ± %	Tips ID	Color code	Version	Order No.
0.1–2.5 µl	0.1 µl	48.0	12.0	10 µl	dark grey	1-channel	**10 69 40010**
	0.25 µl	12.0	6.0				
	1.25 µl	2.5	1.5				
	2.5 µl	1.4	0.7				
0.5–10 µl	0.5 µl	8.0	5.0	20 µl	mid grey	1-channel	**10 69 40029**
	1 µl	2.5	1.8				
	5 µl	1.5	0.8				
	10 µl	1.0	0.4				
2–20 µl	2 µl	5.0	1.5	20 µl	light grey	1-channel	**10 69 40037**
	10 µl	1.2	0.6				
	20 µl	1.0	0.3				
2–20 µl	2 µl	5.0	1.5	200 µl	yellow	1-channel	**10 69 40045**
	10 µl	1.2	0.6				
	20 µl	1.0	0.3				
10–100 µl	10 µl	3.0	0.7	200 µl	yellow	1-channel	**10 69 40053**
	50 µl	1.0	0.3				
	100 µl	0.8	0.15				
10–100 µl	20 µl	2.5	0.3	200 µl	yellow	1-channel	**10 69 40061**
	100 µl	1.0	0.3				
	200 µl	0.6	0.2				
30–300 µl	30 µl	2.5	0.7	300 µl	orange	1-channel	**10 69 40070**
	150 µl	1.0	0.3				
	300 µl	0.6	0.2				
100–1000 µl	100 µl	3.0	0.6	1000 µl	blue	1-channel	**10 69 80088**
	500 µl	1.0	0.2				
	1000 µl	0.6	0.2				
0,25–2,5 ml	0.25 ml	8.0	3.0	2500 µl	red	1-channel	**10 69 40096**
	1.25 ml	0.8	0.2				
	2.5 ml	0.6	0.2				
0,5–5 ml	0.5 ml	2.4	0.6	5 ml	violet	1-channel	**10 69 00100**
	2.5 ml	1.2	0.25				
	5.0 ml	0.6	0.15				
1–10 ml	1.0 ml	3.0	0.6	10 ml	turquoise	1-channel	**10 69 40118**
	5.0 ml	1.0	0.2				
	10.0 ml	0.6	0.15				



④

⑤ **Eppendorf Reference® 2, pack of 3**

Option 1:
3 pipettes (0.5–10 µl, 10–100 µl, 100–1,000 µl) + 3 re-usable epT.I.P.S.® boxes with 96 pipette tips each

Option 2:
3 pipettes (2–20 µl, 20–200 µl, 100–1,000 µl) + 3 re-usable epT.I.P.S.® boxes with 96 pipette tips each

Option 3:
3 pipettes (0.1–1 ml, 0.5–5 ml, 1–10 ml) with samples of matching pipette tips

Article	Order No.
Reference® 2, pack of 3, option 1	**10 69 20903**
Reference® 2, pack of 3, option 2	**10 69 20911**
Eppendorf Reference® 2, pack of 3, option 3	**10 69 20920**



⑤

Continued on next page

Microliter Pipettes



①

① Variable pipette Eppendorf Reference® 2, 8- and 12-channel variable

Type	Vol. µl	A ≦ ± %	CV ≦ ± %	Tips ID	Color code	Version	Order No.
0.5–10 µl	0,5 1 5 10	12.0 8.0 4.0 2.0	8.0 5.0 2.0 1.0	20 µl	mid grey	8-channel	**10 69 60018**
10–100 µl	10 50 100	3.0 1.0 0.8	2.0 0.8 0.3	200 µl	yellow	8-channel	**10 69 60034**
30–300 µl	30 150 300	3.0 1.0 0.6	1.0 0.5 0.3	300 µl	orange	8-channel	**10 69 60050**
0.5–10 µl	0,5 1 5 10	12.0 8.0 4.0 2.0	8.0 5.0 2.0 1.0	20 µl	mid grey	12-channel	**10 69 60026**
10–100 µl	10 50 100	3.0 1.0 0.8	2.0 0.8 0.3	200 µl	yellow	12-channel	**10 69 60042**
30–300 µl	30 150 300	3.0 1.0 0.6	1.0 0.5 0.3	300 µl	orange	12-channel	**10 69 60069**

webcode WWQJ3002

eppendorf

Pipettes Research® plus, Eppendorf

Eppendorf sets a new standard in pipetting. The ultra light Eppendorf Research plus pipette meets the highest needs in precision and accuracy – combined with ultimate ergonomics and increased flexibility.

- Volume adjustment: Only a few turns to reach your desired volume (in adjustable-volume pipette)
- Control button: Very low operating force, colour indicates pipette volume, positioned for perfect ergonomics
- Ejector: Very low operating force, positioned for perfect ergonomics
- Volume display: 4 digits, magnifying shape
- Secondary adjustment display and opening: Adjust your pipette to a liquid very different than water
- Eppendorf PerfectPiston™: Ultra light piston made of Fortron® (not in 2,5 µl, 10 µl, 5 ml und 10 ml pipettes)
- Quick connection clip: Remove lower part easily (not in 5 ml und 10 ml pipettes)
- Spring loaded tip cone: Improved ergonomics, tight fit to the tip (not in 5 ml und 10 ml pipettes)

Multi-channel:

- Channel indicator: Use the pipette the same way round – all the time
- Remove individual channels: Gain flexibility for individual needs

PhysioCare concept



②

② Eppendorf Research® plus, adjustable-volume pipette

Type	Vol.	A ≦ ± %	CV ≦ ± %	Tips ID	Color code	Version	Order No.
0.1–2.5 µl	0.1 µl 0.25 µl 1.25 µl 2.5 µl	48.0 12.0 2.5 1.4	12.0 6.0 1.5 0.7	10 µl	dark grey	1-channel	**10 69 30012**
0.5–10 µl	0.5 µl 1 µl 5 µl 10 µl	8.0 2.5 1.5 1.0	5.0 1.8 0.8 0.4	20 µl	mid grey	1-channel	**10 69 30020**
2–20 µl	2 µl 10 µl 20 µl	5.0 1.2 1.0	1.5 0.6 0.3	20 µl	light grey	1-channel	**10 69 30098**
2–20 µl	2 µl 10 µl 20 µl	5.0 1.2 1.0	1.5 0.6 0.3	200 µl	yellow	1-channel	**10 69 30039**
10–100 µl	10 µl 50 µl 100 µl	3.0 1.0 0.8	1.0 0.3 0.2	200 µl	yellow	1-channel	**10 69 30047**
20–200 µl	20 µl 100 µl 200 µl	2.5 1.0 0.6	0.7 0.3 0.2	200 µl	yellow	1-channel	**10 69 30055**
30–300 µl	30 µl 150 µl 300 µl	2.5 1.0 0.6	0.7 0.3 0.2	300 µl	orange	1-channel	**10 69 30101**
100–1000 µl	100 µl 500 µl 1000µl	3.0 1.0 0.6	0.6 0.2 0.2	1.000 µl	blue	1-channel	**10 69 30063**

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Microliter Pipettes

Type	Vol.	A ≦ ± %	CV ≦ ± %	Tips ID	Color code	Version	Order No.
0.25–2.5 ml	0.25 ml 1.25 ml 2.50 ml	4.8 0.8 0.6	1.2 0.2 0.2	2.5 m	red	1-channel	**10 69 30144**
0.5–5 ml	0.5 ml 2.5 ml 5 ml	2.4 1.2 0.6	0.6 0.25 0.15	2,5 ml	lila	1-channel	**10 69 10071**
1–10 ml	1 ml 5 ml 10 ml	3.0 0.8 0.6	0.6 0.2 0.15	10 ml	turquoise	1-channel	**10 69 30080**

③ Eppendorf Research® plus, adjustable-volume, multichannel pipettes

Type	Vol. µl	A ≦ ± %	CV ≦ ± %	Tips ID	Color code	Version	Order No.
0.5–10 µl	0.5 µl 1 µl 5 µl 10 µl	12.0 8.0 4.0 2.0	8.0 5.0 2.0 1.0	20 µl	mid grey	8-channel	**10 69 25010**
10–100 µl	10 µl 50 µl 100 µl	3.0 1.0 0.8	2.0 0.8 0.3	200 µl	yellow	8-channel	**10 69 60036**
30–300 µl	30 µl 150 µl 300 µl	3.0 1.0 0.8	1.0 0.5 0.3	300 µl	orange	8-channel	**10 69 50052**
120–1200 µl	120 µl 600 µl 1200 µl	6.0 2.7 1.2	0.9 0.4 0.3	1200 µl	green	8-channel	**10 69 50214**
0.5–10 µl	0.5 µl 1 µl 5 µl 10 µl	12.0 8.0 4.0 2.0	8.0 5.0 2.0 1.0	20 µl	mid grey	12-channel	**10 69 50028**
10–100 µl	10 µl 50 µl 100 µl	3.0 1.0 0.8	2.0 0.8 0.3	200 µl	yellow	12-channel	**10 69 50044**
30–300 µl	30 µl 150 µl 300 µl	3.0 1.0 0.8	1.0 0.5 0.3	300 µl	orange	12-channel	**10 69 50060**
120–1200 µl	120 µl 600 µl 1200 µl	6.0 2.7 1.2	0.9 0.4 0.3	1200 µl	green	12-channel	**10 69 50222**



Eppendorf Research® plus, adjustable-volume, multichannel pipettes for 384-well plates

	Type	Volume µl	A ≦ ± %	CV ≦ ± %	Color code	Version	Order No.
④	1–20 µl	1 µl 2 µl 10 µl 20 µl	12 8 4 2	8 5 2 1	light pink	16-channel	**10 69 50079**
	5–100 µl	5 µl 10 µl 50 µl 100 µl	6 3 1.2 1	4 2 0.8 0.6	light yellow	16-channel	**10 69 50096**
	1–20 µl	1 µl 2 µl 10 µl 20 µl	12 8 4 2	8 5 2 1	light pink	24-channel	**10 69 50087**
⑤	5–100 µl	5 µl 10 µl 50 µl 100 µl	6 3 1.2 1	4 2 0.8 0.6	light yellow	24-channel	**10 69 50109**



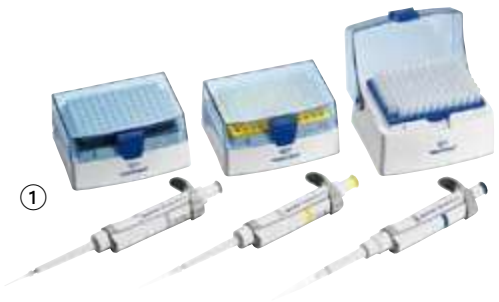
⑥ Eppendorf Research® plus, fixed-volume pipette

Type	Vol. µl	A ≦ ± %	CV ≦ ± %	Tips ID	Color code	Version	Order No.
10 µl	10	1.2	0.6	20 µl	mid grey	1-channel	**10 69 40016**
20 µl	20	0.8	0.3	20 µl	light grey	1-channel	**10 69 40032**
10 µl	10	1.2	0.6	200 µl	yellow	1-channel	**10 69 40024**
20 µl	20	1.0	0.3	200 µl	yellow	1-channel	**10 69 40040**
25 µl	25	1.0	0.3	200 µl	yellow	1-channel	**10 69 40059**
50 µl	50	0.7	0.3	200 µl	yellow	1-channel	**10 69 40067**
100 µl	100	0.6	0.2	200 µl	yellow	1-channel	**10 69 40075**
200 µl	200	0.6	0.2	200 µl	yellow	1-channel	**10 69 40083**
200 µl	200	0.6	0.2	1000 µl	blue	1-channel	**10 69 40091**
250 µl	250	0.6	0.2	1000 µl	blue	1-channel	**10 69 40105**
500 µl	500	0.6	0.2	1000 µl	blue	1-channel	**10 69 41113**
1000 µl	1000	0.6	0.2	1000 µl	blue	1-channel	**10 69 40121**



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Microliter Pipettes



① **Eppendorf Research® plus 3-Packs**
3 variable-adjustable Eppendorf Research plus pipettes per pack. With matching Eppendorf pipette tips!

Content of the Research plus3 packs:
- **Eppendorf Research® plus 3-Pack, option 1:**
  3 pipettes (0.5 – 10 µl, 10 – 100 µl, 100 – 1,000 µl)
  + 3 reusable epT.I.P.S.®boxes with 96 pipette tips each
- **Eppendorf Research®plus 3-Pack, option 2:**
  3 pipettes (2 – 20 µl, 20 – 200 µl, 100 – 1,000 µl)
  + 3 reusable epT.I.P.S.® boxes with 96 pipette tips each
- **Eppendorf Research®plus 3-Pack, option 3:**
  3 pipettes (0.1 – 1 ml, 0.5 – 5 ml, 1 – 10 ml) with samples of matching pipette tips

Article	Order No.
Eppendorf Research® plus 3-Pack, Option 1	**10 69 23900**
Eppendorf Research® plus 3-Pack, Option 2	**10 69 30918**
Eppendorf Research® plus 3-Pack, Option 3	**10 69 30926**

webcode WWQJ3031

eppendorf



Eppendorf Xplorer® / Eppendorf Xplorer® plus electronic Pipette, Eppendorf

The Eppendorf Xplorer® electronic pipette set new standards for simplicity, precision and **reproducibility.**
- Aspirating and Dispensing rocker: “Up is up and down is down”™ principle
- Easy selection of all functions with the practical selection dial
- Innovative rocker: When the tip is ejected, the piston automatically returns to zero position
- Quick connection clip: Lower part is easy to remove and maintain
- Spring-loaded tip cone provides maximum tightness
- Volume and speed precisely and reproducibly adjustable
- Adjustable to your work environment and requirements
- Channel display: Use the pipette with the same orientation – all the time
- Remove the individual channels: Gain more flexibility and safety

Additional features of the Eppendorf Xplorer® plus:
- On/off switch: Switches the pipette off during longer periods of inactivity
- Additional applications: Aspirating, diluting, sequential dispensing and pipetting, reverse pipetting
- Programming: One-time programming of sequences for easier handling of complex processes
- Individual fixed volume setting: Desired volume can be saved
- Password protection: Protects programming and adjustment
- Archive function: Automatic saving of the last 10 parameter records (can be selected as an option and alternative to the Help function)
- Individual speed setting: Sets parameters to your individual working speed
- Display of service intervals: Pipette maintenance reminder function, based on time or frequency of use as desired

Eppendorf Xplorer® and Eppendorf Xplorer® plus, single-channel

Type	Volume µl	A ≦ ± %	CV ≦ ± %	Color code	Xplorer **Order No.**	② Xplorer plus **Order No.**
0.5 – 10 µl	0.5 1 5 10	6.0 2.5 1.5 1.0	3.0 1.8 0.8 0.4	grey	**10 69 61015**	**10 69 61708**
1 – 20 µl	2 10 20	5.0 1.2 1.0	1.5 0.6 0.3	light grey	**10 69 10017**	**10 69 10710**
5 – 100 µl	5 10 50 100	4.0 2.0 1.0 0.8	2.0 1.0 0.3 0.2	yellow	**10 69 61023**	**10 69 61716**
10 – 200 µl	20 100 200	2.5 1.0 0.6	0.7 0.3 0.2	yellow	**10 69 10027**	**10 69 10720**
15 – 300 µl	15 30 150 300	5.0 2.5 1.0 0.6	1.4 0.7 0.3 0.2	orange	**10 69 61031**	**10 69 61724**

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Microliter Pipettes

Type	Volume µl	A ≦ ± %	CV ≦ ± %	Color code	Xplorer **Order No.**	② Xplorer plus **Order No.**
50 – 1000 µl	50 100 500 1000	6.0 3.0 1.0 0.6	1.0 0.6 0.2 0.2	blue	**10 69 61040**	**10 69 61732**
0.1 – 2.5 ml	250 1250 2500	4.8 0.8 0.6	1.2 0.2 0.2	red	**10 69 10044**	**10 69 10736**
0.2 – 5 ml	250 500 2500 5000	4.8 3.0 1.2 0.6	1.2 0.6 0.3 0.15	violet	**10 69 61058**	**10 69 61740**
0.5 – 10 ml	500 1000 5000 10000	6.0 3.0 0.8 0.6	1.2 0.6 0.2 0.15	turquoise	**10 69 61066**	**10 69 61759**

Eppendorf Xplorer®und Eppendorf Xplorer® plus, 8- and 12-channel

Type	Volume µl	A ≦ ± %	CV ≦ ± %	Tips ID	Color code	Version 8-channel **Order No.**	12-channel **Order No.**
Xplorer® 0.5 – 10 µl	1 5 10	5.0 3.0 2.0	3.0 1.5 0.8	20 µl	grey	**10 69 61104**	**10 69 61112**
Xplorer® plus 0,5 – 10 µl	1 5 10	5.0 3.0 2.0	3.0 1.5 0.8	20 µl	grey	**10 69 61767**	**10 69 61775**
Xplorer® 5 –100 µl	10 50 100	2.0 1.0 0.8	2.0 0.8 0.25	200 µl	yellow	**10 69 61120**	**10 69 61139**
Xplorer® plus 5 –100 µl	10 50 100	2.0 1.0 0.8	2.0 0.8 0.25	200 µl	yellow	**10 69 61783**	**10 69 61791**
Xplorer® 15 – 300 µl	30 150 300	2.5 1.0 0.6	1.0 0.5 0.25	300 µl	orange	**10 69 61147**	**10 69 61155**
Xplorer® plus 15 – 300 µl	30 150 300	2.5 1.0 0.6	1.0 0.5 0.25	300 µl	orange	**10 69 61805**	**10 69 61813**
Xplorer® 50 – 1200 µl	120 600 1200	6.0 2.7 1.2	0.9 0.4 0.3	1200 µl	green	**10 69 61163**	**10 69 61171**
Xplorer® plus 50 – 1200 µl	120 600 1200	6.0 2.7 1.2	0.9 0.4 0.3	1200 µl	green	**10 69 61821**	**10 69 61830**

Eppendorf Xplorer® and Eppendorf Xplorer® plus, 16- and 24-channel
For 384 well plates

Type	Volume µl	A ≦ ± %	CV ≦ ± %	Color code	Version 16-channel **Order No.**	24-channel **Order No.**
Xplorer® plus 1 – 20 µl	1 2 10 20	12 8 4 2	8 5 2 1	light pink	**10 69 10778**	**10 69 10779**
Xplorer® plus 5 – 100 µl	5 10 50 100	6 3 1.2 1	4 2 0.8 0.6	light yellow	**10 69 10792**	**10 69 10793**

Accessories

Article	**Order No.**
Charger Stand 2 Xplorer	**10 69 60031**
Charger Carousel 2 for 6 Eppendorf pipettes	**10 69 60023**



To see other variants and accessories, please enter the webcode on our website.

Microliter Pipettes



webcode WWC8F388

Gilson Pipetman® Microman E, Gilson

MICROMAN® E positive displacement pipettes, along with capillary pistons, offers the highest precision when pipetting problem liquids such as oils, cosmetics, blood, glycerol, radioactive samples, RNA, DNA, and more! Working like a syringe, capillary pistons eliminate the air cushion between the sample and the disposable piston, providing 100% protection against pipette contamination and producing accurate, reproducible, and precise results every time.
Improved comfort and ease-of-use: A newly shaped handle, with an added finger hook, rests comfortably in your hand. Fully visible volumeter on the front of the body, so you can easily see the volume while pipetting. Large push button allows you to aspirate and dispense with ease.
Volume Securing Button allows for easy volume adjustment and minimizes the risk of accidently changing the volume during pipetting cycles.
Patented QuickSnap CP fitting system allows you to fit a capillary piston on to MICROMAN® E as simply as fitting a standard tip to a standard pipette.
- volume range from 1 µl to 1 ml
- for PCR and biologic active samples
- capillaries and flasks made of chemical-resistant PP
- protects from aerosol formation
- prevents displacement of samples
- integrated release mechanism
- sterilised CP are free of RNAse, DNAse, DNA, RNA, proteases

Microman® flasks with capillaries (CP) made of non-wetting PP, free of colour additives. Loosely (200 pieces) packed or in TiPack® racks (2 × 96, 10 × 96 or 2 × 91 pieces/pack).

Gilson Pipetman® Microman E

Article	Volume µl	Order No.
Gilson Pipetman® Microman E, M10E	1 – 10	**10 01 74301**
Gilson Pipetman® Microman E, M25E	3 – 25	**10 01 74302**
Gilson Pipetman® Microman E, M50E	20 – 50	**10 01 74303**
Gilson Pipetman® Microman E, M100E	10 – 100	**10 01 74304**
Gilson Pipetman® Microman E, M250E	50 – 250	**10 01 74305**
Gilson Pipetman® Microman E, M1000E	100 – 1000	**10 01 74306**

Gilson Microman capillary pistons

Article	for	PU	Order No.	PU pc/Pack
Gilson capillary pistons CP10, TiPack® Rack	M10	2 × 96	**10 01 74375**	192
Gilson capillary pistons CP10ST, sterile, TiPack® Rack	M10	2 × 96	**10 01 74459**	192
Gilson capillary pistons CP10, TiPack® Rack	M10	10 × 96	**10 01 74414**	960
Gilson capillary pistons CP10ST, sterile, TiPack® Rack	M10	10 × 96	**10 01 74445**	960
Gilson capillary pistons CP25	M25	1 × 200	**10 01 74370**	200
Gilson capillary pistons CP25, TiPack® Rack	M25	10 × 96	**10 01 74378**	960
Gilson capillary pistons CP25ST, sterile, TiPack® Rack	M25	6 × 96	**10 01 74446**	576
Gilson capillary pistons CP50	M50	1 × 200	**10 01 74371**	200
Gilson capillary pistons CP50, TiPack® Rack	M50	10 × 96	**10 01 74379**	960
Gilson capillary pistons CP50ST, sterile, TiPack® Rack	M50	6 × 96	**10 01 74447**	576
Gilson capillary pistons CP100, TiPack® Rack	M100	2 × 96	**10 01 74377**	192
Gilson capillary pistons CP100ST, sterile, TiPack® Rack	M100	2 × 96	**10 01 74478**	192
Gilson capillary pistons CP100, TiPack® Rack	M100	10 × 96	**10 01 74376**	960
Gilson capillary pistons CP100ST, sterile, TiPack® Rack	M100	10 × 96	**10 01 74449**	960
Gilson capillary pistons CP250	M250	1 × 200	**10 01 74372**	200
Gilson capillary pistons CP250, TiPack® Rack	M250	10 × 96	**10 01 74369**	960
Gilson capillary pistons CP250ST, sterile, TiPack® Rack	M250	6 × 96	**10 01 74448**	576
Gilson capillary pistons CP1000, TiPack® Rack	M1000	2 × 91	**10 01 74373**	182
Gilson capillary pistons CP1000ST, sterile, TiPack® Rack	M1000	2 × 91	**10 01 74374**	182

GILSON

webcode WWC8F365



Microliter Pipettes Pipetman® G Multi Channel, Gilson

Pipetman® G top comfort in Gilson quality now also available as multichannel models
- Highly effortless pipetting
- Reduction of the force required to eject tips
- Colour-coded pushbutton
- Reliable pipetting starting from only 10% of the nominal volume
- Available volume ranges: 8 PIPETMAN G multichannel models fully cover the range from 8 x 10 µl to 12 x 300 µl.

Type	Volume µl	Order No.
P8X10G	1-10 µl	**10 01 74260**
P12X10G	1-10 µl	**10 01 74261**
P8X20G	2-20 µl	**10 01 74262**
P12X20G	2-20 µl	**10 01 74263**
P8X200G	20-200 µl	**10 01 74264**
P12X200G	20-200 µl	**10 01 74265**
P8X300G	30-300 µl	**10 01 74266**
P12X300G	30-300 µl	**10 01 74267**

Microliter Pipettes

Microliter Pipettes Pipetman® G, Gilson



webcode WWC8F367

Pipetman® G Premium comfort in Gilson quality
- Pipetting with minimum force
- Reduction of tip ejection forces
- Tip ejector with clip mechanism
- Plastic tip ejectors available as an option

All volume ranges available:
8 PIPETMAN G models amply cover the range of 0.2 µl to 10 ml.

Type	Volume	Order No.
P2G	0.5 – 2 µl	**10 01 74415**
P10G	1 – 10 µl	**10 01 74416**
P20G	2 – 20 µl	**10 01 74417**
P100G	10 – 100 µl	**10 01 74418**
P200G	20 – 200 µl	**10 01 74419**
P1000G	100 – 1000 µl	**10 01 74420**
P5000G	1 – 5 ml	**10 01 74421**
P10MLG	1 – 10 ml	**10 01 74422**
Roundabout stand for 7 pipettes		**10 01 74307**

Pipetman® G Kits, Gilson

webcode WWC8F368

Pipetman® G Starter Kit:
- Gilson Pipetman® G P20G, P200G and P1000G
- Tips D200 and D1000 in a Tipack rack
- 3 single holders
- 3 plastic ejectors
- 1 Gilson Guide to Pipetting

Pipetman® G Micro Volume Kit:
- Gilson Pipetman® G P2G, P10G and P100G
- Tips DL10 and D200 in a Tipack rack
- 3 single holders
- 3 plastic ejectors
- 1 Gilson Guide to Pipetting



Article	Order No.
Pipetman® G Starter Kit	**10 01 74423**
Pipetman® G Micro Volume Kit	**10 01 74424**

Microliter Pipettes Pipetman® L, Gilson



webcode WWC8F369

Greater productivity, more ease of use
- Ergonomic design
- Light-weight
- 3 tip ejector positions – ideal for left- and right-handed users

GLP features
- Volume lock/unlock mechanisms
- Unique 2D identification code
- Traceable serial number
- Color-coded push buttons

Type	Volume	Order No.
P2L	0.2 – 2 µl	**10 01 74425**
P10L	1 – 10 µl	**10 01 74426**
P20L	2 – 20 µl	**10 01 74427**
P100L	20 – 100 µl	**10 01 74428**
P200L	20 – 200 µl	**10 01 74429**
P1000L	200 – 1000 µl	**10 01 74430**
P5000L	1 – 5 ml	**10 01 74431**
P10mlL	1 – 10 ml	**10 01 74432**

Microliter Pipettes

webcode WWC8F370



①

Pipetman® L Kits, Gilson

Gilson Pipetman® L Starter Kit:
- Gilson Pipetman® L P20L, P200L, P1000L
- Tips D200 und D1000 im Tipack Rack
- 3 single holders
- 3 Plastic tip ejectors
- 1 User Guide Pipetman L
- 1 Two-minute inspection poster
- 1 Gilson Guide to Pipetting

Gilson Pipetman® L Micro Volume Kit
- Gilson Pipetman® L P2L, P10L, P100L
- Tips DL10 und D200 im Tipack Rack
- 3 single holders
- 3 Plastic tip ejectors
- 1 User Guide Pipetman L
- 1 Two-minute inspection poster
- 1 Gilson Guide to Pipetting

	Article	Order No.
①	Gilson Pipetman® L Starter Kit	**10 01 74443**
	Gilson Pipetman® L Micro Volume Kit	**10 01 74444**

GILSON



webcode WWC8F371

Microliter Pipettes Pipetman® L Multi Channel, Gilson

- A patented volume locking system meets the current needs of intensive pipette users who desire accuracy and precision without sacrificing comfort.
- The volume will not be accidentally changed during pipetting
- Is equipped with an innovative tip ejection system which uses a lever arm for all tip models to keep ejection forces to a minimum
- The ejection button of the tip ejector can be adjusted for ease of operation of left- and right-handed users
- Particularly light-weight

Article	Volume µl	Order No.
Pipetman® L 8×10 L	0.5 – 10	**10 01 74450**
Pipetman® L 12×10 L	0.5 – 10	**10 01 74451**
Pipetman® L 8×20 L	2 – 20	**10 01 74452**
Pipetman® L 12×20 L	2 – 20	**10 01 74453**
Pipetman® L 8×200 L	20 – 200	**10 01 74454**
Pipetman® L 12×200 L	20 – 200	**10 01 74455**
Pipetman® L 8×300 L	20 – 300	**10 01 74456**
Pipetman® L 12×300 L	20 – 300	**10 01 74457**

Webcode

Use the webcode on our website to see a larger selection of products from a specific manufacturer.

Microliter Pipettes

Electronic Microliter Pipettes Pipetman® M connected, Bluetooth-connectivity, Gilson



PIPETMAN® M Connected is a Bluetooth®-enabled programmable electronic pipette. It is as easy to operate as a mechanical pipette. The electronic pipette with guaranteed performance, also in Repetitive mode, pursuant to the ISO8655 specifications. Programming of individual protocols (optionally also via PC and the PipettPilot™ app) for reliable pipetting. Motorised piston for high reproducibility.
The intuitive user interface offers five pipetting modes for a large number of applications: “pipette”, “repetitive”, “mix”, “reverse” and “custom”. Aspiration and dispensing at the click of a button with minimum effort. Combined with the ergonomic design, this ensures extremely comfortable pipetting, reduces fatigue and increases the pipetting efficiency.
20 models are available, from 0.5 µL to 10 ml as single-channel pipette and from 0.5 µL to 1200 µL as multi-channel pipette.

GLP functions:
- Lockable volume
- Colour-coded pushbutton
- Service alert

Type	Volume	Order No.
M P10M BT connected	0.5 – 10 µl	**10 01 74268**
M P20M BT connected	2 – 20 µl	**10 01 74269**
M P100M BT connected	5 – 100 µl	**10 01 74270**
M P200M BT connected	5 – 200 µl	**10 01 74271**
M P300M BT connected	10 – 300 µl	**10 01 74272**
M P1200M BT connected	20 – 1200 µl	**10 01 74273**
M P5000M BT connected	100 – 5000 µl	**10 01 74274**
M P10mlM BT connected	0.2 – 10 ml	**10 01 74275**
Power carousel charging stand for 5 Pipetman M		**10 01 74437**
Charging adapter and holder for the pipette carousel		**10 01 74438**

webcode WWC8F372

GILSON

webcode WWC8F373

Electronic Microliter Pipettes Pipetman® M connected, Bluetooth-connectivity, Multi Channel, Gilson



PIPETMAN® M Connected is a Bluetooth®-enabled programmable electronic pipette. It is as easy to operate as a mechanical pipette. The electronic pipette with guaranteed performance, also in Repetitive mode, pursuant to the ISO8655 specifications. Programming of individual protocols (optionally also via PC and the PipettPilot™ app) for reliable pipetting. Motorised piston for high reproducibility. The intuitive user interface offers five pipetting modes for a large number of applications: “pipette”, “repetitive”, “mix”, “reverse” and “custom”.
Aspiration and dispensing at the click of a button with minimum effort. Combined with the ergonomic design, this ensures extremely comfortable pipetting, reduces fatigue and increases the pipetting efficiency. 20 models are available, from 0.5 µL to 10 ml as single-channel pipette and from 0.5 µL to 1200 µL as multi-channel pipette.

GLP functions:
- Lockable volume
- Colour-coded pushbutton
- Service alert

Type	Volume µl	Order No.
P8×10M BT connected	0.5 – 10	**10 01 74276**
P12×10M BT connected	0.5 – 10	**10 01 74277**
P8×20M BT connected	1 – 20	**10 01 74278**
P12×100M BT connected	1 – 20	**10 01 74279**
P8×100M BT connected	5 – 100	**10 01 74280**
P12×100M BT connected	5 – 100	**10 01 74281**
P8×200M BT connected	5 – 200	**10 01 74282**
P12×200M BT connected	5 – 200	**10 01 74283**
P8×300M BT connected	10 – 300	**10 01 74284**
P12×300M BT connected	10 – 300	**10 01 74285**
P8×1200M BT connected	50 – 1200	**10 01 74286**
P12×1200M BT connected	50 – 1200	**10 01 74287**
Power carousel charging stand for 5 Pipetman M		**10 01 74437**
Charging adapter and holder for the pipette carousel		**10 01 74438**

webcode To see other variants and accessories, please enter the webcode on our website.

Microliter Pipettes

webcode WWEZ6018



Pipettes Tacta and Picus®, Sartorius Lab Products and Services

Tacta mechanical pipettes
Tacta is the new premium mechanical pipette with superb comfort and reliability. Tacta makes pipetting effortless and safe, while producing accurate and reliable results time after time.

Features:
- Ergonomic handle design for comfortable pipetting
- Little effort required for pipetting and ejecting
- New Optiject soft tip ejection technology loosens tips smoothly and in a controlled way
- The unique Sartorius Optilock system offers flexibility for volume changes and locking function
- For special liquids, users can easily adjust the pipette for accurate results
- 4-digit display for precise and easy volume setting
- Safe-Cone filters prevent contamination risks with all models > 10 µl
- Only three part to remove for easy cleaning
- Length: 199 – 242 mm

Type	Quantity channels	Volume	Order No.
LH-729010	1	0.1 – 3 µl	**10 18 62901**
LH-729020	1	0.5 – 10 µl	**10 18 62902**
LH-729030	1	2 – 20 µl	**10 18 62903**
LH-729050	1	10 – 100 µl	**10 18 62905**
LH-729060	1	20 – 200 µl	**10 18 62906**
LH-729070	1	100 – 1000 µl	**10 18 62907**
LH-729080	1	500 – 5000 µl	**10 18 62908**
LH-729090	1	1 – 10 ml	**10 18 62909**
LH-729120	8	0.5 – 10 µl	**10 18 62912**
LH-729130	8	5 – 100 µl	**10 18 62913**
LH-729140	8	30 – 300 µl	**10 18 62914**
LH-729220	12	0.5 – 10 µl	**10 18 62922**
LH-729230	12	5 – 100 µl	**10 18 62923**
LH-729240	12	30 – 300 µl	**10 18 62924**

Please enter the webcode WWEZ6018 to see the other variants and accessories in our online catalogue.

webcode WWEZ6028



Picus® NxT Elektronic Pipettes, Sartorius Lab Products and Services

Picus® NxT and Picus® are user-friendly electronic pipettes by Sartorius. Exceptionally compact and lightweight, these pipettes have been specially designed to ease your daily workload and protect you from repetitive strain injury (RSI).

Excellent ergonomics, efficiency and safety.

Benefits:
- Comfortable handling and excellent protection from the risk of RSI
- Compliance with the strictest laboratory regulations
- Acceleration of work processes
- Consistently accurate results

Model	Quantity channels	Volume µl	Order No.
LH-745021	1	0.2 – 10 µl	**10 18 65021**
LH-745041	1	5 – 120 µl	**10 18 65041**
LH-745061	1	10 – 300 µl	**10 18 65061**
LH-745081	1	50 – 1000 µl	**10 18 65081**
LH-745101	1	100 – 5000 µl	**10 18 65101**
LH-745111	1	500 – 10000 µl	**10 18 65111**
LH-745321	8	0.2 – 10 µl	**10 18 65321**
LH-745341	8	5 – 120 µl	**10 18 65341**
LH-745361	8	10 – 300 µl	**10 18 65361**
LH-745391	8	50 – 1200 µl	**10 18 65391**
LH-745421	12	0.2 – 10 µl	**10 18 65421**
LH-745441	12	5 – 120 µl	**10 18 65441**
LH-745461	12	10 – 300 µl	**10 18 65461**
LH-745491	12	50 – 1200 µl	**10 18 65491**

Please enter the webcode WWEZ6028 to see the other variants and accessories in our online catalogue.

Microliter Pipettes

Single-Channel Pipettes L, ratiolab®

webcode WW4ZG004

Pipette L
The PIPETTE L meets all the demands for sterile liquid handling in microbiological and molecularbiological laboratories. It is fully autoclavable and resistant to UV-light. Easy volume setting by turning the pushbutton avoids jamming the gloves in the knurled screw. Low spring forces of pipetting stroke and tip ejector accommodate the daily work without hand fatigue. With ten pipette models the volume range is covered from 0.2 µl up to 10 ml.

- perfect measuring results
- fully autoclavable and UV-light resistant
- volume settings by pushbutton
- grooved handle reduces the influence of handwarmth
- fatigue free operation because of ergonomic designed handle and reduced spring forces
- adjustable lenght of tip ejector enables the use of any brand of pipette tips
- maintenance free, all components ae manufactured either from stainless steel or chemical resistant plastics
- filters in the shafts protect the 5 ml and 10 ml pipettes against overfilling and contamination



Type	Volume µl	Accuracy max. vol. %	Precision %	Order No.
L2	0.1 – 2	+1.5	< 0.7	**10 23 04771**
L10	0.5 – 10	+0.5	< 0.4	**10 23 04772**
L20	2 – 20	+0.8	< 0.3	**10 23 04773**
L50	5 – 50	+0.8	< 0.4	**10 23 04774**
L100	10 – 100	+0.8	< 0.2	**10 23 04775**
L200	20 – 200	+0.6	< 0.2	**10 23 04776**
L250	50 – 250	+0.6	< 0.3	**10 23 04777**
L1000	100 – 1000	+0.6	< 0.15	**10 23 04778**
L5000	1000 – 5000	+0.5	< 0.15	**10 23 04779**
L10000	1000 – 10000	+0.5	< 0.2	**10 23 04780**

slamed instruments for sciences

Multichannel Pipettes ME and MT, ratiolab®

webcode WW4ZG005

Multichannel pipette ME/MT
The fully autoclavable PIPETTES ME/MT are specially designed for working with gloves under sterile conditions. The volume range from 1 µl to 300 µl is covered by 4 models each in the 8- and 12-channel versions. The patented manifold system ensures individual tight sealing of the pipette tips on each channel.

Features:

- perfect measuring results
- fully autoclavable and UV-light resistant
- volume settings by pushbutton avoids snatching the gloves
- ergonomic design, handle can be turned to an individual convenient position
- patented system makes manual corrections of the tip sealing redundant
- maintenance free: all components are manufactured either from stainless steel or chemical resistant plastics
- each pipette comes with quality certificate, holder and calibration key



① ②

① **8-channel-pipette ME**

Type	Volume µl	Accuracy max. vol. %	Precision %	Order No.
ME10	1 – 10	2.0	< 1.2	**10 23 07064**
ME50	5 – 50	1.6	< 0.6	**10 23 07065**
ME200	20 – 200	1.0	< 0.6	**10 23 07066**
ME300	50 – 300	1.0	< 0.6	**10 23 07067**

② **12-channel-pipette MT**

Type	Volume µl	Accuracy max. vol. %	Precision %	Order No.
MT10	1 – 10	2.0	< 1.2	**10 23 07068**
MT50	5 – 50	1.6	< 0.6	**10 23 07069**
MT200	20 – 200	1.0	< 0.6	**10 23 07070**
MT300	50 – 300	1.0	< 0.6	**10 23 07071**

webcode To see other variants and accessories, please enter the webcode on our website.

Microliter Pipettes



①

Micropipettes VITLAB® micropipette, VITLAB

The VITLAB® piston-operated pipettes are the ideal manual pipettes for demanding laboratory applications, and have all the features required by users: robust, with ergonomic shape and simple operation, completely autoclavable, highly accurate with simple calibration.
The large pipetting button in the centre ensures a smooth and even piston movement. The ergonomic eject button for rapid tip change is situated at the front, easily accessible for the user's thumb. The VITLAB® micropipette is easy to operate for right- and left-handed users. The integrated zoom function of the precise four-digit display as well as the vertical arrangement of the numbers (to be read from top to bottom) ensure that the volume is clearly legible at all times. With adjustment wheel for accurate and easy zoom setting. The volume display is framed by the clearly visible colour code for easy selection of the matching pipette tip. If necessary, for example when working with non-aqueous solutions, the pipette can be re-calibrated by means of the integrated function directly in the laboratory. No tools are required for calibration. The corrosion-proof piston and ejector ensure a long useful life.

The microliter pipette is fully autoclavable at 121°C (2 bar) according to DIN EN 285. Also available with DAkkS calibration certificate.
Scope of delivery: VITLAB® micropipette, silicone oil, sample bag pipette tips, quality certificate and operating manual.

	Volume µl	A ≦ ± %	CV ≦ %	Tip style µl	Order No.
	0.5 – 10	1.0	0.5	20	**10 85 34101**
	2 – 20	0.8	0.4	200	**10 85 34102**
①	10 – 100	0.6	0.2	200/300	**10 85 34104**
	20 – 200	0.6	0.2	200/300	**10 85 34106**
	100 – 1000	0.6	0.2	1000	**10 85 34108**
	500 – 5000	0.6	0.2	5000	**10 85 34110**
	1000 – 10000	0.6	0.2	10000	**10 85 34112**

Calibrated to deliver "Ex". Accuracy and coefficient of variation based on the nominal volume (= maximum volume) printed on the instrument, if instrument, environment and distilled water are at the same temperature (20°C), as well as uniform, jerk-free handling. The margins of error are under those specified in DIN EN ISO 8655-2.



②



③

Volumetric Pipettes with Piston, Hirschmann

Labopettor macro, volumetric pipettes with piston, with declaration of conformity acc. to DIN 12600
4 sizes, each with 5 fixed volumes for the range 1 to 5000 µl, no air interface between the piston and the liquid, d. h. almost no liquid remains in the tip, highest accuracy regardless the medium, also for liquids with high vapor pressure, for highly viscous media and for media with a high density, multiple use of stiks (pistons) and tips with constant high precision. Materials are resistant to nearly all aggressive media. Stiks and tips can be changed without risk of contamination; same color-coding on the unit, accessories and packaging practically rules out incorrect combinations of the various sizes.
Scope of delivery: 1 labopettor macro with 1 stik und 1 tip

	Volume µl	A ≦ ±[1)] %	CV ≦ ±[1)] %	Entrainment[1)] %	Graduation µl	Color code	Order No.
②	50 – 250	0.8	0.3	0.5	50	black	**14 37 00204**
	100 – 500	0.8	0.3	0.5	100	yellow	**14 37 00205**

[1]) Relative to the maximum volume

HIRSCHMANN

webcode WW4ZV018

Labopettor system accessories
same color code as the unit, tips up to 50 µl made of glass, over 50 µl made of plastic, stiks made of rust-proof steel, stand for the unit and for storing tips and stiks.

	Type	Tips ID	Color code	Order No.	PU pc/Pack
③	set (stick + tips)	50 – 250	black	**14 37 50204**	10
	set (stick + tips)	100 – 500	yellow	**14 37 50205**	10
	set (stick + tips)	500 – 2500	green	**14 37 50206**	10
	set (stick + tips)	1000 – 5000	red	**14 37 50207**	10

❗ Available only in original packaging units. No fractions possible.

Microliter Pipettes

Variable Piston Pipettes, Phoenix Instrument

webcode WWSB5049

- Ergonomic design, little effort required
- Suitable for left- and right-handers
- Tool for easy recalibration comprised in the delivery
- Fully autoclavable (LHP2 only)
- Easy volume setting
- Easy tip rejection
- 2 years warranty



Variable piston pipettes LHP1 and LHP2

Model	Volume µl	Accuracy %	Precision %	Order No.
LHP1-V01	0.1–0.5	3.00	3.00	**10 13 71011**
LHP1-V05	0.5–10	1.50	1.50	**10 13 71051**
LHP1-V2	2–20	1.20	1.00	**10 13 71222**
LHP1-V5	5–50	0.90	0.60	**10 13 71550**
LHP1-V10	10–100	0.80	0.40	**10 13 71010**
LHP1-V20	20–200	0.80	0.30	**10 13 71020**
LHP1-V50	50–200	0.80	0.30	**10 13 71050**
LHP1-V100	100–1000	0.70	0.25	**10 13 71100**
LHP1-V200	200–1000	0.70	0.25	**10 13 71122**
LHP1-V1000	1000–5000	0.60	0.30	**10 13 71110**
LHP1-V2000	2000–10000	1.20	0.30	**10 13 71120**

Variable piston pipettes LHP2, autoclavable

Model	Volume µl	Accuracy %	Precision %	Order No.
LHP2-V01	0.1–0.5	3.00	3.00	**10 13 72011**
LHP2-V05	0.5–10	1.50	1.50	**10 13 72050**
LHP2-V2	2–20	1.20	1.00	**10 13 72020**
LHP2-V5	5–50	0.90	0.60	**10 13 72501**
LHP2-V10	10–100	1.00	0.40	**10 13 72013**
LHP2-V20	20–200	0.80	0.30	**10 13 72200**
LHP2-V50	50–200	0.80	0.30	**10 13 72502**
LHP2-V100	100–1000	0.70	0.25	**10 13 72101**
LHP2-V200	200–1000	0.70	0.25	**10 13 72220**
LHP2-V1000	1000–5000	0.60	0.30	**10 13 72111**



Pipettes with fixed volume available on request

For all variable pipettes, measurements are carried out in the low, medium, and high volume. For variable pipettes, the accuracy and precision is specified for the mean of the setting range.

Accessories

Article	Order No.
Pipette tips 0.5 – 20 µl, bag of 1000 pieces	**10 13 71111**
Pipette tips 1 – 200 µl yellow, bag of 1000 pieces	**10 13 71112**
Pipette tips 100 – 1000 µl blue, bag of 1000 pieces	**10 13 71114**
Pipette tips 1.0 – 5.0 ml, bag of 300 pieces	**10 13 71116**
Pipette tips 1.0 – 10.0 ml, bag of 100 pieces	**10 13 71118**
Linear pipette stand, for 5 pipettes	**10 13 71101**
Round pipette stand, for 6 pipettes	**10 13 71102**

Your specialized laboratory dealer –
fast, competent and economical

Microliter Pipettes

BRAND

webcode WWQED007



Transferpettor, Positive Displacement Pipettes, BRAND

The Transferpettor pipette is ideal for liquids when air displacement pipettes just won't work. With these pipettes, the piston is in direct contact with the liquid. Therefore, the instrument is ideal for exact pipetting of highly viscous or foaming media, or media with high density or vapor pressure. There is no need to discard tips after each pipetting operation, since residual wetting is negligible. Colour codes of instrument and accessories allow for easy designation. DE-M marked acc. DIN 12300.



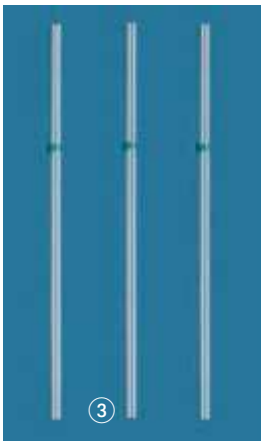
① Transferpettor, type Digital

Volume µl	A ≦ ± %	CV ≦ ± %	Graduation µl	Color code	Order No.
2.5 – 10	1.0	0.8	0.01	orange	**14 49 71807**
5 – 25	0.8	0.5	0.1	2 × white	**14 49 71812**
10 – 50	0.6	0.4	0.1	green	**14 49 71817**
20 – 100	0.6	0.4	0.1	blue	**14 49 72822**
100 – 500	0.5	0.2	1.0	green	**14 49 72804**
200 – 1000	0.5	0.2	1.0	yellow	**14 49 72806**
1000 – 5000	0.5	0.2	10.0	red	**14 49 72810**
2000 – 10000	0.5	0.2	10.0	orange	**14 49 72812**

Transferpettor, type Fix

Volume µl	A ≦ ± %	CV ≦ ± %	Graduation µl	Color code	Order No.
1	4.0	4.0	-	white	**14 49 71842**
2	2.5	2.0	-	white	**14 49 71844**
5	1.0	0.8	-	white	**14 49 71853**
10	1.0	0.8	-	orange	**14 49 71858**
20	0.8	0.5	-	black	**14 49 71863**
25	0.8	0.4	-	2 × white	**14 49 71864**
50	0.6	0.4	-	green	**14 49 71868**
100	0.6	0.4	-	blue	**14 49 71873**
200	0.5	0.2	-	red	**14 49 71878**

Calibrated to deliver (TD, Ex). Error limits according to the nominal capacity (= maximum volume) indicated on the instrument. A = Accuracy, CV = Coefficient of variation. The error limits are within the limits of DIN EN ISO 8655-2.





② Accessories
Transferpettor station

Article	Order No.
Transferpettor station for 4 units	**14 49 71960**
for storing 4 units up to 200 µl with accessories	
Transferpettor station for 2 units	**14 49 72890**
for storing 2 units from 0,5 to 10 ml with accessories	

③ Transferpettor caps, DE-M marking

for volume µl	Color code	Material	Order No.	PU pc/Pack
1/2/3/4/5	white	Glas	**14 49 71900**	100
10	orange	Glas	**14 49 71902**	100
20	black	Glas	**14 49 71904**	100
25	2 × white	Glas	**14 49 71906**	100
50	green	Glas	**14 49 71908**	100
100/200	blue/red	Glas	**14 49 71910**	50

Available only in original packaging units. No fractions possible.

④ Transferpettor caps, DE-M marking

for volume µl	Color code	Material	Order No.	PU pc/Pack
100 – 500	green	PP	**14 49 72852**	10
200 – 1000	yellow	PP	**14 49 72854**	10
1000 – 5000	red	PP	**14 49 72858**	10
2000 – 10000	orange	PP	**14 49 72860**	10

Available only in original packaging units. No fractions possible.

Continued on next page

Microliter Pipettes

Transferpettor seals, DE-M marking, with plug-on module

	for volume µl	Material	Order No.	PU pc/Pack
⑤	20/25	PTFE	**14 49 71920**	3
⑤	50	PTFE	**14 49 71922**	3
⑤	100/200	PTFE	**14 49 71924**	3
⑥	100 – 500	PE	**14 49 72864**	10
⑥	200 – 1000	PE	**14 49 72866**	10
⑥	1000 – 5000	PE	**14 49 72870**	10
⑥	2000 – 10000	PE	**14 49 72872**	10

Available only in original packaging units. No fractions possible.





Combi pack caps and seals
DE-M marking. Packaging unit caps, PP: 2 pieces, seal, PE: 1 piece.

for volume µl	Color code	Order No.
100–500	green	**10 49 72883**
200–1000	yellow	**10 49 72884**
1000–5000	red	**10 49 72885**
2000–10000	orange	**10 49 72886**

Repetitive Pipette HandyStep® S, BRAND

webcode WWQED015

BRAND

Serial pipetting is quick and easy with the manual HandyStep® S repeating pipette. When used with BRAND PD-Tip syringe tips, the instrument can dispense volumes from 2 µl to 5 ml up to 49 times from a single aspiration.

- Stroke length setting wheel with 9 positions – simple one hand adjustment for right and left-handed person
- 59 different partial volumes can be set with 10 sizes of PD-Tips
- 2-page volume table at the back of the device for quick volume calculation
- Easy connection of tips, the PD-Tips are inserted straight from below
- Safe tip removal at the push of a button; no need to touch the dispenser tips
- Easy-to-read display, no battery required
- Innovative plastics for increased resistance to chemicals
- Maintenance-free, factory-adjusted
- Best results when used with BRAND PD-Tip syringe tips. Combitips® plus, Combitips®, Repet-Tips, Encode™ tips and other compatible pipette tips can be used as well.

Ideal for routine or research applications in diagnostics, molecular biology, environmental analysis, and many more. HandyStep® S and PD-tips work on the direct displacement principle. This offers the highest-precision dispensing of liquid media with high viscosity, high density, or high vapor pressure.

Items supplied:
HandyStep® S, DE-M marked, with serial number, performance cerficate, operating manual, shelf/rack mount, 3 PD-Tips: 0.1 ml, 1 ml and 10 ml.

	Article	Order No.
⑦	HandyStep®, incl. shelf/rack mount	**10 49 75110**
	Shelf/Rack mount for HandyStep® S	**10 49 75130**



Use the webcode on our website to see a larger selection of products from a specific manufacturer.

Webcode

Microliter Pipettes

webcode WWQED082



Dispenser Tips PD-Tips II, BRAND

Dispense with ease – even critical media
Save time with automatic size detection

The PD-Tips II dispenser tips for efficient, step-by-step dispensing enhance the proven features of the classic BRAND PD-Tips.
Thanks to patented size coding, HandyStep® touch and HandyStep® electronic from BRAND automatically detect the tip volume. The tips are also compatible with all other instruments of the HandyStep® family and with repetitive pipettes from other manufacturers.
The positive displacement principle enables precision work, even with viscous media or media with high vapor pressure. With tightly sealed pistons, the PD-Tips II effectively protect the stepper from aerosols. This prevents contamination and ensures long service life of the instrument.

At a glance
- Volumes from 0.1 ml to 50 ml
- Compatible with different repetitive pipets
- Compatible with automatic size detection: HandyStep® touch, HandyStep® electronic, Gilson® Repetman®, Rainin AutoRep™ E
- Compatible without automatic size detection: HandyStep® S, HandyStep®, Rainin AutoRep™ S, Rainin AutoRep™ M, Eppendorf® Multipette® 4780 and EDOS® 5221 (the above-mentioned brands are property of their respective owners)
- Cleanroom quality
- Available in BIO-CERT® quality (free of DNA, RNase, endotoxins and ATP)
- Comply with the requirements of ISO 8655
- Delivered with batch certificate
- Manufactured from high-quality raw materials (cylinder: PP / Piston: PE-HD, 0.1 ml: LCP)
- Adapter for sizes 25 ml and 50 ml included
- PD-Tips II cannot be autoclaved; the adapters of the 25 ml and 50 ml sizes can be autoclaved at 121°C

Dispenser tips PD-Tips II, non-sterile, bulk

Nom. vol. ml	Order No.	PU pc/Pack	Nom. vol. ml	Order No.	PU pc/Pack
0.1	**10 49 75700**	100	5	**10 49 75710**	100
0.5	**10 49 75702**	100	10	**10 49 75712**	100
1	**10 49 75704**	100	12.5	**10 49 75714**	100
1.25	**10 49 75706**	100	25	**10 49 75716**	100
2.5	**10 49 75708**	100	50	**10 49 75718**	100

Dispenser tips PD-Tips II, BIO-CERT®, individually wrapped

Nom. vol. ml	Order No.	PU pc/Pack	Nom. vol. ml	Order No.	PU pc/Pack
0.1	**10 49 75730**	100	5	**10 49 75740**	100
0.5	**10 49 75732**	100	10	**10 49 75742**	100
1	**10 49 75734**	100	12.5	**10 49 75744**	100
1.25	**10 49 75736**	100	25	**10 49 75746**	100
2.5	**10 49 75738**	100	50	**10 49 75748**	100

Dispenser tips PD-Tips II, set non-sterile

Article	Order No.	PU pc/Set
Set PD-Tips II 20 pcs. of each size 0.5, 1, 1.25, 2.5, 5, 10 and 12.5 ml, non-sterile, bulk, type encoded	**10 49 75720**	140

webcode WWQJ3013



①

Hand Dispenser, Eppendorf

① **Hand dispenser Multipette® M4**
Easy, error-free, ergonomical. The Multipette M4 makes long pipetting series easier and faster.
- Light-weight design, ergonomical shape
- Perfectly balanced for fatigue-free working
- Integrated step counter
- Central tip ejection for single-handed operation
- 9 different volume sizes (0.1 µl to 50 ml) by Combitips advanced®

Article	Order No.
Multipette® M4 including holder for wall mounting and/or pipettor carousel	**10 69 82012**
Multipette® M4 starter kit Multipette® M4, Combitip Rack, Combitip Assortmentpack	**10 69 82314**
Battery compartment lid Multipette/Repeater M4	**10 69 26108**
Velcro tape for holder Multipette/Repeater	**10 69 26300**

Continued on next page

Microliter Pipettes

② **Generation E**

The new electronic dispensers Multipette® E3 and E3x with large display and new, intuitive user menu make serial liquid dispensing extremely easy and comfortable. The new electronic dispensers Multipette® E3 and E3x are the follow-up models of the time-proven Multipette® stream and Xstream.

- Large colour display: all program functions at a glance, clearly understandable user menu, extremely easy to program
- New function “Aspirate and dispense” (“A/D”): Pick up an unknown volume of a liquid and dispense it step by step in preselectable volumes
- Extended speed range: more flexibility in picking up and dispensing of liquids
- Favourites: 5 methods can be saved for each Combitip size
- Personalization: individual dispenser identification in the “Options” menu

Article	Order No.
Multipette® E3, with charging cable	**10 69 87010**
Multipette® E3x, with charging cable	**10 69 87029**
Multipette® E3 Bundle, with seperate charging unit	**10 69 87371**
Multipette® E3x Bundle, with seperate charging unit	**10 69 87380**
Power supply with power plug adapters	**10 69 63005**



②

Pipette Tips, Eppendorf

Pipette tips Combitips® advanced

The **Eppendorf Combitips** have been completely redesigned and optimized so that they are capable of meeting the increased requirements of a modern laboratory to a greater extent than ever before. The result is the **Combitips advanced®**. As they offer a wide variety of advantages in comparison with the Combitips plus, we talk about the 360° Evolution!

- Combitips advanced are the ideal system components for all Multipettes
- The 9 volume sizes (0.1 ml – 50 ml) of the Combitips advanced offer a maximum range of volumes
- An individual color coding facilitates the quick identification of the desired Combitips advanced
- Elongated tips make it possible to empty all standard laboratory tubes completely
- The appropriate purity grade for each application: Eppendorf Quality, PCR clean or Biopur® (packed individually)
- The funnel geometry prevents damages to gloves
- The new Combitip Rack features optimal single-hand operation

webcode WWQJ3015

Type	Volume µl	Color code	PU pc/Pack	Version Eppendorf Quality™ Order No.	PCR clean Order No.	Biopur® Order No.
0.1 ml	1 – 20	white	100	**10 69 89405**	**10 69 89766**	**10 69 89618**
0.2 ml	2 – 40	light blue	100	**10 69 89413**	**10 69 89774**	**10 69 89626**
0.5 ml	5 – 100	violet	100	**10 69 89421**	**10 69 89782**	**10 69 89634**
1 ml	10 – 200	yellow	100	**10 69 89430**	**10 69 89790**	**10 69 89642**
2.5 ml	25 – 500	green	100	**10 69 89448**	**10 69 89804**	**10 69 89650**
5 ml	50 – 1000	blue	100	**10 69 89456**	**10 69 89812**	**10 69 89669**
10 ml	100 – 2000	orange	100	**10 69 89464**	**10 69 89820**	**10 69 89677**
10 ml ViscoTip®	100 – 2000	orange	100	**10 69 89502**		
25 ml	250 – 5000	red	100	**10 69 89472**	**10 69 89839**	**10 69 89685**
50 ml	5000 – 10000	light grey	100	**10 69 89480**	**10 69 89847**	**10 69 89693**

❗ Available only in original packaging units. No fractions possible.

Combitips® advanced assorted pack

Contents: 5 Combitips® advanced of each size plus one 25 ml and one 50 ml adapter

Article	Order No.
Combitips® advanced assorted pack	**14 69 69285**
Combitips advanced® rack	**10 69 89758**



Accessories

Article	Order No.
25 ml adapter Standard, Eppendorf Quality™, marine blue	**14 69 69528**
50 ml adapter Standard, Eppendorf Quality™, anthracite	**14 69 69161**
25 ml adapter Biopur, pack of 7	**14 69 69498**
50 ml adapter Biopur®, pack of 7	**14 69 69480**

❗ Available only in original packaging units. No fractions possible.

webcode To see other variants and accessories, please enter the webcode on our website.

Microliter Pipettes



webcode WWQJ3010

①

Pipette Accessories, Eppendorf

Pipette holder systems
The Eppendorf pipette carousel stand has room for the comfortable and safe storage of six Eppendorf pipettes and/or liquid handling devices. Adapters are available for Multipette® M4 and Reference 2.

	Article	Order No.
①	**Pipette Carousel 2 for 6 Eppendorf pipettes** for Eppendorf Research®, Eppendorf Research® plus, Eppendorf Reference®, Eppendorf Reference® 2 oder Biomaster®, additional pipette holders are optionally available	**10 69 60015**
	Charger Carousel 2 for 6 Eppendorf pipettes for Eppendorf Xplorer® or Eppendorf Xplorer® plus, mains/power adapter included, additional charger shells and pipette holders are opionally available	**10 69 60023**
	Charger Stand 2 Xplorer for one Eppendorf Xplorer® or Eppendorf Xplorer® plus, operated with mains/power adapter supplied with Eppendorf Xplorer® or Eppendorf Xplorer® plus	**10 69 60031**
	Charger Stand 2 Multipette® for one Multipette® E3/E3x or Multipette® stream/Xstream, operated with mains/power adapter supplied with Multipette® E3/E3x or Multipette® stream/Xstream	**10 69 00040**
	Charger Stand 2 Multipette® M4 for one Multipette® M4, without charging functionality, additional pipette holders are optionally available	**10 69 60058**

Supplied without the illustrated accessories

Pipette holder and charger shells

Article	Order No.
Pipette Holder 2 for one Eppendorf Research®, Eppendorf Research® plus, Eppendorf Reference® 2 or Biomaster®, for Pipette Carousel 2 and Charger Carousel 2 or wall mounting, sticky tape included	**10 69 60112**
Pipette Holder 2 Xplorer for one Eppendorf Xplorer®/Xplorer® plus, for Pipette Carousel 2 or wall mounting, sticky tape included, without charging functionality	**10 69 60120**
Pipette Holder 2 Multipette® Pipette Holder 2, for one Multipette® E3/E3x or Multipette® stream/Xstream, for Pipette Carousel 2 or wall mounting, sticky tape included, without charging functionality	**10 69 60139**
Pipette Holder 2 Multipette® M4 for one Multipette® M4, for Pipette Carousel 2 and Charger Carousel 2 or wall mounting, sticky tape included	**10 69 60147**
Charger Shell 2 Xplorer for one Eppendorf Xplorer®/Xplorer® plus, for Charger Carousel 2 (with charging functionality)	**10 69 62007**
Charger Shell 2 Multipette® for one Multipette® E3/E3x or Multipette® stream/Xstream, for Charger Carousel 2 (with charging functionality)	**10 69 63003**



①



webcode WWC8F386

Gilson Distriman® Stepper, Gilson

Gilson Distriman® Stepper
The Distriman® is a directly displacing pipette for multiple pipetting of the same solution quantity. Only 3 different DistriTips® tips are enough to cover a volume range from 1 µl to 1.25 ml. Thereby, an output of the same sample quantity is possible to a minimum of 100 times.
The pipetting volume is adjusted on the Distriman® as well the DistriTip® model, so the right quantity is always reliably pipetted.
Example: With a DistriTip® type micro (125 µl) you are able to pipet a quantity of 2.8 µl up to 42 times.

Article	Order No.
Gilson Distriman® Stepper	**10 01 74380**

DistriTips®
The DistriTips® are available loosely packed in the 50er pack, as standard tips or sterilised and single packed (ST). The sterilised tips are free of RNAse, DNAse, DNA, RNA and proteases.

Article	Volume µl	Order No.	PU pc/Pack
DistriTips® Micro 125 µl	2 – 10 µl	**10 01 74381**	50
DistriTips® Micro ST 125 µl, sterile	2 – 10 µl	**10 01 74382**	50
DistriTips® Micro 1250 µl	20 – 100 µl	**10 01 74383**	50
DistriTips® Micro ST 1250 µl, sterile	20 – 100 µl	**10 01 74384**	50
DistriTips® Maxi 12.5 ml	200 – 1000 µl	**10 01 74385**	50
DistriTips® Maxi ST 12.5 ml, sterile	200 – 1000 µl	**10 01 74386**	50

Pipette Tips, Accessories

Pipettes and Filter Tips, BRAND

webcode WWQED068

Pipette tips and filter tips are manufactured by BRAND in a cleanroom under the most modern production conditions, and are automatically rack packed and packaged to ensure that the tips are of consistently high quality.



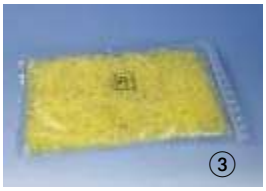


Quality features
- High-purity polypropylene, free from DiHEMDA and oleamide
- Manufactured without lubricants
- Cadmium-free pigments
- Graduation for a quick volume check
- All racked tips and filter tips up to 1000 µl are free of DNA (< 40 fg), RNase (< 8.6 fg), endotoxins (< 1 pg) and ATP (< 1 fg)
- All sterile tips and their packaging in BIO-CERT® quality: sterile pursuant to ISO 11 137 and the AAMI directives, guaranteed SAL of 10^{-6}, with certificate
- TipBox/Rack system: all sizes up to max. 1,000 µl now in 96 format
- Autoclavable at 121°C (2 bar), acc. DIN EN 285
- Environmentally friendly packaging systems
- CE-marked according to IVD-Directive 98/79 EC
- BRAND pipette and filter tips have been tested for BRAND and most pipette models by GILSON®, Thermo Fisher Scientific FINNPIPETTE®, Eppendorf® and BIOHIT®/sartorius®. The 5 ml tip has been tested for BRAND and Thermo Fisher Scientific FINNPIPETTE® only. The 10 ml tip is suitable for BRAND, Eppendorf® and GILSON®.

① Ultra Low Retention pipette tips and filter tips (ULR)
The surfaces of the Ultra Low Retention tips are produced through a special, patented physicochemical process. The homogeneous, defect-free surface thus producted has extremely low surface tension – over 50% less than PTFE. This significantly reduces sample loss and provides substantially higher reproducibility when working with critical media.
- Ideal for biological samples that contain detergents such as Triton® X-100, SDS, Tween etc.
- No additives that can be leached out! No siliconization of the surface!
- High chemical resistance. Ideal for working with solvents
- The tips can be autoclaved at 121°C (2 bar) without damaging the material properties



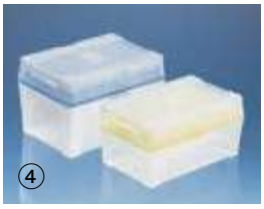
②Filter tips
Non-self-sealing filter tips from BRAND have a PE filter that is free from chemical additives. Permeability is controlled by the combination of pore size and filter length, so that no aerosols can reach the pipette shaft. These filters function with consistent reliability. On the other hand, liquids can pass very slowly should they accidentally contact the filter. Since the filter does not swell as in the case of self-sealing filter tips, the sample can be recovered from the filter by simply actuating the pipettes blow-out function, or by centrifugation if necessary. This is clearly an important advantage of non-self-sealing filters, especially when working with valuable samples. As an added advantage, the absence of filter additives protects samples from contamination.



Packaging options:

③ Bulk packed in bags, non-sterile
All tips and filter tips are produced under supervised state-of-the-art clean-room conditions and automatically shrink-wrapped in reclosable bags and packaged in cardboard boxes. The batch number is printed on every bag.

④ + ⑤ TipBox, non-sterile and sterile, BIO-CERT®
- All sizes up to 1,000µl in 96 format
- Dual function: hinged and push-on lid. Simply rotate 180° to change closure method
- Opening and closing with one hand. The clamping mechanism holds the tip-tray securely in the box.
- Transparent window for easy visual inspection
- No deflection during tip loading. The tip-tray is fabricated from especially rigid polypropylene.
- Usable with a partially loaded multichannel pipette: The rimless tip-tray border enables problem-free loading of individual pipette tips with multichannel instruments
- Colored tip-trays with side panel labeling. The contents of the box are always clearly visible.





⑥ TipRack (racked), sterile and non-sterile, BIO-CERT®
Compared to the filled TipBoxes, the amount of waste with the new refill units is reduced by over 20%. All pipette tips and filter tips up to 1000 µl are free of DNA, RNases, endotoxins and ATP. TipRacks in BIO-CERT® quality are sterile according to ISO 11 137 and the AAMI guidelines, a SAL of 10^{-6} is obtained. These racks are supplied with a transfer aid that enables simple, contamination-free transfer into a previously sterilized TipBox. All tip-trays are printed on one side with information on the contents. 5 racks of 96 tips each are supplied with a transfer aid for sterile handling when inserting into a previously autoclaved box.



Continued on next page

Pipette Tips, Accessories



⑦ **TipStack™, sterile and non-sterile, BIO-CERT®**
A tip tower containing 5 filled tip-trays and a TipBox constitute the new, space-saving refill system for 20 µl, 200 µl and 1000 µl tips. Tightly sealing spacers prevent the tips from getting stuck together, and ensure them to be free from DNA, RNases, endotoxins and ATP. The sterile TipStacks (BIO-CERT® quality) are supplied with a transfer aid for contamination-free use in a previously sterilized TipBox.
- All components are recyclable
- Reduced amount of waste
- Sterilizable and reusable TipBox
- High purity of the pipette tips and filter tips
- Space-saving design

TipBox 5/10 ml, non-sterile
The 5 ml and 10 ml tips are only available as a racked tip version in this specially corresponding TipBox.



Pipette tips, Standard and Ultra Low Retention (ULR)

① **Pipette tips 0.1 – 20 µl**

Article	Type	Packing type	Order No.	PU pc/Pack
bulk packed	Standard	2 bags of 1000	**10 49 32002**	2000
bulk packed XXL	Standard	10 bags of 1000	**10 49 32022**	10000
TipRack	Standard	10 racks of 96	**10 49 32102**	960
TipRack, sterile	Standard	10 racks of 96	**10 49 32122**	960
TipBox	Standard	5 boxes of 96	**10 49 32202**	480
TipBox, sterile	Standard	10 boxes of 96	**10 49 32222**	960
TipBox	ULR	5 boxes of 96	**10 49 32302**	480
TipBox, sterile	ULR	10 boxes of 96	**10 49 32322**	960



② **Pipette tips 0.5 – 20 µl**

Article	Type	Packing type	Order No.	PU pc/Pack
bulk packed	Standard	2 bags of 1000	**10 49 32004**	2000
bulk packed XXL	Standard	10 bags of 1000	**10 49 32024**	10000
TipRack	Standard	10 racks of 96	**10 49 32104**	960
TipRack, sterile	Standard	10 racks of 96	**10 49 32124**	960
TipBox	Standard	5 boxes of 96	**10 49 32204**	480
TipBox, sterile	Standard	10 boxes of 96	**10 49 32224**	960
TipStack™	Standard	10 racks of 96 + 2 boxes	**10 49 32244**	960
TipStack™, sterile	Standard	10 racks of 96 + 2 boxes	**10 49 32264**	960
TipBox	ULR	5 boxes of 96	**10 49 32304**	480
TipBox, sterile	ULR	10 boxes of 96	**10 49 32324**	960
TipStack™	ULR	10 racks of 96 + 2 boxes	**10 49 32344**	960
TipStack™, sterile	ULR	10 racks of 96 + 2 boxes	**10 49 32364**	960



③ **Pipette tips 1 – 50 µl**

Article	Type	Packing type	Order No.	PU pc/Pack
bulk packed	Standard	2 bags of 1000	**10 49 32006**	2000
bulk packed XXL	Standard	10 bags of 1000	**10 49 32026**	10000
TipRack	Standard	10 racks of 96	**10 49 32106**	960
TipRack, sterile	Standard	10 racks of 96	**10 49 32126**	960
TipBox	Standard	5 boxes of 96	**10 49 32206**	480
TipBox, sterile	Standard	10 boxes of 96	**10 49 32226**	960
TipBox	ULR	5 boxes of 96	**10 49 32306**	480
TipBox, sterile	ULR	10 boxes of 96	**10 49 32326**	960



④ **Pipette tips 2 – 200 µl (bulk tips, yellow colored)**

Article	Type	Packing type	Order No.	PU pc/Pack
bulk packed	Standard	1 bag of 1000	**10 49 32008**	1000
bulk packed XXL	Standard	10 bags of 1000	**10 49 32028**	10000
TipRack	Standard	10 racks of 96	**10 49 32108**	960
TipRack, sterile	Standard	10 racks of 96	**10 49 32128**	960
TipBox	Standard	5 boxes of 96	**10 49 32208**	480
TipBox, sterile	Standard	10 boxes of 96	**10 49 32228**	960
TipStack™	Standard	10 racks of 96 + 2 boxes	**10 49 32248**	960
TipStack™, sterile	Standard	10 racks of 96 + 2 boxes	**10 49 32268**	960
TipBox	ULR	5 boxes of 96	**10 49 32308**	480
TipBox, sterile	ULR	10 boxes of 96	**10 49 32328**	960
TipStack™	ULR	10 racks of 96 + 2 boxes	**10 49 32348**	960
TipStack™, sterile	ULR	10 racks of 96 + 2 boxes	**10 49 32368**	960

Continued on next page →

Pipette Tips, Accessories

⑤ Pipette tips 5 – 300 µl

Article	Type	Packing type	Order No.	PU pc/Pack
bulk packed	Standard	1 bag of 1000	**10 49 32010**	1000
bulk packed XXL	Standard	10 bags of 1000	**10 49 32030**	10000
TipRack	Standard	10 racks of 96	**10 49 32110**	960
TipRack, sterile	Standard	10 racks of 96	**10 49 32130**	960
TipBox	Standard	5 boxes of 96	**10 49 32210**	480
TipBox, sterile	Standard	10 boxes of 96	**10 49 32230**	960
TipBox	ULR	5 boxes of 96	**10 49 03103**	480
TipBox, sterile	ULR	10 boxes of 96	**10 49 32330**	960



⑥ Pipette tips 50 – 1000 µl (bulk tips, blue colored)

Article	Type	Packing type	Order No.	PU pc/Pack
bulk packed	Standard	2 bags of 500	**10 49 32012**	1000
bulk packed XXL	Standard	10 bags of 500	**10 49 32032**	5000
TipRack	Standard	10 racks of 96	**10 49 32112**	960
TipRack, sterile	Standard	10 racks of 96	**10 49 32132**	960
TipBox	Standard	5 boxes of 96	**10 49 32212**	480
TipBox, sterile	Standard	10 boxes of 96	**10 49 32232**	960
TipStack™	Standard	10 racks of 96 + 2 boxes	**10 49 32252**	960
TipStack™, sterile	Standard	10 racks of 96 + 2 boxes	**10 49 32272**	960
TipBox	ULR	5 boxes of 96	**10 49 32312**	480
TipBox, sterile	ULR	10 boxes of 96	**10 49 32332**	960
TipStack™	ULR	10 racks of 96 + 2 boxes	**10 49 32352**	960
TipStack™, sterile	ULR	10 racks of 96 + 2 boxes	**10 49 32372**	960



⑦ Pipette tips 0,5 – 5 ml

Article	Type	Packing type	Order No.	PU pc/Pack
bulk packed	Standard	1 bag of 200	**29 49 02595**	200
bulk packed XXL	Standard	non-sterile/bulk, 5 bags of 200	**29 49 02600**	1000
TipBox	Standard	non-sterile/racked, 1 box of 28	**29 49 02605**	28

⑧ Pipette tips 1 – 10 ml

Article	Type	Packing type	Order No.	PU pc/Pack
bulk packed	Standard	2 bags of 100	**10 49 02603**	200
bulk packed XXL	Standard	10 bags of 100	**10 49 02604**	1000
TipBox	Standard	1 box of 18	**10 49 02608**	18



BRAND filter tips, Standard and Ultra Low Retention (ULR)

Non-self-sealing filter tips from BRAND have a PE filter that is free from chemical additives. Permeability is controlled by the combination of pore size and filter length, so that no aerosols can reach the pipette shaft. These filters function with consistent reliability. On the other hand, liquids can pass very slowly should they accidentally contact the filter. Since the filter does not swell as in the case of self-sealing filter tips, the sample can be recovered from the filter by simply actuating the pipettes blow-out function, or by centrifugation if necessary. This is clearly an important advantage of non-self-sealing filters, especially when working with valuable samples. As an added advantage, the absence of filter additives protects samples from contamination.

⑨ Filter tips 0.1 – 1 µl

Article	Type	Packing type	Order No.	PU pc/Pack
bulk packed	Standard	1 bag of 960	**10 49 32502**	960
TipRack	Standard	10 racks of 96	**10 49 32602**	960
TipRack, sterile	Standard	10 racks of 96	**10 49 32622**	960
TipBox	Standard	5 boxes of 96	**10 49 32702**	480
TipBox, sterile	Standard	10 boxes of 96	**10 49 32722**	960
TipBox	ULR	5 boxes of 96	**10 49 32802**	480
TipBox, sterile	ULR	10 boxes of 96	**10 49 32822**	960



⑩ Filter tips 0.5 – 10 µl

Article	Type	Packing type	Order No.	PU pc/Pack
bulk packed	Standard	1 bag of 960	**10 49 32504**	960
TipRack	Standard	10 racks of 96	**10 49 32604**	960
TipRack, sterile	Standard	10 racks of 96	**10 49 32624**	960
TipBox	Standard	5 boxes of 96	**10 49 32704**	480
TipBox, sterile	Standard	10 boxes of 96	**10 49 32724**	960
TipBox	ULR	5 boxes of 96	**10 49 32804**	480
TipBox, sterile	ULR	10 boxes of 96	**10 49 32824**	960



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Pipette Tips, Accessories



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⑪ Filter tips 1 – 20 µl

Article	Type	Packing type	Order No.	PU pc/Pack
bulk packed	Standard	1 bag of 960	**10 49 32506**	960
TipRack	Standard	10 racks of 96	**10 49 32606**	960
TipRack, sterile	Standard	10 racks of 96	**10 49 32626**	960
TipBox	Standard	5 boxes of 96	**10 49 32706**	480
TipBox, sterile	Standard	10 boxes of 96	**10 49 32726**	960
TipBox	ULR	5 boxes of 96	**10 49 32806**	480
TipBox, sterile	ULR	10 boxes of 96	**10 49 32826**	960

⑫ Filter tips 2 – 20 µl

Article	Type	Packing type	Order No.	PU pc/Pack
bulk packed	Standard	1 bag of 960	**10 49 32508**	960
TipRack	Standard	10 racks of 96	**10 49 32608**	960
TipRack, sterile	Standard	10 racks of 96	**10 49 32628**	960
TipBox	Standard	5 boxes of 96	**10 49 32708**	480
TipBox, sterile	Standard	10 boxes of 96	**10 49 32728**	960
TipBox	ULR	5 boxes of 96	**10 49 32809**	480
TipBox, sterile	ULR	10 boxes of 96	**10 49 32829**	960

⑬ Filter tips 5 – 100 µl

Article	Type	Packing type	Order No.	PU pc/Pack
bulk packed	Standard	1 bag of 960	**10 49 32510**	960
TipRack	Standard	10 racks of 96	**10 49 32610**	960
TipRack, sterile	Standard	10 racks of 96	**10 49 32630**	960
TipBox	Standard	5 boxes of 96	**10 49 32710**	480
TipBox, sterile	Standard	10 boxes of 96	**10 49 32730**	960
TipBox	ULR	5 boxes of 96	**10 49 32810**	480
TipBox, sterile	ULR	10 boxes of 96	**10 49 32830**	960

⑭ Filter tips 5 – 200 µl

Article	Type	Packing type	Order No.	PU pc/Pack
bulk packed	Standard	1 bag of 960	**10 49 32512**	960
TipRack	Standard	10 racks of 96	**10 49 32612**	960
TipRack, sterile	Standard	10 racks of 96	**10 49 32632**	960
TipBox	Standard	5 boxes of 96	**10 49 32712**	480
TipBox, sterile	Standard	10 boxes of 96	**10 49 32732**	960
TipBox	ULR	5 boxes of 96	**10 49 32812**	480
TipBox, sterile	ULR	10 boxes of 96	**10 49 03145**	960

⑮ Filter tips 50 – 1000 µl

Article	Type	Packing type	Order No.	PU pc/Pack
bulk packed	Standard	1 bag of 960	**10 49 32514**	960
TipRack	Standard	10 racks of 96	**10 49 32614**	960
TipRack, sterile	Standard	10 racks of 96	**10 49 32634**	960
TipBox	Standard	5 boxes of 96	**10 49 32714**	480
TipBox, sterile	Standard	10 boxes of 96	**10 49 32734**	960
TipBox	ULR	5 boxes of 96	**10 49 32814**	480
TipBox, sterile	ULR	10 boxes of 96	**10 49 32834**	960

⑯ TipBox, with tip-tray, empty

PP. With hinged and push-on lid. Two different sizes. The Box can be stacked and repeatedly autoclaved at 121°C (2 bar) in compliance with DIN EN 285. The Box can be refilled with the new TipRack (non-sterile) or the new TipRack S (sterile) refill units.

Article	Order No.
TipBox, up to 20 µl	**10 49 32990**
TipBox, for 200 µl	**10 49 32992**
TipBox, for 300 µl	**10 49 32994**
TipBox, for 1000 µl	**10 49 32996**

Pipette Tips, Accessories

Pipette Tips, Eppendorf

webcode WWQJ3038

eppendorf

Features and Benefits of the entire tip generation:
- New tip design enables better access to a wider variety of tips and wells
- Ergonomic: New geometry requires less force for attaching and ejecting the tips
- Soft, flexible tip cone results in better pipette tip seal
- Available in three purity levels (Eppendorf Quality/PCR clean/biopur)



① Pipette tips epT.I.P.S.® Standard
- Original, high-quality Eppendorf pipette tips at an attractive price
- Packed in re-sealable bags
- Available in all tip sizes from 10 µl to 10 ml
- 200 µl, 300 µl and 1000 µl tips are color coded, yellow and blue, respectively

Volume	Length mm	Order No.	PU pc/Pack
0.1 – 10 µl	34	**14 69 00811**	1000
0.1 – 20 µl	40	**14 69 00838**	1000
0.5 – 20 µl	46	**14 69 00854**	1000
2 – 200 µl (2 – 100)	53	**10 69 90889**	1000
20 – 300 µl	55	**10 69 30900**	1000
50 – 1000 µl	71	**10 69 30927**	1000
50 – 1250 µl	76	**14 69 00935**	1000
50 – 1250 µl	103	**10 69 00730**	1000
250 – 2500 µl	115	**14 69 00951**	500
100 – 5000 µl	120	**14 69 00978**	500
0.2 – 5 ml	175	**10 69 30650**	300
1 – 10 ml	165	**14 69 00765**	200
1 – 10 ml	243	**14 69 00781**	200

Available only in original packaging units. No fractions possible.



② Pipette tips epT.I.P.S.® Box
- epTIPS Box: Working box full of tips
- Guard lid on refill trays enables contamination-free transfer of trays to the working box (epT.I.P.S. Box)
- System optimized for use with multi-channel pipettes
- Far less waste compared to disposable boxes. All components 100% recyclable

Volume µl	Length mm	Order No.	PU pc/Box
0.1 – 10	34	**10 69 73010**	96
0.1 – 20	40	**10 69 73037**	96
0.5 – 20	46	**10 69 73053**	96
2 – 200 (2 – 100)	53	**10 69 03070**	96
20 – 300	55	**10 69 73096**	96
50 – 1000	71	**10 69 73118**	96
50 – 1250	76	**10 69 73134**	96
50 – 1250	103	**10 69 73657**	96
500 – 2500	115	**10 69 73150**	48
100 – 5000	120	**10 69 73177**	24

Available only in original packaging units. No fractions possible.



③ Pipette tips epT.I.P.S.® Reloads and epT.I.P.S.® Reloads PCR clean
- epTIPS Reloads: Refill trays for the working box
- Guard lid on refill trays enables contamination-free transfer of trays to the working box (epT.I.P.S. Box)
- Refill trays (epT.I.P.S. Reloads) can be autoclaved in advance
- System optimized for use with multi-channel pipettes
- The refill system, depending on tip size, is packaged either dual-sided or in stack form
- Far less water compared to disposable boxes. All components 100% recyclable

Volume µl	Length mm	PU pc/Pack	Type epT.I.P.S. Reloads Order No.	epT.I.P.S. Reloads PCR clean Order No.
0.1 – 10	34	960	**10 69 73371**	**10 69 73754**
0.1 – 20	40	960	**10 69 73398**	**10 69 73770**
0,5 – 20	46	960	**10 69 73410**	**10 69 73797**
2 – 200	53	960	**10 69 73436**	**10 69 73819**
20 – 300	55	960	**10 69 73452**	**10 69 73835**
50 – 1000	71	960	**10 69 73479**	**10 69 73851**
50 – 1250	76	960	**10 69 73495**	**10 69 73878**
50 – 1250	103	960	**10 69 73630**	**10 69 73649**
500 – 2500	115	480	**10 69 73517**	**10 69 73894**

Available only in original packaging units. No fractions possible.

Pack: 10 trays of 96 tips (= 960 tips), or 10 trays of 48 tips (= 480 tips) for 500 – 2500 µl epT.I.P.S. Reloads



Continued on next page

webcode To see other variants and accessories, please enter the webcode on our website.

Pipette Tips, Accessories





① **Pipette tips epTIPS Set**

- epTIPS Set: 1 working box plus 5 refill trays
- Guard lid on refill trays enable contamination-free transfer of trays to the working box (epT.I.P.S. Box)
- Refill trays (epT.I.P.S. Reloads) can be autoclaved in advance
- System optimized for use with multi-channel pipettes
- The refill system, depending on tip size, is packaged either dual-sided or in stack form
- Far less waste compared to disposable boxes. All components 100% recyclable

Volume µl	Length mm	Order No.	PU pc/Set
0.1 – 10	34	**10 69 73215**	480
0.1 – 20	40	**10 69 73231**	480
0.5 – 20	46	**10 69 73258**	480
2 – 200 (2 – 100)	53	**10 69 73274**	480
20 – 300	55	**10 69 73290**	480
50 – 1000	71	**10 69 73312**	480
50 – 1250	76	**10 69 73339**	480
500 – 2500	115	**10 69 73355**	240

Available only in original packaging units. No fractions possible.

Set: 1 box incl. 5 trays of 96 tips (= 480 tips), or incl. 5 trays of 48 tips (= 240 tips)



② **Pipette tips ep Dualfilter T.I.P.S.®**

Eppendorf ep Dualfilter T.I.P.S.® are the first filter tips with contamination protection by means of a two-phase-filter. The distinctive, blue-white filter layers detain 100% of all aerosols and bio-molecules.

- Double protection by means of two filter layers
- Double protection for pipette and specimen
- Double protection from aerosols and bio-molecules
- Free of PCR inhibitor additives
- Sterile, Eppendorf PCR clean and pyrogen-free
- IvD-conform
- Charge certification

Version	Volume	Length mm	Order No.	PU pc/Pack
PCR	0.1 – 10 µl	34	**10 69 78500**	960
PCR	0.1 – 10 µl	40	**10 69 78519**	960
PCR	0.5 – 20 µl	46	**10 69 78527**	960
PCR	2 – 20 µl	53	**10 69 78535**	960
PCR	2 – 100 µl	53	**10 69 78543**	960
PCR	2 – 200 µl	55	**10 69 78551**	960
PCR	20 – 300 µl	55	**10 69 78560**	960
PCR	50 – 1000 µl	76	**10 69 78578**	960
PCR	0.25 – 2.5 ml	115	**10 69 78586**	240
PCR	50 – 1250 µl	103	**10 69 78594**	480
PCR	0.1 – 5 ml	120	**10 69 78616**	120
PCR	0.2 – 5 ml	175	**10 69 78624**	120
LoRentention PCR	0.1 – 10 µl	34	**10 69 78632**	960
LoRentention PCR	0.5 – 20 µl	46	**10 69 78640**	960
LoRentention PCR	2 – 100 µl	53	**10 69 78659**	960
LoRentention PCR	2 – 200 µl	55	**10 69 78667**	960
LoRentention PCR	20 – 300 µl	55	**10 69 78675**	960
LoRentention PCR	50 – 1000 µl	76	**10 69 78683**	960
Forensic	0.1 – 10 µl	40	**10 69 78810**	960
Forensic	2 – 20 µl	53	**10 69 78829**	960
Forensic	2 – 200 µl	55	**10 69 78837**	960
Forensic	50 – 1000 µl	76	**10 69 78845**	960
PCR	0.1 – 20 µl	42	**10 69 78853**	3840
PCR	2 – 100 µl	53	**10 69 78861**	3840

Available only in original packaging units. No fractions possible.

Continued on next page





Pipette Tips, Accessories

③ **Pipette tips epT.I.P.S. Racks Biopur**

- Eppendorf Biopur pipette tips: Highest biological purity, e.g. guaranteed sterile, for RNase-, DNA-, ATP- and pyrogen-free work
- Each batch continuously controlled by external laboratory
- Batch-related quality certificate available over the Internet (www.eppendorf.com)
- Packed in boxes of 96, 48 or 24 tips (1 pack = 5 boxes)

Article	Volume	Length mm	Order No.	PU pc/Pack
epT.I.P.S.® Biopur, 0.1-20 µl	0.1 – 20 µl	40	**10 69 75226**	480
epT.I.P.S.® Biopur, 2-200 µl	2 – 200 µl	53	**10 69 75234**	480
epT.I.P.S.® Biopur, 20-300 µl	20 – 300 µl	55	**10 69 75242**	480
epT.I.P.S.® Biopur, 50-1000 µl	50 – 1000 µl	71	**10 69 75250**	480
epT.I.P.S.® Biopur, 50-1250 µl, 76 mm	50 – 1250 µl	76	**10 69 75269**	480
epT.I.P.S.® Biopur, 50-1250 µl, 103 mm	50 – 1250 µl	103	**10 69 75277**	480
epT.I.P.S.® Biopur, 0.25-2.5 ml	0.25 – 2.5 ml	115	**10 69 75285**	240
epT.I.P.S.® Biopur, 0.1-5 ml	0.1 – 5 ml	120	**10 69 75293**	120
epT.I.P.S.® Biopur, 0.2-5 ml	0.2 – 5 ml	175	**10 69 75307**	120
epT.I.P.S.® Biopur, 0.5-10 ml	0.5 – 10 ml	165	**10 69 75315**	120

Available only in original packaging units. No fractions possible.


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④ **Pipette tips epT.I.P.S. Singles Biopur**

- Eppendorf Biopur pipette tips, individually sealed in blister pack
- Batch number and use-by date on each blister pack
- Each batch continuously controlled by external laboratory
- Batch-related quality certificate available over the Internet (www.eppendorf.com)

Volume µl	Length mm	Order No.	PU pc/Pack
0.1 – 20	40	**14 69 10019**	100
2 – 200	53	**14 69 10035**	100
50 – 1000	71	**14 69 10051**	100

Available only in original packaging units. No fractions possible.


④

Gilson-PIPETMAN® Tips Diamond® in TiPack®, Gilson

GILSON

Original Gilson Diamond® pipette tips in a conveniently filled rack. Save yourself the time-consuming and fussy filling of tips. All tips are made of sturdy polypropylene and autoclavable. Available in different volumes.
The tips with volumes between 0.1 and 10 µl are also available as extra-long versions.

webcode WWC8F385

Gilson TiPack® Rack

Article	Volume	PU	Order No.	PU pc/Pack
Gilson TiPack® Rack D10	0.1 – 10 µl	10 × 96	**10 01 74315**	960
Gilson TiPack® Rack DL10	long, 0.1 – 20 µl	10 × 96	**10 01 74398**	960
Gilson TiPack® Rack D200	2 – 200 µl	10 × 96	**10 01 74316**	960
Gilson TiPack® Rack D300	20 – 300 µl	10 × 96	**10 01 74338**	960
Gilson TiPack® Rack D1000	200 – 1000 µl	10 × 96	**10 01 74317**	960
Gilson TiPack® Rack D1200	100 – 1200 µl	10 × 96	**10 01 74312**	960
Gilson TiPack® Rack D5000	1 – 5 ml	12 × 50	**10 01 74400**	600
Gilson TiPack® Rack D10ml	1 – 10 ml	8 × 30	**10 01 74401**	240



Gilson TiPack® Rack, sterile

Article	Volume µl	PU	Order No.	PU pc/Pack
Gilson TiPack® Rack D10ST	0.1 – 10	10 × 96	**10 01 74313**	960
Gilson TiPack® Rack DL10ST	long, 0.1 – 20	10 × 96	**10 01 74314**	960
Gilson TiPack® Rack D200ST	2 – 200	10 × 96	**10 01 74343**	960
Gilson TiPack® Rack D300ST	20 – 300	10 × 96	**10 01 74344**	960
Gilson TiPack® Rack D1000ST	100 – 1000	10 × 96	**10 01 74345**	960
Gilson TiPack® Rack D1200ST	100 – 1200	10 × 96	**10 01 74346**	960

Pipette Tips, Accessories

webcode WWC8F383



Gilson Diamond® Filter Tips, Sterile, in Rack, Gilson

Original sterile Gilson Diamond® pipette tips with filter in a conveniently filled reload pack. Save yourself the time-consuming and fussy filling of tips. All tips are made of sturdy polypropylene and autoclavable. Available in different volumes.
The tips with volumes between 0.1 and 10 µl are also available as extra-long versions.

Article	Volume µl	PU	Order No.	PU pc/Pack
Gilson Tipack Rack DF10ST	0.1 – 10	10 × 96	**10 01 74335**	960
Gilson Tipack Rack DFL10ST	long, 0.1 – 10	10 × 96	**10 01 74403**	960
Gilson Tipack Rack DF30ST	2 – 30	10 × 96	**10 01 74404**	960
Gilson Tipack Rack DF100ST	10 – 100	10 × 96	**10 01 74405**	960
Gilson Tipack Rack DF200ST	20 – 200	10 × 96	**10 01 74406**	960
Gilson Tipack Rack DF300ST	20 – 300	10 × 96	**10 01 74339**	960
Gilson Tipack Rack DF1000ST	100 – 1000	10 × 96	**10 01 74342**	960
Gilson Tipack Rack DF1200ST	100 – 1200	10 × 96	**10 01 74347**	960

webcode WWC8F381



Gilson Diamond® Pipette Tips Reload, Gilson

Original Gilson Diamond® pipette tips for all Gilson microlitre pipettes in a reload pack. The reload pack is the easiest and fasted way of filling an empty TiPack box. Environmentally friendly thanks to 70% less plastic packaging. The tips are made of transparent polypropylene. For better orientation, the racks are colour-coded.

Rack and tips are autoclavable. Remove the reload packaging before autoclaving!

Article	Volume µl	PU	Order No.	PU pc/Pack
Gilson Reload Pack DL10	0.1 – 20	10 × 96	**10 01 74407**	960
Gilson Reload Pack D200	2 – 200	10 × 96	**10 01 74408**	960
Gilson Reload Pack D1000	100 – 1000	6 × 96	**10 01 74409**	576

webcode WWC8F384



Gilson-PIPETMAN® Tips Diamond® in TowerPack®, Gilson

For those who need more: Original Gilson Diamond® tips for all Gilson microlitre pipettes **in the Tower Rack**. Save yourself the time-consuming and fussy filling of tips, and benefit from the small footprint of the Tower-Rack to save up to 60% of bench space.
All Tower Racks are **autoclavable** at 121°C, 0.1 Mpa, 20 minutes. **Tips made of transparent polypropylene;** each tip is marked in two places to indicate its volume.

One **universal box** which can be used for all Tower Packs simplifies your working processes.

TowerPack®, autoclavable tips

Article	Volume µl	PU	Order No.	PU pc/Pack
Gilson TowerPack® D10	0.1 – 10	10 × 96	**10 01 74351**	960
Gilson TowerPack® DL10	long, 0.1 – 10	10 × 96	**10 01 74352**	960
Gilson TowerPack® D200	2 – 200	10 × 96	**10 01 74353**	960
Gilson TowerPack® D300	20 – 300	10 × 96	**10 01 74354**	960
Gilson TowerPack® D1000	200 – 1000	7 × 96	**10 01 74355**	672

TowerPack®, sterile tips

Article	Volume µl	PU	Order No.	PU pc/Pack
Gilson TowerPack® D10ST	0.1 – 10	10 × 96	**10 01 74348**	960
Gilson TowerPack® DL10ST	0.1 – 20	10 × 96	**10 01 74349**	960
Gilson TowerPack® D200ST	2 – 200	10 × 96	**10 01 74356**	960
Gilson TowerPack® D300ST	20 – 300	10 × 96	**10 01 74357**	960
Gilson TowerPack® D1000ST	100 – 1000	7 × 96	**10 01 74358**	672

Accessories

Article	Order No.
Gilson box for TowerPack®	**10 01 74350**

Pipette Tips, Accessories

Gilson Diamond® Pipette Tips Blister, Gilson

webcode WWC8F382

Blister Refill
The refill variant for Gilson PIPETMAN® Tips Diamond® in the blister package. Individually packaged racks with colour coding, compatible with the Gilson pipette models. For optimum hygiene and easy handling. Simply remove the top foil of the packaging and transfer the rack – ready-for-use with the tips inserted – into the respective box.

Rack and tips are autoclavable. Remove the reload packaging before autoclaving!

Article	Volume µl	PU	Order No.	PU Set/Pack
Gilson Blister Refill DL10	0.1 – 20	10 × 96	**10 01 74492**	960
Gilson Blister Refill D200	2 – 200	10 × 96	**10 01 74493**	960
Gilson Blister Refill D300	20 – 300	10 × 96	**10 01 74494**	960
Gilson Blister Refill D1000	100 – 1000	10 × 96	**10 01 74495**	960



Blister Refill sterile
The refill variant for Gilson PIPETMAN® Tips Diamond®, sterile, in the blister package. Gamma-sterilised, free of traceable RNases, DNases, DNA, RNA, and ATP. Individually packaged racks with colour coding, compatible with the Gilson pipette models. For optimum hygiene and easy handling.
Simply remove the top foil of the packaging and transfer the rack – ready-for-use with the tips inserted – into the respective box.

Article	Volume µl	PU	Order No.	PU pc/Pack
Gilson Blister Refill DL10ST	0.1 – 20	10 × 96	**10 01 74496**	960
Gilson Blister Refill D200ST	2 – 200	10 × 96	**10 01 74497**	960
Gilson Blister Refill D300ST	20 – 300	10 × 96	**10 01 74498**	960
Gilson Blister Refill D1000ST	100 – 1000	10 × 96	**10 01 74499**	960

Blister Refill Filter sterile
The refill variant for Gilson PIPETMAN® Filtertips Diamond®, sterile, in the blister package. Filtertips can help to prevent aerosol contaminations. Gamma-sterilised, free of traceable RNases, DNases, DNA, RNA, and ATP. Individually packaged racks with colour coding, compatible with the Gilson pipette models.
For optimum hygiene and easy handling. Simply remove the top foil of the packaging and transfer the rack – ready-for-use with the tips inserted – into the respective box.

Blister Refill™
Sterile, colour-coded and sealed.
10 trays, individually wrapped with 96 tips each

Article	Volume µl	PU	Order No.	PU pc/Pack
Gilson Blister Refill DFL10ST	0.1 – 20	10 × 96	**10 01 74464**	960
Gilson Blister Refill DF30ST	2 – 30	10 × 96	**10 01 74465**	960
Gilson Blister Refill DF100ST	10 – 100	10 × 96	**10 01 74466**	960
Gilson Blister Refill DF200ST	20 – 200	10 × 96	**10 01 74467**	960
Gilson Blister Refill DF300ST	20 – 300	10 × 96	**10 01 74468**	960
Gilson Blister Refill DF1000ST	100 – 1000	10 × 96	**10 01 74469**	960

Gilson Diamond® Pipette Tips in Bag, Gilson

webcode WWC8F387

Loose tips, the most economical solution: Original Gilson Diamond® pipette tips for all Gilson microlitre pipettes of different volumes. The tips are made of sturdy, transparent poylpropylene. **Conveniently packaged in a re-sealable bag.** Autoclavable.

EasyPack®

Article	Volume	PU	Order No.	PU pc/Pack
Gilson EasyPack® D10	0.1 – 10 µl	5 × 200	**10 01 74308**	1000
Gilson EasyPack® DL10	long, 0.1 – 10 µl	5 × 200	**10 01 74359**	1000
Gilson EasyPack® D200	2 – 200 µl	5 × 200	**10 01 74309**	1000
Gilson EasyPack® D300	20 – 300 µl	5 × 200	**10 01 74399**	1000
Gilson EasyPack® D1000	200 – 1000 µl	5 × 200	**10 01 74310**	1000
Gilson EasyPack® D1200	100 – 1200 µl	5 × 200	**10 01 74366**	1000
Gilson EasyPack® D5000	1 – 5 ml	3 × 334	**10 01 74311**	1002
Gilson EasyPack® D10ml	1 – 10 ml	4 × 50	**10 01 74341**	200



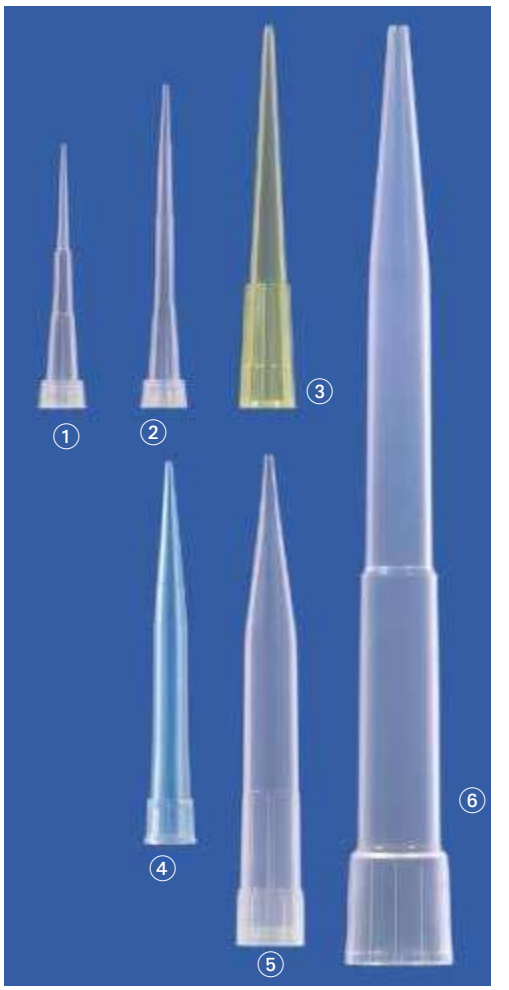
EcoPack®

Article	Volume µl	PU	Order No.	PU pc/Pack
Gilson EcoPack® D10	0.1 – 10	10 × 1000	**10 01 74334**	10000
Gilson EcoPack® DL10	long, 0.1 – 20	10 × 1000	**10 01 74367**	10000
Gilson EcoPack® D200	2 – 200	10 × 1000	**10 01 74336**	10000
Gilson EcoPack® D300	20 – 300	10 × 1000	**10 01 74337**	10000
Gilson EcoPack® D1000	200 – 1000	10 × 1000	**10 01 74340**	10000
Gilson EcoPack® D1200	100 – 1200	10 × 1000	**10 01 74368**	10000

webcode To see other variants and accessories, please enter the webcode on our website.

Pipette Tips, Accessories

webcode WW7R3051



MBT Pipette Tips, IDL

MBT pipette tips, loose, suitable for pipettes with matching cone (see column "for manufacturers").

	Type	Volume µl	for manufacturers*	Pieces/ bag	Order No.	PU Bag/ Box
①	Super Mini KSU 01	0.1 – 20	Brand/Eppendorf/Gilson/ MBT	1000	**14 78 02504**	2
②	Universal KU 015	0.5 – 20	Brand/Eppendorf/Gilson/ MBT/Labsystems	1000	**14 78 02556**	5
③	G 200	2 – 200	MBT/Gilson, yellow	500	**14 78 00175**	30
④	Universal U 300	5 – 300	Brand/Eppendorf/Gilson/ MBT/Labsystems	1000	**14 78 02162**	10
⑤	Universal U 500	50 – 1000	Brand/Eppendorf/Gilson/ MBT/Labsystems	500	**14 78 02596**	10
⑥	Macro 5000	500 – 5000	MBT pipette	200	**14 78 15100**	20

* Brand, Eppendorf, Gilson and Labsystems are registered trade marks.

Illustration of tips shows original size.

webcode WW4ZG001

Pipet Tips, ratiolab®



⑦



⑧



⑨

⑦ **ratiolab® Pipet tips Finntip**
For pipets Thermo Scientific Finntip® F1 and F2, Pipets Dr. Lange®

Volume µl	Length mm	Packing type	Order No.	PU pc/Pack
1000 – 5000	147.60	collapsible box 1 × 75	**10 23 00620**	75
1000 – 5000	147.60	bag 1 × 1000	**10 23 00622**	1000
1000 – 5000	147.60	bag 1 × 3000	**10 23 00623**	3000
1000 – 5000	147.60	bag 1 × 500	**10 23 00624**	500
1000 – 5000	147.60	rack 1 × 50	**10 23 01620**	50
1000 – 5000	147.60	rack 1 × 50, sterilized	**10 23 03620**	50

⑧ **ratiolab® Pipet tips Makro**
For Pipets Gilson® Pipetman®/Neo

Volume µl	Length mm	Packing type	Order No.	PU pc/Pack
1000 – 5000	119.70	bag 1 × 250	**10 23 00630**	250
1000 – 5000	119.70	rack 1 × 50	**10 23 01630**	50
1000 – 5000	119.70	rack 1 × 50, sterilized	**10 23 03630**	50

⑨ **ratiolab® Pipet tips Makro II**
For Pipets Biohit® proline

Volume µl	Length mm	Packing type	Order No.	PU pc/Pack
1000 – 5000	126.00	bag 1 × 300	**10 23 00650**	300
1000 – 5000	126.00	rack 1 × 50	**10 23 01650**	50
1000 – 5000	126.00	rack 1 × 50, sterilized	**10 23 03650**	50

Continued on next page

Pipette Tips, Accessories

⑩ **ratiolab® Pipet tips Finntip**
For Pipets Thermo Scientific Finntip® F1 and F2

Volume µl	Length mm	Packing type	Order No.	PU pc/Pack
2000 – 10000	150.20	bag 1 × 100	**10 23 00640**	100
2000 – 10000	150.20	rack 1 × 25	**10 23 01640**	25
2000 – 10000	150.20	rack 1 × 25, sterilized	**10 23 03640**	25


⑩

⑪ **ratiolab® Pipet tips**
For Pipets Biohit® mLINE® and Gilson® Pipetman®

Volume µl	Length mm	Packing type	Order No.	PU pc/Pack
1000 – 10000	153.60	bag 1 × 100	**10 23 00642**	100
1000 – 10000	153.60	rack 1 × 25	**10 23 01642**	25
1000 – 10000	153.60	rack 1 × 25, sterilized	**10 23 03642**	25


⑪

Pipette Tips, PP, non-sterile, VITLAB

The tips are produced under the most modern clean-room conditions, and automatically heat-sealed in bags and packed in cartons. The catalogue number, volume range, and lot number of the tips are printed on each bag.
The pipette tips have a CE mark according to IVD directive 98/79/EC, and is autoclavable at 121°C (2 bar) according to DIN EN 285.

Volume µl	Colour	Packing type	Order No.	PU pc/Pack
0.5 – 20	colorless	10 bags/1000 pc.	**10 85 31454**	10000
2 – 200	yellow	10 bags/1000 pc.	**10 85 31456**	10000
50 – 1000	blue	10 bags/500 pc.	**10 85 31459**	5000
500 – 5000	colorless	1 bag/200 pc.	**10 85 31462**	200
1000 – 10000	colorless	2 bags/100 pc.	**10 85 31464**	200





Tip-Box with Pipette Tips, PP, VITLAB

⑫ **Tip-Box filled with pipette tips, PP, palleted, non-sterile**
PP box with functionally hinged/snap-on lid. For all volumes up to 1000 µl, in the practical 8x12 size. The pipette tips have a CE mark according to IVD directive 98/79/EC. Box and tips are autoclavable at 121°C (2 bar) according to DIN EN 285.

Volume µl	Packing type	Order No.	PU pc/Pack
0.5 – 20	5 boxes of 96 tips on a gray mounting plate	**10 85 31493**	5
2 – 200	5 boxes of 96 tips on a yellow mounting plate	**10 85 31494**	5
50 – 1000	5 boxes of 96 tips on a blue mounting plate	**10 85 31498**	5


⑫

⑬ **Tip-Box filled with pipette tips, PP, palleted, non-sterile**
PP box with fitted lid. Filled with 5 ml tips (28 pc.) or 10 ml tips (18 pc.). The pipette tips have a CE mark according to IVD directive 98/79/EC. Box and tips are autoclavable at 121°C (2 bar) according to DIN EN 285.

Volume ml	Packing type	Order No.
0.5 – 5	1 box of 28 tips on a natural-colour mounting plate	**10 85 31502**
1 – 10	1 box of 18 tips on a natural-colour mounting plate	**10 85 31509**


⑬

Pipette Tips, Accessories

webcode WWQED072

BRAND


①

Pipette Leak Testing Unit (PLT Unit), BRAND

Improve process reliability with functional validation of air-displacement pipettes

The most frequent cause of inaccuracy in piston-operated pipettes is leakage. This arises from damage either to the seals, pistons, or tip cones. Often not detectable by the naked eye, leaks lead to significant volume errors. The BRAND pipette leak tester (PLT unit) for air displacement pipettes finds even the smallest leaks within seconds.

- Limit values for the commercially available single- and multichannel pipettes in the volume range 1 µl to 10 ml are pre-programmed
- Testing with and without tips
- Test results in seconds
- Patented

While the PLT unit cannot replace regular gravimetric testing, daily pipette checks can provide a safeguard during the periods between calibrations. Even the smallest leaks are detected! Process reliability for the pipettes is thus significantly improved.

Items supplied

PLT unit (Pipette Leak Testing Unit) including one adapter each for testing single-chanel air-displacement pipettes with tip (mounted) and without tip, 2 plugs (for instrument validation), 3 replacement PE filters for the pipette adapters, universal AC adapter, quality certificate and operating manual.

	Article	Order No.
①	Pipette leak testing unit (PLT unit)	**10 49 03970**


②


③

Accessories

	Article	Order No.
②	**Pipette adapter single-channel** for testing single-channel piston-operated pipettes with tips, incl. 1 plug	**10 49 03975**
③	**Pipette adapter single-channel** for testing single-channel piston-operated pipettes without tips, incl. 1 plug	**10 49 03976**
④	**Pipette adapter multi-channel** for testing multi-channel piston-operated pipettes with and without tips, incl. 4 plugs	**10 49 03977**
⑤	**Universal AC adapter** input: AC 100 V – 240 V, 50/60 Hz output: DC 6.5 V, 800 mA	**10 49 03979**
⑥	**Filter for pipette adapter** Pack of 10	**10 49 03978**


④


⑤


⑥


⑦

PLTconnect – software for pipette leak test

The optional PLT unit software, also called PLTconnect, is a program to facilitate the documentation of leak tests, which are carried out with the PLT unit from BRAND. Measured values from the test result of the PLT unit will be automatically transferred to the program. The result is displayed as a test certificate and stored in the program. Thus, the documentation of your test results will be significantly facilitated. Pack of 1.

	Article	Order No.
⑦	PLTconnect, Software for pipette leak testing unit	**10 49 73980**

Webcode

Use the webcode on our website to see a larger selection of products from a specific manufacturer.

Disposable Pipettes

Disposable Pipettes, Pasteur Type, IDL

webcode WW7R3064

Pasteur pipettes made of LDPE with integrated bellows. Constant drop size guaranteed. Can be heat sealed and deep-frozen.

① Small bulb pasteur pipette, graduated

Drop size µl	Grad. ml	Bulb draw ml	Packing type	Order No.	PU pc/Pack
40	1 : 0.25	2.2		**29 78 04212**	500

② 1-ml pasteur pipette, graduated

40	1 : 0.25	3.4		**29 78 04040**	500
40	1 : 0.25	3.4	individually sterile	**29 78 04005**	500
40	1 : 0.25	3.4	à 10 pcs each, sterile	**29 78 04006**	500

③ Medi pasteur pipette, graduated

41	2 : 0.5	1.8		**29 78 04274**	500

④ 3-ml pasteur pipette, graduated

50	3 : 0.5	3.2		**29 78 04111**	500
50	3 : 0.5	3.2	individually sterile	**29 78 04112**	500
50	3 : 0.5	3.2	à 10 pcs each, sterile	**29 78 04113**	500

⑤ Fine-tip pasteur pipette

18	none	3.3		**29 78 04060**	500
18	none	3.3	individually sterile	**29 78 04061**	400

⑥ Fine-tip maxi pasteur pipette

22	none	4.8		**29 78 04234**	400
22	none	4.8	à 20 pcs each, sterile	**29 78 04236**	400

⑦ Extended fine-tip mini pasteur pipette

20	none	1		**29 78 04231**	400
20	none	1	individually sterile	**29 78 04239**	400

⑧ Standard micro pasteur pipette

40	none	3.3		**29 78 04020**	500
40	none	3.3	individually sterile	**29 78 04021**	500

⑨ Small pasteur pipette 87 mm

40	none	0.9		**29 78 04273**	500

⑩ Long pasteur pipette 225 mm

40	none	2.3		**29 78 04050**	400
40	none	2.3	individually sterile	**29 78 04051**	400

⑪ Jumbo pasteur pipette, length 300 mm

50	none	7.3		**29 78 04263**	100
50	none	7.3	individually sterile	**29 78 04264**	100
50	none	7.3	à 20 pcs each, sterile	**29 78 04266**	100

⑫ Standard pasteur pipette

50	none	3.2		**29 78 04000**	500
50	none	3.2	individually sterile	**29 78 04003**	500
50	none	3.2	à 20 pcs each, sterile	**29 78 04002**	500

⑬ Maxi pasteur pipette

50	none	4.6		**29 78 04204**	400
50	none	4.6	à 20 pcs each, sterile	**29 78 04206**	400

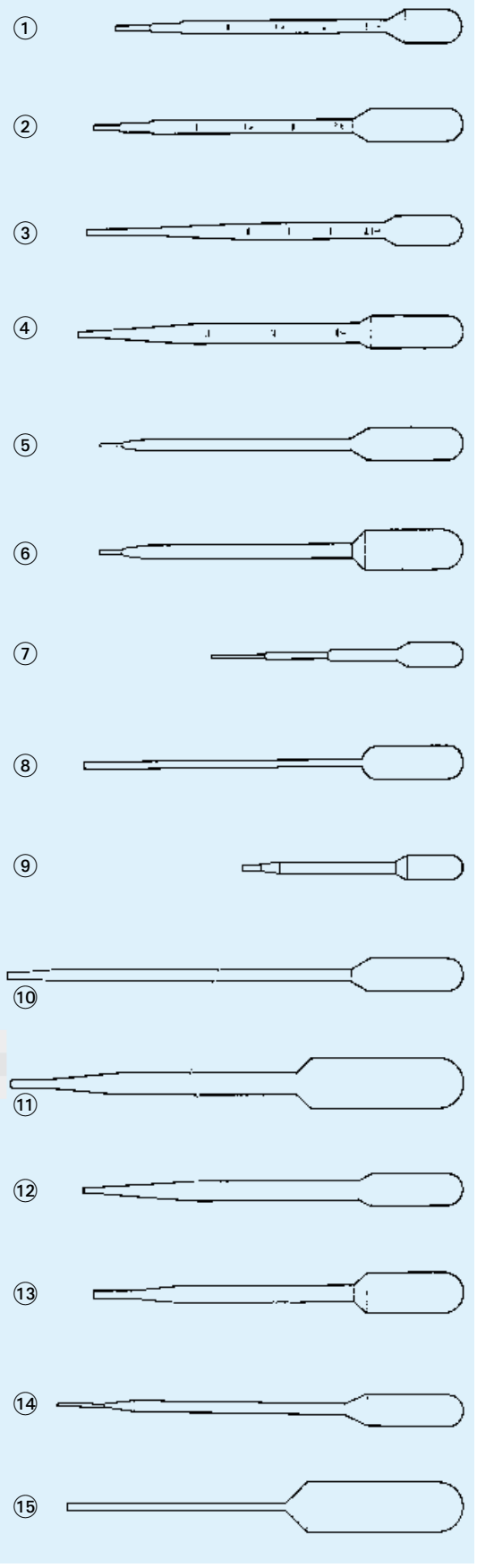
⑭ Extended fine-tip standard pasteur pipette

20	none	3.5		**29 78 04635**	500
20	none	3.5	individually sterile	**29 78 04636**	400
20	none	3.5	à 20 pcs each, sterile	**29 78 04638**	500

⑮ Large-volume micro pasteur pipette

52	none	8		**29 78 04252**	250
52	none	8	à 20 pcs each, sterile	**29 78 04255**	200

! Available only in original packaging units. No fractions possible.



webcode To see other variants and accessories, please enter the webcode on our website.

Disposable Pipettes

Pasteur Pipettes Glass, Soda-lime Glass, BRAND

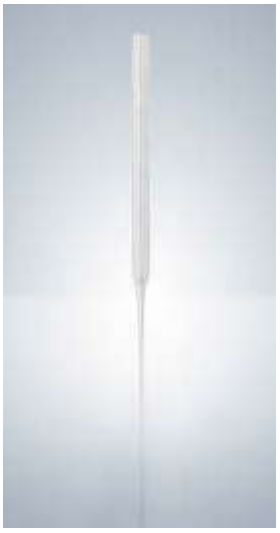
webcode WWQED089



Soda-lime-glass. ISO 7712. Long drawn-out capillary tip. Suction end with constriction for a cotton plug.

Withdraw volume: 1.5 ml
Inner Ø tip: 1 mm
Outer Ø: 7 mm
Length suction tube: 25 mm

Tip mm	Length mm	Order No.	PU pc/Pack
45	145	**10 49 47715**	1000
120	225	**10 49 47720**	1000
160	270	**10 49 47725**	1000
210	310	**10 49 47730**	1000



Pasteur Pipettes Soda-Lime Glass, Hirschmann

webcode WW4ZV047

Disposable pasteur pipettes
Disposable pasteur pipettes, with long extended fine tip, acc. to ISO 7712, capillary I.D. of tip approx. 1.0 mm, suction tube approx. 25 mm long with constriction for swab, tube O.D. approx. 7.0 mm. Available in standard packs of 4 × 250 pieces.

Overall length approx. mm	Tip length approx. mm	Order No.	PU pc/Pack
150	40	**19 77 34145**	1000
230	100	**19 77 34230**	1000

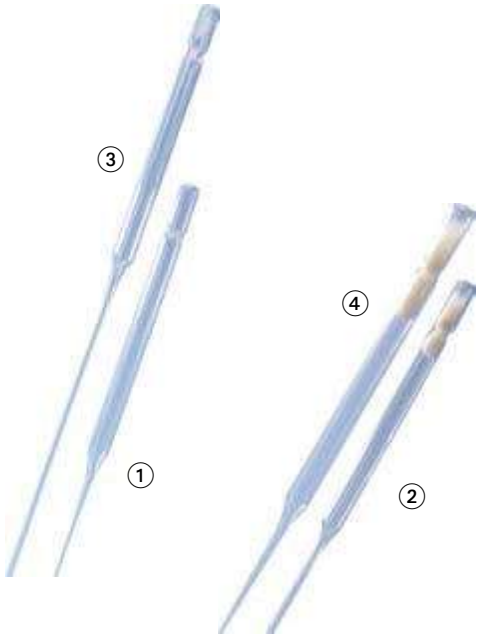
Available only in original packaging units. No fractions possible.

Disposable pasteur pipettes, plugged

Overall length approx. mm	Tip length approx. mm	Order No.	PU pc/Pack
150	40	**10 37 35150**	1000
230	100	**10 37 35230**	1000

Available only in original packaging units. No fractions possible.

Volac Disposable Glass Pasteur Pipettes, Poulten & Graf



Volac Pasteur pipettes are available in soda-lime glass, borosilicate glass and soda-lime glass with cerium with or without a cotton stopper, in two lengths, sterile or non-sterile. Careful selection of the raw materials and fully automated production ensure the uniformity and high product quality of the end products.
- Strong wall thickness as standard
- Low glass breakage
- Uniform end products

Volac disposable pasteur pipettes made of soda lime glass

	Length mm	Version	Order No.	PU pc/Pack
①	150	unplugged, non-sterile	**10 30 10810**	1000
②	150	plugged, non-sterile	**10 30 11810**	1000
	150	plugged, sterile	**10 30 12810**	250
③	230	unplugged, non-sterile	**10 30 10812**	1000
④	230	plugged, non-sterile	**10 30 11812**	1000
	230	plugged, sterile	**10 30 12812**	250

Volac disposable pasteur pipettes made of borosilicate glass

Length mm	Version	Order No.	PU pc/Pack
150	unplugged, non-sterile	**10 30 13810**	1000
150	plugged, non-sterile	**10 30 14810**	1000
230	unplugged, non-sterile	**10 30 13812**	1000
230	plugged, non-sterile	**10 30 14812**	1000

Volac disposable pasteur pipettes made of soda lime glass with CERIUM

Length mm	Version	Order No.	PU pc/Pack
150	unplugged, sterile	**10 30 15810**	1000
150	plugged, sterile	**10 30 16810**	1000
230	unplugged, sterile	**10 30 15812**	1000
230	plugged, sterile	**10 30 16812**	1000

Disposable Pipettes

Drip Pipettes, LAT

webcode WWW4U042

Drip pipette made of glass, 8 mm diameter, incl. rubber cap.

Length mm	Order No.	PU pc/Pack
100	**14 20 00100**	10
150	**14 20 00150**	10



Serological Pipettes, Greiner Bio-One

webcode WWZNZ004

Sterile, cotton-plugged pipettes made of polystyrene

Article	Order No.	PU pc/Pack
Sterile pipettes, 1 ml, graduation 0.01 ml individually packed	**29 47 60418**	1000
Sterile pipettes, 2 ml, graduation 0.01 ml individually packed	**29 47 71018**	1000
Sterile pipettes, 5 ml, graduation 0.1 ml individually packed	**29 47 60618**	200
Sterile pipettes, 5 ml, graduation 0.1 ml 20 packs of 25	**29 47 60610**	500
Sterile pipettes, 10 ml, graduation 0.1 ml individually packed	**29 47 60718**	200
Sterile pipettes, 10 ml, graduation 0.1 ml 25 packs of 25	**29 47 60710**	500
Sterile pipettes, 25 ml, graduation 0.2 ml individually packed	**29 47 76018**	200
Sterile pipettes, 50 ml, graduation 0.5 ml individually packed	**10 47 68180**	100

Available only in original packaging units. No fractions possible.



Serological Pipettes, Colour Coded, neoLab®

webcode WW2NY338

The transparent Moonlab® serological pipettes are manufactured from high-quality polystyrene in a clean-room environment. The serological pipettes are also sterilised and individually packaged in easy-to-open film/paper peel bags. This prevents contamination of your samples with unwanted substances (RNases, DNases, pyrogens). Cotton buds in the tip ensure protection from unwanted contamination of the pipetting aid.

- Colour coding makes it easier to identify the right pipette
- Larger pipette volume thanks to the negative scale
- Universal tip to ensure precise fit into the pipetting aids

Volume ml	Order No.	PU pc/Pack
1	**10 01 40130**	500
2	**10 01 40131**	500
5	**10 01 40132**	200

Volume ml	Order No.	PU pc/Pack
10	**10 01 40133**	200
25	**10 01 40134**	150
50	**10 01 40135**	100



Have any questions?
Just give us a call!

Graduated Pipettes

webcode WWQED020



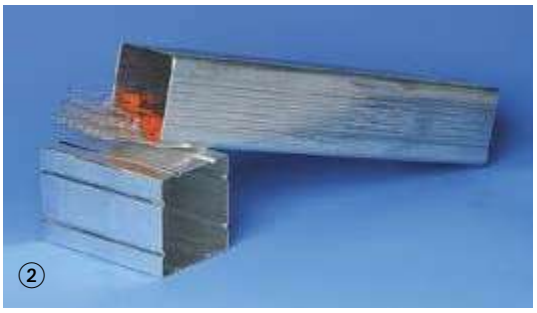
①

Graduated Pipettes, Class AS, Type 3 (Zero on Top), BRAND

Graduated pipettes BLAUBRAND®, class AS, type 3
DE-M marked, made from AR-Glas®. DIN EN ISO 835. Type 3 (zero on top), total delivery. Calibrated to deliver (TD, Ex). 5 sec. waiting time. High contrasts blue enamel graduations and inscriptions, ring marks at major graduations.
W= with large suction tube suitable for cotton plugs. Pipettes come with one detailed batch certificate in each original supplier package (0.5 to 10 ml: pack of 12; 20 to 50 ml: pack of 6).
Also available with individual certificate, USP individual certificate or DAkkS calibration certificate, please inquire.

	Vol. ml	Graduation ml	Error limit ± ml	Length ± 10 mm	Order No.	PU pc/Pack
	0.5	0.01	0.006	360	**14 49 12721**	12
	1	0.01	0.007	360	**14 49 12727**	12
	1	0.1	0.007	360	**14 49 12729**	12
	1 W	0.01	0.007	360	**14 49 27327**	12
	2	0.01[2)]	0.010	360	**14 49 12734**	12
	2	0.02	0.010	360	**14 49 12735**	12
	2	0.1	0.010	360	**14 49 12737**	12
	2 W	0.02	0.010	360	**14 49 27335**	12
	5 W	0.05	0.030	360	**14 49 12748**	12
	5 W	0.1	0.030	360	**14 49 12749**	12
①	10 W	0.1	0.050	360	**14 49 12758**	12
	20 W	0.1	0.100	360	**14 49 12763**	6
	25 W	0.1	0.100	450	**14 49 12766**	6
	50[1)] W	0.5	0.200	450	**14 49 12774**	6

[1)] in addition to ISO size
[2)] in addition to ISO size, not DE-M marked


②

② **Pipette box made of aluminum**
Pipette box made of aluminum, inner silicone coating. For storage and sterilization of pipettes with different length.

Article	Order No.
Pipette box, aluminum, 150–200 mm	**10 49 28920**
Pipette box, aluminum, 235–305 mm	**10 49 28925**
Pipette box, aluminum, 315–385 mm	**10 49 28930**
Pipette box, aluminum, 315–485 mm	**10 49 28935**

BRAND®

webcode WWQED052



③

Graduated Pipettes, Class AS/Class B, BRAND

③ **Graduated pipettes, BLAUBRAND® ETERNA, class AS, type 3 (zero on top)**
DE-M marked, with batch number and enclosed batch certificate. AR-Glas®. DIN EN ISO 835. Type 3 (zero on top), total delivery. Calibrated to deliver (Ex). Waiting time 5 seconds. Markings and inscriptions in ETERNA amber stain. On request, also available with individual certificate, USP individual certificate or DAkkS calibration certificate.

Volume ml	Graduation ml	Error limit ± ml	Order No.	PU pc/Pack
0.5	0.01	0.006	**14 49 28421**	12
1	0.01	0.007	**14 49 28427**	12
1 W	0.01	0.007	**14 49 27427**	12
2	0.02	0.010	**14 49 28435**	12
2 W	0.02	0.010	**14 49 27435**	12
5 W	0.05	0.030	**14 49 28448**	12
5 W	0.1	0.030	**14 49 28449**	12
10 W	0.1	0.05	**14 49 28458**	12
20 W	0.1	0.10	**14 49 28463**	6
25 W	0.1	0.10	**14 49 28466**	6

❗ Available only in original packaging units. No fractions possible.
W = with large suction tube suitable for cotton plugs

Continued on next page

Graduated Pipettes

④ **Graduated pipettes, BLAUBRAND®, Class AS, type 2 (nominal volume on top)**
DE-M marked, AR-Glas®. DIN EN ISO 835. Type 2 (nominal volumen on top), total delivery. Calibrated to deliver (Ex). Waiting time 5 seconds. Markings and inscriptions in high contrast blue enamel.
All BLAUBRAND® graduated pipettes are supplied with batch number and one batch identification per packing unit of the manufacturer. On request, also available with individual certificate, USP individual certificate or DAkkS calibration certificate.

Volume ml	Graduation ml	Error limit ± ml	Overall length mm	Order No.	PU pc/Pack
0.5	0.01	0.006	360	**10 49 27816**	12
1	0.01	0.007	360	**10 49 27817**	12
1 W	0.01	0.007	360	**10 49 27827**	12
1	0.1	0.007	360	**10 49 27818**	12
2[2)]	0.01	0.010	360	**10 49 27829**	12
2	0.02	0.010	360	**10 49 27819**	12
2 W	0.02	0.010	360	**10 49 27828**	12
2	0.1	0.010	360	**10 49 27820**	12
5 W	0.05	0.030	360	**10 49 27821**	12
5 W	0.1	0.03	360	**10 49 27822**	12
10 W	0.1	0.05	360	**10 49 27823**	12
20 W	0.1	0.10	360	**10 49 27824**	6
25 W	0.1	0.1	450	**10 49 27825**	6
50[1)] W	0.5	0.2	450	**10 49 27826**	6

❗ Available only in original packaging units. No fractions possible.

[1)] in addition to ISO
[2)] in addition to ISO size, not DE-M marked
W = with large suction tube suitable for cotton plugs


④

⑤ **Graduated pipettes, BLAUBRAND® ETERNA, class AS, type 2 (nominal volume on top)**
DE-M marked, AR-Glas®. DIN EN ISO 835. Type 2 (Nominal volume at the top), total delivery. Calibrated to deliver (TD, Ex). Waiting time 5 seconds. Ring mark and inscription in ETERNA amber stain.
All BLAUBRAND® graduated pipettes are supplied with a batch number and an accompanying batch certificate in the original packaging. On request, they are also available with an individual certificate, USP individual certificate or DAkkS calibration certificate.

Volume ml	Graduation ml	Error limit ± ml	Order No.	PU pc/Pack
5 W	0.1	0.03	**10 49 27822**	12
25 W	0.1	0.1	**10 49 27825**	6

❗ Available only in original packaging units. No fractions possible.

W = with large suction tube suitable for cotton plugs
Sale while stocks last.


⑤

⑥ **Graduated pipettes, BLAUBRAND®, USP, class AS, type 2 (nominal volume on top)**
DE-M marked, AR-Glas®. DIN EN ISO 835. Type 2 (nominal volumen on top), total delivery. Calibrated to deliver (Ex). Waiting time 5 seconds. Markings and inscriptions in high contrast blue enamel. Incl. USP batch certificate. On request, also available with USP individual certificate. Suitable for cotton plugs.

Volume ml	Graduation ml	Error limit ± ml	Overall length mm	Order No.	PU pc/Pack
1[1)]	0.01	0.007	360	**10 49 27506**	12
2	0.02	0.01	360	**10 49 27509**	12
5	0.05	0.02	360	**10 49 27511**	12
10	0.1	0.03	360	**10 49 27513**	12

[1)] Error limit USP ± 0.01 ml


⑥

⑦ **Graduated pipettes, SILBERBRAND ETERNA, class B, type 2 (nominal volume on top)**
AR-Glas®. DIN EN ISO 835. Type 2 (nominal volumen on top), total delivery. Calibrated to deliver (Ex). Markings and inscriptions in ETERNA amber stain.

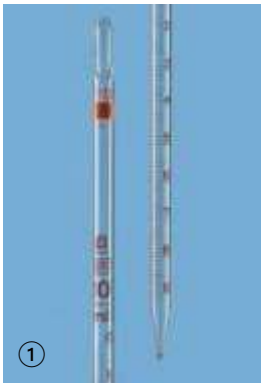
Volume ml	Graduation ml	Error limit ± ml	Order No.	PU pc/Pack
0.5	0.01	0.006	**10 49 27816**	12
1	0.01	0.010	**10 49 27002**	12
1	0.1	0.010	**10 49 27004**	12
2[1)]	0.01	0.015	**10 49 27005**	12
2	0.02	0.015	**10 49 27006**	12
2	0.1	0.010	**10 49 27820**	12
5 W	0.05	0.05	**10 49 27009**	12
5 W	0.1	0.05	**10 49 27010**	12
10 W	0.1	0.08	**10 49 27011**	12
25 W	0.1	0.15	**10 49 27013**	6

[1)] in addition to ISO size, not DE-M marked
W = suitable for cotton plugs


⑦

Graduated Pipettes

webcode WWQED061



Graduated Pipettes, Class B, Type 3 (Zero On Top), BRAND

Graduated pipettes, SILBERBRAND ETERNA, class B, type 3, zero point at the top
AR-Glas®. DIN EN ISO 835. Type 3 (Zero point at the top), total delivery. Calibrated to deliver (TD, Ex). Ring mark and inscription in ETERNA amber stain.

	Volume ml	Graduation ml	Error limit ± ml	Order No.	PU pc/Pack
	1	0.01	0.010	**10 49 27070**	12
	1	0.1	0.010	**10 49 27071**	12
	2[1)]	0.01	0.015	**10 49 27072**	12
	2	0.02	0.015	**10 49 27073**	12
	5 W	0.05	0.05	**10 49 27075**	12
	5 W	0.1	0.05	**10 49 27076**	12
①	10 W	0.1	0.08	**10 49 27077**	12
	20 W	0.1	0.15	**10 49 27078**	6
	25 W	0.1	0.15	**10 49 27079**	6

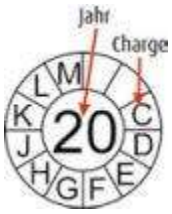
Available only in original packaging units. No fractions possible.

[1)] in addition to ISO size
W = with large suction tube suitable for cotton plugs

webcode WW4ZV062

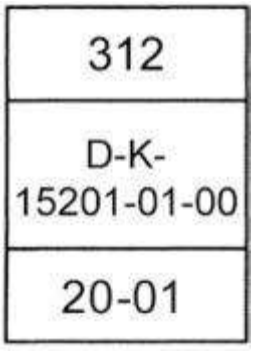


HIRSCHMANN









Quality assurance - assured quality, Hirschmann

Volumetric measuring devices by Hirschmann Laborgeräte

Today, quality assurance is more than just a motto. Quality is the top priority, all the more so in international competition. Products and services are interchangeable, but quality is a sine qua non. As an indispensable precondition for high-quality work, the bought-in pre-products and the production facilities must be of premium quality and the logistics must be based on long years of experience.

Hirschmann Laborgeräte assures quality on several level at once

- The company as a whole and in particular the production are DIN EN ISO 9001:2008 certified
- As a standard, all glass volumetric measuring devices of class A/AS according to DIN undergo process checks and final inspections. As visible evidence of the inspection process, they have the KB sign which signifies that they successfully passed the compliance test pursuant to the German calibration regulations.
- As a standard and free of surcharge, all KB products are equipped with a “Dated batch identification” which unambiguously indicates the production batch and year.

Hirschmann Laborgeräte offer the following benefits:

- Absolutely reliable measuring instruments
- Quality symbol visible directly on every device
- Suitable for use as test instrument for quality assurance purposes pursuant to DIN EN ISO 9000 ff and GLP
- Can be organized in the ‚Test equipment‘ monitoring list
- Can be monitored in terms of test intervals or maximum permissible useful life
- Traceable also after many years
- Documentation-proof

For Hirschmann glass volumetric measuring devices of class A/AS, the following additional certificates are available beyond the standard scope of the series:

Batch quality certicate
The certificate indicates the actual mean value of the tested production batch, the standard deviation, and the legally allowed tolerance. Batch quality certificates are available 24/7 directly at www.hirschmannlab.de and can also be procured retrospectively for existing products of under 5 years of age.This time-proven service provides for added security and also protects the environment as you can print easily and free of charge at your own printer only those certificates that you really need; this helps to avoid waste of paper.

Quality certificates for an individual device
This certificate shows the actual measured value and the measuring inaccuracy of the device as well as the legally allowed tolerance. Measuring instrument and certificate are marked with the identical individual device number. To order a volumetric measuring device of class A/AS with individual certificate, mention the order number XX XX XXXXX of the desired product and additionally the order number for an “Individual quality certificate”

USP individual certificate
The USP versions of the EM Techcolor volumetric measuring devices are equipped with all the great features of an EM Techcolor instrument, and they offer some additional benefits: Each device is tested individually and identified with a serial number to meet the high requirements of the USP standard.

As a rule, an individual certificate is comprised free of surcharge in the standard delivery of all Hirschmann **Liquid Handling laboratory devices** for pipetting, titration, and dosing.

Continued on next page

Graduated Pipettes

DAkkS - recognized all over the world
For us, quality consciousness is a fundamental component of our daily work. Not least for this fact, Hirschmann Laborgeräte has been certified by the Deutsche Akkreditierungsstelle (DAkkS) as an accredited calibration laboratory. As such, we have the right to issue internationally recognized DAkkS calibration certificates for volumetric measuring devices. This not only documents the tested quality of the products but also is an external sign for the inspection and certified excellence of the quality management system. The DAkkS calibration certificate comprises the measured values and measuring inaccuracy of the tested device in compliance with international standards.

For the employees of Hirschmann Laborgeräte, the quality assurance measures in the ongoing production process as well as for the final products are not considered just some red tape but the practical manifestation of our philosophy. For us, quality is top priority.

The premium quality of Hirschmann Laborgeräte is a fact you can rely on. This is what we are offering our customers, without any restrictions, with absolute consistency. And we carry out our quality assurance measures to ensure top quality of your own work.

Article	Order No.
Individual quality certificate	**14 71 99801**

Graduated Pipettes, Hirschmann

Pipettes graduated to the tip, tolerances better than Class B, short line graduation, AR-GLAS®, clear glass, acc. to DIN EN ISO 835, type 3, graduation and markings in durable amber stain. EX calibrated. For 5 ml and up, equipped with cotton wool stopper as a standard.

Vol. ml	Graduation ml	Flow time s	Tol. ± ml	Order No.	PU pc/Pack
0.5	0.01	2 – 11	0.0075	**14 71 11121**	12
1	0.01	2 – 11	0.010	**14 71 11127**	12
1	0.1	2 – 11	0.010	**14 71 11129**	12
2[1)]	0.01	2 – 11	0.015	**14 71 11134**	12
2	0.02	2 – 11	0.015	**14 71 11135**	12
2	0.1	2 – 11	0.015	**14 71 11137**	12
5	0.05	5 – 14	0.045	**14 71 11148**	12
5	0.1	5 – 14	0.045	**14 71 11149**	12
10	0.1	5 – 17	0.075	**14 71 11158**	12
20	0.1	9 – 21	0.150	**14 71 11163**	6
25	0.1	9 – 21	0.150	**14 71 11166**	6

[1)] In addition to DIN size



webcode WW4ZV003

HIRSCHMANN®

Graduated Pipettes, Hirschmann

Graduated pipettes with dated batch identification, zero point at the top, class AS, with declaration of conformity acc. to DIN 12600, graduated to tip, main point ring graduation, AR-GLAS®, clear glass, acc. to DIN EN ISO 835, type 3, graduation and markings in durable amber stain. EX calibrated.

Vol. ml	Graduation ml	Flow time s	Tol. ± ml	Order No.	PU pc/Pack
0.5	0.01	4 – 10	0.006	**14 71 11321**	12
1	0.01	4 – 10	0.007	**14 71 11327**	12
1	0.1	4 – 10	0.007	**14 71 11329**	12
2[1)]	0.01	4 – 10	0.01	**14 71 11334**	12
2	0.02	4 – 10	0.01	**14 71 11335**	12
2	0.1	4 – 10	0.01	**14 71 11337**	12
5	0.05	7 – 13	0.03	**14 71 11348**	12
5	0.1	7 – 13	0.03	**14 71 11349**	12
10	0.1	7 – 13	0.05	**14 71 11358**	12
20	0.1	11 – 17	0.1	**14 71 11363**	6
25	0.1	11 – 17	0.1	**14 71 11366**	6
50[1)]	0.2	11 – 22	0.2	**14 71 11373**	6

[1)] In addition to DIN size
Flow time: waiting time 5 s.
Also available with blue graduation!



webcode WW4ZV004

Graduated Pipettes

webcode WW4ZV005



Graduated Pipettes, Hirschmann

Graduated pipettes, not graduated to tip, zero point at the top, with dated batch identification, class AS, with declaration of conformity acc. to DIN 12600, main point ring graduation, AR-GLAS®, clear glass, acc. to DIN EN ISO 835, type 1, graduation and markings in durable amber stain. EX calibrated. For 5 ml and up, equipped with cotton wool stopper as a standard.

Vol. ml	Graduation ml	Flow time s	Tol. ± ml	Order No.	PU pc/Pack
0.5	0.01	4 – 10	0.006	**14 71 11721**	12
1	0.01	4 – 10	0.007	**14 71 11727**	12
2	0.02	4 – 10	0.01	**14 71 11735**	12
5	0.05	7 – 13	0.03	**14 71 11748**	12
10	0.1	7 – 13	0.05	**14 71 11758**	12
25	0.1	11 – 17	0.1	**14 71 11766**	6

Flow time: waiting time 5 s.

webcode WW4ZV006



Graduated Pipettes, Hirschmann

Graduated pipettes, graduated to tip, Schellbach line, with dated batch identification, with declaration of conformity acc. to DIN 12600, class AS, main point ring graduation, AR-GLAS®, clear glass, acc. to DIN EN ISO 835, type 3, graduation and markings in durable blue ceramic stain. EX calibrated. For 5 ml and up, equipped with cotton wool stopper as a standard.

Vol. ml	Graduation ml	Flow time s	Tol. ± ml	Order No.	PU pc/Pack
0.5	0.01	4 – 10	0.006	**14 71 12221**	12
1	0.01	4 – 10	0.007	**14 71 12227**	12
2	0.02	4 – 10	0.01	**14 71 12235**	12
5	0.05	7 – 13	0.03	**14 71 12248**	12
10	0.1	7 – 13	0.05	**14 71 12258**	12
25	0.1	11 – 17	0.1	**14 71 12266**	6

Flow time: waiting time 5 s.

HIRSCHMANN®

webcode WW4ZV007



Graduated Pipettes, Blow-out, Hirschmann

Graduated pipettes calibrated to blow-out, graduated to tip, type 4, short line graduation, AR-GLAS®, clear glass, graduation and markings in durable amber stain. EX calibrated, acc. to DIN EN ISO 835. For 5 ml and up, equipped with cotton wool stopper as a standard. Available while stock lasts.

Volume ml	Graduation ml	Tol. ± ml	Order No.	PU pc/Pack
0,5[1)]	0.01	0.005	**14 71 13321**	12
2	0.01	0,01	**14 71 13334**	12
5	0.1	0,03	**14 71 13349**	12

[1)] In addition to DIN size

Graduated Pipettes

Graduated Pipettes, Hirschmann

Graduated pipettes, amber graduated
Graduated pipettes, class AS, with declaration of conformity acc. to DIN 12600, with dated batch identification, soda-lime glass (AR), with durable amber or blue stain graduation, type 2, main point ring graduation, zero in tip, graduated to the tip, EX (TD) calibrated, acc. to DIN EN ISO 835, from 5 ml on with a cotton plug end as standard.
For these products, a batch certificate is available under www.hirschmannlab.de.
As an extra, we are offering the Hirschmann calibration service.

	Contents ml	Graduation ml	Tolerance ± ml	Length ± 5 mm	Order No.	PU pc/Pack
①	0.5	0.01	0.006	360	**10 37 00329**	12
	1	0.01	0.007	360	**10 37 00333**	12
	1	0.1	0.007	360	**10 37 00335**	12
	2	0.02	0.01	360	**10 37 00341**	12
	2	0.1	0.01	360	**10 37 00342**	12
	5	0.05	0.03	360	**10 37 00353**	12
	5	0.1	0.03	360	**10 37 00354**	12
	10	0.1	0.05	360	**10 37 00360**	12
	20	0.1	0.1	360	**10 37 00365**	6
	25	0.1	0.1	450	**10 37 00370**	6



webcode WW4ZV075

Graduated pipettes, blue graduated
Graduated pipettes, class AS, with declaration of conformity acc. to DIN 12600, with dated batch identification, soda-lime glass (AR), durable blue graduation with ceramic colour, type 2, main point ring graduation, zero in tip, graduated to the tip, EX (TD) calibrated, acc. to DIN EN ISO 835 from 5 ml on with a cotton plug end as standard.

	Contents ml	Graduation ml	Tolerance ± ml	Length ± 5 mm	Order No.	PU pc/Pack
②	0.5	0.01	0.006	360	**10 37 01329**	12
	1	0.01	0.007	360	**10 37 01333**	12
	1	0.1	0.007	360	**10 37 01335**	12
	2	0.02	0.01	360	**10 37 01341**	12
	2	0.1	0.01	360	**10 37 01342**	12
	5	0.05	0.03	360	**10 37 01353**	12
	5	0.1	0.03	360	**10 37 01354**	12
	10	0.1	0.05	360	**10 37 01360**	12
	20	0.1	0.1	360	**10 37 01365**	6
	25	0.1	0.1	450	**10 37 01370**	6



HIRSCHMANN®

Graduated Pipettes with Piston, Hirschmann

Graduated pipettes with piston, short line graduation, AR-GLAS®, clear glass, graduation and markings in durable amber stain. EX calibrated.

Volume ml	Outer Ø mm	Graduation ml	Length mm	Order No.
1	0.6	0.01	335	**14 71 14127**
2	0.7	0.02	345	**14 71 14135**
5	0.8	0.05	360	**14 71 14148**
10	1.0	0.1	385	**14 71 14158**
20	1.3	0.1	430	**14 71 14163**
25	1.3	0.1	475	**14 71 14166**
50	1.8	0.2	530	**14 71 14173**



webcode WW4ZV008

Bulb Pipettes



①

Bulb Pipettes, Class AS, BRAND

Bulb pipettes, BLAUBRAND®, class AS, 1 mark
DE-M marked, with batch number and batch certificate.
Made from AR-Glas®. To DIN EN ISO 648, calibrated to deliver (TD, Ex), total delivery (5 sec. waiting time). Marks and inscriptions in high contrasts blue enamel. Pipettes come with one detailed batch certificate in each original supplier package (0.5 to 2 ml: pack of 12; 2.5 to 100 ml: pack of 6)
Also available with individual certificate, USP individual certificate or DAkkS calibration certificate, please inquire.

	Volume ml	Error limit ± ml	Length ± 10 mm	Order No.	PU pc/Pack
	0.5	0.005	300	**14 49 12625**	12
	1	0.008	300	**14 49 12630**	12
	2	0.010	330	**14 49 12638**	12
	2.5	0.010	330	**14 49 12640**	6
	3	0.010	330	**14 49 12643**	6
	4	0.015	400	**14 49 12644**	6
	5	0.015	400	**14 49 12650**	6
	6	0.015	400	**14 49 12652**	6
	7	0.015	400	**14 49 12653**	6
	8	0.020	440	**14 49 12654**	6
	9	0.020	440	**14 49 12655**	6
	10	0.020	440	**14 49 12660**	6
	15	0.030	510	**14 49 12662**	6
	20	0.030	510	**14 49 12664**	6
①	25	0.030	520	**14 49 12669**	6
	30	0.030	520	**14 49 12670**	6
	40	0.050	540	**14 49 12671**	6
	50	0.050	540	**14 49 12676**	6
	100	0.080	585 (±15 mm)	**14 49 12680**	6

BRAND

webcode WWQED021



②

Bulb pipettes, BLAUBRAND®, USP, class AS, 1 mark
DE-M marked, made from AR-Glas®, DIN EN ISO 648. Calibrated to deliver (Ex). Marks and inscriptions in high contrasts blue enamel. Incl. detailed USP batch certificate. For USP individual certificate, please inquire. Supplier package (0.5 to 2 ml: pack of 12; 3 to 100 ml: pack of 6)

	Vol. ml	Color code	Error limit ± ml	Length ± 10 mm	Order No.	PU pc/Pack
	0.5	2 × black	0.005	300	**10 49 30601**	12
	1	blue	0.006	300	**10 49 30602**	12
	2	orange	0.006	330	**10 49 30603**	12
	3	black	0.01	330	**10 49 30605**	6
	4	2 × red	0.01	400	**10 49 30606**	6
	5	white	0.01	400	**10 49 30607**	6
	6	2 × orange	0.01	400	**10 49 30608**	6
	7	2 × green	0.01	400	**10 49 30609**	6
	8	blue	0.02	440	**10 49 30610**	6
	9	black	0.02	440	**10 49 30611**	6
	10	red	0.02	440	**10 49 30612**	6
	15	green	0.03	510	**10 49 30613**	6
	20	yellow	0.03	510	**10 49 30614**	6
②	25	blue	0.03	520	**10 49 30615**	6
	30	black	0.03	520	**10 49 30616**	6
	40	white	0.05	540	**10 49 30617**	6
	50	red	0.05	540	**10 49 30618**	6
	100	yellow	0.08	585 (± 15 mm)	**10 49 30619**	6

Bulb Pipettes

Bulb Pipettes, Class AS, BRAND



①

BRAND

webcode WWQED053

Bulb pipettes, BLAUBRAND® ETERNA, class AS, 1 mark
DE-M marked, AR-Glas®, DIN EN ISO 648, calibrated to deliver (Ex), waiting time 5 seconds, ring marks and inscriptions in ETERNA amber stain (particularly resistant, e.g. for aggressive cleaning methods). Original packs of 6 (up to 2 ml: packs of 12), including batch certificate.
On request, also available with individual certificate, USP individual certificate or DAkkS calibration certificate.

	Volume ml	Error limit ± ml	Length ± 10 mm	Order No.	PU pc/Pack
	1	0.008	300	**14 49 30530**	12
	2	0.010	330	**14 49 30538**	12
	5	0.015	400	**14 49 30550**	6
	10	0.020	440	**14 49 30560**	6
	20	0.030	510	**14 49 30564**	6
①	25	0.030	520	**14 49 30569**	6
	50	0.05	540	**14 49 30576**	6



②

Bulb pipettes, class AS, blue graduation, two marks
BLAUBRAND®, AR-GLAS®. DIN EN ISO 648, DE-M marked. Calibrated to deliver (TD, Ex). Marks and inscriptions in high contrast blue enamel.
All BLAUBRAND® graduated pipettes are supplied with a batch number and an accompanying batch certificate in the original packaging. On request, they are also available with an individual certificate, USP individual certificate or DAkkS calibration certificate. Pack of 12 (2.5 to 100 ml: pack of 6).

	Volume ml	Color code	Error limit ± ml	Length ± 10 mm	Order No.	PU pc/Pack
	0.5	schwarz	0.005	300	**10 49 29721**	12
	1	blau	0.008	300	**10 49 29722**	12
	2	orange	0.010	330	**10 49 29723**	12
	3	schwarz	0.010	330	**10 49 29725**	6
	5	weiß	0.015	400	**10 49 29727**	6
	10	rot	0.02	440	**10 49 29732**	6
	15	grün	0.03	510	**10 49 29733**	6
	20	gelb	0.03	510	**10 49 29734**	6
②	25	blau	0.03	520	**10 49 29735**	6
	50	rot	0.05	540	**10 49 29738**	6

Volumetric Pipettes, Hirschmann



HIRSCHMANN

webcode WW4ZV013

Volumetric pipettes, with one ring mark, tolerances better than class B (no waiting time) AR-GLAS®, clear glass, acc. to DIN EN ISO 648, ring mark and printing in durable amber stain. EX calibrated.

Vol. ml	Tol. ± ml	Flow time s	Total L ± 5 mm	Order No.	PU pc/Pack
0.5	0.008	4 – 20	300	**14 71 21225**	12
1	0.012	5 – 20	325	**14 71 21230**	12
2	0.015	5 – 25	350	**14 71 21238**	12
3[1)]	0.015	7 – 11	350	**14 71 21243**	6
5	0.023	7 – 25	410	**14 71 21250**	6
10	0.030	8 – 12	450	**14 71 21260**	6
15[1)]	0.045	9 – 13	520	**14 71 21262**	6
20	0.045	9 – 13	520	**14 71 21264**	6
25	0.045	10 – 15	530	**14 71 21269**	6
50	0.075	13 – 18	550	**14 71 21276**	6
100	0.12	25 – 30	600	**14 71 21280**	6

[1)] In addition to DIN size

Bulb Pipettes

webcode WW4ZV014



Volumetric Pipettes, Hirschmann

Volumetric pipettes, with one ring mark, with dated batch identification, class AS, with declaration of conformity acc. to DIN 12600, AR-GLAS®, clear glass, acc. to DIN EN ISO 648, ring mark and printing in durable amber stain. EX calibrated. Waiting time 5 s.

Vol. ml	Tol. ± ml	Flow time s	Total L ± 5 mm	Order No.	PU pc/Pack
0.5	0.005	6 – 10	300	**14 71 21425**	12
1	0.008	7 – 11	325	**14 71 21430**	12
2	0.010	7 – 11	350	**14 71 21438**	12
2.5[1)]	0.010	7 – 11	350	**14 71 21439**	6
3[1)]	0.010	7 – 11	350	**14 71 21443**	6
4[1)]	0.015	9 – 13	410	**14 71 21444**	6
5	0.015	9 – 13	410	**14 71 21450**	6
6[1)]	0.015	9 – 13	410	**14 71 21456**	6
7[1)]	0.015	9 – 13	410	**14 71 21457**	6
8[1)]	0.02	11 – 15	450	**14 71 21458**	6
9[1)]	0.02	11 – 15	450	**14 71 21459**	6
10	0.02	11 – 15	450	**14 71 21460**	6
15[1)]	0.03	12 – 16	520	**14 71 21462**	6
20	0.03	12 – 16	520	**14 71 21464**	6
25	0.03	15 – 20	530	**14 71 21469**	6
30[1)]	0.03	15 – 20	530	**14 71 21470**	6
40[1)]	0.05	20 – 25	550	**14 71 21472**	6
50	0.05	20 – 25	550	**14 71 21476**	6
100	0.08	20 – 30	600	**14 71 21480**	6

[1)] In addition to DIN size
Also available with blue graduation!

HIRSCHMANN®

webcode WW4ZV016



Volumetric Pipettes, Hirschmann

Volumetric pipettes, with volume between 2 ring marks, with dated batch identification, class AS, with declaration of conformity acc. to DIN 12600, AR-GLAS®, clear glass, acc. to DIN EN ISO 648, ring mark and printing in durable amber stain. EX calibrated.

Vol. ml	Tol. ± ml	Flow time s	Total L ± 5 mm	Order No.	PU pc/Pack
0.5	0.005	4 – 8[2)]	300	**14 71 22025**	12
1	0.008	5 – 9[2)]	325	**14 71 22030**	12
2	0.010	5 – 9[2)]	350	**14 71 22038**	12
3[1)]	0.010	7 – 11[2)]	350	**14 71 22043**	6
5	0.015	7 – 11[2)]	410	**14 71 22050**	6
10	0.02	8 – 12[2)]	450	**14 71 22060**	6
15[1)]	0.03	9 – 13[2)]	520	**14 71 22062**	6
20	0.03	9 – 13[2)]	520	**14 71 22064**	6
25	0.03	10 – 15[2)]	530	**14 71 22069**	6
50	0.05	13 – 18[2)]	550	**14 71 22076**	6
100	0.08	25 – 30[2)]	600	**14 71 22080**	6

Available only in original packaging units. No fractions possible.

[1)] In addition to DIN size
[2)] Waiting time 5 s.

webcode WW4ZV017



Volumetric Pipettes with Piston, Hirschmann

Volumetric pipettes with piston, with one ring mark, AR-GLAS®, clear glass, ring mark and printing in durable amber stain. EX calibrated.

Volume ml	Tolerance ± ml	Order No.
1	0.008	**14 71 24130**
2	0.01	**14 71 24138**
5	0.015	**14 71 24150**
10	0.2	**14 71 24160**
15	0.3	**14 71 24162**
20	0.3	**14 71 24164**
25	0.3	**14 71 24169**
50	0.5	**14 71 24176**

Bulb Pipettes

Dipping Pipettes, neoLab®

webcode WW2NY015

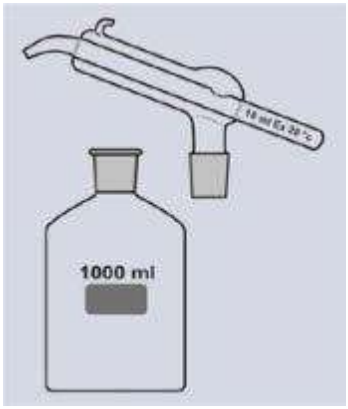


Dipping pipettes for taking samples in defined volumes from large containers. The pipettes are held by their stems and immersed vertically into the medium until the hollow element is full. The sample is removed by tilting.

Volume ml	Order No.
5	**14 01 25700**
10	**14 01 25701**
① 20	**14 01 25702**
25	**14 01 25703**
50	**14 01 25704**

① 1

Dispensers, Neubert-Glas



Automatic tipping mechanism without storage bottle
Pipette only, adjusted for EX (TD), with acid and alkali proof marking, NS29/32.

Volume ml	NS	Order No.	Volume ml	NS	Order No.
1	29/32	**14 11 50501**	20	29/32	**14 11 50520**
2	29/32	**14 11 50502**	25	29/32	**14 11 50525**
4	29/32	**14 11 50504**	30	29/32	**14 11 50530**
5	29/32	**14 11 50505**	40	29/32	**14 11 50540**
10	29/32	**14 11 50510**	50	29/32	**14 11 50560**
15	29/32	**14 11 50515**	100	29/32	**14 11 50590**

Other sizes and joints are available on request.

Storage bottle, alone

Volume ml	NS	Order No.	Volume ml	NS	Order No.
250	29/32	**10 11 50250**	1000	29/32	**14 11 50600**
500	29/32	**10 11 50500**			

Pipette Racks

Pipette Stand, BÜRKLE-LaboPlast®



webcode WWR4Q067

Rack for pipettes with two rotatable perforated plates and collection tray. The holders are suitable for up to 40 pipettes of different sizes, for all measuring and full pipettes with max. 80 mm diameter. A collection tray protects the pipette tip and receives any dripping liquid. The pipette stand is suitable for drying and storing of pipettes or also thermometers, test tubes and similar devices on a small footprint. The extra-stable foot ensures that the rack cannot tilt. The innovative magnet construction makes clamping screws redundant and provides for flexible adjustment of the height of the reception plates in a simple one-handed process.

With the respective accessories, the laboratory rack can be flexibly adjusted to accommodate other equipment, for example Imhoff sedimentation funnels or other funnels and hoppers.

- PP, steel chromium-plated
- Height adjustable to max. 450 mm
- 40 slots up to Ø 18 mm

Article	Version	Order No.
Pipette stand	for 40 pipettes	**10 04 56390**

Pipette Racks, IDL



webcode WW7R3224

Pipette rack made of PP. Rotating model, with reinforced base and an additional rotating support level for protecting the pipette tips. With 94 holes in various diameters for graduated and volumetric pipettes of all sizes. The racks are not assembled when supplied (assembly is easy).

Height mm	Ø mm	Order No.
470	230	**25 00 50760**

webcode To see other variants and accessories, please enter the webcode on our website.

Pipetting Aids



Rubber Bulbs for Small Pipettes, Deutsch & Neumann

Pipette suckers made of natural rubber (red) or silicone (transparent).

Colour	Grade	Volume ml	Order No.	PU pc/Pack
Transparent/white	VMQ	2	**27 34 06003**	100
Red	NR/SBR	2	**27 34 06004**	100
Red	NR/SBR	5	**10 34 10005**	5
Red	NR/SBR	10	**10 34 10010**	3

webcode WW7R3016



Pipette Fillers, IDL

PIPO pipette fillers, red, resistant to aging, high resistance to chemicals.

Article	Order No.
① **Standard model** For pipettes of up to 100 ml capacity, filling quantity per operation 50 ml.	**27 00 04701**
② **Universal model** For non-standardized pipettes up to 100 ml capactiy, filling quantity per operation 50 ml.	**27 00 04702**

webcode WW7R3017



Pipette Fillers, IDL

A safety pipette filler without bonded joints. Very easy to handle:
- Evacuation by automatic valve.
- Emptying and filling by pressing on the working point.
- Effective cleaning of the inside by removing the automatic valve.

Article	Order No.
Pipetting ball FLIP	**27 00 04703**

webcode WW2NY325



Safety Pipette Filler Howorka Ball®, neoLab®

Ultrasafe laboratory aid for universal use.
Specially designed opening for immediate sealing effect on all standard tube diameters. No unnecessary valves, awkward air pads or rigid joins.
- Aspiration and blowing-out of pipettes, capillary tubes
- Pipetting and filtering of organic solvents and viscous substances

Easy to clean, autoclavable.
Recommended by industry association as a **“safe protective device”**.

Article	Volume ml	Order No.
Howorka-Ball®	20	**27 01 31100**
Howorka-Ball®	50	**27 01 31101**



Pipettors Pi-Pump, Glasfirn

Pi-Pump pipetter made of acid-proof plastic, well suited for all pipettes.
By simply turning the well-placed handwheel with the thumb, a piston is moved inside the device which extracts or discharges liquid in the attached pipette as required. This allows for simple, safe pipetting “by hand”. Accurate dosing from one scale line to the next is guaranteed.
Sizes 2, 10 and 25 are equipped with an additional valve which meets the applicable German Federal Weights and Measures regulations for free flowing liquid drainage from discharge pipettes.

Size	Colour	for pipettes up to ml	Order No.
0	yellow	0.2	**27 07 10002**
2	blue	2	**27 07 10020**
10	green	10	**27 07 10100**
25	red	25	**27 07 10250**

Pipetting Aids

micro Pipette Controller, BRAND



webcode WWQED008

Micro pipette controller
Pipette controller for pipetting with ring-mark disposable micropipettes and other small-volume pipettes up to 1 ml, e.g. blood diluting and blood sugar pipettes with aspiration end-Ø max. 5 mm. Autoclavable (121°C). Integrated ejection device for ejecting disposable micropipettes up to 50 µl without touching them.

Article	Order No.
micro pipette controller	27 49 25800

Accessories

Article	Order No.
Spare aspiration systems, pack of 3	27 49 25805

Available only in original packaging units. No fractions possible.

macro Pipette Controllers, BRAND



webcode WWQED009

① **Macro pipette controllers**
One single macro pipette controller covers the entire range of bulb and graduated pipettes from 0.1 to 200 ml. The conical silicone adapter offers a secure fit for the different diameters.
The unique valve system allows for easy compression of the newly designed bellows. The spring loaded lever enables an even more sensitive filling and delivery of liquids. The meniscus is easily adjustable.
The unit is fully autoclavable at 121°C (2 bar) according to DIN EN 285. A hydrophobic membrane filter protects the system from liquid penetration.

Scope of delivery: each pipette controller is supplied with a 3 µm spare membrane filter

Colour	Order No.	Colour	Order No.
Gray	27 49 26100	Blue	27 49 26152
Green	27 49 26151	Magenta	27 49 26154



② **Accessories**

Article	Order No.
Spare membrane filter 3 µm (PP, PTFE), 1 piece, non-sterile	27 49 26052
Spare membrane filter 3 µm (PP, PTFE), 10 pieces, non-sterile	27 49 26056
Silicone adapter, length 44 mm	27 49 26146
Adapter support (PP), gray, length 49 mm	10 49 26220
Suction bellow (silicone) with screw ring (PP)	10 49 26225
Valve system (PP, PTFE, silicone)	27 49 26128

Available only in original packaging units. No fractions possible.

Pipettors, Manual, Hirschmann

webcode WW4ZV065



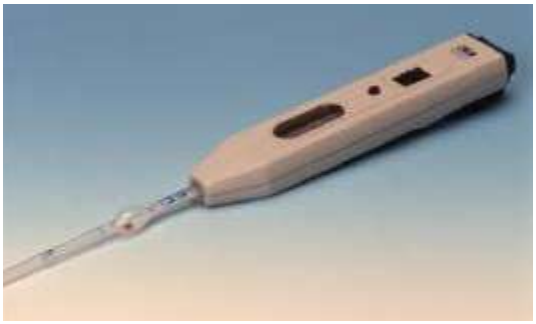
pipetus® junior
Manual pipetting takes a new dimension, marked by simplicity, safety, precision and cost effectiveness. For all common pipettes ranging from 0.5 ml to 25 ml (or 0.1 to 200 ml). Compared with other manual pipette controllers, the pipetus junior offers defined aspiration of the pipetting medium. Pressing the PUMP button completely extracts approx. 2 ml. By pressing the OUT button, the pipette runs out gravimetrically, whereby the intensity of pressure applied to the button determines the discharge speed. Blow-out pipettes are completely emptied by pressing the BlowOut-button. The built-in hydrophobic PTFE membrane filter offers protection against accidental overfilling.
Scope of delivery: pipetus® junior, complete including pipette holder with safety vale and 2 sterile round filters

Article	Order No.
pipetus® junior	27 37 02000

Spare parts for pipetus® junior

Article	Order No.
Pipette holder complete for pipetus® junior	27 37 02300
Pipette holder case	27 37 03701
Round filter- set (5 pieces)	27 37 03704
Round filter- set (50 pieces)	10 37 03705
Round filter- set (100 pieces)	10 37 03706
Silicone adapter	27 37 03201
Spacer	27 37 02037
Wall holder (incl. dowels and screws)	27 37 05600
Table stand	10 37 05700

Pipetting Aids



Micro Pipetting Aid, Hecht-ASSISTENT

Micro-pipetting aid (Mikro-Pipex)
For pipetting liquids by using disposable micropipettes with a ring mark as well as other pipettes up to approx. 1 ml.

Cone Ø max. 5 mm, autoclavable at +121°C. Contaminated disposable micropipettes up to 50 µl can be dropped without touching by means of the integrated releasing device. The pipetting aid may not be used for capillaries calibrated to contain end to end!

Article	Order No.
Micro-Pipex 40558001	**19 18 17559**



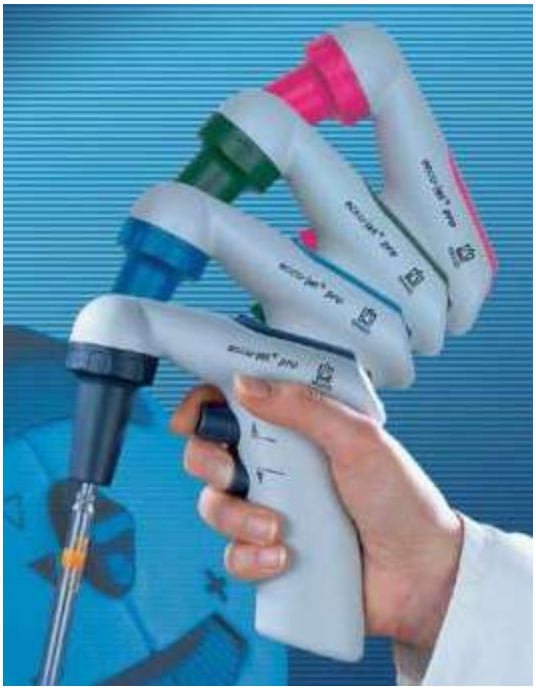
Pipette Controller VITLAB maneus®, VITLAB

The VITLAB maneus®pipette controller enables both left- and right-handers to operate all normal bulb and graduated pipettes from 0,1 to 200 ml easily and fatigue-free. Its safe and easy handling allows even inexperienced users to adjust the meniscus precisely.
With the new design, unscrewing the adapter enables easy and fast replacement of the hydrophobic membrane filter, which protects the instrument against fluid penetration.
The valve system is optimised so that liquids can be drawn up simply, without exerting pressure. The highly sensitive filling and discharge of liquids are controlled gently by the pipetting knob. Thus, the suction element provides rapid filling of the pipette (capacity: 50 ml in less than 10 seconds). The discharge bellows are used for the emptying (blow-out) of the pipette. The specially moulded intake cone ensures secure seating for all normal bulb and graduated pipettes (0.1 to 200 ml).
The VITLAB maneus® is simple to dismantle, easy to clean, and completely autoclavable at 121°C (2 bar) according to DIN EN 285.
With replacement 3 µm membrane filter and instruction manual.

Article	Order No.
Pipette controller VITLAB maneus®	**10 85 30500**

webcode WWQED010

BRAND



Pipette Controllers accu-jet® *pro*, BRAND

All with one hand: Select the delivery mode (gravity delivery/blow-out) and adjust the pipetting speed using the sensitive pipetting buttons - a great benefit when using small-volume pipettes. Ergonomic handgrip, weight only 190 g, perfectly balanced design - for fatigue-free pipetting even in prolonged operations.
the accu-jet®*pro* is supplied with two battery compartment covers. The second cover enables you to place the instrument inverted on the bench, to avoid contamination of the pipette adapter.

- Ergonomic design
- Infinitely variable control of the maximum pipetting speed
- Rugged, powerful pump for fast filling (50 ml in 10 seconds)
- A flashing recharching indicator LED alerts you that the battery is running low. You can work for another two hours before its empty
- 8 hours continuous pipetting with a 10 ml pipette without recharging
- Corrosion protection through active pressure compensation
- A hydrophobic membrane filter and a built-in check valve protect against liquid penetrating inside
- Two modes: gravity delivery or motor-powered blow-out
- For glass and plastic pipettes from 0.1 – 200 ml

accu-jet® *pro* pipette controllers
Complete with wall support, 2 spare membrane filters (0.2 µl), sterile, nickel-metal hydride battery pack, 2 battery compartment covers, operating manual, AC adapter (100-240 V; 50-60 Hz)

	Type	With charger for Europe (Continent) **Order No.**	With charger for UK/Ireland **Order No.**
①	accu-jet® *pro*, dark blue	**27 49 26300**	**27 49 26310**
	accu-jet® *pro*, magenta	**27 49 26301**	**27 49 26311**
	accu-jet® *pro*, green	**27 49 26302**	**27 49 26312**
	accu-jet® *pro*, royal blue	**27 49 26303**	**27 49 26313**

Continued on next page

Pipetting Aids

Accessories/spare parts

Article	Order No.
Silicone adapter with non-return valve	**27 49 26508**
Wall holder	**27 49 26540**
AC adapter, type Europe	**27 49 26550**
Spare membrane filter, 0.2 µm (red color code), 1 piece, sterile	**27 49 26530**
Spare membrane filter, 0.2 µm (red color code), 10 pieces, non-sterile	**27 49 26535**
Spare membrane filter 3 µm (PP, PTFE), 1 piece, non-sterile	**27 49 26052**
Spare membrane filter 3 µm (PP, PTFE), 10 pieces, non-sterile	**27 49 26056**
NiMH battery pack	**10 49 26630**

Available only in original packaging units. No fractions possible.

Further charger models available on request.



Variable Pipettes, Eppendorf

webcode WWQJ3034

Experience a new dimension of electronic pipetting with the new Easypet® 3 pipette controller. The latest technological developments give you complete speed control with the utmost precision.

- Intuitive and convenient speed adjustment with just the tips of your fingers
- Lightweight, well-balanced and ergonomic design that allows for fatigue-free pipetting
- Improved operating time and optical feedback of remaining battery life

Eppendorf Easypet® 3

	Article	Order No.
②	**Pipette controller Easypet®3** incl. charging set, wall-mounting unit and 2 membrane filters (non-sterile)	**10 69 44300**

Accessories

Article	Order No.
Membrane filter 0.45 µm, sterile, 5 pcs.	**14 69 44219**
Membrane filter 0.2 µm, sterile, 5 pcs.	**10 69 44306**
Lithum polymer rechargeable battery, for Easypet® 3	**10 69 65009**



Pipettors pipetus®, Hirschmann

webcode WW4ZV057

pipetus®sets new standards in the field of battery operated pipette fillers. It works safely, fast and independently of a power supply, with no cables to get in the way, and is light in weight in spite of all the complex technology involved. For all conventional pipettes from 0.1 up to 200 ml.With optimized ergonomics down to the last detail it is the No. 1 for fatigue-free serial pipette filling. Unique is the intelligent charging technology which grants permanent readiness for use and the color display which shows at a glance the chosen setting and the capacity of the batteries.

Outstanding features

- Ergonomic and light-weight
- Unique T.D./blowout switch for absolutely correct volume pipetting with “To Deliver” pipettes as well as with blowout pipettes
- Speed switch for preselection between 5 pipetting speeds for maximum or low power and for either fast or more sensitive work (drop-by-drop)
- State-of-the-art charging technology with inductive charging in a practical stand (supplied as standard)
- Permanent battering monitoring by microcontroller, without memory effect
- Color display for showing the battery capacity, the preselected speed and the selected suction and delivery mode
- Sufficient working capacity: Depending on use, up to 50 hours of permanent power without recharging
- Finest meniscus adjustment thanks to superior valve technology
- Safety valve to prevent the pipettes overflowing and cause liquid to penetrate the unit
- Ergonomic shape for fatigue-free work
- Scope of delivery: pipetus® complete with socket charger and inductive charging station, colour display with indication of battery capacity, with 2 additional sterile round filters, 1 spare pipette holder with safety valve, wall bracket.

Pipetting could not be easier, safer, or more convenient.

pipetus®

	Article	Plug	Order No.
③	pipetus®	EU, US, UK	**27 37 07200**



Continued on next page

Pipetting Aids







Spare parts for pipetus®

	Article	Order No.
	Pipette holder complete	**27 37 03700**
	Pipette holder case	**27 37 03803**
	Union nut	**27 37 03802**
	Round filter- set (5 pieces)	**27 37 03704**
	Round filter- set (50 pieces)	**10 37 03705**
	Round filter- set (100 pieces)	**10 37 03706**
	Silicone adapter	**27 37 03201**
	Safety valve	**27 37 03202**
①	Charger incl. inductive charging station	**27 37 07503**
②	Wall holder (incl. dowels and screws)	**27 37 05600**
③	Table stand	**10 37 05700**

Spare parts for devices manufactured before June 1998

Article	Order No.
Pipette holder complete for pipetus-akku	**27 37 03800**

webcode WW4ZV066

HIRSCHMANN®

Pipettors, Electric, Hirschmann

pipetus® standard
The classic pipette controller, proven for over 20 years. Ideal for stationary use. Its safety, precision and versatility marked a new era in pipetting technology.

The functional separation of the handle and pump makes the handle very ergonomic and lightweight. For all common pipettes from 0.1 to 100 ml. Correct pipetting with both blow-out and TD calibrated pipettes possible. Pipetting speed is set directly at the pump. Operation is controlled via the IN and OUT buttons, whereby the intensity of the pressure determines the actual pump speed. The built-in safety valve offers protection against accidental overfilling and avoids liquid coming into the handle.

The pipetus® standard filter comes with an additional pump-mounted filter.

Scope of delivery: pipetus® standard, complete with electrical pump, 1 pipette holder with safety valve and 2 sterile round filters. Also available with additional filter on the pump.



	Article	Order No.
④	pipetus® standard	**27 37 03000**
	pipetus® standard filter	**27 37 04000**

Spare parts for pipetus® standard

	Article	Order No.
	Pipette holder complete	**27 37 03700**
	Pipette holder case	**27 37 03701**
	Round filter- set (5 pieces)	**27 37 03704**
	Round filter- set (50 pieces)	**10 37 03705**
	Round filter- set (100 pieces)	**10 37 03706**
	Silicone adapter	**27 37 03201**
	Safety valve	**27 37 03202**
	Microfiber filter set for pump part (5 pieces)	**27 37 04104**
⑤	Pump part without filter	**27 37 03400**
⑥	Pump part with filter	**27 37 04400**
	Wall holder (incl. dowels and screws)	**27 37 05600**
	Table stand	**10 37 05700**







neoLab

webcode WW2NY360

Sunlab® Pipette Controller, neoLab®

Sunlab Pipette Controller for use with pipettes from 0.1 – 100 ml with adjustable speeds. Depending on the viscosity of the liquid, the speed can be set to 8 different levels. The LCD display shows the set speed and the battery status. The pipette controller can be placed either vertically or horizontally in the holder (comprised in the delivery), so that the pipette will not touch and contaminate the working surface. **Easy for one-handed operation. Can be used while charging.**

Scope of delivery:
- Pipette controller
- Lithium-ion battery (charging time approx. 8 hours)
- Battery charger (charging time 2-3 hours)
- Replaceable filter (0.45 µm pore size) and silicon adapter for different pipettes
- 2-positions holder

Article	Order No.
Sunlab® pipette controller SU1700	**10 01 98700**

Pipetting Aids

Pipette Controllers VITLAB pipeo®, VITLAB



For all pipettes from 0.1 to 200 ml. With the VITLAB pipeo® pipette controller, pipette handling is simple and comfortable. The ergonomic handle – very light weight at about 190 grams – and excellent balance all contribute to ease of operation. The speed can be adjusted easily, continuously and exactly with one hand using two buttons. A 50 ml pipette can be filled comfortably in less than ten seconds. The liquid release can be done either by gravity delivery when calibrated “Ex” (to deliver), or in blow out mode using the battery-operated motor.
Pipettes are held securely and tightly in the exchangeable adapter. Liquid vapours are purged directly to protect the instrument.
The charge level of the recyclable battery is shown by a LED indicator. Defective batteries are easily replaced. To avoid surprises, the LED indicator changes from green to red two hours before the battery must be recharged. The VITLAB pipeo®can still be operated while the battery is being recharged.
CE marking pursuant to EU Directives 2004/108/EC, 93/68/EEC; 73/23/EEC, 93/68/EEC.

Included in delivery:
VITLAB pipeo®, battery charger (100–240 V, 50/60 Hz), 4 plug adapters (EU, UK, US/J, AUS), battery, battery compartment cover, two replacement 0.2 µm membrane filters and instruction manual.

Article	Order No.
Pipette controller VITLAB pipeo®	**10 85 31501**

Graduated Flasks

Volumetric Flasks, Hirschmann



① webcode WW4ZV034

Volumetric flasks with one mark, with rim, without stopper, with dated batch identification, class A, with declaration of conformity acc. to DIN 12600, DURAN®, acc. to DIN EN ISO 1042, ring mark and printing in durable blue ceramic stain.

	Volume ml	Tolerance ± ml	Overall height mm	Order No.	PU pc/Pack
	5	0.025	70	**14 88 61052**	2
	10	0.025	90	**14 88 61060**	2
	20	0.04	110	**14 88 61064**	2
	25	0.04	110	**14 88 61069**	2
	50	0.06	140	**14 88 61076**	2
	100	0.10	170	**14 88 61080**	2
	200	0.15	210	**14 88 61082**	2
①	250	0.15	220	**14 88 61086**	2
	500	0.25	260	**14 88 61090**	2
	1000	0.4	300	**14 88 61094**	1
	2000	0.6	370	**14 88 61097**	1
	5000	1.2	470	**14 88 61098**	1
	10000[1)]	2	570	**14 88 61099**	1

[1)] In addition to DIN size

HIRSCHMANN®

Volumetric Flasks, Hirschmann



webcode WW4ZV033

Volumetric flasks, trapezoidal, with one mark, with dated batch identification, class A, with declaration of conformity acc. to DIN 12600, DURAN®, rests steadily on wide and flat bottom, with standard ground joint and poly stopper, acc. to DIN EN ISO 1042, ring mark and printing in durable blue ceramic stain.

Volume ml	Tolerance ± ml	Overall height mm	Stopper NS	Order No.	PU pc/Pack
1	0.025	60	7/16	**14 90 67030**	2
2	0.025	70	7/16	**14 90 67038**	2
5	0.025	70	7/16	**14 90 67052**	2
5	0.04	70	10/19[1)]	**14 90 67053**	2
10	0.025	90	7/16	**14 90 67060**	2
10	0.04	90	10/19[1)]	**14 90 67061**	2
20	0.04	110	10/19	**14 90 67064**	2
25	0.04	110	10/19	**14 90 67069**	2
50	0.06	140	12/21	**14 90 67076**	2

[1)] Wide neck

Graduated Flasks

webcode WW4ZV035



①



②

webcode WW4ZV068

HIRSCHMANN®

webcode WW4ZV069

Volumetric Flasks, Hirschmann

Volumetric flasks with one mark, with standard ground joint and poly stopper, with dated batch identification, class A, with declaration of conformity acc. to DIN 12600, DURAN®, acc. to DIN EN ISO 1042, ring mark and printing in durable blue ceramic stain.

	Volume ml	Tolerance ± ml	Overall height mm	Stopper NS	Order No.	PU pc/Pack
	5	0.04	70	10/19[1)]	**14 88 61553**	2
	10	0.025	90	7/16	**14 88 61556**	2
	10	0.04	90	10/19[1)]	**14 88 61560**	2
	20	0.04	110	10/19	**14 88 61564**	2
	25	0.04	110	10/19	**14 88 61569**	2
	50	0.06	140	12/21	**14 88 61576**	2
	50	0.08	140	14/23[1)]	**14 88 61578**	2
	100	0.10	170	12/21	**14 88 61580**	2
	100	0.10	170	14/23	**14 88 61581**	2
	200	0.15	210	14/23	**14 88 61582**	2
①	250	0.15	220	14/23	**14 88 61586**	2
	500	0.25	260	19/26	**14 88 61590**	2
	1000	0.4	300	24/29	**14 88 61594**	1
	2000	0.6	370	29/32	**14 88 61597**	1
	5000	1.2	470	34/35	**14 88 61598**	1

[1)] Wide neck

Volumetric Flasks, Hirschmann

Volumetric flasks, DURAN®, standard ground joint, with glass stopper, with dated batch identification, class A, with declaration of conformity acc. to DIN 12600, high-contrast blue graduation, DIN EN ISO 1042.

	Volume ml	Standard ground joint NS	Tolerance ± ml	Total height approx. mm	Order No.	PU pc/Pack
	5	7/16	0.025	70	**14 88 63152**	2
	5	10/19[2)]	0.04	70	**14 88 63153**	2
	10	7/16	0.025	90	**14 88 63160**	2
	10	10/19[2)]	0.04	90	**14 88 63161**	2
	20	10/19	0.04	110	**14 88 63165**	2
	25	10/19	0.04	110	**14 88 63170**	2
	25	12/21[2)]	0.06	110	**14 88 63171**	2
	50	12/21	0.06	140	**14 88 63175**	2
	50	14/23[2)]	0.08	140	**14 88 63178**	2
	100	12/21	0.1	170	**14 88 63180**	2
	100	14/23	0.1	170	**14 88 63181**	2
	200	14/23	0.15	210	**14 88 63185**	2
②	250	14/23	0.15	220	**14 88 63186**	2
	500	19/26	0.25	260	**14 88 63190**	2
	1000	29/32[2)]	0.6	300	**14 88 63192**	1
	1000	24/29	0.4	300	**14 88 63193**	1
	2000	29/32	0.6	370	**14 88 63197**	1
	5000	34/35	1.2	470	**14 88 63198**	1
	10000[1)]	45/40	2	570	**14 88 63199**	1

[1)] In addition to DIN size
[2)] Wide neck

Volumetric Flasks, Hirschmann

Volumetric flasks, DURAN®, standard ground joint, without stopper, with dated batch identification, class A, with declaration of conformity acc. to DIN 12600, high-contrast blue graduation, DIN EN ISO 1042.

Volume ml	Standard ground joint NS	Tolerance ± ml	Total height approx. mm	Order No.	PU pc/Pack
5	7/16	0.025	70	**14 88 60152**	2
5	10/19[2)]	0.04	70	**14 88 60153**	2
10	7/16	0.025	90	**14 88 60160**	2
10	10/19[2)]	0.04	90	**14 88 60161**	2
20	10/19	0.04	110	**14 88 60165**	2
25	10/19	0.04	110	**14 88 60170**	2
25	12/21[2)]	0.06	110	**14 88 60171**	2
50	12/21	0.06	140	**14 88 60175**	2
50	14/23[2)]	0.08	140	**14 88 60178**	2
100	12/21	0.1	170	**14 88 60180**	2
100	14/23	0.1	170	**14 88 60181**	2

Continued on next page

Graduated Flasks

	Volume ml	Standard ground joint NS	Tolerance ± ml	Total height approx. mm	Order No.	PU pc/Pack
	200	14/23	0.15	210	**14 88 60185**	2
①	250	14/23	0.15	220	**14 88 60186**	2
	500	19/26	0.25	260	**14 88 60190**	2
	1000	29/32[2)]	0,6	300	**14 88 60192**	1
	1000	24/29	0.4	300	**14 88 60193**	1
	2000	29/32	0.6	370	**14 88 60197**	1
	5000	34/35	1.2	470	**14 88 60198**	1
	10000[1)]	45/40	2,0	570	**14 88 60199**	1

[1)] In addition to DIN size
[2)] Wide neck



①

Volumetric Flasks, Hirschmann

webcode WW4ZV036

HIRSCHMANN

Volumetric flasks with one mark, made of amber glass, with standard ground joint and poly stopper or amber hollow glass stopper, with dated batch identification, class A, with declaration of conformity acc. to DIN 12600, DURAN®, acc. to DIN EN ISO 1042, ring mark and printing in durable white ceramic stain.

Volumetric flasks with poly stopper

	Volume ml	Tolerance ± ml	Overall height mm	Stopper NS	Order No.	PU pc/Pack
	5	0.040	70	10/19[1)]	**14 89 40153**	2
	10	0.025	90	7/16	**14 89 40160**	2
	10	0.04	90	10/19[1)]	**14 89 40161**	2
	20	0.04	110	10/19	**14 89 40165**	2
	25	0.04	110	10/19	**14 89 40170**	2
	50	0.06	140	12/21	**14 89 40175**	2
	50	0.08	140	14/23[1)]	**14 89 40178**	2
	100	0.10	170	12/21	**14 89 40180**	2
	100	0.10	170	14/23	**14 89 40181**	2
	200	0.15	210	14/23	**14 89 40185**	2
②	250	0.15	220	14/23	**14 89 40186**	2
	500	0.25	260	19/26	**14 89 40190**	2
	1000	0.4	300	24/29	**14 89 40193**	1
	2000	0.6	370	29/32	**14 89 40194**	1

[1)] Wide neck



②

Volumetric flasks with amber hollow glass stopper

	Volume ml	Tolerance ± ml	Overall height mm	Stopper NS	Order No.	PU pc/Pack
	5	0.040	70	10/19[1)]	**14 89 40253**	2
	10	0.025	90	7/16	**14 89 40260**	2
	10	0.04	90	10/19[1)]	**14 89 40261**	2
	20	0.04	110	10/19	**14 89 40265**	2
	25	0.04	110	10/19	**14 89 40270**	2
	50	0.06	140	12/21	**14 89 40275**	2
	50	0.08	140	14/23[1)]	**14 89 40278**	2
	100	0.10	170	12/21	**14 89 40280**	2
	100	0.10	170	14/23	**14 89 40281**	2
	200	0.15	210	14/23	**14 89 40285**	2
③	250	0.15	220	14/23	**14 89 40286**	2
	500	0.25	260	19/26	**14 89 40290**	2
	1000	0.4	300	24/29	**14 89 40293**	1
	2000	0.6	370	29/32	**14 89 40294**	1

[1)] Wide neck



③

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Graduated Flasks

webcode WW4ZV037



①

HIRSCHMANN

Volumetric Flasks, Hirschmann

Volumetric flasks, without stopper, with dated batch identification, with declaration of conformity acc. to DIN 12600, with scale on neck, main point ring graduation, DURAN®, graduation and printing in durable blue ceramic stain. For checking filling levels in accordance with pre-packing regulations.

	Volume ml	Scale ml	Tolerance ± ml	Overall height mm	Order No.	PU pc/Pack
	20	18 – 22:0.5	0.04	110	**14 92 68002**	2
	25	23 – 27:0.5	0.04	110	**14 92 68004**	2
	30	28 – 32:0.5	0.04	125	**14 92 68006**	2
	40	37 – 43:0.5	0.06	140	**14 92 68008**	2
	50	47 – 53:0.5	0.06	140	**14 92 68010**	2
	100	97 – 103:0.5	0.10	170	**14 92 68012**	2
	200	195 – 205:0.5	0.15	210	**14 92 68014**	2
①	250	245 – 255:0.5	0.15	220	**14 92 68016**	2
	300	295 – 305:0.5	0.15	240	**14 92 68018**	2
	330	323 – 337:0.5	0.15	240	**14 92 68020**	2
	350	343 – 357:0.5	0.15	240	**14 92 68022**	2
	500	490 – 510:1.0	0.25	260	**14 92 68025**	2
	700	690 – 710:1.0	0.25	290	**14 92 68030**	2
	750	740 – 760:1.0	0.40	300	**14 92 68035**	1
	1000	990 – 1010:1.0	0.40	300	**14 92 68040**	1

webcode WW4ZV060



Volumetric Flasks DURAN, Hirschmann

Volumetric flasks, Kohlrausch type, for sugar analysis, blue graduation, with declaration of conformity acc. to DIN 12600, with dated batch identification.

Volume ml	Tolerance ± ml	Overall height mm	Order No.	PU pc/Pack
100	1.0	170	**14 90 65080**	2
200	0.15	210	**14 90 65082**	2

BRAND

webcode WWQED022



②

Volumetric Flasks, Class A, with PE/PP-Stopper, BRAND

Volumetric flasks, BLAUBRAND®, class A, DE-M marked, with batch number and enclosed batch certificate.
Borosilicate glass 3.3, DIN EN ISO 1042. Calibrated to contain ("In"). Ring mark and inscription in high contrast blue enamel. With PP stopper (order No. 14 49 66499 and 14 49 66498 with PE stopper). Pack of 2 in original supplier packaging (size 1000 to 10000 ml: pack of 1), incl. one batch certificate.
Also available with individual certificate or DAkkS calibration certificate on request.

	Volume ml	Error limit ± ml	NS	Order No.	PU pc/Pack
	5 W	0.04	10/19	**14 49 66450**	2
	10	0.025	7/16	**10 49 37241**	2
	10 W	0.04	10/19	**14 49 66460**	2
	20	0.04	10/19	**14 49 66464**	2
	20 W	0.06	12/21	**10 49 66465**	2
	25	0.04	10/19	**14 49 66468**	2
	25 W	0.06	12/21	**14 49 66469**	2
	50	0.06	12/21	**14 49 66475**	2
	50 W	0.10	14/23	**14 49 66476**	2
	100	0.10	12/21	**14 49 66480**	2
	100	0.10	14/23	**14 49 66481**	2
	200	0.15	14/23	**14 49 66485**	2
②	250	0.15	14/23	**14 49 66486**	2
	500	0.25	19/26	**14 49 66490**	2
	1000	0.4	24/29	**14 49 66493**	1
	1000 W	0.6	29/32	**14 49 66494**	1
	2000	0.6	29/32	**14 49 66497**	1
	5000	1.2	34/35	**14 49 66498**	1
	10000[1)]	2.0	45/40	**14 49 66499**	1

W = wide neck
[1)] in addition to ISO size

Graduated Flasks

Volumetric Flasks, with PP Stopper, Class A, BRAND

DE-M marked, with batch number and enclosed batch certificate.
Boro 3.3, DIN EN ISO 1042. Calibrated to contain (In). Ring marks and inscriptions in ETERNA amber stain (particularly resistant, e.g. for agressive cleaning methods). With PP stopper. Original packs of 2 (from 1000 ml on 1 piece), including batch certificate. On request, also available with individual certificate or DAkkS calibration certificate.

Volume ml	Error limit ± ml	NS	Order No.	PU pc/Pack
5 W	0.04	10/19	**14 49 36850**	2
10 W	0.04	10/19	**14 49 36860**	2
20	0.04	10/19	**14 49 36864**	2
20 W	0.06	12/21	**10 49 36846**	2
25	0.04	10/19	**10 49 36841**	2
25 W	0.06	12/21	**14 49 36869**	2
50	0.06	12/21	**14 49 36875**	2
50 W	0.10	14/23	**14 49 36876**	2
100	0.10	14/23	**14 49 36880**	2
200	0.15	14/23	**14 49 36882**	2
① 250	0.15	14/23	**14 49 36886**	2
500	0.25	19/26	**14 49 36890**	2
1000	0.4	24/29	**14 49 36894**	1
2000	0.6	29/32	**14 49 36897**	1

W = wide neck



webcode WWQED056

Volumetric Flasks, Class 1, with Glass Stoppers, BRAND

② **Volumetric flasks, BLAUBRAND®, class A, blue graduation**
DE-M marked, Boro 3.3, DIN EN ISO 1042. Calibrated to contain (In). Ring mark and inscription in high contrast blue enamel. With glass stopper. All BLAUBRAND® volumetric flasks are delivered with batch number and enclosed one batch certificate per packing unit of the manufacturer. On request, also available with individual certificate or DAkkS calibration certificate. Original packs of 2.

Volume ml	Error limit ± ml	NS	Order No.	PU pc/Pack
5 W	0.04	10/19	**10 49 37256**	2
10 W	0.04	10/19	**10 49 37267**	2
20	0.04	10/19	**10 49 37257**	2
20 W	0.06	12/21	**10 49 37268**	2
25	0.04	10/19	**10 49 37258**	2
25 W	0.06	12/21	**10 49 37294**	2
50	0.06	12/21	**10 49 37259**	2
50 W	0.08	14/23	**10 49 37288**	2
100	0.10	12/21	**10 49 37260**	2
100	0.10	14/23	**10 49 37289**	2
200	0.15	14/23	**10 49 37261**	2
250	0.15	14/23	**10 49 37262**	2
500	0.25	19/26	**10 49 37263**	2
1000	0.4	24/29	**10 49 37264**	2
2000	0.6	29/32	**10 49 37265**	2
5000	1.2	34/35	**10 49 37266**	2

W = wide neck



webcode WWQED074

③ **Volumetric flasks, BLAUBRAND®, USP, class A, blue graduation**
DE-M marked, Boro 3.3, DIN EN ISO 1042.Calibrated to contain (In). Ring mark and inscription in high contrast blue enamel. With glass stopper. With USP batch certificate. On request also available with USP individual certificate. Original packs of 2 (1000 and 2000 ml: 1 piece).

Volume ml	Error limit ± ml	NS	Order No.	PU pc/Pack
5	0.02 USP	10/19	**10 49 36968**	2
10	0.02 USP	10/19	**10 49 36973**	2
20	0.02 USP	10/19	**10 49 36975**	2
25	0.03 USP	10/19	**10 49 36977**	2
50	0.05 USP	12/21	**10 49 36978**	2
100	0.08 USP	14/23	**10 49 36979**	2
200	0.10 USP	14/23	**10 49 36980**	2
250	0.12 USP	14/23	**10 49 36981**	2
500	0.20 USP	19/26	**10 49 36982**	2
1000	0.30 USP	24/29	**10 49 36983**	1
2000	0.50 USP	29/32	**10 49 36984**	1



Graduated Flasks





webcode WWQED054

Volumetric Flasks, Amber Glass, Class A, BRAND

① **Volumetric flasks, BLAUBRAND®, Class A, amber glass, white graduation, with PP stopper**
DE-M marked, with batch number and enclosed batch certificate.
Boro 3.3, DIN EN ISO 1042. Calibrated to contain (In). Ring marks and inscriptions in high-contrast white enamel. With PP stopper. Original packs of 2, including batch certificate. On request, also available with individual certificate or DAkkS calibration certificate.

Volume ml	Error limit ± ml	NS	Order No.	PU pc/Pack
5 W	0.04	10/19	**14 49 37450**	2
10 W	0.04	10/19	**14 49 37460**	2
20	0.06	12/21	**10 49 37412**	2
20	0.04	10/19	**14 49 37464**	2
25	0.06	10/19	**10 49 37413**	2
25	0.04	10/19	**14 49 37469**	2
50	0.06	12/21	**14 49 37475**	2
50 W	0.10	14/23	**14 49 37476**	2
100	0.10	14/23	**14 49 37480**	2
200	0.15	14/23	**14 49 37482**	2
250	0.15	14/23	**14 49 37486**	2
500	0.25	19/26	**14 49 37490**	2
1000	0.4	24/29	**14 49 37494**	1

W = wide neck

② **Volumetric flasks, BLAUBRAND®, Class A, amber glass, white graduation, glass stoppers**
DE-M marked, Boro 3.3, DIN EN ISO 1042. Calibrated to contain (In). Ring marks and inscriptions in high-contrast white enamel. With glass stoppers. All BLAUBRAND® volumetric flasks are with batch number and enclosed batch certificate. On request, also available with individual certificate or DAkkS calibration certificate.

Volume ml	Error limit ± ml	NS	Order No.	PU pc/Pack
5 W	0.04	10/19	**10 49 37438**	2
10 W	0.04	10/19	**10 49 37443**	2
20	0.04	10/19	**10 49 37446**	2
25	0.04	10/19	**10 49 37447**	2
50	0.06	12/21	**10 49 37448**	2
50 W	0.08	14/23	**10 49 37445**	2
100	0.10	14/23	**10 49 37449**	2
200	0.15	14/23	**10 49 37450**	2
250	0.15	14/23	**10 49 37451**	2
500	0.25	19/26	**10 49 37452**	2
1000	0.4	24/29	**10 49 37453**	2

W = wide neck



webcode WWQED079

Volumetric flasks, PMP, transparent, BRAND

With PP stopper. Error limits (EL) according to class A, DIN EN ISO 1042. Class A incl. one batch certificate. Calibrated to contain (TC, In). Exposure to temperatures up to 121°C (autoclaving) will not cause permanently exceeded error limits! Cleaning up to max. 60°C is recommended to preserve marks and inscriptions. Pack of 1.

Volume ml	Error limit ± ml	Ground joint NS	Height mm	Order No.
10 W	0.04	10/19	90	**10 49 36170**
25	0.04	10/19	108	**10 49 36172**
50	0.06	12/21	146	**10 49 36174**
100	0.10	14/23	173	**10 49 36176**
250	0.15	19/26	225	**10 49 36178**
500	0.25	19/26	258	**10 49 36180**
1000	0.4	24/29	298	**10 49 36182**

W = wide neck, , height = without stopper

Webcode

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Graduated Flasks

Volumetric Flasks, BRAND

BRAND

webcode WWQED055



① Volumetric flasks, BLAUBRAND®, class A, trapezoidal
DE-M marked, with batch number and enclosed batch certificate. Boro 3.3, DIN EN ISO 1042. Calibrated to contain (In). Ring marks and inscriptions in high contrast blue enamel. With PP stopper. Original packs of 2, including batch certificate.
On request, also available with individual certificate, USP individual certificate or DAkkS calibration certificate.

Volume ml	Error limit ± ml	Ground joint NS	Order No.	PU pc/Pack
1	0.025	7/16	**14 49 36430**	2
2	0.025	7/16	**14 49 36438**	2
5	0.025	7/16	**14 49 36450**	2
10 W	0.04	10/19	**14 49 36460**	2
20	0.04	10/19	**14 49 36464**	2
25	0.04	10/19	**14 49 36469**	2
50	0.06	12/21	**14 49 36476**	2

W = wide neck



② Volumetric flasks, BLAUBRAND®, class A, PUR Plastic coated
PURprotect, DE-M marked. Boro 3.3. DIN EN ISO 1042. Calibrated to contain (TC, In). Ring mark and inscriptions in high contrast blue enamel. With PP stopper.
The plain and high quality PUR coating envelops the volumetric flasks like a protection skin. In the event of breakage, the safety coating helps contain the glass fragments. The light blue coating facilitates optical distinction. Suitable for dishwasher (cleaning up to max. 95°C). The maximum operating temperature at dry heat is 135°C (exposure time < 30 min). Frequent autoclaving at 121°C reduces splintering protection. On request, also available with individual certificate, USP individual certificate or DAkkS calibration certificate.

Volume ml	Error limit ± ml	Ground joint NS	Order No.	PU pc/Pack
50 W	0.10	14/23	**10 49 36548**	2
100	0.10	14/23	**10 49 36549**	2
200	0.15	14/23	**10 49 36550**	2
250	0.15	14/23	**10 49 36551**	2
500	0.25	19/26	**10 49 36552**	2
1000	0.4	24/29	**10 49 36553**	1

W = wide neck



③ Volumetric flasks with 3 marks, BLAUBRAND®, class A, DAkkS-calibrated
DE-M marked. Boro 3.3. DIN EN ISO 1042. Calibrated to contain (TC, In). Incl. DAkkS-certificate. Ring mark and inscription in high contrast blue enamel. With PP-stopper.
The volumetric flask with 3 marks is used to check the functioning of a dispenser. The mark in the middle shows the nominal volume, the upper and lower marks show the error limits as specified in the table below. If the error limit is exceeded even with repeated measurements, the dispenser is defective. The DKD-calibrated volumetric flask does not replace the gravimetric test of the monitoring of measuring instruments according to ISO 8655.
Delivery date to be agreed upon. Further sizes on request.

Volume ml	upper/lower mark ± ml	Neck inner Ø mm	Ground joint NS	Order No.
10	0.070	7 ± 1	10/19[1)]	**10 49 38204**
25	0.175	9 ± 1	10/19	**10 49 38206**
50	0.35	11 ± 1	12/21	**10 49 38208**
100	0.70	13 ± 1	14/23	**10 49 38210**

[1)] enlarged ground joint



④ Volumetric flasks, BLAUBRAND®, USP, class A
DE-M marked. Boro 3.3. DIN EN ISO 1042. Calibrated to contain (TD, In). Incl. one USP Individual certificate. On request, also available with USP individual certificate. Marks and inscriptions in high contrast blue enamel. With PP-stopper.

Volume ml	Error limit ± ml	Ground joint NS	Order No.	PU pc/Pack
5	0.02 USP	10/19[1)]	**10 49 36938**	2
10	0.02 USP	10/19[1)]	**10 49 36943**	2
20	0.02 USP	10/19[1)]	**10 49 36945**	2
25	0.03 USP	10/19	**10 49 36947**	2
50	0.05 USP	12/21	**10 49 36948**	2
100	0.08 USP	14/23	**10 49 36949**	2
200	0.10 USP	14/23	**10 49 36950**	2
250	0.12 USP	14/23	**10 49 36951**	2
500	0.20 USP	19/26	**10 49 36952**	2
1000	0.30 USP	24/29	**10 49 36953**	1
2000	0.5 USP	29/32	**10 49 36954**	1

[1)] enlarged ground joint

Continued on next page

webcode To see other variants and accessories, please enter the webcode on our website.

Graduated Flasks





① **Volumetric flasks, BLAUBRAND®, USP, Class A, amber glass, white graduation**
DE-M marked, Boro 3.3, DIN EN ISO 1042. Calibrated to contain (In). Ring marks and inscriptions in high-contrast white enamel. With glass stoppers. With enclosed USP batch certificate. On request, also available with USP individual certificate. Original pack of 2 (1000 ml: 1 piece).

Volume ml	Error limit ± ml	Ground joint NS	Order No.	PU pc/Pack
5	0.02 USP	10/19	**10 49 37461**	2
10	0.02 USP	10/19	**10 49 37462**	2
20	0.02 USP	10/19	**10 49 37463**	2
25	0.03 USP	10/19	**10 49 37464**	2
50	0.05 USP	12/21	**10 49 37465**	2
100	0.08 USP	14/23	**10 49 37467**	2
200	0.10 USP	14/23	**10 49 37468**	2
250	0.12 USP	14/23	**10 49 37469**	2
500	0.20 USP	19/26	**10 49 37470**	2
1000	0.30 USP	24/29	**10 49 37471**	1

② **Volumetric flasks, BLAUBRAND®, USP, amber glass, PP-stopper, white graduation**
BLAUBRAND®, Boro 3.3. DIN EN ISO 1042, DE-M marking. Calibrated to contain (TC, In). Marks and inscriptions in high contrast white enamel. Incl. USP batch certificate. On request, also available with USP individual certificate. Pack of 2; 1000 ml: pack of 1.

Volume ml	Error limit ± ml	Ground joint NS	Order No.	PU pc/Pack
5	0.02 USP	10/19	**10 49 37481**	2
10	0.02 USP	10/19	**10 49 37482**	2
20	0.02 USP	10/19	**10 49 37483**	2
25	0.03 USP	10/19	**10 49 37484**	2
50	0.05 USP	12/21	**10 49 37485**	2
100	0.08 USP	14/23	**10 49 37487**	2
200	0.10 USP	14/23	**10 49 37488**	2
250	0.12 USP	14/23	**10 49 37489**	2
500	0.20 USP	19/26	**10 49 37490**	2
1000	0.30 USP	24/29	**10 49 37491**	1

BRAND

webcode WWQED087



Measuring Flasks BLAUBRAND®, BRAND

Class A, Boro 3.3, DE-M, beaded rim, DIN EN ISO 1042. Calibrated to contain (TC, In).

All BLAUBRAND® volumetric flasks are delivered with a batch number and batch certificate included in the original packaging. They are also available with individual certificates or DAkkS calibration certificate upon request.

Nom. vol. ml	Error limit ± ml	Accur.	Order No.	PU pc/Pack
10	0.04	class A	**10 49 37045**	2
20	0.04	class A	**10 49 37046**	2
25	0.04	class A	**10 49 37047**	2
50	0.06	class A	**10 49 37048**	2
100	0.10	class A	**10 49 37049**	2
200	0.15	class A	**10 49 37050**	2
250	0,15	class A	**10 49 37051**	2
500	0.25	class A	**10 49 37052**	2
1000	0.40	class A	**10 49 37053**	1



Volumetric Flasks, Quartz Glass, QGT Bad Harzburg

Quartz glass volumetric flasks acc. to DIN 12664, class AS, with ring mark, conformity certified.

Volume ml	Flask Ø mm	Overall H mm	Socket/stopper NS	Order No.
25	40	110	10/19	**18 36 40014**
50	50	140	12/21	**18 36 40017**
100	60	170	12/21	**18 36 40024**
250	80	220	14/23	**18 36 40036**
500	100	260	19/26	**18 36 40044**
1000	125	300	24/29	**18 36 40054**

Graduated Flasks

Volumetric Flasks, Class B, VITLAB

Volumetric flasks, PMP, class B

Highly transparent. With ring mark individually calibrated to “In”. Class B tolerances according to DIN EN ISO 1042. Thermal stress up to 121°C (autoclaving) does not permanently exceed the tolerance limit. To preserve markings, cleaning at no higher than 60°C is recommended.

	Vol. ml	Tol. ± ml	Height mm	Neck	Order No.	PU pc/Pack
	10[1]	0.08	90	GL 18	**10 85 31455**	6
	25[1]	0.08	115	GL 18	**10 85 31465**	6
	50[1]	0.12	150	GL 18	**10 85 31472**	6
①	100[1]	0.20	180	GL 18	**10 85 31477**	6
	250[1]	0.30	235	GL 25	**10 85 31484**	5
	500[1]	0.50	270	GL 25	**10 85 31488**	4
	1000[1]	0.80	310	GL 32	**10 85 31492**	3
	10[2]	0.08	90	NS 10/19	**10 85 31155**	6
	25[2]	0.08	115	NS 10/19	**23 85 11165**	6
	50[2]	0.12	150	NS 12/21	**23 85 11172**	6
②	100[2]	0.20	180	NS 14/23	**23 85 11177**	6
	250[2]	0.30	235	NS 19/26	**23 85 11184**	5
	500[2]	0.50	270	NS 19/26	**23 85 11188**	4
	1000[2]	0.80	310	NS 24/29	**23 85 11192**	3

[1] with screw cap made of PP
[2] with stopper NS made of PP

Volumetric flasks, PP, class B

Highly transparent. With ring mark individually calibrated to “In”. Class B tolerances according to DIN EN ISO 1042. Thermal stress up to 60°C does not permanently exceed the tolerance limit. To preserve markings, cleaning at no higher than 60°C is recommended.

	Vol. ml	Tol. ± ml	Height mm	Neck	Order No.	PU pc/Pack
	10[1]	0.08	90	GL 18	**10 85 31255**	6
	25[1]	0.08	115	GL 18	**10 85 31265**	6
	50[1]	0.12	150	GL 18	**10 85 31272**	6
③	100[1]	0.20	180	GL 18	**10 85 31277**	6
	250[1]	0.30	235	GL 25	**10 85 31284**	5
	500[1]	0.50	270	GL 25	**10 85 31288**	4
	1000[1]	0.80	310	GL 32	**10 85 31292**	3
	10[2]	0.08	90	NS 10/19	**10 85 31355**	6
	25[2]	0.08	115	NS 10/19	**10 85 31365**	6
	50[2]	0.12	150	NS 12/21	**10 85 31372**	6
④	100[2]	0.20	180	NS 14/23	**10 85 31377**	6
	250[2]	0.30	235	NS 19/26	**10 85 31384**	5
	500[2]	0.50	270	NS 19/26	**10 85 31388**	4
	1000[2]	0.80	310	NS 24/29	**10 85 31392**	3

[1] with screw cap made of PP
[2] with stopper NS made of PP



Volumetric Flasks, PP, Class B, ISOLAB

webcode WWMUE001

ISOLAB Laborgeräte GmbH

Manufactured according to DIN EN ISO 1042 standard from clear polypropylene. Resistant to most acids, bases and many commonly used solvents. Calibrated according to DIN/ISO Class “B” standard.
Clear flasks are manufactured from very clear polypropylene resulting high transparency and clear indication of meniscus line. Amber flasks are manufactured from special formulated polypropylene preventing UV light penetration into the flask yet still offering high transparency.

All volumetric flasks are supplied with a leak-proof PE stopper which ensures perfect closure. For consistent accuracy should not be used with liquids over 60°C or kept under direct sunlight for long periods.

Volume ml	Neck NS	Clear flasks Order No.	Amber flasks Order No.
25	10/19	**10 66 40001**	**10 66 40011**
50	12/21	**10 66 40002**	**10 66 40012**
100	14/23	**10 66 40003**	**10 66 40013**
250	14/23	**10 66 40004**	**10 66 40014**
500	19/26	**10 66 40005**	**10 66 40015**
1000	24/29	**10 66 40006**	**10 66 40016**



Graduated Flasks



①

Volumetric Flasks, PMP, Class A, VITLAB

Highly transparent. With ring mark individually calibrated to “In”. Class A tolerances according to DIN EN ISO 1042. With printed lot number and batch certificate. Thermal stress up to 121°C (autoclaving) does not permanently exceed the tolerance limit. To preserve markings. Cleaning at no higher than 60°C is recommended. Also available with DAkkS calibration certificate or individual certificate.

	Vol. ml	Tol. ± ml	Height mm	Neck NS	Order No.	PU pc/Pack
	10	0.04	90	10/19	**10 85 31354**	6
	25	0.04	115	10/19	**23 85 11365**	6
	50	0.06	150	12/21	**23 85 11372**	6
①	100	0.10	180	14/23	**23 85 11377**	6
	250	0.15	235	19/26	**23 85 11384**	5
	500	0.25	270	19/26	**23 85 11388**	4
	1000	0.40	310	24/29	**23 85 11392**	3



Volumetric Flasks, PFA, Class A, VITLAB

Highly transparent. Ring mark individually calibrated to “In”. Class A tolerances according to DIN EN ISO 1042.
The PFA screw cap guards against contamination. Outstanding chemical resistance, can be used with strong oxidants, highly concentrated acids and alkalis, hydrocarbons, and ketones.
With laser-engraved lot number and batch certificate. Thermal stress up to 121°C (autoclaving) does not permanently exceed the tolerance limit. To preserve the ring mark do not clean at temperatures exceeding 60°C. Also available with DAkkS calibration certificate or individual certificate.

Vol. ml	Tol. ± ml	Height mm	Thread GL	PU	Order No.
10	0.04	90	18	1 pcs.	**10 85 31254**
25	0.04	115	18	1 pcs.	**23 85 11265**
50	0.06	150	18	1 pcs.	**23 85 11272**
100	0.10	180	18	1 pcs.	**23 85 11277**
250	0.15	235	25	1 pcs.	**23 85 11284**
500	0.25	270	25	1 pcs.	**23 85 11288**



②

Volumetric Flasks UV-protect, PMP, Class A, PP, VITLAB

With NS stopper. UV-absorbing, highly transparent. For storage of light-sensitive substances. With ring mark individually calibrated to “In”. Class A tolerances according to DIN EN ISO 1042. With printed lot number and batch certificate.
Thermal stress up to 121°C (autoclaving) does not permanently exceed the tolerance limit. To preserve markings, cleaning at no higher than 60°C is recommended. Also available with DAkkS calibration certificate or individual certificate.

	Volume ml	Tolerance ± ml	Height mm	Neck NS	Order No.	PU pc/Pack
	10	0.04	90	10/19	**10 85 36709**	2
	25	0.04	115	10/19	**10 85 36719**	2
	50	0.06	150	12/21	**10 85 36729**	2
②	100	0.10	180	14/23	**10 85 36739**	2
	250	0.15	235	19/26	**10 85 36749**	2
	500	0.25	270	19/26	**10 85 36759**	2
	1000	0.40	310	24/29	**10 85 36769**	1

❗ Available only in original packaging units. No fractions possible.

We are also glad to help you in person.
Give us a call!

Graduated Cylinders

Graduated Cylinders, Hirschmann

Graduated cylinders, low form, with hexagon base and spout, class B, short line graduation, DURAN®, with durable amber stain graduation and printing, DIN EN ISO 4788.

	Volume ml	Sub-division ml	Tolerance ± ml	Overall height mm	Order No.	PU pc/Pack
	10	1.0	0,3	100	**14 93 74060**	2
	25	1.0	0,5	125	**14 93 74069**	2
	50	2.0	1,0	150	**14 93 74076**	2
①	100	2.0	1,0	170	**14 93 74079**	2
	250	5.0	2,0	220	**14 93 74085**	2
	500	10.0	5,0	255	**14 93 74089**	2
	1000	20.0	10,0	295	**14 93 74093**	1
	2000	50.0	20,0	345	**14 93 74097**	1



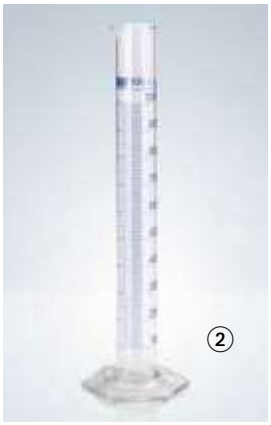
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Graduated Cylinders, Hirschmann

Graduated cylinders, tall form, with hexagonal glass base and spout, class B, short line graduation, DURAN®, acc. to DIN EN ISO 4788, graduation and printing in durable blue ceramic stain.

	Volume ml	Sub-division ml	Tolerance ± ml	Overall height mm	Order No.	PU pc/Pack
	5	0.1	0.075	115	**14 93 70049**	2
	10	0.2	0.150	140	**14 93 70056**	2
	25	0.5	0.375	170	**14 93 70068**	2
	50	1.0	0.75	200	**14 93 70075**	2
②	100	1.0	0.75	260	**14 93 70078**	2
	250	2.0	1.50	335	**14 93 70084**	2
	500	5.0	3.75	390	**14 93 70088**	2
	1000	10.0	7.5	470	**14 93 70092**	1
	2000	20.0	15,0	570	**14 93 70096**	1

Also available with amber graduation!



webcode WW4ZV038

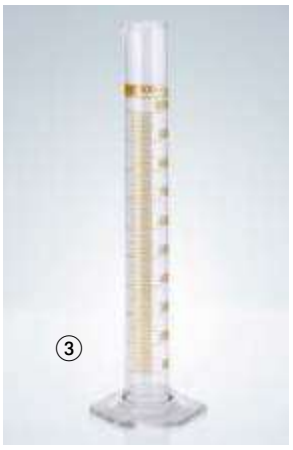
HIRSCHMANN®

Graduated Cylinders, Hirschmann

Graduated cylinders, with spout, DURAN®, tolerances better than class B, short line graduation, with durable amber stain graduation, IN calibrated, DIN EN ISO 4788.

	Volume ml	Sub-division ml	Tolerance ± ml	Total height approx. mm	Order No.	PU pc/Pack
	5	0.1	0.075	115	**14 93 70149**	2
	10	0.2	0.15	140	**14 93 70156**	2
	25	0.5	0.375	170	**14 93 70168**	2
	50	1	0.75	200	**14 93 70175**	2
③	100	1	0.75	260	**14 93 70178**	2
	250	2	1.5	335	**14 93 70184**	2
	500	5	3.8	390	**14 93 70188**	2
	1000	10	7.5	470	**14 93 70192**	1
	2000	20	15.0	500	**14 93 70196**	1
	5000[1)]	50	37.5	650	**14 93 70198**	1

[1)] in addition to DIN size



webcode WW4ZV070

Graduated Cylinders, Hirschmann

Graduated cylinders, high form, with hexagonal base, with dated batch identification, class A, with declaration of conformity acc. to DIN 12600, main point ring graduation, DURAN®, acc. to DIN EN ISO 4788, graduation and printing in durable blue ceramic stain.

	Volume ml	Sub-division ml	Tolerance ± ml	Overall height mm	Order No.	PU pc/Pack
	5	0.1	0.05	115	**14 93 71249**	2
	10	0.2	0.10	140	**14 93 71256**	2
	25	0.5	0.25	170	**14 93 71268**	2
	50	1.0	0.5	200	**14 93 71275**	2
④	100	1.0	0.5	260	**14 93 71278**	2
	250	2.0	1.0	335	**14 93 71284**	2
	500	5.0	2.5	390	**14 93 71288**	2
	1000	10.0	5.0	470	**14 93 71292**	1
	2000	20.0	10.0	500	**14 93 71296**	1

Also available with amber graduation!



webcode WW4ZV040

Graduated Cylinders

webcode WW4ZV039



①

HIRSCHMANN®

Graduated Cylinders, Hirschmann

Graduated cylinders, high form, with plastic base and guard ring, with dated batch identification, class A, with declaration of conformity acc. to DIN 12600, main point ring graduation, DURAN®, acc. to DIN EN ISO 4788, graduation and printing in durable blue ceramic stain.

	Volume ml	Sub-division ml	Tolerance ± ml	Overall height mm	Order No.	PU pc/Pack
	10	0.2	0.10	140	**14 93 70556**	2
	25	0.5	0.25	170	**14 93 70568**	2
	50	1.0	0.5	200	**14 93 70575**	2
	100	1.0	0.5	260	**14 93 70578**	2
①	250	2.0	1.0	335	**14 93 70584**	2
	500	5.0	2.5	390	**14 93 70588**	2
	1000	10.0	5.0	470	**14 93 70592**	1

webcode WW4ZV041



②

Graduated Cylinders, Hirschmann

Graduated cylinders, tall form, class A, with declaration of conformity acc. to DIN 12600, with hexagon base, with Schellbach line, main point ring graduation, made of DURAN®, acc. to DIN EN ISO 4788, graduation and printing in durable blue ceramic stain.

	Volume ml	Sub-division ml	Tolerance ± ml	Overall height mm	Order No.	PU pc/Pack
	5	0.1	0.05	115	**14 93 72049**	2
	10	0.2	0.10	140	**14 93 72056**	2
	25	0.5	0.25	170	**14 93 72068**	2
	50	1.0	0.5	200	**14 93 72075**	2
②	100	1.0	0.5	260	**14 93 72078**	2
	250	2.0	1.0	335	**14 93 72084**	2
	500	5.0	2.5	390	**14 93 72088**	2
	1000	10.0	5.0	470	**14 93 72092**	1
	2000	20.0	10.0	500	**14 93 72096**	1



③

webcode WWQED023

BRAND®



④

Graduated Cylinders, Class A, Tall Form, BRAND

Graduated cylinders, BLAUBRAND®, class A
DE-M marked, with batch number and batch identification.
Made of boro 3.3. DIN EN ISO 4788. Calibrated to contain (TC, In). Ring marks at major graduations. High contrast blue enamel graduations and inscriptions. With spout and hexagonal glass base. 2 piece in each original supplier package (size 1000 ml: 1 piece), incl. one detailed batch certificate.
Also available with individual certificate or DAkkS calibration certificate, please inquire.

	Volume ml	Graduation ml	Error limit ± ml	Height mm	Order No.	PU pc/Pack
	5	0.1	0.05	115	**14 49 32149**	2
	10	0.2	0.1	140	**14 49 32159**	2
	25	0.5	0.25	170	**14 49 32168**	2
	50	1	0.5	200	**14 49 32175**	2
③	100	1	0.5	260	**14 49 32178**	2
	250	2	1	335	**14 49 32184**	2
	500	5	2.5	365	**14 49 32188**	2
	1000	10	5	465	**14 49 32192**	1
	2000	20	10	505	**14 49 32196**	1

Graduated cylinders, BLAUBRAND®-ETERNA, class A
DE-M marked, with batch number and batch identification.
Made of boro 3.3. DIN EN ISO 4788. Calibrated to contain (TC, In). Ring marks at major graduations. ETERNA graduations and inscriptions in amber diffusion stain (particularly resistant to aggressive cleaning methods. With spout and hexagonal glass base. 2 piece in each original supplier package (size 1000 ml: 1 piece), incl. one detailed batch certificate. Also available with individual certificate, USP individual certificate or DAkkS calibration certificate, please inquire.

	Volume ml	Graduation ml	Error limit ± ml	Height mm	Order No.	PU pc/Pack
	5	0.1	0.05	115	**14 49 32749**	2
	10	0.2	0.1	140	**14 49 32759**	2
	25	0.5	0.25	170	**14 49 32768**	2
	50	1	0.5	200	**14 49 32775**	2
④	100	1	0.5	260	**14 49 32778**	2
	250	2	1	335	**14 49 32784**	2
	500	5	2.5	365	**14 49 32788**	2
	1000	10	5	465	**14 49 32792**	1
	2000	20	10	505	**14 49 32796**	1

Continued on next page

Graduated Cylinders

Graduated cylinders, BLAUBRAND®, class A
DE-M marked, with batch number and batch identification.
Made from boro 3.3. To DIN EN ISO 4788. Calibrated to contain (TC, In). Ring marks at major graduations. High contrast blue enamel graduations and inscriptions. With PP stopper and hexagonal base. 2 piece in each original supplier package (1000 ml: 1 piece), incl. one detailed batch certificate.
Also available with individual certificate, USP individual certificate or DAkkS calibration certificate, please inquire.

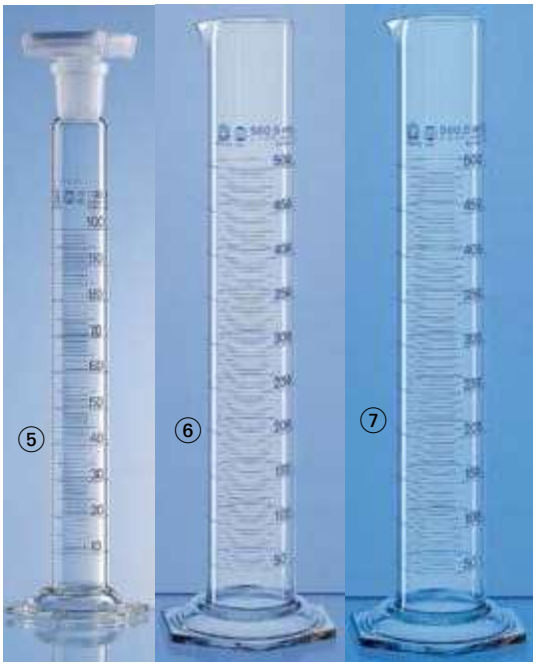
	Volume ml	Graduation ml	Ground joint NS	Height mm	Order No.	PU pc/Pack
	10	0.2	10/19	160	**10 49 32408**	2
	25	0.5	14/23	190	**10 49 32420**	2
	50	1	19/26	220	**10 49 32428**	2
⑤	100	1	24/29	285	**10 49 32438**	2
	250	2	29/32	350	**10 49 32448**	2
	500[1)]	5	34/35	395	**10 49 32454**	2
	1000[1)]	10	45/40	500	**10 49 32462**	1

[1)] with octagonal stopper, PE

Graduated cylinders, BLAUBRAND®, USP, class A, graduation blue, high form

DE-M marked, made of boro 3.3, DIN EN ISO 4788. Calibrated to contain (In). Ring marks at major graduations. High contrast blue enamel graduations and inscriptions. With spout and hexagonal glass base.
Incl. USP batch identification. Also available with USP individual certificate, please inquire. Packaging unit 2 pieces (5 to 500 ml), 1 piece (1000 ml).

	Volume ml	Graduation ml	Error limit ± ml	Height mm	Order No.	PU pc/Pack
⑥	5	0.1	0.05	115	**10 49 32805**	2
	10	0.2	0.10	140	**10 49 32808**	2
	25	0.5	0.17	170	**10 49 32820**	2
	50	1	0.25	200	**10 49 32828**	2
	10	1	0.5	260	**10 49 32838**	2
	250	2	1.0	335	**10 49 32848**	2
⑦	500	5	2.0	365	**10 49 32854**	2
	1000	10	3.0	465	**10 49 32862**	1
	2000	20	6.0	505	**10 49 32864**	1



Graduated Cylinders, Class B, High Form, BRAND

With embossed scale. Made from high clarity PP. DIN 12681/ISO 6706. Calibrated to contain (In). Perfect cylindrical design and equal graduation marks allow for easy volume reading. Functional spout minimizes spills. Strengthened rim and sturdier base for increased stability.
Exposure to temperatures up to 80°C will not cause permanent exceeding of error limits.

	Volume ml	Graduation ml	Error limit ± ml	H mm	Order No.	PU pc/Pack
	10	0.2	0.2	145	**23 49 35059**	10
	25	0.5	0.5	170	**23 49 35068**	10
	50	1	1	200	**23 49 35075**	10
⑧	100	1	1	250	**23 49 35078**	10
	250	2	2	315	**23 49 35084**	5
	500	5	5	360	**23 49 35088**	5
	1000	10	10	440	**23 49 35092**	5
	2000	20	20	535	**23 49 35096**	1



webcode WWQED047

BRAND®

Graduated Cylinders, Class B, PP, Tall Form, BRAND

With blue printed graduations
PP, highly translucent. DIN 12681 / ISO 6706. Calibrated to contain (In). High dimensional stability thanks to reinforced brim. Functional spout prevents dripping. Stands securely on hexagonal nubbed base. Exposure to temperatures up to 80°C will not cause permanent exceeding of error limits. Cleaning temperature below 60°C is recommended to preserve marks and inscriptions.

	Volume ml	Graduation ml	Error limit ± ml	H mm	Order No.	PU pc/Pack
	10	0.2	0.2	145	**14 49 34859**	10
	25	0.5	0.5	170	**14 49 34868**	10
⑨	50	1	1	200	**14 49 34875**	10
	100	1	1	250	**14 49 34878**	10
	250	2	2	315	**14 49 34884**	5
	500	5	5	360	**14 49 34888**	5
	1000	10	10	440	**14 49 34892**	5
	2000	20	20	535	**14 49 34896**	1



webcode WWQED057

Graduated Cylinders



①

webcode WWQED046

webcode WWQED048

Graduated Cylinders, Class A, PMP, Tall Form, BRAND

With blue printed scale. Extremely durable, high quality plastics provide excellent chemical resistance.
PMP, transparent. DIN 12 681 and ISO 6706. Class A are DE-M marked according to "Eichordnung", the German Federal Weights and Measures Regulations and come with one batch certificate. Calibrated to contain (TC, In).

- Perfect cylindrical design and equal graduation marks for easy volume reading.
- Strengthened rim increases overall dimensional stability.
- Functional spout minimizes spills.
- Sturdier base design results in increased stability.
- Easy-to-read graduations.
- Exposure to temperatures up to 121°C (autoclaving) will not cause permanent exceeding of error limits! Cleaning temperature below 60°C is recommended to preserve marks and inscriptions.

Class A, graduated cylinders be characterized by a very low spread of the measurements. Class A error limits are maintained after 20 washing and 10 sterilization cycles at 121°C. (DIN 12681 requires only 10 washing and 3 sterilization cycles).

	Volume ml	Graduation ml	Error limit A ± ml	H mm	Order No.	PU pc/Pack
	10	0.2	0.1	145	**23 49 35159**	2
	25	0.5	0.25	170	**23 49 35168**	2
①	50	1	0.5	200	**23 49 35175**	2
	100	1	0.5	250	**23 49 35178**	2
	250	2	1	315	**23 49 35184**	2
	500	5	2.5	360	**23 49 35188**	2
	1000	10	5	440	**23 49 35192**	1
	2000	20	10	535	**23 49 35196**	1

Error limit A : Nominal error limits according to DIN 12681

Graduated Cylinders, Class B, High Form, BRAND

② **With blue printed graduation**
Made from transparent PMP. DIN 12681/ISO 6706. Calibrated to contain (TC, In). Perfect cylindrical design and equal graduation marks allow for easy volume reading. Functional spout minimizes spills. Strengthened rim and sturdier base design for increased stability. Exposure to temperatures up to 121°C (autoclaving) will not cause permanent exceeding of error limits. Cleaning temperature below 60 °C is recommended to preserve marks and inscriptions. For autoclaving, we recommend the design with embossed scale.

Volume ml	Graduation ml	Error limit ± ml	H mm	Order No.	PU pc/Pack
10	0.2	0.2	145	**23 49 34759**	10
25	0.5	0.5	170	**23 49 34768**	10
50	1	1	200	**23 49 34775**	10
100	1	1	250	**23 49 34778**	10
250	2	2	315	**23 49 34784**	5
500	5	5	360	**23 49 34788**	5
1000	10	10	440	**23 49 34792**	5
2000	20	20	535	**23 49 34796**	1


②


③

③ **With embossed scale**
Made from transparent PMP. DIN 12681 and ISO 6706. Calibrated to contain (TC, In). Functional spout minimizes spills. Strengthened rim and sturdier base design for increased stability. Exposure to temperatures up to 121°C (autoclaving) will not cause permanent exceeding of error limits. Autoclavable (121°C).

Volume ml	Graduation ml	Error limit ± ml	H mm	Order No.	PU pc/Pack
10	0.2	0.2	145	**10 49 34908**	10
25	0.5	0.5	170	**10 49 34920**	10
50	1	1	200	**10 49 34928**	10
100	1	1	250	**10 49 34938**	10
250	2	2	315	**10 49 34948**	5
500	5	5	360	**10 49 34954**	5
1000	10	10	440	**10 49 34962**	5
2000	20	20	535	**10 49 34964**	1

Graduated Cylinders

Graduated Cylinders, PP, Class B, VITLAB

① **Graduated cylinders with embossed blue graduations**
Highly transparent. With easily readable, raised, embossed blue scale and ring mark at the primary scale points. Calibrated “In”. Class B tolerances according to DIN 12681/ISO 6706.

Hexagonal base with bottom studs provides high stability. Thermal stress up to 80°C does not cause tolerance limits to be permanently exceeded. To preserve markings. do not clean at temperatures exceeding 60°C.
Suitable for contact with foodstuffs according to ordinance (EU) No. 10/2011.

Vol. ml	Tol. ± ml	Grad. ml	Height mm	Ø mm	Order No.	PU pc/Pack
10	0.2	0.20	145	15	**23 85 10159**	12
25	0.5	0.50	170	22	**23 85 10168**	12
50	1.0	1.00	200	27	**23 85 10175**	12
100	1.0	1.00	250	33	**23 85 10178**	12
250	2.0	2.00	315	44	**23 85 10184**	6
500	5.0	5.00	360	58	**23 85 10188**	6
1000	10.0	10.00	440	69	**23 85 10192**	6
2000	20.0	20.00	482	97	**23 85 10196**	3



② **Graduated cylinders with embossed graduations**
Highly transparent. With a raised scale and ring mark at the primary scale points calibrated “In”. Class B tolerances according to DIN 12681/ISO 6706.
Hexagonal base with bottom studs provides high stability. Thermal stress up to 80°C does not cause tolerance limits to be permanently exceeded.
Suitable for contact with foodstuffs according to ordinance (EU) No. 10/2011.

Vol. ml	Tol. ± ml	Grad. ml	Height mm	Ø mm	Order No.	PU pc/Pack
10	0.2	0.20	145	15	**10 85 31159**	12
25	0.5	0.50	170	22	**10 85 31168**	12
50	1.0	1.00	200	27	**10 85 31175**	12
100	1.0	1.00	250	33	**10 85 31178**	12
250	2.0	2.00	315	44	**10 85 31184**	6
500	5.0	5.00	360	58	**10 85 31188**	6
1000	10.0	10.00	440	69	**10 85 31192**	6
2000	20.0	20.00	482	97	**10 85 31196**	3



Graduated Cylinders, PMP, DE-M, Class A, VITLAB

Highly transparent. DE-M marked. With a raised scale and ring mark at the primary scale points, calibrated “In”. The lot certificate supplied bears the batch number and the actual nominal value ascertained under the test conditions. The resulting deviations from the nominal value fall well under the allowed tolerances of Class A according to DIN 12681 and ISO 6706. With the laser engraved batch number and the year of manufacture. Hexagonal base with bottom studs provides high stability. Thermal stress up to 121°C (autoclaving) does not cause tolerance limits to be permanently exceeded. Autoclavable at 121°C (2 bar) according to DIN EN 285. Also available with DAkkS calibration certificate or individual certificate.

Vol. ml	Tol. ± ml	Grad. ml	Height mm	Ø mm	Order No.	PU pc/Pack
10	0.10	0.20	145	15	**10 85 34604**	2
25	0.25	0.50	170	22	**23 85 64768**	2
50	0.50	1.00	200	27	**23 85 64875**	2
100	0.50	1.00	250	33	**23 85 64978**	2
250	1.0	2.00	315	44	**23 85 65084**	2
500	2.5	5.00	360	58	**23 85 65188**	1
1000	5.0	10.00	440	69	**23 85 65292**	1
2000	10.0	20.00	482	97	**23 85 65396**	1

❗ Available only in original packaging units. No fractions possible.



Graduated Cylinders



Graduated Cylinders, PMP, Class A, VITLAB

Tall shape. Highly transparent. DE-M marked. With a red imprinted scale, and ring mark at the primary scale points, calibrated 'In'. The lot certificate supplied bears the batch number and the actual nominal value ascertained under the test conditions. The resulting deviations from the nominal volume fall well below the allowed tolerances of Class A according to DIN 12681 and ISO 6706. With imprinted batch number and the year of manufacture. Hexagonal base with bottom studs provides high stability. To protect the embossing, cleaning at a temperature of max. 60°C is recommended. Thus, conditionally autoclavable at 121°C (2 bar) pursuant to DIN EN 285. For autoclaving, we recommend the variant with raised graduation.

Vol. ml	Tol. ± ml	Grad. ml	Height mm	Ø mm	Order No.	PU pc/Pack
10	0,10	0,20	145	15	**10 85 36461**	2
25	0,25	0,50	170	22	**10 85 36471**	2
50	0,50	1,00	200	27	**10 85 36481**	2
100	0,50	1,00	250	33	**10 85 36491**	2
250	1,00	2,00	315	44	**10 85 36501**	2
500	2,50	5,00	360	58	**10 85 36511**	1
1000	5,00	10,00	440	69	**10 85 36521**	1
2000	10,00	20,00	535	97	**10 85 36541**	1

Available only in original packaging units. No fractions possible.



Graduated Cylinders, PP, Low Form, Class B, VITLAB

Highly transparent. With a raised scale, calibrated "In". Thermal stress up to 80°C does not cause tolerance limits to be permanently exceeded. Suitable for contact with foodstuffs according to ordinance (EU) No. 10/2011.

Vol. ml	Tol. ± ml	Grad. ml	Height mm	Ø mm	Order No.	PU pc/Pack
25	0.5	0.50	122	22	**23 85 10268**	12
50	1.0	1.00	142	27	**23 85 10275**	12
100	2.0	2.00	163	37	**23 85 10279**	12
250	5.0	5.00	192	51	**23 85 10285**	6
500	10.0	10.00	218	67	**23 85 10289**	6
1000	20.0	20.00	285	78	**23 85 10293**	6

HIRSCHMANN®

webcode WW4ZV043



Graduated Cylinders, Hirschmann

Graduated cylinders with hexagon base, standard ground joint and poly stopper, with dated batch identification, class A, with declaration of conformity acc. to DIN 12600, main point ring graduation, DURAN®, acc. to DIN EN ISO 4788, graduation and printing in durable blue ceramic stain.

	Volume ml	Sub-division ml	Tolerance ± ml	Overall height mm	Stopper NS	Order No.	PU pc/Pack
	10	0.2	0.10	160	10/19	**14 93 75259**	2
	25	0.5	0.25	193	14/23	**14 93 75268**	2
	50	1.0	0.5	226	19/26	**14 93 75275**	2
①	100	1.0	0.5	290	24/29	**14 93 75278**	2
	250	2.0	1.0	367	29/32	**14 93 75284**	2
	500	5.0	2.5	425	34/35	**14 93 75288**	2
	1000	10.0	5.0	510	45/40	**14 93 75292**	1

webcode

Use the webcode on our website to see a larger selection of products from a specific manufacturer.

Microliter Tips

Microliter Syringes, IDL

webcode WW7R3273

Explanation of codes:
The following codes are used to specify the various options.

DS (Digital Syringe):
Digital syringes consist of an ergonomically designed holder with LCD and a microliter tip from the 700, 1700 or 7000 Series. The dosing volume is indicated digitally and the correctness of the unit confirmed by a calibration certificate.

① **N (Needle):**
N stands for a glass body with a fixed needle and body element. Not to be heated above 50°C.

② **LTN (Luer Tip Needle):**
The needle is fixed in a tapered glass body. Not to be heated above 50°C.

③ **LT (Luer Tip):**
The syringe has a conical end on the glass body for fixing the needle. Autoclavable at above 100°C (without piston)

④ **RN (Removable Needle):**
The needle can be removed from a connection practically with no empty space. RN stands for a glass body with a piston and an transition piece. Not to be heated above 50°C.

⑤ **TLL (Teflon Luer Lock):**
This type of syringe has a locking device in an addition to the cone. Not to be heated above 50°C.

CH (Chaney Adapter):
A dosing aid made of steel/aluminium, mounted on the syringe.

WG (With Guide = Syring Guide):
The guide protects the piston from bending, and from being pushed out to the rear when working against high pressures.

Items supplied:
N and RN are supplied **with needles.**
LT and TLL are supplied **without needles.**

Gauge:
Standard size = Classification of diameter, inner diameter and outer diameter for wires and capillary tubes.

Tip type 2 (pst2)
Standard tip shape with a polished section of 10-12°, slightly bent inwards (protection against clogging). Ideally suited for gas chromatography.

Tip type 3 (pst3)
Tip with a polished section of 90°. For accurate dosing with thin layer chromatography and HPLC applications.

Tip shape AS (pstAS)
With 8° cone polished on the face side. Specifically for GC Autosampler.



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Have any questions?
Just give us a call!

Continued on next page

Microliter Tips

webcode WW7R3276



Microliter Syringes, Series 1000/1700, IDL

Gas and Liquid-tight syringes for GC, LC, serology, biochemistry, for the dispensing of gas or corrosive liquids, and for working against high counter-pressures. Suitable for manual and automated use (diluters/dispensers, autosamplers etc.) Sealed by Teflon piston, gas-tight.
Accuracy and reproducibility <1%.
pst = point-style

Microliter Syringes, Series 1700, Version N, RN

	Syringe type	Vol. µl	Grad. µl	Cannula dimensions L × O.D. × I.D. mm	Can. gauge	Dead vol. µl	Vers. N pst 2 Order No.	N pst 3 Order No.	RN pst 2 Order No.	RN pst 3 Order No.	RN without needle Order No.
①	1701	10	0.1	51×0.47×0.13	26 S	0.52	**19 00 17101**	**19 00 17105**	**19 00 17102**	**19 00 27103**	**19 00 17106**
	1702	25	0.25	51×0.72×0.15	22 S	0.90	**19 00 17201**	**19 00 17205**	**19 00 17202**	**19 00 27203**	**19 00 17206**
	1705	50	0.5	51×0.72×0.15	22 S	0.90	**19 00 17301**	**19 00 17305**	**19 00 17302**	**19 00 27303**	**19 00 17306**
	1710	100	1.0	51×0.72×0.15	22 S	0.90	**19 00 17401**	**19 00 17405**	**19 00 17402**	**19 00 27403**	**19 00 17406**
	1725	250	2.5	51×0.72×0.15	22 S	0.90	**19 00 17501**	**19 00 17505**	**19 00 17502**	**19 00 27503**	**19 00 17506**
	1750	500	5	51×0.72×0.41	22	6.73	**19 00 17601**	**19 00 17605**	**19 00 17602**	**19 00 27603**	**19 00 17606**

Microliter Syringes, Series 1700, Version LT, SampleLock, TLL

	Syringe type	Vol. µl	Grad. µl	Cannula dimensions L × O.D. × I.D. mm	Can. gauge	Dead vol. µl	Vers. LT Order No.	SampleLock Order No.	TLL, with piston stop Order No.
①	1701	10	0.1	51×0.47×0.13	26 S	0.52	**19 00 17103**		
	1702	25	0.25	51×0.72×0.15	22 S	0.90	**19 00 17203**		**19 00 17204**
	1705	50	0.5	51×0.72×0.15	22 S	0.90	**19 00 17303**	**19 00 17307**	**19 00 17304**
	1710	100	1.0	51×0.72×0.15	22 S	0.90	**19 00 17403**	**19 00 17407**	**19 00 17404**
	1725	250	2.5	51×0.72×0.15	22 S	0.90	**19 00 17503**	**19 00 17507**	**19 00 17504**
	1750	500	5	51×0.72×0.41	22	6.73	**19 00 17603**	**19 00 17607**	**19 00 17604**



Microliter Syringes, Series 1000, Version LTN

	Syringe type	Vol. ml	Grad. ml	Cannula dimensions L × O.D. × I.D. mm	Can. gauge	Dead vol. µl	Vers. LTN pst 2 Order No.	LTN pst 3 Order No.	LTN pst 5 Order No.
②	1001	1	0.01	51×0.72×0.41	22	6.73	**19 00 10101**	**19 00 10107**	**19 00 10108**
	1002	2.5	0.025	51×0.72×0.41	22	6.73	**19 00 10201**	**19 00 10207**	**19 00 10208**
	1005	5	0.05	51×0.72×0.41	22	6.73	**19 00 10301**	**19 00 10307**	**19 00 10308**
	1010	10	0.1	51×0.72×0.41	22	6.73	**19 00 10401**	**19 00 10407**	**19 00 10408**

Microliter Syringes, Series 1000, Version RN, LT

	Syringe type	Vol. ml	Grad. ml	Cannula dimensions L × O.D. × I.D. mm	Can. gauge	Dead vol. µl	Vers. RN pst 2 Order No.	RN without needle Order No.	LT without needle Order No.
②	1001	1	0.01	51×0.72×0.41	22	6.73	**19 00 10102**	**19 00 10109**	**19 00 10103**
	1002	2.5	0.025	51×0.72×0.41	22	6.73	**19 00 10202**	**19 00 10209**	**19 00 10203**
	1005	5	0.05	51×0.72×0.41	22	6.73	**19 00 10302**	**19 00 10309**	**19 00 10303**
	1010	10	0.1	51×0.72×0.41	22	6.73	**19 00 10402**	**19 00 10409**	**19 00 10403**

Microliter Syringes, Series 1000, Version SampleLock, TLL

	Syringe type	Vol. ml	Grad. ml	Cannula dimensions L × O.D. × I.D. mm	Can. gauge	Dead vol. µl	Vers. SampleLock Order No.	TLL, without piston stop without needle Order No.	TLL, with piston stop, without needle Order No.	TLL, without flange without needle Order No.
②	1001	1	0.01	51×0.72×0.41	22	6.73	**19 00 10110**	**19 00 10106**	**19 00 10104**	
	1002	2.5	0.025	51×0.72×0.41	22	6.73	**19 00 10210**	**19 00 10206**		
	1005	5	0.05	51×0.72×0.41	22	6.73	**19 00 10310**	**19 00 10306**		
	1010	10	0.1	51×0.72×0.41	22	6.73	**19 00 10410**	**19 00 10406**		
	1025	25	0.25	51×0.72×0.41	22	6.73	**19 00 10510**	**19 00 10506**		**19 00 10505**
	1050	50	0.5	51×0.72×0.41	22	6.73	**19 00 10610**	**19 00 10606**		
	1100	100	1.0	51×0.72×0.41	22	6.73	**19 00 10710**	**19 00 10706**		



Chaney Adapter (syringe not included)

	Syringe type	Vol. µl	Can. gauge	Order No.
	1702	25	22 S	**19 00 11702**
	1705	50	22 S	**19 00 11705**
③	1710	100	22 S	**19 00 11710**
	1725	250	22 S	**19 00 11725**
	1750	500	22	**19 00 11750**

Syringes, Hypodermic Needles

BRAUN Disposable Syringes, IDL



① **INJEKT**
Disposable syringes with Luer tip. A low-price standard syringe for universal use, tested acc. to DIN 13098.
Individually wrapped to be sterile. In packs of 100.

Volume ml	Order No.	Volume ml	Order No.
2	**19 42 12002**	10	**19 42 12010**
5	**19 42 12005**	20	**19 42 12020**

Available only in original packaging units. No fractions possible.

② **OMNIFIX®**
Disposable syringes with Luer tip. With natural rubber piston and double seal; a high-precision syringe for special indications, DIN-tested.
Individually wrapped to be sterile. In packs of 100.

Volume	Order No.
3 ml	**10 42 13003**
5 ml	**19 42 13005**
10 ml	**19 42 13010**
20 ml	**19 42 13020**
1 ml, without needle	**19 42 13101**

Available only in original packaging units. No fractions possible.





③ **OMNIFIX® Wound and bladder syringes**
3-part disposable syringe, with catheter approach. Single sterile packaging.

Volume	Equipment	Order No.
100 ml	Luer-Lock adapter	**10 42 13501**
50/60 ml	Luer-Lock adapter	**10 42 13502**
50/60 ml	without adapter	**10 42 13503**

④ **OMNICAN®**
For exact dispensing of the smallest units, with rubber piston and double seal. Smooth action and exact dosing. 1 ml with 0.01 ml graduation. With integrated needle 0.30 × 12 mm. In packs of 100.

Article	Order No.
OMNICAN F	**10 42 11502**

Available only in original packaging units. No fractions possible.

BRAUN Disposable Hypodermic Needles, IDL

STERICAN®
Disposable hypodermic needles with transparent Luer-Lock tip. Low-pain punction and minimal trauma thanks to special facet grinding, needle with thin wall.
Color code for easy identification; indication-related sizes. Tested acc. to DIN 13097.
Individually wrapped to be sterile. In packs of 100.

Size	Ø mm	Length mm	Order No.	Size	Ø mm	Length mm	Order No.
1	0.9	40	**19 42 10001**	16	0.60	25	**19 42 10016**
2	0.8	40	**19 42 10002**	17	0.55	25	**19 42 10017**
12	0.7	30	**19 42 10012**	18	0.45	25	**19 42 10018**
14	0.6	30	**19 42 10014**	20	0.40	20	**19 42 10020**

Available only in original packaging units. No fractions possible.



Special needles
In packs of 100.

Ø mm	Length mm	for	Order No.	Ø mm	Length mm	Order No.
0.4	12	Insulin	**19 42 11001**	1.2	40	**19 42 11005**
0.45	12	Insulin	**19 42 11002**	0.8	50	**19 42 11006**
0.3	12	G30×½ Insulin	**19 42 11012**	1.1	50	**19 42 11007**
1.1	30		**19 42 11004**	0.6	60	**19 42 11008**
1.1	40		**19 42 11011**	0.9	70	**19 42 11009**

Available only in original packaging units. No fractions possible.

Syringes, Hypodermic Needles



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Glass Syringes, Poulten & Graf

FORTUNA® OPTIMA® all-glass syringes, for technical use only! Calibrated cylinders made of clear glass, all parts replaceable, piston end with amber mark, absolutely tight, sterilizable up to 134°C, exactly calibrated scale, indestructible amber graduation (diffused), in packs of 1.

① **Glass syringes with Luer glass cone, central**

Vol. ml	Grad. ml	Order No.	Vol. ml	Grad. ml	Order No.
1	0.05	**19 30 63101**	20	1	**19 30 63601**
2	0.1	**19 30 63201**	30	1	**19 30 63701**
3	0.1	**19 30 63301**	50	2	**19 30 63801**
5	0.2	**19 30 63401**	100	4	**19 30 63901**
10	0.2	**19 30 63501**			

② **Glass syringes with Luer-Lock cone, central**

Vol. ml	Grad. ml	Order No.	Vol. ml	Grad. ml	Order No.
1	0.05	**19 30 63103**	20	1	**19 30 63603**
2	0.1	**19 30 63203**	30	1	**19 30 63703**
3	0.1	**19 30 63303**	50	2	**19 30 63803**
5	0.2	**19 30 63403**	100	4	**19 30 63903**
10	0.2	**19 30 63503**			


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High Precision Syringes, FORTUNA®, Poulten & Graf

High-precision syringes made of neutral glass, long model, modified precision version in sizes 50 an 100 ml with calibrated cylinder made of clear glass.
Screen-printed graduations in diffused amber stain resistant to acids and lyes. One to a pack.

③ **Syringes with capellary tip, I.D. ca. 2,5 mm, O.D. 7,75 mm**

Vol. ml	Grad. ml	Order No.	Vol. ml	Grad. ml	Order No.
25	0.5	**19 30 10031**	100	1	**19 30 10051**
50	0.5	**19 30 10041**			

④ **Syringes with attached capillary and stopcock, joint size 12,5, bore 2,5 mm**

Vol. ml	Grad. ml	Order No.	Vol. ml	Grad. ml	Order No.
50	0.5	**19 30 10042**	100	1	**19 30 10052**

⑤ **Syringe with attached three-way stopcock, joint size 12,5, bore 2,5 mm**

Volume ml	Graduation ml	Order No.
100	1	**19 30 10053**

webcode WWSU9055

Dinkelberg analytics by ALTMANN ANALYTIK

Cream and Milk Syringes, Dinkelberg Analytics



The cream and milk syringes by Dinkelberg analytics are tried and tested in the dairy sector and are used every day in the laboratories. They are made of nickel-plated brass and conformity assessed.

In addition to the syringes, we also offer spare glass plungers: Send us your defective syringes, and we'll replace defective glass plungers at a reasonable price.

Article	Order No.
Cream syringe 5.05 ml, conformity assessed	**10 32 10850**
Cream syringe 5.05 ml, conformity assessed, repair exchange	**10 32 10851**
Milk syringe 10.75 ml, conformity assessed	**10 32 10864**
Cream syringe 10.75 ml, conformity assessed, repair exchange	**10 32 10865**

Dispensers

Dispensette® S Trace Analysis, Bottle Top Dispenser, BRAND

webcode WWQED071

BRAND



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① Dispensette® S Trace Analysis, bottle top dispenser
The Dispensette® bottle-top dispensers is well-known for its wide variety of applications and provides premium dispensing options for the complete spectrum of liquid reagents. The new Dispensette® S Trace Analysis provides outstanding performance for precise volume dispensing of high-purity media for trace analysis. Also dispensing hydrofluoric acid is no problem with the platinum-iridium valve spring.

General features of the Dispensette®S Trace Analysis bottle-top dispenser
- Parts in contact with media consist of high-purity materials such as PTFE, ETFE, FEP, and PFA. The purest sapphire is used for replaceable valves. Depending on the application, platinum-iridium alloy or tantalum are available as spring materials.
- New discharge tube, no additional sealing rings required, with and without recirculation valve
- Simple priming by optimized flow channels
- Safe volume adjustment with internal scalloped track
- Pivoted screw cap – does not disturb dispensing
- A field-tested cleaning process before use in trace analysis is described in the operating manual
- If contamination of the bottle contents must be avoided, we recommend using the device without recirculation valve
- The 45 mm standard thread plus the included adapters fit most common lab bottles
- The valve block can be rotated 360° so that the bottle label always faces the user for safety
- Telescoping filling tube adjusts easily to different bottle sizes
- Easy disassembly for replacement of the dispensing cartridge

Items supplied:
Dispensette® S Trace Analysis, DE-M marking, with performance certificate, telescoping filling tube, recirculation tube (optional), mounting tool and bottle adapters GL 28 / S 28 (ETFE), GL 32 (ETFE) and S40 (PTFE).

Valve spring	Vol.	Grad.	A ≦ ±	A ≦ ±	CV ≦	CV ≦	without recirculation valve	with recirculation valve
	ml	ml	%	µl	%	µl	**Order No.**	**Order No.**
Tantalum	1 – 10	0.2	0.5	50	0.1	10	**10 49 64240**	**10 49 64241**
Platinum-Iridium	1 – 10	0.2	0.5	50	0.1	10	**10 49 64040**	**10 49 64041**

Calibrated to deliver (TD, Ex). Error limits related to the nominal capacity (= maximum volume) indicated on the instrument, obtained when instrument and distilled water are equilibrated at ambient temperature (20°C/68°F). Testing takes place with uniform and smooth dispensing. The error limits of DIN EN ISO 8655-5 are well below. A = Accuracy, CV = Coefficient of variation.


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Accessories for Dispensette® S Trace Analysis

② Discharge tubes
With and without recirculation valve. Nominal volume 10 ml. Screw cap ETFE. Discharge tube marked with “Pt-Ir” or “Ta”. Pack of 1.

Valve spring	Length mm	without recirculation valve **Order No.**	with recirculation valve **Order No.**
Platinum-Iridium	105	**10 49 08022**	**10 49 08122**
Tantalum	105	**10 49 08024**	**10 49 08124**


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③ Dispensing cartridge with safety ring
Nominal volume 10 ml. Calibrated, incl. quality certificate. Pack of 1.

Article	**Order No.**
Dispensing cartridge with safety ring	**10 49 08035**

④ Telescoping filling tubes
For Dispensette® S Trace Analysis. FEP. Adjusts to various bottle heights. Pack of 1.

Length mm	**Order No.**
70–140	**10 49 08210**
125–240	**10 49 08212**
195–350	**10 49 08214**
250–480	**10 49 08216**

⑤ Bottle stand
PP. Full plastic construction. Support rod 325 mm, base plate 220 × 160 mm, weight 1130 g. Pack of 1.

Article	**Order No.**
Bottle stand	**10 49 04275**


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⑥ Flexible discharge tube with recirculation valve
For Dispensette® S, Dispensette® S Organic and Dispensette® S Trace Analysis. PTFE, coiled, length approx. 800 mm, with safety handle. With changeable colored valve lever (color-code red, yellow and grey). Must not be used with HF! Pack of 1.

Nominal volume ml	Outer Ø mm	Inner Ø mm	**Order No.**
2/5/10	3	2	**10 49 08132**

webcode To see other variants and accessories, please enter the webcode on our website.

Dispensers

webcode WWQED003

BRAND



Dispensette® S, Bottle Top Dispenser, BRAND

The bottle top dispenser Dispensette® is number 1 for dosing directly from the storage bottle. It is fully equipped to ensure safe and convenient dosing of fluids. The specifically designed piston makes drawing up and dispensing fluids from the Dispensette® particularly smooth and ergonomic. The volume is set easily and fixed safely. The bottle top dispenser Dispensette® has proven its worth in demanding permanent use, also with aggressive media.

Three different models are available:
Digital:
The mechanical volume setting is easy to read and ensures accurate and reproducible volume control. Easy Calibration Technique for calibration adjustment in seconds without tools. A calibration flag indicates changes from factory settings

Analog-adjustable:
Rapid and safe volume setting with new internal scalloped track. Simple calibration adjustment with supplied tool.

Fixed-volume:
For standard applications. Simple calibration adjustment with a supplied tool

Ordering information/Items supplied:
Dispensette® S / Dispensette® S Organic bottle-top dispenser, DE-M marking, with performance certificate, telescoping filling tube, recirculation valve and recirculation tube (optional), mounting tool and adapters of polypropylene.

Calibrated to deliver (TD, Ex). Error limits according to the nominal capacity (= maximum volume) indicated on the instrument, obtained with instrument and distilled water at equilibrium with ambient temperature at 20°C, and with smooth, steady operation. The error limits are well within the limits of DIN EN ISO 8655-5. A = Accuracy, CV = Coefficient of variation.

Model:	**Application:**
Dispensette® S:	Red color-code. Wide range of practical applications, ideal for dispensing aggressive reagents, including concentrated bases and acids such as H_3PO_4, H_2SO_4 (with certain exceptions such as HCl, HNO_3, HF, etc.), saline solutions, as well as many organic solvents.
Dispensette® S Organic:	Yellow color-code. Ideal for dispensing organic solvents, including chlorinated and fluorinated hydrocarbons (e.g., trichlorotrifluoroethane and dichloromethane), acids like concentrated HCl and HNO_3 (except HF), trifluoroacetic acid (TFA), tetrahydrofuran (THF) and peroxides.









① Dispensette® S, Digital, DE-M marking

Volume ml	Graduation ml	A ≦ ± %	CV ≦ %	without recirculating valve **Order No.**	with recirculating valve **Order No.**
0.1–1	0.005	0.5	0.1	**10 49 46310**	**10 49 46311**
0.2–2	0.01	0.5	0.1	**10 49 46320**	**10 49 46321**
0.5–5	0.02	0.5	0.1	**10 49 46330**	**10 49 46331**
1–10	0.05	0.5	0.1	**10 49 46340**	**10 49 46341**
2.5–25	0.1	0.5	0.1	**10 49 46350**	**10 49 46351**
5–50	0.2	0.5	0.1	**10 49 46360**	**10 49 46361**

② Dispensette® S, analog-adjustable, DE-M marking

Volume ml	Graduation ml	A ≦ ± %	CV ≦ %	without recirculating valve **Order No.**	with recirculating valve **Order No.**
0.1–1	0.02	1.0	0.2	**10 49 46100**	**10 49 46101**
0.2–2	0.05	0.5	0.1	**10 49 46120**	**10 49 46121**
0.5–5	0.1	0.5	0.1	**10 49 46130**	**10 49 46131**
1–10	0.2	0.5	0.1	**10 49 46140**	**10 49 46141**
2.5–25	0.5	0.5	0.1	**10 49 46150**	**10 49 46151**
5–50	1.0	0.5	0.1	**10 49 46160**	**10 49 46161**
10–100	1.0	0.5	0.1	**10 49 46170**	**10 49 46171**

③ Dispensette® S, fixed-volume, DE-M marking

Volume ml	A ≦ ± %	CV ≦ %	without recirculating valve **Order No.**	with recirculating valve **Order No.**
1	0.5	0.1	**10 49 46210**	**10 49 46211**
2	0.5	0.1	**10 49 46220**	**10 49 46221**
5	0.5	0.1	**10 49 46230**	**10 49 46231**
10	0.5	0.1	**10 49 46240**	**10 49 46241**
choice of fix. vol. 0.5–100	—	—	**10 49 46290**	**10 49 46291**

[1] please state when ordering

Continued on next page

Dispensers

④ Dispensette® S Organic, digital, DE-M marking

Graduation ml	Volume ml	A ≦ ± %	CV ≦ %	without recirculating valve Order No.	with recirculating valve Order No.
0.02	0.5–5	0.5	0.1	**10 49 43330**	**10 49 43331**
0.05	1–10	0.5	0.1	**10 49 43340**	**10 49 43341**
0.1	2.5–25	0.5	0.1	**10 49 43350**	**10 49 43351**
0.2	5–50	0.5	0.1	**10 49 43360**	**10 49 43361**

⑤ Dispensette® S Organic, analog-adjustable, DE-M marking

Volume ml	Graduation ml	A ≦ ± %	CV ≦ %	without recirculating valve Order No.	with recirculating valve Order No.
0.5–5	0.1	0.5	0.1	**10 49 43130**	**10 49 43131**
1–10	0.2	0.5	0.1	**10 49 43140**	**10 49 43141**
2.5–25	0.5	0.5	0.1	**10 49 43150**	**10 49 43151**
5–50	1.0	0.5	0.1	**10 49 43160**	**10 49 43161**
10–100	1.0	0.5	0.1	**10 49 43170**	**10 49 43171**

⑥ Dispensette® S Organic, fixed-volume, DE-M marking

[1] please state when ordering

Volume ml	A ≦ ± %	CV ≦ %	without recirculation valve Order No.	with recirculation valve Order No.
5	0.5	0.1	**10 49 43230**	**10 49 43231**
10	0.5	0.1	**10 49 43240**	**10 49 43241**
choice of fix. vol. 2–100	—	—	**10 49 43290**	**10 49 43291**

Accessories for Dispensette® S / Dispensette® S Organic

⑦ Discharging tubes for Dispensette® S

With and without recirculation valve. Screw cap PP. Pack of 1.

Nominal volume ml	Version	Length mm	without recirculation valve Order No.	with recirculation valve Order No.
1, 2, 5, 10	fine tip	108	**10 49 78002**	**10 49 78102**
5, 10	standard	108	**10 49 78005**	**10 49 78104**
25, 50, 100	fine tip	125	**10 49 78006**	**10 49 78106**
25, 50, 100	standard	125	**10 49 78008**	**10 49 78109**

⑧ Discharging tubes for Dispensette® S Organic

Nominal volume ml	Version	Length mm	without recirculation valve Order No.	with recirculation valve Order No.
5, 10	fine tip	108	**10 49 78012**	**10 49 78112**
5, 10	standard	108	**10 49 78014**	**10 49 78114**
25, 50, 100	fine tip	125	**10 49 78016**	**10 49 78116**
25, 50, 100	standard	125	**10 49 78019**	**10 49 78119**

⑨ Telescoping filling tubes

For Dispensette® S and Dispensette® S Organic. FEP. Adjusts to various bottle heights. Pack of 1.

Nominal volume ml	Outer Ø mm	Length mm	Order No.
1, 2, 5, 10	6	70–140	**10 49 08210**
1, 2, 5, 10	6	125–240	**10 49 08212**
1, 2, 5, 10	6	195–350	**10 49 08214**
1, 2, 5, 10	6	250–480	**10 49 08216**
25, 50, 100	7.6	170–330	**10 49 78218**
25, 50, 100	7.6	250–480	**10 49 78220**

⑩ Flexible discharging tube with recirculation valve

For Dispensette® S, Dispensette® S Organic and Dispensette® S Trace Analysis. PTFE, coiled, length 800 mm, with safety handle. With changeable colored valve lever (color-code red, yellow and grey). Must not be used with HF! Pack of 1.

Nominal volume ml	Outer Ø mm	Inner Ø mm	Order No.
2/5/10	3	2	**10 49 08132**
25/50/100	4.5	3	**10 49 78134**

⑪ Seal for valve block

PTFE. For highly volatile reagents. Pack of 1.

Article	Order No.
Seal for valve block	**10 49 74486**

⑫ Bottle stand

PP, full plastic material – suitable for use in aggressive environment (e.g. acid fumes in the hood), rod length 325 mm, base plate 220 × 160 mm, weight 1130 g.

Article	Order No.
Bottle stand	**10 49 04275**

⑬ Drying tube

Inclusive sealing ring. Pack of 1.

Article	Order No.
Drying tube	**10 49 77930**


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Dispensers



webcode WWQED093

Withdrawal System Titrette® Titripac®, BRAND

Withdrawal system Titrette® for Titripac® packaging system for ready-to-use volumetric solutions

Article	Order No.
Withdrawal system Titrette®	**10 49 77550**

webcode WWQED017

Bottle-Top Dispensers, BRAND



①

① **Bottle-top dispensers, seripettor®**
The low-cost dispensers for daily routine
seripettor® and seripettor® pro are innovative bottle-top dispensers by BRAND featuring specially selected components. A lifting spring enables autonomous filling. In case of wear of the flask seal, the complete dispensing unit can be exchanged easily and hassle-free by the user. Expensive repairs are unnecessary!

- Low-cost, exchangeable dispensing unit with strip-off flask seal - a replacement dispensing unit is included
- Automatic filling - the autonomous lifting effect of the spring presses the flask up. Thus, the dispensing unit is automatically filled.
- Volume setting - for error-free setting of the volume, the indicator latches in (rail).
- If required, all function parts can be quickly and easily exchanged by the user without tools. The innovative concept of the seripettor® and seripettor® pro reduces the expenses for cleaning and maintenance to a minimum.
- Fits almost all common counter tops.

seripettor®
For dispensing aqueous solutions, (buffer and vitamin solutions, agar nutrient medium, up to a max. 60°C), weak, dilute acids, alkaline solutions (such as NaOH, KOH and ammonia) and polar solvents (e.g. ethanol, methanol, acetylacetone).

seripettor®pro
Enhanced area of application – for dispensing acids (such as concentrated HCl), polar solvents (such as acetone), essential oils and UV-sensitive reagents.

Items supplied
seripettor® / seripettor® pro, discharge tube, filling tube, spare dispensing cartridge and PP adapters (GL 45/32 and GL 45/S40).

Model	Volume ml	Graduation ml	A ≦ ± %	CV ≦ %	Order No.
seripettor®	0.2 – 2	0.04	1.2	0.2	**10 49 72120**
seripettor®	1 – 10	0.2	1.2	0.2	**14 49 72140**
seripettor®	2.5 – 25	0.5	1.2	0.2	**14 49 72150**
seripettor® pro	0.2 – 2	0.04	1.2	0.2	**10 49 72420**
seripettor® pro	1 – 10	0.2	1.2	0.2	**10 49 72440**
seripettor® pro	2.5 – 25	0.5	1.2	0.2	**10 49 72450**

Calibrated to deliver (TD, Ex). Error limits according to the nominal capacity (= maximum volume) indicated on the instrument, obtained with instrument and distilled water at equilibrium with ambient temperature at 20 °C, and with smooth, steady operation. A = Accuracy, CV = Coefficient of variation


②

② **Accessories for seripettor® and seripettor® pro**
Dispensing cartridges
Non-sterile and sterile. Piston (PE), cylinder (PP).

Article	Order No.	PU pc/Pack
Dispensing cartridge, 2 ml, non-sterile	**10 49 74501**	3
Dispensing cartridge, 10 ml, non-sterile	**14 49 74502**	3
Dispensing cartridge, 25 ml, non-sterile	**14 49 74504**	3
Dispensing cartridge, 2 ml, sterile (single packed)	**10 49 74505**	7
Dispensing cartridge, 10 ml, sterile (single packed)	**10 49 74506**	7
Dispensing cartridge, 25 ml, sterile (single packed)	**10 49 74508**	5


③

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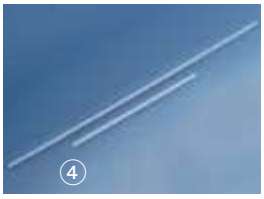
Dispensers

③ **Flexible discharge tubing**
PTFE, coiled, length 800 mm, with handle. Not suited for HF and peroxide.

Article	Order No.
Discharge tubing, 2 ml + 10 ml	**10 49 74522**
Discharge tubing, 25 ml	**10 49 74523**

④ **Accessories for seripettor®**
Filling tubes
PP. Autoclavable design for sterile applications with additional O-rings.

Article	Order No.	PU pc/Pack
Filling tube, 250 mm	**10 49 74532**	2
Filling tube, 500 mm	**10 49 74534**	2
Filling tube with O-ring, 250 mm	**10 49 74536**	1
Filling tube with O-ring, 500 mm	**10 49 74538**	1



Discharge tube
PP, incl. closure cap and EPDM discharge valve.

Article	Order No.
Discharge tube, PP, fine tip, 2 ml	**10 49 74518**
Discharge tube, PP, Standard, 10 + 25 ml	**10 49 74520**



⑤ **Valve set**
1 filling valve (filling valve body, O-ring) 1 discharge valve, 2 seals.

Article	Order No.
Valve set	**10 49 06790**



⑥ **Telescoping filling tubes**
FEP. Adjusts to various bottle heights. Pack of 1.

Nominal volume ml	Outer Ø mm	Length mm	Order No.
1, 2, 5, 10	6	70–140	**10 49 08210**
1, 2, 5, 10	6	125–240	**10 49 08212**
1, 2, 5, 10	6	195–350	**10 49 08214**
1, 2, 5, 10	6	250–480	**10 49 08216**
25, 50, 100	7.6	170–330	**10 49 78218**
25, 50, 100	7.6	250–480	**10 49 78220**



⑦ **Filling valve with seal**

Article	Order No.
Filling valve with seal, 2 ml + 10 ml	**10 49 06697**
Filling valve with seal, 25 ml	**10 49 06698**
Adapter for filling valve with seal	**10 49 06707**

Discharge tube
with integrated valve with seal.

Article	Order No.
Discharge tube 2 ml	**14 49 77915**
Discharge tube, 10 ml	**14 49 77916**
Discharge tube, 25 ml	**14 49 77918**
Adapter for discharge tube with seal	**10 49 06208**

Everything for your laboratory –
from one source

Dispensers



webcode WWQED086







Repetitive Pipette HandyStep® touch, BRAND

Repetitive pipette HandyStep® touch
- Simple: touchscreen operation
- Easy: compatible with tips from other manufacturers
- Efficient: automatic tip ejection

Repetitive pipettes are the first choice when it comes to efficient dispensing of long series. Positive displacement pipettes are often the right solution for pipetting viscous media. The new stepper HandyStep® touch from BRAND combines both features.
With the touchscreen display, you conveniently swipe back and forth between functions and always have an overview of the essential information on your work steps. Operation is easy, even with protective gloves on. And speaking of easy, the days of manually changing tips are over. On the HandyStep® touch, lightly tapping on the Eject icon on the display is enough to eject the tip.
The HandyStep® touch repetitive pipette automatically recognizes the volume of the new BRAND PD- Tips II. This saves time and reduces the risk of error. Tips from many other manufacturers can also be used, providing maximum flexibility. Charging is easy and efficient: simply place the HandyStep® touch in the inductive charging stand and the battery automatically starts charging.

Overview
- Touchscreen operation with intuitive menu navigation in English, German, Spanish, French and Chinese
- HandyStep® touch with the features multi-dispensing, auto-dispensing and pipetting; HandyStep® touch S with the additional features sequential dispensing, multi-aspiration and titration
- Automatic size detection of BRAND PD-Tips II
- Compatible with PD-Tips prior to the PD-Tips II generation and with tips from many other manufacturers: for example, Encode™ tips, Repet-Tips®, Combitips®, Combitips® plus, Combitips® advanced (the above-mentioned brands are property of their respective owners)
- Automatic tip ejection
- Variable volume adjustment from 1.0 µl to 50 ml
- Easy to clean thanks to smooth surface without grooves and edges
- Inductively rechargeable

	Article	Order No.
	HandyStep® touch, white Functions: multi-dispensing, auto-dispensing, pipetting and favourites	**10 49 75200**
①	**HandyStep® touch S, black** Functions: multi-dispensing, auto-dispensing, pipetting, sequential dispensing, multi-aspiration, titration and favourites	**10 49 75210**
	HandyStep® touch package, incl. charging stand, white Functions: multi-dispensing, auto-dispensing, pipetting and favourites	**10 49 75201**
	HandyStep® touch S package, incl. charging stand, black Functions: multi-dispensing, auto-dispensing, pipetting, sequential dispensing, multi-aspiration, titration and favourites	**10 49 75211**

Accessories

	Article	Order No.
②	Charging stand, without universal AC adapter	**10 49 75220**
	Support stand	**10 49 75230**
③	Universal AC adapter	**10 49 75250**
	Universal holder	**10 49 75235**
④	Lithium ion battery	**10 49 75225**

webcode

Use the webcode on our website to see a larger selection of products from a specific manufacturer.

Dispensers

Dispensers, Hirschmann

webcode WW4ZV019

HIRSCHMANN

ceramus® classic, with declaration of conformity acc. to DIN 12600: featuring ceramic piston!
ceramus® classic dispensers are high precision bottle dispensers that can be set in fixed increments for reproducible dosage of liquids. Six models cover the volume spectrum between 0.2 ml to 60 ml ab.

Ceramic piston
All ceramus® classic dispensers feature a special piston made of high-purity Al_2O_3 ceramic. The combination of this unique ceramic piston with a standardized DURAN® glass cylinder provides ideal conditions for best possible fit, guaranteeing long-term safety and precision.

Advantages of the ceramic piston:
- no wear
- no swelling
- no thermal problems

Operation
You simply turn the graduated collar in either direction to set the volume you want. To dispense, pull up the piston to the stop and press down. That's all you need to do.

Safety
Fixed-increment settings guarantee absolutely reproducible dosage. The latching mechanism effectively prevents inadvertent volume misadjustment. Zero range security locking provides additional protection. A stable protective shell with integrated window provides effective protection against accidental glass breakage. All ceramus® classic dispensers can be steam sterilized up to 121°C / 2 bar if needed.

Conformity
ceramus® classic has declaration of conformity acc. to DIN 12600.

Additional merits
- Suction, ejection, and return valve are made of highly pure Al2O3 ceramic material (99.7%), are inert to the greatest possible extent as well as non-wearing. Easy to replace (mounting wrench supplied)
- Guided discharge tube effectively prevents "snip effect"
- Screw-doubled suction tube for 100% tightness during suction
- Environment-friendly packaging, fully recyclable
- Individual certificate with serial number and 12 months warranty
- Use of high-grade materials (ECTFE, DURAN® glass, FEP)

Scope of delivery
ceramus® classic complete with thread A32, 3 thread adapters (A 28, A 45, and S 40), 1 suction hose with union nut, 1 ejector unit, 1 valve mounting wrench, single calibration certificate.





① Variable volume

Volume ml	Setting steps ml	Accuracy[1] %	Variation coefficient[1] %	Order No.
0.2 – 1	0.05	0.6	0.2	**14 37 00001**
0.4 – 2	0.05	0.6	0.2	**14 37 00002**
1 – 5	0.10	0.6	0.2	**14 37 00003**
2 – 10	0.25	0.6	0.2	**14 37 00004**
5 – 30	0.50	0.6	0.2	**14 37 00005**
10 – 60	1.00	0.6	0.2	**14 37 00006**

[1]) In relation to the maximum volume.

② Fixed volume

Volume ml	Accuracy[1] %	Variation coefficient[1] %	Order No.
1	0.6	0.2	**14 37 00011**
2	0.6	0.2	**14 37 00012**
5	0.6	0.2	**14 37 00013**
10	0.6	0.2	**14 37 00016**
25	0.6	0.2	**14 37 00020**
50	0.6	0.2	**14 37 00023**

[1]) In relation to maximum volume.

webcode To see other variants and accessories, please enter the webcode on our website.

Dispensers

webcode WW4ZV032

HIRSCHMANN


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ceramus® Dispensers, Hirschmann

ceramus®dispenser technology with ceramic piston and recirculation system
ceramus® is a highly precise bottle dispenser with a broad range of application for dispensing nearly all liquids.

Ceramic dispensing piston:
ceramus® has a resistant special piston made of high-purity Al_2O_3.

Advantages of the ceramic piston:
- no abrasion
- no swelling
- no thermal problems

High resistance to chemicals:
- top-grade materials guarantee very high resistance to chemicals

Best handling:
- user-friendly recirculation system for fast venting without loss of reagent - good ecology and economy
- latching setting ring for fast and extremely precise settings
- ergonomic handle and excellent sliding properties of the dispensing piston facilitate operation for series dispensings

Modern, well arranged design

Precision and accuracy:
- **no re-calibration**
  necessary thanks to a combination of self-latching settings and permanently calibrated volume steps
- individual quality certificate acc. to DIN ISO 9000 ff., suitable for use as test equipment
- with declaration of conformity acc. to DIN 12600

Exemplary safety and choice of materials:
- protective casing helps to prevent breakage of glass cylinders and dispensing bottles
- **screw-coupled**
  suction tube prevents the formation of air bubbles during aspiration
- the device is freely rotatable so the label on the supply bottle is always in view
- guided discharge cannula prevents “snip effect” with the dispensing media

User-friendliness
- Suction, ejection, and return valve are made of highly pure Al2O3 ceramic material (99.7%), are inert to the greatest possible extent as well as non-wearing. Easy to replace (mounting wrench enclosed
- Sterilizable with steam, also when fully assembled

Additional merits:
- Discharge unit available with Luer-Lock connection
- Spiral discharge tube available for series dispensings
- Venting of bottle via the Luer-Lock connection
- Screw-coupled suction tube
- Environment-friendly packaging, fully recycleable
- 12-month manufacturer‘s warranty

Items supplied:
- ceramus® complete with thread A45, 3 thread adapters (A 32, A 38, and S 40), 1 suction hose with union nut, 1 ejector unit, 1 valve mounting wrench, single calibration certificate.

Special version for problematic media:
- ceramus® HF is a special version for dispensing hydrofluoric acid and other aggressive media
- Innovative dispensing system made of top-grade materials

① ceramus® adjustable volume

Volume ml	Sub-division ml	R %	CV %	Order No.
0.2 – 1.0	0.05	0.6	0.2	**14 37 93120**
0.4 – 2.0	0.05	0.6	0.2	**14 37 93220**
1.0 – 5.0	0.10	0.6	0.2	**14 37 93320**
2.0 – 10.0	0.25	0.6	0.2	**14 37 93420**
5.0 – 30.0	0.50	0.6	0.2	**14 37 93520**
10.0 – 60.0	1.00	0.6	0.2	**14 37 93620**

② ceramus® fixed volume

Volume ml	Sub-division ml	R %	CV %	Order No.
1	-	0.6	0.2	**14 37 93121**
2	-	0.6	0.2	**14 37 93221**
5	-	0.6	0.2	**14 37 93321**
10	-	0.6	0.2	**14 37 93421**
25	-	0.6	0.2	**14 37 93521**
50	-	0.6	0.2	**14 37 93621**

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Dispensers

③ **ceramus® HF**

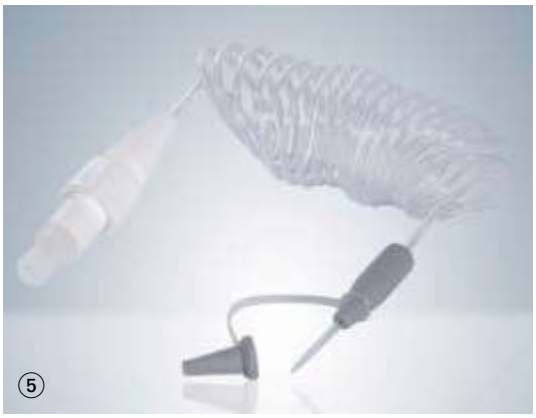
Volume ml	Sub-division ml	R %	CV %	Order No.
2.0 – 10.0	0.25	0.6	0.2	**14 37 93423**

④ **Thread adapter, ceramus®**

Thread adapter made of PP/ETFE for adapting standard internal threads (ceramus®, solarus® und akku-drive®) to bottle external thread.

Thread adapter	to	Material	Order No.
A 45	A 28	PP	**10 37 13523**
A 45	A 38/430	PP	**10 37 13524**
A 45	A 32	ETFE	**14 37 13621**
A 45	A 28	ETFE	**10 37 13623**
A 45	A 38/430	ETFE	**10 37 13624**
A 45	A 38	ETFE	**14 37 13625**
A 45	S 40	ETFE	**14 37 13627**


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Accessories

Article	Order No.
Discharge valve, ball Al_2O_3, platinum-iridium spring (HF)	**14 37 16028**
Discharge valve, ball Al_2O_3, Hastelloy spring for ceramus® classic up to 10 ml	**10 37 16010**
Discharge valve, ball Al_2O_3, Hastelloy spring for ceramus® and ceramus® classic from 25 ml	**10 37 16015**
Suction valve, ball Al_2O_3, platinum-iridium spring (HF)	**14 37 16528**
Suction valve, ball Al_2O_3, Hastelloy spring for ceramus® classic up to 10 ml	**10 37 16510**
Suction valve, ball Al_2O_3, Hastelloy spring for ceramus® and ceramus® classic from 25 ml	**10 37 16515**
Return valve, ball Al_2O_3, platinum-iridium spring (HF)	**14 37 16626**
Return valve, ball Al_2O_3, Hastelloy spring	**10 37 16615**
Mounting wrench	**14 37 16901**
Ejection unit standard complete, with full-length cannula guide, suitable for ceramus®	**14 37 13025**
⑤ **Ejection unit, flexible, spiral-shaped, length approx. 1 m**	**14 37 13027**
Discharge unit, complete, with Luer-Lock connection adapter FEP/PP, suitable for all ceramus®-devices and akku-drive®	**14 37 13028**
Discharge unit with Luer-Lock connection	**10 37 13029**
Suction tube with fitting, 310 mm	**14 37 15005**
Suction tube with fitting, 400 mm	**14 37 15007**
Return tube with fitting, ceramus® only	**14 37 15125**
Bottle support	**10 37 93960**
Round filter- set (5 pieces)	**27 37 03704**

Special Dispensers, Hirschmann

The specialists: EM dispenser PP

Version with precision-ground glass piston for unproblematic aqueous solutions and for organic media that do not attack polypropylene, available in 2 popular sizes.

Operation

- "Click-stop-latch mechanism" for reproducible variable volume settings.
- Sterilizable to max. 121°C

Conformity

- With Certificate of Conformity pursuant to DIN 12600
- Manufactured with state-of-the-art production engineering pursuant to DIN ISO 9001

Items supplied:

EM-dispenser PP, complete with screw thread A 32, 3 thread adapters (A 28, A 45 and S 40), 1 suction hose with union nut, 1 ejection unit, 1 valve mounting wrench, single calibration certificate.

Volume ml	Setting steps ml	Accuracy %	Variation coefficient[1] %	Order No.
2 – 10	0.25	0.6	0.2	**14 37 34020**
10 – 60	1.00	0.6	0.2	**14 37 36020**

[1] Relative to the maximum volume.



HIRSCHMANN

webcode WW4ZV067

Dispensers

webcode WW4ZV076

HIRSCHMANN

opus® dispenser, Hirschmann



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① **opus® dispenser**
Serial dispensing made easy.
opus® dispenser for motor-operated dispensing directly out of the text bottle. Available in three volumes (10 ml, 20 ml and 50 ml). In connection with the touch screen and the software opus® dispenser, operation becomes really easy. By means of electronic motor control, opus is a very sensitive precision dispenser and displays great precision also during automatic serial dispensing.

- Menu-structured, simple operation by means of index cards on the external, coloured TFT touch screen, which can also be read well in daylight
- Various areas of application by using high-quality materials (ECTFE, DURAN® glass, FEP); media-structured parts can be steam-sterilised (121°)
- User-friendly feedback system for quick venting without losing the reagent - good for environment and budget
- Up to 9999 dispensing repetitions can be set, pause time between individual dosages selectable to up to 9999 seconds
- Stepper function – dispensing several, also different volume settings from one cylinder filling (10 ml, 20 ml and 50 ml)
- Hassle-free, individual calibration possibilities
- Individual adjustment possibilities e.g.
  - Language selection (DE, UK, FR, ES)
  - Setting the suction speed and dispensing speed in ml/sec (adjustment to viscosity of the medium is possible)
- Method memory, up to 9 different settings, e.g. volume, speed, cycle time,... can be saved
- Accessories (selection):
  - Foot switch to trigger the dispensing process
  - Connection cable USB interface
  - Connection cable to touch screen available in 2000 mm and 5000 mm length, special lengths available
  - System platform made of silicone with bottle holder
  - Batteries as accessories for optional battery operation
- Saving the last settings ensures quick continuing when switching system back on
- With declaration of conformity acc. to DIN 12600
- Quality control according to DIN EN ISO 8655
- Valve seats and ball made of highly pure AL_2O_3 ceramics (99.7%)

Items supplied:
opus® dispenser, complete with screw thread A 45, 3 thread adapters (A 32, A 38 and S 40), 1 suction hose with union nut, return hose, dispenser ejection unit, valve mounting wrench, touch screen operating unit “dispenser”, brown light protection window, power pack, Data-Power cable, single calibration certificate.

Article	Plug	R %	CV %	Order No.
opus® dispenser, 10 ml	EU, US, UK	0.6	0.2	**10 37 81010**
opus® dispenser, 20 ml	EU, US, UK	0.6	0.2	**10 37 81020**
opus® dispenser, 50 ml	EU, US, UK	0.6	0.2	**10 37 81050**

Accessories

Article	Order No.
opus® system platform, grey	**10 37 86001**
Data power cable, length 0.75 m	**10 37 87001**
Data power cable, length 2 m	**10 37 87002**
Data power cable, length 5 m	**10 37 87003**
Connecting cable for serial interface, RS 232	**14 37 64005**
Connecting cable USB	**10 37 64006**
Battery pack	**10 37 87100**
Screen protectors, 1 pack = 2 pieces	**10 37 87200**
Foot switch to trigger the dispensing process	**10 37 64002**
Adapter with NS 12/21 filling tube for funnel problem-free filling of medium through a funnel, without unscrewing the basic unit	**10 37 13741**
Ground adapter NS 29/32 for direct reagent extraction from a ground bottle	**10 37 13742**
② **Ejection unit with fine tip** these even finer tips facilitate precision realisation of the finest droplets	**10 37 13041**
③ **Base support** the base support enables suctioning of the medium directly from separate storage container using a tube	**10 37 96001**
④ **Stand clip for fixing the basic unit** the stand clip facilitates use of opus® in a stand assembly	**10 37 17003**
Window inspection, amber	**10 37 86060**
Discharge valve, ball Al_2O_3, Hastelloy spring	**10 37 16015**
Suction valve, ball Al_2O_3, Hastelloy spring	**10 37 16515**
Return valve, ball Al_2O_3, Hastelloy spring	**10 37 16615**

Dispensers

Dispensers FORTUNA® OPTIFIX®, Poulten & Graf

Complete dispensing system for practically all applications.

The benefits at a glance:
- Optimum safety thanks to high-quality materials, excellent resistance even when dispensing aggressive media
- Visible dispensing process
- No sample contamination from metal parts such as springs
- Wide volume range up to 500 ml for BASIC and SOLVENT dispensers
- Ergonomic finger protection cap with Colour-Code system
- Easy-to-move quick adjustment (up to 100 ml), fine adjustment by twisting, suitable for left- and right-hand use
- Precision dispensing piston made of glass with PTFE coat (exception: SOLVENT - no coat)
- Precision dispensing piston made of glass with (except for model HF which is made of PTFE), plastic-coated, volume easy to read, easy to dismantle for cleaning
- High accuracy, pursuant to EN ISO 8655-5, with individual certificate, conformity confirmed



① FORTUNA® OPTIFIX® BASIC

With PTFE shell on the dispensing piston, patented, 100% corrosion free, no metal or dye extractions.
Application: For aqueous solutions, dilute acids and efflorescent substances.

Vol. ml	Grad. ml	Order No.
0.5 – 2	0.1	**14 30 12002**
1 – 5	0.1	**14 30 12003**
2 – 10	0.2	**14 30 12004**
5 – 30	0.5	**14 30 12005**
10 – 50	1.0	**14 30 12006**

Vol. ml	Grad. ml	Order No.
20 – 100	2.0	**14 30 12007**
40 – 200	5.0	**14 30 12008**
60 – 300	5.0	**14 30 12009**
100 – 500	5.0	**14 30 12010**



② FORTUNA® OPTIFIX® SOLVENT

Glass dispensing piston, precision ground. Other technical details as for **OPTIFIX® BASIC** model.
Application: Mainly for organic solvents and media that cause PTFE to swell.

Vol. ml	Grad. ml	Order No.
0.5 – 2	0.1	**14 30 13027**
1 – 5	0.1	**14 30 13033**
2 – 10	0.2	**14 30 13038**
5 – 30	0.5	**14 30 13044**
10 – 50	1.0	**14 30 13048**

Vol. ml	Grad. ml	Order No.
20 – 100	2.0	**14 30 13051**
40 – 200	5.0	**14 30 13053**
60 – 300	5.0	**14 30 13056**
100 – 500	5.0	**14 30 13058**



③ FORTUNA® OPTIFIX® SAFETY

Glass dispensing piston, PTFE shell, includes lip seal at piston end. Use PTFE adapter only.
Application: For strong acids (except HF) and aggressive chemicals.

Vol. ml	Grad. ml	Order No.
0.5 – 2	0.1	**14 30 43000**
1 – 5	0.1	**14 30 43033**
2 – 10	0.2	**14 30 43001**

Vol. ml	Grad. ml	Order No.
5 – 30	0.5	**14 30 43044**
10 – 50	1.0	**14 30 43002**
20 – 100	2.0	**14 30 43051**



④ FORTUNA® OPTIFIX® SAFETY S

With safety cock, glass dispensing piston, solid PTFE shell, includes lip seal at piston end. A PTFE ball valve in the venting channel of the valve block prevents the escape of acid vapors and smells from the storage container. Use PTFE adapter only.
Application: For dosing of fuming acids and other aggressive chemicals.

Vol. ml	Grad. ml	Order No.
0.5 – 2	0.1	**10 30 14027**
1 – 5	0.1	**10 30 14033**
2 – 10	0.2	**10 30 14038**

Vol. ml	Grad. ml	Order No.
5 – 30	0.5	**10 30 14044**
10 – 50	1.0	**10 30 14048**
20 – 100	2.0	**10 30 14051**

Continued on next page

Dispensers



① **FORTUNA UNIVERSAL® OPTIFIX® HF**
Dispensing cylinder made of pure PTFE. PTFE dispensing piston core, includes lip seal at piston end. A PTFE ball valve in the valve block breather channel prevents the escape of acidic vapor from the supply container. Use PTFE adapter only.
Application: Specifically for hydrofluoric acid; suitable for all media that can be dosed with the OPTIFIX® dispensers.

Volume ml	Graduation ml	Order No.
1 – 5	0.1	**10 30 10633**
2 – 10	0.2	**14 30 40000**
5 – 30	0.5	**14 30 40001**
10 – 50	1.0	**10 30 10648**

Standard equipment on all models:
Dispenser, without bottle, with one PTFE intake suction tube, 2 PTFE GL 40 adapters, GL 45 for SAFETY and HF models, or 2 adapters from PP for BASIC and SOLVENT models, in non-breakable single carton packaging. Conformity certified, a precision certificate listing accuracy and precision is included with every dispenser.



Dispenser FORTUNA® POLYFIX®, Poulten & Graf

POLYFIX® plastic dispensers with glass dispensing cylinder, coated with polypropylene (PP). For safety reasons, valve block unit cannot be removed. For dispensing of all media to which polypropylene is resistant. The range of POLYFIX® dispensers has been extended by two new models. Now, the POLYFIX® dispenser will be available either with glass piston or PTFE-coated piston, or with clear glass or brown glass cylinder.

② **FORTUNA® POLYFIX® dispenser with glass piston**
Technical data:
- Conformity certified
- Manufactured acc. to DIN EN ISO 9001
- Precision dispensing piston made of glass
- Precision glass cylinder, vacuum calibrated, plastic coated, visible dispensing operation
- Finger guard cap of ergonomic design, resistant markings applied by high-tech laser method
- Smooth and fast adjustment by sliding, fine adjustment for twisting, for left-handed and right-handed users
- PP valve block. With the new FIX adapter you can turn the dispenser into any position required on the reagent bottle.
- **Application:** For dispensing aqueous solutions and weak acids (for all media to which polopropylene is resistant)

Volume ml	Graduation ml	Order No.
2 – 10	0.2	**14 30 07038**
10 – 50	1.0	**14 30 07048**

Replacement parts

Version	Valve block unit Order No.	Spare flask Order No.
glass flask, 10 ml	**14 30 07538**	**14 30 07738**
glass flask, 50 ml	**14 30 07548**	**14 30 07748**

③ **FORTUNA® POLYFIX® Dispenser with PTFE-coated piston**
As before, but with PTFE coated piston.
Application: For dispensing of acids and alkaline solutions that do not attack polypropylene.

Volume ml	Graduation ml	Order No.
2 – 10	0.2	**10 30 17138**
10 – 50	1.0	**10 30 17148**

Replacement parts

Version	Valve block unit Order No.	Spare flask Order No.
PTFE coated flask, 10 ml	**14 30 07538**	**10 30 17838**
PTFE coated flask, 50 ml	**14 30 07548**	**10 30 17848**

Continued on next page

Dispensers

④ **FORTUNA® POLYFIX® Dispenser with amber glass cylinder**
As before, but with amber dispensing cylinder made of glass.
Application: For dispensing light sensitive liquids that do not attack polypropylene.

Volume ml	Graduation ml	Order No.
2 – 10	0.2	**10 30 17238**
10 – 50	1.0	**10 30 17248**



④

Replacement parts

Version	Valve block unit Order No.	Spare flask Order No.
amber glass cylinder, 10 ml	**10 30 17938**	**14 30 07738**
amber glass cylinder, 50 ml	**10 30 17948**	**14 30 07748**

Automatic Dispensing Station, FORTUNA® OPTIMAT® 3, Poulten & Graf

⑤ **Dispensing station FORTUNA® OPTIMAT® 3**
For user-friendly operating comfort and better reading precision, the colored touch screen of the OPTIMAT® dosing station has been greatly enlarged. The revised software provides an even easier handling.

Benefits:
- Designed for continuous day-in day-out service
- Guarantees precision at the highest stage
- Dispenses even difficult and aggressive liquids
- Extremely robust
- Qualified for non-corrosive and non-contaminative dispensing

Article	Order No.
Automatic dispensing station FORTUNA® OPTIMAT® 3 suitable for 1 dispensing pump, with RS 232-connection interface	**10 30 11503**



⑤

⑥ **FORTUNA® OPTIMAT® dispensing pumps**
For all liquids that can be handled with the OPTIFIX dispensers (incl. strong fuming acids and very abrasive liquids) **with the exception of hydrofluoric acid**. Intake and discharge tube sets are not included.

Volume ml	Graduation ml	Accuracy %	Tolerance %	max. V – ml/s	Order No.
0 – 2	0.1	≦ ± 0.6	≦ ± 0.2	1.90	**10 30 12627**
0 – 10	0.2	≦ ± 0.6	≦ ± 0.2	3.35	**10 30 12638**
0 – 30	0.5	≦ ± 0.6	≦ ± 0.2	9.60	**10 30 12644**
0 – 50	1,0	≦ ± 0.6	≦ ± 0.2	15.20	**10 30 12648**
0 – 100	2,0	≦ ± 0.6	≦ ± 0.2	24.30	**10 30 12651**
0 – 200	5,0	≦ ± 0.6	≦ ± 0.2	31.30	**10 30 12653**
0 – 300	5,0	≦ ± 0.6	≦ ± 0.2	31.80	**10 30 12656**


⑥

⑦ **Intake tube for FORTUNA® OPTIMAT® dispensing pumps**
Length 1 m, made of PTFE or silicone

Volume ml	Material	Order No.
2/10	PTFE	**10 30 13202**
30 – 300	PTFE	**10 30 13204**
30 – 300	silicone	**10 30 13206**

⑧ **Discharge tubes made from PTFE for FORTUNA® OPTIMAT® dispensing pumps**

Volume ml	0.75 m Order No.	1.50 m Order No.
2/10	**10 30 13402**	**10 30 13403**
30 – 300	**10 30 13404**	**10 30 13405**


⑦ ⑧

Dispensers



①

Bottle-Top Dispenser VITLAB® simplex², VITLAB

Simple and safe handling have made this bottle-top dispenser so popular.

① **Bottle-Top Dispenser VITLAB® simplex²**
Drawing quantities of liquids from large supply bottles is a daily routine in the lab. This manual task must be carried out quickly, accurately, reproducibly, simply and safely.
VITLAB® simplex² bottle-top dispensers are a family of instruments with proven precision that offer many advantages in routine liquid-handling operations. The positive displacement piston in this instrument is equipped with a fluoroplastic (PFA) sealing lip on the cylinder wall. This acts like a windscreen wiper to prevent crystal build-up on the cylinder wall from readily crystallisable media. The glass cylinder is also coated with a plastic material that reduces the risk of splashes should breakage occur. The telescopic filling tube can be adjusted smoothly to the height of the bottle.
Since the materials in contact with the media (borosilicate glass, Al_2O_3 ceramic, FEP, ETFE, PFA, PTFE, PP, platinum-iridium) are resistant to most acids, bases, and solvents, VITLAB® simplex² bottle-top dispensers can be used in practically any operation.
The VITLAB® simplex² is completely autoclavable at 121°C (2 bar) according to DIN EN 285.

Included in delivery:
VITLAB® simplex² with 3 respectively 5 threaded adapters made of PP.
Nominal volumes of 2 – 10 ml (screw coupling GL 45) with adapters GL 25, GL 28, GL 32, GL 38, S 40 and telescopic intake tube length 125 to 240 mm.
Nominal volumes of 25 – 100 ml (screw coupling GL 45) with adapters GL 32, GL 38, S 40 and telescopic intake tube length 170 to 330 mm.
Mounting tool, instruction manual, and quality certificate stating all test values.

Volume ml	Graduation ml	A ≦ ± %	A ≦ ± µl	CV ≦ %	CV ≦ µl	Order No.
0.2 – 2.0	0.05	0,5	10	0,1	2	**10 85 38503**
0.5 – 5.0	0.10	0,5	25	0,1	5	**10 85 38504**
1.0 – 10.0	0.20	0,5	50	0,1	10	**10 85 38505**
2.5 – 25.0	0.50	0,5	125	0,1	25	**10 85 38506**
5.0 – 50.0	1.00	0,5	250	0,1	50	**10 85 38507**
10.0 – 100.0	1.00	0,5	500	0,1	100	**10 85 38508**

Error limits according to DIN EN ISO 8655-5, related to the nominal (maximum) volume marked on the device where the device, environment and distilled H_2O are at the same temperature (20°C). Checks are done in accordance with DIN EN ISO 8655-6 with the device filled to capacity and with uniform and jolt-free dosing.



②

② **Bottle-Top Dispenser VITLAB® simplex² fix**
Drawing quantities of liquids from large supply bottles is a daily routine in the lab. This manual task must be carried out quickly, accurately, reproducibly, simply and safely.
VITLAB® simplex² bottle-top dispensers are a family of instruments with proven precision that offer many advantages in routine liquid-handling operations. The positive displacement piston in this instrument is equipped with a fluoroplastic (PFA) sealing lip on the cylinder wall. This acts like a windscreen wiper to prevent crystal build-up on the cylinder wall from readily crystallisable media. The glass cylinder is also coated with a plastic material that reduces the risk of splashes should breakage occur. The telescopic filling tube can be adjusted smoothly to the height of the bottle.
Since the materials in contact with the media (borosilicate glass, Al_2O_3 ceramic, FEP, ETFE, PFA, PTFE, platinum-iridium, PP) are resistant to most acids, bases, and solvents, VITLAB® simplex² bottle-top dispensers can be used in practically any operation.
The VITLAB® simplex² is completely autoclavable at 121 °C (2 bar) according to DIN EN 285.
- Fixed preset volume
- Accuracy = ±0.5%, at nominal value 1.0 ml = ±1%
- Variations coefficient = 0.1%, at nominal value 1.0 ml = 0.2%

Included in delivery:
VITLAB® simplex² fix with 5 threaded adapters made from PP.
Nominal volumes of 1 – 10 ml (screw coupling GL 45) with adapters GL 25, GL 28, GL 32, GL 38, S 40 and and telescopic intake tube length 125 to 240 mm.
Mounting tool, instruction manual, and quality certificate stating all test values.

Volume ml	A ≦ ± %	A ≦ ± µl	CV ≦ %	CV ≦ µl	Order No.
1.0	1,0	10	0,2	2	**10 85 32502**
5.0	0,5	25	0,1	5	**10 85 37504**
10.0	0,5	50	0,1	10	**10 85 37505**

Error limits according to DIN EN ISO 8655-5, related to the nominal (maximum) volume marked on the device where the device, environment and distilled H_2O are at the same temperature (20°C). Checks are done in accordance with DIN EN ISO 8655-6 with the device filled to capacity and with uniform and jolt-free dosing.

Continued on next page

Dispensers

③ Bottle-Top Dispenser VITLAB® genius²

VITLAB® genius² bottle-top dispensers are a family of instruments with proven precision that offer many advantages in routine liquid-handling operations.
VITLAB® genius² instruments can be used in practically any operation, since the materials that come into in contact with media (borosilicate glass, Al_2O_3 ceramic, FEP, ETFE, PFA, PTFE, platinum-iridium, PP) are resistant to most acids, bases, and solvents. Reagent loss while ventilating is avoided with the innovative recirculation valve. The simple-to-use calibration function helps meet all the requirements for test equipment monitoring without downtime.
VITLAB® genius² is equipped with a positive displacement piston and a fluoroplastic (PFA) sealing lip on the cylinder wall. The latter acts like a windscreen wiper to prevent crystal build-up on the cylinder wall from readily crystallisable media. The glass cylinder is also coated with a plastic material that reduces the risk of splashes should breakage occur. The telescopic filling tube can be adjusted smoothly to different bottle heights.
The VITLAB® genius² is completely autoclavable at 121°C (2 bar) according to DIN EN 285.

Included in delivery:
VITLAB® genius with 3 respectively 5 threaded adapters made of PP.
Nominal volumes of 2 – 10 ml (screw coupling GL 45) with adapters GL 25, GL 28, GL 32, GL 38, S 40 and telescopic intake tube length 125 to 240 mm.
Nominal volumes of 25 – 100 ml (screw coupling GL 45) with adapters GL 32, GL 38, S 40 and telescopic intake tube length 170 to 330 mm.
Recirculation tube, mounting tool, instruction manual, and quality certificate.


③

Volume ml	Graduation ml	Thread GL	A ≦ ± %	A ≦ ± µl	CV ≦ %	CV ≦ µl	Order No.
0.2 – 2.0	0.05	45	0,5	10	0,1	2	**10 85 39503**
0.5 – 5.0	0.10	45	0,5	25	0,1	5	**10 85 39504**
1.0 – 10.0	0.20	45	0,5	50	0,1	10	**10 85 39505**
2.5 – 25.0	0.50	45	0,5	125	0,1	25	**10 85 39506**
5.0 – 50.0	1.00	45	0,5	250	0,1	50	**10 85 39507**
10.0 – 100.0	1.00	45	0,5	500	0,1	100	**10 85 39508**

Error limits according to DIN EN ISO 8655-5, related to the nominal (maximum) volume marked on the device where the device, environment and distilled H_2O are at the same temperature (20°C). Checks are done in accordance with DIN EN ISO 8655-6 with the device filled to capacity and with uniform and jolt-free dosing.

Drying tube for VITLAB® genius² und simplex²
PP, transparent, unfilled, with PTFE seal ring. Can be connected directly to the burette.

Article	Order No.
Drying tube, PP, unfilled	**10 85 31095**

Bottle-Top Dispenser VITLAB® piccolo, VITLAB

For dispensing tiny quantities of liquids in all areas of biochemical and medical research. Even the smallest quantities can be dispensed directly from the bottle with the VITLAB® piccolo – a big help, particularly for serial dispensing operations. Special advantage: Disposable tips are unnecessary. This reduces costs.
The ergonomic design makes dispensing effortless and stress-free. The VITLAB® piccolo can be operated with only one hand. Use the thumb to depress the volume dispensing button, just as with a pipette, and a reset mechanism refills the volume automatically. The discharge tube can be rotated over 360° so that it is always optimally situated with respect to the bottle label.
The bottle-top dispensers VITLAB®piccolo 1 and 2 are primarily used for aqueous and heavily diluted media. Checks are done in accordance with DIN EN ISO 8655-6 with the device filled to capacity and with uniform and jolt-free dosing.
- **VITLAB®piccolo 1** with a fixed volume
- **VITLAB®piccolo 2** with two fixed volumes

Included in delivery:
④ VITLAB® piccolo 1 or 2 (GL 28 connecting threads), mounting tool, quality certificate and instruction manual.


④

Type	Volume µl	A ≦ ± %	CV ≦ %	Order No.
piccolo 1	100	3.0	0.4	**10 85 31601**
piccolo 1	200	2.5	0.4	**10 85 31602**
piccolo 1	250	2.0	0.4	**10 85 31603**
piccolo 1	500	1.5	0.3	**10 85 31604**
piccolo 1	1000	1.0	0.2	**10 85 31605**
piccolo 2	100/250	2.0	0.4	**10 85 31606**
piccolo 2	500/1000	1.0	0.2	**10 85 31607**
piccolo 2	1000/2000	1.0	0.2	**10 85 31608**

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Dispensers



Bottle-Top Dispenser VITLAB® TA², VITLAB

The VITLAB® TA² dispenser was developed specifically to meet the high purity requirements in trace analysis. By using highly pure materials and employing a special cleaning procedure, well proven in practice, before the application of the dispenser, it is possible to reduce the release of trace metal to the low ppb and for some applications even to the ppt range. The parts that are in contact with media are made of various fluoroplastics (e.g. ETFE, FEP, PFA, PTFE), Al_2O_3 sapphire, platinum-iridium or tantalum (depending on the version).
The outstanding chemical resistance of the materials used makes the new dispenser suitable for applications involving highly concentrated acids and alkalis, such as perchloric acid, acid sulphur, and azotic acid. Choose between two different valve spring systems to match your application: The VITLAB® TA² with tantalum spring is intended for dosing hydrogen peroxide (H_2O_2). For applications with sodium hydroxide (max. concentration 30%) and hydrofluoric acid (HF), we recommend the platinum iridium spring. To deep the loss of valuable reagents or sample solutions to a minimum, the dispenser is optionally available with a redosing valve.

Included in delivery:
VITLAB® TA² dispenser with adjustable variable volumes, certified compliant according to DIN 12600, with quality certificate, telescoping filling tube, mounting tool, GL 28/S 28 (ETFE), GL 32 (ETFE), and S 40 (PTFE) bottle adapters, and instruction manual. Optionally with or without recirculation valve.

Volume ml	Valve spring	Recirculation	Increment ml	A ≦ ± %	CV ≦ %	Order No.
1.0 – 10.0	Pt-Ir	no	0,2	0.5	0.1	**10 85 37515**
1.0 – 10.0	Pt-Ir	yes	0,2	0.5	0.1	**10 85 37525**
1.0 – 10.0	Ta	no	0,2	0.5	0.1	**10 85 37535**
1.0 – 10.0	Ta	yes	0,2	0.5	0.1	**10 85 37545**

Error limits according to DIN EN ISO 8655-5, based on nominal volume (= maximum volume) printed on the instrument if the instrument, the environment and dist. H_2O are at the same temperature (20°C). Testing takes place according DIN EN ISO 8655-6 with a completely filled instrument and with uniform and smooth dispensing.

Burettes, Titrators, Accessories

webcode WW4ZV021



Burettes, Hirschmann

Burettes with straight stopcock with glass key joint size12.5, with dated batch identification, class AS, with declaration of conformity acc. to DIN 12600, main point ring graduation, DURAN®, clear glass with Schellbachline, acc. to DIN EN ISO 385, graduation and printing in blue durable ceramic stain.

Volume ml	Graduation ml	Tol. ± ml	Flow time s	Order No.	PU pc/Pack
10	0.02	0.02	35 – 45[1)]	**14 79 41256**	2
25	0.05	0.03	35 – 45[1)]	**14 79 41265**	2
50	0.1	0.05	35 – 45[1)]	**14 79 41272**	2

[1)] Waiting time 30 s.

webcode WW4ZV023



Burettes, Hirschmann

Burettes with lateral stopcock with glass key joint size 12.5, with dated batch identification, class AS, with declaration of conformity acc. to DIN 12600, main point ring graduation, DURAN®, clear glass, with Schellbachline, acc. to DIN EN ISO 385, graduation and printing in blue durable ceramic stain.

Volume ml	Graduation ml	Tol. ± ml	Flow time s	Order No.	PU pc/Pack
10	0.02	0.02	35 – 45[1)]	**14 79 44256**	2
25	0.05	0.03	35 – 45[1)]	**14 79 44265**	2
50	0.1	0.05	35 – 45[1)]	**14 79 44272**	2

[1)] Waiting time 30 s.

Burettes, Titrators, Accessories

Burettes, Hirschmann



webcode WW4ZV024

Burettes with lateral valve stopcock with PTFE spindle, with dated batch identification, class AS, with declaration of conformity acc. to DIN 12600, main point ring graduation, DURAN®, clear glass, with Schellbachline, acc. to DIN EN ISO 385, graduation and printing in blue durable ceramic stain.

Volume ml	Graduation ml	Tol. ± ml	Flow time s	Order No.	PU pc/Pack
10	0.02	0.02	35 – 45[1)]	**14 79 46256**	2
25	0.05	0.03	35 – 45[1)]	**14 79 46265**	2
50	0.1	0.05	35 – 45[1)]	**14 79 46272**	2

[1)] Waiting time 30 s.

HIRSCHMANN®

Burettes, Hirschmann



webcode WW4ZV022

Burettes with straight valve with PTFE spindle joint size 12.5, with dated batch identification, class AS, with declaration of conformity acc. to DIN 12600, main point ring graduation, DURAN®, clear glass with Schellbachline, acc. to DIN EN ISO 385, graduation and printing in blue ceramic stain.

Volume ml	Graduation ml	Tol. ± ml	Flow time s	Order No.	PU pc/Pack
10	0.02	0.02	35 – 45[1)]	**14 79 42256**	2
25	0.05	0.03	35 – 45[1)]	**14 79 42265**	2
50	0.1	0.05	35 – 45[1)]	**14 79 42272**	2

[1)] Waiting time 30 s.

Compact Automatic Burettes, BRAND

webcode WWQED064

BRAND®

The modular automatic burette concept.
- With PTFE stopcock
- Fast to dismantle and easy to clean
- Simple repair - all individual components replaceable



① **Compact automatic burettes, BLAUBRAND®, with glass bottle, class AS, DE-M marked**

Boro 3.3, detachable PTFE stopcock. DIN EN ISO 385. Calibrated to deliver (TD, Ex). Incl. one batch certificate. Items supplied: Burette tube with Schellbach stripe and automatic zeroing, stopcock with precision tip, filling tube (PVC, transparent), pumphead and 2000 ml bottle (soda-lime glass).

Volume ml	Increment	Error limit ± ml	Length mm	Order No.
10	0.02	0.02	775	**10 49 23919**
25	0.05	0.03	785	**10 49 23920**
50	0.1	0.05	790	**10 49 23921**

Please order supports, burette clamps and rubber bellows separately.
On request, they are available with an USP individual certificate.



② **Compact automatic burettes, BLAUBRAND®, with PE bottle, class AS, DE-M marked**

Boro 3.3, detachable PTFE stopcock. DIN EN ISO 385. Calibrated to deliver (TD, Ex). Incl. one batch certificate. Items supplied: Burette tube with Schellbach stripe and automatic zeroing, stopcock with precision tip, filling tube (PVC, transparent) and 1000 ml PE-bottle with base.

Volume ml	Graduation ml	Error limit ± ml	Length mm	Order No.
10	0.02	0.02	775	**10 49 23813**
25	0.05	0.03	785	**10 49 23816**
50	0.1	0.05	790	**10 49 23818**

Please order supports, burette clamps and rubber bellows separately.
On request, they are available with an USP individual certificate.

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Burettes, Titrators, Accessories





① Compact automatic burettes, SILBERBRAND, with PE bottle

AR-Glas®, detachable PTFE stopcock. Error limits according to class B, DIN EN ISO 385. Calibrated to deliver (TD, Ex). Items supplied: Burette tube with Schellbach stripe and automatic zeroing, stopcock with precision tip, filling tube (PVC, transparent) and 1000 ml PE-bottle with base.

Volume ml	Graduation ml	Error limit ± ml	Length mm	Order No.
10[1)]	0.05	0.05	445	**10 49 23803**
25[1)]	0.1	0.08	520	**10 49 23806**
50[1)]	0.1	0.1	730	**10 49 23808**

[1)] reduced distance between subdivision marks
Please order supports and burette clamps separately.

② Compact automatic burettes, amber glass, SILBERBRAND, with PE bottle

Borosilicate glass 5.4, detachable PTFE stopcock. Calibrated to deliver (TD, Ex).
25 ml: Error limit according to class B, DIN EN ISO 385.
50 ml: DIN EN ISO 385, class B.
Items supplied: Burette tube with white graduation and automatic zeroing, stopcock with precision tip, filling tube (PVC, transparent) and brown 1000 ml PE-bottle with base.

Volume ml	Graduation ml	Error limit ± ml	Length mm	Order No.
25[1)]	0.1	0.08	495	**10 49 23826**
50	0.1	0.1	780	**10 49 23828**

[1)] reduced distance between subdivision marks
Please order supports and burette clamps separately.







③ Spare burette tubes for Compact automatic burettes with automatic zeroing

BLAUBRAND®, incl batch certificate.

Version	Volume ml	Length mm	Order No.
BLAUBRAND®, Boro 3.3	10	680	**10 49 23843**
BLAUBRAND®, Boro 3.3	25	690	**10 49 23846**
BLAUBRAND®, Boro 3.3	50	695	**10 49 23848**
SILBERBRAND, AR-Glas®	10[1)]	360	**10 49 23833**
SILBERBRAND, AR-Glas®	25[1)]	425	**10 49 23836**
SILBERBRAND, AR-Glas®	50[1)]	635	**10 49 23838**
SILBERBRAND, amber glass	25[1)]	400	**10 49 23866**
SILBERBRAND, amber glass	50	685	**10 49 23868**

[1)] reduced distance between subdivision marks





Spare burette stopcock for all Compact burettes and Compact automatic burettes

PTFE. With screw couplings and seals, without burette tip.

Article	Order No.
④ Spare burette stopcock, PTFE	**10 49 11805**





⑤ Spare burette tips for all Compact burettes and Compact automatic burettes

for burettes ml	Version	Order No.
clear glass 10 ml	clear glass, Boro 3.3	**10 49 11510**
clear glass 25 ml	clear glass, Boro 3.3	**10 49 11511**
clear glass 50 ml	clear glass, Boro 3.3	**10 49 11512**
amber glass 25 / 50 ml	amber glass, Boro 5.4	**10 49 11515**

Spare filling tube

PVC, transparent. Inner-Ø 5 mm, Outer-Ø 7 mm, length 1 m.

Article	Order No.
Spare filling tube, PVC, transparent	**10 49 11525**

⑥ Reservoir bottles, PE-LD

Narrow-mouth bottle with tube bushing.

Volume ml	Ø mm	Height mm	Thread	Order No.
500	75	180	GL 25	**10 49 29055**
1000	94	212	GL 28	**10 49 12906**
1000, amber	94	212	GL 28	**10 49 13026**

Continued on next page

Burettes, Titrators, Accessories

⑦ **Reservoir bottles, glass**
Boro 3.3 or soda-lime glass. Available in clear or amber glass. Capacity 2000 ml.

Volume ml	Ø mm	Height mm	Ground joint NS	Version	Order No.
2000	160	200	29/32	Boro 3.3, clear glass	**10 49 23310**
2000	160	200	29/32	Boro 3.3, amber glass	**10 49 23320**
2000	160	200	29/32	Soda-lime glass, clear glass	**10 49 26965**
2000	160	200	29/32	Soda-lime glass, amber glass	**10 49 27065**

Pumphead for glass reservoir bottle
For compact automatic burettes. Boro 3.3. NS 29/32. Fitting length 185 mm. Nozzle outer diameter 7 mm.

Article	Order No.
⑧ **Pump head for glass reservoir bottle, clear glass**	**10 49 23875**
⑨ **Pump head for glass reservoir bottle, amber glass**	**10 49 23876**

Rubber bellows for automatic burettes
Orange colored, single-bulb rubber bellows. With valve and tubing.

Article	Order No.
⑩ **Rubber bellows for automatic burettes**	**10 49 23400**

Joint clip
Stainless-steel. Neck size 29/32.

Article	Order No.
⑪ **Joint clip**	**10 49 55618**

Burette support for compact automatic burettes
Base plate: PP. Rubber feet for stability and protection of table top. Support rod: Steel alloy.

Length base plate mm	Width base plate mm	Rod length mm	Rod Ø mm	Order No.
⑫ 210	155	505	12	**10 49 23880**

⑬ **Base for bottles**

Article	Bottle Ø mm	Order No.
Base for plastic bottles 500 ml	75	**10 49 23725**
Base for plastic bottles 1000 ml	94	**10 49 23728**


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Compact Burettes, BRAND

webcode WWQED063

The modular automatic burette concept.
- With PTFE stopcock
- Fast to dismantle and easy to clean
- Simple repair - all individual components replaceable

Compact burettes, BLAUBRAND®
Boro 3.3, removable PTFE stopcock. Class AS, DE-M marked. To DIN EN ISO 385. Calibrated to deliver (TD, Ex). Items supplied: Burette tube with Schellbach stripe; Stopcock with precision tip. Incl. one batch certificate.

Volume ml	Graduation ml	Error limit ± ml	Length mm	Order No.
⑭ 10	0.02	0.02	795	**10 49 13913**
25	0.05	0.03	800	**10 49 13916**
50	0.1	0.05	800	**10 49 13918**

Compact burettes, SILBERBRAND
AR-Glas®, removable PTFE stopcock. Error limits according to class B, DIN EN ISO 385. Distance between subdivision marks.Calibrated to deliver (TD, Ex). Items supplied: Burette tube with Schellbach stripe; Stopcock with precision tip.

Volume ml	Graduation ml	Error limit ± ml	Length mm	Order No.
⑮ 10	0.05	0.05	445	**10 49 13903**
25	0.1	0.08	510	**10 49 13906**
50	0.1	0.1	710	**10 49 13908**


⑭


⑮

Continued on next page

Burettes, Titrators, Accessories









Compact burettess, amber glass, SILBERBRAND
Borosilicate glass 5.4, removable PTFE stopcock.
25 ml: Error limits according to class B, DIN EN ISO 385. Distance between subdivision marks.
50 ml: To DIN EN ISO 385, class B.
Calibrated to deliver (TD, Ex). Items supplied: Burette tube with white graduation; Stopcock with precision tip.

	Volume ml	Graduation ml	Error limit ± ml	Length mm	Order No.
①	25	0.1	0.08	520	**10 49 13926**
	50	0.1	0.1	790	**10 49 13928**

Spare burette tubes for the Compact burette

	Version	Volume ml	Length mm	Order No.
②	BLAUBRAND®, Boro 3.3	10	700	**10 49 13943**
	BLAUBRAND®, Boro 3.3	25	705	**10 49 13946**
	BLAUBRAND®, Boro 3.3	50	705	**10 49 13948**
	SILBERBRAND, AR-Glas®	10[1)]	350	**10 49 13933**
	SILBERBRAND, AR-Glas®	25[1)]	410	**10 49 13936**
	SILBERBRAND, AR-Glas®	50[1)]	610	**10 49 13938**
	SILBERBRAND, amber glass	25[1)]	425	**10 49 13956**
	SILBERBRAND, amber glass	50	695	**10 49 13958**

[1)] Distance between subdivision marks

Spare burette stopcock for all Compact burettes and Compact automatic burettes
PTFE. With screw couplings and seals, without burette tip.

	Article	Order No.
③	Spare burette stopcock, PTFE	**10 49 11805**

Spare burette tips for all Compact burettes and Compact automatic burettes

	for burettes ml	Version	Order No.
④	clear glass 10 ml	clear glass, Boro 3.3	**10 49 11510**
	clear glass 25 ml	clear glass, Boro 3.3	**10 49 11511**
	clear glass 50 ml	clear glass, Boro 3.3	**10 49 11512**
	amber glass 25 / 50 ml	amber glass, Boro 5.4	**10 49 11515**

HIRSCHMANN®

webcode WW4ZV027



Micro-Burettes, Hirschmann

Micro-burettes acc. to Bang with straight stopcock, glass key with standard ground joint size 12
Stopcock at the filling tube with glass key, with dated batch identification, class AS, with declaration of conformity acc. to DIN 12600, main point ring graduation, DURAN®, with Schellbachline, acc. to DIN EN ISO 385. Graduation and printing in blue durable ceramic stain.

	Volume ml	Graduation ml	Tol. ± ml	Flow time s	Order No.	PU pc/Pack
	2	0.01	0.01	8 – 20	**14 81 48134**	2
⑤	5	0.02	0.01	15 – 25	**14 81 48146**	2
	10[1)]	0.02	0.02	35 – 45	**14 81 48156**	2

[1)] In addition to DIN size
Waiting time 30 s

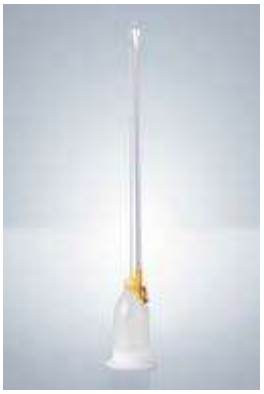
Micro-burettes acc. to Bang with straight stopcock with PTFE key with standard ground joint size 12
Stopcock at the filling tube with PTFE key joint size 12, with dated batch identification, class AS, with declaration of conformity acc. to DIN 12600, acc. to DIN EN ISO 385. Graduation and printing in blue durable ceramic stain, with Schellbachline.

Volume ml	Graduation ml	Tol. ± ml	Flow time s	Order No.	PU pc/Pack
2	0.01	0.01	8 – 20	**14 81 48234**	2
5	0.02	0.01	15 – 25	**14 81 48246**	2
10[1)]	0.02	0.02	35 – 45	**14 81 48256**	2

[1)] In addition to DIN size
Waiting time 30 s

Burettes, Titrators, Accessories

Automatic Burettes, Hirschmann



HIRSCHMANN

webcode WW4ZV031

Automatic burettes acc. to Dr. Schilling, with pushbutton dispenser and microscrew, DURAN®, with Schellbach line, fixed zero and plastic foot. Graduation and printing in durable blue ceramic stain.

Volume ml	Graduation ml	Supply vessel ml	Order No.
5	0.05	500	**14 86 49348**
10	0.05	500	**14 86 49357**
15	0.1	1000	**14 86 49361**
25	0.1	1000	**14 86 49366**
50	0.1	1000	**14 86 49372**

Automatic Burettes, Dr. Schilling, Starke



STARKE Laborbedarf

webcode WWFNK003

Standard version with butterfly wings,complete with supply bottle and plastic foot.

① Automatic burette with adjustable zero

Vol. ml	Grad. ml	Bottle ml	Order No.
5	1/20	500	**14 59 21046**
10	1/20	500	**14 59 21056**
15	1/10	500	**14 59 21061**
25	1/10	1000	**14 59 21066**
50	1/10	1000	**14 59 21072**

② Automatic burette with fixed zero

Vol. ml	Grad. ml	Bottle ml	Order No.
5	1/20	500	**14 59 22046**
10	1/20	500	**14 59 22056**
15	1/10	500	**14 59 22061**
25	1/10	1000	**14 59 22066**
50	1/10	1000	**14 59 22072**

Spare burette with fixed zero

Vol. ml	Grad. ml	Order No.
5	1/20	**14 59 23046**
10	1/20	**14 59 23056**
15	1/10	**14 59 23061**
25	1/10	**14 59 23066**
50	1/10	**14 59 23072**

Accessories

Article	Order No.
Spare foot made of PE for 500 ml bottles	**14 59 23100**
Spare foot made of PE for 1000 ml bottles	**14 59 23101**

Burettes also available in amber glass!

Burettes, Class B, VITLAB



Plastic-coated burette made of borosilicate glass 3.3, tolerances corresponding to DIN ISO 384, Class B. With Schellbach stripes (blue/white) and high-contrast black marking. Calibrated to deliver “Ex”. The burette stopcock turns easily and enables fine titration. The temperature-stable plastic coating on the tube provides splinter protection.
Materials: Burette of borosilicate glass 3.3, with PMP/PTFE burette stopcock.

Volume ml	Tolerance ± ml	Graduation ml	Length mm	Order No.	PU pc/Pack
25	0.05	0.05	800	**10 85 31055**	2
50	0.10	0.10	800	**10 85 31056**	2

Available only in original packaging units. No fractions possible.

Burettes, Titrators, Accessories











webcode WW4ZV029

HIRSCHMANN

webcode WW4ZV072



Automatic Burettes, Hirschmann

① **Automatic burettes acc. to Pellet, without intermediate stopcock**
With dated batch identification, class AS, with declaration of conformity acc. to DIN 12600, main point ring graduation, DURAN®, with Schellbachline, lateral precision dispensing stopcock with PFTE spindle joint size 12, acc. to DIN EN ISO 385, with supply bottle 2000 ml, graduation and printing in durable blue ceramic stain.

Volume ml	Graduation ml	Tol. ± ml	Flow time s	Order No.
10	0.02	0.02	35 – 45[1)]	**14 82 53360**
25	0.05	0.03	35 – 45[1)]	**14 82 53370**
50	0.1	0.05	35 – 45[1)]	**14 82 53375**

[1)] Waiting time 30 s.

② **Automatic burettes acc. to Pellet, with intermediate stopcock**
With dated batch identification, class AS, with declaration of conformity acc. to DIN 12600, main point ring graduation, DURAN®, with Schellbachline, lateral stopcock with glass key joint size NS12, intermediate stopcock with glass key joint size 18.8, acc. to DIN EN ISO 385, with supply bottle 2000 ml, graduation and printing in durable blue ceramic stain.

Volume ml	Graduation ml	Tol. ± ml	Flow time s	Order No.
10	0.02	0.02	35 – 45[1)]	**14 82 54156**
25	0.05	0.03	35 – 45[1)]	**14 82 54165**
50	0.1	0.05	35 – 45[1)]	**14 82 54172**

[1)] Waiting time 30 s.

③ **Automatic burettes acc. to Pellet, with lateral precision dispensing stopcock with PTFE spindle**
With dated batch identification, class AS, with declaration of conformity acc. to DIN 12600, main point ring graduation, DURAN®, with Schellbachline, intermediate stopcock with PTFE key joint size 18.8, acc. to DIN EN ISO 385, with supply bottle 2000 ml, graduation and printing in blue durable ceramic stain.

Volume ml	Graduation ml	Tol. ± ml	Flow time s	Order No.
10	0.02	0.02	35 – 45[1)]	**14 82 54356**
25	0.05	0.03	35 – 45[1)]	**14 82 54365**
50	0.1	0.05	35 – 45[1)]	**14 82 54372**

[1)] Waiting time 30 s.

④ **Automatic burettes acc. to Pellet, with intermediate stopcock**
Class B, line graduation, DURAN®, **made of amber glass,** lateral stopcock with glass key joint size 12, intermediate stopcock with glass key joint size 18.8, acc. to DIN EN ISO 385, with supply bottle 2000 ml, graduation and printing in durable white ceramic stain.

Volume ml	Graduation ml	Tol. ± ml	Flow time s	Order No.
10	0.02	0.03	45 – 75	**14 82 55160**
25	0.05	0.045	30 – 70	**14 82 55170**
50	0.1	0.075	40 – 100	**14 82 55175**

⑤ **Automatic burettes acc. to Pellet, with lateral precision dispensing stopcock with PTFE spindle**
Class B, **made of amber glass,** intermediate stopcock with PTFE key joint size 18.8, acc. to DIN EN ISO 385, with supply bottle 2000 ml, graduation and printing in white durable ceramic stain.

Volume ml	Graduation ml	Tol. ± ml	Flow time s	Order No.
10	0.02	0.03	40 – 75	**14 82 55360**
25	0.05	0.045	30 – 70	**14 82 55370**
50	0.1	0.75	40 – 100	**14 82 55375**

Titrators, Pellet, Hirschmann

Titrators acc. to Pellet, brown glass, with intermediate stopcock, DURAN®, class AS, with declaration of conformity acc. to DIN 12600, **with dated batch identification,** graduation and printing in durable white ceramic stain, main point ring graduation, lateral **PTFE spindle stopcock**, with 2 liter brown glass supply bottle, acc. DIN EN ISO 385.

Volume ml	Sub-division ml	Tolerance ± ml	Scale length approx. mm	Order No.
10	0.02	0.02	500	**14 82 50360**
25	0.05	0.03	500	**14 82 50370**
50	0.1	0.05	500	**14 82 50375**

Burettes, Titrators, Accessories

Titrators, Pellet, Starke



STARKE Laborbedarf

webcode WWFNK002

Titrators acc. to Pellet, Starke system, with plastic standard ground connecting joint size 29, with adjustable zero point setting, with spindle stopcock and Schellbach line, with 2-l supply bottle.

Clear glass, with Schellbach line, without intermediate stopcock, strap-spindle stopcock

Volume ml	Graduation ml	Order No.	Volume ml	Graduation ml	Order No.
10	1/50	**14 59 31056**	25	1/20	**14 59 31067**
25	1/10	**14 59 31066**	50	1/10	**14 59 31072**

① **Clear glass, with Schellbach line, interm. stopcock with PTFE key**

Volume ml	Graduation ml	Order No.	Volume ml	Graduation ml	Order No.
10	1/50	**14 59 32056**	25	1/20	**14 59 32067**
25	1/10	**14 59 32066**	50	1/10	**14 59 32072**

Amber glass, without intermediate stopcock

Volume ml	Graduation ml	Order No.	Volume ml	Graduation ml	Order No.
10	1/50	**14 59 33056**	25	1/20	**14 59 33067**
25	1/10	**14 59 33066**	50	1/10	**14 59 33072**

Amber glass, intermediate stopcock with PTFE key

Volume ml	Graduation ml	Order No.	Volume ml	Graduation ml	Order No.
10	1/50	**14 59 34056**	25	1/20	**14 59 34067**
25	1/10	**14 59 34066**	50	1/10	**14 59 34072**

VITLAB® Dr. Schilling Burettes, VITLAB



Burette made of borosilicate glass 3.3, tolerances according to DIN ISO 384 Class B, with high-contrast black markings. Calibrated to deliver “Ex”. Automatic zero setting. The burette stopcock turns easily and enables fine titration. The holding device for the riser pipe serves as additional shock-proofing.
The patented VITLAB® symbiotic (DE 10 2005 034 963) offers in addition to the impact protection a thermally stable plastic coating of the glass burette tube. This provides additional breaking resistance and acts as a splinter protection.
Materials: burette of borosilicate glass 3.3, PP filling tube, PMP/PTFE burette stopcock, and PE-LD reservoir bottle.

VITLAB® symbiotic, with Schellbach stripes (blue/white)

Volume ml	Tolerance ± ml	Graduation ml	Height approx. mm	Bottle ml	Order No.
25	0.05	0.05	900	1000	**10 85 31065**
50	0.10	0.10	900	1000	**10 85 31066**

Burette with Schellbach stripes (blue/white), without plastic-coating

Volume ml	Tolerance ± ml	Graduation ml	Height approx. mm	Bottle ml	Order No.
25	0.05	0.05	900	1000	**10 85 31063**
50	0.10	0.10	900	1000	**10 85 31064**

Burette made of brown glass, without Schellbach stripes, without plastic-coating

Volume ml	Tolerance ± ml	Graduation ml	Height mm	Bottle ml	Order No.
25	0.05	0.05	900	1000	**10 85 31067**
50	0.10	0.10	900	1000	**10 85 31068**

Atomizer Bulbs, Deutsch & Neumann



Atomizer bulbs made of PVC-w, reddish brown. Tubing length 25 cm.

Article	Vol. ml	Order No.
Size 3, pressure valve	65	**27 34 02003**
Size 5, pressure valve	102	**27 34 02005**
Size 3, suction valve	65	**27 34 02006**

webcode To see other variants and accessories, please enter the webcode on our website.

Burettes, Titrators, Accessories



Rubber Bulb Set with Net, Deutsch & Neumann

Double bulb with hose (length 25 cm), size 5 (102 ml).

Article	Order No.
Double bulb made of PVC-w/NR, black	**27 34 01003**

webcode WWQED004

BRAND

Titrette®, Bottle-top Burette, BRAND



① **The first bottle-top burette to satisfy Class A error limits for glass burettes**
With the Titrette® bottle-top burette, you can titrate quickly and reliably with highest precision, even in close quarters, with no power hookup needed – in the lab, in production, or in the field. The Titrette® bottle-top burette has an innovative new measuring system, so even the error limits of Class A glass burettes per DIN EN ISO 385 are met. If needed it can display 3 decimal places for volumes below 20 ml.

- Precise titration within the error limits of Class A for glass burettes.
- The operating elements of the bottle top burette Titrette® are clearly structured.
- Separate buttons for On/Off, Pause, and CLEAR for cancelling the display, as well as for selecting the function.
- High stability due to compact design and light weight.
- Slip-proof hand wheels and smooth precision gearing for all titration speeds from rapid to drop-by-drop make handling the device particularly safe and easy.
- Easy to dismantle for cleaning, maintenance and part replacement in the lab.
- Additional electronic functions: Adjustment with Easy Calibration, Calibration schedule to save a date for the next calibration, Save power with Auto-Power-Off, Change decimal place settings.
- PC interface (optional) for a data transmission directly to the PC.
- Titrette® SH to determinate the acid content of milk and liquid dairy according to Soxhlet-Henkel (4 °SH = 1 ml).

Items supplied
Titrette® bottle-top burette, DE-M marked, performance certificate, telescoping filling tube (170 – 330 mm), recirculation tube, 2 micro batteries (AAA/UM4/LR03), 3 bottle adapters PP (GL 45/32, GL 45/S 40 und GL 32/NS 29/32), 2 amber colored light shield inspection windows, operating manual. (Additional items supplied when ordering the Titrette® with PC interface: connector cable (Sub-D plug connector, 9-pin) and a CD with driver software, communication protocol, example application and a special operating manual.)

Volume ml	A ≦ ± %	A ≦ ± µl	CV ≦ %	CV ≦ µl	Version	Order No.
10	0.10	10	0.05	5	Standard	**10 49 60141**
25	0.07	18	0.025	6	Standard	**10 49 60151**
50	0.06	30	0.02	10	Standard	**10 49 60161**
10	0.10	10	0.05	5	with RS 232 interface	**10 49 60241**
25	0.07	18	0.025	6	with RS 232 interface	**10 49 60251**
50	0.06	30	0.02	10	with RS 232 interface	**10 49 60261**
° SH (25)	0.07	18	0.025	6	Soxhlet-Henkel	**10 49 60451**

Calibrated to deliver (TD, Ex). Error limits according to the nominal capacity (= maximum volume) indicated on the instrument. A = Accuracy, CV = Coefficient of variation.



② 

③

Accessories
Titrating tube
with screw cap and integrated discharge and recirculation valve.

Article	Order No.
Titrating tube 10 ml	**10 49 07525**
② Titrating tube 20/50 ml (from serial number 01K)	**10 49 07526**

Filling valve
with olive-shaped nozzle and sealing ring.

Article	Order No.
③ Filling valve	**10 49 06636**

Continued on next page

Burettes, Titrators, Accessories

Inspection window
One set colorless and one set amber colored. For protection of light-sensitive media, you can replace the clear inspection windows with the amber colored windows (included).

Article	Order No.
④ Inspection window	**10 49 06783**



⑤ Piston head

Article	Order No.
Piston head for Titrette® 10 ml	**10 49 07531**
Piston head for Titrette® 25 ml	**10 49 07530**
Piston head for Titrette® 50 ml	**10 49 07532**



⑥ Dispensing cylinder with valve head

for	Order No.
Titrette® 10 ml	**10 49 07533**
Titrette® (from serial number 01K) 25 ml	**10 49 77535**
Titrette® (from serial number 01K) 50 ml	**10 49 77537**



Digital Burettes, Hecht-ASSISTENT

Digital burette M 10 (Contiburette)
Certified conformity, without bottle, with thread connection A 32
Complete with:
- Bent discharge tube
- Suction tube
- 2 additional thread adapters A 45 and A 40
- Directions for use

Continuous supply and measurement in the most common volume range from 0.01 up to 500 ml – using only one device. Titration of larger volumes of up to max. 9999.99 ml is possible as well.
- Calibratrable
- Electronic measuring system
- Indication to two decimal places
- Minimal setting units 10 µl
- No glass piston, no valves, minimal dead volume
- Self-venting to avoid measuring errors due to trapped gas or air bubbles
- Mechanical parts made of highly acid-resistant aluminium oxide (99.7 Al2O3)
- Rotates freely on the bottle
- Including two batteries AA 1.5 V for approx. 500 operating hours

Technical data:

Temperature range:	+10°C – +40°C
Dimensions:	approx. 175 × 93 × 60 mm
Weight:	approx. 360 g

Article	Order No.
Digital burette M 10 (Contibürette)	**14 18 00010**



Use the webcode on our website to see a larger selection of products from a specific manufacturer.

webcode WW4ZV071

HIRSCHMANN



①

Burettes, Titrators, Accessories

Digital Burettes, solarus®, Hirschmann

An integrated solar cell provides power to the solarus® digital burette made by Hirschmann Laborgeräte.

This means:
- no more battery replacement
- no more recharging

solarus® replaces any glass burette and a variety of motor-driven burettes. A clear digital display eliminates all meniscal reading errors. A modern ergonomic design makes routine titration easier. Available in a 10 ml, 20 ml and a 50 ml version.
The **media recirculation system** (standard equipment) facilitates bleeding, reduces waste of the expensive medium and protects the environment. Easy to replace valves, suction, ejection, and return valve are made of highly pure AL_2O_3 ceramics (99.7%); they are inert to the greatest possible extent as well as non-wearing. Calibration is simple using "Quick Cal" and factory calibration is stored permanently in the device. Together, this provides scope for very individualized modification.

Further features:
- Turns freely on the bottle so that the label always faces the user
- Easy to read display
- Very fine resolution in 0.01 ml increments
- Handwheels with soft-touch surface for good grip
- Very precise gearing
- Clear-cut operation controlled by 2 keys
- Switching from default to user-specific calibration
- Sturdy discharge unit
- With declaration of conformity acc. to DIN 12600

Additional advantages:
Serial bidirectional interface for recording titration results, further processing of titration data, and fully automatic setting of a calibration factor when using an electronic balance.

① **Digital burettes, solarus®**
Items supplied:
solarus® with screw thread A 45, 3 thread adapters (PP) A 32, A 38 and S 40, ejection unit, suction hose with union nut, return hose, valve mounting wrench, single calibration certificate.

Volume ml	R %	CV %	Order No.
10	0.3	0.1	**10 37 92010**
20	0.2	0.1	**14 37 92020**
50	0.2	0.1	**14 37 92050**

Adapter

Thread adapter	to	Material	Order No.
A 45	A 28	PP	**10 37 13523**
A 45	A 38/430	PP	**10 37 13524**
A 45	A 32	ETFE	**14 37 13621**
A 45	A 38	ETFE	**14 37 13625**
A 45	S 40	ETFE	**14 37 13627**
A 45	NS 29/32 adapter	silicone	**10 37 13742**

Accessories

Article	Order No.
Ejection unit standard	**14 37 13025**
Dispensing unit titration, variable, with hose holder, 400 mm, FEP	**14 37 63004**
Discharge unit, complete, with Luer-Lock connection adapter	**14 37 13028**
Suction tube with fitting, 400 mm	**14 37 15007**
Connecting cable for serial interface, RS 232	**14 37 64005**
Connecting cable USB	**10 37 64006**
Dispensing unit, flexible, spiral shaped	**10 37 13026**
Window inspection, amber	**10 37 86060**
Adapter with NS 12/21 filling tube for funnel	**10 37 13741**
Discharge valve, ball Al_2O_3, Hastelloy spring	**10 37 16015**
Suction valve, ball Al_2O_3, Hastelloy spring	**10 37 16515**
Discharge valve, ball Al_2O_3, platinum-iridium spring (HF)	**14 37 16028**
Suction valve, ball Al_2O_3, platinum-iridium spring (HF)	**14 37 16528**
Return valve, ball Al_2O_3, platinum-iridium spring (HF)	**14 37 16626**
Return valve, ball Al_2O_3, Hastelloy spring	**10 37 16615**

Burettes, Titrators, Accessories

opus - Titration, Hirschmann

webcode WW4ZV077

HIRSCHMANN

① **opus® precision titrator**
The motor-operated, semi-automatic digital burette for quick titration.
opus® for motor-operated titration directly from the test tube. Available in three volumes (10 ml, 20 ml and 50 ml). The settings for the tiration process are made via an intuitive menu at the TFT touch screen. The user interface offers clearly legible and understandable menu functions. Due to electronic motor control, opus® is a very sensitive precision device.



①

Features:
- Menu-structured, simple user guidance by means of index cards on the external, coloured TFT touch screen, which can also be read well in daylight
- Various areas of application by using high-quality materials (ECTFE, DURAN® glass, FEP); media-touching parts can be steam-sterilised (121°C)
- User-friendly feedback system for quick venting without losing the reagent - good for the environment and the budget
- Quick titration and drop titration
- Accessories (selection):
  - Connection cable USB interface
  - Connection cable to touch screen in 2000 mm and 5000 mm length, special lengths available
  - System platform made of silicone with bottle holder
  - Batteries as accessories for optional battery operation
- Hassle-free, individual calibration possibilities
- Method memory, up to 9 different settings for e.g. volume, speed, cycle time, ... can be saved
- Individual adjustment possibilities e.g.
  - Language selection (DE, UK, FR, ES)
  - Setting the suction speed and dispensing speed in ml/sec (adjustment to viscosity of the medium)
- Saving the last setting ensures quick continuing after switching the device back on
- With declaration of conformity acc. to DIN 12600
- Quality control according to DIN EN ISO 8655
- Valve seats and ball made of highly pure Al_2O_3 ceramics (99.7%)

Items supplied:
opus® titration, complete with screw thread A 45, 3 thread adapters (A 32, A 38 and S 40), 1 suction hose with union nut, return hose, titration ejection unit, valve mounting wrench, touch screen operating unit "titration", brown light protection window, power pack, Data-Power cable, single calibration certificate.

Article	Plug	R %	CV %	Order No.
opus® titration, 10 ml	EU, US, UK	0.2	0.7	**10 37 82010**
opus® titration, 20 ml	EU, US, UK	0.2	0.7	**10 37 82020**
opus® titration, 50 ml	EU, US, UK	0.2	0.5	**10 37 82050**

Accessories (selection)

Article	Order No.
opus® system platform, grey	**10 37 86001**
Data power cable, length 0.75 m	**10 37 87001**
Data power cable, length 2 m	**10 37 87002**
Data power cable, length 5 m	**10 37 87003**
Connecting cable for serial interface, RS 232	**14 37 64005**
Connecting cable USB	**10 37 64006**
Battery pack	**10 37 87100**
Screen protectors, 1 pack = 2 pieces	**10 37 87200**
Adapter with NS 12/21 filling tube for funnel problem-free filling of medium through a funnel, without unscrewing the basic unit	**10 37 13741**
Ground adapter NS 29/32 for direct reagent extraction from a ground bottle	**10 37 13742**
Ejection unit with fine tip these even finer tips facilitate precision realisation of the finest droplets	**10 37 13041**
Window inspection, amber	**10 37 86060**
② **Mouse control, for highly sensitive media handling**	**10 37 64004**
Dispensing unit titration, variable, with hose holder, 400 mm, FEP	**14 37 63004**
Discharge valve, ball Al_2O_3, Hastelloy spring	**10 37 16015**
Suction valve, ball Al_2O_3, Hastelloy spring	**10 37 16515**
Return valve, ball Al_2O_3, Hastelloy spring	**10 37 16615**



②

Burettes, Titrators, Accessories



①



Burette VITLAB® continuous, VITLAB

The VITLAB® continuous bottle-top burette enables continuous titration and is a fast and convenient way of reaching accurate results. The angled display shows 4-position titration volume in large, easily read numbers, which simplifies operation. Turning the two hand wheels supplies the titration medium in a continuous and pulse-free manner via the double-piston pump (EP 801 982). Filling procedures are not necessary. This innovative technology increases safety; its compact design and low centre of gravity reduce risk of overturning, especially with smaller bottles. The height and length of the discharge tube can be adjusted, making it possible to work safely with both short and tall bottles. The recirculation system prevents the loss of valuable reagent and reduces the risk of splashes. With its simple-to-use calibration function, VITLAB® continuous fulfils the corresponding requirements for test equipment monitoring without instrument downtime. Margins of error are under those specified in the DIN EN ISO 8655-3 standard, even for partial volumes. CE marking pursuant to EU Directives 2004/108/EC, 93/68/EEC; 73/23/EEC, 93/68/EEC. Also available with DAkkS calibration certificate.

- Continuous supply of titration medium using a double-piston pump
- Continuous, precise control of the titration rate with large, easy-grip hand wheels
- Simple, medium=specific readjustment / calibration using the keypad
- Easily readable, large numbers
- Long operating life using two easily-replaced 1.5 V microbatteries
- No loss of medium thanks to a recirculation valve
- Freely rotatable 360° around the bottle for optimal orientation of the label
- Adjustable for various bottle sizes using the corresponding adapter
- Telescopic discharge tube which can be adjusted in both height and length
- Adjustable telescopic discharge tube suitable for a variety of bottle heights

Included in delivery:
VITLAB® continuous E/RS, with GL 45 connecting threads and GL 32, GL 38 and S 40 (buttress thread) size PP thread adapters, telescopic filling tube (200 – 350 mm), telescopic discharge tube (140 – 220 mm), two 1.5 V microbatteries (LR 03/AAA), instruction manual and quality certificate.

Error margins according to DIN EN ISO 8655-3:

VITLAB® continuous E at 25 ml:	accuracy ±0.2%, variation coefficient 0.1%
VITLAB® continuous RS at 50 ml:	accuracy ±0.2%, variation coefficient 0.1%

Burette continuous E / RS

	Article	Order No.
	Burette VITLAB® continuous E	**10 85 30506**
①	**Burette VITLAB® continuous RS**	**10 85 30507**

Accessories

Article	Order No.
Bottle, amber glass, coated, round, GL 45, 2500 ml	**10 85 31510**
Bottle, amber glass, coated, square, GL 45, 1000 ml	**10 85 31500**
Telescoping intake tube, FEP, ETFE, PTFE, extr. from 200 to 350 mm	**10 85 31085**
Discharge valve, incl. recirculation valve	**10 85 35085**
Micro batteries 1,5V (2 pcs.)	**10 85 30216**
Drying tube, PP, unfilled	**10 85 31095**

Webcode

Use the webcode on our website to see a larger selection of products from a specific manufacturer.

Burettes, Titrators, Accessories

Piston Burettes TITRONIC® 300, SI Analytics

webcode WW1WS013

Piston burette with 20 or 50 ml dosing unit
For manual titration and highly precise dosing. The TITRONIC® 300 can be fully controlled from the PC via a USB or RS-232 interface. Up to 16 burettes can be connected and controlled in a series (“daisy chain” principle).

SI Analytics
a xylem brand



Technical data:

Interface:	1 × USB A and 1 × USB B, 2 RS-232-C
Stirrer connection:	TM 50, power supply directly by the titrator
Keypad port:	operated by the keys on the unit, hand control element TZ 3880 and with an optional PC keyboard (USB)
Display:	graphics-enabled TFT display
Volume display:	00.00 to 999.999 ml
Display resolution:	0.005 – 0.025 ml (depending on attachment)
Dispensing speed:	max. 100 ml/min (with 50 ml dispensing unit)
Fill time:	30 s to 240 s adjustable (time proportional to cylinder volume)
Dispensing units:	20 ml or 50 ml dispensing units are exchangeable
Burette resolution:	8,000
Dosage accuracy:	systematic measurement deviation 0.15%, random measurement deviation 0.05%, determined according to EN ISO 8655, part 3
Power supply:	100-240 V, 50/60 Hz
Conformity:	ISO 8655, part 6
CE-mark:	EMV: 2004/108/EG; Safety EC-Directive 2006/95

Article	Order No.
TITRONIC® 300 without magnetic stirrer, T 300/20 M1	**10 27 15800**
TITRONIC® 300 basic unit with 20 ml dispensing unit, manual switch, titration clamp, stand rod and power supply 100–240 V	

Article	Order No.
TITRONIC® 300 without magnetic stirrer, T 300/50 M1	**10 27 15810**
TITRONIC® 300 basic unit with 50 ml dispensing unit, manual switch, titration clamp, stand rod and power supply 100–240 V	

Article	Order No.
TITRONIC® 300 with magnetic stirrer, T 300/20 M2	**10 27 15820**
TITRONIC® 300 basic unit with 20 ml dispensing unit, manual switch, titration clamp, stand rod, magnetic stirrer TM 50 and power supply 100–240 V	

Article	Order No.
TITRONIC® 300 with magnetic stirrer, T 300/50 M2	**10 27 15830**
TITRONIC® 300 basic unit with 50 ml dispensing unit, manual switch, titration clamp, stand rod, magnetic stirrer TM 50 and power supply 100–240 V	

Accessories for TITRONIC® 300

Article	Order No.
TM 50, magnetic stirrer	**10 27 15840**
TZ 3835, mini USB keyboard	**10 27 10410**
TZ 3830, USB-HUB	**10 27 10420**
TZ 3803, amber reagent bottle, 1 l	**10 27 10590**

Your specialized laboratory dealer –
fast, competent and economical

Burettes, Titrators, Accessories

webcode WW1WS018

SI Analytics
a xylem brand

Automatic Titrators TitroLine® 7000, SI Analytics



① **TitroLine® 7000**

Compact, titrator with intelligent exchange unit and automatic recognition of unit size and reagent data. Automatic recognition of ID sensors by SI Analytics.

Thanks to the state-of-the-art USB and additional RS232 interfaces, connection of printer, balance and further accessories is possible at the same time. The high-contrast TFT-display allows the easy parameterization and tracking of the titration curve.

The following types of titration are possible:
- Titrations to pH, mV and µA endpoint (2 EP)
- Titrations to two equivalence point (pH und mV) with dynamic or linear titration addition
- pH stat titrations
- Manual titrations with the controller
- Dosing tasks
- Preparation of solutions
- Number of methods: 50
- Ca-und Mg-hardness
- Acidity number (FFA) in edible oils
- Saponification number
- Hydroxy number
- Perchloric acid titrations and other non aqueous titrations

Technical data:

Measuring input electrode:	pH/mV-input with DIN or BNC socket with ID function for automatic electrode recognition
Measuring input Dead Stop:	µA-input for double platinum electrode (socket 2 × 4 mm), pole voltage adjustable
Measuring input Pt 1000:	Temperature sensor input for resistance thermometer Pt 1000 (socket 2 × 4 mm)
Interfaces:	3 × USB (2 USB-A and 1 × USB-B) 2 × RS-232-C and 1 × LAN
Stirrer connection:	TM 235 or alternative paddle stirrer via USB-A
Keyboard connection:	The unit is operated via the keys at the unit, the controller TZ 3880, or optionally via external PC keyboard (USB)
Display:	3.5″ graphic TFT display
Exchangeable burette units:	5, 10, 20 or 50 ml exchangeable units with unit size and reagent recognition
Burette resolution:	10,000 increments
Dosing accuracy:	Systematic error 0.1 – 0.5%, random error 0.05 – 0.07% (depending on unit size) in compliance with EN ISO 8655 part 3
Mains supply:	100 to 240 V, 50 / 60 Hz
Conformity:	ISO 8655, part 6
CE mark	EMC: 2004/108/EG; safety EC-Directive 2006/95

Technical modifications reserved.

Article	Order No.
TitroLine® 7000 with 10 ml exchange unit, TL 7000-M1/10 TitroLine® 7000 basic unit with magnetic stirrer TM 235 and 10 ml exchange unit WA 10, incl. brown glass bottle for titration reagent, GL 45 and S 40 bottle adapter, tubes, drip tube, and titration tip	**10 27 10140**
TitroLine® 7000 with 20 ml exchange unit, TL 7000-M1/20 TitroLine® 7000 basic unit with magnetic stirrer TM 235 and 20 ml exchange unit WA 20, incl. brown glass bottle for titration reagent, GL 45 and S 40 bottle adapter, tubes, drip tube, and titration tip	**10 27 10150**
TitroLine® 7000 with 50 ml exchange unit, TL 7000-M1/50 TitroLine® 7000 basic unit with magnetic stirrer TM 235 and 50 ml exchange unit WA 50, incl. brown glass bottle for titration reagent, GL 45 and S 40 bottle adapter, tubes, drip tube, and titration tip	**10 27 10160**
TitroLine® 7000 with 20 ml exchange unit and pH electrode, TL 7000-M2/20 TitroLine® 7000 basic unit with magnetic stirrer TM 235 and 20 ml exchange unit WA 20, incl. brown glass bottle for titration reagent, GL 45 and S 40 bottle adapter, tubes, drip tube, and titration tip. With pH combination electrode and buffer set.	**10 27 10170**

Accessories for TitroLine® 7000

Article	Order No.
TM 235, magnetic stirrer	**10 27 10400**
5 ml exchange unit	**10 27 10300**

Burettes, Titrators, Accessories

Automatic Titrators TitroLine® 7800, SI Analytics

webcode WW1WS023

SI Analytics
a xylem brand



TitroLine® 7800
The TitroLine® 7800 is the latest universal instrument for potentiometric titration with an additional measuring input for digital sensors (IDS®). This allows for simultaneous connection of e.g. pH and conductivity electrodes and thus for simultaneous measuring. No external conductivity measuring device is required. Furthermore, the TitroLine® 7800 can also be used for volumetric KF titration.

The TitroLine® 7800 is characterised by the following features:
- Brilliant TFT display which can also be read sidewise
- Interchangeable modules and memory for storing all relevant module and reagent data
- Large number of interfaces (two USB-A, one USB-B, two RS232 and one LAN interface) for easy communication.
- For connection of e.g. USB keyboard, USB printer, barcode reader, USB memory, scales, PC, and other SI Analytics® devices.
- Results can be stored via USB connection and LAN connection (in PDF and CSV format), incl. method transfer.
- With one analogue and one digital measuring input. Digital measuring input for connecting IDS® pH, mV (Redox and others) and LF sensors.
- With standard methods for potentiometric and KF titration.

Technical data:

Measuring input 1:	Analogue pH/mV-input with electrode socket, according to DIN or BNC socket insert with ID-function for automatic detection of the electrode
Measuring input 2:	Digital input for connecting IDS® electrodes (pH, mV, LF…)
Measuring input Dead Stop:	µA-input for double platinum electrode (socket 2 × 4 mm), pole voltage adjustable
Measuring input temperature:	Temperature sensor input for resistance thermometer Pt 1000 (socket 2 × 4 mm)
Interfaces:	3 × USB (2 USB-A and 1 × USB-B) 2 × RS-232-C and 1 × LAN
Stirrer connection:	TM 235 or alternative paddle stirrer via USB-A
Keyboard connection:	The unit is operated via the keys at the unit, the controller TZ 3880, or optionally via external USB keyboard
Display:	3.5″ graphic TFT display
Exchangeable burette units:	5, 10, 20 or 50 ml exchangeable units with unit size and reagent recognition
Burette resolution:	20,000 increments
Dosing accuracy:	Systematic error 0.15%, random error 0.05 – 0.07% (depending on unit size) in compliance with EN ISO 8655 part 3
Mains supply:	100 to 240 V, 50 / 60 Hz
CE mark:	EMC: 2004/108/EG; safety EC-Directive 2006/95

Technical modifications reserved.

Article	Order No.
TitroLine® 7800 without magnetic stirrer: TL 7800 Scope of delivery: basic unit without magnetic stirrer, support rod TZ 1510, electrode holder Z 305, USB keyboard TZ 3835 and power supply unit 100-240 V	**10 27 10980**
TitroLine® 7800 with magnetic stirrer: TL 7800-M1 Scope of delivery: basic unit with magnetic stirrer TM 235, support rod TZ 1510, electrode holder Z 305, USB keyboard TZ 3835 and power supply unit 100-240 V	**10 27 10990**
TitroLine® 7800 with magnetic stirrer and TitriSoft: TL 7800-TitriSoft Scope of delivery: basic unit with magnetic stirrer TM 235, support rod TZ 1510, electrode holder Z 305, USB keyboard TZ 3835, power supply unit 100-240 V and TitriSoft 3.XX	**10 27 11030**

Titrators, SI Analytics



① **Automatic titrator TitroLine® 5000**
Very compact new titrator for straight-cut routine titration. Thanks to standard methods, no programming of methods is required. The results and the titration curve can be documented in compliance with GLP on a printer or USB flashdrive.

Suitable for the following titration methods:
- pH titration, mV end points (2 EP)
- Titration to a turning point (pH and mV) with dynamic or linear titration allowance
- Manual titration with hand sensor
- Dosing
- Number of methods: 5

Continued on next page

Burettes, Titrators, Accessories

webcode WW1WS014

SI Analytics
a xylem brand



①

Examples for typical applications of the TitroLine® 5000:
- Salt content in food (cheese, soy sauce, ketchup ...)
- Total acid in wine and beverages
- Acid level in bread and sourdough
- Total Kjedahl nitrogen
- Alkalinity (p + m value)
- FOS/TAC

Technical data:

Measuring input electrode:	pH/mV-input with electrode socket according to DIN or BNC
Measuring input Pt 1000:	temperature sensor port for resistance thermometer Pt 1000 and NTC 30 KOhm (connection sockets 2 × 4 mm)
Interfaces:	1 × USB A and 1 × USB-B, 2 × RS-232-C
Stirrer connection:	TM 50, power supply directly by the titrator
Keypad port:	operated by the keys on the unit, hand control element TZ 3880 and with an optional PC keyboard (USB)
Display:	graphics-enabled TFT display
Dispensing units:	20 ml or 50 ml dispensing units are exchangeable
Burette resolution:	8,000
Dispensing accuracy:	systematic measurement deviation 0.15%, random measurement deviation 0.05%, determined in accordance with DIN EN ISO 8655-6, part 3
Power supply:	100–240 V, 50/60 Hz
Conformity:	ISO 8655, part 6
CE-mark:	EMV: 2004/108/EG; Safety EC-Directive 2006/95

Article	Order No.
TitroLine® 5000 with 20 ml dosing unit, TL 5000/20 M1 Titrator without electrode, with 20 ml dispensing unit, magnetic stirrer TM 50, manual switch, titration clamp, stand rod and power supply 100–240 V	**10 27 15760**
TitroLine® 5000 with 50 ml dosing unit, TL 5000/50 M1 Titrator without electrode, with 50 ml dispensing unit, magnetic stirrer TM 50, manual switch, titration clamp, stand rod and power supply 100–240 V	**10 27 15770**
TitroLine® 5000 with 20 ml dosing unit and pH-electrode, TL 5000/20 M2 Titrator with pH combination electrode and buffer set, with 20 ml dispensing unit, magnetic stirrer TM 50, manual switch, titration clamp, stand rod and power supply 100–240 V	**10 27 15780**
TitroLine® 5000 with 50 ml dosing unit and pH-electrode, TL 5000/50 M2 Titrator with pH combination electrode and buffer set, with 50 ml dispensing unit, magnetic stirrer TM 50, manual switch, titration clamp, stand rod and power supply 100–240 V	**10 27 15790**

Accessories for TitroLine® 5000

Article	Order No.
TM 50, magnetic stirrer	**10 27 15840**
TZ 3835, mini USB keyboard	**10 27 10410**
TZ 3830, USB-HUB	**10 27 10420**
TZ 3803, amber reagent bottle, 1 l	**10 27 10590**

② **TitroLine® 7500 KF**

Compact, new, easy to use volumetric KF titrator with intelligent exchange unit and automatic recognition of unit size and reagent data. Thanks to the state-of-the-art USB and additional RS232 interfaces, connection of printer, balance and further accessories is possible at the same time. The high-contrast TFT-display allows the easy parameterisation and tracking of the titration curve. Solvent is added and extraction of the titrated solution takes place at the push of a button.

TitroLine® 7500 KF 05/10/20: complete modules for titration according to Karl Fischer. Scope of delivery: TitroLine 7500 KF basic device, with exchange unit WA 05, WA 10 or WA 20, titration stand with pump TM 235 KF, titration vessel TZ 1770, micro-double platinum electrode KF 1100 with permanent cable and starter kit

Technical data:
Hardware

Interfaces:	3 × USB (2 USB-A and 1 × USB-B) 2 × RS-232-C, 1 × LAN
Stirrer connection:	TM 235 KF
Keypad port:	Operation via the key at the unit or optionally via external PC keyboard (USB)
Display:	3.5″ graphic TFT display
Burette units:	5, 10, 20 ml exchanger units with recognition of unit size and reagent data
Burette resolution:	10,000 steps
Dispensing accuracy:	Systematic measuring deviation 0.15%, random measuring deviation 0.05 - 0.07% (depending on unit size), determined pursuant to EN ISO 8655 part 3
Power supply:	100 - 240 V; 50/60 Hz

Continued on next page

Burettes, Titrators, Accessories

Conformity: ISO 8655, part 6
CE sign: EMC: 2004/108/EC; EC safety directive 2006/95
KF measuring input: Connection for double platinum electrode; pole voltage adjustable
Software
Downloadable but freely configurable methods for sample titraton, titer determination with water, titer determination with standard solutions, titer determination with sodium tartrate, and blank value analysis (oven and external extraction). 50 methods in total. Automatic drift detection and correction. Extraction time configurable. Statistic functions: Mean value, standard deviation, and variance. Printout is configurable (short, standard, GLP).

Article	Order No.
TitroLine® 7500 KF 05	**10 27 10710**
TitroLine® 7500 KF 10	**10 27 10720**
TitroLine® 7500 KF 20	**10 27 10730**

Accessories for TitroLine® 7500 KF

Article	Order No.
TZ 3863, USB compact printer incl. printer cable	**10 27 10430**



②

③ TitroLine® 7500 KF trace

Compact, new, easy to use **coulometric** titrator for water determination according to **Karl Fischer (KF)**. Thanks to the state-of-the-art USB and additional RS232 interfaces, connection of printer, balance and further accessories is possible at the same time. The high-contrast TFT-display allows the easy parameterisation and tracking of the titration curve. Solvent is added and extraction of the titrated solution takes place at the push of a button (modul 2 and 4).

Technical data:
Hardware

Interfaces:	3 × USB (2 USB-A and 1 × USB-B) 2 × RS-232-C, 1 × LAN
Stirrer connection:	TM 235 or TM 235 KF
Keyboard connection:	Operation via the keys at the unit or optionally via external PC keyboard (USB)
Display:	3.5″ graphic TFT display
Power supply:	100 – 240 V; 50/60 Hz
CE sign:	EMC: 2004/108/EC; EC safety directive 2006/95
Measuring range:	1 µg – 100 mg
Resolution:	0.1 µg
Precision:	± 3 µg at 10 – 1,00 µg 0.3% at > 1 mg
max. measuring speed:	ca. 2 mg/min

Software
50 parameterizable methods incl. methods for blank value analysis (e.g. KF oven and external extraction).
Automatic drift detection and correction. Extraction time configurable.
Statistic functions: Mean value, standard deviation, and relative standard deviation
Printout is configurable: Short, standard with curve, GLP
Results can be output in ppm, %, mg, µg, mg/l

Article	Order No.
TitroLine® 7500 KF trace, module 1 Complete module for coulometric tritrations acc. to Karl Fischer Scope of delivery: titration unit, generator electrode TZ 1752 without diaphragm + mains cable, magnetic stirrer TM 235, telescopic rod, titration vessel TZ 1751, micro-double platinum electrode KF 1150 with permanent cable	**10 27 10760**
TitroLine® 7500 KF trace, module 2 Complete module for coulometric tritrations acc. to Karl Fischer Scope of delivery: titration unit, generator electrode TZ 1752 without diaphragm + mains cable, titration stand with pump TM 235 KF, telescopic rod, titration vessel TZ 1754, micro-double platinum electrode KF 1150 with permanent cable	**10 27 10770**
TitroLine® 7500 KF trace, module 3 Complete module for coulometric tritrations acc. to Karl Fischer Scope of delivery: titration unit, generator electrode TZ 1753 without diaphragm + mains cable, magnetic stirrer TM 235, telescopic rod, titration vessel TZ 1751, micro-double platinum electrode KF 1150 with permanent cable	**10 27 10780**
TitroLine® 7500 KF trace, module 4 Complete module for coulometric tritrations acc. to Karl Fischer Scope of delivery: titration unit, generator electrode TZ 1753 without diaphragm + mains cable, titration stand with pump TM 235 KF, telescopic rod, titration vessel TZ 1754, micro-double platinum electrode KF 1150 with permanent cable	**10 27 10790**

Accessories for the TitroLine® 7500 KF trace

Article	Order No.
TZ 3863, USB compact printer incl. printer cable	**10 27 10430**



③

Burettes, Titrators, Accessories

webcode WW4HV026

thermoscientific



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Thermo Scientific™ Orion Star™ Titrators of the T900 Series, Thermo Scientific

The titrators of the Thermo Scientific™ Orion Star™ T900 series were designed with the specific goal of increasing your productivity in the lab by means of automated titration. These state-of-the-art automated titrators combine electrochemical technologies with a sophisticated reagent dispensing system. Compared to manual processes, this makes titration easier, more reliable, more reproducible, and faster.

- User-friendly navigation, from setup over real-time titration analysis to data transfer
- Large 5.7″ colour touchscreen with indication of titrations, instructions, and Help menus
- Generation and saving of up to 10 user-specific methods
- Saving of up to 100 titration data records with date/time stamp
- Easy data transfer to printer, computer, or USB flash drive

Comprised in the scope of delivery for all models: 20 ml burette, stirrer probe, dispenser probe, standard tubing kit, 1 l plastic bottle, GL38 bottle cap with two ports and drying tube, computer cable, instruction manual on USB flash drive, power pack

Technical data:

Titration precision:	±0.5% RSD
Stirring probe speeds:	250 to 3700 rpm, 5 selectable speeds
Temperature range:	-5.0 to 100.0°C
Burette attachments:	10 ml, 20 ml, 50 ml
Burette resolution:	25,600 microsteps per engine revolution 2 million microsteps over the full stroke range
Dosing accuracy:	according to ISO 8655-3
Dimensions (W×D×H):	406 × 254 × 356 mm
Weight:	5.67 kg
Power supply:	100 – 240 V, 50/60 Hz
Certification:	CE, TÜV 3-in-1, FCC, EN/EIC 61326-1, IEC 61010, IP-51

Direct pH measuring mode with mV and temperature
Suitable for special acid-base titrations

	Article	Order No.
	Orion Star T910 pH titrator	**10 79 29100**
	Orion Star T910 pH titrator standard ROSS kit T910 pH titrator including ROSS Ultra pH electrode and ATC probe	**10 79 29101**
①	**Orion Star T910 pH titrator Sure-Flow kit** T910 pH titrator including ROSS Sure-Flow pH electrode and ATC probe	**10 79 29102**

Direct measurement mode mV and temperature
Suitable for special redox titrations

	Article	Order No.
②	**Orion Star T920 redox titrator**	**10 79 29200**
	Orion Star T920 redox titrator set T920 redox titrator including redox electrode with glass shaft	**10 79 29201**

Direct measurement mode ion concentration with mV and temperature
Suitable for special titrations of the ion concentration as well as tests with Multiple Known Addition (MKA)

	Article	Order No.
	Orion Star T930 ion titrator	**10 79 29300**
③	**Orion Star T930 ion titrator set** T930 ion titrator set including silver rod electrode and electrode cable	**10 79 29301**

Direct measuring mode pH, redox or Ion concentration with mV and temperature
Suitable for flexible acid base and redox titrations or titrations of the ion concentration

	Article	Order No.
	Orion Star T940 All-in-One-Titrator	**10 79 20910**
④	**Orion Star T940 All-in-One-Titrator standard ROSS kit** T940 all-in-one titrator including ROSS Ultra pH electrode and ATC probe	**10 79 29401**
	Orion Star T940 All-in-One-Titrator Sure-Flow ROSS set T940 all-in-one titrator incl. ROSS Sure-Flow pH electrode and ATC probe	**10 79 29402**

To see our large portfolio of accessories, please enter webcode WW4HV026 to access our online catalogue.

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Drum Pumps, Dispensing Pumps

Liquid Transfer Pumps, BÜRKLE

webcode WWR4Q010

OTAL liquid transfer pumps can be used with any commercially available container. When inserting the hand pump, the telescopic riser pipe adjusts to the container height. This ensures thorough emptying of residues and makes the hand pump fit for use with different containers. The liquid to be transferred comes into contact with the feed pipes only.

- With universal plug made of soft PVC, for container openings 30 – 70 mm Ø
- High capacity
- As a hand pump for containers of up to 60 litres or as a foot pump for containers of up to 120 litres

PP: Resistant to weak acids, lyes, and cleaning agents.
PVDF: For acids and lyes, not for heavily oxiydising acids and lyes, resistant to chlorine bleaching
Stainless steel: For flame-resistant liquids of hazard class AIII (VbF) – not for acids.





① **OTAL foot pumps**

Material	Immersion depth cm	Flow rate l/min	Tubing Ø mm	Order No.
PP	70	20	15	**29 05 20115**
PP	70	26	18	**29 05 20118**
PP	90	30	22	**29 05 20122**
PVC delivery tubing	70	12	12	**29 05 20312**
PVDF	70	20	16	**29 05 24028**
Stainless steel	90	26	18	**29 05 24228**

② **OTAL hand pumps**

Material	Immersion depth cm	Flow rate l/min	Tubing Ø mm	Order No.
PP	70	14	12	**29 05 21112**
PP	70	20	15	**29 05 21115**
PP	70	26	18	**29 05 21118**
PVDF	70	20	16	**29 05 24128**
Stainless steel	90	26	18	**29 05 24328**
PVC delivery tubing	70	12	12	**29 05 00812**
PP[1)]	45	4	10	**29 05 22100**

1) OTAL mini hand pump, for containers up to 10 litres and container openings diam. 20-36 mm.

Use the webcode on our website to see a larger selection of products from a specific manufacturer.

webcode

Drum Pumps, Dispensing Pumps









webcode WWR4Q079

Disposable Liquid Transfer Pumps, BÜRKLE

OTAL® disposable liquid transfer pumps
OTAL pump with disposable PE feed pipe, designed for single use.
In the OTAL pumps, the medium to be filled comes into contact with the feed pipe only. Designed for single use, the feed pipe is easy to remove and quick to exchange.

With common reusable pumps, there is a risk that the liquid to be filled will be contaminated by the pump – especially if the pump is used for different media or containers and no professional cleaning is carried out before the change.
Since the container pump with its small footprint is intended for single use only, time-consuming and expensive cleaning is redundant, and contaminations are excluded. Use the cutting tool comprised in the delivery to simply adjust the length of the one-piece feed pipe of the liquid transfer pump to the respective container height. This ensures maximum flexibility and thorough emptying of residual content. If required, to outlet of the feed pipe can be cut to length as well.
The disposable pump is the perfect solution when extreme purity is required and cleaning is difficult or impossible.

- Disposable PE feed pipe, can be reordered in packets of 10
- Cut the disposable feed pipe to the container height at a slight angle
- With universal plug made of soft PVC, for container openings 30–70 mm Ø
- Scope of delivery: pump ball, universal plug, cutting tool, and 10 disposable feed pipes
- Pipe Ø 12 mm, immersion depth 90 cm, capacity approx. 14 l/m

Instructions

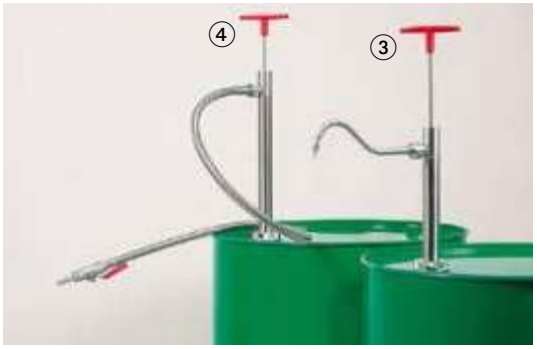
1. Push the feed pipe into the universal plug and insert the pump ball
2. Cut the feed pipe to the container height at a slight angle
3. Build up pressure by means of the pump ball and transfer the liquid
4. To replace the feed pipe: Cut off the pipe directly below the plug
5. Discard the bottom end of the pipe and pull the top end out of the universal plug
6. Insert the new pipe

Article	Order No.
① OTAL® disposable foot pump	**10 04 55811**
② OTAL® disposable hand pump	**10 04 55812**

Accessories

Article	Order No.	PU pc/Pack
Delivery tube, PE, for OTAL® disposable pumps, Ø 12 mm	**10 04 58000**	10

webcode WWR4Q011





Barrel Hand Pumps, Highgrade Steel, BÜRKLE

Barrel hand pumps made of high grade steel:
Special precautions are necessary when filling combustible liquids. The filling equipment has to be made of electrically conductive materials, and there has to be an electrically conductive connection between the dispensing and the receiving container. This barrel pump made of stainless steel helps to ensure the safe filling of combustible liquids.The parts in contact with the medium are made of stainless steel (material 1.4301) and PTFE. Electrostatic charging is discharged by an anti-statics set and a barrel threaded connector (accessory). Please follow Ex regulations.
Not suitable for acetone! For solvents we recommend the solvent pumps.

③ **Barrel hand pumps made of stainless steel with discharge elbow**

Immersion tube L mm	Immersion tube Ø mm	Overall length approx. mm	Weight g	Order No.
360	32	475	1560	**29 05 13000**
570	32	685	1900	**29 05 13001**
910	32	1030	2100	**29 05 13002**

④ **Barrel hand pumps made of stainless steel with discharge tubing and stopcock**

Immersion tube L mm	Immersion tube Ø mm	Overall length approx. mm	Weight g	Order No.
360	32	475	1560	**29 05 60104**
570	32	685	1900	**29 05 60105**
910	32	1030	2100	**29 05 60108**

Continued on next page

Drum Pumps, Dispensing Pumps

Accessories

Article	Order No.
Barrel connector	**29 05 13012**
Nickel-plated brass, R 2″ internal steel barrel thread	

Article	Order No.
Barrel connector “Gas-tight”	**29 05 13017**
With venting valve and connection socket for gas displacement line. Prevents vapors from escaping. Nickel-plated brass, R 2″ internal steel barrel thread	

Article	Order No.
⑤ **Antistatics set in case**	**29 05 13013**
For discharging electrostatic charges: When filling liquids, electrostatic charges may form if the dispensing and the receiving containers are not sufficiently grounded. With many substances these electrostatic charges could result in fires or explosions.	





Barrel Pumps, PP, BÜRKLE

webcode WWR4Q012

Polypropylene barrel pumps allow for quick transfer of liquids from barrels, cans, and tanks. Thanks to the excellent chemical resistance of PP, transfer of acids, lyes and aggressive cleaning agents is possible as well.
The barrel pumps are an absolute top-quality product with an excellent finish and long working life – even when the pumps are used with aggressive media. The high quality of the materials used and their finishing have made these pumps bestsellers, with thousands of satisfied customers.

- With rigid discharge pipe or flexible PVC discharge tube with cock
- Good removal of residual liquid from the barrel, robust industrial quality

⑥ **Barrel pumps PP with discharge pipe**

Immersion depth mm	Delivery rate/stroke ml	Overall length approx. mm	Order No.
500	200	595	**29 05 10501**
650	230	740	**29 05 10651**
800	260	895	**29 05 10801**
1000	300	1090	**29 05 11001**
1250	300	1340	**29 05 11251**
1500	300	1590	**29 05 11501**

⑦ **Barrel pumps PP with PVC tube and cock**

Immersion depth mm	Delivery rate/stroke ml	Overall length approx. mm	Order No.
500	200	595	**29 05 20502**
650	230	740	**29 05 20652**
800	260	895	**29 05 20802**
1000	300	1090	**29 05 21002**
1250	300	1340	**29 05 21252**
1500	300	1590	**29 05 21502**

Accessories

Article	Order No.
PVC tube with stopcock, single	**29 05 12111**
Discharge elbow, single	**29 05 12110**
⑧ **Drain safety stand** Residual liquid from pump tubes or samplers can be reliably collected with the drain safety stand. The safety stand is resistant to diluted bases and acids. The collecting container can be filled with a neutralisation medium which dilutes and neutralises residual liquid. The stand pipe is mounted on the wall with sturdy pipe clamps. The pipe clamps can simply be opened to remove the safety stand. The container for collecting liquid can be unscrewed, making it convenient to replace or empty.	**10 04 51810**

Barrel connectors

Article	Order No.
Barrel coupling made of PP for R2″, steel barrel female thread	**29 05 12113**
Barrel coupling made of PP for Mauser 2″, coarse female thread	**29 05 12115**
Barrel coupling made of PP for Tri-Sure, coarse female thread	**29 05 12116**
Barrel stopper made of PVC for container openings with Ø from 40 to 70 mm	**29 05 12114**







Drum Pumps, Dispensing Pumps











webcode WWR4Q052

webcode WWR4Q042

Barrel Pumps, PTFE, BÜRKLE

Due to the high chemical resistance of the medium-contacting parts made of PTFE and FEP, even liquids which attack conventional materials such as PP or PVC can now be safely transferred (except for elemental fluorine) with this barrel pump. The barrel pump is also suitable for transferring ultra-pure liquids.
The stopcock prevents hazardous vapours from escaping, and stops dripping after transfer. Barrel pump with rigid discharge tube with stopcock made of PTFE or with flexible discharge hose made of PTFE, length of 1.2 m and stopcock made of PVDF.

- Immersion tube Ø 32 mm
- All valves are made of solid PTFE/PVDF
- Top quality – 3 years' warranty
- Barrel screw joints for commercially available containers available as accessories

① PTFE barrel pump Ultrapure – discharge tube

Immersion depth mm	Delivery rate/stroke ml	Immersion tube Ø mm	Order No.
400	180	32	**10 04 56040**
600	270	32	**10 04 56060**
950	400	32	**10 04 56061**

② PTFE barrel pump Ultrapure – discharge hose

Immersion depth mm	Delivery rate/stroke ml	Immersion tube Ø mm	Order No.
400	180	32	**10 04 55640**
600	270	32	**10 04 55660**
950	400	32	**10 04 55661**

Barrel connectors

Article	Order No.
③ Barrel coupling made of PP for R2″, steel barrel female thread	**29 05 12113**
④ Barrel coupling made of PP for Mauser 2″, coarse female thread	**29 05 12115**
⑤ Barrel coupling made of PP for Tri-Sure, coarse female thread	**29 05 12116**
⑥ Barrel stopper made of PVC for container openings with Ø from 40 to 70 mm	**29 05 12114**

Stainless Steel Pumps, BÜRKLE

Foot operated solvent pump
made of stainless steel for ultrapure liquids.
The medium only comes into contact with stainless steel and PTFE. The barrel screw joint and the stopcock mean that the container and pump can be sealed hermetically to prevent unwanted vapors from escaping after the filling process.

- Stepless adjustment of immersion tube length
- For ultrapure solvents
- Rigid discharge tube with stainless steel/PTFE stopcock or discharge hose
- For stainless steel drums with R 2″ connecting piece
- 5-year warranty

Article	Immersion depth max. cm	Flow rate l/min	Tubing Ø mm	Order No.
⑦ Foot operated solvent pump with discharge tube	95	20	18	**10 04 50311**
⑧ Foot operated solvent pump with discharge hose	95	20	18	**10 04 50330**





Hand operated solvent pump
For contamination-free removal of organic solvents and flavouring substances. Compatible with the stainless steel drums 10 l and 25 l with R 2″ fine thread, which are commonly used in laboratories.

The pump is gas-proof and completely lockable by means of 2 ball cocks.
Parts which have contact with medium are made of stainless steel, seals made of PTFE.

- Stepless adjustment of immersion tube length.

Vers.	Immersion D max. cm	Flow rate l/min	Connec. thread	Order No.
⑨ with discharge tube	60	10		**10 04 50310**
⑩ for tin-foil canisters	60	10	for pull-out spouts	**10 04 50320**



Accessories

Article	Order No.
Antistatics set in case	**29 05 13013**

Continued on next page

Drum Pumps, Dispensing Pumps

⑪ **Solvent pump Mini**
The solvent pump Mini is a hand pump for small containers like flasks and canisters up to approx. 5 liters.
All medium-contacting parts of the solvent pump Mini are made out of high quality stainless steel and PTFE, wich are known for their outstanding chemical resistance and their perfect adequacy for ultra-pure liquids. Due to the conductive materials it is especially appropriate for easily flammable liquids e.g. acetone, isopropanol, ethanol.

Article	Material	Thread	Order No.
Solvent pump Mini	Stainless steel/PTFE	GL 45	**10 04 50340**
Thread adapter	PTFE	GL 45/S 40	**10 04 56400**
Thread adapter	ETFE	GL 45/GL 38	**10 04 56402**
Thread adapter	ETFE	GL 45/GL 32	**10 04 56403**







Pump-it Drum Pump, BÜRKLE

Canister pump for acids, alkalis and petrochemical liquids.
Pump-it is used for emptying canisters, carboys and barrels quickly and safely. Easy to use: an overpressure in the container is created by pressing down the hand lever several times and the shut-off valve is then opened – the liquid flows out.
- Barrel connection 64 mm dia. (BSI)
- With the adapter set Pump-it fits all commercially available containers
- Medium-contacting parts: polypropylene, FKM and PE
- Not suitable for hydrochloric acid!

⑫ **Pump-it drum pump**

Article	Immersion tube length cm	Flow rate l/min	Order No.
Pump-it drum pump	100	8	**29 05 00800**

Adapter set
For all standard container threads.

Article	Order No.
Adapter set	**29 05 00820**



webcode WWR4Q013

PumpMaster Container Pumps, BÜRKLE

webcode WWR4Q058

The manual pressure pump is suited for drawing off, decanting and emptying canisters and barrels. The hand pump is used to create excess pressure that forces the liquid out of the container. The stopcock also allows extraction of small quantities of liquid. The PumpMaster container pump is mounted on the container using a flexible stopper with a variable and adjustable diameter. No special thread adapters are required. PumpMaster fits all commercial container openings with a diameter from 46.5 mm to 60 mm. The immersion tube has a length of 95 cm and it can be shortened depending on the size of the container. PP/PE material.

PumpMaster container pump for petrochemical liquids

	Seal	Colour	Flow rate l/min	Immersion depth cm	Order No.
⑬	Nitrile rubber	blue grey	8	95	**10 04 52300**

PumpMaster container pump for non-aggressive liquids

	Seal	Colour	Flow rate l/min	Immersion depth cm	Order No.
⑭	EPDM	red	8	95	**10 04 52200**

PumpMaster for acids and chemical liquids

	Seal	Colour	Flow rate l/min	Immersion depth cm	Order No.
⑮	FKM	green	8	95	**10 04 52100**



Accessories

Article	Order No.
Discharge hose with shut-off valve for PumpMaster for petrochemical liquids	**10 04 52301**
Discharge hose with shut-off valve for PumpMaster for aqueous liquids	**10 04 52201**
Discharge hose with shut-off valve for PumpMaster for acids and chemical liquids	**10 04 52111**

webcode To see other variants and accessories, please enter the webcode on our website.

Drum Pumps, Dispensing Pumps

webcode WWR4Q062



Dosing Pump Dosi-Pump, BÜRKLE

Dosing pumps suitable for barrels, canisters, carboys or bottles, for dosing liquids of different viscosities.
Dosing pumps are mounted by you in your existing container closure (see the locating bore table). To do this, a suitable hole is drilled in the cap. Then the pump is inserted through the hole and screwed in place from below.
A matching container connection is not included in the scope of delivery.
Medium-contacting parts made of PP, PE and stainless steel.

	Stroke ml	Drillhole Ø mm	Immersion depth cm	Order No.
①	4	22	25	**10 04 57004**
②	30	28.5	38.5	**10 04 57030**
③	30	22.5	33.5	**10 04 57031**
④	100	28.5	29.5	**10 04 57101**
⑤	250	28.5	41.5	**10 04 57250**



webcode WWR4Q014

Syphons, BÜRKLE

Easy-to-use device for the rapid transfer of liquids from a higher container to a lower one. Functions according to the siphoning principle – liquids need only to be primed once.

	Material	Immersion depth cm	Tube I.D. mm	Flow rate l/min	Order No.
⑥	LDPE/PVC/PP	100	15	9	**29 05 26002**

Electrical Pumps, BÜRKLE

webcode WWR4Q041

AkkuPump Innova
Bürkle barrel pumps AccuOne and EnergyOne with the unique hybrid system ensure fast, flexible and convenient filling. The pumps are equipped with two different power supply systems:
AccuOne, driven by a high-performance rechargeable battery or EnergyOne, with a power cable for direct connection to mains electricity.
Innovative new feature: The power supply units are interchangeable! The rechargeable battery or the power supply unit are fitted with a clip lock and are removable. They can be exchanged quickly and easily.
Thus AccuOne can also be operated with the power supply cable unit and EnergyOne can be operated with the rechargeable battery. With a replacement rechargeable battery as an accessory, you never have to wait for charging. The drive can also be disconnected quickly and easily from the pump station with a clip lock. This makes it possible to use one drive for filling at several stationary pump stations. AccuOne and EnergyOne are designed for applications in which even very small amounts of liquid can be added to small containers with narrow openings.
The TouchPanel features a foil keyboard, sealed against dust, dirt and water. The keyboard can be used to regulate the flow rate continuously and precisely from 0.4 litres/min to 12 litres/min. In addition to the discharge tube, a flexible discharge hose with nozzle is available as an option. The light and powerful pumps are made of high-quality materials, PP, PTFE and Hastelloy C, to ensure outstanding chemical resistance. This also makes them suitable for dispensing acids and bases. Please make note of detailed information related to chemical resistance!

AccuOne and EnergyOne: Maximum pumping capacity 12 litres/min., discharge connection 3/4″, parts in contact with media: shaft Hastelloy C, pump station PP, seals PTFE
AccuOne: Battery type Li-Ion, voltage 14.4 V, electrical charge 1.5 Ah, rechargeable battery capacity up to 600 litres, weight 750 g
EnergyOne: Power supply via 230 V power supply unit, weight 580 g



	Article	Immersion tube L mm	Order No.
⑦	AccuOne with battery, rigid discharge tube and charger	500	**10 04 51051**
⑦	AccuOne with battery, rigid discharge tube and charger	700	**10 04 51071**
⑦	AccuOne with battery, rigid discharge tube and charger	1000	**10 04 51101**
⑧	EnergyOne with power supply unit and rigid discharge tube	500	**10 04 52051**
⑧	EnergyOne with power supply unit and rigid discharge tube	700	**10 04 52071**
⑧	EnergyOne with power supply unit and rigid discharge tube	1000	**10 04 52101**

Accessories on request.

Peristaltic Pumps

rotarus® Pump Family, Hirschmann

webcode WW4ZV078

HIRSCHMANN

rotarus® pumps
The portfolio of different motors, housings of various protection classes, and intelligent control of the conveyed volumes offers the choice from a consistently designed product family which covers a wide range of applications in laboratory and industry.

Motors with 50 and 100 Watt ensure accurate conveyance in speed ranges of 0.2 to 500 revolutions per minute, allowing for exact dosing of highly viscous substances. For pump head and hose detection, RFID technology is used. The setting data for basic parameters can likewise be stored and called up again in this way. The variants rotarus® flow and rotarus® volume are equipped with functions for automatic clogging detection and leakage monitoring for the hose.

	Type	Version	Speed 1/min	Resolution 1/min	Safety class	Order No.
①	standard 50	white powder-coated	0.2–100	0.1	IP 54	**10 37 01322**
	standard 50i	stainless steel	0.2–100	0.1	IP 65	**10 37 01324**
	standard 100	white powder-coated	5–500	0.1	IP 54	**10 37 01522**
	standard 100i	stainless steel	5–500	0.1	IP 65	**10 37 01524**
	flow 50	white powder-coated	0.2–100	0.1	IP 54	**10 37 01343**
	flow 50i	stainless steel	0.2–100	0.1	IP 65	**10 37 01344**
	flow 100	white powder-coated	5–500	0.1	IP 54	**10 37 01542**
	flow 100i	stainless steel	5–500	0.1	IP 65	**10 37 01544**
	volume 50	white powder-coated	0.2–100	0.1	IP 54	**10 37 01362**
	volume 50i	stainless steel	0.2–100	0.1	IP 65	**10 37 01364**
	volume 100	white powder-coated	5–500	0.1	IP 54	**10 37 01562**
	volume 100i	stainless steel	5–500	0.1	IP 65	**10 37 01564**



①

② **rotarus® smart**
rotarus® smart rounds off the selection of rotarus® pump drives in the basic segment. The control panel on the housing enables simple and rapid configuration of the most important parameters, and the speed can be programmed directly on the unit. Thanks to its small footprint, rotarus® smart can be easily integrated in an existing laboratory environment or production system.

Items supplied:
rotarus®, external power pack, connection cable for EU, UK, US

Techincal data:	**rotarus® smart 30**	**rotarus® smart 40**
Flow rate range (depending on pump head):	3.79 – 4200 ml/min	10 – 2300 ml/min
Speed setting:	0.1 rpm (steps)	
Max. power consuption:	100 W	
Protection class:	IP43	
Weight:	4.4 kg	4.7 kg
Dimensions (D×W×H):	190 × 83 × 220 mm	225 × 83 × 220 mm
Power supply:	100 – 240 VAC; 50 – 60 Hz	

Article	Power rating W	Speed range 1/min	Order No.
rotarus® smart 30	30 W	10 – 350	**10 37 01132**
rotarus® smart 40	40 W	3 – 200	**10 37 01232**


②

rotarus® pump heads
The rotarus® program comprises a wide selection of single-channel and multi-channel pump heads. The connection technology of the pump heads has been optimized for quick handling. Quick and easy change of heads, single-handedly and without tools.

With adapter for unproblematic use of pump heads by other manufacturers. The rotarus® single-channel pump heads can be cascaded easily: Several single-channel pump heads can be stacked on top of each other and operated with a rotarus® pump.

	Type	Ducts	Quantity rollers	Gears	Order No.
③	rotarus® PK 10-16-3	1-channel, WS 1.6	3	—	**10 37 02020**
④	rotarus® PK 10-16-5	1-channel, WS 1.6	5	—	**10 37 02022**
	rotarus® PK 10-24-3	1-channel, WS 2.4	3	—	**10 37 02021**
	rotarus® MKF 4-8	4-channel	8	—	**10 37 08020**
⑤	rotarus® MKF 8-4	8-channel	4	—	**10 37 08021**
	rotarus® MKF 12-8	12-channel	8	5:1	**10 37 08022**

Individual accessories on request.


③


④


⑤

rotarus® peristaltic pump heads 1-channel
Favourably priced pump head made of durable PPS plastic for continuous delivery or precise dosing of target volumes. Pump head can be unlocked for easy insertion of the hose. For connection to the Hirschmann rotarus® drives, one of the two PKF-60 adapter kits is required.

	Type	Ducts	Quantity rollers	Tubing	Order No.
⑥	rotarus® PKF 60-16-3	1	3	WT 1.6 mm	**10 37 06060**
⑦	rotarus® PKF 60-24-3	1	3	WT 2.4 mm	**10 37 06061**


⑥


⑦

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webcode To see other variants and accessories, please enter the webcode on our website.

Peristaltic Pumps



rotarus® peristaltic pump heads multichannel
Pump head made of durable PPS plastic for continuous delivery or precise dosing of target volumes, with sturdy hose cassettes with screws for precise adjustment of the delivery rate. For connection to the Hirschmann rotarus® drives, one of the two PKF-60 adapter kits is required.

	Type	Ducts	Quantity rollers	Tubing	Order No.
①	rotarus® MKF 60-2-8	2	8	stopper tubing	**10 37 08062**
②	rotarus® MKF 60-4-8	4	8	stopper tubing	**10 37 08063**
③	rotarus® MKF 60-8-8	8	8	stopper tubing	**10 37 08064**





rotarus® peristaltic pump heads multichannel
New type of pump head made of durable PPS plastic for continuous delivery or precise dosing of target volumes, with sturdy hose cassettes and integrated hose lock as well as fixed distance between rollers and hose bed; for use with standard upmp hoses without stopper in a multi-channel pump head. For connection to the Hirschmann rotarus® drives, one of the two PKF-60 adapter kits is required.

	Type	Ducts	Quantity rollers	Tubing	Order No.
④	rotarus® MKF 60-16-2-4	2	4	WT 1.6 mm	**10 37 08565**
⑤	rotarus® MKF 60-16-2-4	4	4	WT 1.6 mm	**10 37 08566**





Adapter sets

	Article	Order No.
⑥	rotarus® adapter set PKF 60 for Hirschmann drives	**10 37 31660**
⑦	rotarus® adapter set PKF 60 for Hirschmann drives with RFID function	**10 37 31661**
⑧	rotarus® adapter set MKF 60 for Hirschmann drives	**10 37 31665**
⑨	rotarus® adapter set MKF 60 for Hirschmann drives with RFID function	**10 37 31666**





rotarus® smart 30 peristaltic pump set
Precise delivery pump with favourably priced pump head made of durable PPS plastic; for easy insertion of the hose by unlocking the pump head, or for use with sturdy hose cassettes and screw for fine adjustment of the delivery in the multi-channel head. Ideal for delivery of low-viscosity media. The speed and the main parameters can be set at a TFT touchscreen directly on the housing.
Housing: white
Motor type: DC motor
Comprised in the scope of delivery: rotarus® smart 30 pump with pump head and matching adapter set, power pack with EU, UK, US adapter, and sensor interface.

	Article	Speed range rpm	Protection type	Order No.
⑩	rotarus® smart 30 with pump head PKF 60-16-3	10 – 350	IP 43	**10 37 13260**
⑪	rotarus® smart 30 with pump head MKF 60-4-8	11 – 350	IP 44	**10 37 13262**





rotarus® smart 40 peristaltic pump set
Precise delivery pump with favourably priced pump head made of durable PPS plastic; for easy insertion of the hose by unlocking the pump head, or for use with sturdy hose cassettes and screw for fine adjustment of the delivery in the multi-channel head. Ideal also for delivery of higher-viscosity media. The speed and the main parameters can be set at a TFT touchscreen directly on the housing.
Housing: white
Motor type: DC motor
Comprised in the scope of delivery: rotarus® smart 40 pump with pump head and matching adapter set, power pack with EU, UK, US adapter, and sensor interface.

	Article	Speed range rpm	Protection type	Order No.
⑫	rotarus® smart 40 with pump head PKF 60-24-3	3 – 200	IP 43	**10 37 23261**





rotarus® accessories
Extensive range of specifically developed accessories for maximum adaptability.

	Article	Order No.
⑬	**rotarus® pedal switch** Keeps both hands free for more freedom of action	**10 37 31120**
⑭	**rotarus® mouse** For extremely sensitive dosing of substances	**10 37 31121**
⑮	**rotarus® system platform** Non-skid utility space for the rotarus operating module with cable guide	**10 37 31161**
⑯	**rotarus® control unit holder** For placement of the operating module on the rotarus	**10 37 31162**





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Peristaltic Pumps

	Article	Order No.
⑰	**rotarus® stacking sid** For stacking 2 or more rotarus units	**10 37 31163**
⑱	**rotarus® stand holder** For use with a stand holder	**10 37 31170**
	rotarus® KFS, cassette small	**10 37 31220**
	rotarus® KFS, cassette medium	**10 37 31221**
	Adapter plate for MASTERFLEX pump heads	**10 37 31250**
	Adapter plate for ISMATEC pump heads	**10 37 31251**
	rotarus® data power cabel, 2 m For connection of the units with the serial interface (9-pole)	**10 37 31142**
	rotarus® data power cabel, 5 m For connection of the units with the serial interface (9-pole)	**10 37 31143**
	rotarus® data power cabel, 10 m For connection of the units with the serial interface (9-pole)	**10 37 31144**
	rotarus® RS232 cabel, 2 m	**10 37 31145**
	rotarus® USB cabel For connection of the units with the USB interface of the PC	**10 37 31146**
	rotarus® control cable, 2 m, 3-pole	**10 37 31147**
	rotarus® control cable analog, 2 m, 5-pole	**10 37 31148**
	Screw-on set cascading, for 2 single-channel pump heads	**10 37 31222**
	Screw-on set cascading, for 3 single-channel pump heads	**10 37 31223**


⑬


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Tubes (selection)
Exclusive Hirschmann product with integrated tag for automatic hose detection by means of RFID technology. Saves time and prevents errors in every work. Many other hose sizes and materials available.

Type	Inner Ø mm	Wall thickness mm	Length m	PU pc	Order No.
Pharmed BPT 2 Stopper 104	1.42	0.86	0.38	6	**10 37 13717**
Pharmed BPT	8.0	1.6	7,5		**10 37 13017**
Tygon 3350 2 Stopper 104	2.79	0.86	0.38	6	**10 37 17725**
Tygon 3350	3.2	1.6	15		**10 37 17013**
Tygon 3350	9.5	2.4	15		**10 37 17038**

rotarus® fast, Hirschmann

webcode WW4ZV079

HIRSCHMANN

rotarus® fast has been designed specifically for combination with positive displacement pump heads. The homogenous geometry of the pump head adaption also facilitates use of all peristaltic pump heads in the rotarus® family. rotarus® fast embodies maximum intelligence and can be used as a delivery or dispensing pump. As in the entire rotarus® family, the parameters required for this can be programmed in an extremely clear and self-explanatory manner using a TFT touchscreen.

The RFID technology detects the fitted pump head, and the rotarus® fast adjusts automatically to the appropriate parameters without the intervention of the operator. This enables, for example, automatic activation of the maximum speed best suited to the pump head. Thus, the optimum pump head delivery rate is exploited while wear is reduced to a minimum.

Items supplied:
rotarus® fast, external power pack, connection cable for EU, UK, US, operating module

Techical data:

Engine power:	85 W
Speed range:	50 – 3100 rpm
Flow rate range:	0.25 – 2304 ml/min (depending on pump head)
Speed setting:	0.1 rpm (steps)
Max. power consumption:	150 W
Weight:	10.1 kg
Dimensions (D×W×H):	270 × 100 × 220 mm
Power supply:	100 – 240 VAC; 50 – 60 Hz

	Article	Safety class	Order No.
	rotarus® fast 80	IP54	**10 37 01872**
⑲	rotarus® fast 80i	IP65	**10 37 01874**


⑲

Peristaltic Pumps

webcode WW4ZV081

HIRSCHMANN


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rotarus® Swash Plate Piston Pump Heads, Hirschmann

Continuous delivery, intelligent control. The delivery of the medium is enabled through the stroke of the piston at an oblique angle to the drive axis. Changing the pump head angle sets the displaced volume. The simultaneous rotation of the piston causes the pump to change from suction to ejection. The exact same volume is conveyed by the piston stroke during each rotation, achieving the same high degree of dispensing precision possible with a piston pump. In combination with the speed, the desired flow rate is reached. The pump head with the piston is available in different materials. Please refer to the material index below to see which versions are available in ceramics or stainless steel for the medium to be dispensed or for your application.

Typ	Piston size	Piston material	Piston housing material	Cylinder material	Options
RH	00/0/1	C = Ceramics	K = Kynar (PVDF)	C = Ceramics	LF = other hose connections, low flow rates
		S = Stainless steel	T = Tefzel (ETFE)	Y = Carbon	W = Connections for rinsing
QP	Q0/Q1-Q3		S = Stainless steel		
		SAN = Sanitary	SAN = Sanitary	SAN = Sanitary	WT = Connections for rinsing and tempering

	Article	Adjustable piston displacement µl	Order No.
	rotarus® TKF RH00 CKC-LF	2.5 – 25	**10 37 06121**
①	rotarus® TKF RH0 CKC	5.0 – 50	**10 37 06141**
	rotarus® TKF RH0 CTC	5.0 – 50	**10 37 06143**
	rotarus® TKF RH1 CKC	10.0 – 100	**10 37 06161**
	rotarus® TKF RH1 CTC	10.0 – 100	**10 37 06163**
②	rotarus® TKF QP-Q1 CKC	12.8 – 320	**10 37 06231**
	rotarus® TKF QP-Q1 CSC	12.8 – 320	**10 37 06232**
	rotarus® TKF QP-Q2 CKC	28.8 – 720	**10 37 06251**
	rotarus® TKF QP-Q2 CSC	28.8 – 720	**10 37 06252**
	rotarus® TKF QP-Q3 CKC	51.2 – 1280	**10 37 06271**
	rotarus® TKF QP-Q3 CSC	51.2 – 1280	**10 37 06272**

webcode WWXKS032

behr Labor-Technik


③

Peristaltic Pumps, Behr

③ **Peristaltic pumps PLP33/PLP66/PLP330/PLP1000**
the behrotest peristaltic pumps PLP are suitable for the discontinued transport of watery solutions / non aggressive applications. They find their application in the laboratory, the food industry as well as in the analytical, medicinal or biological field.

The RPM (rotation per minute) can be adjusted manually and the flow direction can be amended. These PLP pumps have angle connectors to which tubing can be attached either with or without additional brackets, depending on the tube size.

Type	Power rating W	Flow rate ml/min	Order No.
PLP33	10	7 – 33	**58 48 70102**
PLP66	10	17 – 66	**58 48 70104**
PLP330	10	66 – 400	**58 48 70120**
PLP1000	10	250 – 1000	**58 48 70160**

Accessories for PLP33/PLP66/PLP330/PLP1000

Article	Order No.
Outer tubing for PLP33/PLP66/PLP330/PLP1000 for PLP33/PLP66/PLP330/PLP1000, Silikon, length 5 m	**10 48 70946**
Exchange tubing pump head for PLP33/PLP66, Silikon	**10 48 70914**
Exchange tubing pump head for PLP330/PLP1000, Silikon	**10 48 70913**

Continued on next page

Peristaltic Pumps

Multi channel peristaltic pump PLP380
For the Dülabo peristaltic pump PLP380 there are different pump heads which can be applied, this results in flexibility in your day to day usage, enabling multiple tubing sizes being applicable. Depending on the tubing material in use, this pump type can be used for various chemicals, korrosive and aggressive as well as sterile solutions.

The user friendly membrane keyboard enables the user to regulate the flow speed (RPM) using the switch arrays.

Furthermore the user can make use of the special button on the membrane keyboard which activates a “quick flow mode”. Via RS485 or other external adapters for other signals, steering the pump externally is also possible. Additionally a foot switch can be attached to the pump to enable the pumping function as long as the foot switch is activated.


④

	Type	Speed rpm	Speed accuracy rpm	Flow rate ml/min	Order No.
④	PLP380	0.1 - 100	0.1	0.00014 – 380	**10 48 54739**

Pump heads and flowrate for PLP380

Type	Speed max. l/min	Quantity rollers	Quantity channels	Flow rate/channel l/min	Order No.
PPH103	600	3	1	0.07 – 380	**10 48 54745**
PPH303	600	3	1	1.7 – 150	**10 48 54746**

Micro volume tubing

Type	Speed max. l/min	Quantity rollers	Quantity channels	Flow rate/channel l/min	Order No.
PPH5061	100	6	1	0.000025 – 48	**10 48 54747**
PPH5062	100	6	2	0.000025 – 48	**10 48 91218**
PPH5064	100	6	4	0.000025 – 48	**10 48 55177**

Multichannel peristaltic pump PLP2200
For the Dülabo peristaltic pump PLP2200 there are different pump heads which can be applied, this results in flexibility in your day to day usage, enabling multiple tubing sizes being applicable. Depending on the tubing material in use, this pump type can be used for various chemicals, korrosive and aggressive as well as sterile solutions.

The user friendly membrane keyboard enables the user to regulate the flow speed (RPM) using the switch arrays.
Additionally a foot switch can be attached to the pump to enable the pumping function as long as the foot switch is activated. Furthermore the user can make use of the special button on the membrane keyboard which activates a “quick flow mode”. Via RS485 or other external adapters for other signals, steering the pump externally is also possible.


⑤

	Type	Speed rpm	Speed accuracy rpm	Flow rate l/min	Order No.
⑤	PLP2200	1 – 600	1	0.06 – 2200	**10 48 54742**

Pump heads and flowrate for PLP2200

Type	Speed max. l/min	Quantity rollers	Quantity channels	Flow rate/channel ml/min	Order No.
PPH103	600	3	1	0,07 – 380	**10 48 54745**
PPH303	600	3	1	1.6 – 1600	**10 48 54746**

Multichannel peristaltic pump PLP6000
For the Dülabo peristaltic pump PLP6000 with a powerful pump motor there are different pump heads which can be applied, this results in flexibility in your day to day usage, enabling multiple tubing sizes and variable flowrates being applicable. This pump type has the additional option of attaching “multiple” pump heads to enable multi channel applications for bigger tubing and flowrates. Additionally a foot switch can be attached to the pump to enable the pumping function as long as the foot switch is activated.
Depending on the tubing material in use, this pump type can be used for various chemicals, korrosive and aggressive as well as sterile solutions. The user friendly membrane keyboard enables the user to regulate the flow speed (RPM) using the switch arrays. Furthermore the user can make use of the special button on the membrane keyboard which activates a “quick flow mode”. Via RS485 or other external adapters for other signals, steering the pump externally is also possible.


⑥

	Type	Speed rpm	Speed accuracy rpm	Flow rate l/min	Order No.
⑥	PLP6000	60 –600	1	3.8 – 6000	**10 48 54744**

Continued on next page

Peristaltic Pumps



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Pumpheads and flowrates for PLP6000

	Type	Speed max. l/min	Quantity rollers	Quantity channels	Flow rate/channel ml/min	Order No.
	PPH103	600	3	1	4.2 – 2200	**10 48 54745**
	PPH303	600	3	1	100 – 1600	**10 48 54746**
①	PPH603	600	3	1	200 – 6000	**10 48 91217**
	PPH7042	600	4	2	50 – 1800	**10 48 54750**



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Accessories for peristaltic pumps PLP380, PLP2000, PLP6000

	Article	Order No.
②	**Foot switch B1** The pump functions are active as long as the foot switch is active.	**10 48 16107**
	Interface adapter Volt1 Signal 0 – 5 V	**10 48 16111**
	Interface adapter Volt2 Signal 5 – 10 V	**10 48 16112**
	Interface adapter mA Signal 4 – 20 mA	**10 48 16113**
	Interface adapter kHz Signal 0 – 10 kHz	**10 48 16114**
	Communication interface adapter Signal RS485	**10 48 16115**

Laboratory peristaltic pumps VLP2100 & VLP6100

The VLP peristaltic pump line is an automated and programmable pump type with dosing and calibrating functions to easen your day to day work in the field of application. The VLP pumps have a 4,3 inch LCD touch display enabling the access to all further programmable features. The RPM flow rate speed can be entered manually on the unit itself or using a external RS485 Adapter or using other signa adapters for enhanced flexibility in the lab. These pump types are not only reliable helpers with their programmable features, they are designed for a maximum precision for micro flow applications as well as for the normal flow rates using standard tubes sizes or microtubing, depending on the pump head in use. These pump types can also be connected with multiple single channel pump heads for a multi channel application on normal tubing sizes. Depending on the tubing material in use, this pump type can be used for various chemicals, korrosive and aggressive as well as sterile solutions.



③

	Type	Speed rpm	Control precision rpm	Power rating W	Flow rate l/min	Order No.
	VLP2100	0.1 – 600	0.1	50	0.00014 – 933	**10 48 02100**
③	VLP6100	0.1 – 600	0.1	50	0.00014 – 1600	**10 48 06100**

Pumpheads and flowrates for VLP2100

Specials:
PPH5062: 2 tubes can be used at the same time
PPH5064 / PPH5068: 4 tubes can be used at the same time

	Type	Quantity rollers	Quantity channels	Flow rate ml/min	Flow rate ml/min	Order No.
	PPH103	3	1	max. 2200	0.007 – 1283.33	**10 48 54745**
	PPH303	3	1	max. 1600	0.16 – 933.33	**10 48 54746**
④	PPH5061	6	1	0.00025 – 48	0.0014 – 62.28	**10 48 54747**
	PPH5062	6	2	0.00025 – 48	0.0014 – 62.28	**10 48 91218**
	PPH5064	6	4	0.00025 – 48	0.0014 – 62.28	**10 48 55177**
	PPH5068	6	8	0.00025 – 48	0.0014 – 62.28	**10 48 55179**



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Pumpheads and flowrates for VLP6100

Specials:
PPH5062: 2 tubes can be used at the same time
PPH5064 / PPH5068: 4 tubes can be used at the same time

Type	Quantity rollers	Quantity channels	Flow rate ml/min	Flow rate ml/min	Order No.
PPH103	3	1	max. 2200	0.007 – 1283.33	**10 48 54745**
PPH303	3	1	max. 1600	0.16 – 933.33	**10 48 54746**
PPH5061	6	1	0.00025 – 48	0.0014 – 62.28	**10 48 54747**
PPH5062	6	2	0.00025 – 48	0.0014 – 62.28	**10 48 91218**
PPH5064	6	4	0.00025 – 48	0.0014 – 62.28	**10 48 55177**
PPH5068	6	8	0.00025 – 48	0.0014 – 62.28	**10 48 55179**

Peristaltic Pumps

Peristaltic pumps, Landgraf

webcode WWHXJ028

With their different heads and various hose combinations, the Signal Fluid units cover a wide range of applications. Equipped with reliable motors, mature mechanical components and a solid housing, these pumps offer the perfect solution for all everyday laboratory needs. Depending on the model series, the pumps are used for basic tasks, continuous pump operation, or for dispensing functions. Thanks to the large number of interfaces, they can be easily integrated into automatic applications.

Pump drives

Model:	iPump S	iPump S-W	iPump L	iPump F
Max. flow rate ml/min:	2416	6016	2416	2416
Max. ducts up to 75 ml/min:	12	n/v	12	12
Max. heads/ducts > 700 ml/min:	2	8	2	2
Speed control:	yes	yes	yes	yes
Time control:	yes	yes	yes	yes
Flow calibration:	no	no	yes	yes
Dispense mode:	no	no	no	no

	Type	Speed	Order No.
①	iPump 2S	up to 200 UPM/ 825 ml/min	**10 67 23132**
	iPump 2L	up to 200 UPM/ 825 ml/min	**10 67 23162**
	iPump 2F	up to 200 UPM/ 825 ml/min	**10 67 23182**
	iPump 4S	up to 400 UPM/ 1710 ml/min	**10 67 23134**
	iPump 4L	up to 400 UPM/ 1710 ml/min	**10 67 23164**
②	iPump 4F	up to 400 UPM/ 1710 ml/min	**10 67 23184**
	iPump 6S	up to 600 UPM/ 2416 ml/min	**10 67 23136**
	iPump 6S-W	up to 600 UPM/ 2416 ml/min	**10 67 23156**
	iPump 6L	up to 600 UPM/ 2416 ml/min	**10 67 23166**
	iPump 6F	up to 600 UPM/ 2416 ml/min	**10 67 23186**



①

Pump heads

The difference between the pump heads YZ15A and YZ25A is the wall thickness of the respective hoses. The pump head YZ25A allows for higher pressures.

	Pump head	Compatibility	Ducts	Max. flow rate ml/min	Order No.
②	YZ15A	all pumps	1	2416	**10 67 23310**
	YZ25A	all pumps	1	1800	**10 67 23311**
	DG1A	iPump 2-S/L/F	1	75	**10 67 23211**
	DG2A	iPump 2-S/L/F	2	75	**10 67 23221**
	DG4A	iPump 2-S/L/F	4	75	**10 67 23241**
	DG6A	iPump 2-S/L/F	6	75	**10 67 23261**
	DG8A	iPump 2-S/L/F	8	75	**10 67 23281**
	DG12A	iPump 2-S/L/F	12	75	**10 67 23292**



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Silikon tubes Pharma Grade

Matching hoses must be inserted in the pump head. The volume range is determined by the inner diameter of the hose.

Inner Ø mm	Wall thickness mm	Roller length m	Max. flow rate ml/min	Order No.
1.6	1.6	15	180	**10 67 23406**
3.1	1.6	15	450	**10 67 23408**
4.8	1.6	15	900	**10 67 23409**
6.4	1.6	15	1700	**10 67 23410**
7.9	1.6	7.5	2400	**10 67 23411**
4.8	2.4	15	900	**10 67 23412**
6.4	2.4	15	1800	**10 67 23413**

Minimum order quantity = 3 m

Silicon tubes with 3 stoppers

for DG1A-DG12A heads, pack. unit 6 tubes with 1 m

Inner Ø mm	Wall thickness mm	Max. flow rate ml/min	Order No.
1	1	5	**10 67 23421**
2	1	20	**10 67 23422**
3	1	40	**10 67 23423**

Peristaltic Pumps

Compact Peristaltic Pumps, Phoenix Instrument



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webcode WWSB5041

With the compact peristaltic pumps SP-100 and SP-200, simple dosing tasks can be carried out economically in the laboratory or pilot plant.

- OLED display
- Antistatic ABS housing
- Compact design
- Low consumption
- RS-485 interface

SP-100 / SP-105

Technical data:	**SP-100**	**SP-105**
Voltage:	power supply, 12 DC	power supply, 12 DC
Power:	< 10 W	< 10 W
Display:	OLED	OLED
Operation:	turning knob+ push buttons	turning knob+ push buttons
Speed:	0.1 – 150 rpm	0.1 – 350 rpm
Pump rate:	0.004 – 63.69 ml/min	0.004 – 149.23 ml/min
Max. no. pump heads:	1	1
Interface:	USB, RS-485	USB, RS-485
Analog inputs:	0 – 5 V, 4 – 20 mA	0 – 5 V, 4 – 20 mA
Dimensions (W×D×H):	115 × 180 × 125 mm	115 × 180 × 125 mm
Protection class:	IP31	IP31
Weight:	0.8 kg	0.8 kg

	Article	**Order No.**
①	Compact peristaltic pump SP-100	**10 13 71000**
	Compact peristaltic pump SP-105	**10 13 71005**

SP-200 / SP-205

Technical data:	**SP-200**	**SP-205**
Voltage:	power supply, 12 DC	power supply, 12 DC
Power:	< 20 W	< 20 W
Display:	OLED	OLED
Operation:	turning knob+ push buttons	turning knob+ push buttons
Speed:	0.1 – 150 rpm	0.1 – 350 rpm
Pump rate:	0.08 – 398.27 ml/min	0.08 – 930 ml/min
Max. no. pump heads:	1	1
Interface:	USB, RS-485	USB, RS-485
Analog inputs:	0 – 5 V, 4 – 20 mA	0 – 5 V, 4 – 20 mA
Dimensions (W×D×H):	129 × 190 × 135 mm	129 × 190 × 135 mm
Protection class:	IP31	IP31
Weight:	1.1 kg	1.1 kg

	Article	**Order No.**
②	Compact peristaltic pump SP-200	**10 13 72000**
	Compact peristaltic pump SP-205	**10 13 72051**

Accessories on request

Peristaltic Pumps, Phoenix Instrument

webcode WWSB5048



③

The peristaltic pumps of the SP-300 and SP-400 series with the available pump heads offer a wide range of different applications in industry, laboratories and universities. They can be individually integrated into different processes via the various inputs and outputs. Operation and control is intuitive via the large LCD displays.

- 3.2″ LCD display
- Calibration possible
- RS-485, RS-232
- External control via 0 – 5 V, 4 – 20 mA
- Connection possibility for foot switch
- Up to 4 pump heads
- Low vibration and quiet running

Peristaltic pumps SP-300 / SP-305

Technical data:	**SP-100**	**SP-105**
Voltage:	230 V	230 V
Power:	< 50 W	< 50 W
Display:	3,2″ LCD-Display	3,2″ LCD-Display
Operation:	turning knob+ push buttons	turning knob+ push buttons
Speed:	0.1 – 150 rpm	0.1 – 350 rpm
Pump rate:	0.007 – 570 ml/min	0.007 – 1330 ml/min
Max. no. pump heads:	4	4
Interface:	RS-232, RS-485	RS-232, RS-485
Analog inputs:	0 – 5 V, 4 – 20 mA, impulse	0 – 5 V, 4 – 20 mA, impulse
Dimensions (W×D×H):	157 × 324 × 237 mm	157 × 324 × 237 mm
Protection class:	IP31	IP31
Weight:	4.4 kg	4.4 kg

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Peristaltic Pumps

	Article	Order No.
③	Peristaltic pump SP-300	**10 13 70300**
	Peristaltic pump SP-305	**10 13 70305**

Peristaltic pumps SP-400 / SP-405

Technical data:	**SP-400**	**SP-405**
Voltage:	230 V	230 V
Power:	< 50 W	< 50 W
Display:	4,3″ LCD display	4,3″ LCD display
Operation:	touch display	touch display
Speed:	0.1 – 150 rpm	0.1 – 350 rpm
Pump rate:	0.007 – 570 ml/min	0.007 – 1330 ml/min
Max. no. pump heads:	4	4
Interface:	RS-232, RS-485	RS-232, RS-485
Analog inputs:	0 – 5 V, 4 – 20 mA, impulse	0 – 5 V, 4 – 20 mA, impulse
Dimensions (W×D×H):	157 × 320 × 237 mm	157 × 320 × 237 mm
Protection class:	IP31	IP31
Weight:	4.4 kg	4.4 kg

	Article	Order No.
④	Peristaltic pump SP-400	**10 13 70400**
	Peristaltic pump SP-405	**10 13 70405**



④

Accessories

Article	Order No.
SPE300 Foot switch for SP-300/SP-400	**10 13 73040**
SPE310 Hand-dispenser for SP-400	**10 13 73140**

More accessories on request

Diaphragm Liquid Pumps

Chemically Resistant Diaphragm Liquid Pumps LIQUIPORT®, KNF Neuberger

webcode WWKVG006

Chemically resistant diaphragm liquid pumps LIQUIPORT®
- Application: Delivery of fluids
- Delivery rate from 0.2 to 3 l/min / pressure head up to 40 mWs, suction lift 3 mWC
- Self-priming, dry run protected
- Pump head available either in material version PP, PVDF or PTFE, PTFE-coated diaphragm, valves of FFKM
- Housing spray water protected to IP65
- Delivery rate adjustable either manually (Version S) or manually and via external control (Version RC)

Technical data:

Permissible gas temperature:	+5 to +80°C
Permissible gas and ambient temperature:	+5 to +40°C
Pump head:	optionally PP, PVDF or PTFE
Diaphragm:	PTFE-coated
Valves:	FFKM
Weight:	1.0 kg (NF 100) 1.5 kg (NF 300)
Dimensions (B×H×T):	99 × 177 × 130 mm (NF 100) 104 × 188 × 160 mm (NF 300)


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	Type	Flow rate l/min	Suction head mWC	Pressure head mWC	Pump head	Order No.
⑤	NF 100 KT.18 S	0.2 – 1.3	3	10	PP	**56 62 60010**
	NF 100 TT.18 S	0.2 – 1.3	3	10	PVDF	**56 62 60050**
	NF 100 FT.18 S	0.2 – 1.3	3	10	PTFE	**56 62 60030**
⑤	NF 1.100 KT.18 S	0.2 – 1.3	3	40	PP	**10 62 73699**
	NF 1.100 TT.18 S	0.2 – 1.3	3	40	PVDF	**10 62 73700**
	NF 1.100 FT.18 S	0.2 – 1.3	3	40	PTFE	**10 62 73701**
⑤	NF 100 KT.18 RC	0.2 – 1.3	3	10	PP	**10 62 73702**
	NF 100 TT.18 RC	0.2 – 1.3	3	10	PVDF	**10 62 73703**
	NF 100 FT.18 RC	0.2 – 1.3	3	10	PTFE	**10 62 73704**
⑤	NF 1.100 KT.18 RC	0.2 – 1.3	3	40	PP	**10 62 73705**
	NF 1.100 TT.18 RC	0.2 – 1.3	3	40	PVDF	**10 62 73706**
	NF 1.100 FT.18 RC	0.2 – 1.3	3	40	PTFE	**10 62 73707**
⑥	NF 300 KT.18 S	0.5 – 3.0	3	10	PP	**56 62 60020**
	NF 300 TT.18 S	0.5 – 3.0	3	10	PVDF	**56 62 60060**
	NF 300 FT.18 S	0.5 – 3.0	3	10	PTFE	**56 62 60040**
⑥	NF 1.300 KT.18 S	0.5 – 3.0	3	40	PP	**10 62 73687**
	NF 1.300 TT.18 S	0.5 – 3.0	3	40	PVDF	**10 62 73688**
	NF 1.300 FT.18 S	0.5 – 3.0	3	40	PTFE	**10 62 73689**

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Diaphragm Liquid Pumps





	Type	Flow rate l/min	Suction head mWC	Pressure head mWC	Pump head	Order No.
①	NF 300 KT.18 RC	0.5 – 3.0	3	10	PP	**10 62 73690**
	NF 300 TT.18 RC	0.5 – 3.0	3	10	PVDF	**10 62 73691**
	NF 300 FT.18 RC	0.5 – 3.0	3	10	PTFE	**10 62 73692**
①	NF 1.300 KT.18 RC	0.5 – 3.0	3	40	PP	**10 62 73693**
	NF 1.300 TT.18 RC	0.5 – 3.0	3	40	PVDF	**10 62 73694**
	NF 1.300 FT.18 RC	0.5 – 3.0	3	40	PTFE	**10 62 73695**

Accessories for chemically resistant diaphragm liquid pumps

	Article	Order No.
②	Tripod holder (without tripod and without tripod clamp)	**10 62 70474**
③	Wall mount	**10 62 70473**
④	Foot switch start/stop for RC(P)-version	**10 62 75872**

Chemically Resistant Diaphragm Dosing Pumps SIMDOS®, KNF Neuberger



webcode WWKVG009



Chemically-resistant diaphragm dosing pumps

- Application: dosing of fluids
- Delivery rate 0.03 to 100 ml/min / pressure height 60 mWC, suction height 2 mWC or 3 mWC
- Pump head available either in material version PP, PVDF, or PTFE
- Diaphragms PTFE-coated, valves of FFKM
- Delivery rate adjustable either manually (Version S) or manually and via external control, and including interface RS 232 (Version RC)
- Additional safety diaphragm for maximum protection
- Comfortable change of the delivery diaphragm: Simply enable the maintenance command stored in the operation program

Benefits:

- Intuitive operation, easy calibration
- Can be set according to the fluid characteristics
- Repeatability / reproducibility ± 1%
- Self-priming and dry run protected
- Hose-proof IP65
- Small overall size

Technical data:

Flow rate:	0.03 to 20 ml/min (SIMDOS 02) 1 to 100 ml/min (SIMDOS 10)
Pressure height:	60 mWS
Suction height:	2 mWS (SIMDOS 02) 3 mWS (SIMDOS 10)
Permissible media temperature:	+5 to +80°C
Permissible ambient temperature:	+5 to +40°C
Weight:	0.9 kg
Dimensions W×H×D:	93 x 144 x 150 mm
Pump head:	optionally PP, PVDF or PTFE
Diaphragm:	PTFE
Valves:	FFKM

	Article	Type	Pump head	Order No.
	SIMDOS® 02	FEM 1.02 KT.18 S	PP	**10 62 71281**
	SIMDOS® 02	FEM 1.02 TT.18 S	PVDF	**10 62 71282**
⑤	SIMDOS® 02	FEM 1.02 FT.18 S	PTFE	**10 62 71283**
	SIMDOS® 02	FEM 1.02 KT.18RCP	PP	**10 62 75467**
	SIMDOS® 02	FEM 1.02 TT.18RCP	PVDF	**10 62 76467**
⑤	SIMDOS® 02	FEM 1.02 FT.18RCP	PTFE	**10 62 77467**
⑥	SIMDOS® 10	FEM 1.10 KT.18 S	PP	**10 62 71181**
	SIMDOS® 10	FEM 1.10 TT.18 S	PVDF	**10 62 71182**
	SIMDOS® 10	FEM 1.10 FT.18 S	PTFE	**10 62 71183**
⑥	SIMDOS® 10	FEM 1.10 KT.18RCP	PP	**10 62 71184**
	SIMDOS® 10	FEM 1.10 TT.18RCP	PVDF	**10 62 71185**
	SIMDOS® 10	FEM 1.10 FT.18RCP	PTFE	**10 62 71186**

Accessories for chemically-resistant diaphragm dosing pumps

Article	Order No.
Tripod holder (without tripod and without tripod clamp)	**10 62 70474**
Wall mount	**10 62 70473**
Foot switch start/stop for RC(P)-version	**10 62 75872**
In-line filter FS 60 T PVDF, mesh size 70 µm, SIMDOS® 02	**10 62 75210**
In-line filter FS 60 X PEEK, mesh size 70 µm, SIMDOS® 02	**10 62 75212**
In-line filter FS 25 T PVDF, mesh size 70 µm, SIMDOS® 10	**10 62 75211**
In-line filter FS 25 X PEEK, mesh size 35 µm, SIMDOS® 10	**10 62 75213**

Syringe Pumps

Syringe Pumps, Landgraf

webcode WWHXJ023

HLL LANDGRAF LABORSYSTEME

Syringe pumps for syringes up to 60 ml
Sturdy units for use in laboratory for constant volume dispensing and dispensing tasks. All common plastic and glass syringes can be used. By combining different syringes and pump rates, depending on the model volumes of 1 µl/h to over 18 l/h can be set.

Combine 2 pumps with appropriate valves to achieve a continuous pumping operation. The model LA-120 can be operated simultaneously with 2 syringes of different sizes. The model LA-30 cannot be operated with the accessories.

	Type	Quantity syringes	max. syringe size ml	max. syringe size ml/h	RS-232	programmable unit	Order No.
	LA-30	1	100	1600	no	no	**10 67 20030**
①	LA-110	1	100	6120	yes	yes	**10 67 20110**
	LA-102	1	100	150	yes	yes	**10 67 20130**
	LA-100	1	100	2100	yes	yes	**10 67 20100**
	LA-120	2	100	7500	yes	yes	**10 67 20120**
②	LA-160	6	60	1330	yes	yes	**10 67 20160**
	LA-180	8	10	360	yes	yes	**10 67 20180**
①	LA-800	1	200	18000	yes	yes	**10 67 20800**

(the units are not permitted for use for clinical purposes on human beings)



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Accessories

Article	Order No.
Foot switch	**10 67 20105**
PC connecting cable RS-232	**10 67 20101**
Network cable for connecting several pumps for connecting several pumps with each other	**10 67 20103**
Extension kit for continuous pump operation (2 pumps required)	**10 67 20104**



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Diaphragm and Piston Pumps

Diaphragm Vacuum Pumps LABOPORT®, KNF Neuberger

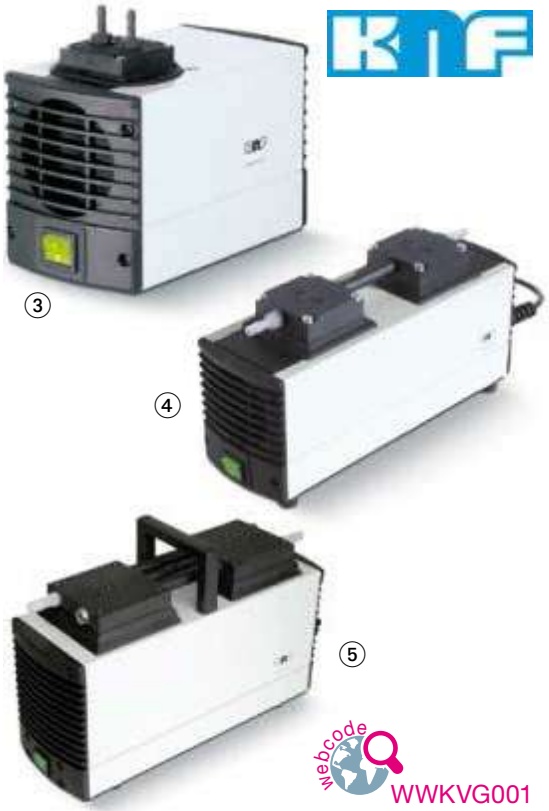
Diaphragm vacuum pumps LABOPORT®
- Application: Filtration, SPE, outgassing, fluid extraction via vacuum
- Delivery rate max. 1.8 m³/h and a final vacuum of max. 15 mbar abs.
- In the N 938.50 KT.18, the two pump heads have a parallel and series connection for extremely fast evacuation
- The N 86 KT.18 has a very small footprint (90 × 141 × 164 mm)
- PTFE-coated diaphragms for aggressive/corrosive gases and vapours

Technical data:

Connectors for tube mm:	ID4 (N 86 KT.18) ID6 (N 816.3 KT.18, N 816.1.2 KT.18) ID10 (N 938.50 KT.18)
Permissible media and ambient temperature:	+5 to +40°C
Pump head:	PPS
Diaphragm:	PTFE coated
Valves:	FFPM

	Type	Flow rate[1] m³/h	Ultimate vacuum abs. mbar	Over-pressure bar	Weight kg	Accessories No.	Order No.
③	N 86 KT.18	0.33	160	2.5	1.90	1/3/4/6/7/8/9/10	**56 62 10110**
④	N 816.3 KT.18	0.96	20	0.5	3.95	1/4/7/8/11	**56 62 10130**
④	N 816.1.2 KT.18	1.8	160	0.5	3.95	11	**56 62 10146**
⑤	N 938.50 KT.18	1.8	15	0.5	6.8	2/5/12	**10 62 70150**

[1] at atm. pressure



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webcode WWKVG001

Continued on next page

Diaphragm and Piston Pumps

Accessories

Article	Type	Accessories No.	Order No.
Silencer	000345	1	**56 62 20406**
Silencer	007006	2	**10 62 77006**
Hose connector G1/8 ID4 PVDF	025671	3	**10 62 75671**
Hose connector G1/8 ID6 PVDF	123363	4	**10 62 73363**
Hose connector NPT1/8 ID10 PVDF	112004	5	**10 62 72004**
Hose connector G1/8 ID4 PA	001936	6	**10 62 71936**
Hose connector G1/8 ID6 PA	000360	7	**10 62 70360**
Hose connector G1/8 ID8 PA	004975	8	**10 62 74975**
Fine control valve with pressure gauge, pressure side	001786	9	**10 62 71786**
Fine control valve with vacuum gauge, suction side	001787	10	**10 62 71789**
Fine control valve with vacuum gauge, suction side	057830	11	**10 62 77830**
Fine control valve with vacuum gauge, suction side	112432	12	**10 62 72432**

webcode WW2MB015

WELCH by Gardner Denver



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Piston Pumps, Welch Vacuum

Piston pumps are a reliable partner for physical applications and processes wit vapours. Due to their suitability as vacuum pump or compressor, they are used in a wide range of applications such as filtration, gas sample taking, vacuum drying, and automation engineering. By means of the integrated manometers, the vacuum and pressure values can be monitored permanently. These pumps are suitable for dry or aqueous vapour applications only.

Benefits:
- Dry-run technology for physical applications
- Can be used as vacuum pump and compressor
- Regulator valve with manometer at suction side
- Regulator valve with manometer at pressure side in models with compressor function
- Condensate pre-separator to protect the pump from liquid throughput
- Silencer for noiseless operation
- Feet with suction cups for a safe stand at the workstation

Scope of delivery:
WOB-L piston pump with manual pressure regulator, vacuum or pressure manometer, exhaust silencer, liquid pre-separator, and mains cable.

Power supply: 230 V 50/60 Hz

		①			②
Type		2522	2534	2546	2581
Ultimate total pressure	mbar	133	93	80	6.7
Suction rate 50/60 Hz	m^3/h	1.1/1.3	1.7/2.0	2.3/2.7	4.9/5.9
Overpressure max.	bar	7.9	5.8	5.2	–
W × D × H	mm	206×224×254	206×224×254	254×191×229	432×191×305
Weight	kg	5.3	5.3	6.3	11.2
Order No.		**10 92 42522**	**10 92 42534**	**10 92 42546**	**10 92 42581**

More than 20,000 articles in this catalogue –
and still more on our website!

Diaphragm and Piston Pumps

Diaphragm Vacuum Pump N 920 G, KNF Neuberger

webcode WWKVG014

Diaphragm vacuum pump N 920 G
- Application: outgassing, gel drying, rotation evaporation, distillation, vacuum concentrator
- Delivery rate of 1.26 m^3/h and a final vacuum of 2 mbar abs.
- High suction capacity above all in the lower vacuum range
- Integrated speed control for comfortable manual adjustment of the pump capacity to the requirements of the process
- The combination of PPS pump head and PTFE coated diaphragms is perfect for highly aggressive/corrosive gases and vapours
- Integrated gas ballast valve

Recommendation: Combined with the vacuum controller VC 900 and a control cable, the speed is controlled in accordance with the requirements of the process.

Technical data:

Connectors for tube mm:	ID10
Permissible media and ambient temperature:	+5 to +40°C
Pump head:	PPS
Diaphragm:	PTFE coated
Valves:	FFPM
Dimensions W×H×D:	158×226×324 mm

	Type	Flow rate[1] m^3/h	Ultimate vacuum abs. mbar	Weight kg	Order No.
①	N 920 G	1.26	2	8.5	**10 62 77335**



Accessories

Article	Order No.
Silencer	**10 62 77006**
Fine control valve with vacuum gauge, suction side	**10 62 72432**
Small flange DN16 / G1/8	**10 62 76625**
VC 900 vacuum control unit	**10 62 74181**
Connection cable for N 920 G interface, 2 meter	**10 62 77757**
Connection cable for N 920 G interface, 5 meter	**10 62 77758**

Diaphragm Vacuum Pumps LABOPORT® FT / N, KNF Neuberger

webcode WWKVG015

Diaphragm vacuum pumps LABOPORT® FT
- Application: fluid extraction by means of vacuum, outgassing, gel drying, rotary evaporation, vacuum concentrator, filtration, distillation
- Delivery rate max. 2.04 m^3/h and a final vacuum of up to 2 mbar abs.
- High vapour and condensate compatibility
- The combination of PTFE pump head and PTFE coated diaphragms is perfect for highly aggressive/corrosive gases and vapours
- The combination of TFM™ PTFE pump head (N 820.3 FT.18, N 840.3 FT.18), PTFE pump head (N 842.3 FT.18) and PTFE coated diaphragms is perfect for highly aggressive/corrosive gases and vapours
- In conformity with ATEX pursuant to ATEX II 2/-G IIB+H2 T3 Gb internal atmosphere atmosphere only (N 820.3 FT.18, N 840.3 FT.18)

Technical data:

Connectors for tube mm:	ID10
Permissible media and ambient temperature:	+5 to +40°C
Pump head:	(TFM™) PTFE
Diaphragm:	PTFE coated
Valves:	FFPM
Dimensions (W×H×D):	154 × 207 × 312 mm (N 820.3 FT.18) 166 × 226 × 341 mm (N 840.3 FT.18) 167 × 223 × 341 mm (N 842.3 FT.18)

	Type	Flow rate[1] m^3/h	Ultimate vacuum abs. mbar	Weight kg	Accessories No.	Order No.
②	N 820.3 FT.18	20	8	9.3	2	**56 62 40220**
③	N 840.3 FT.18	34	8	12.6	2	**56 62 40240**
④	N 842.3 FT.18	34	2	13.4	2	**56 62 40260**





[1] at atm. pressure

webcode To see other variants and accessories, please enter the webcode on our website.

Diaphragm and Piston Pumps

KNF Vacuum Pump LABOPORT®, Type N 96, KNF Neuberger

webcode WWKVG017



Mini diaphragm vacuum pump LABOPORT® N 96
The smallest chemical resistant pump in our new LABOPORT® series, the N 96 combines a high flow rate with a compact design, saving valuable space in the laboratory. Thanks to the manual rotational speed control, the N 96 is quiet, very energy efficient, and can be optimally adjusted in accordance with the application.
The next generation of LABOPORT® pumps are equipped with an easy-to-clean surface.

Potential applications include filtration, SPE, and liquid aspiration using a vacuum.

- Flow rate of 0.3 – 0.42 m3/h, ultimate vacuum of < 130 mbar abs
- Very small footprint
- Integrated rotational speed control
- PTFE-coated diaphragm for use with aggressive/corrosive gases and vapors

Technical data:

Permissible media and ambient temperature:	+5 to +40°C
Material pump head:	PPS
Material diaphragm:	PTFE-coated
Material valves:	FKM
Dimensions (W×H×D):	156 × 119 × 75 mm

Type	Flow rate[1]	Ultimate vacuum abs.	Overpressure	Weight	Order No.
	m³/h	mbar	bar	kg	
LABOPORT N 96	0.3 – 0.42	< 130	2.5	1.3	**10 62 70096**

[1] at atm. pressure

Accessories

Article	Order No.
N 96 spare part set	**10 62 70196**
Tube connector + silencer set included with the pump	**10 62 73456**

KNF Vacuum Pumps LABOPORT®, Type N 820 G / N 840 G, KNF Neuberger



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webcode WWKVG018



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Diaphragm vacuum pumps LABOPORT®, Typ N 820 G / N 840 G
The N 820 G and N 840 G feature a control knob for manual adjustments of the flow rate, making them well suited to a wide variety of applications. Thanks to the integrated rotational speed control, the pumps are quiet, very energy efficient, and can be optimally adjusted in accordance with the application.
The chemically resistant diaphragm pumps impress with their very small footprint and save valuable space in the laboratory. The next generation of LABOPORT® pumps are equipped with an easy-to-clean surface.
Potential applications include rotary evaporation, distillation, gel drying, degassing, filtration.

- Flow rate of up to 2.04 m³/h
- Adjustable thanks to integrated rotational speed control
- Ultimate vacuum of 6 mbar abs
- Combination of TFM™ PTFE pump head and PTFE-coated diaphragm makes the pumps ideal for working with extremely aggressive/corrosive gases and vapors
- High level of compatibility with vapor and condensation
- Integrated gas ballast valve
- 3-color status display: In operation / Stand-by / Error
- Expandable: Separators and/or condensers can be purchased and easily fitted.
- ATEX-compliant in accordance with II 2/-G IIB+H2 T3 internal atmosphere only
- 100% oil-free transfer to ensure uncontaminated transfer, evacuation and compression

Tip: When combined with the VC 900 vacuum control unit and a control cable, the rotational speed is controlled in accordance with the requirements of the process. Can also be combined with all common vacuum controllers with valve control.

Technical data:

Hose connections:	ID 9.5-8, PVDF
Permissible media and ambient temperature:	+5 to +40
Material pump head:	TFM™ PTFE
Material diaphragm:	PTFE-coated
Material valves:	FFPM
Dimensions (W×H×D):	N 820 G 163 × 220 × 259 mm N 840 G 177 × 240 × 289 mm

	Type	Flow rate[1]	Ultimate vacuum abs.	Overpressure	Weight	Order No.
		m³/h	mbar	bar	kg	
①	N 820 G	1.2	6.0	0.1	8.8	**10 62 73452**
②	N 840 G	2.04	6.0	0.1	11.3	**10 62 75994**

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Diaphragm and Piston Pumps

Accessories

Article	Order No.
N 820 G spare part set	**10 62 77435**
N 840 G spare part set	**10 62 77436**
Tube connector	**10 62 77278**

Diaphragm Vacuum Pumps, KNF Neuberger

webcode WWKVG002

Diaphragm Vacuum Pumps LABOPORT® SD

- Application: rotary evaporation, distillation, vacuum oven, vacuum concentrator
- Delivery rate max. 3.6 m³/h and a final vacuum of up to 4 mbar abs.
- Integrated KNF auto-drying system for fast removal of the condensate from the pump heads without any change to the vacuum. This significantly reduces the process time and protects the pump heads.
- Resistant to chemicals, and thus suitable for use with highly aggressive/corrosive gases and vapours

Technical data:	**N 820.3 FT.40.18 N 840.3 FT.40.18**	**N 860.3 FT.40.18**
Connectors for tube mm:	ID10	ID 12
Permissible media and ambient temperature:	+5 to +40°C	+5 to +40°C
Pump head:	TFM™ PTFE	PTFE
Diaphragm:	PTFE coated	PTFE-beschichtet
Valves:	FFPM	FFPM



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	Type	Flow rate m³/h	Ultimate vacuum abs. mbar	W × D × H mm	Order No.
①	N 820.3 FT.40.18	1.2	10	177 × 312 × 220	**56 62 48203**
②	N 840.3 FT.40.18	2.04	10	189 × 341 × 239	**56 62 48403**
③	N 860.3 FT.40.18	3.6	4	291 × 331 × 278	**10 62 78603**

Diaphragm Pumps, Welch Vacuum

webcode WW2MB004

For dry, oil-free applications in the rough and medium-high vacuum range diaphragm pumps are used world-wide in production, research and science as well as in industry, laboratory and education. As an economically and ecologically superior alternative to water operated vacuum pumps the diaphragm pump range always offers a versatile, practical solution for many diverse applications.

- Vacuum distillation and filtration
- Vacuum concentration
- Vacuum drying
- Manipulating and handing systems
- Gel drying, etc.

Diaphragm pumps offer
- different material for chemical (MPC) or physical (MP) processes
- different flow rates from 0.6 m³/h to 16 m³/h
- final pressures from 75 to < 1 mbar
- pressure control using vacuum controler VCB521

Diaphragm pumps are available in complete pump systems - LVS laboratory vacuum systems - with components and materials selected for optimal practical employment in laboratory and industry.
Also used as regeneration pumps in combination pumping systems (Chemvac), they fulfill their tasks due to outstanding chemical resistance and stable vacuum parameters.



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All diaphragm pumps are compactly and functionally designed. Maintenance and service work is fast and easy. Diaphragm pumps guarantee outstanding operation and possess a long life span. They are extremely quiet in operation and work without oil.
Diaphragm pumps with ATEX approval are available on request.

Single-stage diaphragm pumps, final vacuum < 75 mbar

	Type	Suction rate m³/h	W × D × H mm	Weight kg	Order No.
	MP 065 E	0.6	115×165×145	2.3	**10 92 41112**
	MP 105 E	0.9	235×140×277	6.2	**10 92 41142**
	MP 301 E	2.3	260×162×252	8.9	**10 92 41171**
	MP 601 E	3.8	230×265×169	11.2	**56 92 40292**
	MP 1201 E	8.3	230×380×169	18.3	**56 92 40392**
	MPC 110 E	0.9	235×140×277	6.3	**10 92 41242**
	MPC 301 E	2.3	260×162×252	8.9	**10 92 41271**
④	MPC 601 E	3.8	230×265×169	11.2	**56 92 40492**
	MPC 1201 E	8.3	230×380×169	18.3	**56 92 40532**

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Diaphragm and Piston Pumps


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Two-stage diaphragm pumps, final vacuum < 8 mbar

	Type	Suction rate ^{3}/h	W × D × H mm	Weight kg	Order No.
	MP 055 Z	0.5	235×140×277	6.2	**10 92 41143**
	MP 101 Z	1.0	195×235×145	6.5	**56 92 40170**
	MP 301 Z	2.3	230×265×169	11.2	**56 92 40282**
	MP 901 Z	6.8	230×380×169	18.3	**56 92 40322**
	MPC 095 Z	0.5	235×140×277	6.2	**10 92 41243**
①	MPC 101 Z	1.0	195×235×145	6.5	**56 92 40171**
	MPC 301 Z	2.3	230×265×169	11.2	**56 92 40482**
	MPC 901 Z	6.8	230×380×169	18.3	**56 92 40522**
	MPC 1801 Z	12.0	540×300×240	32.8	**56 92 41552**

Three-stage diaphragm pumps, final vacuum < 2 mbar

	Type	Suction rate ^{3}/h	W × D × H mm	Weight kg	Order No.
	MP 201 T	2.0	200×260×150	10.3	**56 92 40176**
	MP 601 T	4.5	230×380×169	18.3	**56 92 40312**
	MPC 201 T	2.0	200×260×150	10.3	**56 92 40177**
②	MPC 601 T	4.5	230×380×169	18.3	**56 92 40512**
	MPC 1201 T	8.3	540×300×240	32.8	**56 92 41782**

Four-stage diaphragm pumps, final vacuum < 1 mbar

Type	Suction rate ^{3}/h	W × D × H mm	Weight kg	Order No.
MP 101 V	1.0	200×260×150	10.3	**56 92 40180**
MP 301 V	2.3	230×380×169	18.3	**56 92 40722**

Further models on request.

webcode WWC5C003

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Vakuumtechnik im System

Diaphragm Pumps, VACUUBRAND

VACUUBRAND's aluminum design diaphragm pump is a perfect match for many applications in the laboratory and operations because it is oil-free and whisper quiet, and because it requires so little service. Diaphragms have especially long lives, and hermetically seal the drive space from the pumping chamber to protect mechanical parts from corrosion. The pumps achieve their distinctively high performance from high pumping chamber volume relative to the minimal dead space. Highly flexible FKM double diaphragms with fabric reinforcement guarantee an extremely long diaphragm lifetime. The pumps operate absolutely oil free and do not have any sliding components on the vapor side; in normal operation they are completely free of abrasion. Besides contributing to the long service intervals, the lack of abrasion also eliminates most of the particulate impurities frequently generated on the vacuum side of scroll or piston pumps. Items supplied: Pumping unit completely mounted, ready for use, incl. device cable, with manual.


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Diaphragm pump ME 1
The ME 1 diaphragm pump offers a compact, high performance and easy to use solution which is perfect for both single and multiple filtrations. This new development, based on the highly successful technology of the diaphragm pump series MD 1, provides a well-proven and extraordinary long diaphragm life time. The functional, space saving and innovative design with visible top mounted power switch ensures convenient and quick operation for day to day lab work. Robust PTFE diaphragms and valves provide optimal chemical resistance. An optional manual control valve with dial gauge enables variable fine adjustment of the pumping speed.

Membrane pump MD 1
The oil-free, dry-sealing membrane pump MD 1 is used to evacuate and convey gases up to an excellent final vacuum. Compared to 2-stage membrane pumps, the 3-stage pump with small and very precisely guided level membranes shows a convincing extraction power also when approaching the final vacuum. This pump type is characterized by its particularly smooth running and very long useful life of the membranes.

Membrane pump MZ 2 NT
With two-stage design for a favourable combination of high extraction power and good final vacuum of up to 7 mbar. The highly flexible FKM double membranes with reinforced fabric ensure a long useful life of the membranes. The new NT series is characterized by further improved output data.

M:	membrane vacuum pump
E:	single-stage, max. 70 mb
Z:	2-stage, max. 7 mb
D:	3-stage, max. 1.5 mb
V:	4-stage, max. 0.6 mbar
SYNCHRO:	connection for simultaneous operation of two applications
BVC:	Fluid aspiration system BioChem VacuuCenter
BVC control G:	G for version with glass bottle

	Type	Pumping speed m^3/h	Ultimate vacuum mbar	Weight kg	L × W × H mm	Order No.
③	ME 1	0.7	100	5.0	247×121×145	**10 18 71072**
⑤	MD 1	1.2	1.5	6.5	303×143×163	**10 18 71069**
④	MZ 2 NT	2.2	7	11.0	243×239×198	**10 18 71073**

Vacuum regulator valve unit for ME 1
Items supplied: Manual vacuum regulator valve with analogue pressure gauge for diaphragm pump ME 1, with hose nozzle DN 6/10 mm.

	Article	Order No.
⑥	Regulator valve unit for ME 1	**10 18 76842**

Rotary Vane Pumps

Two-Stage Robust Rotary Vane Pump CRVpro, Welch Vacuum

webcode WW2MB002

WELCH by Gardner Denver

Two-stage rotary vane pumps
The Welch CRVpro pumps are high-performance two-stage rotary vane pumps. These robust vacuum pumps impress with their long service life, high reliability and low maintenance requirements.

Advantages:
- Cool running operation for less oil consumption
- Coated oil case to slow metal corrosion
- Large oil case to reduce the risk of chemical attacks
- Anti-suck back valve
- Dual voltage

Technical data:

Ultimate pressure without gas ballast partial:	5×10^{-4} mbar
Ultimate pressure without gas ballast total:	2×10^{-3} mbar
Ultimate pressure with gas ballast total:	7×10^{-2} mbar
Connection flanges:	DN 16 KF
Noise level (50 Hz):	50 dB (A)
Voltage:	220 – 240 V / 50 Hz or 115 – 230 V / 60 Hz
Protection:	IP44
Motor speed (50/60 Hz):	0.37/0.4 kW
Dimension (L×W×H):	463 × 157 × 230 mm



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	Type	for	Pumping speed DIN 28426/part 1; pneurop Hz (FAD)	Oil capacity ml	Wght kg	Order No.
①	CRVpro 4	Freeze dryers, Schlenk Lines, industrial applications	4 m³/h (67 l/min)	1150	21	**10 92 43042**
②	CRVpro 6	Freeze dryers, vacuum concentrators, industrial applications	6 m³/h / (100 l/min)	1150	22	**10 92 43062**
③	CRVpro 8	Freeze dryers, glove boxes, vacuum ovens, HVAC industrial applications	8 m³/h / (133 l/min)	1000	22.5	**10 92 43082**



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Scope of delivery: Rotary vine pump with mains cable, vacuum pump oil, centring rings, clamping rings, and motor overload protection.

Accessories

	Article	Order No.
④	**Oil mist separator AKD 16**	**56 92 30883**
⑤	**Oil mist filter OME 10/16**	**56 92 70010**
	Freeze dryer adapter kit The Freeze Dryer Adapter kit consists of the oil mist separator AKD 16, 2-way ball valve, 1.5 m vacuum hose (PVC) and adapter DN16KF / DN25KF.	**10 92 43091**



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Oil Mist Separator AKD and Filter OME are dedicated to oil mist elimination. These are to be mounted to the exhaust port of rotary vane pump.
Other accessories such as filters, traps, hoses, connectors, service kits are available upon request.

Oil

Triple distilled hydrocarbon oil has fewer impurities for increased pump oil life. Designed to resist breakdown at higher RPMs and operating temperatures.

Article	Order No.	PU Liter/Pack
Directorr™ Premium vacuum oil, 1 litre	**10 92 43092**	1
Directorr™ Premium vacuum oil, 5 litre	**10 92 43093**	5


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Packages

Scope of delivery:
Oil mist separator AKD 16, 2-way valve, hose connector DN16KF-10/8 mm, vacuum hose (1.5 m), oil drain kit.

Package	Pump	Order No.
CRVpro 4 package	CRVpro 4	**10 92 43094**
CRVpro 6 package	CRVpro 6	**10 92 43095**
CRVpro 8 package	CRVpro 8	**10 92 43096**

webcode To see other variants and accessories, please enter the webcode on our website.

Rotary Vane Pumps

webcode WWC5C001

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Rotary Vane Pumps, VACUUBRAND

Rotary vane pumps and rotary vane pumps packages
Rotary vane pumps are used wherever it is necessary to have a process vacuum up to 10^{-3} mbar. VACUUBRAND rotary vane pumps are high-performance, yet compact, and can be equipped with an extensive line of VACUUBRAND accessories. They have an innovative lubrication system with a built-in oil pump, and have a large oil volume. This extends oil change and service intervals, and protects the pump at start-up. The effective gas ballast feature, with its high-flow gas ballast, supplies high vapor compatibility for water and solvents. VACUUBRAND rotary vane pumps' volume flow rate is specified at atmospheric pressure, as is customary with PNEUROP®. For process effiency, however, the high volume flow rate of VACUUBRAND pumps under process conditions, as well as a consistently high volume flow rate over a wide pressure range, is the key to your satisfaction in real-world application. After switch-off the aggregate is vacuum-sealed to protect your application from undesired venting and oil back flow.

- constriction-free vapor pathway allows high volume flow rates, even when close to the ultimate vacuum
- high tolerance for water and solvent vapors, because of the high-volume gas ballast
- quiet running and excellent ultimate vacuum, even with gas ballast
- active corrosion protection: Oil cycle closes vacuum-tight against the intake of corrosive gases and oil impurities into the reservoir when shut down
- new design lubrication circuit, and large usable oil volume provides extended oil change and service intervals
- compact design, low weight and easy service with telescopic design

Items supplied: Pump oil filled and completely mounted, ready for use, with manual.

RZ 2.5: Rotary vane pump, two-stage, power class depending on extraction capacity: 2.5
RE 2.5: Rotary vane pump, single-stage, power class depending on extraction capacity: 2.5
RZ 6: Rotary vane pump, two-stage, power class depending on extraction capacity: 6
FO: Exhaust filter FO are oil mist separators are potects against oil-contaminated air inside or outside of the laboratory
VS: V product group Valves, butterfly through-valve design

	Type	Pumping speed m^3/h	Ultimate vacuum mbar	Weight kg	L × W × H mm	Order No.
①	RZ 2.5	2.3	2×10^{-3}	11.4	316×125×190	**10 18 78120**
	RZ 2.5 + FO + VS16	2.3	2×10^{-3}	11.4	316×125×190	**10 18 78029**
②	RZ 6	5.7	2×10^{-3}	16.4	370×142×207	**10 18 78130**
③	RZ 6 + FO + VS16	5.7	2×10^{-3}	16.4	370×142×207	**10 18 78039**
④	RZ 6 + FO + VS16 + VACUU.VIEW extended	5.7	2×10^{-3}	16.4	370×142×207	**10 18 78160**

Rotary vane pump RE 2.5
The one-stage pumps RE 2.5 are high-performance rotary vane pumps with extra compact design and low weight. They are the ideal solution for a wide range of laboratory and process applications that require low ultimate vacuum at medium gas flow rate.

Performance features:

- high flow rates even at vacuum levels approaching ultimate vacuum
- high water vapor tolerance due to efficient gas ballast; very good ultimate vacuum even with gas ballast
- vacuum-tight at switch-off; external anti-suckback valve not needed
- large oil volume: Long intervals between oil changes
- ease of maintenance due to telescopic design

	Type	Pumping speed m^3/h	Ultimate vacuum mbar	Weight kg	L × W × H mm	Order No.
⑤	RE 2.5	2.3	3×10^{-1}	10.2	316 × 125 × 190	**10 18 77150**

Accessories
Packages fine vacuum control
The packages enable convenient vacuum control in the fine vacuum range down to 10^{-3} mbar and consist of a VACUU·SELECT vacuum controller, a VACUU·VIEW extended fine vacuum gauge, a VV-B 15C in-line solenoid valve and all necessary small flange components.

Separator inlet side AK R 2.5/6
Separators at the inlet protect pumps from particulates and droplets which may shorten service intervals and even reduce the lifetime and the operating performance of oil-sealed rotary vane pumps.

Oil mist filter outlet side FO R 2/2.5/5/6
Exhaust gases from oil-sealed rotary vane pumps always carry a certain quantity of oil mist. This is extremely unpleasant, and even harmful, for those working nearby. VACUUBRAND oil mist filters separate nearly 100% of oil mist at the ultimate vacuum of the pump.

Continued on next page

Rotary Vane Pumps

Article	Order No.
Package fine vacuum control KF DN 16	**10 18 70100**
Package fine vacuum control KF DN 25	**10 18 70110**
Separator inlet side AK R 2.5	**10 18 78000**
Separator inlet side AK R 6	**10 18 78006**
Oil mist filter outlet side FO R 2/2.5/5/6	**10 18 78003**
Butterfly valve VS 16	**10 18 78004**
Oil B 1 l	**10 18 77010**

Pump Stands

Vacuum Pump Stand, Rettberg

webcode WWQVD119

Mobile vacuum pump for fine vacuum
Consisting of :
Vacuum Unit with rotary vane vacuum pump, exhaust filter, metal vacuum hose with small flanges KF 16 mm, Pirani measuring sensor and digital display unit.
High Vacuum Unit, borosilicate glass 3.3, **designed for grease-free use**, with PTFE valve 0 to 15 mm and additional PTFE valve 0 to 6 mm for aeration or for fore/partial vacuum, 2 condensation traps with glass flanges KF 50 mm, seals and aluminum clamps, all joints with small glass flanges, seals and clamps, suction end with glass flange KF 16 mm, media end with hose shaft 16 mm with glass flange KF 16 mm, connection for Pirani measuring sensor.
2 Dewar Vessels, can be lowered and swung out for easy filling.
Trolley, complete, stainless steel, on 4 swiveling castors (2 of which can be locked), center shelf load capacity 150 kgs.

Technical data:

External dimensions (W × D × H):	55 × 55 × 115 cm
Weight:	approx 43 kgs
Power supply:	230V, 50Hz
Suction rate:	5.6 m^3/h
End partial pressure without gas ballast:	4 × 10^{-4}/ mbar
End total pressure without gas ballast:	2 × 10^{-3}/ bar
End total pressure with gas ballast:	1 × 10^{-2}/ mbar
Steam compatibilty:	40 mbar

	Article	Order No.
	Vacuum pump stand for fine vacuum, complete	**56 70 90000**
①	**Vacuum pump without electric vacuum components**	**10 70 00006**



Chemistry Pump Devices with Cold Traps, KGW-Isotherm

② **Chemistry pump device with two cold traps type CP**
Applications
flexible applications in laboratory e.g. for
- drying processes
- condensation processes
- vacuum technology
- gas cleaning

Advantages
- Compact design
- Easy handling
- Suitable for aggressive mediums
- Glass components in Borosilicat 3.3
- O-Ring sealed spherical joints incl. fork clamps
- Frame work on wheels
- Table board made of stainless steel
- Parallel operation with 2 cold traps – On failure of one cold trap the other cold trap keeps on working.
- Alternate operation with 1 cold trap – The cold trap in use are chosen by the valve adjustment.

Technical Data:

Dewar:	type 12 C
Content:	1000 ml
Cold trap:	type S 29 O
Dimensions trolley W × L × H:	500 × 750 × 750 mm
Weight:	25 kg

Type	Pressure gauge	Order No.
CP1	yes	**10 50 11707**
CP2	no	**10 50 11708**

Special versions
- 2 cold taps seriel connected
- With special joints



Continued on next page

webcode To see other variants and accessories, please enter the webcode on our website.

Pump Stands



① **Chemistry pump device GP3 with cold trap and pump fork with aeration**
Type GP3 is a mobile chemistry pump stand with a cold trap and a pump fork with a separate aeration cell.

The pump fork has four independently switched vacuum valves and additionally four independently switched aeration valves, so that every sample holder can get individually evacuated or aerated. Through this type of assembling, every sample holder can get disconnected or aerated separately without affecting the vacuum of the other sample holders.

Type GP3 has a small flange KF-NW 16 with vacuum manometer. Instead of the vacuum manometer you can also connect an electronic vacuum gauge. The pump stand will be delivered as standard without suitable vacuum pump.

Component parts
- Rubber hose with small flange KF-NW 16
- Rubber hose for 10mm-olives
- Pump-fork support
- Vacuum pump (not included in scope of delivery)
- Cold trap type KFL 29-GL (CP)
- Bulge on Dewar flask's casing
- Pump fork with aeration cell
- 6 mm-Produran valve with O-ring seal and GL18-glass screw thread with 10 mm-PTFE-olive
- Vacuum flange with manometer
- KF-NW 16 with 10mm-olive
- Aeration port GL18-glass screw thread with 10 mm-PTFE-olive (angled)
- PE-table plate
- Aluminum-profile rack
- Four lockable guide rolls

Technical Data:

Dewar:	type 18 CAL-S with bulge
Effective capacity with cold trap:	2000 ml
Condensate capacity of cold trap:	250 ml at maximum
Dimensions trolley W × L × H:	500 × 750 × 1100 mm
Weight:	35 kg

Type	Pressure gauge	Order No.
GP3	35 kg	**10 50 11753**

Additional versions available on request.

Cooling traps see glass construction, glass equipment page 313

webcode WWKVG005



Vacuum Systems LABOPORT®, KNF Neuberger

- Application: rotary evaporation, distillation
- Delivery rate max. 2.04 m^3/h and a final vacuum of max. 8 mbar abs.
- Vacuum system, comprising a chemicals-resistant diaphragm vacuum pump, base plate, condenser, separator, and vacuum controller
- The combination of PTFE pump head and PTFE coated diaphragms is perfect for highly aggressive/corrosive gases and vapours

Technical data:

Connectors for tube mm:	pneumatic ID10 refrigerant ID8
Permissible media and ambient temperature:	+5 to +40°C
Pump head:	PTFE
Diaphragm:	PTFE coated
Valves:	FFPM
Dimensions (W×H×D):	289 × 506 × 397 mm (SC 820) 289 × 506 × 417 mm (SC 840)

	Type	Flow rate m^3/h	Vacuum pump	Base plate	Separator	Vacuum controller	Condenser	Order No.
②	SC 820	1.2	N 820.3 FT.18	NP810/820	NR800	NC800A	NH800	**56 62 40620**
	SC 840	2.04	N 840.3 FT.18	NP840	NR800	NC800A	NH800	**56 62 40640**

Pump Stands

Vacuum Systems LABOBASE®, KNF Neuberger



webcode WWKVG004

Vacuum Systems
- Application: central vacuum supply
- Delivery rate max. 3.6 m³/h and a final vacuum of max. 4 mbar abs.
- For up to ten users
- Fully automated vacuum generation system, comprising a chemicals-resistant diaphragm vacuum pump, base plate, high-power condenser, separator, vacuum controller, valves, and control unit
- The combination of PTFE pump head and PTFE coated diaphragms is perfect for highly aggressive/corrosive gases and vapours

Technical data:

Connectors for tube mm:	ID10
Permissible media and ambient temperature:	+5 to +40°C
Pump head:	PTFE
Diaphragm:	PTFE coated
Valves:	FFPM
Dimensions (W×H×D):	450 × 515 × 322 mm (SBC 840.40) 314 × 552 × 437 mm (SBC 860.40)

Type	Flow rate m³/h	Ultimate vacuum abs. mbar	Wght kg	Vacuum pump	Order No.
SBC 840.40	2.04	10	22.9	N 840.3 FT.40.18	**10 62 78404**
SBC 860.40	3.6	4	25.3	N 860.3 FT.40.18	**10 62 78604**

Accessories

Article	Order No.
Gas washing bottle 0.5 l	**10 62 75886**
Control valve, unregulated, for safety cabinets	**10 62 78366**
Vacuum supply point for control valves, unregulated, for safety cabinets	**10 62 78364**
Vacuum supply point, unregulated, for installation in laboratory equipment (PPS)	**10 62 78362**

Vacuum Control Unit VC 900, KNF Neuberger

webcode WWKVG012



Vacuum control unit VC 900
- Application: rotary evaporation, distillation, central vacuum supply
- Easy controlling of the vacuum application
- Controller unit with pressure sensors and two-level control valve for installation independent of the operating unit

Combined with a KNF pump N 920 G, LABOPORT N 820 G or LABOPORT N 840 G and a control cable, the speed is controlled in keeping with the requirements of the process (order the control cable separately). Can also be combined with all commercially available membrane vacuum pumps for control via valve.

Technical data operating unit:

Housing materials:	Plastic
Power supply:	Power cord, cable length 150 cm
Protection class:	IP30
Mains voltage:	100 – 240 V
Frequency:	50/60 Hz
Operating current:	max. 1.0 A
Dimensions W × H × D:	101 × 181 × 67 mm
Accuracy of measurement:	± 1 mbar
Measuring limit:	0 to 1100 mbar abs.

Technical data control unit:

Hose connections:	Gas in ID 10, PVDF Gas out ID 10, PVDF Venting ID 4, nickel-plated brass
Dimensions L × H × W:	155 × 109 × 60 mm
Permissible media and ambient temperature:	+10 to +40°C
Weight:	1.2 kg

Article	Order No.
VC 900 vacuum control unit	**10 62 74181**

Accessories

Article	Order No.
Connection cable for N 920 G interface, 2 meter	**10 62 77757**
Connection cable for N 920 G interface, 5 meter	**10 62 77758**
Connection cable for LABOPORT N 820/840 G interface, 2 meter	**10 62 73829**

webcode To see other variants and accessories, please enter the webcode on our website.

Pump Stands

webcode WWKVG007

Vacuum Pump Systems SC 920 G, SC 950 and SCC 950, KNF Neuberger



①



②



③

Vacuum pump systems SC 920 G, SC 950 und SCC 950

- Application: rotary evaporation, distillation
- Delivery rate 3 m^3/h and a final vacuum of 2 mbar abs.
- Remote control for safe operation outside of closed fume cupboards
- Automated, precise boiling point detection and boiling point follow-up by means of integrated ramp function
- The combination of PPS pump head and PTFE coated diaphragms is perfect for highly aggressive/corrosive gases and vapours
- Speed-controlled
- Integrated gas ballast valve
- SCC 950: Equipped with two controllers for independent and simultaneous operation of two rotary evaporators

Technical data:

Flow rate at atm. pressure:	1.26 m^3/h (SC 920 G) 3 m^3/h (SC 950, SCC 950)
Ultimate vacuum:	2 mbar absolut
Hose connections mm:	pneumatic ID10 refrigerant ID8 inert gas ID6 (SC 920 G) / ID4 (SC 950, SCC 950)
Permissible media and ambient temperature:	+5 to +40°C
Weight:	15.2 kg (SC 920 G) 14.5 kg (SC 950) 16.1 kg (SCC 950)
Dimensions B × H × T:	366 × 423 × 294 mm (SC 920 G) 246 × 487 × 313 mm (SC 950) 246 × 487 × 376 mm (SCC 950)
Pump head:	PPS
Diaphragm:	PTFE coated
Valves:	FFPM

	Article	Order No.
①	SC 920 G	**10 62 70920**
②	SC 950	**10 62 70950**
③	SCC 950	**10 62 71950**

Accessories

Article	for	Order No.
Coolant valve G 1/2, ID 8	SC 920 G, SC 950	**10 62 77121**
Stand fixture for wireless remote control	SC 920 G	**10 62 70132**
Wall fixture for wireless remote control	SC 920 G	**10 62 70130**

webcode WW2MB014

Laboratory Vacuum Systems LVS, Welch Vacuum



④

Chemical resistant laboratory vacuum systems

The LVS laboratory vacuum systems are compact pump systems for conventional vacuum distillation. Equipped with a chemical-resistant diaphragm pump they are the ideal solution for numerous applications in chemical laboratories and in research.
According to the application, our LVS models can be supplied with or without vacuum control. Three control philosophies are available, the standard version being a chemically resistant solenoid valve with two point control. Operation of the controller has been simplified so that it is easy to learn and can also be performed from a PC.
Our LVS systems are available with many different features and in numerous versions, enabling them to be adapted without difficulty to countless applications.
Your safety is important for us. All components of our pump systems which come into contact with gas are made of high-grade, chemically resistant material. This means that they can even be used to evacuate solvent and acid vapors.
Glassware is coated with a clear plastic layer, through which the process can be observed at all times. The high-pressure side of the cooler is insulated.

Scope of supply:

- Chemically resistant diaphragm pump equipped with gas ballast valve
- Pump carrier
- Suction side separator with round bottom flask 500 ml
- Exhaust side intensive cooler with round bottom flask 500 ml
- With safety valve
- Ready for installation interconnects
- Suction connection for hose DN8
- Power supply 230 V / 50/60 Hz

Advantages:

- Oil free vacuum
- All wetted parts in chemically resistant materials (PTFE or PEEK)
- Nearly 100% solvent recovery
- Suitable for continuous operation
- Long life span

Continued on next page

Pump Stands

- Compact modular design
- Small noise level

LVS, for unregulated vacuum
Scope of delivery:
- Exhaust and suction side separator with round bottom flask 500 ml, intensive cooler not required
- Safety valve not required

LVS, for one automatic controlled connection
Scope of delivery:
- Controlled connection
- Controller with display, sensor and airing valve

Dimensions (W×D×H): 350 × 320 × 440 mm
540 × 330 × 460 mm (LVS 1210 T)

	Type	Ultimate total pressure mbar	Suction rate 50/60 Hz m^3/h	Weight kg	Order No.
④	LVS 110 Z	< 8	1.0/1.1	12.7	**56 92 13024**
	LVS 310 Z	< 8	2.3/2.5	17.8	**56 92 13044**
	LVS 210 T	< 2	2.0/2.2	15.7	**56 92 13034**
	LVS 610 T	< 2	4.5/4.9	24.4	**56 92 13054**
	LVS 1210 T	< 2	8.3/9.1	36.3	**56 92 13064**



⑤

LVS ecoflex, one controlled connection via variable pump speed
Scope of supply:
- Chemically resistant diaphragm pump equipped with gas ballast valve
- One controlled connection
- Controller with sensor and airing valve

Dimensions (W×D×H): 250 × 260 × 435 mm (LVS 105 T – 10 ef)
350 × 320 × 440 mm (LVS 310 Z ef, LVS 210 T ef, LVS 610 T ef)
540 × 330 × 460 mm (LVS 1210 T ef)

	Type	Ultimate total pressure mbar	Suction rate 50/60 Hz m^3/h	Wght kg	Order No.
	LVS 310 Z ef	< 8	2.6	19.9	**56 92 13074**
⑤	LVS 105 T – 10 ef	< 2	1.2	9.5	**10 92 43184**
	LVS 210 T ef	< 2	2.2	19.0	**56 92 13124**
	LVS 610 T ef	< 2	4.9	26.8	**56 92 13084**

Chemvac Combination Pump Systems, Welch Vacuum

Combined Pumping Units
Chemvac Combination Pump Systems, ultimate pressure to 2×10^{-3} mbar
The term "combination pump systems" has become established at user level for the combination of rotary van pump and diaphragm pump. Combination pump systems are particularly suitable for evacuation jobs in chemical applications with high condensate loads.

webcode WW2MB003

WELCH by Gardner Denver

For the fine vacuum range in special applications, e.g.:
- for aggressive gases and vapors
- for evacuation of solvent recovery vapor
- for pumping of vapors which are soluable in oil

The Chemvac Combination Pump Systems are used for producing fine vacuum. They are corrosion optimized combinations of a two stage rotary vane pump with a chemically resistant diaphragm pump. The rotary vane pump is connected on the intake side to a recipient and evacuates it. With a delay the integrated diaphragm pump evacuates the inside of the oil housing. This vacuum prevents the gases from the working valve of the rotary vane pump from condensing and conveys them through a separator system into the exhaust air.



Advantages:
- High end vacuum
- Long periods between oil changes reduce running coasts and down time
- Low corrosive loading of the components
- Simple pressure condensation after the chemical resistant diaphragm pump
- Cessation of a suction-side cooling trap in most cases
- Excellent durability with aggressive applications

Scope of delivery: Chemvac Combination Pump System with switch, mains cable and plug, KF small flange connections, clampng and centering rings, oil filling.

Type	Suction rate m^3/h	Ultimate pressure mbar	W × D × H mm	Wght kg	Order No.
P6 Z-101	5.8	2×10^{-3}	500×330×340	25.5	**10 92 49023**
P12 Z-301	11	2×10^{-3}	590×345×420	42.5	**10 92 49024**
P23 Z-301	21	2×10^{-3}	590×345×420	46	**10 92 49025**

Oil

Article	Ultimate pressure at 20°C mbar	Viscosity at 40°C cST	Flash point 15°C	Density at °C g/ml	Order No.	PU Liter/ Pack
LABOVAC-14	$<10^{-6}$	47.9	257	0.918	**56 92 80135**	1

webcode To see other variants and accessories, please enter the webcode on our website.

Pump Stands

webcode WWC5C002

vacuubrand
Vakuumtechnik im System

Chemistry Diaphragm Pumps and Systems, VACUUBRAND



①



②



③



④

Chemistry diaphragm pumps
Typical applications for chemistry diaphragm pumps include evacuating chemically aggressive gases and vapors from such equipment as rotary evaporators, vacuum drying cabinets and centrifugal concentrators. Chemistry diaphragm pumps from VACUUBRAND have uncompromising chemistry designs: Due to fluorocompounds they are very resistant to chemical vapors from inlet to exhaust, and are very tolerant of condensate. Our two-, three- and four-stage pumps also have a gas ballast valve that helps to preserve pump performance when working with condensable vapors. Pumping chambers are hermetically separated from the drive space, ensuring long lifetimes of mechanical parts. Most importantly, diaphragm pumps are oil-free, for vastly reduced service demands compared with oil-sealed pumps. They eliminate the water waste of water-jet aspirators, and the contaminated waste-oil disposal of rotary vane pumps.

Chemistry vacuum system MZ 2C NT +AK+EK
The separator at the inlet (AK), made of glass with protective coating, retains particles and liquid droplets. The waste vapor condenser at the outlet (EK) is highly efficient and compact. The condenser enables near-100-percent solvent recovery, efficient recycling, and active protection of the environment.

Chemistry vacuum system MZ 2C NT +AK SYNCHRO+EK
This chemistry vacuum system provides the simultaneous operation of two processes with only one pump.

Chemistry pumping unit PC 510 select
The pumping units are equipped with a VACUU·SELECT vacuum controller with a solenoid valve for electronic vacuum control.

Chemistry pumping unit PC 511 select
The PC 511 NT is equipped with an additional manually controlled vacuum port. Check valves help to protect against cross-contamination and interference, permitting simultaneous operation of two vacuum applications with one pump.

Chemistry pumping unit PC 520 select
This chemistry vacuum pumping unit is an economic space-saving solution for simultaneous operation of two independent and electronically controlled vacuum applications with one single pump.

Chemistry pumping unit PC 620 select
This chemistry vacuum pumping unit is an economic space-saving solution for simultaneous operation of two independent vacuum applications with one single pump of very high pumping speed.

VARIO®chemistry pumping unit PC 3003 VARIO select und PC 3001 VARIO select
VARIO chemistry pumping units provide vacuum control by precise and continuous adaptation of the diaphragm pump's motor speed. The integrated vacuum controller is able to perform fully automatic evaporations with the push of a button. The pump's variable motor speed responds to demand, reducing energy waste and mechanical wear, ensuring unrivalled service life for the diaphragms.

M: membrane vacuum pump
E: single-stage, max. 70 mbar
Z: 2-stage, max. 7 mbar
D: 3-stage, max. 1.5 mbar
V: 4-stage, max. 0.6 mbar
C: C=chemistry design
PC: pumping station chemicals
AK: separator for condensates, suction or pressure side
EK: emission condenser
select: with the new VACUU·SELECT vacuum controller

	Type	Pumping speed m^3/h	Ultimate vacuum mbar	Weight kg	L × W × H mm	Order No.
①	ME 1C	0.7	100	5.0	247×121×145	**10 18 71100**
	MZ 2C NT	2.0	7	11.1	243×243×198	**10 18 72300**
	MZ 2C NT +AK+EK	2.0	7	14.2	326×243×402	**10 18 72600**
②	MZ 2C NT +AK SYNCHRO+EK	2.0	7	14.5	326×248×402	**10 18 72800**
	PC 510 select	2.0	7	17.2	418×243×457	**10 18 73150**
	PC 511 select	2.0	7	17.4	435×243×457	**10 18 73250**
③	PC 520 select	2.0	7	17.7	435×243×457	**10 18 73350**
	PC 620 select	3.4	1.5	20.6	435×243×457	**10 18 77350**
	MD 1C	1.3	2	6.9	316×143×175	**10 18 76600**
	MD 1C +AK+EK	1.3	2	10.2	316×239×405	**10 18 76620**
④	PC 3001 VARIO select	2.0	2	8,2	303×306×400	**10 18 70200**
	PC 3003 VARIO select	2.8	0.6	21.1	419×243×457	**10 18 78450**

Accessories

Article	Order No.
Regulator valve unit for ME/MZ 1C	**10 18 76843**

Vacuum Measurement

Vacuum Gauges and Controller, VACUUBRAND

webcode WWC5C004

vacuubrand
Vakuumtechnik im System

State-of-the-art vacuum gauges for laboratory and industrial operation have to meet high standards in terms of gauge head resistance to chemicals, reliability in rugged applications and operator-friendly interfaces. In addition to dedicated fine or low vacuum gauges, the product portfolio offers the VACUU-VIEW extended, a gauge with an extended measuring range (110 – 10^{-3} mbar).

A lot of applications in the laboratory call for electronic vacuum regulation, that is, constantly adapting the pump's volume flow rate to process requirements. The maximum volume flow rate of the unregulated pump can be changed in various ways:

- Two-point regulation via suction line valve: The VACUU·SELECT vacuum regulator controls the vacuum using the classic method of two-point control by opening and closing a suction line valve
- Speed-controlled VARIO vacuum pumps and pump stands: VARIO membrane pumps and chemicals pump stands with VACUU·SELECT regulate the vacuum with high precision and free of hysteresis by adjusting the speed of the membrane pump.
- Adaptive regulation for fully automated evaporation – without entering parameters: When "Automatic evaporation" is selected, the vacuum controller VACUU·SELECT automatically detects the boiling pressure of the solvent, or also several boiling points of a solvents mixture, and continuously adapts the vacuum to the process curve – right up to the end of the process. For this option, the gauge must be combined with one of our VARIO pumps.



①

Vacuum gauge VACUU·VIEW extended

For the monitoring of your vacuum processes in the rough and fine vacuum range, the vacuum gauges VACUU·VIEW extended are perfect! The heavy duty combination of ceramic diaphragm sensor and ceramic jacketed Pirani sensor ensures reliable readings in the wide range from atmosphere down to 10^{-3} mbar.

- Precision and chemical resistance in an exceptionally wide range from atmosphere down to 10⁻³ mbar, one gauge only for both rough and fine vacuum
- Compact design with integrated sensors for useful setup in laboratory and process
- The chemical resistant combination of ceramic diaphragm sensor and ceramic jacketed Pirani sensor ensures a long product life even with aggressive chemicals
- Illuminated display, easy to read
- Display with menu driven handling, easy to use e.g. for unit settings

Technical data:

Measuring range:	0.001 – 1100 mbar/hPa
Dimensions (L×W×H):	approx. 50 × 62 × 103 mm
Weight:	approx. 0.19 kg
Rated mains voltage / mains frequency:	100–230 V/50–60 Hz
Plug:	CEE/CH/UK/US/AUS/CN
Measurement principle:	Ceramic diaphragm sensor + ceramic jacketed Pirani sensor
Accuracy of measurement:	± 15% of indicated value in the range from 0.01 – 5 mbar / ± 3 mbar for > 5 mbar
Temperature coefficient (mbar/hPa/torr/°C):	± 0.2 mbar/hPa/0.15 torr /K
Vacuum connection:	Small flange KF DN 16 and hose nozzle DN 6/10 mm
Items supplied:	Vacuum gauge with integrated vacuum sensors, ready for operation, with kit hose nozzle DN 6/10 mm, wall-plug power supply and manual

	Article	Order No.
①	Vacuum gauge VACUU·VIEW extended	**10 18 73210**

Vacuum gauge VACUU·VIEW

For the monitoring of your vacuum processes in the rough vacuum range, the vacuum gauges VACUU·VIEW are perfect! Chemically resistant ceramic diaphragm sensor for measurement in the rough vacuum range. VACUU·VIEW provides gas-independent pressure indication with precise capacitive readout.

- Highest precision in the range from atmosphere down to 0.1 mbar, perfect gauge for all rough vacuum applications
- Compact design with integrated sensor for useful setup in laboratory and process
- Chemically resistant ceramic diaphragm sensor, highly reliable at harsh laboratory conditions even in case of aggressive chemicals
- Illuminated display, easy to read
- Display with menu driven handling easy to use e.g. for unit settings

Continued on next page

Vacuum Measurement



①

Technical data:

Measuring range:	0.1 – 1100 mbar/hPa
Dimensions (L×W×H):	approx. 50 × 62 × 103 mm
Weight:	approx. 0.19 kg
Rated mains voltage / mains frequency:	100–230 V/50–60 Hz
Plug:	CEE/CH/UK/US/AUS/CN
Measurement principle:	Ceramic diaphragm (alumina), capacitive, gas indep., absolute pressure
Accuracy of measurement:	< ± 1 mbar/hPa/torr / ± 1 digit (after adjustment, constant temp.)
Temperature coefficient (mbar/hPa/torr/°C):	< 0.07 mbar/hPa/0.05 torr /K
Vacuum connection:	Small flange KF DN 16 and hose nozzle DN 6/10 mm
Items supplied:	Vacuum gauge with integrated vacuum sensor, ready for operation, with kit hose nozzle DN 6/10 mm, wall-plug power supply and manual

	Article	Order No.
①	Vacuum gauge VACUU·VIEW	**10 18 73220**



②

Vacuum gauge DVR 2pro

The DVR 2pro has an integrated vacuum sensor made of alumina ceramic with outstanding corrosion resistance and superior long-term stability. A particular advantage is its cordless, battery-powered operation.

Technical data:

Measuring range:	1 – 1060 mbar/hPa
Dimensions (L×W×H):	115 × 115 × 90 mm
Weight:	0.4 kg
Measurement principle:	Ceramic diaphragm (alumina), capacitive, gas indep., absolute pressure
Measurement uncertainty:	±1 mbar/hPa/torr / ±1 digit (after adjustment, constant temp.)
Vacuum connection:	Small flange KF DN 16 and hose nozzle DN 6/10 mm
Items supplied:	Vacuum gauge complete with integrated vacuum sensor, including battery 9 V alkali-manganese, support rod, connecting parts and manual

	Article	Order No.
②	Vacuum gauge DVR 2pro	**10 18 72906**



③

VACUU·SELECT Vakuum controller

VACUU·SELECT – the interactive controller for all vacuum processes in the lab, with touch display and operator-oriented user interface.

VACUU·SELECT works just like a smartphone: Simply select and start the laboratory application via the touch display. The controller automatically manages the vacuum process – right up to the end. If you select solvent evaporation, VACUU·SELECT detects the boiling point and adapts the vacuum process accordingly.

In this way, VACUU·SELECT provides for added comfort and efficiency in the lab. It also allows you to combine and control the application, the vacuum of your choice and other parameters individually, tailored to your needs.

Performance features:
- control for all common vacuum processes in chemistry labs
- graphic user interface simplifies laboratory work
- predefined applications save time and guarantee reproducible results
- application editor allows easy customization
- integrated help function

Technical data:

Measuring range:	0.1 – 1080 mbar/hPa
Interface:	Ethernet / USB (Type A)
Dimensions (L×W×H):	152 × 127 × 41 mm
Weight:	0.745 kg
Rated mains voltage / mains frequency:	100 – 230 V / 50 – 60 Hz
Plug:	CEE/CH/UK/US/AUS
Measurement principle:	Ceramic diaphragm (alumina), capacitive, gas indep., absolute pressure
Measurement uncertainty:	< ±1 mbar/hPa/torr / ±1 digit (after adjustment, constant temp.)
Vacuum connection:	PTFE tubing connection 10/8 mm, hose nozzle DN 6/10 mm, small flange DN 16

	Article	Order No.
③	VACUU·SELECT Vacuum controller	**10 18 77000**

Continued on next page

Vacuum Measurement

Vacuum controller bench-top device or for lab scaffold CVC 3000 detect

The VACUU·SELECT complete controller provides enhanced process efficiency to applications supported by a vacuum source such as a basic pump or a powerful vacuum network. The VACUU·SELECT controller has you covered. Use manual set-point-control for simple processes, run pre-defined applications at the touch of a button, or create your own application with simple drag-and-drop editing. The controller is available as a bench-top unit, ready for mounting on lab scaffolding, or as a built-in version for lab casework. The integrated controller includes the VACUU·SELECT vacuum controller, a check valve, and a chemical-resistant solenoid isolation valve. The ceramic vacuum sensor and venting valve are built right into the body of the VACUU·SELECT controller. The compact unit is easy to install and setup. With its intuitive, application-based interface, the controller offers predefined vacuum processes for all common laboratory applications. In the case of solvent evaporation, it detects the boiling pressure and then holds the pressure level stable using two-point control.



④

Technical data:

Measuring range:	1080/810 – 0.1/0.1 mbar/hPa/torr
Measurement principle:	Ceramic diaphragm (alumina), capacitive, gas indep., absolute pressure
Measurement uncertainty:	< ±1 mbar/hPa/torr / ±1 digit (after adjustment, constant temp.)
Vacuum connection:	Hose nozzle DN 6/10 mm
Venting valve connection:	Integrated, hose nozzle DN 4–5 mm
Dimensions (L×W×H):	191 × 127 × 187 mm
Weight:	2 kg
Power supply:	100 - 230 V / ~ 50 - 60 Hz

	Article	Order No.
④	**VACUU·SELECT Complete controller benchtop device** CEE/CH/UK/US/AUS/CN **Items supplied:** VACUU·SELECT complete controller bench-top device, with solenoid valve, non-return valve, integrated ceramic diaphragm vacuum sensor and venting valve. With power supply, ready to use, with manual.	**10 18 70070**
	VACUU·SELECT Complete controller for scaffold mounting CEE/CH/UK/US/AUS/CN **Items supplied:** VACUU·SELECT complete controller for lab scaffold mounting, with solenoid valve, non-return valve, integrated ceramic diaphragm vacuum sensor and venting valve. With power supply, ready to use, with manual.	**10 18 70080**

Vacuum Gauges, Rettberg

	Article	Order No.
⑤	**Vacuum manometer** With 2 scale ranges (1000-0 mbar/ 760-0 mmHg) complete with adapter to standard ground cone 29/32, suitable for work in the rough vacuum range.	**39 70 10000**

	Article	Order No.
⑥	**Vacuum manometer digital** Digital vacuum gauge on special lock with thick cone NS29/32, with digital display of the pressure (in bar / psi / MPa), storage of minimum and maximum value, barograph with drag indicator function, battery operated with display of status of battery charging.	**10 70 00004**

4-digit display:	-1 to +2 bar
Accuracy:	0.5%
Protection:	IP 65



⑤



⑥

webcode WWQVD019

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webcode

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Samplers





webcode WWR4Q017

QuickPicker, BÜRKLE

The QuickPicker is specially appropriate when bulk goods are withdrawn directly from sacks, bags or open containers. The sample is filled directly into the original sample bottles. Easy to handle and to clean. No edges or crevices, no residual sample material.
- QuickPicker is delivered complete with 2 sample bottles and cleaning brush
- Sampling depth 30 cm, diameter 25 mm, overall length 50 cm, 75 ml volume, made of stainless steel or PP, sample bottles made of PP or LDPE, removable point

Sampler QuickPicker
Complete with cleaning brush and 2 bottles PP 250 ml

	Article	Order No.
①	Sampler Quick Picker AISI 316	**39 04 32230**
	Sampler Quick Picker PP	**10 04 52235**

Accessories/Sampling bottles

Material	Colour	Volume ml	Order No.
LDPE	transparent	250	**39 04 18250**
PP	transparent	250	**10 04 59250**

close-it & close-it food & pharma control seal ensures the tight sealing of punctured sacks/bags – see page 486.

webcode WWR4Q031



Sampler, BÜRKLE

Milky, sampling lance acc. to EN ISO 707.
Universal powder and granules sampler made of stainless steel V4A. Developed initially for milk powder samples, conforms to standards of DIN and IDF (Int. Dairy Federation). The collector is inserted into bags or casks and the sample is removed using a semi-circular profile lance.

Article	Insertion depth mm	Overall length approx. mm	Outer Ø approx. mm	Vol. approx. ml	Order No.
Milky	385	480	28	150	**39 04 63211**

close-it & close-it food & pharma control seal ensures the tight sealing of punctured sacks/bags – see page 486.

Samplers

Sampler, BÜRKLE

webcode WWR4Q032

StickProof, sampler for powders in the pharmaceutical industry, made of stainless steel V2A, material 1.4404. The especially slender tip can be inserted easily and deeply. The conical inlet of the tip lets you collect either very small or larger quantities.
StickProof is constructed in one piece without edges, grooves or crevices for perfect and easy cleaning. The sample can be filled directly into the sampling bag. Fasten the bag with a sturdy clamp.
- Hand grip dia.25 mm
- Borehole dia. 20 mm, length of chamber 120 mm
- Electropolished surface
- Variable sample quantity up to approx. 50 ml

StickProof, complete with clamp and 100 PE sampling bags 120 × 170 mm



Article	Order No.
StickProof, length 410 mm	**39 04 53381**
StickProof, length 1100 mm	**10 04 53382**

close-it & close-it food & pharma control seal ensures the tight sealing of punctured sacks/ bags – see page 486.

Spatula made of Stainless Steel, BÜRKLE

webcode WWR4Q069

Sampling spatula made of stainless steel V4A (1.4404). Thanks to its extra sturdy and solid design, the spatula is also suitable for piercing bags and big-bags and for penetrating solid masses. High-gloss polished and completely welded, the spatula made of premium stainless steel is free of undercuts at all sides. Thus, it is perfectly suited for sampling powders, granulates, and pasty substances, above all in the food and pharmaceutical industry.
- Fully made of stainless steel V4A (1.4404)
- Extra sturdy
- Easy to clean
- Autoclavable
- Suitable for flame sterilisation
- High-gloss polished



Insertion depth mm	Overall length mm	Volume ml	Order No.
188	300	50	**10 04 53831**

Sampler Tubus, BÜRKLE

webcode WWR4Q060

Sampler for pourable bulk goods up to approx. 1 cm in diameter. This makes it possible, for example, to remove hazel nuts, blends of tea, grain or similar items from large sacks.
- Also for coarse-grained bulk goods
- Made of stainless steel V4A (1.4404)
- Special geometry of the tip

Corresponds to ISTA standard for seed lengths of 10 mm (wheat, oats) and 5 mm (flax, vetches).



	Length cm	Ø mm	Order No.
①	40	40	**10 04 58240**
	80	40	**10 04 58280**

close-it & close-it food & pharma control seal ensures the tight sealing of punctured sacks/ bags – see page 486.

Samplers

webcode WWR4Q061

Sampler SteriPlast, BÜRKLE

Bürkle SteriPlast® products – scoops, spatulas and spoons – are high-quality, ergonomically shaped disposable products specifically designed and optimized for sampling. They are manufactured, assembled, and packed individually in Bürkle's own clean room, followed by gamma ray sterilization (min. 10 kGy).



① SteriPlast® sample scoop

The polystyrene sampling scoop SteriPlast® is manufactured in class 7 clean-room (10,000), individually packaged as a disposable product, and sterilised by gamma rays. The sampling scoop is ideal for powders, granulates, and pastes. The scoop with transparent lid can be closed immediately after sampling for conserving the sample sterile and free of contamination.

- PS, white
- Individually packaged and sterilised by gamma rays
- Production, assembly and packaging according to clean room class 7
- With EU foodstuffs and FDA approval

Contents ml	Version	Length mm	Order No.	PU pc/Pack
25	without cover	141	**10 04 58100**	10
25	with cover	142	**10 04 58102**	10
50	without cover	160	**10 04 58103**	10
50	with cover	161	**10 04 58104**	10
100	without cover	205	**10 04 58105**	10
100	with cover	206	**10 04 58106**	10
150	without cover	216	**10 04 58107**	10
150	with cover	218	**10 04 58108**	10
250	without cover	232	**10 04 58113**	10
250	with cover	235	**10 04 58114**	10
500	without cover	280	**10 04 58115**	10
500	with cover	283	**10 04 58116**	10
1000	without cover	332	**10 04 58119**	10



② SteriPlast® sample spoons

The polystyrene sampling spoon SteriPlast® is manufactured in class 7 clean-room (10,000), individually packaged as a disposable product, and sterilised by gamma rays. The sampling spoon is available in two sizes: 2.5 ml (teaspoon size) and 10 ml (table spoon size) and is ideal for sampling powders, granulates, pastes, and liquids.

- PS, white
- Individually packaged and sterilised by gamma rays
- Production, assembly and packaging according to clean room class 7
- With EU foodstuffs and FDA approval

Length mm	Contents ml	Order No.	PU pc/Pack
127	2.5	**10 04 58111**	100
170	10	**10 04 58112**	100



③ SteriPlast® sample spatula

The polystyrene sampling spatula SteriPlast® is manufactured in class 7 clean-room (10,000), assembled, individually packaged as a disposable product, and sterilised by gamma rays. Thanks to its long, ergonomically shaped sturdy handle and pointed blade, the product - though disposable - is strong enough to pierce containers such as paper or plastic bags. The sampling spatula is ideal for sampling powders, granulates, and pastes. After sampling, the spatula can be closed immediately by means of the transparent closing sleeve, and the sterile sample can be conserved free of contamination.

- PS, white
- Individually packaged and sterilised by gamma rays
- Production, assembly and packaging according to clean room class 7
- With EU foodstuffs and FDA approval

Insertion depth mm	Version	Overall length mm	Order No.	PU pc/Pack
150	without sleeve	263	**10 04 58109**	10
150	with sleeve	268	**10 04 58110**	10

Continued on next page

Samplers

④ **LaboPlast® and SteriPlast® disposable scrapers**
The polystyrene scraper SteriPlast® is manufactured in class 7 clean-room (10,000) and individually packaged as a disposable product. Stable and handy disposable scraper. Use the scraper for scraping, smoothing or cleaning and for removing residues.
- PS, white
- Individually packaged
- Production, assembly and packaging according to clean room class 7
- With EU foodstuffs and FDA approval
- SteriPlast® sterilised by gamma rays

Article	Length mm	Version	**Order No.**	PU pc/Pack
LaboPlast® scraper	200 × 80	standard	**10 04 58030**	10
SteriPlast® scraper	200 × 80	sterilized, individually	**10 04 58130**	10

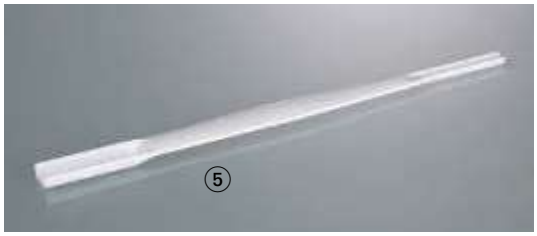

④

LaboPlast® and SteriPlast® disposable spatulas
⑤ Available as 100 pc. large pack, or individually packaged and sterilized by gamma rays
- PS
- Production, assembly and packaging according to clean room class 7
- With EU foodstuffs and FDA approval
- Optionally individually packaged and sterilized by gamma rays

Spoon spatula:
The spoon spatula is a double-spatula with 0.5 ml spoon and 17 mm spatula blade, total length 178 mm. The spoon spatula serves various purposes, for example as sample spoon, for measuring or transferring small amounts, as scraper, or for mixing and stirring. To be used as disposable product. Resistant to chemicals and corrosion-proof.


⑤

Micro spatula:
Double scoop spatula with rounded ends, content 1.0 and 0.25 ml, total length 180 mm. Use the Micro spatula to sample, transfer, or handle small amounts of chemicals, powder, granulate, pastes, creams or liquids. The stable and practical centre handle makes precise working easy.


⑤

Article	Version	**Order No.**	PU pc/Pack
LaboPlast® spoon spatula	standard	**10 04 58031**	100
SteriPlast® spoon spatula	sterilized, individually packaged	**10 04 58131**	100
LaboPlast® micro spatula	standard	**10 04 58032**	100
SteriPlast® micro spatula	sterilized, individually packaged	**10 04 58132**	100

Blue Disposable Sampler for Foodstuffs, BÜRKLE

webcode WWR4Q068

Natural foods do not come with a blue colour. For this reason, blue products or parts thereof would be very easy to find and remove at visual inspection should they ever get into the production.

Thus, using blue tools helps to come up to the requirements of the HACCP risk analysis and evaluation in terms of foreign bodies. This is an important precondition particularly in food processing and production as well as in feedingstuff and pharmaceutical industry.
- Fit for use in the frame of HACCP/IFS foreign body management
- Specifically for the food, feedingstuff, and pharmaceutical industry
- PS, blue
- Individually packaged and sterilized with gamma rays
- Production, assembly and packaging according to clean-room class 7
- Compliant with EU food regulations and FDA regulations

Detectable disposable sampling devices

In addition to their blue colour, these scoops, spatulas, spoons and scrapers are made of a material with a special additive which makes them visible in metal detectors or at the application of X-rays. Thus, these products can be sorted out via the usual foreign body control systems, even though they are made from plastic.
- Traceable via colour scanner, metal detectors or X-rays.


⑥

⑥ **SteriPlast® food scoop, blue**
The food scoop is ideal for powders, granulates, and pastes.

Contents ml	Length mm	PU pc/Pack	standard **Order No.**	detectable **Order No.**
25	141	10	**10 04 58301**	**10 04 58303**
50	160	10	**10 04 58305**	**10 04 58307**
100	205	10	**10 04 58313**	**10 04 58315**
150	216	10	**10 04 58319**	**10 04 58201**
250	232	10	**10 04 58203**	**10 04 58205**
500	280	10	**10 04 58207**	**10 04 58213**
1000	332	10	**10 04 58215**	**10 04 58219**

Continued on next page

Samplers







② **SteriPlast® spatula for foodstuffs, blue**
Thanks to its long, ergonomically shaped sturdy handle and pointed blade, the product - though disposable - is strong enough to pierce containers such as paper or plastic bags. The sampling spatula is ideal for sampling powders, granulates, and pastes.

Insertion depth mm	Length mm	PU pc/Pack	standard **Order No.**	detectable **Order No.**
150	263	10	**10 04 58309**	**10 04 58209**

③ **SteriPlast® spoon for foodstuffs**
The food sampling spoon is available in two sizes: 2.5 ml (teaspoon size) and 10 ml (table spoon size) and is ideal for sampling powders, granulates, pastes, and liquids.

Contents ml	Length mm	PU pc/Pack	standard **Order No.**	detectable **Order No.**
2,5	127	100	**10 04 58311**	**10 04 58312**
10,0	170	100	**10 04 58211**	**10 04 58212**

④ **SteriPlast® scraber for foodstuffs**
Stable and handy disposable scraper. Use the scraper for scraping, smoothing or cleaning and for removing residues.

Length × Width mm	PU pc/Pack	standard **Order No.**	detectable **Order No.**
200 × 80	10	**10 04 58330**	**10 04 58230**

webcode WWR4Q033



SiloSampler, BÜRKLE

Silo drills for silo sampling
Specially developed to take samples from silo vehicles.
When bulk goods are transported great distances (in trucks, railcars etc.), they can demix. If you take a sample from the surface with result may not be representative.
Samples can be taken from deeper levels with the silo drill. The drill is screwed into the bulk material manually and only opened at the required depth. Depths of up to 3.5 m can be reached by using extension rods.

The silo drill is not only suitable for use in vehicles, it can also be used in numerous bulk material containers in, for example, the pharmaceutical, chemical and food industries.

Operation:
1. Drill in the silo drill with the sampling chamber closed
2. Open the chamber at the target point and collect the sample
3. Close the chamber and remove the drill
4. Empty the sample

- Manual opening and closing of the sampling chamber
- Simple handling
- Made of aluminium or AISI 316 stainless steel

Total length: 1500 mm
Spiral dia.: 90 mm
Chamber dia.: 40 mm
Volume: 400 ml

Article	**Order No.**
④ SiloSampler aluminium	**39 04 30101**
⑤ SiloSampler AISI 304 stainless steel	**10 04 50120**
Extension rod AISI 304 1000 mm	**39 04 30110**

webcode WWR4Q019



Control Seals, BÜRKLE

⑥ **Close-it control seals with high adhesion and steam lock**
Close-it control seals (aluminium backing) which adhere very firmly. Sacks, cartons, etc. which have been pierced and sampled, can be hermetically re-sealed with close-it control seals. Unlike normal labels, close-it control seals also stick firmly to sacks that are coated with powder (plaster, flour etc.). Quality control is easy with the close-it control seal. Available in two sizes.

Colour	Version	Dimensions mm 95 × 95 **Order No.**	150 × 150 **Order No.**
red	printed	**39 04 30312**	**39 04 31312**
yellow	printed	**39 04 30314**	**39 04 31314**
blue	printed	**39 04 30315**	**39 04 31315**
green	printed	**39 04 30316**	**39 04 31316**
black	printed	**39 04 30311**	**39 04 31311**
white	non-printed	**39 04 30302**	**39 04 31302**

Continued on next page

Samplers

⑦ **Close-it food & pharma control seal with an adhesive approved for use with foodstuffs and FDA**

Colour	Version	Dimensions mm 95 × 95 Order No.	150 × 150 Order No.
red	printed	**10 04 52017**	**10 04 53017**
yellow	printed	**10 04 52020**	**10 04 53024**
blue	printed	**10 04 52021**	**10 04 53021**
green	printed	**10 04 52022**	**10 04 53022**
black	printed	**10 04 52023**	**10 04 53023**
white	non-printed	**10 04 52018**	**10 04 53018**

⑧ **Close-it tape and Close-it tape food & pharma**

Article	Roll with m	Width mm 95 Order No.	150 Order No.
close-it tape	50	**10 04 50017**	**10 04 51017**
close-it tape food & pharma	50	**10 04 52019**	**10 04 53019**

⑨ **Accessories**

Article	Order No.
Dispenser for close-it Fits freels size 95 × 95 mm	**39 04 30306**
Dispenser for close-it Fits reels size 150 × 150 mm	**39 04 31307**



Samplers for All Kinds of Bulk Goods, BÜRKLE

Bürkle zone samplers for speedy cross-section samples from sacks, Big-Bags and containers.
For sampling bulk goods of all types. Zone samplers with closed, separate chambers allow you to carry out checks at exactly defined depths.

Four types available:
- AISI 319 stainless steel/PTFE 25 mm dia.
- AISI 319 stainless steel 25 mm dia.
- Anodized aluminium 25 mm dia. and 50 mm dia.

Properties:
- All-layer sampling
- Easy cleaning
- Color coding

Accessories:
- Cleaning brush for thorough cleaning of samplers 25 mm and 50 mm diameter.

webcode WWR4Q020



All-layer sampler
With open inner tube, no separate chambers, and large sampling volume. For all-layer samples through all the layers of the sample.

Material	Overall L mm	Insertion depth mm	Chambers quantity	Chamber vol. ml	Tubing Ø mm	Order No.
Aluminium	550	430	3	70	25	**39 04 31855**
Aluminium	850	710	3	130	25	**39 04 31885**
Aluminium	1500	1355	5	260	25	**39 04 31815**
Aluminium	950	850	3	880	50	**39 04 31985**
Aluminium	1650	1500	5	1700	50	**39 04 31915**
Aluminium	2650	2500	7	2900	50	**39 04 31925**
V4A	550	430	3	70	25	**10 04 52055**
V4A	850	710	3	130	25	**10 04 52085**
V4A	1500	1355	5	260	25	**10 04 52150**



Multi sampler
With several closed chambers, for multi point sampling from several predetermined sampling depths.

Material	Overall L mm	Insertion depth mm	Chambers quantity	Chamber vol. ml	Tubing Ø mm	Order No.
Aluminium	550	430	3	14	25	**39 04 31755**
Aluminium	850	710	3	17	25	**39 04 31785**
Aluminium	1500	1355	5	17	25	**39 04 31715**
V4A	550	430	3	14	25	**10 04 53055**
V4A	1500	1355	5	17	25	**10 04 53150**
V4A	850	710	3	17	25	**10 04 53085**
V4A/PTFE	550	430	3	14	25	**39 04 32855**
V4A/PTFE	850	710	3	17	25	**39 04 32885**
V4A/PTFE	1500	1355	5	17	25	**39 04 32815**

Continued on next page

Samplers





Uno sampler
Made of stainless steel V4A/PTFE with a closed sample chamber for point sampling from a predetermined sampling depth.

Material	Overall L mm	Insertion depth mm	Chambers quantity	Chamber vol. ml	Tubing Ø mm	Order No.
V4A/PTFE	550	430	1	17	25	**39 04 32955**
V4A/PTFE	850	710	1	17	25	**39 04 32985**
V4A/PTFE	1500	1355	1	17	25	**39 04 32915**

① **Accessories**

Article	Ø mm	Length cm	Order No.
Tube cleaning brush	25	60	**39 04 30460**
Tube cleaning brush	25	100	**39 04 30410**
Tube cleaning brush	50	100	**39 04 30411**

Emptying device

	Version	Material	Length cm	Order No.
②	Device with 3 funnels	V2A	100	**10 04 50030**
	emptying funnel separate	V2A		**10 04 50033**

close-it & close-it food & pharma control seal ensures the tight sealing of punctured sacks/ bags – see page 486.













webcode WWR4Q018

webcode WWR4Q025

Liqui/ViscoSampler, BÜRKLE

BÜRKLE - LiquiSamplers and ViscoSamplers
Ultrapure sample collectors for liquids and high viscosity media.
LiquiSampler for liquids, acc. to DIN ISO 15528.
Made of ultra-pure and chemically inert PTFE/FEP for contamination-free sampling, or of PP. Practical one-hand operation via pushbutton. With discharge funnel.
ViscoSampler for viscous media.
Media are drawn up and discharged using the suction flask.

Easy cleaning: All surfaces are poreless and without crevices to prevent dirt accumulation. Very easy dismantling and cleaning.
All threads are standard round threads established for use in food hygiene.

③ **LiquiSamplers**

Material	Length cm	Ø mm	Order No.
PTFE/FEP, highly transparent	100	32	**39 04 50311**
PTFE/FEP, highly transparent	200	32	**39 04 50312**
PTFE/FEP, highly transparent	60	32	**10 04 50313**
PP, transparent	100	32	**39 04 53311**
PP, transparent	200	32	**39 04 53312**
PP, transparent	60	32	**10 04 53313**

④ **ViscoSamplers**

Material	Length cm	Ø mm	Order No.
PTFE/FEP, highly transparent	100	32	**39 04 50331**
PTFE/FEP, highly transparent	200	32	**39 04 50332**
PTFE/FEP, highly transparent	60	32	**10 04 50333**
PP, transparent	100	32	**39 04 53331**
PP, transparent	200	32	**39 04 53332**
PP, transparent	60	32	**10 04 53333**





Liquid Sampler, BÜRKLE

One-handed operation.
- Two types available: open with thumb (use your thumb to open the valve) and place onto bottle (place the valve on the sampling vessel to open)
- Made of V4A (1.4404) high-grade steel
- 4 sizes

	Version	Length cm	Ø mm	Volume ml	Order No.
⑤	Open with thumb	46	32	50	**39 04 63261**
⑤	Open with thumb	54	32	100	**39 04 63262**
⑥	Place onto bottle	45.5	32	50	**10 04 53263**
⑥	Place onto bottle	53.5	32	100	**10 04 53264**

Samplers

Dip Sampler, BÜRKLE

Dip sampler for liquids
Easy sampling of liquid samples. Good view through transparent tubes. Upper end with stopcock, lower end with ball valve.
- PP, transparent
- Dip sampler 100455200 is continuously extractable from 100 cm to 200 cm
- All-layer sample and target-point sample possible

Function
All-layer sample 1. Slowly insert dip sampler in liquid with opened stopcock . 2. Close valve. 3. Remove dip sampler and take sample.

Target-point sample 1. Insert dip sampler in target point with closed stopcock. 2. Open stopcock - liquid pours in. 3. Close stopcock. 4. Remove dip sampler, take sample.

	Volume ml	Immersion depth cm	Ø mm	Order No.
①	140	50	25	**10 04 55050**
②	280	100	25	**10 04 55100**
③	500	100 – 200	25	**10 04 55200**



webcode WWR4Q050



MiniSampler, BÜRKLE

webcode WWR4Q026

With the MiniSampler the sample liquid only comes into contact with the suction hose and the sample bottle. The possibility of cross-contamination is greatly reduced. Immediately after the sample is taken, the bottles are sealed using an airtight cap and a tamper-evident safety ring.
The single use, flexible suction hose can be quickly released, thus ensuring that the samples are never contaminated. If necessary, a new hose can be used for every single sample. Due to its small diameter (8 mm) the hose can reach sampling areas which are otherwise inaccessible.
- Also suitable for viscous oils
- Complete in a practical transport case



④ **MiniSampler PE**

Article	Order No.
MiniSampler PE	**39 04 55301**

Content of transport case: Vacuum pump, 10 PE bottles 100 ml, 10 m PE suction hose Ø 6 × 8 mm, 1 hose cutter, 1 hose weight made of stainless steel AISI 304/brass nickel-plated, 20 seal-it bottle seals

Accessories for MiniSampler PE

Article	Order No.
MiniSampler pump with adapter	**39 04 55320**
MiniSampler pump without adapter	**10 04 55011**
Adapter MiniSampler for glass thread GL 45	**10 04 55029**
Adapter MiniSampler for sample boxes PFA	**10 04 55102**
Tube cutter	**39 04 55641**
Sample bottle, PE, 100 ml	**39 04 55324**
Sample bottle, PE, 250 ml	**39 04 55336**
Extension tube made of PE	**39 04 10608**
Suction tube, PE, reel with 100 m	**39 04 55608**



⑤ **MiniSampler PTFE**

Article	Order No.
MiniSampler PTFE	**10 04 50110**

Content of transport case: Vacuum pump, 1 sample bottle PFA 180 ml, 5 m PTFE suction hose Ø 6 × 8 mm, 1 hose cutter, 1 stainless steel hose weight made of V2A (1.4301)/brass nickel-plated, 20 seal-it bottle seals

Accessories for MiniSampler PTFE

Article	Order No.
MiniSampler pump with adapter	**39 04 55320**
MiniSampler pump without adapter	**10 04 55011**
Adapter MiniSampler for glass thread GL 45	**10 04 55029**
Adapter MiniSampler for sample boxes PFA	**10 04 55102**
Tube cutter	**39 04 55641**
Sample box PFA, 180 ml	**10 04 55018**
Suction hose PTFE on roll 6 × 8 mm, length 5 m	**10 04 54068**



webcode To see other variants and accessories, please enter the webcode on our website.

Samplers



webcode WWR4Q028

UniSampler, BÜRKLE

UniSampler with telescopic lance
For sampling of liquids from precisely determined depths. Telescopic suction tube can be varied to a maximum length of 100 cm.

Operation
1. Set the desired sampling depth by adjusting the suction lance
2. Attach the sampling bottle to the adapter
3. Lower the suction lance into the medium
4. Create a vacuum with the hand pump and collect the sample
5. Remove the filled sampling bottle, close and label it

- PP suction tube, PVC suction hose
- Incl. 5 sample bottles PP at 250 ml and 500 ml each, hand vacuum pump and adapter for sample bottles 100 to 1000 ml, 20 seal-it bottle seals in transport case.

	Article	Order No.
①	UniSampler with telescopic lance	**39 04 45611**



UniSampler with hose
Stainless steel hose weight. Sampler for deep, narrow and hard-to-reach spots. The heavy-duty metal tube brings the hose to any desired depth. Once again the samples are collected using a hand-operated pump and transferred directly into sampling bottles to ensure sampling purity.

Operation
1. Lower suction hose to desired depth
2. Attach sampling bottle to adapter
3. Create a vacuum with the hand pump and collect the sample
4. Remove the filled sampling bottle and label it

- PVC suction hose, 2.50 m long
- Incl. sample bottles PP 1000 ml, hand vacuum pump and adapter for sample bottles 100 to 1000 ml, hose weight V2A, 20 seal-it label seals in case

	Article	Order No.
②	UniSampler with tube	**39 04 45612**
	Sample bottle 1000 ml	**39 04 45631**
	Spare tube PVC, 2.50 m long	**39 04 45621**



UniSampler "Ex"
Specially for combustible liquids of hazard class A I (e.g. gasoline). There is an electrically conductive connection between the glass bottle and both parts are grounded with an earth cable.

Operation
1. Connect to ground
2. Lower the suction hose to the required depth
3. Plug the adapter on the sample bottle
4. Create a vacuum with the hand pump and collect the sample
5. Remove, close and label the filled sample bottle

- PTB approval D-333-009 618/00
- Incl. 4 m hose (NBR), glass bottle 1000 ml, bottle adapter, bottle stand, vacuum pump, grounding cable and hose weight (brass) in case

	Article	Order No.
③	UniSampler "Ex"	**39 04 45613**
	Sample bottle, glass, 1000 ml	**39 04 45610**

webcode WWR4Q046



Disposable DispoSampler, BÜRKLE-LaboPlast®

DispoSampler – for the highest standards in sampling

The Bürkle disposable samplers – DispoSampler – are used to take samples of liquids, viscous media, powders and granulates. Target point samples can be taken, all-layer and cross-section samples, as well as small and large sample quantities. Unlike conventional reusable samplers, disposable samp- lers do not need to be cleaned after use.

- Cleaning reusable samplers is a demanding and often complicated task, with greasy, strongly adhesive or toxic substances. Sometimes the task is even impossible
- Work processes do not have to be interrupted by cleaning
- Cross contamination is completely eliminated
- The cleaning method does not need to be validated in audits
- Time and money are saved

Continued on next page

Samplers

④ **MultiDispo**
Disposable zone samplers for taking samples from multiple layers of the sample material. Suitable for free-fl owing powders and small-grain granulates. The representative all-layer sample can be emptied directly through the open handle into a sample container.
- Easy emptying through the opening in the handle (Ø 14 mm)
- HDPE
- Clean room manufactured, individually packed
- Optionally sterilized by gamma rays
- Tip Ø 30 mm
- Pursuant to EU food directives and FDA regulations

Length mm	Volume ml	PU pc/Pack	standard **Order No.**	sterilized **Order No.**
500	100	20	**10 04 54442**	**10 04 54441**
1000	200	20	**10 04 54450**	**10 04 54451**


⑤

⑤ **ZoneDispo**
The ZoneDispo disposable all-layer sampler is used in sampling to collect a representative all-layer sample from three different layers. Suitable for free-flowing powders and small-grain granulates. The collected sample can be secured and transported in the closed sampler.
- HDPE
- Clean room manufactured, individually packed
- Optionally sterilised by gamma rays
- Tip Ø 30 mm
- Pursuant to EU food directives and FDA regulations

Length mm	Volume ml	PU pc/Pack	standard **Order No.**	sterilized **Order No.**
500	100	20	**10 04 54420**	**10 04 54421**
1000	200	20	**10 04 54430**	**10 04 54431**


⑥

⑥ **TargetDispo**
TargetDispo is used to take a target point sample at a position in the sample material that has previously been precisely determined. The sampler pierces into the powder or granulate while closed. When it reaches the sample removal point it is opened and then closed again. In this way a precise target-point sample is obtained. The sample can simply be emptied through the open handle.
- Easy emptying through the opening in the handle (Ø 14 mm)
- HDPE
- Clean room manufactured, individually packed
- Optionally sterilised by gamma rays
- Tip Ø 30 mm
- Pursuant to EU food directives and FDA regulations

Length mm	Volume ml	PU pc/Pack	standard **Order No.**	sterilized **Order No.**
500	100	20	**10 04 54462**	**10 04 54461**
1000	200	20	**10 04 54470**	**10 04 54471**


⑦

⑦ **PowderDispo**
PowderDispo is the ideal disposable sampler for cross-section samples of powdery or slightly cohesive substances. A complete all-layer sample can be taken from bags or smaller containers with the lance.
- HDPE
- Clean room manufactured, individually packed
- Optionally sterilised by gamma rays
- Ø 21 mm
- Pursuant to EU food directives and FDA regulations

Length mm	Volume ml	PU pc/Pack	standard **Order No.**	sterilized **Order No.**
300	60	20	**10 04 55510**	**10 04 55511**
500	100	20	**10 04 55522**	**10 04 55521**

⑧ **DispoPicker**
Disposable sampler for powders and small-grain bulk materials. Because the tip is closed, the sample material cannot trickle back out of the sample lance. DispoPicker is ideally suited for cross-section samples.
- HDPE
- Clean room manufactured, individually packed
- Optionally sterilised by gamma rays
- Ø 21 mm
- Pursuant to EU food directives and FDA regulations

Length mm	Volume ml	PU pc/Pack	standard **Order No.**	sterilized **Order No.**
300	60	20	**10 04 55540**	**10 04 55541**
500	100	20	**10 04 55550**	**10 04 55551**


⑧

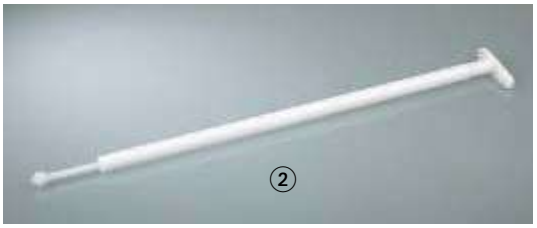
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Samplers



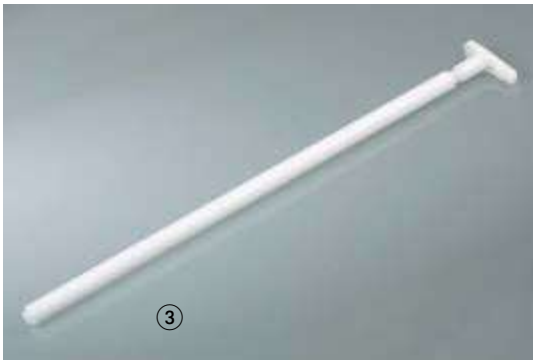
① **DispoLance**
The DispoLance disposable sampler can be used for taking large and small sample quantities quickly and easily, directly from bags. The sampler is suitable for free-flowing powders and small-grain granulates. The DispoLance sampler pierces into the container with the sturdy tip and the sample flows through the open inner tube directly into the container or bag that is held underneath.
- Variable sample quantity
- HDPE
- Clean room manufactured, individually packed
- Optionally sterilised by gamma rays
- Nominal width 14 mm
- Ø 21 mm
- Pursuant to EU food directives and FDA regulations

Length mm	PU pc/Pack	standard **Order No.**	sterilized **Order No.**
300	20	**10 04 55560**	**10 04 55561**
500	20	**10 04 55570**	**10 04 55571**



② **MicroDispo**
Quite small sample quantities (10 ml) can be taken with MicroDispo. Especially in pharmaceutical applications it often happens that only a small quantity can or should be extracted for analysis. Using the disposable sampler, precise target point samples can be taken of free-flowing powders and small-grain bulk materials.
- Ergonomic handle
- HDPE
- Clean room manufactured, individually packed
- Optionally sterilised by gamma rays
- Ø 21 mm
- Pursuant to EU food directives and FDA regulations

Length mm	Volume ml	PU pc/Pack	standard **Order No.**	sterilized **Order No.**
500	10	20	**10 04 52240**	**10 04 52241**
1000	10	20	**10 04 52250**	**10 04 52251**



③ **ViscoDispo**
The ViscoDispo disposable sampler can be used to take samples of high-viscosity media up to 100.000 mPas. The ergonomically shaped handle and the very stable drawbar make it easy to draw even viscous substances.
- Ergonomic handle
- No seals
- HDPE
- Clean room manufactured, individually packed
- Optionally sterilised by gamma rays
- Ø 21 mm
- Pursuant to EU food directives and FDA regulations

Length mm	Volume ml	PU pc/Pack	standard **Order No.**	sterilized **Order No.**
500	100	20	**10 04 53320**	**10 04 53321**
1000	200	20	**10 04 53330**	**10 04 53331**



④ **LiquiDispo**
The LiquiDispo disposable sampler can be used to take samples of liquids from highly liquid to slightly viscous. An ergonomic handle makes it easier to draw the sample: up to 200 ml can be drawn, as with a syringe.
- Ergonomic handle
- No seals
- HDPE
- Clean room manufactured, individually packed
- Optionally sterilised by gamma rays
- Ø 21 mm
- Pursuant to EU food directives and FDA regulations

Length mm	Volume ml	PU pc/Pack	standard **Order No.**	sterilized **Order No.**
500	100	20	**10 04 51120**	**10 04 51121**
1000	200	20	**10 04 51130**	**10 04 51131**



⑤ **DispoPipette**
Simple disposable sampler for taking samples of low viscosity media. If the DispoPipette is inserted into the liquid opened, an all-layer sample is obtained. If it is closed while it is inserted up to the sampling point and then opened, a target-point sample is obtained. Very easy to operate. With two opening sizes (2,5/5,5 mm) for different viscosities.

Continued on next page

Samplers

- All-layer and target point samples possible
- HDPE
- Clean room manufactured, individually packed
- Optionally sterilised by gamma rays
- Ø 21 mm
- Pursuant to EU food directives and FDA regulations

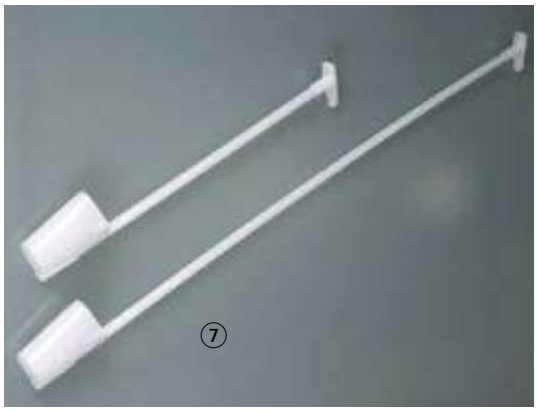
Length mm	Volume ml	PU pc/Pack	sterilized **Order No.**	standard **Order No.**
500	100	20	**10 04 55501**	**10 04 55500**
1000	200	20	**10 04 55532**	**10 04 55531**



⑥ **DispoTube**
The ergonomic handle of the DispoTube makes it easier to work and facilitates a good grip even under difficult conditions, for example with gloves. Disposable sampler for taking samples of liquids.

- Ergonomic handle
- All-layer and target point samples possible
- HDPE
- Clean room manufactured, individually packed
- Optionally sterilised by gamma rays
- Ø 21 mm
- Pursuant to EU food directives and FDA regulations

Length mm	Volume ml	PU pc/Pack	standard **Order No.**	sterilized **Order No.**
500	100	20	**10 04 56620**	**10 04 56621**
1000	200	20	**10 04 56630**	**10 04 56631**



⑦ **DispoSchöpfer**
DispoSchöpfer is a disposable sampling scoop. The scaled scoop allows for measuring and content indication in 10-ml increments up to 200 ml. An ergonomic handle improves the ease of use, and spouts on both sides make the scoop suitable for left- and right-handed operation.

- Scoop 200 ml
- Outside Ø 92 mm
- Ergonomic handle
- HDPE
- Clean-room production, individually packed
- Gamma ray sterilisation as an option
- Pursuant to EU food directives and FDA regulations

Length mm	PU pc/Pack	standard **Order No.**	sterilized **Order No.**
500	20	**10 04 56640**	**10 04 56641**
1000	20	**10 04 56650**	**10 04 56651**

Vampire Sampler, BÜRKLE

webcode WWR4Q034

Vampire sampler
For sampling liquids in the field.
Portable, battery-powered hose pump for liquids. Ideal for taking samples from barrels, tanks, wells, water separators and sewage and purification systems.

- Easy to clean, liquid only comes into contact with the hose
- Independent of mains power, with rechargeable battery and charger
- Sampling directly into the original sampling bottle
- Suction depth to 5 meters
- Also available for contaminated substances or substances containing particles
- Good chemical resistance
- High delivery rate of up to 2.0 l/min.
- Delivered complete with drive unit, pump head, pump hoses (30 cm, Marprene/silicone), suction hose (5 m, PE), hose connec- tor (PP), sample bottle (250 ml, LDPE), bottle basket, two rechargeable batteries and battery charger

Article	**Order No.**
⑧ Vampire sampler	**39 04 13271**







Accessories

Article	**Order No.**
Pump hose made of marpene Length 1 m, I.D. 5.0 mm, O.D. 8.0 mm	**39 04 10508**
Extension tube made of PE Length 10 m, I.D. 6.0 mm, O.D. 8.0 mm	**39 04 10608**
Wide-neck sample bottle 250 ml	**39 04 18250**
Stainless steel bottle basket for 250 ml bottle	**39 04 15302**

webcode To see other variants and accessories, please enter the webcode on our website.

Samplers

webcode WWR4Q049

ProfiSampler, BÜRKLE





① ProfiSampler aluminium



Vacuum-Sampler for solvents and flammable liquids.

Purpose of use
Sampling liquids from barrels, tanks, trucks, railway-car, ships, waters, groundwater.
- Available with optimised, straight suction tubes for easier sampling.
- Transport tubular for organised transport and discard.
- Filling level control, reflux automatics and overflow protection by means of the integrated venting valve.
- Optimised suction volume 200 ml, suction force of 0.5 bar and suction depth up to 5 m/ water.

ProfiSampler Aluminum for solvents and flammable liquids Explosion Categories IIA, IIB and IIC*. With bottle thread GL 45 (in compliance with Schott-glass bottles 100 ml to 1000 ml). During sampling of flammable liquids, the device has to be grounded.

Included:
Vacuum pump made of aluminium, with feet, venting valve and bottle thread GL 45 with glass bottle 500 ml, 5 suction tubes PA black, 220 cm long, electrically conductive, hose cutter, brass hose weight, 20 seal-it bottle seals, earthing cable

*) Please note chemical resistance of the parts in contact with medium. Wear protective clothing!

	Article	Order No.
①	ProfiSampler aluminium	**10 04 55110**
	Suction tube PA black, 220 cm long, electrical conductive, pack of 10 pcs.	**10 04 51024**



BOLA Sampling Pumps, Bohlender

Made of polypropylene and PTFE. A pull on the ball handle produces a slight vacuum in the sampling bottle. Due to this vacuum, the sample is sucked into the sampling bottle. All glass bottles with a GL 45 thread can be used as sampling bottles. The pump provides universal chemical resistance since the sample is only exposed to PTFE.
- compact construction
- usable anywhere (no power or air supply needed)
- easy handling
- quick and low-risk pumping of ultrapure liquids
- volume per stroke 50 ml
- for tubing O.D. 6 mm

For pumping liquids from sources that are not easily accessible; also suitable for liquids with a high viscosity, e.g. oils

Technical data:

Material:	PTFE and PP
Temperature resistance:	from -10°C to +90°C
Chemical resistance:	+++ very good

Connection thread GL	for bottle volume ml	Order No.
18	100 – 2000	**10 17 62416**

webcode WWR4Q064





Stainless Steel Scoop, BÜRKLE

In contrast to conventional scoops, the stainless steel scoops has no openings, undercuts or crevices in which residues could collect. Pore-free finishing produced by high-quality laser welding seams. The stainless steel scoop can be flame-sterilised and can therefore be made completely germ-free.
- Scoop made of stainless steel V2A (1.4301), complete with rod
- Sterilisable by flame sterilisation or steam sterilisation

Article	Overall length cm	Volume ml	Order No.
Stainless steel scoop	115	1000	**10 04 55410**

Samplers

Spouted Dairy Sample Bailer, Dinkelberg Analytics

Stainless steel sprouted dairy sampler bailer. The scoop has a volume of max. 100 ml and a total length of 600 mm.

Article	Volume ml	Overall length mm	Order No.
Spouted dairy sample bailer	100	600	**10 32 11755**



webcode WWSU9057

Samplers for environmental analysis see page 1013

Pestles, Mortars

Mortars and Pestles, Hard Porcelain, IDL

Mortars with spout, rough interior.

Mortars

I.D. mm	H mm	Vol. approx. ml	DIN 12906	Order No.	PU pc/Pack
65	40	70	no	**21 00 18506**	20
90	55	170	no	**21 00 18509**	10
130	65	400	yes	**21 00 18512**	1
150	70	700	yes	**21 00 18515**	1
180	80	1000	yes	**21 00 18518**	1
240	100	2600	yes	**21 00 18525**	1
330	140	6000	yes	**21 00 18533**	1



Pestles acc. to DIN 12906, rough

Length mm	Head Ø mm	DIN 12906	Order No.	PU pc/Pack
115	24	no	**21 00 19507**	20
135	30	yes	**21 00 19510**	20
150	36	yes	**21 00 19513**	10
175	42	yes	**21 00 19516**	10
210	55	yes	**21 00 19519**	5

webcode WW7R3292

Agate Mortars with Pestles, IDL

O.D. approx. mm	I.D. approx. mm	Height approx. mm	Vol. approx. ml	Order No.
25	20	15	2	**21 00 00025**
40	35	20	8	**21 00 00040**
50	40	25	10	**21 00 00050**
60	50	25	13	**21 00 00060**
75	60	30	25	**21 00 00075**
100	80	40	50	**21 00 00100**
125	105	50	100	**21 00 00125**
150	125	65	200	**21 00 00150**
200	165	80	550	**21 00 00200**



webcode WW7R3307

Mortars, BOCHEM

Mortars made of 18/10 steel, with foot

Ø mm	Volume ml	Order No.
100	250	**31 05 08930**
120	500	**31 05 08931**
140	750	**31 05 08932**
160	1000	**31 05 08933**
180	1500	**31 05 08934**
200	2000	**31 05 08935**

Pestle made of 18/10 steel

Head Ø mm	Shaft Ø mm	Overall L mm	Order No.
28	24	140	**31 05 08936**

webcode WWQ7J019



Homogenizers



Semi-Automatic Homogenizer schuett homgen^{plus}, schuett-biotec

Homogenizer drive

Potter Elvehjem & Dounce. Reliable homogenising without much effort. For gentle homogenising of biological samples and tough, hard-to-homogenise tissue in such a way that a large proportion of intact nuclei can be isolated. Highly stable, vibration-free, extremely powerful. Infinitely adjustable electronic speed control. 4-digit digital display. Quick-action chuck with hollow shaft for fast and easy change of pestle and use of different shaft lengths and diameters. Glass quick-action chuck recommended for glass pestles. Chucks for cooling vessel match Eppendorf® reaction tubes and homogenization tubes (1.5 to 40 ml, Ø 10 to 40 mm).

For optimum cooling, the cooler can be filled with ice or ice water. 230 V (115 V as an option), 300 W.

Dimensions (W × H × D): 300 × 888 × 350 mm
Speed control: 40 – 3.000 rpm

	Article	Order No.
①	**schuett homgen^{plus}, homogenizer drive, 230 V**	**53 31 01011**
	Scope of delivery: with universal chuck, including cooling container (1 l) and universal collet chuck set (comprising 6 sizes).	
	Quick-grip chuck for glass pestle	**53 31 05010**



EPPI micro pestles for use test tubes (Pellet)

	Article	Overall L mm	Shaft Ø mm	Order No.
②	EPPI-micro pestle, stainless steel, conical (pack of 1)	100	4.9	**53 31 00712**
③	EPPI-micro pestle, PP, conical (pack of 10)	70	4.9	**53 31 00512**
④	Quick-grip chuck for EPPI-micro pestle PP			**53 31 00612**



Glass homogenizer vessels with PTFE pestle

Shaft made of stainless steel. Inert. Elastic. With smooth, wax-like, moisture-rejecting surface. Resistant against high temperatures.

	Volume ml	Glass vessel type	Type	Order No.
⑦	2	1	conical	**10 31 85440**
⑦	15	1	conical	**10 31 85441**
⑦	40	1	conical	**10 31 85443**
⑤	2	2	cylindrical	**10 31 85540**
⑤	5	2*	cylindrical	**10 31 85541**
⑤	10	2	cylindrical	**10 31 85542**
⑥	15	1	cylindrical	**10 31 85543**
⑤	20	2	cylindrical	**10 31 85544**
⑤	30	2	cylindrical	**10 31 85545**
⑥	40	1	cylindrical	**10 31 85546**
⑤	5	2*	cylindrical, glassfibre reinforced	**10 31 85640**
⑤	10	2*	cylindrical, glassfibre reinforced	**10 31 85641**
⑥	15	1	cylindrical, glassfibre reinforced	**10 31 85642**
⑤	30	2*	cylindrical, glassfibre reinforced	**10 31 85643**
⑥	40	1	cylindrical, glassfibre reinforced	**10 31 85644**

Glass homogenizer vessels with glass pestle

With robust glass shaft. Ground-glass surface in cylindrical/tapered part. Highly efficient with tough tissue.

	Volume ml	Glass vessel type	Type	Order No.
⑧	2	1	conical	**19 31 05240**
⑧	15	1	conical	**19 31 05241**
⑧	40	1	conical	**19 31 05243**
⑨	8	3	cylindrical	**19 31 05340**
⑨	15	3	cylindrical	**19 31 05341**
⑩	40	1	cylindrical	**19 31 05343**

Homogenizer-type 1: with overflow flare, with lip
Homogenizer-type 2: cylindrical
Homogenizer-type 2*: as centrifuge tube
Homogenizer-type 3: with overflow flare, without lip

Dispersers

Dispersing Systems POLYTRON®, KINEMATICA

① **Hand disperser POLYTRON® PT 1200 E - Eco Line**
This ergonomic hand disperser is ideally suited for the rapid processing of small sample quantities. The low weight of the PT 1200 E ensures ergonomic work. A tripod is available. The range of aggregates includes diameters from 3 mm for very small volumes up to Ø 12 mm in various special geometries. Our portfolio furthermore comprises Ø 7 and 12 mm disposable plastic versions to prevent contamination, as well as the PT-DA 20/2 X EC aggregate for tablet homogenisation.



① ⑤

Overview:
- 24 Volt, 100 Watt low-voltage motor with safety transformer
- Analogue motor speed control up to 25,000 rpm
- Aggregate tips speeds up to approx. 12 m/s
- Softstart (after switch-on, for example with preselected speed)
- Thermal fuse for overload protection (PTC)
- Ergonomic, user-friendly design
- Aggregate replacement using one-handed quick-release coupling (type E)
- Various models of dispersing aggregates which are Easy-to-Clean

Article	Order No.
POLYTRON PT® 1200 E, 230 V (with EU-plug)	**53 74 11200**

Dispersing units for POLYTRON® PT 1200 E

	Article	Working vol. with water ml	Pieces/ box	Order No.
②	PT-DA 03/2EC-E050	0.05 – 2		**10 74 03004**
	PT-DA 05/2EC-E085	0.1 – 5		**10 74 03012**
	PT-DA 07/2EC-E107	0.3 – 10		**10 74 03031**
	PT-DA 12/2EC-123	0.3 – 250		**10 74 03062**
③	PT-DA 07/2SYN-E082 disposable unit, sterile packed	0.3 – 10	25	**10 74 03030**
	PT-DA 07/2SYN-E082 disposable unit, non-sterile	0.3 – 10	25	**10 74 03037**
	PT-DA 07/2SYN-E082 disposable unit, non-sterile	0.3 – 10	12	**10 74 03038**
	PT-DA 12/2SYN-E126 disposable unit	0.3 – 250	25	**10 74 03035**
	PT-DA 12/2SYN-E082 disposable unit, non-sterile	0.3 – 250	10	**10 74 03036**
	PT-DA 20/2XEC-E116	min. 10 ml[1)]		**10 74 03255**

[1)] For a vessel of Ø 22 mm / Volume always depends on vessel diameter

Many other special dispersing aggregates are available on request.


②


③

Stands for PT 1200 E
HS 1200 E: Holder system for drive unit, transformer, four dispersing aggregates and two tools
ST-P13/320: Stainless steel plate stand incl. silicon anti-skid mat, with height-adjustable holder for accommodating the drive unit and fixing the base station.

	Article	Order No.
④	Holding system HS 1200 E	**53 74 11201**
⑤	Plate stand ST-P13/320	**10 74 04007**


④

Hand disperser POLYTRON® PT 1300 D - HighEnd Line
This premium-range hand disperser is ideally suited for the rapid processing of small sample quantities. The low weight of the PT 1300 D ensures ergonomic work. Two different tripods are available. For repetitive and reproducible tasks, the desired speed can be saved. At switch-off, the last speed is saved additionally. This drive can be controlled by means of a PC via USB or RS232 using the KIN software. The range of aggregates includes diameters from 3 mm for very small volumes up to Ø 12 mm in various special geometries. Our portfolio furthermore comprises Ø 7 and 12 mm disposable plastic versions to prevent contamination, as well as the PT-DA 20/2 X EC aggregate for tablet homogenisation.

Continued on next page

Dispersers



①

Overview:
- 30 Volt, 100 Watt brushless low-voltage motor with safety transformer
- Motor speed digitally adjusted from 2000 to 30000 rpm
- Aggregate tip speed up to approx. 14 m/s
- Stable motor speeds even during changes of viscosity
- Soft start (e.g. with preselected speed, prevents sloshing of the sample)
- Thermal fuse (PTC) in case of overload
- PC interfaces (RS 232 and USB)
- MEMO function for the saved speed
- Membrane keypad (easy to clean)
- User-friendly design
- Aggregate change by means of one-hand quick coupling (type E)
- Wide choice of aggregates, very easy to clean and remove (EasyClean)

Article	Order No.
① POLYTRON® PT 1300 D, 230 V (with EU-plug)	**53 74 01300**

Dispersing units for POLYTRON® PT 1300 D
Same as for PT 1200 E

Stands for PT 1300 S
ST-P01/200: Hinge stand (gas spring) incl. holder for dispersing aggregates and tools
ST-P22/600: Plate stand with special drive extension for PT 1300 D. Incl. vessel holder with boss head and safety positioning ring

Article	Order No.
Hinge stand ST-P01/200	**10 74 04010**
Plate stand ST-P22/600	**10 74 04011**



②

③

② **Stand disperser POLYTRON® PT 2500 E - Eco Line**
The PT 2500 E is the ideal choice for the budget-conscious lab. Thanks to its powerful performance, it covers a large number of different applications in a volume range of approx. 0.05 to 2500 ml. The electronic control system continuously compares the preselected to the actual speed and adjusts it automatically, e.g. if the viscosity changes. The large digital speed display is easy to read. The portfolio of dispersing tools comprises diameters for small volumes from 3 mm to 25 mm.

Overview:
- Aggregate tip speed up to approx. 32 m/s
- Soft start (e.g. with preselected speed, prevents sloshing of the sample)
- Thermal fuse (PTC) in case of overload
- Stable motor speeds even during changes of viscosity
- Aggregate change by means of single-hand quick coupling
- Noise-insulated casing
- Wide choice of aggregates with EasyClean function
- Digital display

Article	Order No.
POLYTRON® PT 2500 E, 230 V (with EU-plug)	**10 74 01055**

Dispersing units for POLYTRON® PT 2500 E
Same aggregates as for PT 1200 E, further diameters/sizes:

Article	Working vol. with water ml	Order No.
PT-DA 20/2EC-E192	100 – 2000	**10 74 03069**
PT-DA 20/2MEC-E192	100 – 2000	**10 74 03263**
PT-DA 20/2WEC-E192	100 – 2000	**10 74 03258**
PT-DA 20/2XEC-E116	min. 10 ml[1)]	**10 74 03255**
PT-DA 25/2EC-E192	100 – 2500	**10 74 03264**

[1)] For a vessel of Ø 22 mm / Volume always depends on vessel diameter

Stands for PT 2500 E
ST-P20/600: Plate stand with two rod design. Boss head for drive unit can not rotate for extra safety

Article	Order No.
③ **Plate stand ST-P20/600**	**10 74 04051**
Electrical stand ST-P 14/590+500, for PT 3100D/PT 6100 D Electrical plate stand ST-P 14/590+500 with a telescope bar for more operator comfort. Including Up/Down button and anti-skid mat. The electronic system is designed for environmental temperatures of +5 °C to +40°C and was tested pursuant to EN 60335-1 and UL 962. To be used with POLYTRON® PT 2500 E, PT 10-35 GT, PT 3100 D and PT 6100 D. 230 V (with EU connector)	**10 74 00033**
Reduced arm for use of the PT 2500 E with the electrical stand	**10 74 03601**

All stands without vessel holder, boss head and safety positioning ring

Continued on next page

Dispersers

Vessel holders and safety positioning rings
Vessel holder for fixing any mixing/processing tank. Suitable for the safety-stand incl. boss head.
The safety ring avoids any uncontrolled downwards movement of the drive unit. Can also be used to fix the working height.

Article	Order No.
Vessel holder with guide for ST-P20/600	**10 74 04511**
Safety positioning ring for ST-P20/600	**10 74 04531**



④ **Stand disperser POLYTRON® PT 10-35 GT - Eco Line**
Budget dispersing system for operating volumes of up to 10 litres. This powerful disperser is used in sample preparation, formulation, or scale-up tests. Select from up to 30 different dispersing aggregates in a wide range of geometries, designs, materials, and coatings. The electronic control system continuously compares the preselected to the actual speed and adjusts it automatically, e.g. if the viscosity changes.

Overview:
- Aggregate tip speed up to approx. 34 m/s
- Soft start (e.g. with preselected speed, prevents sloshing of the sample)
- Thermal fuse (PTC) in case of overload, blocking protection and acoustic alarm
- Stable motor speeds even during changes of viscosity
- Aggregate change by means of single-hand quick coupling (type F)
- Noise-insulated casing
- Wide choice of aggregates with EasyClean function

Article	Order No.
POLYTRON® PT 10-35 GT, 230 V (with EU-plug)	**10 74 01104**

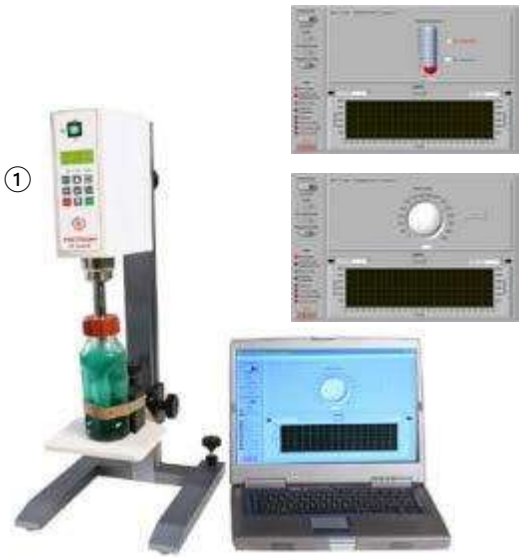
Dispersing units for POLYTRON® PT 10-35 GT

Article	Working vol. with water ml	Order No.
PT-DA 05/2EC-F078	0.1 – 5	**10 74 03297**
PT-DA 07/BEC-F101 (BIOTRONA®)	0.3 – 10	**10 74 03355**
PT-DA 07/2EC-F101	0.3 – 10	**10 74 03298**
PT-DA 12/2EC-F154	2.0 – 250	**10 74 03299**
PT-DA 12/2MEC-F154	2.0 – 250	**10 74 03300**
PT-DA 12/2WEC-F154	2.0 – 250	**10 74 03301**
PT-DA 12/BEC-F154 (BIOTRONA®)	2.0 – 250	**10 74 03354**
PT-DA 20/2EC-F193	100 – 2500	**10 74 03302**
PT-DA 20/2MEC-F193	100 – 2500	**10 74 03303**
PT-DA 20/2WEC-F193	100 – 2500	**10 74 03304**
PT-DA 20/BEC-F193 (BIOTRONA®)	100 – 2500	**10 74 03296**
PT-DA 30/2EC-F250	100 – 4000	**10 74 03305**
PT-DA 30/2MEC-F250	100 – 4000	**10 74 03307**
PT-DA 30/2WEC-F250	100 – 4000	**10 74 03309**
PT-DA 30/4EC-F250	100 – 4000	**10 74 03311**
PT-DA 30/DS-F250 (Dissolver)	100 – 4000	**10 74 03344**
PT-DA 36/2EC-F250	200 – 4500	**10 74 03313**
PT-DA 36/BEC-F250 (BIOTRONA®)	200 – 4500	**10 74 03314**
PT-DA 36/2MEC-F250	200 – 4500	**10 74 03315**
PT-DA 36/4EC-F250	200 – 4500	**10 74 03317**
PT-DA 36/2WEC-F250	200 – 4500	**10 74 03319**

Stand for PT 10-35 GT
ST-P10/600: Plate stand with one rod design. The plate stand allows for easy and safe height adjustment of the drive. The drive is safely attached to the stand and protected against rotating around the extension by means of a new type of boss head clamp/drive extension with an easy-to-use knurled screw.

Article	Order No.
Electrical stand ST-P 14/590+500, for PT 3100D/PT 6100 D Electrical plate stand ST-P 14/590+500 with a telescope bar for more operator comfort. Including Up/Down button and anti-skid mat. The electronic system is designed for environmental temperatures of +5 °C to +40°C and was tested pursuant to EN 60335-1 and UL 962. To be used with POLYTRON® PT 2500 E, PT 10-35 GT, PT 3100 D and PT 6100 D. 230 V (with EU connector)	**10 74 00033**
Reduced arm for use of the PT 10-35 GT with the electrical stand	**10 74 03602**
Plate stand ST-P10/600	**10 74 04050**
Vessel holder for ST-P10/600	**10 74 04513**
Safety positioning ring for ST-P10/600	**10 74 04535**

Dispersers



Dispersing-Systems POLYTRON®, KINEMATICA

POLYTRON® PT 3100 D and PT 6100 D - digital high-end laboratory disperser
The PT 3100 D/PT 6100 D dispersing system is unique in its class. Applications with the highest demands for reproducibility and scaling up can be efficiently performed with this device. The fully digitized control and regulation system is very easy to operate via the membrane keypad. The clear-cut, brightly illuminated LCD display shows all the parameters. With the KIN software comprised in the delivery, various parameters such as speed profiles or times can be specified via PC interface. The results can then be logged in an Excel file. Select from up to 30 different dispersing aggregates in a wide range of geometries, designs, materials, and coatings.

- Soft start (e.g. with preselected speed, prevents sloshing of the sample)
- Integrated overheating, overload, and blocking protection
- Stable motor speeds even during changes of viscosity
- Easy operation via membrane keyboard
- Choose from three operating modes: Standard, Timer, Auto
- PC interface (RS-232) for control via KIN software
- Aggregate change by means of single-hand quick coupling (type F)
- Noise-insulated casing
- Digital LCD display with membrane keypad for indication of the process parameters and alarms
- Wide choice of aggregates with EasyClean function

	Article	Order No.
①	POLYTRON® PT 3100 D, 230 V (with EU-plug)	**10 74 00121**
②	POLYTRON® PT-MR 6100 D, 230 V (EU-plug)	**10 74 00110**









Dispersing units for PT 3100 D
Same as for PT 10-35 GT

Dispersing units for PT 6100 D
Same as for PT 10-35 GT / PT 3100 D as well as the following ones:

	Article	Order No.
③	PT-DA 40/2EC-F250	**10 74 03320**
④	PT-DA 40/2MEC-F250	**10 74 03322**
	PT-DA 40/4WEC-F250	**10 74 03324**
	PT-DA 45/2EC-F250	**10 74 03325**
⑤	PT-DA 45/2BEC-F250 (BIOTRONA®)	**10 74 03326**
	PT-DA 45/2WEC-F250	**10 74 03328**
	PT-DA 45/2WEC-F250	**10 74 03329**
	PT-DA 50/2EC-F250	**10 74 03330**
	PT-DA 50/2MEC-F250	**10 74 03332**
	PT-DA 50/2WEC-F250	**10 74 03334**
	PT-DA 50/4EC-F250	**10 74 03335**
	PT-DA 53/DS-F250 (Dissolver)	**10 74 03337**

Temperature probe

Article	Order No.
Temperature probe Pt100 for PT 3100 D and PT 6100 D	**10 74 00050**

Stands for PT 3100 D and PT 6100 D

	Article	Order No.
⑥	**H-foot stand ST-F10/600 for PT 3100 D** made of anodized aluminum and PTFE coated work table which can be adjusted in height and swung out	**10 74 00025**
	Electrical stand ST-P 14/590+500, for PT 3100D/PT 6100 D Electrical plate stand ST-P 14/590+500 with a telescope bar for more operator comfort. Including Up/Down button and anti-skid mat. The electronic system is designed for environmental temperatures of +5 °C to +40°C and was tested pursuant to EN 60335-1 and UL 962. To be used with POLYTRON® PT 2500 E, PT 10-35 GT, PT 3100 D and PT 6100 D. 230 V (with EU connector)	**10 74 00033**



Everything for your laboratory –
from one source

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SONOPULS ULTRASONIC HOMOGENISERS



Selecting the right device

The electric power is not suitable to be the only criteria for selecting an ultrasonic homogeniser. This value only states the power of the ultrasonic generator, but not the energy inserted into the sample. The decisive factor for the result of the exposure to sonic waves is the amplitude at the sound-radiating surface of the sonotrode with regard to the sample amount to be exposed.

Mode of operation

Ultrasonic generator:
Converting the incoming power into ultrasonic power with 20 kHz operating frequency.

Ultrasonic converter:
Converting the electric energy from the generator into mechanical waves of the same frequency.

Standard horn and booster horn:
They enhance the amplitude emitted by the ultrasonic converter, based on their special design.

Probes:
As work peaks, they transfer the sonic power into the sample. As microtips, tapered tips or titanium flat tips with a diameter from 2 to 38 mm for different amplitudes and volumes. Probes are made of a very solid titanium alloy. This has the advantage that they are very stable compared to dynamic alternating loads and show great consistency towards aggressive and corrosive media.

Sample preparation in the laboratory

The main area of application of ultrasonic homogenisers is sample preparation. This includes homogenising, emulsifying and suspending different substances, accelerating chemical reactions, disrupting cells as well as extracting cell contents. By means of ultrasonic homogenisers, certain substances can be systematically destroyed, long treatment processes can be shortened and the profits of many reactions can be increased. Because of these advantages, new applications continue to be added.

The comparison with other treatment devices in the laboratory such as pebble mills, rotor-stator or split homogenisers shows that ultrasonic homogenisers work with higher efficiency and guarantee reproducible results at the same time.

Disruption of cells and micro-organisms

Modern laboratories use ultrasonic homogenisers for disrupting cell walls in order to reach cell contents, e.g. proteins. A part of the energy entered in cell suspension is always converted into heat. In order to avoid thermal damage to the cell contents, the sample is either exposed to sounds cyclically with interruptions (with or without cooling) or only in a cooling container. It is especially advantageous to expose micro-organisms to sonic waves in rosette cells. These are sonic vessels made of glass, which ensure a permanent circulation of the sample liquid due to their form. If in addition they are placed in an ice bath, the content is efficiently cooled in a rosette cell due to its great glass surface.

Dispersing

Particles of solid substances or liquids can be dispersed in another liquid medium with ultrasonic energy. For example, nanostructured powders such as titanium oxide or pyrogenic silica are more and more widely used to produce paints and varnishes or for polishing little body surfaces due to their great specific surface and the therefore increasing chemical reaction potential. At the same time, these substances tend to agglomerate, which worsens flow and wetting behaviour. The pictured agglomerates can be destroyed with an ultrasonic homogeniser, while the dispersion is permanently stabilised against a re-agglomeration.

To analyse the particle size, dispersing is important for the accuracy of the measurement. The particles can only be detected in the extent in which they appear in the measurement zone as detectable measurement signal. This means that agglomerates which have not been dispersed lead to erroneous measurements. By means of ultrasound, the particles are divided and prepared for the following measurement.



before *after*
Oil-water emulsification

During **emulsifying** with ultrasound, two liquids which cannot be mixed with each other, such as oil and water, are processed into a homogenous liquid (see pict.). Compared to conventional methods with rotors or mills, it is possible to create very disperse emulsions with very low droplet size and very high stability by means of ultrasound.

The droplets do not form clots or grapes and they do not sediment. When using rotors or stirrers, slow stirring often causes an isolation of the liquids, whereas fast stirring leads to undesired air bubbles. Ultrasonic homogenisers are often used in pharmacies for the high-quality small production of salves.

Homogenisation

The technical application areas of ultrasonic homogenisers ranges from paint and varnish productions and homogenisation of sewage and soil samples for analytical purposes to sample preparation for grit size analyses. In environmental laboratories for example, industrial sewage is constantly examined for heavy metals, fats or oils in order to be able to immediately introduce measures in case the concentration is exceeded. For representative water analyses, it is necessary to put the samples in a homogenous state. This is carried out by means of ultrasonic homogenisation within a very short period of time.

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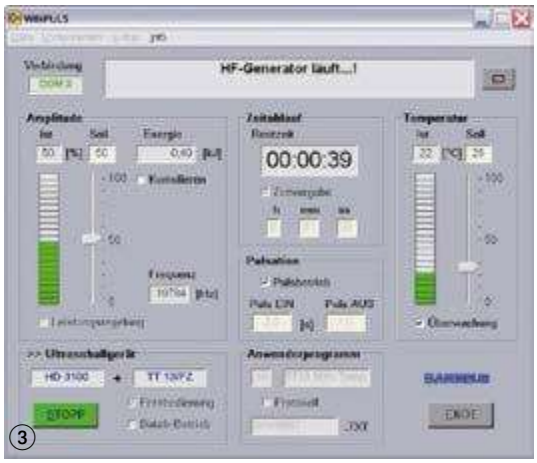
Ultrasonic Homogenizers

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BANDELIN Ultraschall seit 1955







SONOPULS Ultrasonic Homogenizers, BANDELIN

Selecting the best SONOPULS ultrasonic homogenizer for your needs
The ultrasonic output of an homogenizer depends on the amplitude present at the ultrasound-emitting surface of the sonotrode. Start with the volume of the sample that is to be subjected to the ultrasound. Use the diameter of the ultrasound vessel into which the sonotrode is to be immersed and the following table to determine the optimum sonotrode amplitude and the correct SONOPULS ultrasonic homogenizer.

Titanium sonotrodes in conjunction with the SONOPULS ultrasonic homogenizer

Type	Dia. mm	HD 2070.2	HD 2200.2	Amplitude μm_{ss} HD 2070.2/2200.2
MS 72	2	1 ml – 25 ml	2 ml – 30 ml	285/286
MS 73	3	2 ml – 50 ml	5 ml – 90 ml	245/308
KE 76	6	5 ml – 100 ml	10 ml – 350 ml	191/255
TT 13	13	10 ml – 200 ml	20 ml – 900 ml	93/165
VS 70 T				97/170
TT 25	25		30 ml – 1000 ml	- /53

Examples:
1 ml liquid in centrifuge vial with 9 mm ID: MS 73 microtip on HD 2070.2.
15 ml liquid in test tube with 12 mm ID: KE 76 conical tip on HD 2070.2.
100 ml liquid in glass beaker with 45 mm ID: TT 13 titanium disk on HD 2200.2.
10 ml sample volume in 50 ml Corning container for bacteria digestion with MS 73 in HD 2200.2
70 ml sample ground cheese in water in RZ 3 for HD 2200.2 with VS 70 T

SONOPULS HD 2070.2 and HD 2200.2
Cell disintegration, accelerated reaction, extracting, emulsifying, suspending, homogenizing, degassing of liquids and for the Sonochemie. Controllable, high energy density for the processing and preparation of samples with ultrasound in the biochemistry lab, in research and in small-scale production.
Amplitude adjustment with electronic stabilization in a range of 10 – 100% for consistent results. **Pulsation of 10 – 100%** limits the temperature increase when handling heat-sensitive samples. Cooling in pauses between sound pulses. 20 kHz equalized sound. Sound period 1 sec to 99 min. All values appear on the digital display. Proteced against dry-running and constant operation. 230 V (115 V also available).

Article	Order No.
① **SONOPULS HD 2070.2 Ready-to-use set**	**10 07 32451**

For volumes from 2 ml to 50 ml. Ready-to-use basic model: Ultrasonic generator GM 2070.2, ultrasonic transducer UW 2070, horn SH 70 G with external thread and microtip MS 73, dia. 3 mm. 70 W HF power. See table above for other volumes. Stand HG 40 and vessel RZ 2 shown in the illustration are not included in delivery.

Article	Order No.
SONOPULS HD 2200.2 Ready-to-use set	**10 07 32531**

For volumes from 20 ml to 900 ml. Ready-to-use basic model: Ultrasonic generator GM 2200.2, ultrasonic transducer UW 2200, booster horn SH 213 G with external thread and titanium disk TT 13, dia. 13 mm. 200 W HF power. See table above for other volumes. Stand HG 40 and vessel RZ 2 shown in the illustration are not included in delivery.

Accessories for HD 2070.2 and HD 2200.2
For connecting titanium sonotrodes:
Titanium horns instead of SH 70 G/SH 213 G

Article	Order No.
SH 219 G Ø 19 mm for UW 2200	**53 07 02210**
SH 225 G Ø 25 mm for UW 2200	**53 07 02212**

SONOPULS HD 4050 / 4100 / 4200

Technical data:	**HD 4050**	**HD 4100**	**HD 4200**
HF generator:	GM 4200	GM 4200	GM 4200
W × H × D (mm):	150×220×335	150×220×335	150×220×335
Ultrasonic converter:	UW 50	UW 100	UW 200
Ø × L (mm):	45 × 175	70 × 150	70 × 150
Available sonotrodes Ø (mm):	2/ 3/ 4.5/ 6	2/ 3/ 4.5/ 6/ 9/ 13	3/ 4.5/ 6/ 9/ 13/ 16/ 25

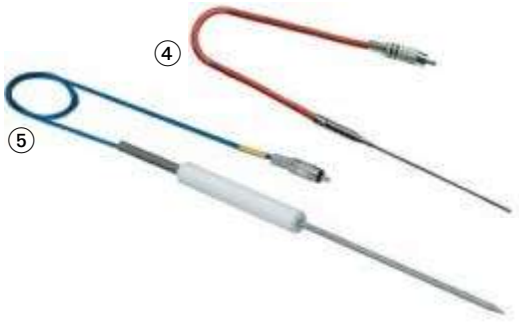
Article	Order No.
Ultrasonic homogenizer SONOPULS HD 4050 for volumes from 0.5 – 100 ml **Ready-to-operate set:** for volumes from 0.5 ml – 20 ml, ultrasonic power max. 50 W, ultrasonic generator GM 4200, ultrasonic converter UW 50, titanium probe TS 102, dia. 2 mm	**10 07 34050**
Ultrasonic homogenizer SONOPULS HD 4100 for volumes from 2 – 200 ml **Ready-to-operate set:** for volumes from 3 – 50 ml, ultrasonic power max. 100 W, ultrasonic generator GM 4200, ultrasonic converter UW 100, standard horn SH 100 G, titanium probe TS 103, dia. 3 mm	**10 07 34100**

Continued on next page

Ultrasonic Homogenizers

	Article	Order No.
②	**Ultrasonic homogenizer SONOPULS HD 4200** for volumes from 5–1000 ml **Ready-to-operate set:** for volumes from 20 – 900 ml, ultrasonic power max. 200 W, ultrasonic generator GM 4200, ultrasonic converter UW 200, standard horn SH 200 G, titanium probe TT 213, dia. 13 mm	**10 07 34200**

Ultrasonic homogenizer HD 4400 for sonication of volumes from 100 – 3000 ml on request.



Accessories for HD 4050 / 4100 / 4200

	Article	Order No.
③	**WINPULS remote control for HD 4050/4100/4200** For process monitoring using a PC with WIN 2000 or WIN XP. Various additional functions such as test logging and user-friendly data storage management (up to 99 memory slots). Set consisting of WINPULS software and IR 1 infrared adapter for RS 232 interface.	**53 07 03625**
④	**TM 50 temperature sensor, Ø 1.9 mm**	**10 07 33733**
⑤	**TM 100 temperature sensor, Ø 4.0 mm** For HD 4050/4100/4200, for measuring the sample temperature from 0 to 120°C.	**53 07 03622**



Titanium sonotrodes

	Type	Version	Ø mm	for	Order No.
⑥	MS 72	Micro tip	2	SH 70 G, SH 213 G	**53 07 03062**
⑦	MS 73	Micro tip	3	SH 70 G, SH 213 G	**53 07 03065**
⑧	KE 76	Conical tip	6	SH 70 G, SH 213 G	**53 07 03068**
⑨	TT 13	Titanium disk	13	SH 70 G, SH 213 G	**53 07 05215**
⑩	TT 25	Titanium disk	25	SH 225 G	**53 07 05225**
	VS 70 T	long	13	SH 70 G / SH 213 G	**10 07 30494**
	VS 200 T	long	25	SH 225 G	**10 07 30478**





Beaker resonator

Indirect exposure:

	Article	Order No.
⑪	BB 6 for HD 2200.2, 4200, plastic	**53 07 03605**
	BR 30 for HD 2070, HD 2070.2, HD 2200.2, 4100, 4200, titanium alloy TiAl6V4	**53 07 06205**

Reaction cup holders

	Article	Order No.
⑫	**EH 6** Reaction cup holder for BB6 for simultaneous contact-free exposure of up to 6 samples. (perforation diameter 11.5 mm)	**53 07 06206**

	Article	Order No.
⑬	**EH 3.1** Reaction cup holder for BR 30 for simultaneous exposure of pathogenic and toxic materials, with: 1 perforated disc each for 3 x 1.0 ml or 2.0 ml reaction cups, 1 perforated disc ech for 3 × 0.5 ml reaction cup, 1 perforated disc each for 8 × 0.2 ml RPCR cups	**53 07 37527**



Cooling vessels

With liquid cooling of the sample, made of glass for visual inspection

	Article	Order No.
⑭	KG 3, up to 15 ml, for sonotrodes up to Ø 13 mm	**53 07 07003**
	KG 5, up to 80 ml, for sonotrodes up to Ø 25 mm	**53 07 07005**

Flow-through vessels

With cooling jacket, made of glass for visual inspection or of stainless steel

	Type	Volume ml	Material	for	Order No.
⑮	DG 3	- 15 ml	Glas	Sonotrodes up to Ø 13 mm HD 2070.2/2200.2/4050/4100/4200/4400	**53 07 07103**
	DG 5	- 80 ml	Glas	Sonotrodes up to Ø 25 mm HD 2200.2/4200/4400	**53 07 07105**
⑯	DG 4 G		Stainless steel	HD 2070.2/2200.2/4100/4200	**53 07 03608**





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Ultrasonic Homogenizers



Exposure vessels made of glass

	Article	Vol. ml	for	Order No.
	RZ 1	25	Sonotrodes up to Ø 25 mm, HD 2070.2/2200.2/4050/4100/4200	**10 07 33606**
	RZ 2	40	Sonotrodes up to Ø 25 mm, HD 2070.2/2200.2/4050/4100/4200	**10 07 33607**
①	RZ 3	110	Sonotrodes up to Ø 25 mm, HD 2070.2/2200.2/4050/4100/4200/4400	**53 07 07120**
	RZ 4	390	Sonotrodes up to Ø 25 mm, HD 200.2/4200/4400	**10 07 33256**
	RZ 5	900	Sonotrodes up to Ø 25 mm, HD 200.2/4200/4400	**53 07 07121**

RZ = Rosette cells



Accessories

	Article	Order No.
	Standard ground adapter NA 29 G For NS 29/32 SH 70/213 G	**53 07 09029**
	Standard ground adapter NA 45 G For NS 45/40 SH 70/213/219/225 G	**53 07 09031**
	Foot switch remote control TS 8 For HD 2070.2/2200.2/4050/4100/4200/4400	**53 07 09108**
②	**Stainless steel stand HG 40** For HD 2070.2/2200.2/4050/4100/4200/4400	**10 07 33681**

WH 40 bracket for HG 40 (Fig. ③) optional
AT 40 support table for WH 40 on HG 40 (Fig. ④) optional



Sound-reducing box LS 40
For noise reduction when using ultrasound homogenizers, use of a noise protection box is recommended.
Due to the optimized design of the LS 40, a very effective noise reduction by approx. 30 dB-AU is achieved. LED interior lighting and the integrated sight glass allow for optimal process observation during the exposure.
The LS 40 is made of stainless steel and equipped with an effective ventilation system. A removable base tray ensures easy cleaning. At the rear of the noise protection box, there is a prepared opening (40×70 mm) for hose feeds or a SONOPULS temperature sensor.
An HG 40 holding frame is required to accommodate the SONOPULS ultrasonic converters.

	Article	Order No.
⑤	**Sound proof box LS 40** For HD 2070.2/2200.2/4050/4100/4200/4400	**10 07 33682**

Article	Order No.
Sound-reducing box LS 4 for HD 2070.2/2200.2/4050/4100/4200 Made of plastic-coated chipboard. Noise reduction by approx. 10 dB-AU. Full-surface plexiglass door enables process observation.	**53 07 09301**

webcode WWFH8011

BANDELIN Ultraschall seit 1955



SONOPULS mini20 Ultrasonic Homogenizer, BANDELIN

Ready-to-operate for volumes from 0.1 ml to 25 ml, consisting of: ultrasonic generator mini20, ultrasonic converter mini20 and microtip MS 2.5, diameter 2.5 mm. Max. 12 W ultrasonic nominal power.
Sonotrodes available as an alternative: 1.5/2.0 mm

Technical Data:
HF generator GM mini20
Dimensions: 250 x 256 x 154 mm
Weight: 2.0 kg
Mains supply: 230 V~, 50/60 Hz (optionally 115 V~, 50/60 Hz)
Ultrasonic converter UW mini20
Dimensions: Ø ca. 50 × 160 mm
Weight: 270 g

Article	Order No.
Ultrasonic homogenisator SONOPULS mini20	**10 07 33665**

Ultrasonic Homogenizers

Ultrasonic Processors, Hielscher Ultrasonics GmbH

High power ultrasonic devices for the use in laboratories: Hielscher ultrasonicators are reliable, user-friendly and extremly flexible. The typical applicatiions include sample preparation, dissolving, mixing, blending and homogenizing, emulsifying, dispersing and deagglomeration, lysis, cell disintegration and extraction, degassing as well as sonochemical processes.



webcode WWJMZ001

① **Ultrasonic Homogenizer UP100H set (processor, stand, sonotrode)**
For direct sonication.
Applications: homogenizing and blending, dispersing, emulsifying, lysis and cell disintegration, degassing sonochemical processes

Advantages:
- high intensity
- handhold and stand-mounted use
- small footprint
- reproducible resultsdue to adjustable and controllable amplitude
- pulse / cycle mode
- dry running protection
- further accessories available

100 watts, 30 kHz ultrasonic frequency, automatic frequency tuning, amplitude adjustable from 20 to 100%, pulse mode adjustable from 0 to 100%, dry running protection, portable case, with stand mount & mounting tools, IP40 grade, titanium horn w/ female thread M6 × 0.75, sonotrode MS7 from titanium, tip diameter 7 mm, length 80 mm, for volumes from 10 ml to 250 ml, incl. stainless steel stand ST1-16.

Article	Order No.
Ultrasonic homogenizer UP100H set	**10 82 01100**



② **VialTweeter set (generator, sound converter, sonotrode)**
The VialTweeter enables for the simultaneous sonication of up to 10 test tubes/vials and facitltates thereby the preparation of multiple samples at the same time. Intense ultrasonic power of up to 10 watts per vial is transmitted indirectly via the vessel wall into the medium by which a significanly better sonication than in an ultrasonic bath is achieved.

Advantages:
- Intense sonication of up to 10 vials simultaneously
- Indirect sonication: high ultrasonic energy transmission through vessel wall into the sample
- Indirect sonication avoids cross-contamination and sample loss
- Reproducible results due to adjustable and controllable amplitude
- Adjustable pulse mode from 10 to 100%
- Autoclavable block sonotrode

UP200ST:
200 watts digital ultrasonic processor, frequency 26 kHz (auto-scan), amplitude 20 – 100%, pulse 10 – 100%, transducer IP65, generator IP51 grade, colored touch-screen, amplitude or power control, countdown (timer): 0.1 sec to 99 days, shutdown when final energy input reached (Ws, Wh, kWh), dry running protected, autom. calibration of the amplitude-dependent idle power, data recording: amplitude, power, time, temperature on internal SD-Card (1 GB), display and remote control via browser on PC/MAC without software installation, remote control via PLC, with temperature sensor, temperature indication: °C/°F (-50°C to 200°C), temperature monitoring, power supply 100-240 V~, 50-60 Hz, carrying case, incl. 3 m network cable

VialTweeter:
S26d10x10VialT block sonotrode, only for UP200St, for simultaneous sonication of up to 10 Eppendorf Vials, for vials and test tubes of 0.5 ml, 1.0 ml, 1.5 ml or 2.0 ml volume, e.g. 12 × 32 mm, other vial sizes available on request.

Article	Order No.
VialTweeter set	**10 82 01126**



③ **Sonotrode S26d7 (optional for UP200St)**
For direct sonication with the UP200St in the beaker, made of titanium, Ø 7 mm, approx. length 95mm, male thread M6 × 0.75, for samples from 20 ml up to 500 ml, amplitude ratio approx. 1:2.5.

Article	Order No.
Sonotrode S26d7	**10 82 01026**

Mortar Grinders





Mortar Grinder, RETSCH

① **Type RM 200**
Application:
The Mortar Grinder RM 200 can mix and homogenize powders, suspension and pastes, even those of high viscosity. It substitutes cumbersome hand mortars by a high performance drive with electronic control. The grinding set can be cooled and heated and is very easy to clean. Grinding sets of various material qualities are available so that the RM 200 can be easily adapted to the respective grinding tasks. Depending on the feed material, batch sizes from approx. 10 ml to 190 ml can be processed.

Features:
- dry, wet and cryogenic grinding
- reproducible results due to adjustable pestle and scraper pressure
- easy exchange of mortar and pestle without tools
- closed, dust tight grinding chamber with windows
- wide range of materials for contamination free grinding

Mortar and pestle made of zirconium oxide, sintered corundum, steel and tungsten carbide on request.

Technical data:

Input grain size:	<8 mm
Final grain size:	to approx. 10 µm
Throughput/batch:	190 ml
Dimensions (W×H×D):	400 × 480 × 370 mm
Weight:	24 kg (without grinding set)
Power supply:	200 – 240 V/50 Hz

Article	Order No.
Mortar mill RM 200, 230 V/50 Hz	**10 29 20100**

Mortar and pestle please order separately.

② **Accessories**

Article	Order No.
Mortar made of hard porcelain	**53 29 28101**
Pestle made of hard porcelain	**53 29 28102**
Mortar made of agate	**53 29 28107**
Pestle made of agate	**53 29 28108**

Ball Grinders

webcode WWGF3004

FRITSCH



Planetary Ball Mills *classic line* (different models), FRITSCH

Planetary Ball Mills
Ideal for fast, loss-free fine grinding of hard, medium-hard, brittle and fibrous materials – dry or in suspension – in geology, mineralogy, metallurgy, ceramics, material research, mechanical alloying, pharmaceutics, chemistry, biology, and sample preparation for analysis. Sample can be processed from a few milligrams to several kilograms at a wide range of fineness levels down to less than 1 µm. They are especially easy to operate and fast and easy to clean. They are suitable for continuous, heavy duty usage and guarantee safe clamping of the grinding bowls. Matching grinding parts of 7 different materials are available to provide maximum protection against undesired contamination. In addition to size-reduction, Planetary Ball Mills can also be used for mixing and homogenising of emulsions and pastes or for mechanical alloying and activation.

Technical data:	**PULVERISETTE 6 *classic line***	**PULVERISETTE 5 *classic line* model I**	**PULVERISETTE 5 *classic line* model II**
Working stations:	1	4	2
Max. feed size:	10 mm	10 mm	10 mm
Max. sample quantity:	225 ml	900 ml	450 ml
Final fineness:	< 1 µm	< 1 µm	< 1 µm
Rotational speed main disk:	100 – 650 rpm	50 – 400 rpm	
Grinding bowl sizes:	80, 250, 500 ml	80, 250, 500 ml	
Supply requirements:	100–120/200–240 V/1~, 50–60 Hz	200–240 V/1~, 50–60 Hz	
Dimensions (W×D×H):	37 × 53 × 50 cm	58 × 67 × 57 cm	
Weight net:	63 kg	120 kg	100 kg

Continued on next page

Ball Grinders

	Article	Order No.
③	**Planetary Mono Mill PULVERISETTE 6 *classic line***	**53 98 06000**
④	**Planetary Mill PULVERISETTE 5 *classic line*, model I**	**10 98 05520**
	Planetary Mill PULVERISETTE 5 *classic line*, model II	**10 98 05620**

The Planetary Mill PULVERISETTE 5 *classic line*, model I and model II is also available in other voltages.
FRITSCH also offers a revolutionary Planetary Mill Generation *premium line* generation for fast high-tech grinding down into the nano range, worldwide unique in operation, performance and safety - a new reference class, please have a look at Planetary Micro Mill PULVERISETTE 7 *premium line*.

Further models of planetary mills on request. Please order grinding bowls and balls separately.



⑤ **Grinding bowls for Planetary Ball Mills PULVERISETTE 5 / PULVERISETTE 6 *classic line***

Material	Volume ml		
	80	250	500
	Order No.	**Order No.**	**Order No.**
Hardened, stainless steel	**10 98 05419**	**10 98 05319**	**10 98 05219**
Sintered corundum	**53 98 05405**	**53 98 05305**	**53 98 05205**
Zirconium oxide	**53 98 05415**	**53 98 05315**	**53 98 05215**
Hardmetal tungsten carbide[1)]	**53 98 05409**	**53 98 05309**	
Adapter for grinding bowls[2)]	**53 98 90112**		

[1)] Grinding bowl in a steel casing
[2)] One grinding bowl holder can hold either 2 x 80 ml bowls or 1 x 80 ml bowl together with a grinding bowl adapter mounted one on top of the other.

Grinding bowls are also available in agate and silicon nitride.
Special gassing lids for grinding in an inert atmosphere and for mechanical alloying as well as the GTM-system (Gas pressure and temperature measuring system), for measuring gas pressure and temperature during the grinding process are available.

⑥ **Grinding balls for grinding balls: PULVERISETTE 5 / PULVERISETTE 6 *classic line***

Material	Ball Ø mm			
	10	20	30	40
	Order No.	**Order No.**	**Order No.**	**Order No.**
Hardened, stainless steel	**10 98 05611**	**10 98 05612**	**10 98 05613**	**10 98 05614**
Sintered corundum	**53 98 05651**	**53 98 05652**	**53 98 05653**	**53 98 05654**
Zirconium oxide	**53 98 05751**	**53 98 05752**	**53 98 05753**	**53 98 05754**
Hardmetal tungsten carbide	**53 98 05671**	**53 98 05672**	**53 98 05673**	**53 98 05674**

Grinding bowls are also available in agate and silicon nitride.
Grinding balls are also offered in the diameters 0.1 to 3 mm (to achieve a fineness down to the nanometer-range) as well as in 5 mm and 15 mm (have a look at grinding balls for grinding bowls for Planetary Micro MILL PULVERISETTE 7 *premium line*)

Recommended number of grinding balls per grinding bowl for PULVERISETTE 5/ PULVERISETTE 6 *classic line*

Grinding bowl volume/ Useful capacity (sample volume) Ball dia.	80 ml / 10 – 30 ml	250 ml / 30 – 125 ml	500 ml / 80 – 225 ml
5 mm	250	1200	2000
10 mm	25	50	100
15 mm	10	45	70
20 mm	5	15	25
30 mm	–	6	8
40 mm	–	–	4

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Webcode

Ball Grinders

webcode WWGF3017

FRITSCH

Planetary Ball Mill PULVERISETTE 7 *premium line*, FRITSCH



Planetary Micro Mill PULVERISETTE 7 *premium line*
Ideal for high-performance grinding down into the nano range of hard, medium-hard, brittle and fibrous materials with particularly short grinding time – dry, in suspension, or under inert gas in nanotechnology, geology, mineralogy, metallurgy, ceramics, material research, mechanical alloying/activating, pharmaceutics, chemistry, biology, and sample preparation for analysis. Also ideally suited for highly-efficient mixing and homogenisation of emulsions and pastes.

Grinding bowls and balls are available in different sizes to perfectly match the sample volume and the desired final fineness, as well as in different materials – the best protection against undesired contamination.

Sunken grinding bowls and the unique SelfLOCK grinding bowl clamping, the check of the grinding bowl fastening inside the mill, the blockage in the event of impermissible operating states or imbalance, and the automatic bowl detection guarantee maximum safety.

Technical Data:

Max. feed size:	5 mm
Max. sample quantity:	60 ml
Final fineness:	< 100 nm
Rotational speed of main disk:	100 – 1100 rpm
Rotational speed of grinding bowls:	up to 2200 rpm
Supply requirements:	100 – 120 / 200 – 240 V/1~, 50 – 60 Hz, 1200 Watt
Dimensions (W × D × H):	40 × 58 × 36 cm
Weight net:	44 kg

Article	Order No.
① **Planetary Micro Mill PULVERISETTE 7 *premium line***	**10 98 00750**



Grinding bowls and grinding balls must be ordered additionally. Software MillControl for automatic control of the Planetary Micro Mill PULVERISETTE 7 *premium line*, and validation of the grinding process available on request.
For fast high-tech grinding of larger sample quantities (up to 450 ml) down to the nano range, the Planetary Mill PULVERISETTE 5 *premium line* is available.

② **Grinding bowls for Planetary Micro Mill PULVERISETTE 7 *premium line***

Material	Volume ml		
	20	45	80
	Order No.	**Order No.**	**Order No.**
Hardened, stainless steel[1)]	**10 98 05498**	**10 98 05497**	**10 98 05496**
Sintered corundum[1)]	**10 98 05598**	**10 98 05597**	**10 98 05596**
Zirconium oxide[1)]	**10 98 05698**	**10 98 05697**	**10 98 05696**
Hardmetal tungsten carbide WC[1)]	**10 98 05798**	**10 98 05797**	**10 98 05796**

[1)] Grinding bowl in a steel casing

Grinding bowls are also available in agate and silicon nitride.
Special gassing lids for grinding in an inert atmosphere and for mechanical alloying as well as the EASY GTM - gas pressure and temperature measuring system for controlling the grinding process due to continuous measurement of gas pressure and temperature on request.

③ **Grinding balls for Planetary Micro Mill PULVERISETTE 7 *premium line***

Material	Ball Ø mm			
	5	10	15	20
	Order No.	**Order No.**	**Order No.**	**Order No.**
Hardened, stainless steel	**10 98 05505**	**10 98 05611**	**10 98 05515**	**10 98 05612**
Sintered corundum		**53 98 05651**	**10 98 01506**	**53 98 05652**
Zirconium oxide	**10 98 00527**	**53 98 05751**	**10 98 01527**	**53 98 05752**
Hardmetal tungsten carbide	**10 98 00508**	**53 98 05671**	**10 98 01508**	**53 98 05672**

Grinding balls are also available in agate and silicon nitride.
Grinding balls are also offered in the diameters 0.1 to 3 mm to achieve a fineness down to the nanometer-range.

Recommended number of grinding balls per grinding bowl for PULVERISETTE 7 *premium line*

Grinding bowl volume/ Useful capacity (sample volume) Ball dia.	20 ml / 1 – 9 ml	45 ml / 3 – 20 ml	80 ml / 10 – 30 ml
5 mm	80	180	250
10 mm	10	18	25
15 mm	–	7	10
20 mm	–	–	5

Ball Grinders

Planetary Ball Mills / High Energy Ball Mills, RETSCH



①


②

① **Planetary Ball Mills Type PM 100 / PM 200 / PM 400**

Application:

Planetary Ball Mills are suitable for mixing and grinding soft, medium-hard, extremely hard, brittle and fibrous materials. They are used whenever high degrees of fineness down to the submicron range are to be achieved in a very shorrt time. In addition to dry and wet grinding, they are also suitable for colloidal grinding and mechanical alloying. Typical materials are minerals, ores, chemicals, ceramics, soils, household and industrial waste etc.

Capability characteristics:

- Extremely high fineness down to submicron range
- 1 / 2 / 4 grinding stations
- Grinding jar volumes from 12 ml to 500 ml
- Suitable for long-teerm trials and continuous use
- Programmable starting time
- Power failure backup ensures storage of remaining grinding time
- Reproducible results due to digital parameter settings
- 10 parameter combinations can be stored
- 1-button operation with graphic display
- Automatic grinding chamber ventilation for cooling the grinding jars
- Grinding jars in 6 sizes and 8 different materials available

Technical data:

	PM 100	PM 100 CM	PM 200	PM 400
No. of grinding stations:	1	1	2	4
Speed ratio				
Sun wheel/Grinding jar:	1:-2	1:-1	1:-2	1:-2
Grinding jar:	12 – 500 ml	12 – 500 ml	12 – 125 ml	12 – 500 ml
Fees size:	up to 10 mm	up to 10 mm	up to 4 mm	up to 10 mm
Finalgrain size:	<1 µm	<1 µm	<1 µm	<1 µm
(depending on product properties and process parameters)				
Throughput/batch:	220 ml or 2×20 ml	220 ml or 2×20 ml	2×50 ml	max. 4×220 ml or 8×20 ml
Dimensions (W×H×D) mm:	630×415×468	630×415×468	630×415×468	836×1220×780
Weight:	approx. 86 kg	approx. 86 kg	approx. 72 kg	approx. 290 kg
Power supply:	230 V/ 50-60 Hz	230 V/ 50-60 Hz	230 V/ 50-60 Hz	220-230 V/ 50-60 Hz

Article	Order No.
PM 100	**53 29 54001**
PM 100 CM	**10 29 21100**
PM 200	**53 29 64001**
PM 400	**10 29 21400**

Scope of supply: Planetary Ball Mill. Grinding jars and grinding balls have to be ordered separately.

② **Grinding jars “comfort” for PM 100, PM 200, PM 400 and PM 100 CM**

Material	Volume ml			
	50	125	250	500
	Order No.	**Order No.**	**Order No.**	**Order No.**
Hardened steel	**53 29 20145**	**53 29 20144**	**53 29 20224**	**53 29 20229**
Stainless steel	**53 29 20149**	**53 29 20148**	**53 29 20223**	**53 29 20228**
Tungsten carbide	**53 29 20156**	**53 29 20155**	**53 29 20222**	
Agate	**53 29 20139**	**53 29 20136**	**53 29 20220**	**53 29 20225**
Sintered corundum	**53 29 20153**	**53 29 20152**	**53 29 20221**	**53 29 20226**
Zirconium oxide	**53 29 20188**	**53 29 20187**	**53 29 20219**	**53 29 20227**

Grinding jars 250 and 500 ml not for PM 200. Grinding jars 12 and 25 ml are available on request.
Other accessories for grinding jars “comfort” (e.g. adapter for stacking, grinding jar for aeration, safety closing device) are available on request.

The Measuring system PM GrindControl for record of pressure and temperature in the grinding jar during grinding is available on request.

Grinding balls

Material	Ball Ø mm			
	10	20	30	40
	Order No.	**Order No.**	**Order No.**	**Order No.**
Hardened steel	**53 29 36859**	**53 29 43028**	**53 29 36857**	**53 29 36856**
Stainless steel	**53 29 36863**	**53 29 43032**	**53 29 36861**	**53 29 36860**
Tungsten carbide	**53 29 36871**	**53 29 46093**	**53 29 36869**	**53 29 36868**
Agate	**53 29 36867**	**53 29 36828**	**53 29 36865**	**53 29 36864**
Sintered corundum	**53 29 46082**	**53 29 36854**	**53 29 36853**	**53 29 36852**
Zirconium oxide	**53 29 36894**	**53 29 43044**	**53 29 36892**	**53 29 36891**

Other sizes available on request.

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Ball Grinders

Recommended ball fillings

Grinding bowl nominal vol. ml	Samples volume ml	Max. input grain mm	Ball filling pcs. Ø 10 mm	Ø 20 mm	Ø 30 mm	Ø 40 mm
50	5,0 – 20	3	10	3		
80	10 – 35	4	25	5		
125	15 – 50	4	30	7		
250	25 – 120	6	50	15	6	
500	75 – 220	10	100	25	8	4



①

① **High energy ball mill E_{max}**
Application:
The E_{max} is an entirely new type of ball mill for high energy milling for medium-hard, hard, brittle and fibrous materials. The combination of high friction and impact results in extremely fine particles within the shortest amount of time. Thanks to the cooling system with water, the high energy input is effectively used for the grinding process without overheating the sample. The E_{max} is capable of continuous grinding operation without interruptions for cooling down. The high energy input in combination with the unique cooling system provides perfect conditions for effective mechanical alloying or grinding down to the nanometer range.

Features:
- speed of 2000 min^{-1} allow for ultra-fast and fine pulverization of the sample
- controlled water cooling allow for continuous operation without timely cool down breaks
- temperature-controlled grinding
- narrow particle size distribution thanks to special jar design which improves mixing of the sample
- 10 SOPs, 3 sequences and additional information storable
- operation with 2 grinding jars with integrated safety closure
- range of jar materials allow for contamination free grinding

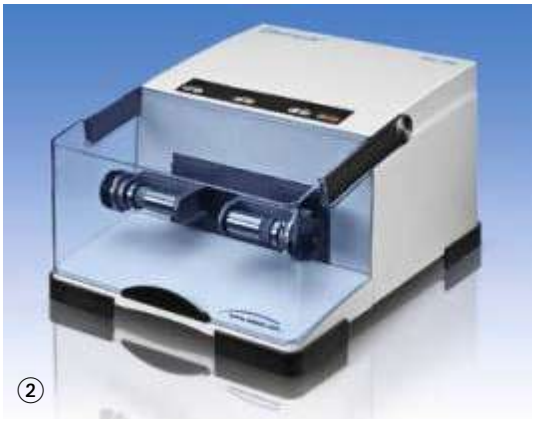
Technical data:

Material feed size[1)]:	< 5 mm
Final fineness[1)]:	< 1 µm, for colloidal grinding < 80 nm
Batch size / feed quantity[1)]:	max. 2 × 45 ml
Power connection:	1-phase
Dimensions (W×H×D):	625 × 525 × 645 mm

[1)]**Please note:** depending on feed material and instrument configuration/settings

Article	Order No.
High energy ball mill E_{max}	**10 29 22053**
Grinding jar, 50 ml, stainless steel	**10 29 20305**
Grinding jar, 125 ml, stainless steel	**10 29 20313**
Grinding jar, 50 ml, zirconium oxide	**10 29 20312**
Grinding jar, 125 ml, zirconium oxide	**10 29 20307**
Grinding jar, 50 ml, tungsten carbide	**10 29 20317**
Aeration lid for Emax grinding jar 50 ml, stainless steel	**10 29 20568**
Aeration lid for Emax grinding jar 125 ml, stainless steel	**10 29 20567**
Aeration lid for Emax grinding jar 50 ml, zirconium oxide	**10 29 20569**
Aeration lid for Emax grinding jar 125 ml, zirconium oxide	**10 29 20564**

Please order grinding balls separately. Please refer to accessories for planetary ball mills. Other grinding ball types for colloid grinding on request.


②

Mixer Mills, RETSCH

MM 200 / MM 400 / MM 500 / CryoMill mixer mills
Application:
Mixer mills are all-round talents in the laboratory. They have been developed expecially for grinding, homogenizing and mixing of small sample amounts within seconds. Furthermore, they are perfectly suitable for disruption of biological cells as well as for DNA/RNA extraction. For the MM 400, dust-proof and closed milling containers with screw cap are available, which also enable wet millings and cryogenic grinding.

The MM 500 is the first ball mill in the world that, thanks to its high energy input, is suitable for efficient wet grinding of samples down to the nanometer range or for mechanochemical applications without significant heat generation. Performance, operation, application areas and design of the new MM 500 make this mill a perfect combination of a classic mixer mill and a planetary ball mill!

The CryoMill is suitable for cryogenic grinding of materials that cannot be milled at room temperature, or the composition of which would change when milled at room temperature. The integrated conditioning system constantly cools the grinding jar with liquid nitrogen before and during milling. In this way, the sample is embrittled, slightly volatile components are retained. As the CryoMill can also be operated without cooling, it is fit for uni-

Continued on next page

Ball Grinders

versal use. Thanks to the patented LN_2 supply, direct contact with LN_2 is avoided, ensuring particularly safe operation.

Features of MM 200 / MM 400:
- Reproducible, efficient grinding, mixing in homogenizing within seconds
- Impact and friction for powerful grinding, up to 20 samples in one go
- For dry, wet, and cryogenic grinding (MM 400)
- Grinding jar with screw cap for loss-free grinding (MM 400)
- 9 Standard Operating Procedures (SOP) can be stored
- Extensive range of accessories, e.g. grinding jars and ball grinders in various sizes and materials, adapters

Features of MM 500:
- Suitable for continuous long-term milling processes and efficient short-term milling with a high energy input
- Pulverization < 100 nm (depending on product properties and process parameters)
- Powerful grinding with 35 Hz
- Jars remain conveniently clamped for periodic sample extraction
- Choose from 4 different jar materials
- 12 standard operating procedures (SOP) can be saved
- 4 program cycles with up to 99 repetitions can be saved

Features of CryoMill:
- Impact and friction at 30 Hz for powerful grinding
- Direct user contact with LN_2 is avoided thanks to the patented LN_2 supply
- Autofill system for automatic dosing of the liquid LN_2
- Grinding jar with screw cap for loss-free grinding
- Clearly structured user interface, 9 SOPs storable
- Extensive range of accessories, e.g. LN_2 supply, grinding jars and ball grinders in various sizes and materials, adapters


③


④

Technical data:

	MM 200	MM 400	MM 500	CryoMill
Input grain size[1]:	up to 6 mm	up to 8 mm	up to 10 mm	up to 8 mm
Final grain size[1]:	approx. 10 µm	approx. 5 µm	approx. 0.1 µm	approx. 5 µm
Discharge[1]:	up to 2 × 10 ml	max. 2 × 20 ml	up to 2 × 45 ml	max. 20 ml
Digital preselection of vibrational frequency:	3 – 25 Hz (180 – 1500 min^{-1})	3 – 30 Hz (180 – 1800 min^{-1})	3 – 35 Hz (180 – 2100 min^{-1})	3 – 30 Hz (180 – 1800 min^{-1})
Dry / Wet / Cryogenic grinding:	yes / no / no	yes / yes / with Kryokit for grinding bowl precooling	yes / yes / yes Kryokit for grinding bowl precooling	yes / yes / yes
External dimensions (W×H×D):	371 × 266 × 461 mm	371 × 266 × 461 mm	690 × 375 × 585 mm	385 × 370 × 570 mm
Weight (net):	approx. 25 kg	approx. 26 kg	60 kg	40 kg
Power supply:	100 – 240 V, 50/60 Hz	100 – 240 V, 50/60 Hz	100 – 230 V, 50/60 Hz	100 – 240 V, 50/60 Hz

[1] Depending on feed material and instrument configuration/settings

Article	Order No.
② Mixer mill MM 200	**10 29 20200**
③ Mixer mill MM 400	**10 29 20400**
④ Mixer mill MM 500, 200 – 230 V	**10 29 20003**
④ Mixer mill MM 500, 100 – 120 V	**10 29 20004**
⑤ Mixer mill CryoMill	**10 29 20800**

Grinding jars and grinding balls please order separately.
IQ/OQ dokumentation on request.
Accessories for cryogenic grinding with MM 400 and MM 500 on request.
CryoMill: Autofill with LN_2 container and safety valve on request.


⑤

⑥ Grinding jars MM 200

Material	Vol. ml	Order No.
Hardened steel	25	**10 29 22052**
Stainless steel	1.5	**10 29 22057**
Stainless steel	5	**10 29 22059**
Stainless steel	10	**10 29 22061**
Stainless steel	25	**10 29 22119**
Tungsten carbide	5	**10 29 22115**
Tungsten carbide	10	**10 29 22009**

Material	Vol. ml	Order No.
Zirconium oxide	10	**10 29 22194**
Zirconium oxide	25	**10 29 22195**
Agate	5	**10 29 22113**
Agate	10	**10 29 22008**
PTFE	10	**10 29 22184**
PTFE	25	**10 29 22151**


⑥

⑦ Grinding jars MM 400, screw top design

Material	Vol. ml	Order No.
Hardened steel	25	**53 29 20237**
Rust-proof steel	1.5	**53 29 20230**
Rust-proof steel	5	**53 29 20231**
Rust-proof steel	10	**53 29 20236**
Rust-proof steel	25	**53 29 20213**
Rust-proof steel	35	**53 29 20214**
Rust-proof steel	50	**53 29 20216**
Tungsten carbide	10	**53 29 20235**

Material	Vol. ml	Order No.
Tungsten carbide	25	**53 29 20217**
Agate	5	**53 29 20232**
Agate	10	**53 29 20233**
Zircon oxide	10	**53 29 20234**
Zircon oxide	25	**53 29 20201**
Zircon oxide	35	**53 29 20215**
PTFE	25	**10 29 22238**
PTFE	35	**10 29 22244**


⑦

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Ball Grinders

Grinding jars MM 500, Screw-Lock

Material	Vol. ml	Order No.
Hardened steel	50	**10 29 20463**
Hardened steel	80	**10 29 20468**
Hardened steel	125	**10 29 20470**
Stainless steel	50	**10 29 20447**
Stainless steel	80	**10 29 20467**
Stainless steel	125	**10 29 20420**

Material	Vol. ml	Order No.
Tungsten carbide	50	**10 29 20466**
Tungsten carbide	80	**10 29 20479**
Zircon oxide	50	**10 29 20464**
Zircon oxide	80	**10 29 20417**
Zircon oxide	125	**10 29 20471**

Grinding jars CryoMill, screw top design

Material	Vol. ml	Order No.
Hardened steel	5	**10 29 22300**
Hardened steel	25	**10 29 22297**
Hardened steel	35	**10 29 22298**
Hardened steel	50	**10 29 22299**
Rust-proof steel	5	**10 29 22290**

Material	Vol. ml	Order No.
Rust-proof steel	10	**10 29 22331**
Rust-proof steel	25	**10 29 22289**
Rust-proof steel	35	**10 29 22288**
Rust-proof steel	50	**10 29 22284**
PTFE	25	**10 29 22309**

* for use with adapter 10 29 26272

Accessories for CryoMill

Article	Order No.
Autofill with LN_2 container and safety valve, 50 litres	**10 29 22482**
Connection tube, incl. safety valve for LN_2 supply provided by customer	**10 29 27101**
Adapter for use of 2/4 grinding jars, 5 ml	**10 29 26272**
Adapter for use of 2/4/6 reaction vials, 2 ml	**10 29 26277**
Safe-lock reaction vials 2 ml, 1000 pcs.	**10 29 27491**

Grinding balls MM 200 / MM 400 / MM 500 / CryoMill

Article	Order No.
Grinding ball, hardened steel, 5 mm	**53 29 46084**
Grinding ball, hardened steel, 7 mm	**53 29 46085**
Grinding ball, hardened steel, 10 mm	**53 29 36859**
Grinding ball, hardened steel, 12 mm	**53 29 46045**
Grinding ball, hardened steel, 15 mm	**10 29 28108**
Grinding balls, stainless steel, 3 mm, approx. 200 pcs.	**10 29 25002**
Grinding balls, stainless steel, 5 mm, approx. 200 pcs.	**10 29 25005**
Grinding ball, stainless steel, 5 mm	**53 29 46087**
Grinding ball, stainless steel, 7 mm	**53 29 46088**
Grinding ball, stainless steel, 10 mm	**53 29 36863**
Grinding ball, stainless steel, 12 mm	**53 29 46046**
Grinding ball, stainless steel, 15 mm	**10 29 28109**
Grinding ball, stainless steel, 20 mm	**53 29 43032**
Grinding ball, stainless steel, 25 mm	**53 29 36805**
Grinding balls, tungsten carbide, 3 mm, approx. 200 pcs.	**10 29 25006**
Grinding balls, tungsten carbide, 5 mm, approx. 200 pcs.	**10 29 25004**
Grinding ball, tungsten carbide, 5 mm	**53 29 46090**
Grinding ball, tungsten carbide, 7 mm	**53 29 46091**
Grinding ball, tungsten carbide, 10 mm	**53 29 36871**
Grinding ball, tungsten carbide, 12 mm	**53 29 46047**
Grinding ball, tungsten carbide, 15 mm	**10 29 28110**
Grinding ball, agate, 12 mm	**53 29 46044**
Grinding ball, agate, 5 mm	**53 29 46094**
Grinding ball, agate, 7 mm	**53 29 46095**
Grinding ball, agate, 10 mm	**53 29 36867**
Grinding balls, zirconium oxide, 0.1 mm, 0.5 kg	**10 29 28805**
Grinding balls, zirconium oxide, 0.5 mm, 0.5 kg	**10 29 28803**
Grinding balls, zirconium oxide, 1 mm, 0.5 kg	**10 29 28804**
Grinding balls, zirconium oxide, 3 mm, approx. 200 pcs.	**10 29 25007**
Grinding balls, zirconium oxide, 5 mm, approx. 200 pcs.	**10 29 25009**
Grinding ball, zirconium oxide, 12 mm	**53 29 46073**
Grinding ball, zirconium oxide, 15 mm	**10 29 28113**
Grinding ball, zirconium oxide, 20 mm	**53 29 43044**
Grinding ball, PTFE, 10 mm	**10 29 26045**
Grinding ball, PTFE, 12 mm	**10 29 26043**
Grinding ball, PTFE, 15 mm	**10 29 28115**

Contact us to ask for other diameters and glass beads.

Continued on next page

Ball Grinders

Accessories MM 200 / MM 400 / MM 500 for cell disruption

Article	Order No.
Adapter MM 200/400 for 5 test tubes 1.5 and 2.0 ml	**10 29 28005**
Adapter MM 200/400 for 10 test tubes 0.2 ml	**10 29 28006**
Adapter rack MM 400 for 10 standard test tubes 1.5 and 2.0 ml	**10 29 28008**
Adapter MM 400 for 5 standard test tubes 5 ml	**10 29 28010**
Adapter for 4 conical centrifuge tubes e.g. for Falcon Tubes, 2 pcs., incl. 20 tubes	**10 29 28009**
Grinding balls, stainless steel, 3 mm, approx. 200 pcs.	**10 29 25002**
Grinding balls, tungsten carbide, 3 mm, approx. 200 pcs.	**10 29 25006**
Grinding balls, zirconium oxide, 3 mm, approx. 200 pcs.	**10 29 25007**
Grinding balls, stainless steel, 5 mm, approx. 200 pcs.	**10 29 25005**
Grinding balls, tungsten carbide, 5 mm, approx. 200 pcs.	**10 29 25004**
Grinding balls, zirconium oxide, 5 mm, approx. 200 pcs.	**10 29 25009**

Other dimensions and glass beads available on request.

Accessories MM 500

Article	Order No.
Aeration lid for MM 500 grinding jar 50 ml, stainless steel	**10 29 20568**
Aeration lid for MM 500 grinding jar 80 ml, stainless steel	**10 29 20688**
Aeration lid for MM 500 grinding jar 125 ml, stainless steel	**10 29 20567**
Aeration lid for MM 500 grinding jar 50 ml, tungsten carbide	**10 29 20636**
Aeration lid for MM 500 grinding jar 80 ml, tungsten carbide	**10 29 20693**
Aeration lid for MM 500 grinding jar 50 ml, zirconium oxide	**10 29 20569**
Aeration lid for MM 500 grinding jar 80 ml, zirconium oxide	**10 29 20689**
Aeration lid for MM 500 grinding jar 125 ml, zirconium oxide	**10 29 20564**
Grinding jar stabilization pad	**10 29 26006**
Jar wrench for grinding jars	**10 29 20049**
Cryo kit for cooling the grinding jars with liquid nitrogen incl. insulated container 4-liter, 2 grinding jar holders, 1 pair of safety glasses	**10 29 24003**
Retsch Box for external device control via Retsch App incl. data cable	**10 29 20012**
IQ/OQ Documentation for MM 500	**10 29 20034**

Universal Grinders, Analytical Grinders, Cutting Mills

Variable Speed Rotor Mill PULVERISETTE 14 *classic line*, FRITSCH

webcode WWGF3003

Variable Speed Rotor Mill PULVERISETTE 14 *classic line*
Ideal for fast, effective comminution of soft to medium-hard, brittle, fibrous materials, as well as difficult-to-mill and temperature-sensitive samples. Cryogenic grinding, dispersion and homogenisation are also areas of operation. The Variable Speed Rotor Mill is an ultra-centrifugal mill with variable speed setting between 6,000 rpm and 20,000 rpm and automatic speed regulation for constant milling in the areas of analytic, biology, chemistry, agriculture and forestry, foodstuffs, plastics and textiles, pharmaceuticals, environment/RoHS. For optimal material feeding the Vibratory Feeder LABORETTE 24 (optional) is recommended.

Technical data:

Max. feed size:	10 mm
Throughput:	up to 5 l/h
Sieve inserts:	0.08 to 6 mm
Final fineness (d50):	40 µm
Rotor speed:	6,000 to 22,000 rpm
Power supply:	200–240 V/1~, 50–60 Hz, 1100 W
Dimensions (W×D×H):	31 × 48 × 47 cm
Net weight:	23 kg

Article	Order No.
① **Variable Speed Rotor Mill PULVERISETTE 14 *classic line***	**10 98 00200**

Instrument available in other voltages.
Impact rotor and sieve ring must be ordered additionally.
FRITSCH also offers a Variable Speed Rotor Mill PULVERISETTE 14 *premium line* with impact, shearing and cutting comminution in one instrument. The *premium line* version is especially powerful with up to 22,000 rpm, a max. feed size of up to 15 mm and a sample throughput of up to 15 l/h and more. This mill offers significantly better cooling, absolutely safe operation and fast, residue-free cleaning. Ask us.



Continued on next page

Universal Grinders, Analytical Grinders, Cutting Mills



① **Accessories for Variable Speed Rotor Mill PULVERISETTE 14 *classic line***

Article	Order No.
Impact rotor with 8 ribs, stainless steel	**10 98 08010**
Impact rotor with 12 ribs, stainless steel	**10 98 02010**
Impact rotor with 24 ribs, stainless steel	**10 98 04010**
Sieve ring, trapezoidal perforation 0.08 mm, stainless steel 316L	**10 98 00010**
Sieve ring, trapezoidal perforation 0.12 mm, stainless steel 316L	**10 98 01010**
Sieve ring, trapezoidal perforation 0.2 mm, stainless steel 316L	**10 98 00201**
Sieve ring, trapezoidal perforation 0.5 mm, stainless steel 316L	**10 98 05010**
Sieve ring, trapezoidal perforation 0.75 mm, stainless steel 316L	**10 98 08011**
Sieve ring, trapezoidal perforation 1 mm, stainless steel 316L	**10 98 01011**
Sieve ring, trapezoidal perforation 1.5 mm, stainless steel 316L	**10 98 05011**
Sieve ring, trapezoidal perforation 2 mm, stainless steel 316L	**10 98 02001**
Sieve ring, square perforation 2 mm, stainless steel 316L	**10 98 02011**
Sieve ring, square perforation 4 mm, stainless steel 316L	**10 98 04011**
Sieve ring, square perforation 6 mm, stainless steel 316L	**10 98 06011**
Conversion kit for large quantities	**10 98 01000**
Vibratory feeder LABORETTE 24 for continuous feeding	**10 98 03000**
Stand for vibratory feeder LABORETTE 24	**10 98 01001**

Rotors and sieve rings are also available in others designs and materials. An extensive range of accessories with impact bar, pin insert, sample exhaustion with Cyclone separators and much more is available for your specific application.



Ultra Centrifugal Mill, RETSCH

Type ZM 200

Application:
Gentle, very quick fine milling of soft to medium-hard and thready materials. Ideal e.g. for chemicals, feeding stuff, food, detergent, plastics, fertilisers and pharmaceutical raw and finished products. The ZM 200 is also suitable for cold milling.

Features:
- Milling gently to material due to two-level rotor-ring sieve system
- Powerdrive drive provides better performance with stronger moment of force, also in capacity peaks
- Wide revolutions range, adjustable from 6000 to 18000 min $^{-1}$
- Graphic performance display
- Convenient parameter setting via display and ergonomic one-button operation
- For sample amounts of a few grams up to 5 litres
- Safety plastic housing with automatic lid closing
- Electronic safety and diagnostics system
- Universally applicable thanks to wide range of accessories

Included:
Ultra-centrifugal mill with cassette 900 ml.
Please order rotor and ring sieves separately.

Technical data:

Input grain size:	up to 10 mm
Final grain size:	approx. 40 µm
Throughput/batch:	300 ml resp. 4500 ml (with cyclone) (depending on product properties and process parameters)
Dimensions (W × H × D):	410 × 515 × 365
Weight:	approx. 38 kg
Power supply:	230 V / 50-60 Hz

Article	Order No.
② Ultra centrifugal mill ZM 200	**53 29 30001**

Accessories for ZM 200

Article	Order No.
Plug-on rotor, rust-proof steel, 6 teeth	**53 29 80040**
Plug-on rotor, rust-proof steel, 12 teeth	**53 29 80041**
Plug-on rotor, rust-proof steel, 24 teeth	**53 29 80042**



③ **Ring sieves**

Trapezoidal hole mm	Order No.
0.08	**53 29 70231**
0.12	**53 29 70232**
0.20	**53 29 70233**
0.25	**53 29 70234**
0.50	**53 29 70235**
0.75	**53 29 70236**
1.00	**53 29 70237**

Trapezoidal hole mm	Round hole mm	Order No.
1.50		**53 29 70238**
2.00		**53 29 70239**
	3.00	**53 29 70240**
	4.00	**53 29 70241**
	5.00	**53 29 70242**
	6.00	**53 29 70243**

Ring sieves with reinforced rim or wear-resistant coating on request.
Rotors, ring sieves and cassette for grinding without heavy-metal contamination on request.

Continued on next page

Universal Grinders, Analytical Grinders, Cutting Mills

Accessories for grinding very small quantities

Made of corrosion-resistant material. Parts in contact with the product made of steel 1.4404 (316). Consisting of plug-fit rotor with 8 teeth, labyrinth disk and 50 ml cassette.

Article	Order No.
Conversion kit for crushing very small quantities	**53 29 86002**

Accessories for grinding large quantities

Article	Order No.
Cyclone incl. cassette pan with outlet, filter bag, holder, collector 5 l	**53 29 35009**
Cyclone incl. cassette pan with outlet, filter bag, holder, collector 3 l	**53 29 35010**
Paper filter bag incl. cassette pan with outlet and holder	**53 29 10003**

Accessories for automatic feeding of materials

Article	Order No.
④ **Feeding unit DR 100**	**53 29 70054**

Drive unit for 220-240 V/50 Hz, incl. standard feeding kit with push-fit chute 40 mm, hopper and data cable


④

Laboratory Safety Mixer MICROTRON®, KINEMATICA

Laboratory safety mixer MICROTRON® MB 550 / MB 800

The systems MICROTRON® MB 550 and MICROTRON® MB 800 are specifically designed for mixing, dispersing, homogenizing, emulsifying and crushing of easy-to-cut products. Four different glass processing vessels with a volume of 125 ml, 250 ml, 500 ml and 1000 ml are available. For the MICROTRON® MB 800, stainless steel vessels with a volume of 2000 ml and 4000 ml are available.

Both systems are safety laboratory devices: earthed, with double safety insulation, suppressed. A safety system prevents unintentional startup and thus risk of injury: The mixer will only start when properly closed with the lid/safety hut. The motor stops automatically when the lid/safety hut is removed. The systems comply with the CE regulations for commercial equipment. Both systems are designed for a high workload and constant operational readiness, and they have a small footprint.

Please order mixing attachments and safety huts separately. The mixer MICROTRON® MB 550 can only be operated with the safety hut fitted.

Technical data:	**MB 550**	**MB 800**
Engine power:	550 W	800 W
Speed:	Continuously, 1,000 to 15,000 rpm	Continuously, 1,000 to 17,000 rpm
Dimensions (Ø×H):	190 × 245 mm	190 × 245 mm
Protection class acc. to EN 610335-1		

Article	Order No.
⑤ **MICROTRON® MB 550** 230 V (with EU-plug)	**51 74 28001**
⑥ **MICROTRON® MB 800** 230 V (with EU-plug)	**10 74 08002**

⑦ **Mixing attachements**

High performance stainless steel cutting heads: The 4 – 6 high-grade blades are designed for optimal mixing. Generally suited for intensive and fast processing, also when processing high demanding products. Whole cutting head is made from stainless steel, can easily be disassembled and cleaned.

- Stainless steel ball bearings
- Noiseless and sturdy coupling with dampers
- All parts are stainless steel

Article	for	Material	Working volume ml	Order No.
MBA 125	MB 550	glass	125	**51 74 58001**
MBA 250	MB 550	glass	250	**51 74 58004**
MBA 500	MB 550	glass	500	**51 74 58016**
MBA 1000	MB 550	glass	1000	**51 74 58005**
⑧ MBA 2000	MB 800	stainless steel	2000	**10 74 08011**
⑨ MBA 4000	MB 800	stainless steel	4000	**10 74 08012**

Safety huts for MB 550

Safety hoods made of clear polymethylmethacrylate

Article	fits	Order No.
MBH 125 safety hut	MBA 125	**51 74 58018**
MBH 250 safety hut	MBA 250	**51 74 58017**
⑩ MBH 500 safety hut	MBA 500	**51 74 58019**
MBH 1000 safety hut	MBA 1000	**51 74 58014**

Safety hood must ordered suitably to the mixing attachment.


⑤ ⑥ ⑨ ⑩


⑦ ⑧

webcode WWGF3018

FRITSCH



①


②

Knife Mill PULVERISETTE 11, FRITSCH

① **Knife Mill PULVERISETTE 11**

The Knife Mill PULVERISETTE 11 is the ideal laboratory mixer for very fast and gentle comminution and homogenisation of moist, oily, fatty as well as of dry, soft, medium-hard and fibrous samples. It's up to 1250 watt strong motor and its special knife, fitted with four blades, grinds fast and gentle problematic samples with high fat or water content such as meat, gummi bears, chocolate or also hard samples such as dishwasher tabs or toys – perfect for sample preparation in the fields of foodstuffs or animal feed testing, agriculture and forestry, biology, pharmaceuticals and chemistry.

Scope of delivery:
Equipped with a 1.4 l standard grinding vessel made of autoclavable, transparent and scratch-resistant plastic PC, standard lid made of silicone and the standard knife made of stainless steel.

Technical data:

Max. feed size:	40 mm
Max. sample quantity:	1400 ml
Final fineness (depends on material):	< 300 µm
Variable speed setting:	2000–10000 rpm, turbo-function with 14000 rpm
Supply requirements:	200–240 V/1~, 50/60 Hz, 1250 W
Dimensions (W×D×H):	32 × 43 × 48 cm
Net weight:	17.6 kg

Article	Order No.
Knife Mill PULVERISETTE 11	**10 98 02000**

Instrument also available in other voltages.

② **Accessories for Knife Mill PULVERISETTE 11**

Article	Order No.
Standard grinding vessel, 1.4 litre[1)] made of autoclavable, transparent and scratch-resistant plastic PC	**10 98 05116**
Grinding vessel, 1.4 litre made of autoclavable stainless steel 316L	**10 98 06000**
Standard lid for all grinding vessels[1)] made of autoclavable silicone	**10 98 00315**
Vario-Lid system for all grinding vessels autoclavable, with plunger made of plastic PP and reduction sample pusher for moist, liquid and viscous sample materials	**10 98 08000**
Reduction sample pusher autoclavable, for dry, solid samples for Vario-Lid system with plunger	**10 98 08916**
Special lid autoclavable, for cryogenic comminution with single-use sieve insert for grinding vessel made of stainless steel 316L	**10 98 00220**
Single-Use sieve inserts for Special lid (set= 10 inserts)	**10 98 02400**
Standard knife[1)] made of autoclavable stainless steel	**10 98 02040**
Sickle knife with serrated blades made of autoclavable stainless steel	**10 98 02100**

[1)] included in basic price of the PULVERISETTE 11.

Grinding vessels in further materials, sickle knives with different cutting edges and various materials, single-use grinding vessel as well as further accessories are available. Software P-11Control for automatic control of the mill via USB, for editing, saving and managing of the SOPs with grinding report generation is also available.

Knife Mills, RETSCH

GRINDOMIX GM 200 / GM 300

Application:
The Knife Mill Grindomix GM 200 and GM 300 are suitable for quick and gentle grinding and homogenization of foodstuffs. They processes substances with high water, oil or fat content as fast and reliably as dry, soft and medium-hard products.

Features:
- Efficient homogenization of up to 700 ml sample material thanks to the powerful 1000 W drive (GM 200)
- Efficient size reduction of up to 4,500 ml feed quantity due to a powerful 1.1 kW motor (peak power input >3 kW) (GM 300)
- Pre- and fine-grinding in one mill: cutting action in regular mode, grinding by impact in reverse mode, pre-grinding in interval mode

Continued on next page

Universal Grinders, Analytical Grinders, Cutting Mills

- Perfect adaptation to application requirements by variable speed from 500 to 4,000 min^{-1} with an increment of 100 min^{-1} (GM 300) and 2000 to 10,000 min^{-1} with an increment of 500 min^{-1} (GM 200)
- Optional gravitation lid for automatic reduction of the grinding chamber volume
- 8 SOPs and 4 sequences can be stored
- Touch display with access to MyRETSCH web portal with product and application related information

Includes:
GM 200 complete with 1 litre grinding container of autoclavable plastic, standard lid and knife made of stainless steel
GM 300 complete with 5 litre grinding container of autoclavable plastic, standard lid, standard knife made of stainless steel and scraper

Technical data:	**GM 200**	**GM 300**
Input grain size:	< 40 mm	< 40 mm
Final grain size:	< 300 µm	< 300 µm
Throughput/batch:	approx. up to 700 ml	up to 4500 ml
Dimensions (W×H×D):	350 × 275 × 392 mm	440 × 340 × 440 mm
Weight:	approx. 10 kg	approx. 30 kg
Power supply:	230 V/50-60 Hz	220 – 230 V/50-60 Hz

	Article	Order No.
①	**GRINDOMIX GM 200**	**53 29 25101**
②	**GRINDOMIX GM 300**	**10 29 25102**



①

Accessories for GRINDOMIX GM 200

Article	Order No.
Grinding container made of autoclavable plastic, 1 liter	**10 29 23057**
Grinding container made of PP, 1 liter	**53 29 50047**
Grinding container made of glass, 1 liter	**53 29 50046**
Grinding container made of stainless steel, 1 liter	**53 29 50050**
Standard lid made of PP	**10 29 20562**
Chamber reduction lid of from PP for reducing the chamber volume to 0.5 liter	**53 29 70310**
Chamber reduction lid of from PP for reducing the chamber volume to 0.25 liter	**10 29 20606**
Gravity lid for grinding containers made from autoclavable plastic or PP	**53 29 70327**
Gravity lid with overflow tubes for grinding containers made from autoclavable plastic or PP	**53 29 70323**
Gravity lid for grinding containers made from glass or steel	**53 29 70328**
Gravity lid with overflow tubes for grinding containers made of glass or steel	**53 29 70308**
Scraper	**53 29 23001**
Knife made of stainless steel	**53 29 60014**
Knife made of pure titanium for heavy-metal-free grinding	**10 29 26021**
Knife of stainless steel Full metal blades and knife cylinder	**10 29 26049**
Knife of stainless steel with serrated blade autoclavable	**10 29 26054**


②

③ Accessories GRINDOMIX GM 300

Article	Order No.
Grinding container made of autoclavable plastic transparent and scratch-resistant, 5 litre, including knife holder	**10 29 22056**
Grinding container made of autoclavable plastic transparent and scratch-resistant, 5 litre, without knife holder	**10 29 23056**
Grinding container made of stainless steel 5 litre, including knife holder	**10 29 22055**
Grinding container made of stainless steel 5 litre, without knife holder	**10 29 23055**
Standard lid made of autoclavable plastic transparent and scratch-resistant	**10 29 20449**
Gravity lid made of autoclavable plastic transparent and scratch-resistant	**10 29 20465**
Gravity lid made of autoclavable plastic with overflow tubes, transparent and scratch-resistant	**10 29 20480**
Standard knife made of stainless steel, autoclavable	**10 29 22030**
Scraper	**10 29 25702**


③

webcode WWGF3010

FRITSCH

Cutting Mills (Different Models), FRITSCH



① Cutting Mills PULVERISETTE 15 and PULVERISETTE 19
Ideal for pre- and fine comminution of soft to medium-hard as well as fibrous or brittle, tough materials. They are essential for the areas of plastics, textiles, agriculture and forestry, environmental, construction materials, chemistry, foodstuffs and for sample preparation for RoHS analysis.

All cutting tools can be removed for cleaning in just a few seconds without tools – unbeatably fast, simple and efficient. Variable rotational speeds, different rotors, various knife geometries and replaceable blades ensure maximum flexibility and durability. For controlling the abrasion properties, the cutting tools are offered in different materials. The optimum airflow ensures particularly fast cutting and secure protection against clogging. The FRITSCH Cyclone seperators (optional) for sample exhaustion enable simple feeding due to the strong airflow, increase throughput, and reduce the thermal load of the samples.

Technical data:	PULVERISETTE 15	PULVERISETTE 19	PULVERISETTE 19
Rotor speed:	2800 / 3400 rpm	300 – 3000 rpm variable	50 – 700 rpm variable
Max. feed size:	up to 70 × 70 mm	up to 70 × 80 mm	
Throughput:	up to 50 l/h	up to 60 l/h	
Sieve inserts:	0.25 – 20 mm	0.2 – 10 mm	
Supply requirements:	400 V / 3~ / 50–60 Hz	380–460 V / 3~ / 50–60 Hz	
Dimensions (W×D×H):	42 × 48 × 69 cm	44 × 79 × 56 cm	
Weight net:	32 kg	79 kg	83 kg

Instruments also available in other voltages.

Article	Order No.
① **Cutting Mill PULVERISETTE 15**	**10 98 01500**
② **Universal Cutting Mill PULVERISETTE 19, variable rotational speed 300–3000 rpm**	**53 98 19000**
② **Universal Cutting Mill PULVERISETTE 19, variable rotational speed 50–700 rpm**	**10 98 04000**

Funnel, rotor, sieve inserts/sieve cassettes and collecting vessel must be ordered additionally.

Further cutting mills with other rotor speeds and a version completely made of stainless steel are available on request.



③ Accessories for Cutting Mill PULVERISETTE 15

Article	Order No.
Funnel for long and bulk solids	**10 98 01550**
Cutting rotor with straight cutting edges and fixed knives made of tool steel	**10 98 04603**
Sieve insert made of stainless steel 316L, trapezoidal perforation 0.25 mm	**10 98 01200**
Sieve insert made of stainless steel 316L, trapezoidal perforation 0.5 mm	**10 98 01210**
Sieve insert made of stainless steel 316L, trapezoidal perforation 1 mm	**10 98 01230**
Sieve insert made of stainless steel 316L, trapezoidal perforation 2 mm	**10 98 01250**
Sieve insert made of stainless steel 316L, square perforation 4 mm	**10 98 02200**
Sieve insert made of stainless steel 316L, square perforation 6 mm	**10 98 02210**
Collecting vessel, 3.5 litres	**10 98 04535**
Collecting vessel, 60 litres, filter hose	**10 98 04560**
Universal support stand for free mounting of the cutting mills	**10 98 05582**

Alternative funnels as well as sieve inserts are available in other perforations. Cutting rotors as well as the sieve inserts are also offered in chromium-free steel.

④ Accessories for Universal Cutting Mill PULVERISETTE 19

Article	Order No.
Standard funnel for long and bulk solids	**53 98 19185**
Standard rotor with V-cutting edges and fixed knives made of hardened stainless steel	**53 98 45510**
Sieve cassette made of stainless steel 316L, trapezoidal perforation 0.5 mm	**53 98 45542**
Sieve cassette made of stainless steel 316L, trapezoidal perforation 1 mm	**53 98 45544**
Sieve cassette made of stainless steel 316L, trapezoidal perforation 2 mm	**53 98 45546**
Collecting vessel, 3 litres	**53 98 45573**
Collecting vessel for large quantities, 10 litres	**53 98 45570**
Universal support stand for free mounting of the cutting mills	**10 98 05582**

Alternative funnels, rotors in other designs and materials, sieve cassettes in other perforations and materials as well as further stands and Cyclone separators in various configurations for sample exhaustion are available.

Universal Grinders, Analytical Grinders, Cutting Mills

Cutting Mills, RETSCH



① **Cutting Mills SM 100 / SM 200 / SM 300**

Application:
Gentle, quick milling of bulky, medium-hard, soft, thready, tenaciously-elastic and temperature-sensitive materials. The most powerful model, the SM 300, convinces in particular in case of very difficult mateial, e.g. rubbish, plastic, or electrical scrap. The mills can also be used for biological materials as e.g. wood, roots, bone, plants, and feeding stuff. They may be equipped with different rotors and funnels.With its variable speed, the SM 300 can be perfectly adjusted to the mill material.

Features:
- 3kW motor with high traction and RES technology for powerful milling (SM 300)
- Speed variable from 100 to 3,000 min^{-1} for perfect adjustment to the mill material (SM 300)
- Double cutter bars for optimized cutting force (SM 200, SM 300)
- Very quick cleaning thanks to fold-open enclosure (SM 200, SM 300) with smooth surfaces and push-fit rotor
- Bottom sieves with mesh width 0.25 – 20 mm for defined final grain size
- Extensive range of accessories: funnels, collecting vessels, rotors, sieves

Scope of delivery:
SM 100 with 5 l collection vessel.
Please order rotor, feed funnel, bottom sieve and frame (optional) separately.

SM 200 / SM 300 with 5 l collection vessel and frame.
Please order rotor, feed funnel and bottom sieve separately.

Versions for heavy metal-free milling available on request.

Technical data:	**SM 100**	**SM 200**	**SM 300**
Feed size:	up to 60×80 mm	up to 60×80 mm	up to 60×80 mm
Final fineness:	0.25–20 mm	0.25–20 mm	0.25–20 mm
Feed hopper:	–	yes	yes
Push-fit rotor:	yes	yes	yes
Speed RPM:	1500 min^{-1}	1500 min^{-1}	variable 100 – 3000 min^{-1}
Dimensions (W×H×D) with support:	582×1675×700 mm	576–1080*×1675×750 mm *depending on hopper position	
Drive rating:	1.5 kW	2.2 kW	3.0 kW
Weight:	approx. 73 kg	approx. 90 kg	approx. 160 kg
Power supply:	3/N~ 400 V, 50 Hz	3/N~ 400 V, 50 Hz	220 – 230 V, 50/60 Hz

Article	**Order No.**
SM 100, 3/N~ 400 V, 50 Hz	**10 29 22727**
SM 200, 3/N~ 400 V, 50 Hz	**10 29 22728**
SM 200, 220–230 V, 50 Hz	**10 29 22729**

Accessories

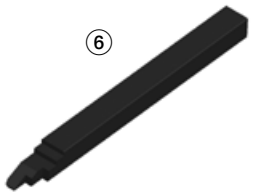
Article	**Order No.**
Base for SM 100	**10 29 22824**
Universal hopper with plastic plunger for SM 100	**10 29 22785**
Universal hopper with plastic plunger for SM 200/300	**10 29 22786**
Long stock hopper with wooden plunger for SM 100	**10 29 22484**
Long stock hopper with wooden plunger for SM 200/300	**10 29 22483**
6-disc rotor, stainless steel, with reversible cutting tips of tungsten carbide	**10 29 22622**
Parallel section rotor	**10 29 22621**
V-rotor for SM 300	**10 29 22634**
Cyclone, to use with industrial vacuum cleaner (SM 200 & SM 300)	**10 29 22604**
Collecting receptacle of plastic, 30 litres, incl. adapter and filter hose	**10 29 22310**
Collecting unit 250/500 ml, incl. 2 wide mouth bottles	**10 29 22308**
Bottom sieve, trapezoid holes, 0.50 mm	**10 29 27313**
Bottom sieve, trapezoid holes, 0.75 mm	**10 29 27314**
Bottom sieve, trapezoid holes, 1.00 mm	**10 29 27315**
Bottom sieve, trapezoid holes, 1.50 mm	**10 29 27316**
Bottom sieve, square holes 2.00 mm	**53 29 70167**
Bottom sieve, square holes 4.00 mm	**53 29 70020**
Bottom sieve, square holes 6.00 mm	**10 29 27022**
Bottom sieve, square holes 8.00 mm	**53 29 70023**
Bottom sieve, square holes 10.00 mm	**10 29 27024**
Bottom sieve, square holes 20.00 mm	**10 29 27062**

webcode To see other variants and accessories, please enter the webcode on our website.

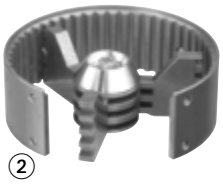
Universal Grinders, Analytic al Grinders, Cutting Mills



①



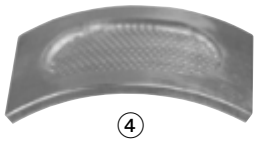
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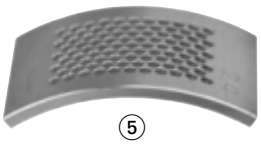
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Hammer Mill and Blade Mill POLYMIX®, KINEMATICA

① **Hammer mill and blade mill POLYMIX® PX-MFC 90 D**

The PX-MFC 90 D is intended for preparing any kind of dry and fat-free samples in the laboratory. Depending on the respective grinding task, use the hammer grinding attachment or the blade grinding attachment.

- Blade grinding attachment for cuttable dry, fibrous, stringy and fat-free materials such as wood, straw, dried meat, leather, paper, coal, plastics etc.
- Hammer grinding attachment for dry, brittle, fat-free materials such as grains, coffee beans, bones, rocks, ceramics etc.
- Sieve inserts with hole diameters 0.2 mm to 6 mm
- Safety system prevents start-up while machine is open
- Powerful three-phase motor
- Grinding chamber with convertible inserts
- LED display
- Operating volume approx. 300 ml (hopper volume)
- 1000 Watt, 3-phase motor for 230 Volt mains
- Sieve with 0.2 to 6 mm mesh width
- Integrated speed adjustment with LED display for speed and status messages
- Low noise level thanks to 3-phase AC motor
- Speed adjustable from 50 to 6000 rpm
- Motor switches off when casing is opened
- Integrated overheating, overload, and blocking protection
- Safety tamper for certain materials

Article	Order No.
Hammer mill POLYMIX® PX-MFC 90 D	**10 74 00021**
Blade mill POLYMIX® PX-MFC 90 D	**10 74 00031**

Includes grinding chamber, grinding insert, Ø 2.0 mm screen, sample rack with 12 collecting tubes and cleaning tools

Accessories

	Article	Order No.
②	**Hammer grinding attachment for PX-MFC 90 D**	**10 74 01001**
③	**Blade grinding attachment for PX-MFC 90 D**	**10 74 01002**
	Sieve insert, mesh size 0.2 mm	**53 74 09088**
	Sieve insert, mesh size 0.5 mm	**53 74 09089**
④	**Sieve insert, mesh size 0.8 mm**	**53 74 09090**
	Sieve insert, mesh size 1.0 mm	**53 74 09092**
	Sieve insert, mesh size 1.5 mm	**53 74 09093**
⑤	**Sieve insert, mesh size 2.0 mm**	**53 74 09094**
	Sieve insert, mesh size 3.0 mm	**53 74 09091**
	Sieve insert, mesh size 4.0 mm	**53 74 09105**
	Sieve insert, mesh size 5.0 mm	**53 74 09106**
	Sieve insert, mesh size 6.0 mm	**53 74 09107**
⑥	**Stodger**	**10 74 08001**

tool for stringy materials. Is used for the active feeding of stringy materials via the hopper, which cannot be fed by its own weight.

We are also glad to help you in person.
Give us a call!

Sample Splitting

Rotary Cone Sample Divider LABORETTE 27, FRITSCH

webcode WWGF3015

FRITSCH



Rotary Cone Sample Divider LABORETTE 27
Creates the optimal basis for reliable analysis of a representative sample! Representative samples division is the foundation for every precise analysis. The Rotary Cone Sample Divider LABORETTE 27 achieves due to its unique combination of three methods previously unheard of dividing precision. Variable division ratios and the design in several variants guarantee adaptation to a wide range of applications with a dividing accuracy of up to 99.9 %. For optimal sample feeding the Vibratory Feeder LABORETTE 24 (optional) is recommended.

Technical data:

Division:	of solid samples and suspensions, without modification		
Division ratio:	1:8	1:10	1:30
Number of fractions:	8	10	3
Max. particle size:	10 mm	10 mm	2.5 mm
Max. feed volume:	4,000 ml	2,500 ml	300 ml
Capacity of sample bottles:	32, 250, 500 ml	32, 250 ml	15, 20, 30 ml
Supply requirements:	230 V/1~, 50 – 60 Hz		
Dimensions (W × D × H):	27 × 45 × 46 cm		
Weight net:	7.7 kg		

Article	Order No.
Rotary Cone Sample Divider LABORETTE 27, 230 V	**54 98 27142**

Instrument also available in other voltages.
Dividing heads must be ordered additionally.

Accessories for Rotary Cone Sample Divider LABORETTE 27

Article	Division ratio	Sample bottle ml	Order No.
POM plastic	1:8	500	**54 98 27130**
Aluminium	1:8	500	**54 98 27115**
POM plastic	1:10	250	**54 98 27515**
Aluminium	1:10	250	**54 98 27415**
POM plastic	1:30	15	**54 98 27615**
PTFE-coated aluminium	1:30	15	**54 98 27215**

All dividing heads are delivered inclusive sample bottles and funnels.

Sample Splitters, HAVER & BOECKER

webcode WWKZV004

HAVER & BOECKER
DIE DRAHTWEBER

With the sample divider provided for HAVER particle analysis, highly precise sample preparation is no big challenge. Prepare representative test samples of solid matter or suspensions. Dividing low-flowability materials poses no problems.



① **Rotating Sample Reducer HAVER RPT**
Splitting channels: 8, 10 or 30
Splitting steps: 3000 per minute
Max. feed volume: 4000 ml (RPT 1:8), 2500 ml (RPT 1:10) or 300 ml (RPT 1:30) per run
Max. particle size: 10 mm (RPT 1:8 and RPT 1:10) or 2.50 mm (RPT 1:30)

Article	Order No.
HAVER RPT 1:8 (8 glass sample bottles)	**10 16 90991**
HAVER RPT 1:10 (10 glass sample bottles)	**10 16 90992**
HAVER RPT 1:30 (3 glass sample bottles)	**10 16 90994**

② **Sample splitters HAVER RT 6,3 / RT 12,5**
1 rack: 300 × 250 × 270 mm, made of lacquered sheet steel
1 divider: openings depending on models, stainless steel
3 receivers: contents 1.75 litres, made of tinned sheet

Article	Version	Order No.
RT 6.3	12 divisions 6.3 mm / ¼ inch	**10 16 90292**
RT 12.5	18 divisions 12.5 mm / ½ inch	**10 16 90291**

Sample Splitting



Sample Divider PT 100, RETSCH

Application:
Rotation sample divider for representative sample division of free-flowing powders and granulates. the procedure guarantees a very high dividing accuracy and reproducibility for both fine and coarse samples to be divided.

Features:
- Extremely high dividing accuracy
- Representative and reproducible dividing results
- Automatic material feeding via synchronised assignment device
- Simple and easy handling of the sample vessels by means of quick-clamp system

Included:
PT 100 complete unit incl. 8 dividing crown with quick clamps, 10 wide-mouth bottles 250 ml and assignment device DR 100/40.

Technical data:

Input grain size:	up to 10 mm
Number of samples:	8
Throughput/batch:	up to 4000 ml (up to 5000 ml)
Dimensions (W×H×D):	580 × 420 × 910 mm
Weight:	33 kg
Power supply:	230 V/50 Hz

Article	Order No.
PT 100 complete unit	**10 29 24005**

6- or 10-dividing heads available on request.

Sieving systems see page 755

Extractors

webcode WWXKS035



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②

Compact Soxhlet Extraction Units, Behr

Compact systems for the Soxhlet extraction
with stand, heating module, mount, hoses and glassware (round-bottom reaction flask, extractor, Dimroth condenser for extraction). Infinitely adjustable heater.
- Practical stand for holding the condensers securely between the extractions
- Extractor sizes of 30 ml to 1,000 ml
- F-models: the use of extractors with a stopcock eliminates the need for any additional distillation after extraction
- Condensers with screwed- on tubing nipples

	Article	for extraction	Order No.
	KEX 30	30 ml	**13 48 00520**
	KEX 70	70 ml	**10 48 41131**
	KEX 100	100 ml	**13 48 00521**
	KEX 30 F	30 ml, with cock	**10 48 00541**
	KEX 60 F	60 ml, with cock	**10 48 41132**
①	KEX 100 F	100 ml, with cock	**13 48 00522**
	KEX 250 F	250 ml, with cock	**13 48 00536**
	KEX 500 F	500 ml, with cock	**10 48 00543**
	KEX 1000 F	1000 ml, with cock	**10 48 41133**
	KEX 2000 F	2000 ml, with cock	**10 48 00545**
	KEX 5000 F	5000 ml, with cock	**10 48 00546**

behrotest® serial heaters
The economical and user-friendly solution for the classic Soxhlet or fat extraction:
- Complete with reaction vessels, extraction spacers, and condensers
- Energy for each sample position is individually adjustable
- Cooling water distributor ensures even cooling at all sample positions
- Extractors with the specifically developed siphon tube ensure a uniform extraction process at all sample positions
- Practical stand for holding the condensers securely between extractions
- Mounts for holding the extraction spacers after removing the sample vessels
- S models: The extractors with stopcock eliminate the need for any additional distillation after extraction
- With European earth contact type plug and UK plug

Article	for extraction	Sample places	Order No.
R 304	30 ml	4	**10 48 80031**
R 306	30 ml	6	**10 48 80032**
R 304 S	30 ml, with cock	4	**10 48 80041**
R 306 S	30 ml, with cock	6	**10 48 80042**
R 604	60 ml	4	**10 48 80051**

Continued on next page

Extractors

	Article	for extraction	Sample places	Order No.
	R 606	60 ml	6	**10 48 80052**
	R 604 S	60 ml, with cock	4	**10 48 80053**
	R 606 S	60 ml, with cock	6	**10 48 80054**
	R 104 S	100 ml, with cock	4	**10 48 80023**
②	R 106 S	100 ml, with cock	6	**10 48 80022**
	R 108 S	100 ml, with cock	8	**10 48 41134**
	R 254 S	250 ml, with cock	4	**10 48 80033**
	R 256 S	250 ml, with cock	6	**10 48 80034**



③

behrotest® hydrolysis unit

behrotest® hydrolysis – sample preparation for extraction

Complete with:
- Serial heater
- Cooling water distributor with stand for holding the condensers, and tubing
- Beaker (600 ml), condenser

	Article	Sample places	Order No.
	EXR 4	4	**10 48 18446**
③	EXR 6	6	**10 48 18448**

Compact system for hot extraction in accordance with Twisselmann

Complete compact extraction system with stand, heating module, mount, hoses and glassware (round-bottom reaction flask, extractor, Dimroth condenser for extraction).

Article	Order No.
KEX 100 T for hot extraction in accordance with Twisselmann	**10 48 00537**



④

behrotest® multi-sample extractors for hot extraction in accordance with Twisselmann

Economical and user-friendly units for extraction in accordance with Twisselmann:
- each sample position is individually adjustable
- cooling water distributor ensures an even cooling at at all sample positions
- practical stand for holding the condensers securely between the extractions
- mounts for holding the spacers after the removal of the sample containers

	Article	Order No.
	R 104 T Serial heating unit Twisselmann extraction, 4 working places	**10 48 80045**
④	**R 106 T** Serial heating unit Twisselmann extraction, 6 working places	**10 48 80043**
⑤	**R 106 T-FB** Serial heating unit Twisselmann extraction, 6 working places with flat bottom flask (FB)	**10 48 80046**



⑤

Hot extraction in accordance with Randall

Manual extraction unit for the Randall method. Many times faster than conventional Soxhlet extraction systems. With 25 extraction thimbles.
- Bolted extraction units and safety screen for optimum safety

Multi-position extraction units:
- Each extraction thimble with sample can be moved separately
- The user operates a lever to lower all extraction vessels at a time into the heater cavities and lift them out again
- Safety screen for extra protection

Technical data:

Power consumption:	max. 1500 W
Rated voltage:	230 V AC/50 Hz
Dimensions in cm (H x W x D):	approx. 81 × 55 × 63
Weight:	approx. 32 kg

	Article	Order No.
⑥	**Extraction unit E 4** Four individually controlled sample places	**10 48 80049**
	Extraction unit E 6 Six individually controlled sample places	**10 48 80050**
	Extraction thimbles EX 75 HS consistent with EB 75 reaction vessels consistent with EB 75 reaction vessels, 25 pcs.	**10 48 09081**
	EB 75 reaction vessel with thread, for extraction unit E 4	**10 48 31976**
	RIP 475, stand for 4 EB 75 reaction vessel	**10 48 02351**
⑦	**RIP 675, stand for 6 EB 75 reaction vessel**	**10 48 02352**



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Extractors

webcode WWW4U082

Solvent Extractors, LAT



There are three good reasons for getting an extractor pursuant to Randall:
- up to 5 times faster than Soxhlet extraction
- less solvent consumption
- low costs per analysis

Furthermore, the SER 148 offer the user full compliance with IP55. The main field of application is the determination of the content of soluble products such as fats, softening agents, and pesticides in foods, animal feed, rubber and products made of synthetics, pharmaceutical products, soils, etc.

Technical data:

Maximum volume per jar:	150 ml
Operating temperature:	100 to 260°C
Sample volume:	0.5 – 15 g (usually 2–3 g)
Solvent recovery:	50 – 75%
Reproducibility:	< 1%
Interface:	RS232

Type	Power input W	Dimensions mm	Weight kg	Order No.
SER 148/3	500 W	480×620×390	30	**10 20 11483**
SER 148/6	950 W	700×620×390	40	**10 20 11486**

webcode WW6PB009

Extraction Thimbles, Hahnemühle



Cellulose extraction thimbles

For reliable and fast analysis in the areas of food control and environmental monitoring. Suitable for Soxhlet-type, Tecator-type or similar devices, to extract certain components out of solid material with an appropriate solvent.

- Made of cellulose that is totally free from binding elements, with a minimum content of extractable components
- High purity of selected cellulose guarantees reliable and replicable results
- The consistent high porosity of the thimbles ensures a fast flow
- High fitting accuracy for all available extraction systems

Available for two device types:
- Type 900: Soxhlet extraction, inner diameter measurement
- Type 901: Tecator extraction, outer diameter measurement

Technical data:

Inner diameter	Wall thickness	Maximum Temperature
<33 mm	1.3 mm	120°C
>35 mm	1.7 mm	120°C

Ø × H mm	Order No.	PU pc/Pack
19 × 90	**10 15 99001**	25
22 × 80	**10 15 99002**	25
22 × 100	**10 15 99030**	25
25 × 60	**10 15 99003**	25
25 × 70	**10 15 99032**	25
25 × 80	**10 15 99005**	25
25 × 100	**10 15 99006**	25
28 × 60	**10 15 99035**	25
28 × 80	**10 15 99026**	25
28 × 100	**10 15 99007**	25
30 × 80	**10 15 99008**	25
30 × 100	**10 15 99009**	25
33 × 60	**10 15 99010**	25

Ø × H mm	Order No.	PU pc/Pack
33 × 80	**10 15 99011**	25
33 × 90	**10 15 99012**	25
33 × 94	**10 15 99013**	25
33 × 100	**10 15 99024**	25
33 × 118	**10 15 99015**	25
33 × 130	**10 15 99027**	25
33 × 205	**10 15 99023**	25
35 × 150	**10 15 99017**	25
40 × 100	**10 15 99028**	25
40 × 123	**10 15 99018**	25
40 × 150	**10 15 99034**	25
43 × 123	**10 15 99019**	25
26 (O.-Ø) × 60	**10 15 99029**	25

Other sizes on request.

Continued on next page

Extractors

Glass fibre thimbles
Recommended for analysis of particles and aerosols in gases and air.

- Made of 100% pure borosilicate fibres, without binding elements
- High loading capacity and highly permeable to air
- High retention of small particles, >99% according to BS 4400
- Wall thickness 1.5 mm (thimbles with <33 mm diameter)
- Good stability at high temperatures up to 500°C
- Recommended for hot, moist, and acidic gases

Ø × H mm	Order No.	PU pc/Pack
19 × 90	**10 15 99152**	25
22 × 80	**10 15 99153**	25
25 × 100	**10 15 99154**	25
26 × 60	**10 15 99155**	25
30 × 100	**10 15 99156**	25
33 × 94	**10 15 99157**	25
43 × 123	**10 15 99158**	25

Other sizes on request.

Extraction Thimbles, MACHEREY-NAGEL



MN 645 - Extraction Thimbles
Extraction Thimbles are often used in Soxhlet extractors or automized extractors. These are typically employed, where multiple extraction cycles are required to dissolve the desired compound. Extraction units equipped with MN extraction thimbles minimize the hands-on time and ensure a complete extraction.



ID × H mm	Order No.	PU pc/Pack
8 × 40	**10 46 95001**	25
9 × 50	**10 46 95002**	25
15 × 50	**10 46 95003**	25
15 × 100	**10 46 95004**	25
20 × 80	**10 46 95005**	25
22 × 80	**10 46 95006**	25
23 × 90	**10 46 95007**	25
23 × 100	**10 46 95008**	25
27 × 60	**10 46 95011**	25
27 × 80	**10 46 95009**	25
27 × 100	**10 46 95010**	25
28 × 80	**10 46 95015**	25
28 × 90	**10 46 95016**	25
28 × 100	**10 46 95013**	25
28 × 120	**10 46 95014**	25
29 × 100	**10 46 95017**	25
30 × 60	**10 46 95019**	25
30 × 80	**10 46 95020**	25
30 × 90	**10 46 95021**	25
30 × 100	**10 46 95023**	25
30 × 150	**10 46 95018**	25
31 × 118	**10 46 95024**	25
31 × 130	**10 46 95025**	25
33 × 80	**10 46 95051**	25
33 × 94	**10 46 95022**	25
33 × 205	**10 46 95026**	25
34 × 120	**10 46 95027**	25
34 × 150	**10 46 95028**	25
38 × 200	**10 46 95029**	25
40 × 123	**10 46 95031**	25
40 × 150	**10 46 95030**	25
43 × 130	**10 46 95032**	25
48 × 145	**10 46 95033**	25
48 × 200	**10 46 95034**	25
48 × 230	**10 46 95035**	25
51 × 145	**10 46 95036**	25
51 × 180	**10 46 95037**	25
55 × 275	**10 46 95040**	25
57 × 315	**10 46 95038**	25
60 × 180	**10 46 95039**	25
68 × 250	**10 46 95042**	25
70 × 330	**10 46 95043**	25
75 × 160	**10 46 95041**	25

Available only in original packaging units. No fractions possible.

Racks for Extraction Thimbles, Behr

webcode WWXKS055



Desktop rack for extraction thimbles with diameters up to 38 mm.

Article	Order No.
RIP 4 for 4 extraction thimbles	**10 48 02349**
RIP 6 for 6 extraction thimbles	**10 48 02350**

CHAPTER OVERVIEW

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Burners, Blowers

webcode WWQ7J020

Laboratory Gas Burners, BOCHEM

Temperature 1300°C (for all models): brass, nickel-plated, with enameled foot.

Models with air controller, DIN 30665

	Article	Order No.
①	Bunsen burner for natural gas	32 05 07000
	Bunsen burner for propane gas	32 05 07010
②	Teclu burner for natural gas	32 05 07100
	Teclu burner for propane gas	32 05 07110



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②

Models with air controller, gas controlled by needle valve, low flame, DIN 30665

	Article	Order No.
③	Bunsen burner for natural gas	32 05 07330
	Bunsen burner for propane gas	32 05 07340
④	Teclu burner for natural gas	32 05 07400
	Teclu burner for propane gas	32 05 07410



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Continued on next page

Burners, Blowers

Models with air controller, gas contolled by needle valve, low flame

	Article	Order No.
⑤	Bunsen burner for natural gas	**32 05 07050**
	Bunsen burner for propane gas	**32 05 07060**
⑥	Teclu burner for natural gas	**32 05 07150**
	Teclu burner for propane gas	**32 05 07160**
⑦	Multi-gas Bunsen burner for e.g. natural gas and propane gas	**32 05 07360**
⑧	Multi-gas Teclu burner for natural gas, propane gas	**32 05 07430**


⑤


⑥

Safety burners with air controller, gas controlled by toggle cock, low flame

with thermo safety element, bimetal flame sensor and magnet closure

	Article	Order No.
⑨	Multi-gas safety burner for natural gas	**10 05 07511**
	Multi-gas safety burner for propane gas	**10 05 07512**


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⑧

Safety burners with air controller, gas controlled by needle valve, low flame

	Article	Order No.
⑩	Safety burner for natural gas	**32 05 07515**
	Safety burner for propane gas	**32 05 07516**


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⑩

Gas Burners, USBECK

	Article	Order No.
⑪	**Teclu burner** certified to DIN, air regulation, needle valve, T = 1640°C	**10 64 21421**
⑫	**Bunsen burner** certified to DIN, air regulation, needle valve, T = 1640°C	**10 64 21422**
⑬	**Cartridge for Teclu burner and Bunsen burner** 220 g / 400 ml, safety valve, capacity 3 h, EN 417:2012, 70% butane / 30% propane	**10 64 21430**

webcode WWTVV001


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LABOGAZ® Burner, Hecht-ASSISTENT

Article	Order No.
LABOGAZ® burner without cartridge	**32 18 19010**
Cartridge with butane gas for LABOGAZ® burner, with safety valve (cartridge can be removed without risk from the burner at any time when the burner is not being used). Contents approx. 450 g (ca. 880 ml)	**32 18 19011**

N.B.: Burners and cartridges are not interchangeable with version No. 1396.



Burners, Blowers



①

Safety Bunsen Burner Flame 100, WLD-TEC

The Flame 100 is ideally suited for all flame related applications in the laboratory. The 15 millimeter precision flame allows graduated heating of dental tools as well as safe sterilization of microbiological instruments. Flame size and intensity can be adjusted infinitely. The Safety Control System SCS demonstrates extensive safety technology (approved by DIN-DVGW, approval no. NG-2211AS0167). Applicable for natural gas or butane/propane gas.

Features / Functions:
- Flame activation with a push of a button
- Made of high-class stainless steel
- SCS Safety Control System with gas safety cut-off: Ignition and flame control, temperature and burner Head clogging monitor (BHC), automatic unit switch off, 4h
- Removable burner tube
- Nozzles for natural gas, propane/butane gas
- Holding device for 2 inoculation loop holders
- Push fit and threaded connection, gas filter
- Power supply: 100 – 240 V (worldwide use), 2 years warranty
- Measurements: 98 × 34 × 88 mm (w × h × d)

	Article	Order No.
①	Flame 100 with button function	**10 30 72100**
	Stainless steel foot pedal	**32 30 66402**
	External IR - motion sensor for touch-free flame activation	**10 30 76406**
	Tilt adjustment made of stainless steel	**10 30 72300**
	Windshield made of stainless steel	**10 30 72600**
	Spray and wax protector	**10 30 72200**
	Adapter for gas cartridges CV 360	**10 30 78700**

Additional gas cartridge adapters see Fuego SCS series



②

Handheld Laboratory Gas Burner, WLD-TEC

Powerjet / Powerjet 2 - mobile laboratory gas burner with piezoelectric ignition
The solution for all mobile flame sterilization work in the microbiology or biotechnical fields. The burner is lit as soon as the bar is pressed. The flame can be regulated in size and is extinguished by release of the bar. Additional the bar of the Powerjet / Powerjet 2 is equipped with a locking device. The locking device comprises both, short and long term ranges.

	Article	Order No.
	Powerjet for gas cartridges CG1750 from camping gaz (w/o Fig.)	**32 30 76005**
	Stainless steel stand for Powerjet (w/o Fig.)	**10 30 76815**
②	**Powerjet 2** for natural gas, propane/butane gas, with adapter for CV360 gas cartridges and stainless steel stand	**32 30 76006**

Hoses for gas burners see page 178

webcode WW7R3214



Triangles, IDL

Iron wire, nickel, plated, clay tubing

Leg length mm	Order No.	Leg length mm	Order No.
40	**32 00 12700**	60	**32 00 12702**
50	**32 00 12701**	70	**32 00 12703**

Burners, Blowers

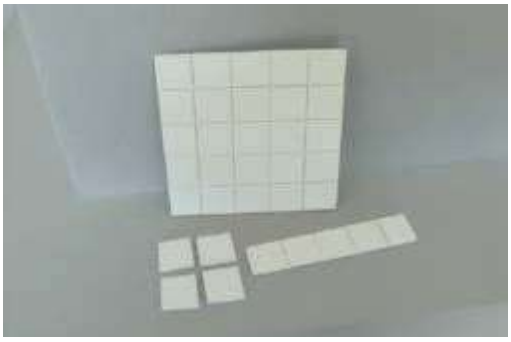
Clay Squares, IDL

webcode WW7R3260

Clay squares for the drying of melting point test specimens
150 × 150 mm clay platelets in squares of 30 × 30 mm, designed to snap off with ease

Advantages over clay fragments:
- No waste, can be put to maximum use.
- No pointed or sharp fracture edges.
- No risk of cut or prick wounds.
- No risk of splinters in your eyes.
- No splinters left on work tops and floors, hence no broken glass due to Erlenmeyer flasks being put down too hard on splinter pieces.
- Handy square size is easy to fix in place with your fingers.
- Enough room available for marking.

Article	Order No.
Clay platelet in squares of 30 × 30 mm	**21 00 80000**



Glass-Ceramic Laboratory Protection Plates, DURAN Group / IDL

webcode WWEQ2177

These protective plates made of CERAN® glass-ceramics not only replace conventional asbestos protection plates, but they also save energy and time because of their high permeability to infrared radiation. The glass-ceramic protection plates are chemically resistant and have high temperature resistance in the range -200 to +700°C.

① **Glass-ceramic laboratory protection plates**

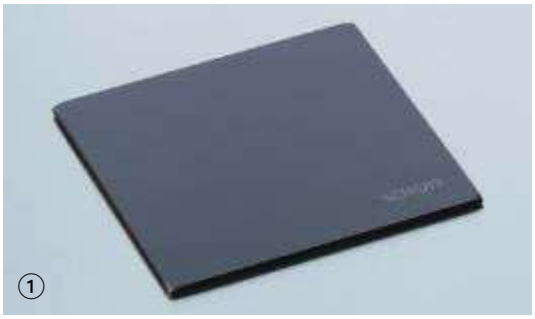
Platform size mm	Order No.	PU pc/Pack
135×135	**32 23 82153**	10
155×155	**32 23 82157**	10
175×175	**32 23 82158**	10

② **Quadrupods for glass ceramic laboratory protection plates made of chrome-nickel steel**

for plate size mm mm	Overall H mm	Order No.	PU pc/Pack
135×135	210	**32 29 07753**	5
155×155	210	**32 29 07757**	5
175×175	220	**32 29 07758**	5

③ **Plate holder for glass ceramic laboratory protection plates made of chrome-nickel steel**

for plate size mm mm	Order No.	PU pc/Pack
135×135	**32 29 07853**	5
155×155	**32 29 07857**	5
175×175	**32 29 07858**	5







Hot-Air Blower HG 2320 E, Digitally Controlled, Rettberg

webcode WWQVD113

The powerful HG 2320 E with a rating of 2300 W generates hot air from 80 – 650°C. The highly precise temperature setting is conveniently carried out via joystick. Together with the residual heat indication, the LCD info display provides for additional safety. Four individually adjustable programs ensure added flexibility. Combined with the various nozzles from the accessories range, the HG 2320 is a perfect choice for processing temperature-critical workpieces. Furthermore, it is easy to service: The cable can be replaced very easily if damaged.

Technical data:

Power rating:	2000 W
Temperature:	80 – 650°C
Temp. indicator:	Display in 10°C increments
Air volume:	150 – 500 l/min
Heating:	Ceramic heating
Thermal fuse:	yes
Thermal protective shut-down:	yes
Protection class (without protective conductor terminal):	II
Dimensions (L×W×H):	253 × 86.5 × 200 mm
Power supply:	230 V, 50/60 Hz
Weight:	0.755 kg (without power cord)

Article	Order No.
Hot-air blower type 650 DR	**32 70 00650**



webcode To see other variants and accessories, please enter the webcode on our website.

webcode WWQGZ007

BINDER
Best conditions for your success



Universal Drying/Heating Ovens Classic.Line, BINDER

Universal drying/heating ovens, ED, FD, FED, FP
BINDER universal drying ovens stand for precision and effectiveness. Using them ensures safe sterilization routines, speedy drying, and precise heating.

Equipment:
- Patented APT.line™ preheating chamber technology
- Temperature range: 5°C above room temperature to 300°C
- Temperature safety device Cl. 2 (DIN 12880) with visual temperature alarm
- Adjustable ventilation by means of rear exhaust duct Ø 50 mm with ventilation flap and front ventilation slide

Series ED with natural convection

Series FD with circulating air

Series FED with circulating air and advanced time functions

Type		ED 23	ED 400	FD 23	FED 400
Outer width	mm	435	1235	435	1235
Outer height (incl. feet/rollers)	mm	495	1025	495	1025
Outer depth	mm	520	765	520	765
Inner width	mm	222	1000	222	1000
Inner height	mm	330	800	330	800
Inner depth	mm	300	520	300	500
Shelves (qty standard/max.)	pc	2/3	2/10	2/3	2/10
Weight	kg	22	125	33	145
Order No.		**41 40 12091**	**41 40 12075**	**41 40 13094**	**10 40 10216**

① **Series FP with program control and forced circulating air**

Type		FP 53	FP 115	FP 240	FP 400	FP 720
Outer width	mm	635	835	1035	1235	1235
Outer height (incl. feet/rollers)	mm	620	705	825	1025	1530
Outer depth	mm	575	645	745	765	865
Inner width	mm	400	600	800	1000	1000
Inner height	mm	400	480	600	800	1200
Inner depth	mm	340	410	510	510	610
Shelves (qty standard/max.)	pc	2/5	2/6	2/7	2/10	2/15
Weight	kg	45	62	98	145	184
Order No.		**41 40 10225**	**41 40 10227**	**41 40 10229**	**41 40 10231**	**41 40 10233**

webcode WWQGZ021

BINDER
Best conditions for your success



Drying and Heating Chambers with Natural Convection Solid. Line, BINDER

The new products in the Solid.Line impress with their tried-and-tested BINDER quality and reliability. They are suitable for drying and heating. The features of the Solid.Line are geared towards the application in question and therefore used in research and quality assurance.

Series ED-S
Features:
- Temperature range: ambient temperature +7°C to 250°C
- APT.line™ preheating chamber technology
- Natural convection
- Adjustable exhaust air flap
- Controller with timer function

Model	Interior vol. l	Outer W × H × D mm	Inner W × H × D mm	**Order No.**
ED-S 56	62	614×625×577	400×440×350	**10 40 10014**
ED-S 115	118	764×735×616	550×550×390	**10 40 10020**

Series FD-S
Features:
- Temperature range: ambient temperature +10°C to 250°C
- APT.line™ preheating chamber technology
- Forced convection
- Adjustable exhaust air flap
- Controller with timer function

Model	Interior vol. l	Outer W × H × D mm	Inner W × H × D mm	**Order No.**
FD-S 56	55	614×625×577	400×440×310	**10 40 10018**
FD-S 115	106	764×35×616	550×550×350	**10 40 10024**

Heating Cabinets, Drying Cabinets, Sterilizers, Microwaves

Single- and TwinDISPLAY, Memmert

webcode WW91A011

memmert

Premium convenience and intelligent function

A comparison of the model variants SingleDISPLAY and TwinDISPLAY

① ControlCOCKPIT with one TFT display	② ControlCOCKPIT with two TFT displays
Available parameters on the ControlCOCKPIT: temperature (either Celsius or Fahrenheit), fan speed, exhaust air flap position, program runtime, time zones, daylight-saving time	Available parameters on the ControlCOCKPIT: temperature (either Celsius or Fahrenheit), relative humidity, light, CO_2, pressure, O_2, fan speed, exhaust air flap position, program runtime, time zones, daylight-saving time
One temperature sensor Pt100 DIN class A in a 4-wire circuit	Two Pt100 sensors DIN class A in a 4-wire circuit for mutual monitoring, taking over functions in case of an error
	HeatBALANCE function for application specific adjustment of heating power distribution (balance) between the upper and lower heating groups in an adjustment range between -50% and +50% (do not apply to size 30, HPP110, IPP110plus, ICP, ICH)
Software AtmoCONTROL[1)] for data read out and programming of the data logger via Ethernet interface (temporary trial version as free download). USB stick with AtmoCONTROL software available as an accessory on request.	Software AtmoCONTROL[1)] on USB pen drive for programming, managing and transferring of programs via Ethernet interface or USB port
	ControlCOCKPIT with USB port for uploading programs, reading out protocol logs, activating the User-ID function
	Displaying of already logged protocol data on the ControlCOCKPIT (max 10,000 values correspond to approx. 1 week)
Ethernet interface on the rear of the appliance for reading out the protocol log	Ethernet interface on the rear of the appliance for reading out the protocol log and for uploading and implementing programs and for online logging
Double overtemperature protection: Electronic temperature monitoring with freely adjustable monitoring temperature (for U/I/S devices with option A6 TWW/TWB, protection class 3.1 or 2), mechanical temperature limiter TB acc. to DIN 12880:2007-05	Multiple overtemperature protection: Electronic temperature monitoring TWW/TWB (protection class 3.1 or 2 resp. 3.3 for units with active cooling) and mechanical temperature limiter TB (protection class 1) acc. to. DIN 12880:2007-05, AutoSAFETY automatically adjusts to the set value within a freely adjustable tolerance range. Setting individual MIN / MAX values for over/undertemperature and also for all other parameters such as relative humidity, CO_2.
Housing made of structured stainless steel, rear wall galvanised sheet steel, operation and parameter setting via ControlCOCKPIT	
Hot-condition coupler on the rear for single-phase power cable connection according to the country-specific systems and IEC standards	
Integrated data logger with a memory capacity for minimum 10 years	
Language setting via ControlCOCKPIT - available languages: German, English, Spanish, French, Polish, Italian, Hungarian, Czech	
Digital countdown timer with target time input, can be set from 1 minute to 99 days	
SetpointWAIT function starts the process time only after the setpoint temperature has been reached at all measuring points – optionally also for the recorded temperature values of the Pt100 sensors which can be placed at any position in the interior	
Setting of three calibration values each for temperature and additional device-specific parameters directly at the ControlCOCKPIT (e.g. relative humidity)	



①



②

[1)] Memmert GmbH & Co. KG as a manufacturer clearly identifies its devices which are medical devices in the sense of European law. The AtmoCONTROL software is not a medical device. For all MEMMERT medical products/devices, use as intended is possible without the AtmoCONTROL software. AtmoCONTROL when used in combination with Memmert GmbH & Co.KG is intended for read-out and logging only.

webcode WW91A001

memmert

Universal Oven, Memmert

The ovens with the unique ControlCOCKPIT for quick and intuitive operation. For a wide portfolio of applications, ideally in temperature ranges above +50°C.

Medical device certification:
Memmert universal ovens Um are class I. Until the entry into force of Regulation (EU) 2017/745 (MDR), Memmert Class I medical devices will be placed on the market in accordance with EU Directive 93/42 / EEC. After the regulation comes into force, Memmert will market Class I medical devices in accordance with MDR. In accordance with their intended use, Memmert universal ovens Um may be used for heating and keeping warm fango, silicate and APS packs for physical therapy. All product information below also applies to the medical devices Um.

UN and UF ovens
N = Natural convection F = Forced air circulation

2 model variants: SingleDISPLAY and TwinDISPLAY (a detailed description of the two variants can be found on page 531)



①

Technical data:

Work temperature range:	at least 5°C (UN), at least 10°C (UF) above room temperature up to +300°C
Set temperature range:	+20°C up to +300°C
Setting accuracy:	up to 99.9°C: 0.1°C / from 100°C: 0.5°C
Electrical supply:	230 V up to model size 260, from model size 450 three-phase current 400 V 3 ph N (CEE plug, 16-A version) (other voltages to special order)

Available models and sizes with fully insulated stainless steel door:

Series UN / UNm[1) 2)]
With natural convection and microprocessor PID control.

	Type	Outer W × H × D mm	Inner W × H × D mm	Vol. approx. l	Wght approx. kg	P rating approx. W	Order No.
	UN30	585×704×434	400×320×250	32	45	1600	**10 26 03030**
	UN30m	585×704×434	400×320×250	32	45	1600	**10 26 03031**
	UN55	585×784×514	400×400×330	53	57	2000	**10 26 03055**
	UN55m	585×784×514	400×400×330	53	57	2000	**10 26 03056**
	UN75	585×944×514	400×560×330	74	66	2500	**10 26 03075**
	UN75m	585×944×514	400×560×330	74	66	2500	**10 26 03076**
	UN110	745×864×584	560×480×400	108	74	2800	**10 26 03110**
	UN110m	745×864×584	560×480×400	108	74	2800	**10 26 03111**
	UN160	745×1104×584	560×720×400	161	96	3200	**10 26 03160**
	UN160m	745×1104×584	560×720×400	161	96	3200	**10 26 03161**
	UN260	824×1183×684	640×800×500	256	110	3400	**10 26 03260**
	UN260m	824×1183×684	640×800×500	256	110	3400	**10 26 03261**
①	UN450	1224×1247×784	1040×720×600	449	161	5800[3)]	**10 26 03450**
	UN450m	1224×1247×784	1040×720×600	449	161	5800[3)]	**10 26 03461**
	UN750	1224×1720×784	1040×1200×600	749	217	7000[3)]	**10 26 03750**
	UN750m	1224×1720×784	1040×1200×600	749	217	7000[3)]	**10 26 03751**



②

Series UF / UFm[1) 2)]
With enforced air circulation and microprocessor PID control.

	Type	Outer W × H × D mm	Inner W × H × D mm	Vol. approx. l	Wght approx. kg	P rating approx. W	Order No.
	UF30	585×704×434	400×320×250	32	45	1600	**10 26 05030**
	UF30m	585×704×434	400×320×250	32	45	1600	**10 26 05031**
	UF55	585×784×514	400×400×330	53	57	2000	**10 26 05055**
	UF55m	585×784×514	400×400×330	53	57	2000	**10 26 05056**
	UF75	585×944×514	400×560×330	74	66	2500	**10 26 05075**
	UF75m	585×944×514	400×560×330	74	66	2500	**10 26 05076**
	UF110	745×864×584	560×480×400	108	74	2800	**10 26 05110**
	UF110m	745×864×584	560×480×400	108	74	2800	**10 26 05111**
	UF160	745×1104×584	560×720×400	161	96	3200	**10 26 05160**
	UF160m	745×1104×584	560×720×400	161	96	3200	**10 26 05161**
	UF260	824×1183×684	640×800×500	256	110	3400	**10 26 05260**
	UF260m	824×1183×684	640×800×500	256	110	3400	**10 26 05261**
	UF450	1224×1247×784	1040×720×600	449	161	5800[3)]	**10 26 05450**
	UF450m	1224×1247×784	1040×720×600	449	161	5800[3)]	**10 26 05451**
②	UF750	1224×1720×784	1040×1200×600	749	217	7000[3)]	**10 26 05750**
	UF750m	1224×1720×784	1040×1200×600	749	217	7000[3)]	**10 26 05751**
	UF1060	1224×1720×1035	1040×1200×850	1060	252	7000[3)]	**10 26 06161**

Continued on next page

Heating Cabinets, Drying Cabinets, Sterilizers, Microwaves

Series UNplus / UNmplus[1) 2)]
With natural convection and microprocessor PID control.

	Type	Outer W × H × D mm	Inner W × H × D mm	Vol. approx. l	Wght approx. kg	P rating approx. W	Order No.
	UN30plus	585×704×434	400×320×250	32	45	1600	**10 26 08030**
	UN30mplus	585×704×434	400×320×250	32	45	1600	**10 26 08031**
	UN55plus	585×784×514	400×400×330	53	57	2000	**10 26 08055**
	UN55mplus	585×784×514	400×400×330	53	57	2000	**10 26 08056**
	UN75plus	585×944×514	400×560×330	74	66	2500	**10 26 08075**
	UN75mplus	585×944×514	400×560×330	74	66	2500	**10 26 08076**
	UN110plus	745×864×584	560×480×400	108	74	2800	**10 26 08110**
	UN110mplus	745×864×584	560×480×400	108	74	2800	**10 26 08111**
③	UN160plus	745×1104×584	560×720×400	161	96	3200	**10 26 08160**
	UN160mplus	745×1104×584	560×720×400	161	96	3200	**10 26 08161**
	UN260plus	824×1183×684	640×800×500	256	110	3400	**10 26 08260**
	UN260mplus	824×1183×684	640×800×500	256	110	3400	**10 26 08261**
	UN450plus	1224×1247×784	1040×720×600	449	161	5800[3)]	**10 26 08450**
	UN450mplus	1224×1247×784	1040×720×600	449	161	5800[3)]	**10 26 08451**
	UN750plus	1224×1720×784	1040×1200×600	749	217	7000[3)]	**10 26 08750**
	UN750mplus	1224×1720×784	1040×1200×600	749	217	7000[3)]	**10 26 08751**


③

Series UFplus / UFmplus[1) 2)]
With enforced air circulation and microprocessor PID control.

	Type	Outer W × H × D mm	Inner W × H × D mm	Vol. approx. l	Wght approx. kg	P rating approx. W	Order No.
	UF30plus	585×704×434	400×320×250	32	45	1600	**10 26 06030**
	UF30mplus	585×704×434	400×320×250	32	45	1600	**10 26 06031**
	UF55plus	585×784×514	400×400×330	53	57	2000	**10 26 06055**
	UF55mplus	585×784×514	400×400×330	53	57	2000	**10 26 06056**
	UF75plus	585×944×514	400×560×330	74	66	2500	**10 26 06075**
	UF75mplus	585×944×514	400×560×330	74	66	2500	**10 26 06076**
④	UF110plus	745×864×584	560×480×400	108	74	2800	**10 26 06110**
	UF110mplus	745×864×584	560×480×400	108	74	2800	**10 26 06111**
	UF160plus	745×1104×584	560×720×400	161	96	3200	**10 26 06160**
	UF160mplus	745×1104×584	560×720×400	161	96	3200	**10 26 06163**
	UF260plus	824×1183×684	640×800×500	256	110	3400	**10 26 06260**
	UF260mplus	824×1183×684	640×800×500	256	110	3400	**10 26 06261**
	UF450plus	1224×1247×784	1040×720×600	449	161	5800[3)]	**10 26 06450**
	UF450mplus	1224×1247×784	1040×720×600	449	161	5800[3)]	**10 26 06451**
	UF750plus	1224×1720×784	1040×1200×600	749	217	7000[3)]	**10 26 06750**
	UF750mplus	1224×1720×784	1040×1200×600	749	217	7000[3)]	**10 26 06751**
	UF1060plus	1224×1720×1035	1040×1200×850	1060	252	7000[3)]	**10 26 06162**


④

[1)] External dimensions: Depth without door handle, depth of door handle 56 mm
[2)] Inner dimensions (depth): On models with enforced air circulation the depth is reduced by 39 mm for the fan.
[3)] With 400 V and 3 × 230 V o.N., 50/60 Hz.
All universal ovens comply with the strict requirements of DIN 12880:2007-05

Accessories for models UN / UNm / UF / UFm / UNplus / UNmplus / UFplus / UFmplus

Stainless steel grid (standard version: size 30, 55 and 1060: 1 piece, size 75 to 750: 2 pieces)

for type	Qty max.	Order No.
30	3	**10 26 01551**
55/75	4/6	**10 26 01552**
110/160	5/8	**10 26 05008**
260	9	**10 26 01556**
450/750	8/14	**10 26 01557**
1060	14	**10 26 01559**

Stainless steel shelves, perforated

for type	Qty max.	Order No.
30	3	**10 26 01561**
55/75	4/6	**10 26 01562**
110/160	5/8	**10 26 04031**
260	9	**10 26 01566**
450/750	8/14	**10 26 01567**
1060	14	**10 26 01569**

Stainless steel slide-in drip tray, non-perforated, 15 mm rim
(may impair the spatial distribution of the temperature)

for type	Qty max.	Order No.
30	3	**10 26 01571**
55/75	4/6	**10 26 01572**
110/160	5/8	**10 26 01574**
260	9	**10 26 01576**
450/750	8/14	**10 26 01577**
1060	14	**10 26 01579**

An extensive selection of accessories and options is available on request.

We reserve the right to make changes in technical specifications. Dimensions subject to confirmation. All performance data are typical mean values for serial devices.



webcode WWSB5042

Ovens, Phoenix Instrument

Natural convection ovens
Ideal for everyday use in the processes of drying and sterilization, the natural convection ovens are characterized by a high load capacity and by the accurate temperature control.
The possibility to heat the samples up to 300°C allows any type of sterilization process. The minimum heating times, the heating power properly dimensioned and the perfect tightness of the seals, ensure low energy consumption in every application.
All models are available as Basic Series and Super Series.

Basic Series
- 7 programs × 10 program steps
- Repeatable work cycles
- Large backlit LCD display
- Easy to read symbols
- Timer and continuous function
- Visual and acoustic alarm
- Fan speed control
- Delay of the program start
- Safety temperature to protect the sample

SUPER series
- New generation of color touch screen displays with user-friendly screens and icons
- 8 programs with 8 steps storable
- USB flash drive
- Easy operation and readability

①

② 

Technical data:	TIN-TN30B	TIN-TN50B / TIN-TN50S	TIN-TN115B / TIN-TN115S	TIN-TN200B / TIN-TN200S
Volume:	30 litres	50 litres	115 litres	200 litres
Max. temperature/resolution:	+200/0.1°C	+300/0.1°C	+300/0.1°C	+300/0.1°C
Temp. homogeneity at 37°C:	±3.5°C	±3.5°C	±3.5°C	±4°C
Temperature variation at 37°C:	±0.5°C	±0.5°C	±0.5°C	±0.7°C
Heating time at 37°C:	14 min	16 min	18 min	20 min
Timer:	99:59/continuous operation	99:59/continuous operation	99:59/continuous operation	99:59/continuous operation
Int. dimension (W×H×D):	320×320×285 mm	400×420×330 mm	520×495×450 mm	650×640×495 mm
No. of shelves (standard/max):	2/4	2/5	2/6	2/9
Min. distance between shelves:	50 mm	50 mm	50 mm	50 mm
Max. load of shelves:	10 kg	15 kg	20 kg	20 kg
Voltage/Power:	230 V / 700 W	230 V / 1000 W	230 V / 1900 W	230 V / 2100 W
Ext. dimensions (W×H×D):	460×685×530 mm	690×635×470 mm	815×750×600 mm	940×905×660 mm
Weight:	40 kg	53 kg	74 kg	103 kg
Safety class:	3.1	3.1	3.1	3.1

	Model	Order No.
①	TIN-TN30B	**10 13 73080**
	TIN-TN50B	**10 13 75080**
	TIN-TN50S	**10 13 75000**
	TIN-TN115B	**10 13 71150**

	Model	Order No.
	TIN-TN115S	**10 13 71151**
②	TIN-TN200B	**10 13 70200**
	TIN-TN200S	**10 13 70201**



③

Forced air ovens
The forced air ovens TIN-TF 50, -TF 120,- TF 200 and -TF 400 control very efficiently the temperature starting from 10°C above ambient temperature up to 300°C.
The PID controller, with wide backlit color display, clearly shows in every moment the temperature set and that one inside as well as other parameters. The forced air circulation, adjustable in three levels (High, Medium, Low), guarantees a perfect air replacement and homogeneity of temperature in every parts of the chamber. A through hole of 5 mm diameter supplied as standard on the top side of the oven permits to introduce an external probe for the check or certification of the temperature. All models are available as Basic Series and Super Series.

Basic Series
- 7 programs × 10 program steps
- Repeatable work cycles
- Large backlit LCD display
- Easy to read symbols
- Timer and continuous function
- Visual and acoustic alarm
- Fan speed control
- Delay of the program start
- Safety temperature to protect the sample

SUPER series
- New generation of color touch screen displays with user-friendly screens and icons
- 8 programs with 8 steps storable,
- USB flash drive
- Easy operation and readability

Continued on next page

Heating Cabinets, Drying Cabinets, Sterilizers, Microwaves

Technical data:	TIN-TF50B / TIN-TF50S	TIN-TF120B / TIN-TF120S	TIN-TF200B / TIN-TF200S	TIN-TF400B / TIN-TF400S
Volume:	50 litres	120 litres	200 litres	400 litres
Max. temperature/resolution:	+300/0.1°C	+300/0.1°C	+300/0.1°C	+300/0.1°C
Temp. homogeneity at 37°C:	±2%	±2%	±2%	±2%
Temperature variation at 37°C:	±0.3°C	±0.3°C	±0.4°C	±0.5°C
Heating time at 37°C:	20 min	24 min	30 min	50 min
Timer:	99:59/continuous operation	99:59/continuous operation	99:59/continuous operation	99:59/continuous operation
Int. dimension (W×H×D):	400×415×310 mm	520×530×435 mm	645×650×495 mm	1000×800×500 mm
No. of shelves (standard/max):	2/5	2/7	2/9	2/9
Min. distance between shelves:	50 mm	50 mm	50 mm	50 mm
Max. load of shelves:	15 kg	20 kg	20 kg	20 kg
Voltage/Power:	230 V / 980 W	230 V / 1900 W	230 V / 2400 W	230 V / 3200 W
Ext. dimensions (W×H×D):	690×635×570 mm	810×750×690 mm	945×870×755 mm	1285×1060×750 mm
Weight:	54 kg	74 kg	103 kg	160 kg
Safety class:	3.1	3.1	3.1	3.1

	Model	Order No.
③	TIN-TF50B	**10 13 70500**
	TIN-TF50S	**10 13 70501**
	TIN-TF120B	**10 13 70120**
	TIN-TF120S	**10 13 70121**

Model	Order No.
TIN-TF200B	**10 13 70022**
TIN-TF200S	**10 13 70023**
TIN-TF400B	**10 13 70040**
TIN-TF400S	**10 13 70041**

Heating and Drying Cabinets, Thermo Scientific

webcode WW4HV023

thermoscientific

The heating cabinets of the Thermo Scientific™ Heratherm™ series are available as tabletop units with 60, 100, or 180 l interior volume, or as floor units with 400 or 750 l interior volume. Choose between three equipment variants, each of which either with natural convection or air circulation.



- Very high energy efficiency, reduced heat dissipation
- Programmable timer
- Small footprint
- Flexible shelf system for double the number of shelves and thus utility space
- Excellent spatial and temporal temperature stability
- Automatic optical and acoustical overtemperature alarm
- Cable duct in rear wall
- Very low outer wall temperatures
- Easy-to-read vacuum fluorescence display
- Convenient programming thanks to intuitive control
- Easy to clean thanks to construction free of sharp edges, and tray holder

To see our large portfolio of models and accessories, please enter webcode WW4HV023 to access our online catalogue.

Laboratory Microwave Equipment, Landgraf

webcode WWHXJ004

HLL LANDGRAF LABORSYSTEME

Laboratory microwave unit MW 5000
These microwave units are optimized for use in the laboratory. Contrary to household equipment, they have the following characteristics:

Exhaust air outlet
The exhaust air is removed via an air outlet fitting which can be connected to an air extractor. A condensation cooler can be mounted in the exhaust air stream to condensate vapors over a collection basin.

Media fittings
Two 13-mm hole connections are included for attaching hoses for feeding in media, extractions, and cooling agents. When a microwave unit is operated with no or very little material loaded in it, the unit may be damaged because the energy is not absorbed. For discharge of excess energy, the laboratory microwave unit 5000 may optionally be equipped with a flow cooler.



Magnetic mixer (5100)
The microwave unit 5100 is equipped with a centrally arranged magnetic mixer. The adjustable speed range of the mixer is 50 to 1200 rpm.

Technical data:

HF power:	1000 Watt
Internal dimensions (W × D × H):	370 × 385 × 230 mm, 34 l
External dimensions (W × D × H):	580 × 530 × 343 mm
Air extractor connection:	DN 50
Connected load:	220 – 240 V/ 50 Hz, 1500 W
Material chamber:	Stainless steel with ceramic base
Material housing:	Stainless steel

Article	Order No.
Laboratory microwave unit 5000	**10 67 23205**
Laboratory microwave unit 5100 with magnetic mixer	**10 67 23206**

Continued on next page

Heating Cabinets, Drying Cabinets, Sterilizers, Microwaves

Temperature control
optional

Article	Order No.
Temperature control unit PT 100	**10 67 23204**

Accessories

Article	Order No.
Continuous cooler	**41 67 73130**
Condensation cooler	**41 67 73120**

webcode WWQ7T017

ZEFA

PreeKem Topex, Zefa



New innovative microwave laboratory system by Preekem. Advanced design combined with the accurate temperature and pressure control guarantees better results faster. With a volume of 56 litres, the large chamber has sufficient room for up to 40 sample vessels. The chamber design reflects the microwaves directly on the samples, increasing digestion, efficiency, and quality.

- Multi-wall explosion-protected steel safety door with video monitoring
- Container made of high-quality 3M-DyneonTM TFM and a reinforced glass fiber cover made of Victrex PEEK for a longer useful life
- With overpressure valve and safety cap for two-stage overpressure protection
- Dual reaction control
  More accuracy for the measuring results thanks to immersion sensor inside the samples
  High-temperature melting point sensor for precise real-time pressure measurement
- Two IR measurements of the floor temperature per rotor rotation and full vessel continuous scanning
- Intuitive software solutions - Easy-to-program digestion process: Pre-installed data records for a multitude of samples can quickly be adjusted to your own requirements

Type		KJ-100 Rotor	KJ-160 Rotor	GT-240 Rotor	GT-400 Rotor
Quantity containers		10	15	16	40
Tube capacity	ml	100	100	100	60
Max. working pressure	psi	900	750	525	300
Max. tolerance pressure	psi	2200	1750	1750	1500
Max. operating temp.	°C	260	250	240	200
Order No.		**10 83 29471**	**10 83 21859**	**10 83 23829**	**10 83 21860**

Safety Drying Ovens

webcode WWQGZ019

BINDER
Best conditions for your success

Drying and Heating Chambers Avantgarde.Line, BINDER



BINDER drying chambers with natural convection or forced convection are renowned for their high quality and reliability. Thanks to their extensive redevelopment, these all-rounders are now even more firmly focused on addressing the requirements involved in drying or heating samples. What's more, in addition to the new design, convenient operation, and efficiency of these units, the latest APT.line™ technology offers outstanding temperature accuracy to give this new generation of incubators real appeal.

Equipment:

- Temperature range series ED: 5–6°C via RT up to 300°C
- Temperature range series FD, FED: 10°C via RT up to 300°C
- Controller with LCD display
- Electromechanical control of the exhaust air damper
- 2 chromium-plated racks
- Integrated temperature selection limiter class 2 (DIN 12880) with optical alarm
- USB connection for saving the data

Series ED: Drying chambers with natural convection

Model	Interior vol. l	Outer W × H × D mm	Inner W × H × D mm	Order No.
ED 56	57	560×625×565	360×420×380	**10 40 10333**
ED 115	114	710×735×605	510×530×425	**10 40 10335**
ED 260	254	810×965×760	610×760×550	**10 40 10339**
ED 720	741	1165×1590×870	1000×1300×570	**10 40 10341**

Continued on next page

Safety Drying Ovens

Series FD: Drying chambers with forced convection

Model	Interior vol. l	Outer W × H × D mm	Inner W × H × D mm	Order No.
FD 56	60	560×625×565	400×440×345	**10 40 10303**
FD 115	116	710×735×605	550×550×385	**10 40 10305**
FD 260	259	810×965×760	650×780×515	**10 40 10309**
FD 720	741	1165×1590×870	1000×1300×570	**10 40 10311**

Series FED: Heating chambers with forced convection and enhanced timer functions

Model	Interior vol. l	Outer W × H × D mm	Inner W × H × D mm	Order No.
FED 56	60	560×625×565	400×440×345	**10 40 10295**
FED 115	116	710×735×605	550×550×385	**10 40 10293**
FED 260	259	810×965×760	650×780×515	**10 40 10299**
FED 720	741	1165×1590×870	1000×300×570	**10 40 10301**

You will find further model sizes in the Classic.Line

Incubators, Cooled Incubators

Drying Ovens, LAT

webcode WWW4U037

Bench-top unit for incubating smeared or dipped slides or conventional petri dishes, incl. insert rack.

- 25°C to 45°C
- ±1°C
- 220 V / 110 V / 12 V
- 26 W
- Protection class II
- Thermometer in the unit
- Plexiglas front panel
- External W×H×D: 310 × 155 × 168 mm
- Internal W×H×D: 220 × 120 × 150 mm

Article	Order No.
Drying oven LATURA	**41 80 50000**



Incubators, Memmert

webcode WW91A002

Incubators for research, medicine, pharmaceutics, and food technology. Organic material requires particularly gentle heating. For this reason, heating and control of these incubators have been optimised specifically for low temperatures of up to +80°C. To avoid overshoots, the temperature is increased within a very narrow range and maintained accurately at the setpoint value.

- With large area all-round heating
- Pre-heating of the fresh air
- With interior glass door

Medical product certification:
Memmert Im incubators are class I. Until the entry into force of Regulation (EU) 2017/745 (MDR), Memmert Class I medical devices will be placed on the market in accordance with EU Directive 93/42 / EEC. After the regulation comes into force, Memmert will market Class I medical devices in accordance with MDR. In accordance with their intended use, Memmert Im incubators may be used for controlling the temperature of flushing and infusion solutions and contrast agents. All of the product information below also applies to the medical devices Im.

IN and IF incubators
N = Natural convection F = Forced air circulation

2 model variants: SingleDISPLAY and TwinDISPLAY (a detailed description of the two variants can be found on page 531)

Technical data:

Work temperature range:	at least 5°C (UN), at least 10°C (UF) bove room temperature up to +80°C
Set temperature range:	+20°C up to +80°C
Setting accuracy:	0.1°C
Electrical supply:	230 V 50/60 Hz (other voltages to special order)



Continued on next page

Incubators, Cooled Incubators

Available models and sizes with internal glass door and fully insulated stainless steel external door:


①

Series IN / INm[1) 2)]
With natural convection and microprocessor PID control.

	Type	Outer W×H×D mm	Inner W×H×D mm	Vol. approx. l	Wght approx. kg	P rating approx. W	Order No.
①	IN30	585×704×434	400×320×250	32	48	1600	**10 26 06201**
	IN30m	585×704×434	400×320×250	32	48	1600	**10 26 06301**
	IN55	585×784×514	400×400×330	53	57	1000	**10 26 06202**
	IN55m	585×784×514	400×400×330	53	57	1000	**10 26 06302**
	IN75	585×944×514	400×560×330	74	66	1250	**10 26 06203**
	IN75m	585×944×514	400×560×330	74	66	1250	**10 26 06303**
	IN110	745×864×584	560×480×400	108	76	1400	**10 26 06204**
	IN110m	745×864×584	560×480×400	108	76	1400	**10 26 06304**
	IN160	745×1104×584	560×720×400	161	96	1600	**10 26 06205**
	IN160m	745×1104×584	560×720×400	161	96	1600	**10 26 06305**
	IN260	824×1183×684	640×800×500	256	110	1700	**10 26 06206**
	IN260m	824×1183×684	640×800×500	256	110	1700	**10 26 06306**
	IN450	1224×1247×784	1040×720×600	449	161	1800	**10 26 06207**
	IN450m	1224×1247×784	1040×720×600	449	161	1800	**10 26 06307**
	IN750	1224×1720×784	1040×1200×600	749	217	2000	**10 26 06208**
	IN750m	1224×1720×784	1040×1200×600	749	217	2000	**10 26 06308**


②

Series IF / IFm[1) 2)]
With forced air circulation and microprocessor PID control.

	Type	Outer W×H×D mm	Inner W×H×D mm	Vol. approx. l	Wght approx. kg	P rating approx. W	Order No.
	IF30	585×704×434	400×320×250	32	48	1600	**10 26 06211**
	IF30m	585×704×434	400×320×250	32	48	1600	**10 26 07211**
	IF55	585×784×514	400×400×330	53	57	1000	**10 26 06212**
	IF55m	585×784×514	400×400×330	53	57	1000	**10 26 07212**
	IF75	585×944×514	400×560×330	74	66	1250	**10 26 06213**
	IF75m	585×944×514	400×560×330	74	66	1250	**10 26 07213**
	IF110	745×864×584	560×480×400	108	76	1400	**10 26 06214**
	IF110m	745×864×584	560×480×400	108	76	1400	**10 26 07214**
	IF160	745×1104×584	560×720×400	161	96	1600	**10 26 06215**
	IF160m	745×1104×584	560×720×400	161	96	1600	**10 26 07215**
②	IF260	824×1183×684	640×800×500	256	110	1700	**10 26 06216**
	IF260m	824×1183×684	640×800×500	256	110	1700	**10 26 07216**
	IF450	1224×1247×784	1040×720×600	449	161	1800	**10 26 06217**
	IF450m	1224×1247×784	1040×720×600	449	161	1800	**10 26 07217**
	IF750	1224×1720×784	1040×1200×600	749	217	2000	**10 26 06218**
	IF750m	1224×1720×784	1040×1200×600	749	217	2000	**10 26 07218**


③

Series INplus / INmplus
With natural convection and microprocessor PID control.

	Type	Outer W×H×D mm	Inner W×H×D mm	Vol. approx. l	Wght approx. kg	P rating approx. W	Order No.
	IN30plus	585×704×434	400×320×250	32	48	1600	**10 26 06221**
	IN30mplus	585×704×434	400×320×250	32	48	1600	**10 26 07221**
	IN55plus	585×784×514	400×400×330	53	57	1000	**10 26 06222**
	IN55mplus	585×784×514	400×400×330	53	57	1000	**10 26 07222**
	IN75plus	585×944×514	400×560×330	74	66	1250	**10 26 06223**
	IN75mplus	585×944×514	400×560×330	74	66	1250	**10 26 07223**
	IN110plus	745×864×584	560×480×400	108	76	1400	**10 26 06224**
	IN110mplus	745×864×584	560×480×400	108	76	1400	**10 26 07224**
	IN160plus	745×1104×584	560×720×400	161	96	1600	**10 26 06225**
	IN160mplus	745×1104×584	560×720×400	161	96	1600	**10 26 07225**
③	IN260plus	824×1183×684	640×800×500	256	110	1700	**10 26 06226**
	IN260mplus	824×1183×684	640×800×500	256	110	1700	**10 26 07226**
	IN450plus	1224×1247×784	1040×720×600	449	161	1800	**10 26 06227**
	IN450mplus	1224×1247×784	1040×720×600	449	161	1800	**10 26 07227**
	IN750plus	1224×1720×784	1040×1200×600	749	217	2000	**10 26 06228**
	IN750mplus	1224×1720×784	1040×1200×600	749	217	2000	**10 26 07228**

Continued on next page

Incubators, Cooled Incubators

Series IFplus / IFmplus[1) 2)]
With forced air circulation and microprocessor PID control.

	Type	Outer W×H×D mm	Inner W×H×D mm	Vol. approx. l	Wght approx. kg	P rating approx. W	Order No.
④	IF30plus	585×704×434	400×320×250	32	48	1600	**10 26 06231**
	IF30mplus	585×704×434	400×320×250	32	48	1600	**10 26 07231**
	IF55plus	585×784×514	400×400×330	53	57	1000	**10 26 06232**
	IF55mplus	585×784×514	400×400×330	53	57	1000	**10 26 07232**
	IF75plus	585×944×514	400×560×330	74	66	1250	**10 26 06233**
	IF75mplus	585×944×514	400×560×330	74	66	1250	**10 26 07233**
	IF110plus	745×864×584	560×480×400	108	76	1400	**10 26 06234**
	IF110mplus	745×864×584	560×480×400	108	76	1400	**10 26 07234**
	IF160plus	745×1104×584	560×720×400	161	96	1600	**10 26 06235**
	IF160mplus	745×1104×584	560×720×400	161	96	1600	**10 26 07235**
	IF260plus	824×1183×684	640×800×500	256	110	1700	**10 26 06236**
	IF260mplus	824×1183×684	640×800×500	256	110	1700	**10 26 07236**
	IF450plus	1224×1247×784	1040×720×600	449	161	1800	**10 26 06237**
	IF450mplus	1224×1247×784	1040×720×600	449	161	1800	**10 26 07237**
	IF750plus	1224×1720×784	1040×1200×600	749	217	2000	**10 26 06238**
	IF750mplus	1224×1720×784	1040×1200×600	749	217	2000	**10 26 07238**


④

1) External dimensions: Depth without door handle, depth of door handle 56 mm
2) Inner dimensions (Depth): On models with forced air circulation the depth is reduced by 39 mm for the fan.
All incubators comply with the strict requirements of DIN 12880: 2007-05

Accessories for models IN / INm / IF/ IFm / INplus / INmplus / IFplus / IFmplus

Stainless steel grid (standard version: size 30 and 55: 1 piece, size 75 to 750: 2 pieces)

for type	Qty max.	Order No.
30	3	**10 26 01551**
55/75	4/6	**10 26 01552**
110/160	5/8	**10 26 05008**
260	9	**10 26 01556**
450/750	8/14	**10 26 01557**

Stainless steel shelves, perforated

for type	Qty max.	Order No.
30	3	**10 26 01561**
55/75	4/6	**10 26 01562**
110/160	5/8	**10 26 04031**
260	9	**10 26 01566**
450/750	8/14	**10 26 01567**

Stainless steel slide-in drip tray, non-perforated, 15 mm rim
(may impair the spatial distribution of the temperature)

for type	Qty max.	Order No.
30	3	**10 26 01571**
55/75	4/6	**10 26 01572**
110/160	5/8	**10 26 01574**
260	9	**10 26 01576**
450/750	8/14	**10 26 01577**

An extensive selection of accessories and options is available on request.
We reserve the right to make changes in technical specifications. Dimensions subject to confirmation.
All performance data are typical mean values for serial devices.

Microbiological Incubators, Thermo Scientific

webcode WW4HV021

thermoscientific

Heratherm™ Microbiological incubators
The microbiological incubators of the Thermo Scientific™ Heratherm™ series are available in four different models with three different convection technologies and in six different sizes with interior volumes between 18 and 700 litres.

- Excellent temperature constancy with automatic alarm in case of temperature deviations to protect your valuable samples
- Thanks to the interior glass door, the samples can be observed without affecting the temperature
- User-friendly temperature setting with intuitive operating elements and large, easy-to-read display
- Rounded corners and easy-to-remove shelves for convenient cleaning
- Compact design for a small footprint
- Easy to stack – without tools or stacking frame
- Efficient use of the interior thanks to a flexible shelf system



To see our large portfolio of models and accessories, please enter webcode WW4HV021 to access our online catalogue.

Incubators, Cooled Incubators

webcode WW91A005

memmert

Cooled Incubators / Storage Cooled Incubators, Memmert

Series ICP / ICPeco compressor cooled with TwinDISPLAY (a detailed description of the model variant can be found on page 531)
The compressor-cooled incubators with the unique ControlCOCKPIT for quick and intuitive operation. Ideal for temperatures around the freezing point and below. For quick, precise change from heating to cooling phases in ramp operation. Low-noise! Turbulence-free internal air-ventilation, separation of the thermal jacket from the interior prevents the occurrence of drying out the loads through the cooling-device. Highly efficient automatic defrosting system. Segment-dependent control of the internal air-ventilation in 10% steps (from 10 to 100%). 2 stainless steel grids are supplied.

Series IPP (SingleDISPLAY) and IPPplus (TwinDISPLAY) Peltier-cooled (a detailed description of the two model variants can be found on page 531)
The cooled incubators with the unique ControlCOCKPIT for quick and intuitive operation. With Peltier technology for transition-free heating and cooling within a single system. Environmentally compatible, low energy consumption. Low vibration and nearly noiseless.
Forced ventilation by Peltier fan. Energy-saving, refrigerant-free Peltier heating/cooling system (heat-pump principle). 1 stainless steel grid each is supplied with the model sizes 30 and 55; on models of sizes 110 to 750 there are 2 stainless steel grids.

Series IPS Peltier-cooled with SingleDISPLAY(a detailed description of the model variant can be found on page 531)
Sample storage, incubation and cooling in the food industry, medicine, cosmetics industry or pharmacy: The storage cooled incubators with Peltier elements heat and cool seamlessly in one system.
Forced ventilation by Peltier fan. Energy-saving, refrigerant-free Peltier heating/cooling system (heat-pump principle). 2 stainless steel grids are comprised in the delivery.



①

Technical Data:

Type series ICP/ ICPeco

Work temperature range:	-12°C up to +60°C
Not suitable for permanent storage at minus temperatures.	
In case of permanent operation, icing of the glass door may occur.	
Set temperature range:	-12°C up to +60°C
Setting accuracy:	0.1°C
Power supply:	230 V, 50 Hz (other voltages on request)

Type series IPP/ IPPplus

Work temperature range without light:	0°C (at least 20°C below room temperature) up to +70°C
Arbeitstemperaturbereich mit Licht:	+10°C up to +40°C
Set temperature range:	0°C up to +70°C
Setting accuracy:	0.1°C
Power supply:	230 V, 50/60 Hz (other voltages on request)

Type series IPS

Work/set temperature range:	+14°C up to +45°C
Setting accuracy:	0.1°C
Power supply:	230 V, 50/60 Hz (other voltages on request)



②

Series ICP/ICPeco

	Type	Outer W×H×D mm	Inner W×H×D mm	Vol. approx. l	Wght approx. kg	P rating approx. W	Order No.
	ICP110	745×1233×584	560×480×400	108	113	1200	**10 26 01101**
	ICP260	824×1552×684	640×800×500	256	157	1200	**10 26 02602**
	ICP450	1224×1467×784	1040×720×600	449	217	1200	**10 26 04501**
①	ICP750	1224×1950×784	1040×1200×600	749	249	1200	**10 26 07501**
	ICP110eco	745×1233×584	560×480×400	108	113	1200	**10 26 01106**
	ICP260eco	824×1552×684	640×800×500	256	157	1200	**10 26 02606**
	ICP450eco	1224×1467×784	1040×720×600	449	217	1200	**10 26 04506**
	ICP750eco	1224×1950×784	1040×1200×600	749	249	1200	**10 26 07506**

External dimensions: depth without door handle, depth of door handle 56 mm
Interior: depth less 33 mm for the fan

Continued on next page

Incubators, Cooled Incubators

Series IPP/IPPplus

	Type	Outer W×H×D mm	Inner W×H×D mm	Vol. approx. l	Wght approx. kg	P rating approx. W	Order No.
	IPP30	585×704×506	400×320×250	32	40	140	**10 26 00303**
	IPP55	585×784×586	400×400×330	53	52	275	**10 26 00553**
	IPP110	745×864×656	560×480×400	108	78	550	**10 26 01103**
	IPP260	824×1183×756	640×800×500	256	114	820	**10 26 02603**
	IPP410	824×1720×756	640×1200×500	384	157	1030	**10 26 04103**
	IPP750	1224×1720×856	1040×1200×600	749	230	1300	**10 26 07503**
	IPP1060	1124×1720×1107	1040×1200×850	1060	255	1500	**10 26 01063**
	IPP30plus	585×704×506	400×320×250	32	40	140	**10 26 00304**
	IPP55plus	585×784×586	400×400×330	53	52	275	**10 26 00554**
	IPP110plus	745×864×656	560×480×400	108	78	550	**10 26 01104**
②	IPP260plus	824×1183×756	640×800×500	256	114	820	**10 26 02604**
	IPP410plus	824×1720×756	640×1200×500	384	157	1030	**10 26 04104**
	IPP750plus	1224×1720×856	1040×1200×600	749	230	1300	**10 26 07504**
	IPP1060plus	1124×1720×1107	1040×1200×850	1060	255	1500	**10 26 01066**

External dimensions: depth without door handle, depth of door handle 56 mm
Interior: depth less 10 mm for the fan - Peltier

Series IPS

	Type	Outer W×H×D mm	Inner W×H×D mm	Vol. approx. l	Wght approx. kg	P rating approx. W	Order No.
	IPS260	824×1183×774	640×800×500	256	114	550	**10 26 02605**
③	IPS750	1224×1726×874	1040×1200×600	749	230	550	**10 26 07505**

External dimensions: depth without door handle, depth of door handle 56 mm
Interior: depth less 10 mm for the fan - Peltier



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Accessories

Stainless steel grids (standard version: size 30 and 55: 1 piece, size 110 to 750: 2 pieces)

for type	Qty max.	Order No.
30	3	**10 26 01551**
55/75	4/6	**10 26 01552**
110/160	5/8	**10 26 05008**
260	9	**10 26 01556**
450/410/750	8/14/14	**10 26 01557**

Stainless steel shelves, perforated

for type	Qty max.	Order No.
30	3	**10 26 01561**
55/75	4/6	**10 26 01562**
110/160	5/8	**10 26 04031**
260	9	**10 26 01566**
450/410/750	8/14/14	**10 26 01567**

An extensive selection of accessories and options is available on request.

We reserve the right to make changes in technical specifications. Dimensions subject to confirmation. All performance data are typical mean values for serial devices.

Thermo Scientific RI-150 and RI-250 Cooled Incubators, Thermo Scientific

webcode WW4HV032

thermoscientific

The Thermo Scientific RI cooled incubators are available as benchtop or standalone units and ensure precise temperature conditions in a range of 4 to 60°C for sample storing, incubation, quality control and test applications.

- Microprocessor control for precise temperature adjustment
- Timer function for automatic switch-on and off
- Over and undertemperature alarm as well as overtemperature switch-off
- Easy calibration routine
- Easily accessible lead-through for inserting monitoring probes or cables
- RS232 data interface for temperature monitoring (software not comprised in the scope of delivery)
- Flexible shelf system
- Glass window
- Automatic defrosting

	Article	Chamber vol. l	Inner W × D × H mm	Outer W × D × H mm	Order No.
	RI-150, tabletop unit incl. 2 insoles	150	550×450×615	652×605×1015	**10 79 21500**
④	RI-250, floor unit incl. 3 deposits and lockable roll	250	550×450×1015	652×605×1415	**10 79 22500**



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webcode To see other variants and accessories, please enter the webcode on our website.

Incubators, Cooled Incubators



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webcode WWQGZ003

webcode WWQGZ020

BINDER
Best conditions for your success



Incubators and Cooling Incubators, BINDER

BINDER incubators and cooling incubators stand for optimal incubation and for results that are reproducible in every routine test – even under high batch throughputs in long-term operation.

Equipment series BD/BF:
- Electronically controlled APT.line™ preheating chamber
- Temperature range: from 5°C above room temperature to 100°C
- Independent temperature safety device class 3.1 (DIN 12880) with optical and audible temperature alarm
- RS 422 interface for use with APT-COM™ DataControlSystem communication software

① **Series BD**
Incubators with gravity convection

Type	Interior vol. l	Outer W × H × D mm	Inner W × H × D mm	Order No.
BD 23	20	435×495×520	222×330×277	**41 40 11087**
BD 400	400	1235×1025×765	1000×800×500	**41 40 11073**

Series BF
Incubators with forced convection

Type	Interior vol. l	Outer W × H × D mm	Inner W × H × D mm	Order No.
BF 400	400	1235×1025×765	1000×800×500	**41 40 30241**

Equipment series KB/KT:
- Temperature control through state-of-the-art Peltier cooling system and efficient tubular heating element
- Temperature range KT 4°C to 100°C
- Temperature range KB -10°C to 100°C
- Variable time and weekday programming
- Independent temperature safety device class 3.1 (DIN 12880) with visual and acoustic alarm
- Inner glass door

② **Series KB**
Refrigerated incubators with compressor technology

Type	Interior vol. l	Outer W × H × D mm	Inner W × H × D mm	Order No.
KB 23	20	435×620×520	222×330×277	**41 40 21056**
KB 53	53	635×835×580	400×400×330	**10 40 10199**
KB 115	115	835×1025×650	600×480×400	**10 40 10397**
KB 240	247	925×1465×800	650×785×485	**10 40 10202**
KB 400	400	925×1950×805	650×1270×485	**10 40 10203**
KB 720	698	1250×1925×885	970×1250×576	**10 40 10204**

③ **Series KT refrigerated incubator with Peltier technology**

Type	Interior vol. l	Outer W × H × D mm	Inner W × H × D mm	Order No.
KT 53	52	660×635×630	400×400×334	**10 40 10250**
KT 115	102	860×715×655	600×480×355	**10 40 10209**
KT 170	163	860×1025×655	600×765×355	**10 40 10289**

Incubators Avantgarde.Line, BINDER

The completely redesigned Avantgarde.Line incubators with natural convection or forced convection are now the perfect solution when it comes to meeting growth and incubation requirements. With their exceptional efficiency and perfect temperature accuracy thanks to the very latest APT.line™ technology, this new generation of incubators has real appeal.

Equipment:
- With APT.line technology for homogeneous temperature accuracy
- Controller with LCD display
- Electromechanical control of the exhaust air damper
- Interior door made of safety glass (ESG)
- 2 chromium-plated racks
- Stackable up to 115 l
- Integrated temperature selection limiter class 3.1 (DIN 12880) with optical alarm

Series BD: Incubators with natural convection
Temperature range: ambient temperature 5°C to 100°C

Model	Interior vol. l	Outer W×H×D mm	Inner W×H×D mm	Order No.
BD 56	57	560×625×565	360×420×380	**10 40 11323**
BD 115	112	710×735×605	510×530×420	**10 40 11325**
BD 260	253	810×965×760	610×760×545	**10 40 11329**

Continued on next page

Incubators, Cooled Incubators

Series BF: Incubators with forced convection
Temperature range: ambient temperature 7-8°C to 100°C

Model	Interior vol. l	Outer W×H×D mm	Inner W×H×D mm	**Order No.**
BF 56	59	560×625×565	400×440×340	**10 40 11313**
BF 115	114	710×735×605	550×550×380	**10 40 11315**
BF 260	257	810×965×760	650×780×510	**10 40 11319**

You will find further model sizes in the Classic.Line

Incubators HettCube 400 / 400 R, HETTICH



With its volume and wide range of accessories the HettCube 400 incubator is well suited for all pharmaceutical, research and industrial applications.

This unit is available with refrigeration and a temperature range from 0°C to +65°C (HettCube 400 R).

Technical data:

Outer dimensions (W×D×H):	710 × 825 × 1425 mm
Power supply:	220 – 240 V, 50 – 60 Hz
Temperature range:	1 K above ambient temperature to +65°C (HettCube 400) 0°C to +65°C (HettCube 400 R)
Inner volume:	310 l
Number of trays (scope of delivery):	3 (2 standard + 1 HTS)

Article	Weight kg	Noise level dB(A)	**Order No.**
HettCube 400	117	≦ 41	**10 56 16400**
HettCube 400 R	128	≦ 44	**10 56 16405**

Incubators HettCube 600 / 600 R, HETTICH



With the same versatility as the 400 model, the HettCube 600 has a larger interior volume with 152 l more validated usuable space compared to the smaller model. The HettCube 600 is capable of holding up to 1,800 petri dishes.

This unit is available with refrigeration and a temperature range from 0°C to +65°C (HettCube 600 R).

Technical data:

Outer dimensions (W×D×H):	710 × 825 × 1990 mm
Power supply:	220 – 240 V, 50 – 60 Hz
Temperature range:	1 K above ambient temperature to +65°C (HettCube 600) 0°C to +65°C (HettCube 600 R)
Inner volume:	520 l
Number of trays (scope of delivery):	4 (3 standard + 1 HTS)

Article	Weight kg	Noise level dB(A)	**Order No.**
HettCube 600	164	≦ 41	**10 56 16600**
HettCube 600 R	175	≦ 44	**10 56 16605**

Use the webcode on our website to see a larger selection of products from a specific manufacturer.

Incubators, Cooled Incubators

Incubators, Phoenix Instrument

webcode WWSB5043



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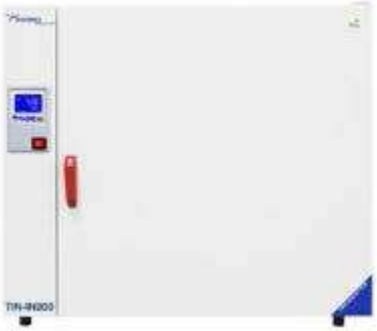
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Natural convection incubators
The processes in many typical biological laboratory applications require gentle and constant heating of the sample. The temperature distribution in the incubator is achieved by natural air movement. This ensures uniform growth conditions in the interior. The large glass window in the door allows permanent monitoring of the sample without having to open the door, thus avoiding unnecessary temperature loss and temperature fluctuations. The instruments with larger volume are equipped with a double door. All models are available as Basic Series and Super Series.

Basic Series
- 7 programs × 10 program steps
- Repeatable work cycles
- Large backlit LCD display
- Easy to read symbols
- Timer and continuous function - Visual and acoustic alarm
- Fan speed control
- Delay of the program start
- Safety temperature to protect the sample

SUPER series
- New generation of color touch screen displays with user-friendly screens and icons
- 8 programs with 8 steps storable,
- USB flash drive
- Easy operation and readability

Technical data:	**TIN-IN16B** **TIN-IN16S**	**TIN-IN35B** **TIN-IN35S**	**TIN-IN55B** **TIN-IN55S**	**TIN-IN120B** **TIN-IN120S**	**TIN-IN200B** **TIN-IN200S**
Volume:	16 litres	35 litres	55 litres	120 litres	200 litres
Max. temperature/resolution:	+70/0.1°C	+70/0.1°C	+70/0.1°C	+70/0.1°C	+70/0.1°C
Temp. homogeneity at 37°C:	±0.4°C	±0.4°C	±0.5°C	±0.5°C	±0.5°C
Temperature variation at 37°C:	±0.3°C	±0.3°C	±0.3°C	±0.3°C	±0.3°C
Heating time at 37°C:	18 min	22 min	25 min	30 min	35 min
Timer:	99:59/cont. operation	99:59/cont. operation	99:59/cont. operation	99:59/cont. operation	99:59/cont. operation
Int. dimension (W×H×D):	270×230×255 mm	360×300×320 mm	400×360×385 mm	520×460×500 mm	610×600×575 mm
No. of shelves (standard/max):	2/6	2/6	2/5	2/7	2/9
Min. distance between shelves:	25 mm	30 mm	50 mm	50 mm	50 mm
Max. load of shelves:	5 kg	7,5 kg	10 kg	10 kg	10 kg
Voltage/Power:	230 V / 85 W	230 V / 125 W	230 V / 250 W	230 V / 350 W	230 V / 600 W
Ext. dimensions (W×H×D):	530×370×400 mm	620×440×460 mm	660×500×545 mm	780×610×645 mm	875×755×710 mm
Weight:	23 kg	33 kg	42 kg	61 kg	77 kg
Safety class:	2	2	2	2	2



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	Model	Order No.		Model	Order No.
①	TIN-IN16B	**10 13 71600**		TIN-IN55S	**10 13 75501**
	TIN-IN16S	**10 13 71601**		TIN-IN120B	**10 13 71206**
②	TIN-IN35B	**10 13 73500**		TIN-IN120S	**10 13 71207**
	TIN-IN35S	**10 13 73501**	③	TIN-IN200B	**10 13 72006**
	TIN-IN55B	**10 13 75500**		TIN-IN200S	**10 13 72007**

Forced air incubators
Our new forced air incubators control the temperature up to 80°C very efficiently. It's possible in addition, set a program at 130°C which allows the thermally sterilization of the chamber. The full wide internal glass door ensures perfect observation of samples without unnecessary and expensive heat losses. The forced ventilation, adjustable on three levels (High, Medium, Low) guarantees a perfect air exchange and an excellent temperature homogeneity in all points of the chamber. All models are available as Basic Series and Super Series.

Basic Series
- 7 programs × 10 program steps
- Repeatable work cycles
- Large backlit LCD display
- Easy to read symbols
- Timer and continuous function
- Visual and acoustic alarm
- Fan speed control
- Delay of the program start
- Safety temperature to protect the sample

SUPER series
- New generation of color touch screen displays with user-friendly screens and icons
- 8 programs with 8 steps storable,
- USB flash drive
- Easy operation and readability



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Continued on next page

Incubators, Cooled Incubators

Technical data:	TIN-IF120B TIN-IF120S	TIN-IF200B TIN-IF200S	TIN-IF400B TIN-IF400S
Volume:	120 litres	200 litres	400 litres
Max. temperature/resolution:	+80/0.1°C	+80/0.1°C	+80/0.1°C
Temp. homogeneity at 37°C:	±0.4°C	±0.4°C	±0.5°C
Temperature variation at 37°C:	±0.1°C	±0.2°C	±0.3°C
Heating time at 37°C:	40 min	45 min	55 min
Timer:	99:59/cont. operation	99:59/cont. operation	99:59/cont. operation
Int. dimension (W×H×D):	520×530×435 mm	645×650×495 mm	1000×800×500 mm
No. of shelves (standard/max):	2/7	2/9	2/10
Min. distance between shelves:	50 mm	50 mm	50 mm
Max. load of shelves:	20 kg	20 kg	20 kg
Voltage/Power:	230 V / 600 W	230 V / 700 W	230 V / 1500 W
Ext. dimensions (W×H×D):	810×750×690 mm	945×870×755 mm	1285×1060×750 mm
Weight:	74 kg	103 kg	160 kg
Safety class:	2	2	2

Model	Order No.
TIN-IF120B	**10 13 71212**
TIN-IF120S	**10 13 71225**
TIN-IF200B	**10 13 72004**

Model	Order No.
TIN-IF200S	**10 13 72005**
④ TIN-IF400B	**10 13 74002**
TIN-IF400S	**10 13 74003**

Shaking equipment, incubators see page 679

CO_2 Incubators

CO_2-Incubators with Hot Air Sterilization, BINDER

Series CB: CO_2 incubators with hot air sterilization and heat sterilizable CO_2 sensor
Equipment:
- Electronically controlled APT.line™ preheating chamber
- Temperature range from 4°C above ambient temperature to 60°C
- Intuitive control via touchscreen
- Hot-air sterilizable CO_2 sensor with infrared technology
- Failsafe CO_2 autodiagnosis system for pH protection of the cell cultures
- CO_2 gas mixing jet with Venturi effect
- Optimised double-pan humidification system with condensation protection

Type	Interior vol. l	Outer W×H×D mm	Inner W×H×D mm	Order No.
CB 60	53	580×720×545	400×400×330	**10 40 10088**
① CB 170	170	680×870×715	560×600×505	**10 40 10131**
CB 260	210	740×1020×785	620×750×575	**10 40 10147**

BINDER
Best conditions for your success



webcode WWQGZ008

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CO_2 Incubators, Memmert

webcode WW91A003

memmert



The CO_2 incubator ICOmed convinces in terms of safety and user friendliness: Thanks to battery-buffered ControlCOCKPIT, the operating display, logging and CO_2 control are fully functional even during a power failure; all parameters are logged fail-safe in conformity with FDA requirements. Visual and acoustic alarm as well as additional alarm notification to mobile phones if the individually adjustable temperature, CO_2, O_2, or humidity ranges are exceeded. The interior chamber has rounded corners for easy cleaning; together with all sensors, it can be sterilised at +180°C in a 60-minute programme. The active humidity control ensures optimum protection of cell and tissue cultures. It minimises evaporation in the interior and provides for short recovery times.

Medical product certification:
Memmert CO_2 ICOmed incubators are class IIa medical devices pursuant to EU Directive MDD 93/42/EWG until May 26, 2024 according to the transitional provisions of (EU) 2017/745 - Article 120 (2). In accordance with their intended use, Memmert CO_2 ICOmed incubators may be used for generating and maintaining constant ambient conditions for applications of in-vitro fertilisation (IVF), in particular the incubation of oocytes, spermatozoons, and zygotes in vessels intended for IVF applications, as well as the genexpression, i.e. the biosynthesis of RNA and proteins.

1 model variant: TwinDISPLAY (a detailed description of the two variants can be found on page 531)

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CO_2 Incubators


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Technical data:

Working temperature range:	at least. 5°C above ambient temperature up to +50°C. Standard sterilisation programme: 60 minutes at 180°C (without removing the sensors)
Setting temperature range:	+18°C to +50°C
Setting accuracy temperature:	0.1°C
Setting range active humidity control:	40 to 97% rh and rh-Off
Setting accuracy humidity:	0.5% rh
Setting range CO_2:	0 to 20%
Setting range O_2:	1 to 20%
Setting accuracy CO_2:	0.1%
Setting accuracy O_2:	0.1%
Power supply:	230 V, 50/60 Hz (other voltages on request)

Available models and sizes with heated inner glass door and outer fully insulated stainless steel door:
Type series ICOmed

	Type	Outer W×H×D mm	Inner W×H×D mm	Vol. approx. l	Wght approx. kg	P rating approx. W	Order No.
①	ICO50med	559×791×521	400×425×330	56	55	1000	**10 26 09050**
②	ICO105med	719×850×591	560×480×400	107	75	1300	**10 26 09105**
③	ICO150med	719×1070×591	560×700×400	156	90	1500	**10 26 09150**
④	ICO240med	759×1180×691	600×810×500	241	110	1650	**10 26 09240**

External dimensions: depth without door handle (door handle depth 56 mm)
Inner dimensions: depth minus 35 mm for fan

Options for ICOmed models

Battery-buffered ControlCOCKPIT
Uninterrupted supply for the entire display unit (ControlCOCKPIT) and therefore complete documentation of all parameters even when there is a power failure. The CO_2 parameter is continuously regulated. For all sizes.

Article	Order No.
Battery-buffered ControlCOCKPIT	**10 26 09302**

Automatic switch-over of gas cylinders
Two gas connections with quick release connectors. Suitable for all sizes.

Article	Order No.
Automatic switch-over of gas cylinders	**10 26 09301**

Electropolished interior space

Article	Order No.
for size 50	**10 26 09401**
for size 105	**10 26 09402**
for size 150	**10 26 09403**
for size 240	**10 26 09404**

Active microprocessor humidification and dehumidification control (40 – 97% rh)
Including digital indication and auto-diagnostic system; ensures even more rapid reaching of set humidity and very short recovery times while avoiding condensate formation. Humidity supply with water (only use demineralized / fully demineralized water with a conductivity of 5 to 10 µS/cm and a pH value between 5 and 7; from an external tank) by a self-priming pump; integral bacteria block by generating hotsteam, dehumidifying via sterile filter. For all sizes.

Article	Order No.
Active microprocessor humidification and dehumidification control (40 – 97% rh)	**10 26 09307**

Control of oxygen concentration
By introducing nitrogen, adjustment range from 1% to 20% O_2, setting accuracy 0,1%. Requires active microprocessor control for humidifying and dehumidifying. Incl. N2 connection set: hose with connection coupling and hose clamp. Suitable for all sizes.

Article	Order No.
Control of oxygen concentration	**10 26 09306**

Peltier cooling unit
Allows for an operating temperature of 37°C also with higher environmental temperatures of up to 35°C.

Article	Order No.
for size 50	**10 26 09501**
for size 105	**10 26 09502**
for size 150	**10 26 09503**
for size 240	**10 26 09504**

Continued on next page

CO_2 Incubators

Interior doors with glass cut-out

Article	Order No.
for size 105	**10 26 09522**
for size 150	**10 26 09523**
for size 240	**10 26 09524**

Accessories for ICOmed models
Stainless steel perforated shelves

for type	max. Qty.	Order No.
50	5	**10 26 09531**
105/150	6/10	**10 26 09532**
240	12	**10 26 09534**

An extensive selection of accessories and options is available on request.

We reserve the right to make changes in technical specifications. Dimensions subject to confirmation.
All performance data are typical mean values for serial devices.

Thermo Scientific™ Heracell™ VIOS160 i CO_2 Incubator with Cell Locker™ System, Thermo Scientific

webcode WW4HV031

thermoscientific



The Thermo Scientific™ Heracell™ VIOS160 i CO2 incubator with the Thermo Scientific™ Cell Locker™ system is an innovative solution which features removable protected chambers developed for improved culturing efficiency and enhanced safety for sensitive cultures. The incubator chamber is divided into six individual autoclavable polycarbonate chambers, so that each different cell type or project is isolated. Each Cell Locker chamber has two 0.2 µm membrane filters allowing for air circulation while excluding microbial contamination. When one Cell Locker chamber is opened, the others remain intact so that the in-vitro environment is retained.

- 165 l interior chamber with 6 segmented gas-tight inner doors and 3 shelves dimensioned for 6 individual Cell Locker chambers
- THRIVE concept with active air supply ensures homogeneous stable growth conditions and shorter recovery times
- Unique integrated water reservoir
- Cleanroom class ISO-5 thanks to HEPA filtration
- Steri-Run overnight sterilisation cycle at 180°C
- iCAN touchscreen with LED display
- Temperature drop in the opened Cell Locker chamber 50% lower than in the standard version with one glass door
- The Cell Locker system provides a 50% reduction of the gas consumption from one door opening process
- Each Cell Locker chamber accommodates 9 × T-75 cell culture vials, 20 × 6-well microtiter plates or 24 × 96-well microtiter plates
- Cell Locker chambers can be manually disinfected or autoclaved

Article	Order No.
Heracell VIOS160 i CO_2 incubator, 165 l, stainless steel interior	**10 79 23125**
Heracell VIOS160 i CO_2 incubator, 165 l, full copper interior	**10 79 22129**
Pack with 6 Cell Lockers with stainless steel insert	**10 79 26506**
Pack with 6 Cell Lockers with copper insert	**10 79 27396**

To see other models, please enter webcode WW4HV031 to access our online catalogue.

CO_2 Incubators, Thermo Scientific

Heracell™ VIOS 160i and 250i CO_2 Incubators
Temperature-controlled incubator with air jacket for cell and tissue cultures with the unique Thermo Scientific™ THRIVE™ concept with active air guidance for short recovery times and homogeneous growth conditions.

- Working space made of electropolished stainless steel or as an option antimicrobial solid copper
- Cleanroom class ISO-5 thanks to HEPA Filtration
- Hot air sterilisation at 180°C, duration < 12 hours
- Covered water reservoir, easy to fill and to drain, for maximum relative humidity without condensate formation
- iCAN graphic touch screen with integrated data logger
- State-of-the-art sturdy maintenance-free sensors, installed directly in the chamber, reliably monitor the compliance with the target conditions
- Standard equipment: autostart routine, water level alarm, USB interface, floating alarm contact, lockable ducts (42 mm Ø), door with three sections, door hinge on right side or optionally on the left, 3 solid copper or stainless steel inserts

Continued on next page

webcode To see other variants and accessories, please enter the webcode on our website.

CO_2 Incubators

webcode WW4HV020

thermoscientific



Technical data:	Heracell VIOS 160i	Heracell VIOS 250i
Outer dimensions (W×H×D):	637 × 900 × 880 mm	774 × 968 × 934 mm
Interior dimensions (W×H×D):	470 × 607 × 576 mm	607 × 670 × 629 mm
Volume:	165 l	255 l
Temperature range:	+3°C above ambient to +55°C	
CO_2 control range:	1 to 20%	1 to 20%
O_2 control range:	1 to 21% or 5 to 90%	
Relative humidity:	> 93% rH at 37°C	
Power supply:	230 V, 50/60 Hz	230 V, 50/60 Hz

Article	Order No.
Heracell VIOS 160i CO_2 incubator, single chamber, stainless steel chamber, 165 l, TC-CO_2 sensor	**10 79 20287**
Heracell VIOS 160i CO_2 incubator, single chamber, copper chamber, 165 l, TC-CO_2 sensor	**10 79 20286**
Heracell VIOS 160i CO_2 incubator, single chamber, stainless steel chamber, 165 l, IR-CO_2 sensor	**10 79 20478**
Heracell VIOS 160i CO_2 incubator, single chamber, copper chamber, 165 l, IR-CO_2 sensor	**10 79 20476**
Heracell VIOS 160i CO_2 incubator, double chamber, stainless steel chamber, 165 l, TC-CO_2 sensor	**10 79 25502**
Heracell VIOS 160i CO_2 incubator, double chamber, copper chamber, 165 l, TC-CO_2 sensor	**10 79 25503**
Heracell VIOS 160i CO_2 incubator, double chamber, stainless steel chamber, 165 l, IR-CO_2 sensor	**10 79 25515**
Heracell VIOS 160i CO_2 incubator, double chamber, copper chamber, 165 l, IR-CO_2 sensor	**10 79 25517**
Heracell VIOS 250i CO_2 incubator, single chamber, stainless steel chamber, 255 l, TC-CO_2 sensor	**10 79 20966**
Heracell VIOS 250i CO_2 incubator, single chamber, copper chamber, 255 l, TC-CO_2 sensor	**10 79 20965**
Heracell VIOS 250i CO_2 incubator, single chamber, stainless steel chamber, 255 l, IR-CO_2 sensor	**10 79 20994**
Heracell VIOS 250i CO_2 incubator, single chamber, copper chamber, 255 l, IR-CO_2 sensor	**10 79 20993**

Please enter the webcode WW4HV020 to see a wide range of options and more incubator models in our online catalogue.

Vacuum Cabinets

webcode WWQGZ005

BINDER
Best conditions for your success



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Vacuum Drying Ovens, BINDER

When it comes to gentle drying, the BINDER vacuum drying oven convinces with its accurate temperature control. The patented BINDER expansion rack technology also ensures optimal heat transfer. The shelves provide flexible position and make the interior of the chamber easy to clean.

Equipment:
- Temperature range: VD series: ambient temperature +10°C to 220°C, VDL series: ambient temperature +10°C to +110°C
- Program-controlled drying monitoring with automatic ventilation at the end of the process
- Spring-mounted safety glass panel with shatter protection
- VDL safety concept
- Also available as complete system with module and vacuum pump.

Series VD
Vacuum drying oven for non-flammable solvents

	Type	Interior vol. l	Outer W×H×D mm	Inner W×H×D mm	Order No.
	VD 23	24	523×698×413	285×285×295	**10 40 10001**
①	VD 56	55	638×815×461	400×400×343	**10 40 10002**
	VD 115	119	743×942×581	506×506×460	**10 40 10003**

Series VDL
Safety vacuum drying oven for flammable solvents

	Type	Interior vol. l	Outer W×H×D mm	Inner W×H×D mm	Order No.
	VDL 23	24	523×698×413	285×285×295	**10 40 10009**
②	VDL 56	55	638×815×461	400×400×343	**10 40 10010**
	VDL 115	119	743×942×581	506×506×460	**10 40 10012**

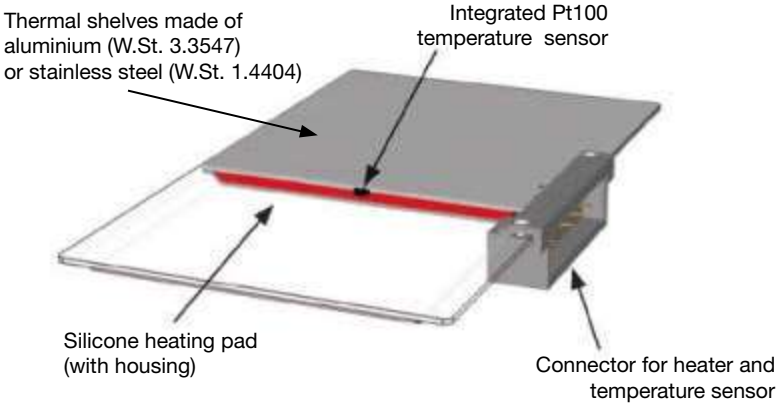
memmert

DIRECT HEATING IN THE VACUUM DRYING OVEN

Different heating concepts are possible in the vacuum drying process: Air jacket heating on the one hand and direct plate heating on the other hand. Since there is no air to conduct the heat in vacuum processes, direct contact between heater and charge is recommended to achieve good results. For this reason, direct heating in the vacuum drying oven has some advantages compared to traditional air jacket heating: In vacuum drying, it provides for short heating and process times and optimum vacuum drying results thanks to the direct contact to the heating elements (thermal shelves). Good heat transfer, short heating times, excellent temperature distribution values, and precise control of the parameters are major criteria for users of vacuum drying ovens. Memmert direct heating in Memmert vacuum drying ovens, for example, meets all these requirements. In these ovens, the direct heaters are cured on to the bottom of the thermal shelves, protected by an aluminium or stainless steel cover plate.

In most cases, shelves for vacuum ovens are by default made of surface-finished anodised aluminium or stainless steel to ensure optimum temperature distribution in the vacuum on all separately heated levels. In particular for applications with highly corrosive materials, stainless steel plates should be used. Some vacuum oven manufacturers offer thermal shelves with dedicated Pt100 temperature sensors placed inside the thermal shelf in direct vicinity to the charge. A special connector is provided between each shelf and the rear wall so that the thermal shelves can be removed as required and plugged in on different levels. This also significantly uses the energy consumption. Since the charge is in direct contact with the heating, heat loss is avoided and the charge is heated directly via the thermal shelf. The separate control circuits react precisely to different charge volumes and the humidity of the material and evenly maintain the setpoint temperature. The benefits of direct heating compared to air jacket heating: high energy efficiency and accurate temperature values.





Directly heated thermal shelves at Memmert

Good to know: To get premium results from your vacuum drying oven, combine it with a speed-controlled vacuum pump. If another vacuum pump or a central vacuum supply is connected, vacuum control will be effected fully automated via solenoid valves.

Vacuum Cabinets

webcode WW91A006

memmert

Vacuum Ovens, Memmert



① **Series VO with TwinDISPLAY (a detailed description of the model variant can be found on page 531)**
Reliable, comfortable and energy-efficient – that's how vacuum drying works today. Separately adjustable and directly heated thermoshelves ensure precise temperature control and, thanks to the digital pressure control, the chamber load is dried not only at high speed but also extremely gently in our powerful and robust vacuum drying oven.

Multi-Level-Heating & Sensing: intelligent direct heating via individually placeable thermoshelves with separate sensors guarantees short heating and process times in the Memmert vacuum drying oven. The control circuits react precisely to different loads or humidity and maintain a constant set temperature during vacuum drying. Thanks to the direct contact between the heating and the load, practically no heat loss occurs. Each thermoshelf can be individually calibrated.

Together with the speed-controlled vacuum pump, the vacuum oven VO forms an unbeatably energy-efficient duo. The pump is perfectly tidied away in the matching base cabine.

Technical Data:

Work temperature range:	at least 5°C above room temperature to +200°C
Set temperature range:	+20°C up to +200°C
Setting accuracy:	up to 99.9: 0,1°C / from 100°C: 0.5°C
Power supply:	230 V, 50/60 Hz (other voltages on request)

Type	Outer W×H×D mm	Inner W×H×D mm	Vol. approx. l	Wght approx. kg	P rating approx. W	Order No.
VO29	550×607×400	385×305×250	29	55	820	**41 26 60200**
VO49	550×687×480	385×385×330	49	83	2020	**41 26 60400**
VO101	710×767×550	545×465×400	101	110	2420	**41 26 60500**

External dimensions: depth without door handle, depth of door handle 38 mm
Electrical load: with max. number of thermoshelves
All vacuum ovens according to DIN 12880:2007-05

Options

Premium module
Premium module: comprises the switching to inert gas function (for sizes 49 and 101 only), further thermoshelf connections 1 (size 29) or 2 (size 49/101), one additional thermoshelf (size 49/101)

Article	Order No.
for VO29	**10 26 06200**
for VO49	**10 26 06400**
for VO101	**10 26 06500**

Accessories

Thermoshelves aluminium
anodized, material 3.3547 (ASTM B209); standard version: 1 piece

Article	Order No.
for VO29	**10 26 08200**
for VO49	**10 26 08400**
for VO101	**10 26 08500**

Thermoshelves stainless steel
No. 1.4404 (ASTM 316 L) for particularly corrosion-prone materials

Article	Order No.
for VO29	**41 26 61428**
for VO49	**41 26 61448**
for VO101	**41 26 61458**

Noise absorbing vacuum pump module without pump
With antivibration metal plate at the bottom to accommodate the vacuum pump, including full-sight glass door, socket, signal cable and connecting hose to the vacuum oven.

Article	Order No.
for VO29	**41 26 62200**
for VO49	**41 26 62400**
for VO101	**41 26 62500**

Continued on next page

Vacuum Cabinets

② **Noise absorbing vacuum pump module with pump**
See description above, 230 V, 50 Hz (other voltages upon request)
Requires pump control or Premium module at VO.

Article	Order No.
for VO29	**41 26 63200**
for VO49	**41 26 63400**
for VO101	**41 26 63500**

Vacuum pump with chemical resistant 4-fold membrane
With automatic purge process through controller of vacuum oven (signal cable and vacuum connection - see below - are compulsory).
For combination with pump control or Premium module.

Article	Order No.
for VO29/49/101	**10 26 07509**
Feed rate approx. 50 Nl/min = 3.0 m^3/h	

Accessories

Article	Order No.
Signal line 3 m long, for optimizing pump performance by demand-controlled activation of purge of Memmert pump	**41 26 65245**
Vacuum-connecting tube 3 m long, from oven to Memmert pump incl. optimized connection accessories	**41 26 66245**

③ **Subframe**
Tubular steel, black enamelled (for stacking unit consisting of vacuum oven and pump module, total height: 1650 mm)

Article	Order No.
for VO29	**41 26 67200**
for VO49	**41 26 67400**
for VO101	**41 26 67500**

An extensive selection of accessories and options is available on request.

We reserve the right to make changes in technical specifications. Dimensions subject to confirmation.
All performance data are typical mean values for serial devices.

Climatic Chambers, Test Chambers

Temperature and Humidity Chamber, LAT

webcode WWW4U106

Stabiliy chamber and frame are perfect for ICH Q1A stability tests.
Durability, package tests, accelerated aging for a wide range of applications such as pharmaceutical products / packaging; medical products / packaging; bodycare product; consumers; products and research.

Standard equipment
- Micro processor PID control panel with color touchscreen 9″
- Slot SD card for storage data
- Visual and audible alarms
- Password protected power switch and settings
- 4.3″ LCD touchscreen with alarm system
- Data Logger with USB port

Optional accessories
- Water tank
- Inner glass door
- Safety thermostat
- Backup battery
- LAN port

Technical data:

Temperature:	+10°C to +60°C
Humidity range:	20°C to 90°C
Dew point:	5°C to 50°C
UR Stability:	± 3% to 5%

Model	Vol. l	Qty shelves	W × D × H mm	Order No.
PH 45	450	3	700×1000×1730	**10 20 11045**
PH 70	700	4	700×1000×1990	**10 20 11170**
PH 140	1400	8	1400×1000×1990	**10 20 11140**



Climatic Chambers, Test Chambers

webcode WW91A007

memmert



①

Humidity Chambers, Memmert

Ramp programming for temperature and humidity, active humidity control, and the precise temperature regulation provide for a controlled, physiologically ideal environment for the simulation of real conditions. Suitable for a wide range of applications from building physics over corrosion tests to biological research.

Humidity chamber HCP with TwinDISPLAY (a detailed description of the model variant can be found on page 531)
This climate chamber offers the full range of comfort, reliability and safety. Thanks to active humidity control from 20% to 95% rh and unsurpassed homogeneity of temperature and humidity over the entire interior, it is ideally suited for environmental testing, environmental simulation, accelerated service life tests and 85/85 tests according to IEC 60068-2-67 and IEC 60068-2-78.

The active humidity control ensures an ideal homogeneity of temperature and humidity as well as short recovery times after opening the door in this attractively priced and practically maintenance-free climate chamber. In combination with heating on all six sides, including heated inner glass door, it also minimises vaporisation in the interior and thus the risk of condensed water dripping onto the test object. An aluminium thermal conductive layer supports optimum temperature distribution and serves as a heat accumulator in case of a temporary power failure.

Technical Data:

Work temperature range:	at least 7°C above room temperature to +90°C
Set temperature range:	+18°C to +90°C
Setting accuracy:	0.1°C
Setting range active humidity:	20% rh to 95% rh and rh-Off
Setting accuracy active humidity:	0.5% rh
Power supply:	230 V / 115 V, 50/60 Hz

	Type	Outer W×H×D mm	Inner W×H×D mm	Vol. approx. l	Wght kg	P rating approx. W	Order No.
	HCP50	559×795×521	400×425×330	56	55	230 V: 1520 W	**10 26 00508**
①	HCP105	719×850×591	560×480×400	107	75	230 V: 1720 W	**10 26 01058**
	HCP150	719×1070×591	560×700×400	156	90	230 V: 1800 W	**10 26 01508**
	HCP240	759×1180×691	600×810×500	241	110	230 V: 1840 W	**10 26 02408**

External dimensions: Depth without door handle, depth of door handle 38 mm.
Inner dimensions: Depth is reduced by 25 mm for the fan.

Stainless steel shelves, perforated
Standard version: size 50: 1 piece, sizes 105 to 240: 2 pieces

for type	Qty max.	Order No.
50	5	**10 26 00158**
105/150	6/10	**10 26 07418**

for type	Qty max.	Order No.
240	12	**10 26 05158**

Stainless steel grids

for type	Qty max.	Order No.
50	5	**10 26 03118**
105/150	6/10	**10 26 04118**

for type	Qty max.	Order No.
240	12	**10 26 05118**

An extensive selection of accessories and options is available on request.

We reserve the right to make changes in technical specifications. Dimensions subject to confirmation. All performance data are typical mean values for serial devices.

BINDER
Best conditions for your success

webcode WWQGZ001



②

Constant Climate Chambers, BINDER

The BINDER constant climate chambers for long-term stable temperature/humidity/light simulation in one chamber. They are ideal for norm-compliant work according to ICH guidelines and work independent of water supply.

Equipment:
- Electronically controlled APT.line™ preheating chamber with cooling system
- Intuitive touchscreen controller
- Independent temperature safety device class 3.1 (DIN 12880) with optical and audible temperature alarm
- Access port with silicone plug Ø 30 mm, left side
- Ethernet interface for communication software APT-COM™ DataControlSystem

Series KBF
Constant climatic chambers with large temperature and moisture range, temperature range: 0°C to 70°C, moisture range: 10% rel. moisture to 80% rel. moisture

	Type	Interior vol. l	Outer W×H×D mm	Inner W×H×D mm	Order No.
	KBF 115	102	880×1050×650	600×483×351	**41 40 20093**
②	KBF 240	247	925×1460×800	650×785×485	**10 40 10105**
	KBF 720	700	1250×1925×890	973×1250×576	**41 40 20096**
	KBF 1020	1020	1250×1925×1145	976×1250×836	**10 40 10326**

Climatic Chambers, Test Chambers

Constant Climate Chambers with large Temperature/Humidity Range KBF-S Solid.Line, BINDER

webcode WWQGZ022

BINDER
Best conditions for your success

The new Solid.Line KBF-S climate chamber is a custom-made solution for long-term testing and accelerated stability testing for pharmaceutical products in accordance with the ICH Q1A guideline. The corrosion-free and condensation-free interior also ensures exceptionally stable temperature and moisture levels, even when fully loaded.

Features:
- Temperature range: 0 °C to 70 °C
- Humidity range: 20% to 80% RH
- APT.line™ preheating chamber technology
- Humidity regulation with capacitive humidity sensor and steam humidification
- LCD to display temperature and humidity along with additional information and alarms

Model	Interior vol. l	Outer W×H×D mm	Inner W×H×D mm	**Order No.**
KBF-S 115	102	880×1050×650	600×483×351	**10 40 10370**
KBF-S 240	247	925×1460×800	650×785×485	**10 40 10366**
KBF-S 720	700	1250×1925×890	973×1250×576	**10 40 10368**
KBF-S 1020	1020	1250×1925×1145	976×1250×836	**10 40 10372**



Constant Climate Chambers, Memmert

webcode WW91A008

memmert

Constant climate chambers HPP with TwinDISPLAY (a detailed description of the model variant can be found on page 531)

The constant climate chamber with the unique ControlCOCKPIT for quick, intuitive operation. Perfect for stability tests, climate-controlled storage and conditioning. Highly economical and maintenance-free.

Technical data:
Work temperature range size 110 – 1060
without light, without humidity: 0°C (at least 20°C under room temperature) up to +70°C
without light, with humidity: +5°C (at least 20°C under room temperature) up to +70°C
Work temperature range size 110 – 750
with light, without humidity or with humidity: +15°C up to +40°C
Work temperature range size 1400 – 2200
with light, without humidity or with humidity: +15°C (at least 20°C under room temperature) up to +60°C
Power supply: 230 V, 50/60 Hz (other voltages on request)

	Type	Outer dimensions W × H × D mm	Inner dimensions W × H × D mm	Vol. approx. l	Wght approx. kg	P rating approx. W	**Order No.**
	HPP110	745×864×656	560×480×400	108	77	650	**10 26 04110**
①	HPP260	824×1183×756	640×800×500	256	122	920	**10 26 04260**
	HPP410	824×1720×756	640×1200×500	384	160	1300	**10 26 04410**
	HPP750	1224×1720×856	1040×1200×600	749	208	1500	**10 26 04750**
	HPP1060	1224×1720×1107	1040×1200×850	1060	260	1600	**10 26 04160**
②	HPP1400	1435×1913×1007	1250×1450×750	1360	450	3100	**10 26 04140**
	HPP2200	2157x1913x1007	1972x1450x750	2140	493	3500	**10 26 04220**



①

External dimensions: Depth without door handle, depth of door handle 56 mm.

Inner dimensions: Depth is reduced by 10 mm for the fan - Peltier

Light modules for HPP110, 260, 410 and 750

10 LED light strips (HPP110), 14 LED light strips (HPP260/410/750) arranged on the side wall of the interior, programme-controlled dimming from 0 to 100% in 1% steps, ramp programming in combination with temperature and humidity

Article	for size	**Order No.**
Cold white light module 6,500 Kelvin	110	**10 26 01087**
Cold white light module 6,500 Kelvin	260	**10 26 01089**
Cold white light module 6,500 Kelvin	410	**10 26 01094**
Cold white light module 6,500 Kelvin	750	**10 26 01090**
Warm white light module 2,700 Kelvin	110	**10 26 01095**
Warm white light module 2,700 Kelvin	260	**10 26 00996**
Warm white light module 2,700 Kelvin	410	**10 26 01097**
Warm white light module 2,700 Kelvin	750	**10 26 01098**
Cold white light module 6,500 Kelvin + warm white 2,700 Kelvin	110	**10 26 01088**
Cold white light module 6,500 Kelvin + warm white 2,700 Kelvin	260	**10 26 01091**
Cold white light module 6,500 Kelvin + warm white 2,700 Kelvin	410	**10 26 01093**
Cold white light module 6,500 Kelvin + warm white 2,700 Kelvin	750	**10 26 01092**



②

Continued on next page

Climatic Chambers, Test Chambers

Stainless steel shelves, perforated

for type	Qty max.	Order No.
260	9	**10 26 01566**
450/410/750	8/14/14	**10 26 01567**

for type	Qty max.	Order No.
1060	14	**10 26 01569**

Stainless steel grids
Standard version: sizes 110 – 1060: 2 pieces, size 1400: 4 pieces, size 2200: 6 pieces

for type	Qty max.	Order No.
110/160	5/8	**10 26 05008**
260	9	**10 26 01556**
450/410/750	8/14/14	**10 26 01557**

for type	Qty max.	Order No.
1060	14	**10 26 01559**
1400/2200	28/42	**10 26 01570**

An extensive selection of accessories and options is available on request.
We reserve the right to make changes in technical specifications. Dimensions subject to confirmation. All performance data are typical mean values for serial devices.

webcode WW91A010

memmert

Climate Chambers, Memmert

The constant climate chamber with the unique ControlCOCKPIT for quick, intuitive operation. Unparalleled homogeneity of temperature and humidity for long-term stability testing. Designed in particular for testing pharmaceuticals according to ICH, Q1A and Q1B, Option 2, and other comparable standards for stability testing of cosmetics and foods.
For testing according to ICH Q1B, model ICHL / ICHLeco is equipped with an illumination unit.
The model ICH C offers in addition to the standard equipment of the ICH / ICHeco a digitalized electronic CO_2 control with a setting range of 0 to 20% CO_2 (ICH750: 0 to 10% CO_2).
With TwinDISPLAY (a detailed description of the model variant can be found on page 531).


① ICH750

Technical data:

Power supply:	230 V, 50/60 Hz
Operating temperature range ICH/ICHeco/ ICHL/ICHLeco with humidity and/or light:	+10°C to +60°C
Operating temperature range ICH C with and without humidity:	+10°C to +50°C
Operating temperature range without humidity ICH/ICHeco:	-10°C to +60°C
(not suitable for permanent storage at minus temperatures. In case of permanent operation, icing of the glass door may occur)	
Operating temperature range without humidity ICHL / ICHLeco:	0°C to +60°C
Setting temperature range ICH/ICHeco:	-10°C to +60°C
Setting temperature range ICHL/ICHLeco:	0°C to +60°C
Setting temperature range ICH C:	+10°C to +50°C
Humidity range:	10 to 80 % rh

	Type	Outer dimensions W × H × D mm	Inner dimensions W × H × D mm	Vol. approx. l	Wght approx. kg	P rating approx. W	Order No.
	ICH110	745×1233×585	560×480×400	108	109	1350	**10 26 00110**
	ICH260	824×1552×685	640×800×500	256	160	1350	**10 26 00260**
①	ICH750	1224×1950×785	1040×1200×600	749	249	1350	**10 26 00750**
	ICH110eco	745×1233×585	560×480×400	108	114	1350	**10 26 00111**
	ICH260eco	824×1552×685	640×800×500	256	165	1350	**10 26 00261**
	ICH750eco	1224×1950×785	1040×1200×600	749	254	1350	**10 26 00751**
	ICH110L	745×1233×585	560×480×400	108	109	1450	**10 26 01110**
	ICH260L	824×1552×685	640×800×500	256	160	1450	**10 26 01260**
	ICH750L	1224×1950×785	1040×1200×600	749	249	1530	**10 26 01750**
	ICH110Leco	745×1233×585	560×480×400	108	114	1450	**10 26 00112**
	ICH260Leco	824×1552×685	640×800×500	256	165	1450	**10 26 00262**
	ICH750Leco	1224×1950×785	1040×1200×600	749	254	1530	**10 26 00752**
	ICH110C	745×1233×585	560×480×400	108	109	1350	**10 26 02110**
	ICH260C	824×1552×685	640×800×500	256	160	1350	**10 26 02260**
	ICH750C	1224×1950×785	1040×1200×600	749	249	1350	**10 26 02750**

External dimensions: Depth without door handle, depth of door handle 56 mm
Inner dimensions: Depth is reduced by 33 mm for the fan.

Accessories:
For additional stainless steel grids and stainless steel perforated plates, refer to ICP models.
An extensive selection of accessories and options is available on request.

We reserve the right of technical modifications. Dimensions are subject to confirmation. All performance characteristics are typical mean values for serial units.

Climatic Chambers, Test Chambers

Environmental Test Chambers, Memmert

webcode WW91A009

memmert

Environmental test chamber CTC / Temperature test chamber TTC
Simulate the perfect atmosphere for climatic and temperature tests, in particular acc. to DIN EN 60068-2-1, 2-2 and 2-3. Provide for unlimited flexibility for controlled material and function tests as well as for ageing tests.

Ventilation and control:
- high-performance air fan in working chamber
- depending on operation status, automatic adaption of fan speed resp. manual adjustment from 10 to 100%
- adaptive, fuzzy-supported, multifunctional, digital microprocessor PID-controller
- autodiagnostic system with fault indication on temperature and humidity control
- 2 Pt100 sensors Class A in 4-wire-circuit, mutually monitoring and taking over the performance at the same temperature value
- digital 7-day-programme-timer with real time clock, precise minute setting
- integrated timer for tempering profiles of up to 40 ramps, each segment adjustable from 1 min. up to 999 hours
- digital display (LED) of all set parameters, such as temperature, weekdays, time, humidity, fan speed and set-up values - language to be chosen in setup
- digital display of set values (resolution: 0.1°C below 99.9°C, 0.5°C above 100°C) and actual values (resolution: 0.1°C) of temperature (LED)
- long-term logging (ring store) of all relevant data, GLP-conforming as data logger - 1024 kB
- programme stored on power failure
- parallel printer interface (incl. real-time clock with date function) for printing logging files, suitable all PCL3-compatible ink-jet printers (USB available via converter, see accessories)
- USB interface including MEMMERT Software “Celsius” with added functions for programming and documentation
- chip card control incl. one MEMoryCard XL with 32 kB (up to 40 ramps)
- incl. works calibration certificate for -20 °C and +160 °C

Additional standard equipment for CTC:
- active control for humidifying and dehumidifying (10-98% rh) with digital display of relative humidity - resolution of display: 0,5%, setting accuracy: 1%
- humidity supply with distilled water from two 10-l- tanks integrated in unit on telescopic slide with automatic change over
- 2 x 10 l tanks as condensate collector, on telescopic slide
- incl. works calibration certificate for +30°C at 60% rh
- 1 grid included in the standard scope of delivery

Technical data:
Temperature range:
CTC/TTC without humidity control: from -42°C up to +190°C
CTC with humidity control: from +10°C up to +95°C

	Type	Outer W × H × D mm	Inner W × H × D mm	Vol. approx. l	Wght approx. kg	P rating approx. W	**Order No.**
①	CTC256	898 × 1730 × 1100	640 × 670 × 597	256	337	7000	**10 26 02561**
	TTC256	898 × 1730 × 1100	640 × 670 × 597	256	337	7000	**10 26 02562**

Outside dimensions: Width plus 20 mm for silicone plug and 5 mm for interfaces, depth without door lock, door handle depth 50 mm


①

Accessories CTC256 / TTC256

Article	**Order No.**
Full-sight glass door, heated	**10 26 02510**
Stainless steel grid	**10 26 02513**
External control and logging package	**10 26 02519**

An extensive selection of accessories and options is available on request.

We reserve the right to make changes in technical specifications. Dimensions subject to confirmation.
All performance data are typical mean values for serial devices.

Your specialized laboratory dealer –
fast, competent and economical

Climatic Chambers, Test Chambers

webcode WWSB5045

Climatic Chambers CH-150, CH-250, Phoenix Instrument



①



②

The climatic chambers are the ideal instrument to do stability and aging test on materials, simulation of environmental conditions and stress test in several fields such as: industry, food, textile, packaging, rubber/plastics, etc.

Thanks to the digital control by PID regulator of the temperature and of the humidity percentage, it's possible simulate many environmental situations and use of materials, and moreover test the forced aging effects. The external steel door is equipped of a wide glass window that permits the observation of the materials during test. The stainless steel chamber with rounded corners, the shelves and their fixing system completely removable, make the chamber perfectly cleanable. A LED inner lamp for observation of the samples is included. The standard supplied side through hole of 25 mm diameter allows to install probes inside the chamber. Digital backlit alphanumeric LCD screen. Digital timer, clock and date for GLP functions. Standard supplied mini printer for operating and set parameters output. Safety class 3.1 with double digital limiter of temperature and additional fluid expansion limiter.

Technical data:	**CH-150**	**CH-250**
Usable volume:	150 litres	250 litres
Temperature range:	10 – 85°C (without humidity) +10 – 70°C (with humidity)	-10 – 85°C (without humidity) +10 – 70°C (with humidity)
Temperature resolution:	±0.1°C	0.1°C
Temperature homogeneity in the chamber:	± 0.5°C (without humidity) ± 1.5°C (10 ÷ 70°C / 45 ÷ 95% RH)	± 0.5°C (without humidity) ± 1.5°C (10 ÷ 70°C / 45 ÷ 95% RH)
Temperature variation on a point:	± 0.2°C (without humidity) ± 0.5°C (10 ÷ 70°C / 45 ÷ 95% RH)	± 0.2°C (without humidity) ± 0.5°C (10 ÷ 70°C / 45 ÷ 95% RH)
Humidity range:	45% – 95%	45% – 95%
Humidity variation on a point:	≦2% RH (10 ÷ 70°C / 45 ÷ 95% RH)	≦2% RH (10 ÷ 70°C / 45 ÷ 95% RH)
Timer/programs:	continuous mode/program 1–100 steps	continuous mode/program 1–100 steps
Safety class:	3.1	3.1
Voltage/power:	230 V / 2200 W	230 V / 2200 W
Internal dimensions:	550 × 670 × 405 mm	600 × 830 × 500 mm
Number of shelves (standard/max.):	3/10	3/12
Useful min. distance between shelves:	45 mm	45 mm
Max. load of self:	10 kg	10 kg
External dimensions (W×H×D):	690 × 1520 × 790 mm	740 × 1680 × 885 mm
External water tank dimensions (W×H×D):	370 × 340 × 560 mm	370 × 340 × 560 mm
Weight:	145 kg	185 kg

Article	**Order No.**
① Climatic chamber CH-150	**10 13 71500**
② Climatic chamber CH-250	**10 13 72500**

Furnaces

High Temperature Furnaces, Nabertherm



③

High temperature furnaces series LHT 02/16 – LHT 08/18, version P470
- Tabletop model
- Tmax 1600°C, 1650°C, 1750°C, or 1800°C
- High-quality molybdenum disilicide heating elements
- Dual shell housing made of sheets of textured stainless steel
- Compact design with lift door, opening upwards
- With controller P 470 with 50 programs each with 40 segments

Type	T_{max} °C	Inner dimensions W×D×H mm	Outer dimensions W×D×H mm	Vol. l	Connec. V/kW	**Order No.**
LHT 02/16	1600	90×150×150	470×630×760+260	2	230/3.0	**10 04 24041**
LHT 04/16	1600	150×150×150	470×630×760+260	4	400/5.2	**10 04 24042**
LHT 08/16	1600	150×300×150	470×810×760+260	8	400/8.0	**10 04 24043**
③ LHT 01/17 D	1650	110×120×120	385×425×525+260	1	230/2.2	**10 04 24044**
④ LHT 03/17 D	1650	135×155×200	470×630×760+260	4	230/3.0	**10 04 24045**
LHT 02/17	1750	90×150×150	470×630×760+260	2	230/3.0	**10 04 24046**
LHT 04/17	1750	150×150×150	470×630×760+260	4	400/5.2	**10 04 24047**
LHT 08/17	1750	150×300×150	470×810×760+260	8	400/8.0	**10 04 24048**
LHT 02/18	1800	90×150×150	470×630×760+260	2	230/3.6	**10 04 24049**
LHT 04/18	1800	150×150×150	470×630×760+260	4	400/5.2	**10 04 24050**
LHT 08/18	1800	150×300×150	470×810×760+260	8	400/9.0	**10 04 24051**

Outer dimensions incl. opened lift door

Continued on next page

Furnaces

High temperature furnaces series LHTC 03/14 – LHTCT 08/16, version C450

- Tabletop model
- Tmax 1400°C, 1500°C, 1550°C or 1600°C
- High-quality SiC rod heating
- Dual shell housing made of sheets of textured stainless steel
- Optional flap door (LHTC) or or lift door (LHTCT)
- With controller C 450 with 10 programs each with 20 segments

	Type	T_{max} °C	Inner dimensions W×D×H mm	Outer dimensions W×D×H mm	Vol. l	Connec. V/kW	Order No.
	LHTCT 03/14	1400	120×210×120	415×545×490	3	400/9	**10 04 24061**
	LHTCT 08/14	1400	170×290×170	490×625×540	8	400/13	**10 04 24062**
	LHTCT 03/15	1500	120×210×120	415×545×490	3	400/9	**10 04 24063**
	LHTCT 08/15	1500	170×290×170	490×625×540	8	400/13	**10 04 24064**
⑤	LHTCT 01/16	1550	110×120×120	340×300×460	1.5	230/3.5	**10 04 24065**
	LHTCT 03/16	1600	120×210×120	415×545×490	3	400/9	**10 04 24066**
	LHTCT 08/16	1600	170×290×170	490×625×540	8	400/13	**10 04 24067**


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Muffle Furnaces with Flap Door or Lift Door, Nabertherm

Electrical heated muffle furnaces series L 1/12, L 3/11 – LT 40/12

- Tmax 1100°C or optional with 1200°C
- Heating from two sides by ceramic heating plates
- Heating from three sides with muffle furnaces L(T)24/11 – L(T)40/11
- Ceramic heating plates with integral heating element which is safeguarded against fumes and splashing, and easy to replace
- All the insulation material is classified as non-carcinogenic pursuant to TRGS 905, class 1 or 2
- Housing made of sheets of textured stainless steel
- Adjustable air inlet integrated in door and exhaust air outlet in rear wall of furnace
- Optional with flap door (L) or lift door (LT)
- R7 controller with adjustable holding temperature (L1/12)
- B410 controller with 5 programs each with 4 segments or optional C450 with 10 programs each with 20 segments

Options:

- Chimney, chimney with fan or catalytic converter (except L 1/12)
- Over-temperature limit controller with adjustable cutout temperature
- Protective gas connection
- Manual or automatic gas supply system

	Type	Vers.	T_{max} °C	Inner dimensions W×D×H mm	Outer dimensions W×D×H mm	Vol. l	Connec. V/kW	Order No.
	L 1/12	R7	1200	90×115×110	290×280×430	1	230/1.5	**10 04 21101**
	L 3/11	B410	1100	160×140×100	385×330×405	3	230/1.2	**10 04 21102**
⑥	L 5/11	B410	1100	200×170×130	385×390×460	5	230/2.4	**10 04 21103**
	L 9/11	B410	1100	230×240×170	415×455×455	9	230/3.0	**10 04 21104**
	L 15/11	B410	1100	230×340×170	415×555×515	15	230/3.5	**10 04 21105**
	L 24/11	B410	1100	280×340×250	490×555×580	24	400/4.5	**10 04 21106**
	L 40/11	B410	1100	320×490×250	530×705×580	40	400/6.0	**10 04 21107**
⑦	LT 3/11	B410	1100	160×140×100	385×330×405	3	230/1.2	**10 04 21121**
	LT 5/11	B410	1100	200×170×130	385×390×460	5	230/2.4	**10 04 21122**
	LT 9/11	B410	1100	230×240×170	415×455×455	9	230/3.0	**10 04 21123**
	LT 15/11	B410	1100	230×340×170	415×555×515	15	230/3.5	**10 04 21124**
	LT 24/11	B410	1100	280×340×250	490×555×580	24	400/4.5	**10 04 21125**
	LT 40/11	B410	1100	320×490×250	530×705×580	40	400/6.0	**10 04 21126**


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Muffle furnaces basic models LE 1/11 – LE 14/11

- Tmax 1100°C, working temperature 1050°C
- Heating from two sides from heating elements in quartz glass tubes
- Maintenance-friendly replacement of heating elements and insulation
- All the insulation material is classified as non-carcinogenic pursuant to TRGS 905, class 1 or 2
- Housing made of sheets of textured stainless steel
- Flap door which can also be used as a work platform
- Exhaust air outlet in rear wall

Options:

- Chimney, chimney with fan or catalytic converter (except LE 1/11 and LE 2/11)

	Type	Vers.	T_{max} °C	Inner dimensions W×D×H mm	Outer dimensions W×D×H mm	Vol. l	Connec. V/kW	Order No.
⑧	LE 1/11	R7	1100	90×115×110	290×280×430	1	230/1.5	**10 04 21131**
	LE 2/11	R7	1100	110×180×110	330×385×430	2	230/1.8	**10 04 21132**
⑨	LE 6/11	R7	1100	170×200×170	390×435×490	6	230/1.8	**10 04 21133**
	LE 14/11	R7	1100	220×300×220	440×535×520	14	230/2.9	**10 04 21134**


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Furnaces



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Chamber Furnaces for Annealing, Hardening and Brazing, Nabertherm

Chamber furnaces with insulating bricks N 7/H - N 87/H designed to withstand harsh use in the laboratory

- Tmax 1280°C
- Three-sided heating from both sides and the floor
- Heating elements on carrier pipes ensure free heat emission and a long useful life
- With multi-layer insulation structure for low energy consumption
- Substructure comprised in the scope of delivery, models N 7/H - N 17/HR are designed as tabletop models
- Parallel swinging door which opens downward
- Door movement cushioned by gas pressure damper
- Controller version B 400 with 5 programs of 4 segments each, or optionally C 440 with 10 program with 20 segments each

Optional:

- Annealing boxes with or without protective gas connection
- Gassing bag with holder
- Charging plates
- Hardening tongs and hardening film



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	Type	Vers.	T_{max} °C	Inner dimensions W × D × H mm	Outer dimensions W × D × H mm	Vol. l	Connec. V	Power kW	Order No.
①	N 7/H	B400	1280	250×250×140	800×650×600	9	230	3.0	**10 04 24001**
	N 11/H	B400	1280	250×350×140	800×750×600	11	230	3.5	**10 04 24002**
	N 11/HR	B400	1280	250×350×140	800×750×600	11	400	5.5	**10 04 24003**
	N 17/HR	B400	1280	250×500×140	800×900×600	17	400	6.4	**10 04 24004**
	N 31/H	B400	1280	350×350×250	1040×1100×1340	30	400	15.0	**10 04 24005**
	N 41/H	B400	1280	350×500×250	1040×1250×1340	40	400	15.0	**10 04 24006**
②	N 61/H	B400	1280	350×750×250	1040×1500×1340	60	400	20.0	**10 04 24007**
	N 87/H	B400	1280	350×1000×250	1040×1750×1340	87	400	20.0	**10 04 24008**

Tube Furnaces

Webcode WWXKS038

behr Labor-Technik



Programmable Infrared Furnace behr IRF 10, Behr

The behr IRF 10 programmable infrared furnace – the optimum solution for many tasks in the laboratory:

- Temperature range up to 1150 °C
- Extremely short heating period (e.g. from room temperature to 1000 °C in 10 sec)
- Up to 5 ramps and 5 heating rates can be programmed optionally. The program controls the individual analysis phases exactly and in a reproducible manner, in the meantime the sample boat remains in the same place
- Cooling with heat pipes – no coolant required
- Quick cooling down with the heat pipe technique and opening of the kiln
- Combustion chamber which can be viewed by the user: The user can push back the upper cylindrical shell (furnace lid) on rollers
- The use of silica combustion tubes with different dimensions allows adaptation to different applications, sample materials and sample quantities
- Two flow meters to connect 2 type of gas, e.g. oxygen and an inert gas
- RS232 serial interface
- Control via PC possible

Article	Order No.
IRF 10, for silica tubes with external diameter of 18 – 20 mm	**42 48 90017**
IRF 10, for silica tubes with external diameter of 22 – 24 mm	**10 48 90041**
IRF 10, for silica tubes with external diameter of 26 – 28 mm	**10 48 90042**



③

Tube Furnaces, Nabertherm

Compact tube furnace series R 50/250/12 – R 170/1000/13

- Tmax. 1200°C or 1300°C
- Working tube of C 530 ceramic including two fibre plugs as standard equipment
- Dual shell housing made of sheets of textured stainless steel
- Solid state relays provide for lownoise operation
- B410 controller with 5 programs each with 4 segments or optional C450 with 10 programs each with 20 segments

Options:

- Over-temperature limit controller with adjustable cutout temperature
- Charge control with temperature measurement in the working tube
- Gas supply systems for protective gas or vacuum operation
- Three-zoned design (heated length from 500 mm)

Continued on next page

Tube Furnaces

	Type	Vers.	T_{max} °C	Outer dimensions W × D × H mm	Tubing O.D. mm	heated L mm	L. const. temp. ±5 k single-zoned mm	L. const. temp. ±5 k three-zoned mm	Tube length mm	**Order No.**
	R 50/250/12	B410	1200	434×340×508	50	250	80	—	450	**10 04 24101**
	R 50/500/12	B410	1200	670×340×508	50	500	170	250	700	**10 04 24102**
	R 120/500/12	B410	1200	670×410×578	120	500	170	250	700	**10 04 24103**
	R 170/750/12	B410	1200	920×460×628	170	750	250	375	1070	**10 04 24104**
	R 170/1000/12	B410	1200	1170×460×628	170	1000	330	500	1400	**10 04 24105**
	R 50/250/13	B410	1300	434×340×508	50	250	80	—	450	**10 04 24106**
	R 50/500/13	B410	1300	670×340×508	50	500	170	250	700	**10 04 24107**
	R 120/500/13	B410	1300	670×410×578	120	500	170	250	700	**10 04 24108**
	R 170/750/13	B410	1300	920×460×628	170	750	250	375	1070	**10 04 24109**
③	R 170/1000/13	B410	1300	1170×460×628	170	1000	330	500	1400	**10 04 24110**

Tube furnaces with stand for horizontal or vertical operation
- Tmax 1100 °C, 1300 °C, or 1500 °C
- Compact design
- Vertical or horizontal operation freely adjustable
- Working height freely adjustable
- Operation also possible separate from stand if safety guidelines are observed
- B410 controller with 5 programs each with 4 segments or optional C450 with 10 programs each with 20 segments
- Working tube made of C 530 ceramic

	Type	Vers.	T_{max} °C	Outer dimensions W × D × H mm	Tubing O.D. mm	heated L mm	L. const. temp. ±5 k mm	Tube length mm	**Order No.**
④	RT 50-250/11	B410	1100	350×380×740	50	250	80	360	**10 04 24121**
	RT 50-250/13	B410	1300	350×380×740	50	250	80	360	**10 04 24122**
	RT 30-200/15	B410	1500	445×475×740	30	200	70	360	**10 04 24123**

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Hinged tube furnaces for horizontal or vertical operation
- Tmax 1100°C or 1300°C
- Housing made of sheets of textured stainless steel
- Frame for vertical operation (RSV)
- Split-type design for simple insertion of the working tube
- Working tube made of ceramic C 530
- B410 controller with 5 programs each with 4 segments or optional C450 with 10 programs each with 20 segments

Options:
- Over-temperature limit controller with adjustable cutout temperature
- Display of inner tube temperature with additional thermocouple
- Different gas supply systems for non-flammable or flammable protective or reactive gases and vacuum operation
- Three-zoned design (heated length from 500 mm)

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	Type	Vers.	T_{max} °C	Outer dimensions W × D × H mm	Tubing O.D. mm	heated L mm	L. const. temp. ±5 k single-zoned mm	L. const. temp. ±5 k three-zoned mm	Tube length mm	**Order No.**
	RSH 50/250/11	B410	1100	420×375×510	50	250	80	—	650	**10 04 24131**
	RSH 50/500/11	B410	1100	670×375×510	50	500	170	250	850	**10 04 24132**
	RSH 120/500/11	B410	1100	670×445×580	120	500	170	250	850	**10 04 24133**
	RSH 170/750/11	B410	1100	920×495×630	170	750	250	375	1100	**10 04 24134**
	RSH 170/1000/11	B410	1100	1170×495×630	170	1000	330	500	1350	**10 04 24135**
	RSH 50/250/13	B410	1300	420×375×510	50	250	80	—	650	**10 04 24136**
⑤	RSH 50/500/13	B410	1300	670×375×510	50	500	170	250	850	**10 04 24137**
	RSH 120/500/13	B410	1300	670×445×580	120	500	170	250	850	**10 04 24138**
	RSH 170/750/13	B410	1300	920×495×630	170	750	250	375	1100	**10 04 24139**
	RSH 170/1000/13	B410	1300	1170×495×630	170	1000	330	500	1350	**10 04 24140**
	RSV 50/250/11	B410	1100	545×590×975	50	250	80	—	650	**10 04 24141**
	RSV 50/500/11	B410	1100	545×590×1225	50	500	170	250	850	**10 04 24142**
	RSV 120/500/11	B410	1100	615×590×1225	120	500	170	250	850	**10 04 24143**
	RSV 170/750/11	B410	1100	665×590×1475	170	750	250	375	1100	**10 04 24144**
	RSV 170/1000/11	B410	1100	665×590×1725	170	1000	330	500	1350	**10 04 24145**
	RSV 50/250/13	B410	1300	545×590×975	50	250	80	—	650	**10 04 24146**
	RSV 50/500/13	B410	1300	545×590×1225	50	500	170	250	850	**10 04 24147**
	RSV 120/500/13	B410	1300	615×590×1225	120	500	170	250	850	**10 04 24148**
⑥	RSV 170/750/13	B410	1300	665×590×1475	170	750	250	375	1100	**10 04 24149**
	RSV 170/1000/13	B410	1300	665×590×1725	170	1000	330	500	1350	**10 04 24150**

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Incinerators


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Rapid Incinerators, Gestigkeit

Rapid incinerators for reducing dry and fluid susbstances to ashes in one-off or series operation

The operating temperature of 950°C is attained within the space of a few minutes. The upper level, with 8 recesses each with a diameter of 34 mm, can take porcelain crucibles of up to 50 mm diameter for drying, pre-heating and fuming-off. Can also reduce fluid substances to ashes. The uninhibited exposure to oxygen speeds up the incineration process. The tilted position of the crucibles in the lower incineration bed (which has a length of 400 mm) allows excellent observation and access to the contents during operation. Housing made of stainless steel, heating element made of heat-resistant CiNi special steel. Delivered ready to connect to 1.5 m cable and earthing pin plug. The power supply is automatically cut off when the service panel is opened.

	Type	Temperature control	Wght kg	Voltage V	P rating W	Order No.
①	SVR/E	electronic temp. control continuously adjustable	7	230	2500	**42 06 50010**
②	SVD 95/P	digital temp. selection and display	7	230	2500	**42 06 50011**
	SV/II	like SVR/E, but without temp. control	6	230	2500	**42 06 50012**

Spare heating elements, ready-to-install

Type	fits	Wght kg	Voltage V	P rating W	Order No.
EH 400	Type SVR/E und SV/II	1.6	230	2500	**42 06 50100**
EH 95	Type SVD 95	1.6	230	2500	**42 06 50101**

Heating Plates, Multipurpose Baths


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webcode WWXKS051


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Heating Plates behrotest® with Metal Safety Grid, Behr

Heating Plates behrotest® with Metal Safety Grid

Adjustable hotplates for general laboratory use. A metal grid protects the user from inadvertent contact with the hot surface.

	Article	Ø mm	Heating cap. W	Mains connec.	Order No.
③	Heating plate behrotest® KP 1	94	500	230 V	**10 48 00504**
	Heating plate behrotest® KP 2	145	1100	230 V	**10 48 00514**
	Heating plate behrotest® KP 3	220	2000	230 V	**10 48 00511**
	Heating plate behrotest® KP 4	180	2000	230 V	**10 48 00513**

Top molds for KP 1

	Article	Order No.
④	**Top mold AM 100/94** for 100 ml round bottom flask incl. distance inlay	**10 48 17701**
	Top mold AM 250/SET for 250 ml round bottom flask with distance stays	**10 48 17706**
	Top mold AM 500/SET for 500 ml round bottom flask with distance stays	**10 48 17707**

Top molds for KP 2

	Article	Order No.
⑤	**Top mold AM 1000/145** for 1000 ml round bottom flask incl. distance inlay	**10 48 17705**

Serial heaters behrotest®

Serial heaters. Each heater is controlled individually and has a control LED. With holders for the telescope bars available as an option.

	Article	Order No.
⑥	**Serial heater HB 4** 4 individually adjustable units, Ø 94 mm	**10 48 00506**
	Serial heater HB 6 6 individually adjustable units, Ø 94 mm	**10 48 00507**
	Serial heater HB 8 8 individually adjustable units, Ø 94 mm	**10 48 00512**
	Holder for HB 4 incl. 4 support rods	**10 48 00508**
	Holder for HB 6 incl. 6 support rods	**10 48 00509**
	Holder for HB 8 incl. 8 support rods	**10 48 00510**

Continued on next page

Heating Plates, Multipurpose Baths

Top molds for serial heaters HB 4, HB 6 and HB 8
Maximum capacity in serial heater HB 4: 4 top molds
Maximum capacity in serial heater HB 6: 6 top molds
Maximum capacity in serial heater HB 8: 8 top molds

	Article	Order No.
④	**Top mold AM 100/94** for 100 ml round bottom flask incl. distance inlay	**10 48 17701**
	Top mold AM 250/SET for 250 ml round bottom flask with distance stays	**10 48 17706**
	Top mold AM 500/SET for 500 ml round bottom flask with distance stays	**10 48 17707**


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Tandem Heaters, Gestigkeit


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Hotplates are made of smoothly finished cast-iron with central expansion recesses. Overflow edge and cover hood are made of rust-proof stainless steel. Each unit has a screw-in fitting for a supporting retort rod. Designed for a maximum temperature of 400°C, infinitely variable from 10 to 100%. 2 pilot lamps, 230 V AC, 100% duty cycle. Models SGR... can be controlled in addition by a contact thermometer. The customary electronic K thermometers can be attached also directly.

Tandem heaters without relay, plate dia. 150 mm

Type	Quantity heating plates	Outer W × H × D mm	P rating W	Wght kg	Order No.
SG 1	1	175×160×200	500	2.7	**43 06 10681**
SG 2	2	300×160×200	1000	5.4	**43 06 10682**
SG 3	3	525×160×200	1500	8.1	**43 06 10683**
SG 4	4	700×160×200	2000	10.8	**43 06 10684**
SG 5	5	875×160×200	2500	13.5	**43 06 10685**
SG 6	6	1050×160×200	3000	16.2	**43 06 10686**

Tandem heaters without relay, plate dia. 85 mm

	Type	Quantity heating plates	Outer W × H × D mm	P rating W	Wght kg	Order No.
⑦	SGK 1	1	125×145×155	450	1.5	**43 06 10688**
	SGK 4	4	485×145×155	1800	4.8	**43 06 10689**
	SGK 6	6	725×145×155	2700	7.0	**43 06 10690**

Tandem heaters with relay and contactor bushing, plate dia. 150 mm

	Type	Quantity heating plates	Outer W × H × D mm	P rating W	Wght kg	Order No.
	SGR 1	1	175×160×200	500	3.0	**43 06 10691**
	SGR 2	2	350×160×200	1000	6.0	**43 06 10692**
⑧	SGR 3	3	525×160×200	1500	9.0	**43 06 10693**
	SGR 4	4	700×160×200	2000	12.0	**43 06 10694**
	SGR 5	5	875×160×200	2500	15.0	**43 06 10695**
	SGR 6	6	1050×160×200	3000	18.0	**43 06 10696**

Accessories

Article	Use	Order No.
Stainless steel support rod ST 12, screw-on, 12 mm Ø		**44 06 48001**
Holder HK3	for contact thermometer	**44 06 48015**
Silicone cable SK 83 with 3-pole connector	for contact thermometer	**44 06 48016**

Use the webcode on our website to see a larger selection of products from a specific manufacturer.

Webcode

Heating Plates, Multipurpose Baths



Multipurpose Heating Baths, Gestigkeit

Multipurpose heating baths

Features:

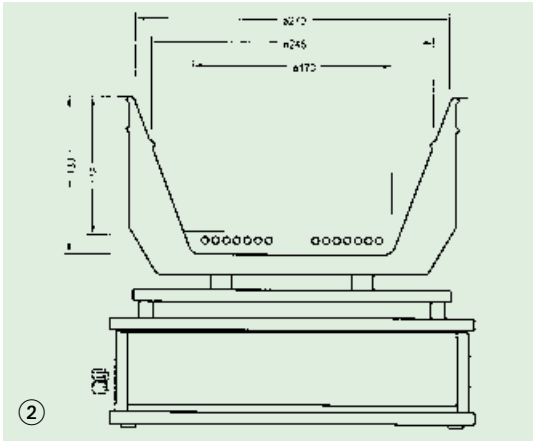
Tightly soldered tubular heater, PID temperature controller with actual value display, contact thermometer bushing, stove-enameled upper jacket, all housing parts made of stainless steel (bade also spray-painted), screw-in sockets for supporting retort rods with a diameter of 12 mm.

Technical data:

External dimensions (W × H × D):	310 × 280 × 310 mm
Internal bath dia.:	170/270 mm bottom/top
Bath depth:	118 mm
Bath capacity:	5 l
Weight:	6.8 kg
Power supply:	230 V~, 50 Hz

	Article	Order No.
①	**Multi-purpose heating bath PZ 26-4, up to 400°C**	**44 06 10203**

Suitable for use as either a fluid, air or sand bath. As bath fillings it is possible to use oils, water, sand or any other filling which will not attack the surface of the bath, which is made of high-grade stainless steel (material No. 1.4301).



	Article	Order No.
②	**Multi-purpose heating bath PZ 26-7, up to 700°C**	**44 06 10205**

Same application options except fluid bath, i.e. for use only as a dry, air or sand bath.

Both baths are also well-suited for rotary evaporators.

Accessories

Article	Order No.
Stainless steel support rod ST 12, screw-on, 12 mm Ø	**44 06 48001**
Stainless steel ring set RI 24/E, 245 mm Ø	**44 06 48004**
Stainless steel sand bath dish SA 24, 245 mm Ø, 80 mm high	**44 06 48010**
Test tube insert RGG 40, for 40 tubes up to 20 mm	**44 06 48014**
Holder HK3	**44 06 48015**
For contact or control thermometer	
Silicone cable SK 83 with 3-pole connector	**44 06 48016**
For contact thermometer	

Parts for overtemperature cut-out on request.



Multipurpose Heating Baths MULTIHITZ, Gestigkeit

MULTIHITZ heating baths for radiant heating of all types of vessels, regardless of form or material. Construction: The bath container is made of high-grade stainless steel with a stainless steel tubular heating element. The upper outer coat is enameled and the base is made of either aluminium or stainless steel.

For use as an air, fluid or sandbath

Infinitely variable temperature up to 600°C. Can also be controlled in addition by a contact thermometer. Designed in accordance with VDE guidelines. Suitable for continuous operation. Ready to connect with 1.8 m cable and earthing contact plug for 230 V AC.

Series heaters, can be regulated up to 600°C

Type	Qty heating plates	Outer W × H × D mm	Useful Ø mm	Wght kg	P rating W	Order No.
SM 1	1	175×215×200	147	2.4	500	**44 06 42001**
SM 2	2	350×215×200	147	4.7	1000	**44 06 42002**
SM 3	3	525×215×200	147	7.0	1500	**44 06 42003**
SM 4	4	700×215×200	147	9.3	2000	**44 06 42004**
SM 5	5	875×215×200	147	11.6	2500	**44 06 42005**
SM 6	6	1050×215×200	147	13.9	3000	**44 06 42006**

Series heaters, can be regulated up to 600°C, with relay and contact bushing for each heater

	Type	Qty heating plates	Outer W × H × D mm	Useful Ø mm	Wght kg	P rating W	Order No.
	SMR 1	1	175×215×200	147	2.7	500	**44 06 43001**
	SMR 2	2	350×215×200	147	5.3	1000	**44 06 43002**
	SMR 3	3	525×215×200	147	7.9	1500	**44 06 43003**
③	SMR 4	4	700×215×200	147	10.5	2000	**44 06 43004**
	SMR 5	5	875×215×200	147	13.1	2500	**44 06 43005**
	SMR 6	6	1050×215×200	147	15.7	3000	**44 06 43006**

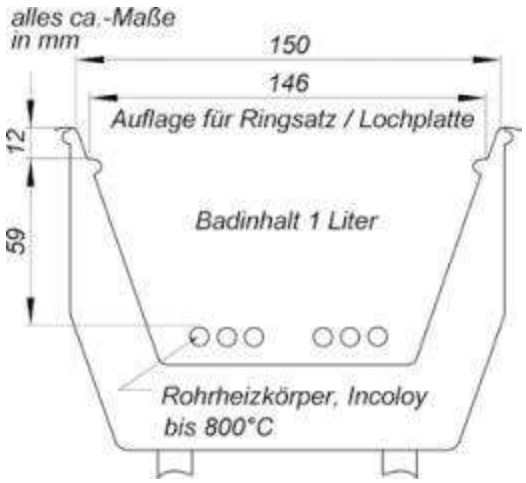
without the illustrated accessories

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Heating Plates, Multipurpose Baths

Accessories

Article	Order No.
Stainless steel support rod ST 12, screw-on, 12 mm Ø	**44 06 48001**
Stainless steel ring set RI 14/E, 145 mm Ø	**44 06 48002**
Stainless steel perforated plate LO 41/E, 145 mm Ø	**44 06 48005**
Stainless steel sand bath dish SA 14	**44 06 48008**
Holder HK3	**44 06 48015**
For contact or control thermometer	
Silicone cable SK 83 with 3-pole connector	**44 06 48016**
For contact thermometer	



Sand Baths, Gestigkeit

Electrical sandbaths with variable temperature control, with or without a thermostatic regulator. Robust construction for continuous performance. Aluminium alloy hotplate. Hotplate corners and edges are subjected to more heat) to guarantee an even temperature over the entire heating surface, which is surrounded a stainless steel frame with a usable height of 50 mm. The sand thus lies directly on the hotplate. Asbestos-free insulation. The housing is constructed from high-grade, stainless steel No.1.4301, whereby the central section has been additionally sprayed in orange. 4 adjustable feet ensure extra stability. Connecting cable approx. 1,7 m long. 230 V/3300 W with earthing contact plug.

Sand baths with infinitely variable control

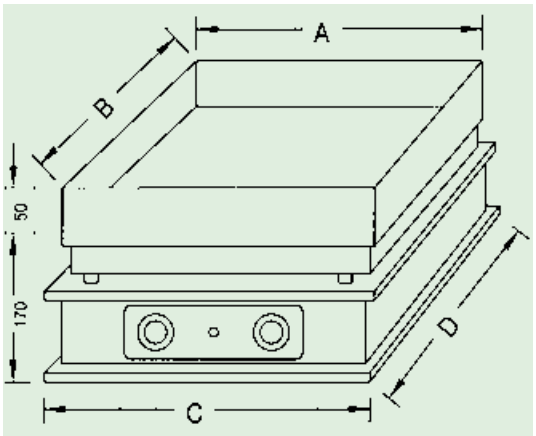
Type	A mm	B mm	C mm	D mm	P rating W	Voltage V	Temp. °C	Wght kg	Order No.
SD7	360	360	358	358	2200	230	370	13	**44 06 30170**
SD8	360	510	364	514	2850	230	370	21	**44 06 30180**
SD9-230	440	590	442	592	4000	230	370	27	**44 06 30190**
SD9-400	440	590	442	592	4000	3×400	370	27	**44 06 30191**

Sand baths with thermostatic control and power controller 10 to 100 W-%

Type	A mm	B mm	C mm	D mm	P rating W	Voltage V	Temp. °C	Wght kg	Order No.
ST71	360	360	358	358	1150	230	30 – 110	14	**44 06 30271**
① ST72	360	360	358	358	2200	230	50 – 300	14	**44 06 30272**
ST73	360	360	358	358	2200	230	100 – 370	14	**44 06 30273**
ST81	360	510	364	514	1800	230	30 – 110	21	**44 06 30281**
ST82	360	510	364	514	2850	230	50 – 300	21	**44 06 30282**
ST83	360	510	364	514	2850	230	100 – 370	21	**44 06 30283**
ST91	440	590	442	592	2000	230	30 – 110	28	**44 06 30291**
ST92-230	440	590	442	592	4000	230	50 – 300	28	**44 06 30292**
ST92-400	440	590	442	592	4000	3×400	50 – 300	28	**44 06 30392**
ST93-230	440	590	442	592	4000	230	100 – 370	28	**44 06 30293**
ST93-400	440	590	442	592	4000	3×400	100 – 370	28	**44 06 30393**

Please note:
Sand baths have a very low temperature range of 30 to 110°C because sand is a poor conductor of heat. This range is not suitable for boiling purposes.





Have any questions?
Just give us a call!

Heating Plates, Multipurpose Baths





Laboratory Heating Bath, Juchheim

① **Laboratory heating bath HB 1500**

The HB 1500 heating bath is designed for many different applications. Water, oils or sand can be used as bath filling. 3 different sizes are available. State-of-the art temperature controller with microprocessor included. Features include a measurement circuit monitor for measurement range violations, sensor/cable short-circuiting and sensor/cable breakage. There is absolutely no maintenance required.

- Microprocessor controller with 4-digit 7-segment display, 10 mm high, green
- Freely parameterizable
- With self-optimizing temperature control function
- Measurement and control range +0.0 to +250.0°C
- Heating power adjustable from 1 to 99%
- Overtemperature switch-off at >10K + nominal value
- Non-wearing internal sensor on bath bottom
- ON/OFF switch, 2-pole, green, illuminated
- Can be switched over to an external sensor
- Material of bath and housing: stainless steel; front and rear: anodized aluminium

Technical data:

Bath volume (litres):	2	4	8
Bath size Ø/H:	200/130 mm	240/150 mm	280/180 mm
Dimensions (W×D×H):	290×270×275 mm	360×290×275 mm	370×320×285 mm
Heating power:	1500 W	2000 W	2000 W
Weight:	5.8 kg	6.5 kg	7.5 kg
Power supply:	230 V/50 Hz	230 V/50 Hz	230 V/50 Hz

Article	Order No.
Laboratory heating bath HB 1500 2 L	**43 57 15003**
Laboratory heating bath HB 1500 4 L	**43 57 15002**
Laboratory heating bath HB 1500 8 L	**43 57 15001**

② **Laboratory heating bath HB 1500/S**

Equipment identical with HB 1500, plus safety temperature limiter via a separate microprocessor control and an internal temperature sensor. All-pole disconnection of the heating if the safety temperature is exceeded. Overtemperature switch-off at >10K + nominal value is not applicable in this version.

Article	Order No.
Laboratory heating bath 1500/S 2 L	**43 57 15013**
Laboratory heating bath 1500/S 4 L	**43 57 15012**
Laboratory heating bath 1500/S 8 L	**43 57 15011**



Hot Plates, Gestigkeit

Electrical hot plates with variable temperature control, with or without a thermostatic regulator. Robust construction for continuous performance. Aluminium alloy hotplate. Asymmetrical heating system (hotplate corners and edges are subjected to more heat) ensure an even temperature over the entire heating surface. Asbestos-free insulation. The housing is constructed from high-grade, stainless steel No. 1.4301, whereby the central section has been additionally sprayed in orange. Four adjustable feet ensure extra stability. Connecting cable 1,75 m. long. At 230 V~ up to 3200 W with earthing pin plug.

Hot plates with infinitely variable control

Type	A mm	B mm	C mm	D mm	P rating W	Voltage V	Temp. °C	Wght kg	Order No.
HD0	300	300	312	312	1800	230	370	10	**43 06 00120**
HD1	350	350	358	358	2200	230	370	12	**43 06 00121**
HE1	290	440	308	458	2400	230	370	14	**43 06 00131**
HD2	350	500	364	514	2850	230	370	19	**43 06 00122**
HD3-230	430	580	442	592	4000	230	370	25	**43 06 00123**
HD3-400	430	580	442	592	4000	3×400	370	25	**43 06 00140**

Hot plates with thermostatic control and power controller from 10 to 100 W-%

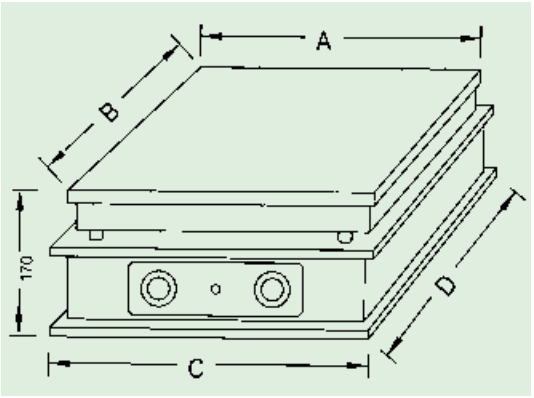
Type	A mm	B mm	C mm	D mm	P rating W	Voltage V	Temp. °C	Wght kg	Order No.
HT01	300	300	312	312	1000	230	30 – 110	11	**43 06 01101**
③ HT02	300	300	312	312	1800	230	50 – 300	11	**43 06 01102**
HT03	300	300	312	312	1800	230	100 – 370	11	**43 06 01103**
HT11	350	350	358	358	1150	230	30 – 110	13	**43 06 01111**
HT12	350	350	358	358	2200	230	50 – 300	13	**43 06 01112**
HT13	350	350	358	358	2200	230	100 – 370	13	**43 06 01113**
TH11	290	440	308	458	1650	230	30 – 110	14	**43 06 01211**

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Heating Plates, Multipurpose Baths

Type	A mm	B mm	C mm	D mm	P rating W	Voltage V	Temp. °C	Wght kg	Order No.
TH12	290	440	308	458	2400	230	50 – 300	14	**43 06 01212**
TH13	290	440	308	458	2400	230	100 – 370	14	**43 06 01213**
HT21	350	500	364	514	1800	230	30 – 110	19	**43 06 01121**
HT22	350	500	364	514	2850	230	50 – 300	19	**43 06 01122**
HT23	350	500	364	514	2850	230	100 – 370	19	**43 06 01123**
HT31	430	580	442	592	2000	230	30 – 110	26	**43 06 01131**
HT32-230	430	580	442	592	4000	230	50 – 300	26	**43 06 01132**
HT32-400	430	580	442	592	4000	3×400	50 – 300	26	**43 06 01232**
HT33-230	430	580	442	592	4000	230	100 – 370	26	**43 06 01133**
HT33-400	430	580	442	592	4000	3×400	100 – 370	26	**43 06 01233**

Please note:
The range 30 to 110°C is not suitable for cooking purposes.



Hot Plates made of CERAN 500®, Gestigkeit

High-duty hot plates made of CERAN®with thermostatic temperature control from +50 to 500°C
CERAN® - an extraordinary glass ceramic which is extremely resistant to breakage and changes of temperature, will not distort, infrared transmitting and also hight acid-resistant. Its popularity as a material for hot plates in increasing continually.

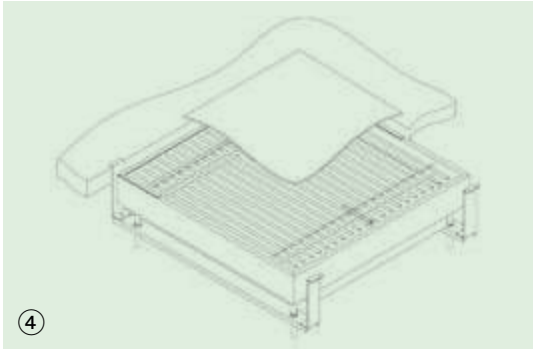
Features:
The low-mass plate is electrically heated over its full surface, and is embedded into a high-grade, stainless steel frame which is mounted on an internally insulated stainless steel housing. The housing is 5 mm bigger all-round than the Ceran plate. Four feet, which can be individually adjusted to an approximate height of 8 mm, ensure wobble-free standing. The overall height when the feet are screwed right in amounts to 98 mm. Types 4 A and 4 SR are equipped with additional sockets for 4 screw-in retort rods with a diameter of 12 mm.

The entire temperature control system is accommodated in a sealed pressure-cast aluminium case with IP 65 protection. The temperature is set on a °C temperature scale from +50 to 500°C and remains constant automatically. Very good control accuracy, e.g. ± 4°C at 100°C to ±2°C at up to 300°C an more, are achieved thanks to the low-mass heating system and fast responding temperature sensor. These small differences are hardly notable in the heated material. Heat up times are very short, e.g. just 8 minutes to 500°C.


①


②


③


④

Series A - Bench-top units with attached control case

	Type	Platform size mm	Wght kg	P rating W	Voltage V	Order No.
①	4 A	430×140	5	1500	230	**43 06 05004**
	11 A	280×280	5.5	2000	230	**43 06 05011**
②	22 A	280×430	7	3000	230	**43 06 05022**
	33 A	430×430	9	4400	3×400	**43 06 05033**
	44 A	430×580	11.5	5700	3×400	**43 06 05044**

Series SR - Units with a separate control case for wall mounting

	Type	Platform size mm	Wght kg	P rating W	Voltage V	Order No.
	4 SR	430×140	5	1500	230	**43 06 05204**
	11 SR	280×280	5.5	2000	230	**43 06 05211**
③	22 SR	280×430	7	3000	230	**43 06 05222**
	33 SR	430×430	9	4400	3×400	**43 06 05233**
	44 SR	430×580	11.5	5700	3×400	**43 06 05244**

The standard length of the cable between the control case and the heater is 1.3 m. Each additional 0.5 m incurs an extra charge equal to 1% of the unit's price. Please quote required cable length when ordering.

④ Series EB-C - Flush-mounting units for installing in benches

Type	Platform size mm	Heating area mm	Height approx. mm	P rating W	Voltage V	Order No.
11 EB-C	350×350	260×260	120	2000	230	**10 06 05311**
22 EB-C	500×350	410×260	120	3000	230	**10 06 05322**
33 EB-C	500×500	410×410	120	4400	3×400	**10 06 05333**
44 EB-C	650×500	560×410	120	5700	3×400	**10 06 05344**

Hot plate as flush-mounting unit for installing in benches. Separate controller case for installing behind the bench frame. The standard length of the cable between the hot plate and the controller case is 0.65 m. For more technical specifications go to www.gestigkeit.de.

Heating Plates, Multipurpose Baths



Heating Plates made of CERAN®, Gestigkeit

High-duty hot plate with round heating panel 145 mm in dia., stainless steel housing, controlled by power controller from 10 to 100%, built-in temperature monitor, for temperatures up to 500°C, Type CT 10.

Technical data:

External dimensions:	200 × 310 mm
Height:	90 mm
Rating:	1200 Watt
Voltage:	230 Volt
Weight:	2.6 kg

Article	Order No.
High-performance heating plate	**43 06 05400**



Precision Hot Plates, Gestigkeit

Hot plates PZ 44 bis 450°C
Hot plates with microprocessor control of temperatures from room temperature up to 450°C.
The electric heater has 3 power levels (825 – 1650 – 3300 W.) Each level can also be adapted by electronic power outputs in the range from 10 to 100% in order to prevent the temperature being overshot. Temperature levels 1 and 3 heat the plate over its full surface.
Level 2 (1650 W) heats only the right-hand half of the plate, creating a temperature gradient (40% of the set temperature) to the left-hand half.
There is also a bushing to connect a contact thermometer and temperature cut-out.

Design:
Hot plate made of smoothly finished, solid cast iron GG 15 in low-distortion quality. Housing parts made of stainless steel (material No. 1.4301), bottom section also enameled. Four adjustable feet ensure wobble-free standing. Sturdy construction able to take a maximum load of 150 kg. Ready to connect with 1.7 m cable.

Technical data:

External dimensions (W × H × D):	320 × 190 × 470 mm
Plate size (W × D):	290 × 440 mm
Weight:	23 kg
Rating:	3300 W
Temp. control range:	+20 to 450°C
Switching difference:	±1 K

Article	Order No.
Hot plate PZ 44 for 230 V	**43 06 00110**
Hot plate PZ 44 for 2 × 400 V	**43 06 00111**
Cable with connector for temperature cut-out, timer, contact thermometer	**43 06 00119**







Precision Hot Plates, Gestigkeit

DIGITAL ELECTRONIC hot plates are designed for continuous and equipped as standard with a built-in temperature limiter adjustable from 30 to 100°C or 50 to 300°C.
Because of asymmetrical, quick-reaction, special long-term heating and thermal sensors, as well as output adaptation to the thermal requirements, extremely precise temperatures, with a very good uniform heat are obtained over the complete heating surface.
Design:
Upper plates are made of efficient heat-conducting aluminium alloy and have a smooth anodized finish. Temperature is regulated by means of a microprocessor temperature controller with digital actual value display. Operating temperatures are preset in 0.1°C divisions up to 99,9°C and in1°C divisions for temperatures over 100°C. All models are fitted with an electronic output regulator allowing the heating output to be adjusted to actual demand. All models are equipped with a bushing to connect either a contact thermometer or a time switch.
Models PZ 60, HB 110 and HB 300 have screw-in sockets for five 12mm diameter supporting rods with a clearance of 125 mm to each other.

Hot plates with temperature display

	Type	Platform size mm	Wght kg	P rating W	Temp. range °C	Temp. accur. ± K	Order No.
	PZ 28-1 T	280 × 200	6	500	20 – 99.9	0.1	**43 06 47028**
	PZ 28-2 T	280 × 200	6	1100	20 – 300	0.5	**43 06 47029**
	PZ 60 T	610 × 160	11	2000	20 – 300	0.5	**43 06 47121**
①	PZ 35 T	350 × 350	13	2200	20 – 300	0.5	**43 06 47342**
	PZ 72 T	580 × 430	22	3300	20 – 300	0.5	**43 06 47372**

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Heating Plates, Multipurpose Baths

Hot plates without temperature display and without relay output

	Type	Platform size mm	Wght kg	P rating W	Temp. range °C	Temp. accur. ± K	Order No.
②	HB 110	610 × 160	7	1000	30 – 110	5	**43 06 51511**
	HB 300	610 × 160	7	2000	50 – 300	5	**43 06 51530**

Accessoires

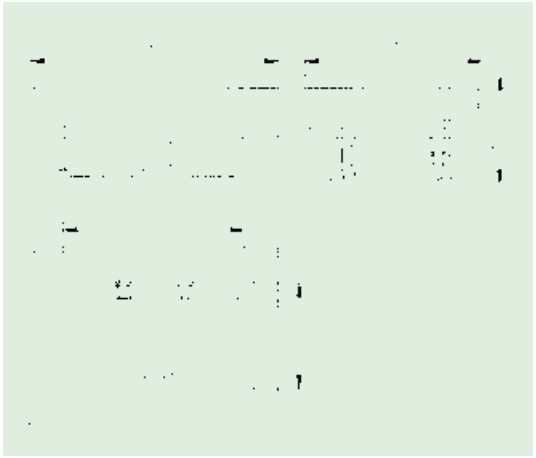
Article	for type	Order No.
Stainless steel support rod ST 12, screw-on, 12 mm Ø	PZ 60, HB 110, HB 300	**44 06 48001**
Holder HK3	for contact thermometer for PZ	**44 06 48015**
Silicone cable SK 83 with 3-pole connector	PZ	**44 06 48016**

Hot plates with separator control system

Flush-mounting and bench-top units for use with either the 2860 SR bench-top temperature controller, the 2860 EB flush-mounting temperature controller or the PR 5 SR program controller. The hot plate on the PZ 44 ET is made of a special hot plate material casting on account of the high temperature. Except for the PZ 44 ET and the PZ 14 ET, all the units have temperature limiter with an adjustable range from 30 to 110°C and 100 to 350°C respectively. Sensor cable and controller network cable are 1,8 m long and insulated with silicone.

	Type	A mm	B mm	C mm	D mm	Con. load W	Con. load VAC	T_{max} °C	Order No.
	PZ14 ET	140	140	100	100	450	230	350	**43 06 47614**
	PZ28-1 ET	280	200	160	120	500	230	110	**43 06 47628**
	PZ28-2 ET	280	200	160	120	1100	230	350	**43 06 47629**
④	PZ35 ET	250	350	286	286	2200	230	350	**43 06 47635**
	PZ44 ET[1)]	440	290	384	234	3300	230	450	**43 06 47644**
	PZ60 ET	610	160	478	98	2000	230	350	**43 06 47660**
	PZ72 ET[1)]	580	430	510	357	3300	230	350	**43 06 47672**

[1)] Also available for 2 × 400 V, N + PE



Controller

	Article	Order No.
③	**Table-top controller**	**43 06 47901**
	Type 2860 SR for PZ 28-1 ET - PZ 72 ET hot plates	
	External W × H × D: 200 × 65 × 280 mm	
	Power cable: 1,8 m	
⑤	**Built-in controller**	**43 06 47911**
	Type 2860 EB for PZ 28 ET-1 - PZ 72 ET hot plates	
	External W × H × D: 215 × 70 × 168 mm with front panel, no plug	
	Power cable: 1,8 m	
	Recommended cut-out: 197 × 61 mm (W × H)	
⑥	**Program controller type PR 5 SR**	**43 06 47921**
	for PZ 28-1 ET, PZ 28-2 ET, PZ 35 ET, PZ 60 ET	
	External W × H × D: 305 × 105 × 210 mm	



⑥

Storage capacity for max. 5 ramps per temperature profile, 3 temperature profiles; continuous display of nominal value and residual time, max. 9 h 59 min. per ramp and dwell time, simple operation, membrane keyboard.

All controllers are for a mains voltage of 220 to 240 Volt AC.

Precision Hot-Plates, TITAN, 600°C, Gestigkeit

High-performance hot plates for temperatures up to 600°C, with a very short heating-up time (600°C in 20 minutes). The extremely efficient insulation allows the appliance to also be used on working surfaces which are not heat-resistant. The insulated hinged lid has been designed to keep heat loss at the absolute minimum.

The temperature can either be controlled with a temperature or program regulator. With the temperature regulator the hotplate's complete heating surface is held at a constant selected temperature. The program regulator allows so-called temperature profiles to be worked with, i.e. selected heating-up, cooling off and stop phases (maximum of 5 stages) can be programmed, whereby each phase can last up to 5 hours 59 minutes.



Technical data:

Titanium plate size:	280 × 200 mm
Const. heating area:	230 × 160 mm
Temperature distribution:	±2 K
Voltage:	230 Volt
Rating:	2000 Watt
External dimensions:	300 × 350 mm
Height with/without cover:	145/110 mm
Useful height with cover closed:	26 mm
Weight with/without cover:	10/8 kg



Article	Order No.
Hot plate made of titanium, with cover, type PZ 28-3TD	**43 06 00112**
Hot plate made of titanium, without cover, type PZ 28-3T	**43 06 00113**
Temperature controller, type TR 28-3T	**43 06 00117**
Program controller, type PR 5-3T	**43 06 00118**

Heating Plates, Multipurpose Baths



Hot Plates for Rods, Gestigkeit

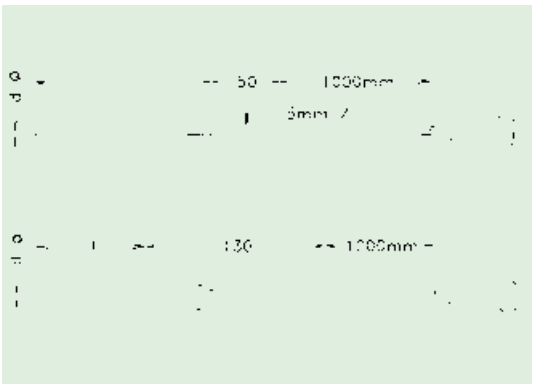
Hot plates for rods for up to 550°C
Hot plate made of special hot plate casting, smooth finished, with expansion recess. All housing parts made of stainless steel. Heating power infinitely variable from approx. 10 to 100%. Suitable for continuous operation.

Type	Plate Ø mm	Wght kg	Con. load W	Con. load V	Con. load Hz	Order No.
SH 15	150	1.8	1000	230	50	**43 06 06115**
SH 85	85	1.0	450	230	50	**43 06 06185**

without the illustrated accessories



①



Temperature Controllers, Gestigkeit

Programmer, PR 5 series
The PR 5 microprocessor-controlled ramp regulator is a complex time and temperature controller that can be used for almost all technical heating operations. A program set consisting of 5 ramps is put into operation by pressing the START button. Three parameters are necessary to set a ramp: ramp time, constant temperature and constant time. A programmable lead-tim allows the ramp program to be activated up to 99 hours in advance.

Three separate programs (temperature profiles) can be stored. The digital display constantly indicates the actual temperature and the time remaining before program completion. At the rear of the unit is an earthing-pin socket for connecting the heater, a positioning prop and a 2-pole main switch, at the front of the unit is a socket for a contact thermometers. A temperature selection limiter prevents the operator from selecting dangerous temperatures.

Technical data:

External W × H × D:	305 × 105 × 180 mm
Weight:	approx. 2,7 kg
Power supply:	220 to 240 V~, 50 to 60 Hz
Performance:	220 to 240 V~, 50 to 60 Hz, 2000 W
Regulation:	switches the load in zero phase, contact free and wear free; choice of two-point or P, PD, PID, whereby the hysteresis (proportional range), differential factor, integral factor and cycle time can all be separately selected
Heater output:	selectable from 1 to 100%, no loss
Sensor connection:	at the front, with sensor failure protection device with acoustic signal
Performance alignm.:	obtained with actual value correction
Displays:	4-digit for temperature, 3-digit for time
Time ranges:	for ramp and constant time 0 to 9 h 59 min

	Article	Order No.
	Program controller PR 5N for NiCr-Ni, -200 to +1550°C, resolution 1 K	**71 06 00500**
①	**Program controller PR 5P** for Pt 100, -200 to +850°C, resolution 0,1 K	**71 06 00510**

For matching temperature sensors, see TR... series temp. controllers

Matching temperature sensors

Article	Order No.
NiCr-Ni Temperature probe jacket thermocouple made of Inconel, pliable, with plastic handle, silicone cable, connector, potential free, -65 to 1150°C, t_{09} approx. 3 sec., d = 1,5 mm, l = 150 mm, Type HFN 1150.	**71 06 11500**
NiCr-Ni Temperature probe V4A tube, with cable sleeve, silicone cable, connector, potential free, -65 to 1150°C, t_{09} approx. 3 sec., d = 1,5 mm, l = 200 mm, Type FN 215.	**71 06 21500**
Pt-100 Temperature probe V4A tube, with plastic handle, PVC cable, connector (3-wire), -65 to 600°C, t_{09} approx. 10 sec., d = 3 mm, l = 150 mm, Type HFP 600.	**71 06 60000**
Pt-100 Temperature probe V4A tube, with cable sleeve, silicone cable, connector (3-wire), -65 to 600°C, t_{09} approx. 10 sec., d = 3 mm, l = 300 mm, Type FP 330.	**71 06 33000**

Heating Plates, Multipurpose Baths

REC-Ceramic Digital Heating Plate, LAT

webcode WWW4U081

The REC Heating Plate convinces not only with its innovative and ergonomical design: Not only the ceramic heating plate but also the entire technopolymer housing are absolutely resistant to chemicals and very easy to clean. In a matter of minutes, the REC reaches temperatures of up to 550°Celsius. The “Hot Plate Indicator” function remains visible in the display until the temperature of the heating plate dropped to below 50°C.



Technical data:

Dimensions:	203 × 94 × 344 mm
Dimensions heating plate:	180 × 180 mm
Protection class:	IP 42
Temperature range:	RT to 550°C
Power consumption:	800 W
Weight:	3.3 kg

Article	Order No.
REC-ceramic digital heating plate	**10 20 16510**
Insert for round bottom flask 250 ml	**10 20 16511**
Insert for round bottom flask 500 ml	**10 20 16512**
Insert for round bottom flask 1000 ml	**10 20 16513**

Heating Plate, 2 Zones, LAT

webcode WWW4U026

Dual-circuit Highlight heating element (EGO) with CERAN® glass ceramic hob. Infinitely variable energy-controlled express hot zone.



Technical data:

Heated diameter:	150/225 mm, switchable
Power rating:	2200 Watt / 60 Hz
Nominal voltage:	230 Volt
Pilot lamp:	yes
Residual heat indicator:	yes
Power cable:	1.5 m with earthing-pin plug set
Weight:	2.74 kg
Dimensions:	325 × 285 × 60 mm

Subject to change.

Article	Order No.
Heating Plate EGO	**10 20 10210**

Hot Zones, LAT

webcode WWW4U027

Double hot zone with Ceran® glass ceramic top

2 single-circuit Hilight heating elements (EGO)
2 infinitely variable energy-controlled express hot zones

Heated diameter:	145/180 mm
Power rating:	1200/1800 Watt
Nominal voltage:	220/230 Volt

Pilot lamp
Residual heat indicator
Stainless steel case

Dimensions:	535 × 265 × 75 mm
Power cable:	1.5 m with earthing-pin plug set

Subject to change.



Article	Order No.
Double hot zone RGK-120	**43 80 12120**

Accessories
A mechanical timer is available for all models.
Uses: Operation of the hot zones can be limited to up to 30 minutes.

Article	Order No.
Mechanical timer	**43 80 15000**

webcode To see other variants and accessories, please enter the webcode on our website.

Heating Plates, Multipurpose Baths

webcode WW2NY177

Quick Hot Plate, neoLab®



Economic single hot plate, also to be used in laboratories. 7-step power control switch. White fire-enamelled casing.

Technical data:

Rating:	1500 W
Power supply:	220 V~ / 50 Hz
Dimensions:	28.5 × 31.5 × 8 cm
Weight:	3.3 kg

Article	Plate Ø mm	Case	Order No.
Quick hot plate	180	280 × 315 mm	**43 01 23871**

webcode WWXRZ006

Infrared Burners, Bühler



Lab burners with infrared heating elements for fast heating.

Article	Order No.
① **Infrared burner IRB 1**	**32 61 60600**

Heating capacity:	250 W – max. 700°C
Burner area:	60 × 60 mm
External dimensions (W×D×H):	100 × 105 × 105 mm

Basic unit includes:
Cross-support
Power controller available as an accessory

Article	Order No.
② **Infrared burner IRB 2**	**32 61 60630**

With integrated power controller

Heating capacity:	800 W – max. 900°C
Burner area:	100 × 100 mm
External dimensions (W×D×H):	150 × 150 × 170 mm

Basic unit includes:
Built-in power controller, cross-support



Article	Order No.
③ **Infrared burner IRB 6**	**32 61 90660**

Modular heater based on IRB 1. Each heating section can be used and controlled individually.

Heating capacity:	6 × 250 W – each for max. 700°C
Burner area:	each 60 × 60 mm
External dimensions (W×D×H):	697 × 305 × 122 mm (without rack stand)

Basic unit includes:
6 × IRB 1 with cross-supports, 1 × power controller LR 6
Stand with accessories avialable on request

Metal Block Thermostats



webcode WW39Q003

Incubators, Aerne Analytic

The execution of inhibitor tests for milk analysis is one of the key process steps for quality assurance in the milk industry. Incubators are designed for tempering and incubating milk tests. Perfectly suited for BRT and Delvotests. Drilling diameter: 10.9 mm, drilling depth: 25 mm

Type	Specification	Voltage V	Order No.
5B-230A	Incubator with 5 slots, analogue	230	**10 64 02305**
10B-230A	Incubator with 10 slots, analogue	230	**10 64 02310**
24B-230A	Incubator with 24 slots, analogue	230	**10 64 02324**
42B-230A	Incubator with 42 slots, analogue	230	**10 64 02342**
10B-230D	Incubator with 10 slots, digital	230	**10 64 02410**
50B-230D	Incubator with 50 slots, digital	230	**10 64 02450**
100B-230D	Incubator with 100 slots, digital	230	**10 64 02490**

Note: Other models and versions for various quick tests available on request.

Customized versions (number, diameter, and depth of drillings) available on request

Accessories for culturing units (on request):
Transferpettes, reaction vessels, pipette tips, digital control thermometer, stands for reaction vessels, Pasteur Plast pipettes

Metal Block Thermostats

ThermoStat C, Eppendorf

webcode WWQJ3062

Heating and cooling
The ideal device to accurately set and maintain temperatures. Precise temperature control is achieved using optimally balanced heating and cooling elements (peltier technology). The temperature keys provide quick access to five important experimental temperatures (4°C, 16°C, 37°C, 56°C and 95°C). You can also individually store 15 programs.

- Excellent temperature accuracy
- Precise temperature control from –10°C to 110°C*
- Prevent condensation and improve temperature homogeneity with the new ThermoTop
- Comprehensive range of program functions

*110°C can be set when using 12 mm and cryo SmartBlocks

	Article	Order No.
①	**ThermoStat C** Base unit without Eppendorf SmartBlock™, 220 V – 240 V	**10 69 83019**
	ThermoTop® with condens.protect® technology	**10 69 83003**
	SmartExtender, 1,5 ml	**10 69 80008**



①

SmartBlocks™, Eppendorf

webcode WWQJ3071

For the Eppendorf ThermoMixer C and the ThermoStat C, Eppendorf offers a great variety of exchangable SmartBlocks for all commercially available tube formats from 5 µl to 50 ml.
- With Eppendorf QuickRelease™ technology for quick and easy changing
- With optimated block design for excellent temperature transfer to the sample

Article	Order No.
SmartBlock™ 0.5 ml thermoblock for 24 test tubes 0.5 ml	**10 69 53610**
SmartBlock™ 1.5 ml thermoblock for 24 test tubes 1.5 ml	**10 69 53600**
SmartBlock™ 2.0 ml thermoblock for 24 test tubes 2.0 ml	**10 69 53620**
SmartBlock™ 5 ml thermoblock for 8 Eppendorf Tubes® 5.0 ml, 8 × 5.0 ml reaction vessels	**10 69 70007**
SmartBlock™ 15 ml thermoblock for 8 conical vessels 15 ml	**10 69 53660**
SmartBlock™ 50 ml thermoblock for 4 conical vessels 50 ml	**10 69 53650**
SmartBlock™ 12 mm thermoblock for 24 test tubes Ø 11 – 11,9 mm	**10 69 53640**
SmartBlock™ cryo thermoblock for 24 cryo tubes 1.5 – 2.0 ml, all bottom shapes	**10 69 53670**
SmartBlock™ plates thermoblock for micro test plates and deepwell plates, incl. lid	**10 69 53630**
SmartBlock™ PCR 96 thermoblock for PCR plates 96, incl. lid	**10 69 53060**
SmartBlock™ PCR 384 thermoblock for PCR plates 384, incl. lid	**10 69 53070**
Eppendorf SmartBlock™ DWP 500 thermoblock for Eppendorf Deepwell Plates 96/500 µL, incl. lid	**10 69 60004**
Eppendorf SmartBlock™ DWP 1000 thermoblock for Eppendorf Deepwell Plate 96/1,000 µL, incl. lid	**10 69 10002**



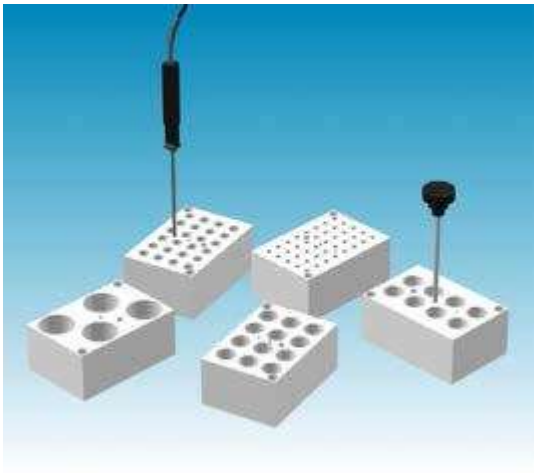
Accessories:

Article	Order No.
Transfer Rack 0.5 ml for Eppendorf SmartBlock™ 1.5 ml and Eppendorf SmartBlock™ 2.0 ml	**10 69 80305**
Transfer Rack 1.5/2.0 ml for Eppendorf SmartBlock™ 0.5 ml	**10 69 10151**

webcode To see other variants and accessories, please enter the webcode on our website.

Metal Block Thermostats





Metal Bloc Thermostats, ETG

Metal Bloc Thermostats
Metal block thermostats, 2 sizes, hold between 1 or 2 insert blocks for various size reaction vessels and test tubes
- Temperature range room temperature to 250°C
- Replaceable insert blocks can be fixed in place
- Microprocessor control and innovative sensor technology for fast heat-up and high-precision performance
- Digital temperature/time control, settings made using membrane keys
- Timer function with acoustic signal
- Socket for connecting an external temperature sensor
- Additional range of customer-specific blocs available on request

Technical data:	**MBT 250-1^{NT}**	**MBT 250-2^{NT}**
Number of insert blocks	1	2
Temperature range:	25°C to 250°C	
Temperature consistency:	+/-0.1 K	
Heat-up time:	approx. 15 min to reach 100°C approx. 30 min to reach 200°C	
Control:	microprocessor control	
Settings:	digital using membrane keys	
Temperature display:	4-digit, LCD	
Timer:	4-digit, LCD	
Timer signal:	acoustic	
Dimensions without feet (W × D × H):	240 × 240 × 110 mm	240 × 280 × 110 mm
Dimensions of insert blocks (W × D × H):	78 × 115 × 49 mm	
Line voltage:	230 V, 50/60 Hz	
El. heating capacity:	250 W	500 W

	Type	for quantity blocks	W × D × H mm	Heating cap. W	Order No.
①	MBT 250-1^{NT}	1	240×240×110	250	**10 76 12601**
②	MBT 250-2^{NT}	2	240×280×110	500	**10 76 12602**

Items included: units without blocks

Accessories

Article	Type	for	Order No.
Block	MBT 24/10	24 tubes with Ø 10 mm	**46 76 22410**
Block	MBT 24/12	24 tubes with Ø 12 mm	**46 76 22412**
Block	MBT 12/16	12 tubes with Ø 16 mm	**46 76 31216**
Block	MBT 12/19	12 tubes with Ø 19 mm	**46 76 31219**
Block	MBT 40/0-5	40 test tubes 0.5 ml	**46 76 44005**
Block	MBT 24/1-5	24 test tubes 1.5 ml	**46 76 52415**
Block	MBT 24/2-0	24 test tubes 2.0 ml	**46 76 52420**
Ext. temperature probe	MBT PT 100	all models	**46 76 60100**

webcode WW2XC001

Liebisch LABORTECHNIK



Metal Block Thermostates, Liebisch

Metal block thermostats with permanent or exchangeable hating block with standard bore hole diameters of 5 to 41 mm.
- Working temperature: ambient temperature up to 450°C, depending on model
- Standard bore hole depth: 65 mm
- Microprocessor-controlled temperature regulation according to specified method (PID)
- Timer function can be set as a standard
- Digital with LED display for simultaneous indication of set and actual temperatures, resolution: 0.1°C
- Temperature recording: PT 100 (1×)
- Temperature stability: <±0.2%
- Rated load: 230 Volt, 50/60 Hz

All devices are also available with external control box to protect the precise electronic control system from solvent evaporations of aggressive samples.

Extensive range of accessories available on request.

③ **Labtherm®**
With fixed heating blocks, Labtherm® is the basic system in the range.

Type	Working temp. °C	Holes	Ø mm	Dimensions mm	Order No.
LT-130-36-5	RT-130	36	5.2	340×230×130	**10 83 05014**
LT-130-60-5	RT-130	60	5.2	450×230×130	**10 83 05134**
LT-130-112-5	RT-130	112	5.2	450×230×130	**10 83 04101**
LT-130-36-10	RT-130	36	10.2	340×230×130	**10 83 05101**

Continued on next page

Metal Block Thermostats

Type	Working temp. °C	Holes	Ø mm	Dimensions mm	Order No.
LT-130-60-10	RT-130	60	10.2	450×230×130	**10 83 01101**
LT-130-112-10	RT-130	112	10.2	450×230×130	**10 83 06102**
LT-130-36-11-25t	RT-130	36	11.2	340×230×130	**10 83 05022**
LT-130-49-11-25t	RT-130	49	11,2	450×230×130	**10 83 01125**
LT-130-36-12	RT-130	36	12.2	340×230×130	**10 83 05016**
LT-130-60-12	RT-130	60	12.2	450×230×130	**10 83 06103**
LT-130-104-12	RT-130	104	12.2	450×230×130	**10 83 06104**
LT-130-36-13	RT-130	36	13.2	340×230×130	**10 83 05017**
LT-130-60-13	RT-130	60	13.2	450×230×130	**10 83 05137**
LT-130-36-16	RT-130	36	16.2	340×230×130	**46 83 13036**
LT-130-60-16	RT-130	60	16.2	450×230×130	**46 83 13060**
LT-130-104-16	RT-130	104	16.2	530×290×130	**10 83 05258**
LT-130-36-17	RT-130	36	17.2	340×230×130	**10 83 05019**
LT-130-60-17	RT-130	60	17.2	450×230×130	**10 83 05139**
LT-130-104-17	RT-130	104	17.2	530×290×130	**10 83 05259**
LT-130-6-41	RT-130	6	41.0	340×230×130	**10 83 06105**
LT-130-15-41	RT-130	15	41.0	450×230×130	**10 83 06106**
LT-200-36-5	RT-200	36	5.2	340×230×130	**10 83 05114**
LT-200-60-5	RT-200	60	5.2	450×230×130	**10 83 05234**
LT-200-36-10	RT-200	36	10.2	340×230×130	**10 83 07101**
LT-200-60-10	RT-200	60	10.2	450×230×130	**10 83 07102**
LT-200-112-10	RT-200	112	10.2	450×230×130	**10 83 07103**
LT-200-36-12	RT-200	36	12.2	340×230×130	**10 83 07104**
LT-200-60-12	RT-200	60	12.2	450×230×130	**10 83 07105**
LT-200-104-12	RT-200	104	12.2	450×230×130	**10 83 07106**
LT-200-36-16	RT-200	36	16.2	340×230×130	**46 83 20036**
LT-200-60-16	RT-200	60	16.2	450×230×130	**46 83 20060**
LT-200-104-16	RT-200	104	16.2	530×290×130	**10 83 05358**
LT-200-36-17	RT-200	36	17.2	340×230×130	**10 83 05020**
LT-200-60-17	RT-200	60	17.2	450×230×130	**10 83 05140**
LT-200-104-17	RT-200	104	17.2	530×290×130	**10 83 05260**
LT-350-36-16	RT-350	36	16.2	430×290×160	**10 83 05318**
LT-350-60-16	RT-350	60	16.2	520×290×130	**10 83 05438**
LT-350-104-16	RT-350	104	16.2	580×370×180	**10 83 07107**
LT-400-36-16	RT-400	36	16.2	430×290×160	**10 83 08101**
LT-400-60-16	RT-400	60	16.2	520×290×160	**10 83 08102**
LT-400-104-16	RT-400	104	16.2	580×370×180	**10 83 08103**

Special versions (number, diameter, and depth of bores) available on request.



③



③



④

④ Labtherm®-PVC

The Labtherm® PVC is intended for determining the thermostability of PVC in accordance with VDE 0472 Testing of cables, wires and flexible cords.

Type	Working temp. °C	Holes	Ø mm	Dimensions mm	Order No.
LT-PVC-210-36-5	RT-210	36	5.2	340×230×130	**10 83 06014**



⑤

⑤ Minitherm®

With fixed heating blocks, Minitherm® is the small version of the base system.

Type	Working temp. °C	Holes	Ø mm	Dimensions mm	Order No.
MT-130-16-10	RT-130	16	10.2	260×180×120	**10 83 06107**
MT-130-16-11-25	RT-130	16	11.2	260×180×120	**10 83 06125**
MT-130-16-12	RT-130	16	12.2	260×180×120	**10 83 05638**
MT-130-16-13	RT-130	16	13.2	260×180×120	**10 83 05637**
MT-130-16-16	RT-130	16	16.2	260×180×120	**10 83 01303**
MT-130-16-17	RT-130	16	17.2	260×180×120	**10 83 05639**

Special versions (number, diameter, and depth of bores) available on request.



⑥

⑥ Thermobil®

The Thermobil® offers the maximum flexibility in the lab. The interchangeable heating blocks are tailored exactly to the tray, milled from one complete aluminum block. Diameters in our standard range extend from 5.2 to 18.2 mm.

Type	Working temperature °C	Dimensions mm	Order No.
TM-130-36	RT-130	340×230×130	**10 83 05001**
TM-200-36	RT-200	340×230×130	**10 83 05002**
TM-130-56	RT-130	450×230×130	**10 83 05100**
TM-200-56	RT-200	450×230×130	**46 83 20056**



⑥

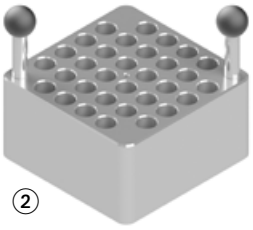
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Metal Block Thermostats



① **Control**
Labtherm®Control-Box
The Labtherm® Control-Boxes can substitute the installed microprocessor control unit. They can be used for all Liebisch-Metalblock-Thermostats with a PT100 for external control to protect the precise electronic system from solvent evaporations of aggressive samples.

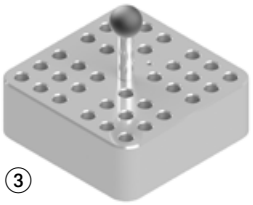
Type	Specification	Order No.
LT-R	Control-box with ramp function	**10 83 06610**
LT-R-T-int	Control-box with electronical timer 4-digit (0-99.99 min/sec / 0-99.99 h/min / 0-999.9 h)	**10 83 06612**
LT-R-2	Standard control-box for 2 units	**10 83 06620**
LT-R-W	Control-box with weekly timer	**10 83 06621**



② **Monoblocks for Thermobil® "small block holder"**

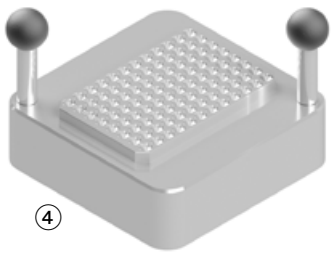
Type	Holes	Ø mm	Depth mm	Bottom	Block dim. mm	Order No.
MHB-36-5	36	5.2	65	pointed	139×139×75	**10 83 01400**
MHB-EVA-32-5	32	5.2	65	pointed	139×139×75	**10 83 05400**
MHB-36-10	36	10.2	65	pointed	139×139×75	**10 83 01515**
MHB-EVA-32-10	32	10.2	65	pointed	139×139×75	**10 83 01555**
MHB-36-11,2-25tief	36	11.2	25	flat	139×139×50	**10 83 01520**
MHB-EVA-32-11,2-25deep	32	11.2	25	flat	139×139×50	**10 83 01560**
MHB-EVA-32-11.9-20	32	11.9	20	flat	139×139×50	**10 83 01548**
MHB-36-12	36	12.2	65	pointed	139×139×75	**10 83 01600**
MHB-EVA-32-12	32	12.2	65	pointed	139×139×75	**10 83 00000**
MHB-36-13	36	13.2	65	pointed	139×139×75	**10 83 01517**
MHB-EVA-32-13	32	13.2	65	pointed	139×139×75	**10 83 01557**
MHB-36-16	36	16.2	65	pointed	139×139×75	**10 83 01518**
MHB-EVA-32-16	32	16.2	65	pointed	139×139×75	**10 83 01558**
MHB-36-17	36	17.2	65	pointed	139×139×75	**10 83 01519**
MHB-EVA-32-17	32	17.2	65	pointed	139×139×75	**10 83 01559**

Special versions (number, diameter, and depth of bores) available on request.



③ **Monoblocks for Thermobil® "small block holder" for Eppendorf vessels**

Type	Holes	for vessels	Block dimensions mm	Order No.
MHB-56-0,2Ep	56	Eppendorf 0.2 ml	139×139×50	**10 83 01510**
MHB-36-0,5Ep	36	Eppendorf 0.5 ml	139×139×50	**10 83 01511**
MHB-EVA-32-0,5Ep	32	Eppendorf 0.5 ml	139×139×50	**10 83 01551**
MHB-36-1,5Ep	36	Eppendorf 1.5 ml	139×139×50	**10 83 01512**
MHB-EVA-32-1,5Ep	32	Eppendorf 1.5 ml	139×139×50	**10 83 01552**
MHB-36-2,0Ep	36	Eppendorf 2.0 ml	139×139×50	**10 83 01513**
MHB-EVA-32-2,0Ep	32	Eppendorf 2.0 ml	139×139×50	**10 83 01553**
MHB-36/18-0,5/ 18-1,5Ep	36	Eppendorf 0.5 and 1.5 ml	139×139×50	**10 83 01200**
MHB-36/18-1,5/ 18-2,0Ep	36	Eppendorf 1.5 and 2.0 ml	139×139×50	**10 83 01113**



④ **Monoblocks for Thermobil® "small block holder" for microtiter-plate**

Type	for	Block dimensions mm	Order No.
MHB-96-T-00	96er without bores	139×139×50	**10 83 09600**
MHB-96-T-F	96er flat bottom	139×139×50	**10 83 09610**
MHB-96-T-R	96er round bottom	139×139×50	**10 83 09620**
MHB-96-T-V	96er V-bottom	139×139×50	**10 83 09630**
MHB-96-T-0,2Ep	96er for 0.2ml conical	139×139×50	**10 83 09640**



⑤ **Monoblocks for Thermobil® "large block holder"**

Type	Holes	Ø mm	Depth mm	Bottom	Block dimensions mm	Order No.
MHB-EVA-56-5	56	5.2	65	pointed	239×139×75	**10 83 03400**
MHB-108-5	108	5.2	65	pointed	239×139×75	**10 83 04400**
MHB-EVA-56-10	56	10.2	65	pointed	239×139×75	**10 83 01535**
MHB-108-10	108	10.2	65	pointed	239×139×75	**10 83 04500**
MHB-EVA-56-11,2-25deep	56	11.2	25	flat	239×139×50	**10 83 01543**
MHB-EVA-56-11	56	11.9	20	flat	239×139×50	**10 83 01542**
MHB-EVA-56-12	56	12.2	65	pointed	239×139×75	**10 83 01536**
MHB-89-12	89	12.2	65	pointed	239×139×75	**10 83 01546**
MHB-EVA-56-13	56	13.2	65	pointed	239×139×75	**10 83 01537**
MHB-89-13	89	13.2	65	pointed	239×139×75	**10 83 01547**
MHB-EVA-56-16	56	16.2	65	pointed	239×139×75	**46 83 15616**
MHB-EVA-56-17	56	17.2	65	pointed	239×139×75	**10 83 01539**

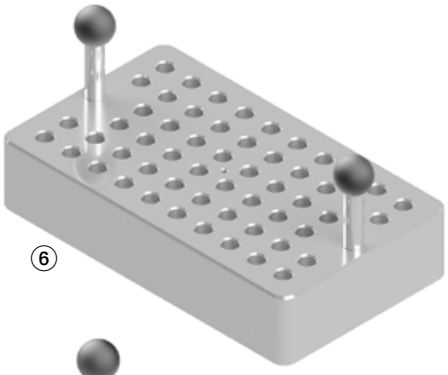
Special versions (number, diameter, and depth of bores) available on request.

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Metal Block Thermostats

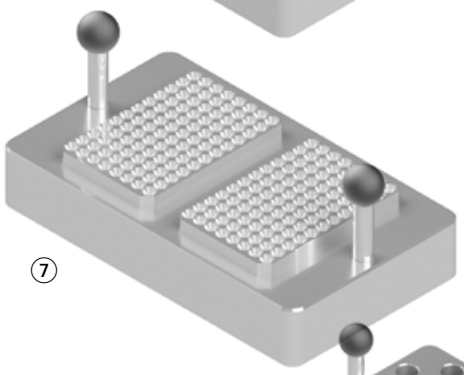
⑥ Monoblocks for Thermobil® "large block holder" for Eppendorf vessels

Type	Holes	for vessels	Block dimensions mm	Order No.
MHB-92-0,2Ep	92	Eppendorf 0.2 ml	239×139×50	**10 83 01530**
MHB-56-0,5Ep	56	Eppendorf 0.5 ml	239×139×50	**10 83 01531**
MHB-56-1,5Ep	56	Eppendorf 1.5 ml	239×139×50	**10 83 01532**
MHB-56-2,0Ep	56	Eppendorf 2.0 ml	239×139×50	**10 83 01533**
MHB-56/28-0,5/ 28-1,5Ep	56	Eppendorf 0.5 and 1.5 ml	239×139×50	**10 83 01534**
MHB-56/28-1,5/ 28-2,0Ep	56	Eppendorf 1.5 and 2.0 ml	239×139×50	**10 83 01538**


⑥

⑦ Monoblocks for Thermobil® "large block holder" for micrititer-plate

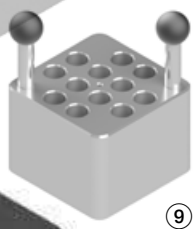
Type	for	Block dimensions mm	Order No.
MHB-2×96-T-00	2× 96er without bores	239×139×50	**10 83 00120**
MHB-2×96-T-F	2× 96er with flat bottom	239×139×50	**10 83 00121**
MHB-2×96-T-R	2× 96er with round bottom	239×139×50	**10 83 00122**
MHB-2×96-T-V	2× 96er with V-bottom	239×139×50	**10 83 00123**
MHB-2×96-T-0,2Ep	2× 96er for 0,2ml conical	239×139×50	**10 83 00124**


⑦

⑧ Thermobil® Mini

Thermobil® Mini is our miniature version for premium flexibility in the lab. With greatest accuracy, the exchangeable Mini monoblocks are adjusted to the block which is milled out of a solid aluminium block. Our standard program covers diameters from 5.2 to 18.2 mm.

Type	Working temperature °C	Dimensions mm	Order No.
TM-M-130-16	RT-130	260×180×120	**10 83 05600**


⑨

⑨ Mono blocks for Thermobil® Mini

Type	Holes	Ø mm	Depth mm	Bottom	Block dimensions mm	Order No.
MHB-M-EVA-12-0,5Ep	12	0.5 ml Epp	32	pointed	99×99×50	**10 83 09931**
MHB-M-EVA-12-1,5Ep	12	1.5 ml Epp	32	pointed	99×99×50	**46 83 12150**
MHB-M-EVA-12-2,0Ep	12	2.0 ml Epp	32	pointed	99×99×50	**10 83 09933**
MHB-M-EVA-12-10	12	10.2	65	pointed	99×99×75	**10 83 09935**
MHB-M-EVA-12-11	12	11.2	25	flat	99×99×50	**10 83 09942**
MHB-M-EVA-12-12	12	12.2	65	pointed	99×99×75	**10 83 09936**
MHB-M-EVA-12-13	12	13.2	65	pointed	99×99×75	**10 83 09937**
MHB-M-EVA-12-16	12	16.2	65	pointed	99×99×75	**10 83 09938**
MHB-M-EVA-12-17	12	17.2	65	pointed	99×99×75	**10 83 09939**

Special versions (number, diameter, and depth of bores) available on request.

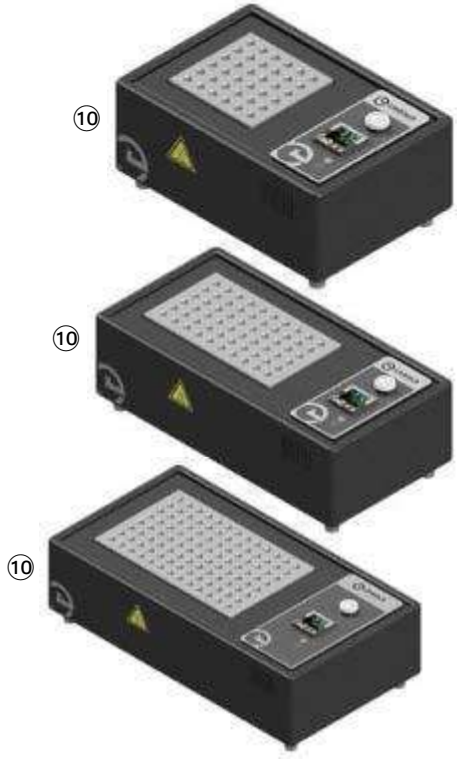

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⑩ Epptherm®

Epptherm® is a special device for the thermostatization of 0.5 / 1.5 / 2.0 ml reaction vessels.

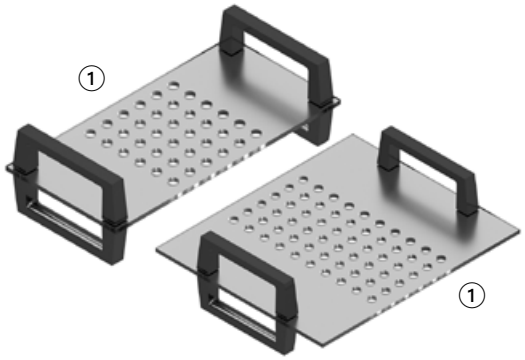
Type	Working temp. °C	Holes	for	Dimensions mm	Order No.
EPT-130-64-0,2	RT-130	64	0.2 ml Epp	340×230×130	**10 83 00610**
EPT-130-36-0,5	RT-130	36	0.5 ml Epp	340×230×130	**10 83 01610**
EPT-130-36/ 18-0,5/18-1,5	RT-130	36	0.5 and 1.5 ml Epp	340×230×130	**10 83 05061**
EPT-130-36-1,5	RT-130	36	1.5 ml Epp	340×230×130	**46 83 13015**
EPT-130-36/ 18-1,5/18-2,0	RT-130	36	1.5 and 2.0 ml Epp	340×230×130	**10 83 05062**
EPT-130-36-2,0	RT-130	36	2.0 ml Epp	340×230×130	**10 83 01661**
EPT-130-112-0,2	RT-130	112	0.2 ml Epp	450×230×130	**10 83 00611**
EPT-130-60-0,5	RT-130	60	0.5 ml Epp	450×230×130	**10 83 02611**
EPT-130-60/ 30-0,5/30-1,5	RT-130	60	0.5 and 1.5 ml Epp	450×230×130	**10 83 03611**
EPT-130-60-1,5	RT-130	60	1.5 ml Epp	450×230×130	**10 83 05132**
EPT-130-60/ 30-1,5/30-2,0	RT-130	60	1.5 and 2.0 ml Epp	450×230×130	**10 83 05164**
EPT-130-60-2,0	RT-130	60	2.0 ml Epp	450×230×130	**46 83 13062**
EPT-130-104-0,5	RT-130	104	0.5 ml Epp	530×290×130	**10 83 05265**
EPT-130-104/ 52-0,5/52-1,5	RT-130	104	0.5 and 1.5 ml Epp	530×290×130	**10 83 05511**
EPT-130-104-1,5	RT-130	104	1.5 ml Epp	530×290×130	**10 83 05252**
EPT-130-104/ 52-1,5/52-2,0	RT-130	104	1.5 and 2.0 ml Epp	530×290×130	**10 83 05266**
EPT-130-104-2,0	RT-130	104	2.0 ml Epp	530×290×130	**10 83 05253**

Special versions (number, diameter, and depth of bores) available on request.


⑩ ⑩ ⑩

Continued on next page

Metal Block Thermostats











① Test racks

Test racks for convenient handling of Eppendorf vessels 0,5 – 2,0 ml.

Type	Holes	Volume ml	Order No.
EPTG-36-0,5	36	0.5	**10 83 01611**
EPTG-36-1,5/2,0	36	1.5/2.0	**10 83 01612**
EPTG-60-0,5	60	0.5	**10 83 01621**
EPTG-60-1,5/2,0	60	1.5/2.0	**10 83 01622**
EPTG-104-1,5/2,0	104	1.5/2.0	**10 83 01632**

② Epptherm® Mini

The Epptherm® Mini is a special device for the thermostatization of 0.5 / 1.5 / 2.0 ml reaction vessels.

Type	Working temp. °C	Holes	for	Dimensions mm	Order No.
MT-130-16-0,5Ep	RT-130	16	0.5 ml Epp	260×180×120	**10 83 05631**
MT-130-16-1,5Ep	RT-130	16	1.5 ml Epp	260×180×120	**10 83 05632**
MT-130-16-2,0Ep	RT-130	16	2.0 ml Epp	260×180×120	**10 83 05633**
MT-130-16-/ 8-0,5/8-1,5	RT-130	16	0.5/1.5 ml Epp	260×180×120	**10 83 05661**
MT-130-16-/ 8-1,5/8-2,0	RT-130	16	1.5/2.0 ml Epp	260×180×120	**10 83 05662**

Special versions (number, diameter, and depth of bores) available on request.

③ Mikrotherm®

Specially designed for the thermostatization of microtiter plates.

Type	Working temp. °C	for	Order No.
LT-130-96-T-00	RT-130	96er without bores	**10 83 06310**
LT-130-96-T-F	RT-130	96er flat bottom	**10 83 06311**
LT-130-96-T-R	RT-130	96er round bottom	**10 83 06312**
LT-130-96-T-V	RT-130	96er V-bottom	**10 83 06313**
LT-130-2×96-T-00	RT-130	2× 96er without bores	**10 83 06320**
LT-130-2×96-T-F	RT-130	2× 96er flat bottom	**10 83 06321**
LT-130-2×96-T-R	RT-130	2× 96er round bottom	**10 83 06322**
LT-130-2×96-T-V	RT-130	96er V-bottom	**10 83 06323**

④ Evaporator®

The Evaporator® is the complete system for efficient sample concentration. It consists of a Labtherm® with permanently installed heater block and the Multiplex valve depot for 32 or 60 sample places.

Type	Working temp. °C	Holes	Ø mm	Dimensions mm	Order No.
EVTF-130-36-5	RT-130	32 (36)	5.2	340×230×130	**10 83 04610**
EVTF-130-36-10	RT-130	32 (36)	10.2	340×230×130	**10 83 03610**
EVTF-130-36-11	RT-130	32 (36)	11.2	340×230×130	**10 83 06111**
EVTF-130-36-12	RT-130	32 (36)	12.2	340×230×130	**10 83 07611**
EVTF-130-36-13	RT-130	32 (36)	13.2	340×230×130	**10 83 03613**
EVTF-130-36-16	RT-130	32 (36)	16.2	340×230×130	**46 83 13016**
EVTF-130-36-17	RT-130	32 (36)	17.2	340×230×130	**10 83 03617**
EVTF-200-36-5	RT-200	32 (36)	5.2	340×230×130	**10 83 07621**
EVTF-200-36-10	RT-200	32 (36)	10.2	340×230×130	**10 83 03710**
EVTF-200-36-12	RT-200	32 (36)	12.2	340×230×130	**10 83 03712**
EVTF-200-36-13	RT-200	32 (36)	13.2	340×230×130	**10 83 03713**
EVTF-200-36-16	RT-200	32 (36)	16.2	340×230×130	**10 83 08621**
EVTF-200-36-17	RT-200	32 (36)	17.2	340×230×130	**10 83 03717**
EVTF-130-60/ 30-1,5/30-2,0Ep	RT-130	60	1.5 and 2.0 ml Epp	450×230×130	**10 83 03831**
EVTF-130-60-5	RT-130	60	5.2	450×230×130	**10 83 06611**
EVTF-130-60-10	RT-130	60	10.2	450×230×130	**10 83 06010**
EVTF-130-60-11	RT-130	60	11.2	450×230×130	**10 83 04611**
EVTF-130-60-12	RT-130	60	12.2	450×230×130	**10 83 06012**
EVTF-130-60-13	RT-130	60	13.2	450×230×130	**10 83 06013**
EVTF-130-60-16	RT-130	60	16.2	450×230×130	**10 83 06016**
EVTF-130-60-17	RT-130	60	17.2	450×230×130	**10 83 06017**
EVTF-200-60-5	RT-200	60	5.2	450×230×130	**10 83 08622**
EVTF-200-60-10	RT-200	60	10.2	450×230×130	**10 83 06110**
EVTF-200-60-12	RT-200	60	12.2	450×230×130	**10 83 08623**
EVTF-200-60-13	RT-200	60	13.2	450×230×130	**10 83 06113**
EVTF-200-60-16	RT-200	60	16.2	450×230×130	**46 83 20016**
EVTF-200-60-17	RT-200	60	17.2	450×230×130	**10 83 06117**

Special versions (number, diameter, and depth of bores) available on request.

Continued on next page

Metal Block Thermostats

⑤ Evaporator®

The Evaporator® is the complete system for efficient sample concentration. It consists of a Thermobil® with replaceable heater block and the Multiplex valve depot for 32 or 56 samples.

Type	Working temp. °C	Holes	Ø mm	Dimensions mm	Order No.
EVTM-130-32-5	RT-130	32	5.2	340×230×130	**10 83 05411**
EVTM-130-32-10	RT-130	32	10.2	340×230×130	**10 83 03210**
EVTM-130-32-11	RT-130	32	11.2	340×230×130	**10 83 03601**
EVTM-130-32-12	RT-130	32	12.2	340×230×130	**10 83 05611**
EVTM-130-32-13	RT-130	32	13.2	340×230×130	**10 83 03213**
EVTM-130-32-16	RT-130	32	16.2	340×230×130	**46 83 13032**
EVTM-130-32-17	RT-130	32	17.2	340×230×130	**10 83 03217**
EVTM-200-32-5	RT-200	32	5.2	340×230×130	**10 83 08624**
EVTM-200-32-10	RT-200	32	10.2	340×230×130	**10 83 03310**
EVTM-200-32-12	RT-200	32	12.2	340×230×130	**10 83 08625**
EVTM-200-32-13	RT-200	32	13.2	340×230×130	**10 83 03313**
EVTM-200-32-16	RT-200	32	16.2	340×230×130	**10 83 03316**
EVTM-200-32-17	RT-200	32	17.2	340×230×130	**10 83 03317**
EVTM-130-56-5	RT-130	56	5.2	450×230×130	**10 83 05612**
EVTM-130-56/ 28-1,5/28-2,0Ep	RT-130	56	1.5 and 2.0 ml Epp	450×230×130	**10 83 03431**
EVTM-130-56-10	RT-130	56	10.2	450×230×130	**10 83 05610**
EVTM-130-56-11	RT-130	56	11.2	450×230×130	**10 83 04311**
EVTM-130-56-12	RT-130	56	12.2	450×230×130	**10 83 06101**
EVTM-130-56-13	RT-130	56	13.2	450×230×130	**10 83 05613**
EVTM-130-56-16	RT-130	56	16.2	450×230×130	**10 83 05616**
EVTM-130-56-17	RT-130	56	17.2	450×230×130	**10 83 05617**
EVTM-200-56-5	RT-200	56	5.2	450×230×130	**10 83 08626**
EVTM-200-56-10	RT-200	56	10.2	450×230×130	**10 83 05710**
EVTM-200-56-12	RT-200	56	12.2	450×230×130	**10 83 08627**
EVTM-200-56-13	RT-200	56	13.2	450×230×130	**10 83 05713**
EVTM-200-56-16	RT-200	56	16.2	450×230×130	**46 83 20017**
EVTM-200-56-17	RT-200	56	17.2	450×230×130	**10 83 05717**

Special versions (number, diameter, and depth of bores) available on request.


⑤

⑥ Evaporator® Mini

The Evaporator® Mini is the miniature version of the complete system for efficient sample concentration. It consists of a Minitherm® with permanently installed heater block and the Multiplex valve depot for 16 sample places.

Type	Working temp. °C	Holes	Ø mm	Dimensions mm	Order No.
EVTF-M-130-16-1,5Ep	RT-130	16	1.5 ml Epp	260×180×120	**10 83 09611**
EVTF-M-130-16-2,0Ep	RT-130	16	2.0 ml Epp	260×180×120	**10 83 09612**
EVTF-M-130-16-5	RT-130	16	5.2	260×180×120	**10 83 09613**
EVTF-M-130-16-11	RT-130	16	11.2	260×180×120	**10 83 06948**
EVTF-M-130-16-12	RT-130	16	12.2	260×180×120	**10 83 06936**
EVTF-M-130-16-13	RT-130	16	13.2	260×180×120	**10 83 06937**
EVTF-M-130-16-16	RT-130	16	16.2	260×180×120	**10 83 01306**
EVTF-M-130-16-17	RT-130	16	17.2	260×180×120	**10 83 06939**

Special versions (number, diameter, and depth of bores) available on request.

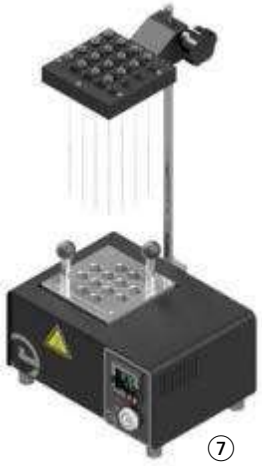

⑥

⑦ Evaporator® Mini

The Evaporator® Mini is the miniature version of the complete system for efficient sample concentration. It consists of a Thermobil® Mini with replaceable heater block and the Multiplex valve depot for 12 sample places.

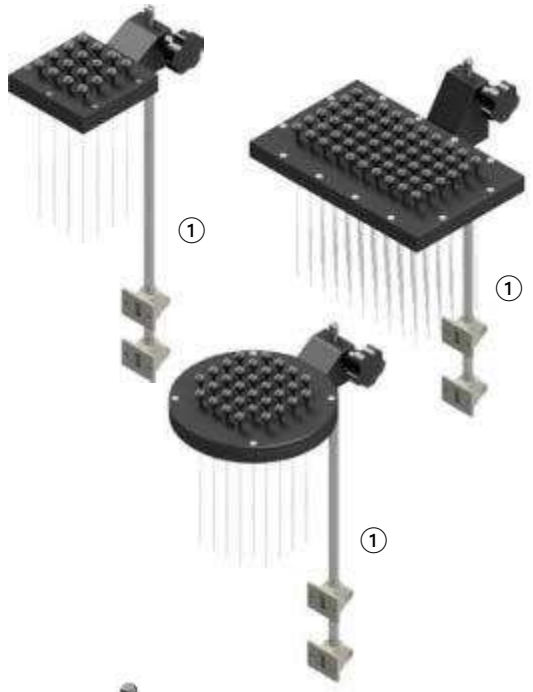
Type	Working temp. °C	Holes	Ø mm	Dimensions mm	Order No.
EVTM-M-130-12-1,5Ep	RT-130	12	1.5 ml Epp	260×180×120	**10 83 09614**
EVTM-M-130-12-2,0Ep	RT-130	12	2.0 ml Epp	260×180×120	**10 83 09615**
EVTM-M-130-12-5	RT-130	12	5.2	260×180×120	**10 83 09616**
EVTM-M-130-12-11	RT-130	12	11.2	260×180×120	**10 83 02601**
EVTM-M-130-12-12	RT-130	12	12.2	260×180×120	**10 83 07036**
EVTM-M-130-12-13	RT-130	12	13.2	260×180×120	**10 83 07037**
EVTM-M-130-12-16	RT-130	12	16.2	260×180×120	**10 83 07038**
EVTM-M-130-12-17	RT-130	12	17.2	260×180×120	**10 83 07039**

Special versions (number, diameter, and depth of bores) available on request.

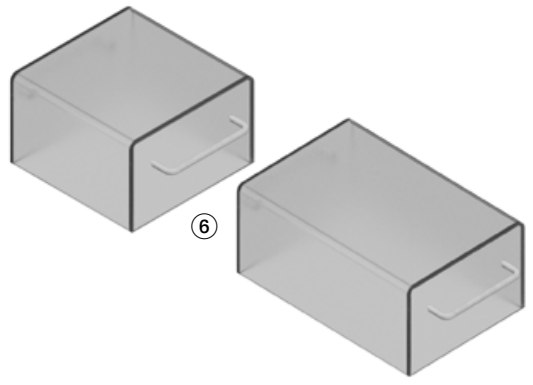

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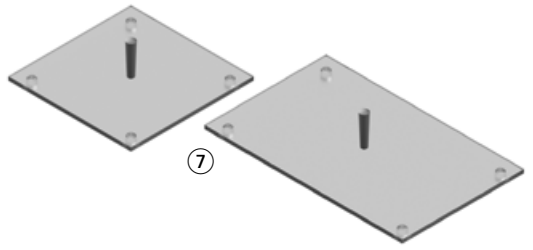
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Metal Block Thermostats









① **Multiplex-Valve-Unit**
Multiplex-Valve-Unit for evaporating and concentrating different samples with selected gases. High-adjustable and swivelling to the side for easy sample loading. Incl. frame rod, coupling bracket, unit-clamps, luer-needles and PTFE-hose attachment.

Type	Specification	Order No.
MPVD-16	for Minis with up to 16 bores	**10 83 01709**
MPVD-32	for up to 32 bores	**10 83 01710**
MPVD-60	for up to 56/60 bores	**10 83 01711**
MPVD-PTFE-16	for up to 16 bores with PTFE-coated Luer-Needles	**10 83 01712**
MPVD-PTFE-32	for up to 32 bores with PTFE-coated Luer-Needles	**10 83 01713**
MPVD-PTFE-60	for up to 56/60 bores with PTFE-coated Luer-Needles	**10 83 01714**
MPVD-96-Mikrotiter	with PTFE-coated Luer-Needles for 96er Mikrotiter-plates	**10 83 01715**
MPVD-96-Mikrotiter, 8 sectors lockable	with PTFE-coated Luer-Needles for 96er Mikrotiter-plates, 8 sectors lockable á 12 positions	**10 83 01716**
MPVD-S-xx	Special version	**10 83 01799**

Accessories

Article	Specification	Order No.
Luer-Needles stainless steel	100 mm length, 12 pc./pack.	**10 83 01821**
Luer-Needles stainless steel	100 mm length, 16 pc./pack.	**10 83 01717**
Luer-Needles stainless steel	50 mm length, 12 pc./pack.	**10 83 01822**
Luer-Needles PTFE	PTFE-coated, 12 pc./pack.	**10 83 01823**
PTFE- hose attachment	16 pc./pack.	**10 83 01810**
PTFE- hose attachment	32 pc./pack.	**10 83 01811**
Frame rod, complete	for the MPVD, incl. adjustable ring, 2x clamps, 3× keys	**10 83 01812**
② LT-KK-32 “little crank”	comfortable crank handle wheel for simultaneous stepless turning down of the MPVD	**10 83 01813**
③ LT-GK-60 “big crank”	comfortable crank handle wheel for simultaneous stepless turning down of the MPVD	**10 83 01814**
④ Conversion kit MPVD-32	Conversion kit for upgrading the standard tripod rod to the convenient hand crank	**10 83 01103**
⑤ Conversion kit MPVD-60	Conversion kit for upgrading the standard tripod rod to the convenient hand crank (factory conversion only)	**10 83 01104**
Luer-Needle attachment	chrome	**10 83 01962**
Mounting clamps	for MPVD, incl. screws	**10 83 01961**
Knurled screws	10 pieces = 1 PU	**10 83 04471**
Covering caps	10 pieces = 1 PU	**10 83 01414**

⑥ **Covering caps**
High-quality transparent cover hoods with two stainless steel handles, for use at max. 200°C.

Type	suitable for	for blocks, dimensions mm	Order No.
LT-AH-100	Minitherm® and Thermobil® Mini	120×120	**10 83 00100**
LT-AH-140	LT-36 and TM-32	139×139	**10 83 00140**
LT-AH-240	LT-60 and TM-56	239×139	**10 83 00240**

⑦ **Covering plates**
Transparent cover plate with handle for mono-blocks with 50 mm block height (eg. Eppendorf, Mikrotiter etc.).

Type	suitable for	for blocks, dimensions mm	Order No.
TM-AP-100	TM-Mini	99×99	**10 83 01100**
TM-AP-140	TM-32	139×139	**10 83 01140**
TM-AP-240	TM-56	239×139	**10 83 01240**

⑧ **Rotatherm**
The Rotatherm® connects temperature control with gentle overhead mixing. With the variably adjustable rotation, the samples are mixed by either regular or permanent rotation. The integrated timer makes it possible to programme individual operating steps.
The device is available with fixed installed heating blockes or with exchangable heating blocks upon request.

Continued on next page

Metal Block Thermostats

Technical data:

Temperature range:	RT to +150°C
Sample places:	max. 2 × 32
Drilling diameter:	5 to 41 mm
Drilling depth:	max. 90 mm
Drilling bottom:	pointed, round or plain
Heating rate:	upon request
Revolution:	up to 50 rpm
Heating power:	1250 Watt
Operating voltage:	230 Volt
Housing dimensions:	650 × 240 × 450 mm

Article	Order No.
Rotatherm RT-150-2x...	**10 83 01502**



⑧

webcode WW2NY232

neoBlock Heaters Mono and Duo, neoLab®

Inexpensive heating block thermostat with large technical advantages and small required space. Its microprocessor keeps data memorized in case of power failure. The temperature sensor can be inserted from either the top or the back of the unit. Features include a 11 mm high digital display for the temperature.
Parallel indication of set and actual temperature, and a built-in timer with auto-off function for up to 99.9 hours. A flashing control light indicates afterheat if the instrument is turned off at a heating block temperature of above 60°C. The temperature setting can be changed at any time.

The neoBlock Duo was developed on the basis of the small model (46 01 22503). The neoBlock Duo matches 2 aluminium blocks in a row or one large block for microtiter plates (46 01 22512).

Technical data:
- Timer
- After-heat indication at temperatures above 60°C

Temperature:	RT to 110°C
Accuracy:	0,1°C, at 37°C: ±0,2°C, at 110°C: ±0,4°C
Dimensions (L×W×H):	16 × 11 × 15 cm Mono 19 × 14 × 15 cm Duo
Weight:	1,8 kg
Power supply:	230 V/50 Hz

	Article	Order No.
⑨	**DIGI-Block heater Mono**	**46 01 22503**
⑩	**neoBlock heater Duo** without block	**46 01 22504**
	Aluminium heating block 6 × 8 mm holes for PCR-tubes 0.2 ml	**10 01 22513**
	Aluminium heating block 24 × 8 mm holes for reaction vessels 0.5 ml	**46 01 22505**
	Aluminium heating block 24 × 10 mm holes for reaction vessels 1.5 ml	**46 01 22506**
	Aluminium heating block 24 × 13 mm holes for test tubers	**46 01 22508**
	Aluminium heating block 6 × 20 mm holes for test tubers	**46 01 22509**
	Aluminium heating block 2 × 4 mm holes for test tubers	**10 01 22514**
	Aluminium heating block non-drilled (fro self-drilling)	**46 01 22511**
	Aluminium heating block solid for MTP (only 1 piece required)	**46 01 22512**



⑨ ⑩

Dry Bath HB-100, Phoenix Instrument

webcode WWSB5026

Digital Dry Bath HB100 with various interchangeable heating blocks is ideal for molecular biology, histology, clinical, environmental and industrial laboratories, including melting and boiling point determination, enzyme reactions, incubation and activation of cultures, immunoassays, DNA denaturation, culture media tests, coagulation tests, blood-urea-nitrogen determinations and in-situ hybridizations.

- A broad temperature range to 120°C, for a variety of applications
- Continuous and time operation
- Various types of optional block are available
- Over temperature protection

Article	Order No.
Dry bath HB-100	**10 13 79101**

Heating blocks for digital dry bath HB-100

Type	Capacity	Quantity wells	Ø mm	Depth mm	Order No.
HB-E100	0.2 ml	54	5.4	15	**10 13 79102**
HB-E105	0.5 ml	40	8.2	26.4	**10 13 79105**
HB-E110	1.5/2 ml	40	11	34.7	**10 13 79110**
HB-E115	5/15 ml	28	17	48	**10 13 79115**
HB-E120	50 ml	8	29.8	48	**10 13 79120**
HB-E125	0.2 ml+0.5 ml+1.5/2 ml	each 18			**10 13 79125**
HB-E130	96 o. 384 Well plate	1			**10 13 79130**



Thermomixers see page 675

Quartz Heaters



Surface Evaporators, QCS

Surface evaporators made of quartz material, for the concentration or evaporation of acids and other liquid chemicals. No vigorous boiling and splashing thanks to indirect heating by means of infrared radiation. Resistant to aggressive media.
230 V, 60Hz.

Surface Evaporators

Type	Power rating W	Ø mm	Height mm	Order No.
OV 140	700	140	55	**44 56 05011**
OV 200	1000	200	70	**44 56 05021**

Stand with clamp for all types

Height mm	Footprint mm	Order No.
520	300 × 250	**44 56 05017**

Evaporating dishes

for type	Ø mm	Height mm	Volume cm^3	Order No.
OV 140	160	50	400	**44 56 05012**
OV 200	230	70	1000	**44 56 05022**

Carrier plates made of quartz material

for type	Ø mm	Height mm	Order No.
OV 140	165	165	**44 56 15032**
OV 200	225	225	**44 56 15030**

Support rings made of quartz material

for type	Ø mm	Height mm	Order No.
OV 140	130	50	**44 56 15033**
OV 200	180	80	**44 56 15031**



Immersion Heaters, QCS

Immersion heaters made of quartz glass
Resistant to aggressive media.
For heating liquids, acids and chemicals by infrared radiation. Resistant to heat cycles. Also with standard ground joint 34/35 or flange for simple installation in glass apparatus.
230 V, 60 Hz.

Immersion heater without standard ground joint

Type	Power rating W	Overall length approx. mm	heated length mm	Order No.
LT 250	250	270	100	**44 56 06505**
LT 500	500	320	150	**44 56 06515**
LT 750	750	420	250	**44 56 06525**
LT 1000	1000	470	300	**44 56 06535**
LT 1500	1500	520	350	**44 56 06545**

Immersion heater with standard ground joint NS 34/35

Type	Power rating W	Length from lower edge of standard ground joint mm	Order No.
LTS 250	250	180	**44 56 06555**
LTS 500	500	230	**44 56 06565**
LTS 750	750	330	**44 56 06575**
LTS 1000	1000	380	**44 56 06585**
LTS 1500	1500	430	**44 56 06595**

Heating Tapes

Heating Tapes, SAF Wärmetechnik

LabHEAT®-Heating tapes KM-HT-BS30
Highly flexible; no protection against ingress of water; protective metal briding outside (protective conductor); outer sheath in glass silk

Max. heating element temperature: 450°C
Dimension: 30 × 5 mm
Bending radius: > 15 mm
Nominal voltage: 230 V AC
Preterminated with 1,0 m cold end

Length m	Heating cap. W	Order No.
0.5	125	**45 91 13005**
1.0	250	**45 91 13010**
1.5	375	**45 91 13015**
2.0	500	**45 91 13020**
2.5	625	**45 91 13025**
3.0	750	**45 91 13030**
4.0	1000	**45 91 13040**
5.0	1250	**45 91 13050**
7.0	1500	**45 91 13070**
10.0	2000	**45 91 13100**

Other designs of heating tapes, also up to 900°C, on request.



webcode WWE38002

Heating Cables, SAF Wärmetechnik

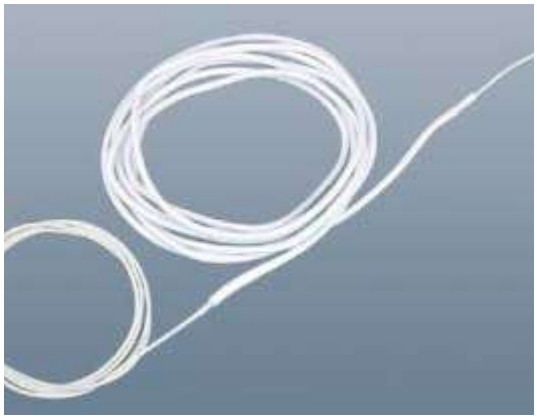
webcode WWE38003

LabHEAT®-Heating cables KM-HC-G
Highly flexible; no protection against ingress of water; with glass-silk braiding

Max. heating element temperature: 450°C
Dimension: Ø 3.5 to 4.5 mm
Bending radius: > 5 mm
nominal voltage: 230 V AC
Preterminated with 2 × 1.5 m cold end

Length m	Heating cap. W	Order No.
0.5	75	**45 91 12005**
1.0	150	**45 91 12010**
1.5	225	**45 91 12015**
2.0	300	**45 91 12020**
2.5	375	**45 91 12025**
3.0	450	**45 91 12030**
4.0	600	**45 91 12040**
5.0	750	**45 91 12050**
6.0	900	**45 91 12060**

Heating cables in other versions, also until 1000°C on request.



Heating Mantles

Heating Mantles, SAF Wärmetechnik

webcode WWE38007

LabHEAT® standard heating mantles KM-G for flask, round bottom
Outer jacket in glass silk and flexible glass yarn heating element, which are adapted to the respective vessel shapes and sizes, from 500 ml with 60-mm Ø bottom outlet. Maximum heating element temperature 450°C. 1.5 m power supply (earthed) cable with heating-zone switch and personal protection adapter, nominal voltage 230 V AC.

Vol. ml	Heating cap. W	Quantity heating zones	Order No.
25	65	1	**45 91 95013**
50	75	1	**45 91 95017**
100	120	1	**45 91 95024**
250	180	2	**45 91 95036**
500	250	2	**45 91 95044**
1000	450	2	**45 91 95054**
2000	600	2	**45 91 95063**
3000	800	2	**45 91 95068**
4000	900	2	**45 91 95071**
5000	1200	2	**45 91 95073**
6000	1400	2	**45 91 95076**
10000	2000	2	**45 91 95086**
20000	2200	2	**45 91 95091**

Special heating mantles with other specifications (voltage, power) available on request.



webcode To see other variants and accessories, please enter the webcode on our website.

Heating Mantles



webcode WWE38010

Heating Mantles, SAF Wärmetechnik

LabHEAT® high temperature heating mantles KM-GH for flasks, round bottom
Designed identical to series KM-G, but the heating element is made of heat-resistant quartz yarn for higher capacities and temperatures.
Maximum heating conductor temperature 900°C. 1.5 m power supply (earthed) cable with heating-zone switch and personal protection adapter. Nominal voltage 230 V AC.

Vol. ml	Heating cap. W	Quantity heating zones	Order No.
100	200	1	**45 91 96224**
250	300	2	**45 91 96236**
500	500	2	**45 91 96244**
1000	750	2	**45 91 96254**

Vol. ml	Heating cap. W	Quantity heating zones	Order No.
2000	1200	2	**45 91 96263**
4000	1800	2	**45 91 96271**
6000	2500	2	**45 91 96276**

Special heating mantles with other specifications (voltage, power) available on request.

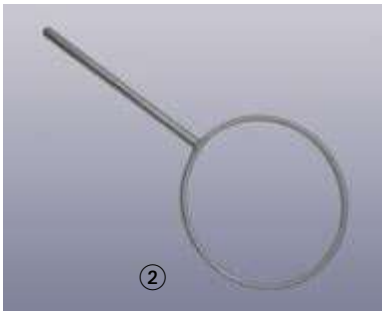
webcode WWE38012

SAF WÄRMETECHNIK

Heating Mantles Accessories, SAF Wärmetechnik



① **Tripod KM-DF**
Made of stainless steel (1.4031), for higher stability of heating mantles from the series KM-G and KM-GH. The heating mantle is hereby on its four clips in the tripod suspended.



② **Supporting ring KM-TR**
Made of stainless steel (1.4031), for securing heating mantles from the series KM-G and KM-GH in support setups. The heating mantle is able to be suspended on its four clips in the support ring.

Volume ml	Tripod Order No.	Support ring Order No.
25		**45 91 19213**
50		**45 91 19217**
100	**45 91 19124**	**45 91 19224**
250	**45 91 19136**	**45 91 19236**
500	**45 91 19144**	**45 91 19244**
1000	**45 91 19154**	**45 91 19254**
2000	**45 91 19163**	**45 91 19263**
3000	**45 91 19168**	**45 91 19268**
4000	**45 91 19171**	**45 91 19271**
5000	**45 91 19173**	
6000	**45 91 19176**	
10000	**45 91 19186**	
20000	**45 91 19191**	

webcode WWE38011



Heating Mantles, SAF Wärmetechnik

LabHEAT® metal-cased heating mantles KM-M for flasks, round bottom
Flexible heater in a plastic-coated, chemical-resistant metal housing with integrated mains and heating zones switch.
Max. heating element temperature 450°C. 1.5 m power supply (earthed) cable with plug and personal protection adapter. Nominal voltage 230 V AC.

Vol. ml	Heating cap. W	Quantity heating zones	Order No.
50	55	1	**45 91 91017**
100	100	1	**45 91 91024**
250	150	2	**45 91 91029**
500	200	2	**45 91 91044**
1000	300	2	**45 91 91054**
2000	500	2	**45 91 91063**

Vol. ml	Heating cap. W	Quantity heating zones	Order No.
3000	600	2	**45 91 91068**
4000	750	2	**45 91 91071**
5000	860	2	**45 91 91073**
6000	1000	2	**45 91 91076**
10000	1400	2	**45 91 91086**
20000	2000	2	**45 91 91091**

Metal-cased heating mantles for glasses or other vessel forms available on request.

Heating Mantles

Heating Mantles, SAF Wärmetechnik

LabHEAT® Metal-cased heating mantles KM-ME for flasks, round bottom
Flexible heater in a plastic-coated, chemical-resistant metal housing with integrated mains and heating zones switch, and additionally with integrated controller for continuous power adjustment. Max. heating element temperature 450°C. 1.5 m supply cable with earth contact type plug and safety switch, nominal voltage 230 V AC.

Vol. ml	Heating cap. W	Quantity heating zones	Order No.
50	55	1	**45 91 92017**
100	100	1	**45 91 92024**
250	150	2	**45 91 92036**
500	200	2	**45 91 92044**
1000	300	2	**45 91 92054**
2000	500	2	**45 91 92063**

Vol. ml	Heating cap. W	Quantity heating zones	Order No.
3000	600	2	**45 91 92068**
4000	750	2	**45 91 92071**
5000	860	2	**45 91 92073**
6000	1000	2	**45 91 92076**
10000	1400	2	**45 91 92086**
20000	2000	2	**45 91 92091**

Metal-cased heating mantles for glasses or other vessel forms available on request.



webcode WWE38018

Heating Mantles, SAF Wärmetechnik

LabHEAT®-Multi heating mantles KM-MPE for flasks, round bottom

Design and technology identical with series KM-ME, but with a special heater, suitable for three different flask sizes. Max. heating element temperature 450°C, 1.5 m supply cable with earth contact type plug and safety switch, nominal voltage 230 V AC.

Volume ml	Heating capacity W	Quantity heating zones	Order No.
50 – 250	160	3	**45 91 93036**
250 – 1000	350	3	**45 91 93054**
1000 – 3000	700	3	**45 91 93068**

Metal-cased heating mantles for glasses or other vessel forms available on request.



webcode WWE38019

Heating Mantles, SAF Wärmetechnik

LabHEAT® Stirred heating mantles KM-MER for flasks, round bottom
Design and technology identical with series KM-ME, but with additional integrated magnetic stirrer for separate activation (continuously adjustable speed up to 1,600 rpm, stirring power 20 W), control lamps for stirring and heating mode. Max. heating element temperature 450°C, 1.5 m supply cable with earth contact type plug and safety switch, nominal voltage 230 V AC.

Volume ml	Heating capacity W	Quantity heating zones	Order No.
100	100	1	**10 91 99401**
250	150	2	**10 91 99402**
500	200	2	**10 91 99403**
1000	300	2	**10 91 99404**

Metal-cased heating mantles for glasses or other vessel forms available on request.



webcode WWE38024

Heating Mantles, SAF Wärmetechnik

LabHEAT® Stirred heating mantles KM-MEB for flasks, round bottom
with corrosion-resistant stainless steel heating bowl in a plasted-coated, chemicals-resistant metal housing with integrated mains and heating zone switch and additional integrated controller for infinite power adjustment. Max. heating element temperature 450°C, 1.5 m supply cable with earth contact type plug and safety switch, nominal voltage 230 V AC.

Volume ml	Heating capacity W	Quantity heating zones	Order No.
250	150	2	**10 91 98025**
500	200	2	**10 91 98050**
1000	300	2	**10 91 98100**
2000	500	2	**10 91 98200**

Metal-cased heating mantles for glasses or other vessel forms available on request.



webcode WWE38023

Heating Mantles

webcode WWE38022



Heating Mantles, SAF Wärmetechnik

LabHEAT®-Serial heating units KM-R6 for flasks, round bottom
Plastic-coated, chemical-resistant metal housing with six heating positions. Each heating position is seperately controlled. Max. heating element temperature 450°C. 1.5 m power supply (earthed) cable with plug and personal protection adapter.
Nominal voltage 230 V AC.

Volume ml	Heating capacity W	Quantity heating zones	Order No.
100	110	1	**10 91 99361**
250	220	1	**10 91 99362**
500	330	1	**10 91 99363**
1000	495	1	**10 91 99364**

Data on flasks and performance applicable per heating positions
Contact us to inquire about serial heaters with three heating positions.

webcode WWE38017



Support Clamp, SAF Wärmetechnik

Support clamp KM-SK
Accessories for housing heating mantles and serial heating units
For securing a support rod up to Ø 12 mm or for integrating the housing heating mantle in support setups.

Article	Order No.
Support clamp KM-SK	**45 91 97001**

webcode WWE38013



Power Regulator, SAF Wärmetechnik

LabHEAT®-Power regulator KM-L116
Electromechanical, infinitely variable control of the heating capacity by built-in socket
Stable plastic housing (W×D×H) 65 × 120 × 55 mm
Switching power max. 2950 W (13 A), Nominal voltage 230 V AC

Article	Order No.
Power regulator KM-L116	**45 91 65116**





webcode WWE38014



Temperature Controller, SAF Wärmetechnik

LabHEAT® Temperature controller KM-RX1001
Microprocessor-controlled tabletop unit with stage clamp, indication of setpoint and actual values in a sturdy plastic housing (H×W×D) 75 × 205 × 140 mm, freely adjustable setting range of up to 1,200°C, PID self-optimation, with ramp function and USB connection for external setting.
Input: Pt100 or thermocouples, potential-related switching contact via diode socket
Output: Heating via grounding outlet with all-pole fusing
Switching capacity max. 2300 W (10 A), system connection 230 V AC

LabHEAT® Temperature controller KM-RX1004
Design and technology identical with series KM-RX1001, except for:
Temperature sensor connection and potential-related switching contact via terminals

Type	Connection Sensor	Connection Alarm	Order No.
① KM-RX1001	Diode socket	Diode socket	**10 91 91001**
② KM-RX1004	Clamps	Clamps	**10 91 91004**
③ KM-RX1003	Thermo socket	Clamps	**10 91 91003**

Heating Mantles

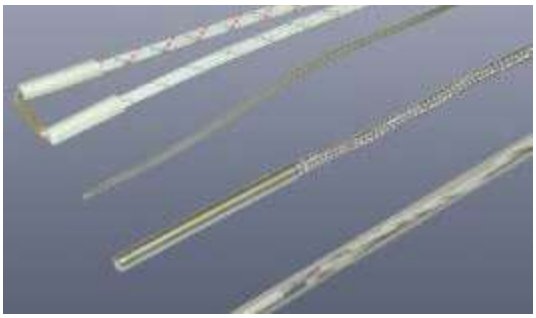
Temperature Sensors, SAF Wärmetechnik

webcode WWE38016

Suitable for temperature regulator KM-RX100 and KM-RX2000, with permanently connected compensation line, with or without diode plug.

KM-TNF: NiCr-Ni, up to 400°C, flat sensor 0.4 × 15 × 400 mm
KM-TNS: NiCr-Ni, up to 1200°C, rod sensor made of Incocell, Ø 1.5 × 300 mm
KM-TP2: Pt100, up to 400°C, sheathed element sensor in V2A, Ø 4 × 50 mm
KM-TPG: Pt100, up to 250°C, in a glass tube, Ø 6 × 400 mm

Type	with diode plug	without plug
	Order No.	**Order No.**
KM-TNF	**45 91 01002**	**45 91 02002**
KM-TNS	**45 91 01003**	**45 91 02003**
KM-TP2	**45 91 01001**	**45 91 02001**
KM-TPG	**10 91 91005**	**10 91 92005**



Water Baths, Oil Baths

Sunlab® Water Bath, neoLab®

webcode WW2NY402

The Sunlab® stainless steel water baths are the ideal solution for heating of samples and media. The temperature range can be set from RT +5° C to 99°C. The temperature setting is quick and easy via the digital control panel. After use, the water bath can simply be emptied via a bottom outlet (10 01 08811 and 10 01 08812).

- with digital temperature display
- incl. flat and sloping lids
- with limit alarm



Stainless steel Water Bath

Article	Volume l	L × W × H mm	**Order No.**
Sunlab® water bath 6 L	6	225×400×370	**10 01 08810**
Sunlab® water bath 10 L	10	312×400×370	**10 01 08811**
Sunlab® water bath 20 L	20	572×400×370	**10 01 08812**

Universal Water Baths, Funke - Dr. N. Gerber

Stainless steel water baths, suitable for fat determination
WB 436-D universal water bath (digital):
- Digital temperature display (actual value)
- Digital setpoint temperature adjustment
- PT 100 sensor (platinum sensor)
- Overheating protection (even when tank is empty)
- Stopwatch (1-100 min.) with acoustic signal
- Stainless steel inner and outer casing

Use with distilled water if possible.

WB 436-A universal water bath (analog):
Same as WB 436-D except with analog temperature selection (rotary button), temperature display with thermometer (included), thermostat heating controller.

Technical data:

Temperature range:	up to 100°C
Volume:	18 l
Power supply:	230 V / 50 – 60 Hz / 1000 W
Inner dimensions (W×D×H):	300 × 280 × 194 mm
Outer dimensions (W×D×H):	331 × 396 × 265 mm
Weight:	10 kg

Article	**Order No.**
① Universal water bath WB 436-D	**44 42 03707**
② Universal water bath WB 436-A	**44 42 03708**



Continued on next page

Water Baths, Oil Baths

Accessories

Article	Order No.
Butyrometer stand made of stainless steel, for 36 butyrometers Dimensions (W×D×H): 383 × 325 × 200 mm, diameter of the hole: 27.2 mm	**44 42 03717**
Butyrometer tube (closed) Made of brass, for butyrometer stand (art. no. 44 42 03717) Outer diameter, bottom: 27 mm Outer diameter, top: 33 mm Inner diameter: 25.8 mm Length: 170 mm	**10 42 03766**
Butyrometer tube (open) Made of brass, for butyrometer stand (art. no. 44 42 03717) Outer diameter, bottom: 27 mm Outer diameter, top: 33 mm Inner diameter: 25.8 mm Length: 170 mm	**44 42 03766**
Universal shelf made of stainless steel Dimensions (W×D×H): 280 × 225 × 2 mm, diameter of the hole: 16.9 mm	**44 42 03727**
Lid made of stainless steel Dimensions (W×D×H): 350 × 320 × 4 mm	**44 42 03747**
Mojonnier stand Made of stainless for 10 Mojonnier tubes Dimensions (W×D×H): 280 × 225 × 227 mm	**10 42 03718**



webcode WW39Q005

Water Baths Eurotherm II, Aerne Analytic

Water baths by Aerne Analytic are used for heating and tempering a great variety of laboratory samples. The baths are available in different sizes and designs and can be specifically adapted to meet the customer's requirements. Mains connection: 230V/ 50/60 Hz, temperature range: ambient – 95°C

Type	Useful space L × W × H cm	Power rating W	Order No.
AET 5	23×12,5×20	500	**10 64 06005**
AET 8	23×18×20	1000	**10 64 06008**
AET 10	23×23×20	1000	**10 64 06010**
AET 11	38×23×12	1000	**10 64 06011**
AET 12	39×15×20	1500	**10 64 06012**
AET 20	39×25×20	2000	**10 64 06020**
AET 30	39×38×20	2500	**10 64 06030**
AET 38	88×36×12	3000	**10 64 06038**
AET 42	44×23×30	2500	**10 64 06042**
AET 50	60×36×23	2900	**10 64 06050**
AET 70	100×46×15	2900	**10 64 06070**

Customised versions available on request.

Options for water baths Eurotherm II (on request):
Circulation pump, overflow standpipe, stainless steel/plastic outlet tap, ring insert for lid, two-piece lid, external supply

Accessories for water baths Eurotherm II (on request):
Flat or slant lid, insertion racks

webcode WW39Q006



Acid Water Bath Chemietherm, Aerne Analytic

For heating and tempering acid or alkaline solutions. The electronic control is arranged in a separate housing and connected to the bath via cable. Thus, the bath can be operated under a fume cupboard while the control components are outside of the critical area. Material: white PP, mains connection 230V/ 50/60 Hz, temperature range: ambient – 85°C

Type	Useful space L × W × H cm	Power rating W	Order No.
AET-C	23×23×19	900	**10 64 07001**

Customised versions and insert racks available on request.

Water Baths, Oil Baths

Magnetic Stirring Water Baths, Aerne Analytic

webcode WW39Q007

For example for boiling and dissolving culture media in microbiology or other applications. Equipped with magnetic stirrers which are jointly and infinitely variable. Mains connection: 230V/ 50/60 Hz, temperature range: ambient – 95°C

Type	Specification	Power rating W	Order No.
MRWB 2x2L	suitable for 2×2 l bottles	1550	**10 64 08010**
MRWB 2x5L	suitable for 2×5 l bottles	2550	**10 64 08011**
MRWB 6x1L	suitable for 6×1 l bottles	2050	**10 64 08012**
MRWB 6x2L	suitable for 6×2 l bottles	3050	**10 64 08013**
MRWB 6x5L	suitable for 2×5 l bottles	3050	**10 64 08014**
MRWB 4x5L	suitable for 4×5 l bottles	3050	**10 64 08015**
MRWB 4x2L	suitable for 4×2 l bottles	3050	**10 64 08016**

Customised versions available on request.



Water Baths Ecotherm, Dinkelberg Analytics

webcode WWSU9026

For decades, these sturdy, long-lived water baths made of white polypropylene (PP) have proven their worth in practical application. They are temperature resistant to 95°C, are easy to operate via a central control element and include a perforated floor plate. Optionally available with integrated circulation (circulation pumps can be switched on or off)

Control:
Digital timer with adjustable holding time (0.5 – 99.5 hours), bright LED display with a temperature range of 5°C above ambient temperature up to 95°C, switching accuracy: ± 0.1°C.

Safety:
Detection of sensor breakage and insufficient water level guarantees a high safety standard. With mechanical overtemperature limiter for switch-off when the maximum operating temperature is reached. Additional safety thanks to timer for freely selectable switch-off. Each water bath is safety-tested and in conformity.



①

Water baths

	①		③	
Model	E5	E5U	E10	E10U
Type	DIET231220v15	DIET231220Uv15	DIET232320v15	DIET232320Uv15
Circulation	no	yes	no	yes
Outer W×H×D mm	355×258×145	355×258×170	355×258×250	355×258×250
Useful W×H×D mm	230×200×125	230×200×150	230×200×230	230×200×230
Useful vol. l	5.85	6.9	10.6	10.6
Wght kg	3.3	4.2	5	6
P rating kW	0.5	0.5	1.0	1.0
Control precision °C	± 0.4	± 0.2	± 0.4	± 0.2
Order No.	**10 32 12305**	**10 32 12306**	**10 32 12309**	**10 32 12310**



②

	④			
Model	E11	E11U	E12	E12U
Type	DIET382312v15	DIET382312Uv15	DIET391520v15	DIET391520Uv15
Circulation	no	yes	no	yes
Outer W×H×D mm	505×178×250	505×178×250	515×258×170	515×258×170
Useful W×H×D mm	380×120×230	380×120×230	390×200×150	390×200×150
Useful vol. l	10.5	10.5	11.7	11.7
Wght kg	5	6	5	6
P rating kW	1.0	1.0	1.5	1.5
Control precision °C	± 0.4	± 0.2	± 0.4	± 0.2
Order No.	**10 32 12311**	**10 32 12312**	**10 32 12313**	**10 32 12314**



③

	②			
Model	E19	E19U	E30	E30U
Type	DIET392420v15	DIET392420Uv15	DIET393820v15	DIET393820Uv15
Circulation	no	yes	no	yes
Outer W×H×D mm	515×258×315	515×258×315	515×258×450	515×258×450
Useful W×H×D mm	390×200×245	390×200×245	390×200×380	390×200×380
Useful vol. l	19.1	19.1	29.6	29.6
Wght kg	6.5	7.5	9	10
P rating kW	2.2	2.0	2.5	2.5
Control precision °C	± 0.4	± 0.3	± 0.4	± 0.3
Order No.	**10 32 12318**	**10 32 12317**	**10 32 12330**	**10 32 12331**



④

Continued on next page

Water Baths, Oil Baths

Model		E38	E38U	E70	E70U	F
Type		DIET883612v15	DIET883612Uv15	DIET104615v15	DIET104615Uv15	DIETF403126
Circulation		no	yes	no	yes	no
Outer W×H×D	mm	1000×178×415	1000×178×415	1125×280×530	1125×280×530	405×310×260
Useful W×H×D	mm	875×120×360	1000×150×460	1000×150×460	1000×150×460	–
Useful vol.	l	37.8	37.8	69	69	5 l container
Wght	kg	16.5	17.5	19.5	20.5	6
P rating	kW	3.0	3.0	3.0	3.0	1.9
Control precision	°C	± 1.2	± 0.6	± 1.2	± 0.6	± 0.4
Order No.		**10 32 12338**	**10 32 12339**	**10 32 12370**	**10 32 12371**	**10 32 12372**



① ②



③ ④

Water bath covers

	Article	Type	for	Order No.
	Flat cover/PP white, with handle for E5	DIFDO05	E5	**44 32 43005**
①	Flat cover/PP white, with handle for E10	DIFDO10	E10 / E10U	**44 32 43010**
	Flat cover/PP white, with handle for E11	DIFDO11	E11 / E11U	**44 32 43020**
	Flat cover/PP white, with handle for E19	DIFDO19	E19 / E19U	**44 32 43015**
②	Sloping cover/PP white, with handle for E19	DISDO19	E19 / E19U	**44 32 43110**
	Sloping cover/PP white, with handle for E30	DISDO30	E30 / E30U	**44 32 43125**
	Hinges for fastening a one-piece inclined lid, for installation to water bath	DISDOSF	E5 to E30	**10 32 13126**

Further flat and sloping covers are available for each model

Accessories

	Article	Order No.
③	**Underwater shaker insert for E12 (max. 1), E19 (max. 2), E30 (max. 2)** PP, white, for Butyrometer and test tubes, 18 wells, Ø 26 mm	**44 32 44018**
④	**ThermoClean DC for all models** Water bath stabiliser solution, 100 ml	**10 32 14019**

Special equipment (can be integrated in any bath on request)

Article	Order No.
Drain cock for all models 1/2 ball valve, incl. installation	**44 32 45010**
Drain cock for E19 or higher PP, incl. assembly, recommended for water baths of 19 litres and up	**10 32 15011**

webcode WWSU9029

Dinkelberg analytics by ALTMANN ANALYTIK

Magnetic Stirring Water Baths, Dinkelberg Analytics



⑤

Water baths with two integrated stirring units, for applications such as boiling or dissolving nutrient substrates in microbiology etc.
Baths made of white polypropylene (PP), material thickness 10 mm, withstands temperatures up to 100°C, electronic regulation, 7-segment LED display to show ACTUAL/NOMINAL value, UP and DOWN buttons to set NOMINAL value in 0.1°C increments. Temperature range: 5°C above ambient temperature to 99.9°C.
Triple safety system with integrated temperature limiter, electronic level protection and control system to protect against sensor failure.

Comes with two magnetic stirring units integrated into bath base, common continuous regulation, perforated support lid which also centers the bottles, fits SCHOTT laboratory bottles with ISO threads.
Magnet stirrers, removal rod and bottles not supplied.

Technical data:

Models:	**ER2**	**ER5**
External dimensions mm (W×H×D):	485 × 268 × 220	575 × 338 × 270
Useful dimensions mm (W×H×D):	360 × 210 × 200	450 × 280 × 250
Bath capacity:	15 l	30 l
Weight:	10 kg	13 kg
Magnetic stirrer:	infinitely variable speed	
Capacity (bottles):	2 × 2 l	2 × 5 l
Switching accuracy:	± 0.1°C	± 0.1°C
Control accuracy:	± 0.4°C	± 0.4°C
Rating:	1500 W	2500 W
Power supply:	230 V~/50 Hz	230 V~/50 Hz

	Article	Order No.
	Magnetic stirrer water bath Rototherm ER2 Type DIETR362120	**44 32 40620**
⑤	**Magnetic stirrer water bath Rototherm ER5** Type DIETR452825	**44 32 40625**

Water Baths, Oil Baths

Water Baths, Gestigkeit



Water bath W 16

For temperatures up to 110°C. The high-grade, stainless steel bath is built securely into a special steel housing.
the temperature is controlled by a thermostat with an accuracy of ±1.5 K and better.
A go-dry protection system prevents overheating when there is not enough water in the bath. Additional protection is provided by temperature fuse. the low laying ring-set enables the condensed water to drip back into the bath.

Technical data:

Internal dimensions:	160 mm dia. × 100 mm
Temperature selection:	30 to 110 °C
Rating:	1000 Watt
Voltage:	230 V
External dimensions (W × D × H):	220 × 220 × 160 mm
Weight:	3 kg

Article	Order No.
Water bath W 16	**44 06 47016**

Accessories

Article	Order No.
Ring set RI 17/E	**44 06 48000**
Stainless steel support rod ST 12, screw-on, 12 mm Ø	**44 06 48001**

Hydro Vaporization Water Baths, LAUDA

webcode WW18A005

LAUDA

For gentle steaming work with Erlenmeyer flasks, glasses, columns etc. Temperature range from approx. 5°C above ambient to boiling point. Temperature control by tension thermostat, protection of the heating element by overtemperature cut-out. The adjustable water level regulator is a standard feature. The units have the CE mark.

Vaporization bath type H 5 V

Bath, frame and perforated floor above the heating element made of stainless steel. Sets of rings made of plastic is a standard feature. The square cover frame (W 265 mm x L 265 mm) is removable. Its 9-part set of rings, made of heat-resistant plastic material can be parted. Its diameter can be varied in approx. 20 mm steps (min. 32.5 / max. 173.5 mm). Housing made of electrolytically galvanised sheet steel, powder coated. Adjustable water level regulatoris mounted on the back.

For 230 V, 50/60 Hz, 1.0 kW power supply (also available in 115 V; 60 Hz and 100 V; 50/60 Hz).



①

	Type	Outer W×H×D mm	Useful W×H×D mm	Vol. approx. l	Wght approx. kg	Connec. kW	Order No.
①	H 5 V	342×180×400	240×120×240	5	9	1.0	**10 11 03066**

Accessories

Article	Order No.
Support rod made of stainless steel 316 mm long, 12 mm dia.	**10 11 03039**

Water baths for fume hoods type H 11 V und H 19 V

Vaporization baths especially for use with fume hoods (digestories). Bath, removable recessed lid with holes and perforated floor above the heating element made of stainless steel. The openings in the lid are covered by sets of rings made of heat-resistant plastic material. The standard adjustable water level regulator is mounted on the right-hand side of the bath.

For 230 V, 50/60 Hz, 1.5 kW power supply (also available in 115 V; 60 Hz and 100 V; 50/60 Hz).



②

	Type	Outer W × H × D mm	Qty openings	Opening Ø mm	Useful height mm	Wght approx. kg	Connec. kW	Order No.
②	H 11 V	430×155×300	6	91	100	6.1	1.5	**10 11 03069**
	H 19 V	690×155×300	8	111	100	8.2	1.5	**10 11 03070**

Vaporization water baths H 6 V and H 9 V

Bath frame with openings and parted perforated floor plate above the heating element made of stainless steel. Housing made of electrolytically galvanized sheet steel, power coated. The openings in the frame are covered by heatresistant plastic ring sets. A support rod of 600 mm length, 12 mm diameter, made of stainless steel, is behind each opening. Water level regulator is mounted on the left-hand side.

For 230 V, 50/60 Hz power supply (also available in 115 V; 60 Hz and 100 V; 50/60 Hz).



③

	Type	Outer W × H × D mm	Qty openings	Opening Ø mm	Useful height mm	Wght approx. kg	Connec. kW	Order No.
	H 6 V	682×190×232	4	131	90	12	1.0	**10 11 03067**
③	H 9 V	982×190×232	6	131	90	16	1.5	**10 11 03068**

webcode To see other variants and accessories, please enter the webcode on our website.

Water Baths, Oil Baths

webcode WW18A015



Hydro Tissue float bath, LAUDA

Special bath for stretching and drying cut tissues for histological, chemical, clinical and bacteriological laboratories.
Temperature range from approx. 5°C above ambient to +80°C. The exact temperature control with a constancy of ± 0.5°C guarantees evenly stretched cuttings, which are clearly visible in the black anodized bath. The cuttings are carefully dried on the warmed rim of the bath, which is also black anodized.
The low 100 mm height of the bath allows comfortable and safe working.
Bath interior and housing made of aluminium, housing powder coated. Control thermometer with stainless steel holder. The unit has the CE mark. Power supply: 230 V; 50/60 Hz (also available in 115 V; 60 Hz and 100 V; 50/60 Hz).

Tissue float bath H 2 P

Temp. range up to °C	Outer Ø mm	Outer height mm	Useful Ø mm	Useful H mm	Wght kg	Connec. kW	**Order No.**
+80	280	100	200	60	2	0.3	**10 11 03071**

Accessories

Article	**Order No.**
Dust cover made of aluminium, black anodized	**10 11 00040**

Suppliable as accessory.

webcode WW2KN013



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PURA Water Baths, JULABO

PURA water baths
The new PURA water baths. Premium quality. Practical. Robust.
Users place high demands on modern water baths in terms of functionality and reliability. Above all, a water bath must be trouble-free and low-maintenance in everyday operations. For this reason, JULABO does not only count on proven functions in the new PURA series of water baths, but particularly also on simple, intuitive operation and high material and component quality. The result is functional and high-quality water baths that facilitate regular temperature applications in the laboratory and, thanks to their durable design, can with stand permanent loads without any problems.

In addition to their high quality, ease of use and easy-to-read display, PURA water baths offer a number of functions and features that enable efficient use in the laboratory. These include, among other things, an integrated timer and specially designed edge surfaces, which automatically drain condensed fluid back into the bath. Another unique feature is the included, removable platform. Sample containers, which are placed on the platform, are fully immersed and thus optimally tempered.
Operating the water bath is straightforward, and the bright, easy to read white LED display can easily be read – also from a distance.

Important advantages
- Working temperature range[1)] from +18°C to +99.9°C
- Models with bath volumes from 0.8 to 36 liters
- Temperature stability[2)] of ±0.15°C
- Heating capacity up to 2 kW
- Bright display
- Splash-proof protected mains switch
- Built-in dry running protection
- Specially designed edge surfaces, which drain condensed fluid back into the bath
- Removable platform for full immersion of the sample containers (included in the delivery)

[1)]with counter-cooling/bath cover (accessories)
[2)]with bath cover (accessories)

	Type	Heating cap. kW	Bath opening/depth cm	Filling vol. l	Poss. number of test tube racks	W × H × Depth cm	**Order No.**
①	PURA 4	0.8	12×27 / 14	0.8 – 4.5	1	21×35×22	**10 35 90504**
	PURA 10	1.2	22×27 / 14	1.4 – 9.5	2	31×35×22	**10 35 90510**
②	PURA 14	1.8	33×27 / 14	2 – 14	3	42×35×22	**10 35 90514**
	PURA 22	2	55×27 / 18	3.4 – 25.5	5	64×35×26	**10 35 90522**
	PURA 30	2	77×27 / 18	4.8 – 36	7	86×35×26	**10 35 90530**

Water Baths, Oil Baths

Water and Shaking Water Baths, LAUDA

webcode WW18A009

LAUDA Hydro: Universal water and shaking water baths from 5 to 100°C

The inexpensive, compact water baths for laboratory use stand out for their digital TFT display with simple operation and high reliability. They are optimally equipped for every laboratory application in the form of a typical water bath, a water bath with a circulating function or a shaking water bath, and ensure homogeneous temperature distribution without local overheating.

The LAUDA Hydro water baths are made of high-quality stainless steel and provide the right bath depth and opening for every application with bath volumes from 4 to 41 liters. They are designed for the needs of biological, medical or biochemical laboratories with excellent temperature homogeneity, optional circulation or a shaking function.

All water baths offer a temperature range of up to 100°C, which also permits applications in the boiling temperature range. The water temperature of the bath can be controlled by means of the electronic controller. A timer function can be used to set a switch-on delay and the duration of the operating time, either after a switch-on delay or after reaching the set temperature. The high-contrast 3.5-inch TFT display shows all the settings and operating values. The controller also has an electronic function check with a visual and acoustic alarm signal in the event of an error.


①

The LAUDA Hydro product range offers the perfect equipment for every laboratory requirement with six water baths, two water baths with a circulating function and three shaking water baths.

The shaking water baths are specialized for different work processes. The device type H 20 SOW creates a circular motion for the sample whereas the types H 20 S and H 20 SW are designed for a linear, oscillating shaking movement. The built-in speed controller enables a load-independent, infinitely variable shaking movement with a soft start.

The two shaking water baths H 20 SW and H 20 SOW are equipped with a cooling coil as standard. The temperature range of the shaking water baths can be extended down to +10°C by connecting them to the domestic water supply or to commercially available circulation chillers.


①

All Hydro device types are protected against overheating during dry running by means of a low-water safety device and therefore guarantee reliable continuous operation (Safety class I, NFL).
Furthermore, they consist of a corrosion-resistant outer casing made of electrolytically galvanized, powder-coated sheet steel. All the other structural parts of the casing, as well as the tubular heating element, are made of stainless steel. The double-walled, heat-insulated cover with internal curvature reliably prevents condensate from dripping back into the system. The recessed operating elements protect the electronics from dripping water and dirt. This increases the service life and ensures a high level of user safety.

Water baths LAUDA Hydro

		①							
Type		H 4	H 8	H 16	H 22	H 24	H 41	H 8 A	H 16 A
Temperature range	°C	25 – 100	25 – 100	25 – 100	25 – 100	25 – 100	25 – 100	25 – 100	25 – 100
Temp. accur. ±	K	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1
Heating cap.	kW	0.5	1.0	1.5	1.5	1.5	1.5	1.0	1.5
Bath vol.	l	4	8	16	22	24	41	8	16
Bath dimensions W×D×H	mm	245×100×165	245×200×165	400×245×165	400×245×225	600×245×165	410×296×335	245×200×165	400×245×165
Order No.		**10 23 32900**	**10 23 32901**	**10 23 32902**	**10 23 32903**	**10 23 32904**	**10 23 32905**	**10 23 32906**	**10 23 32907**

Water shaking baths LAUDA Hydro

		②		
Type		H 20 S	H 20 SW	H 20 SOW
Temperature range	°C	25 – 99.9	10 – 99.9	10 – 80
Temperature accuracy ±	K	±0.1	±0.1	±0.1
Heating capacity	kW	1.5	1.5	1.5
Movement		reciprocating	reciprocating	orbital
Shaking frequency	min^{-1}	10 – 250	10 – 250	10 – 250
Shaking amplitude	mm	22	22	14
Bath dimensions W×D×H	mm	450×300×160	450×300×160	450×300×160
Filling volume	l	20	20	20
Dimensions (W×H×D)	mm	715×520×330	715×520×330	632×500×390
Net weight	kg	28	30	35
Gross weight	kg	32	34	40
Order No.		**10 23 32908**	**10 23 32909**	**10 23 32910**


②

Water Baths, Oil Baths

webcode WW91A004

memmert

Water Baths, Memmert


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③

The Memmert water bath is available in six sizes and two power classes. As a supplement to the Basic version intended for straightforward temperature control, the Excellent version provides for precise test procedures with maximum safety. Here, heating from 3 sides ensures premium temperature homogeneity. For the largest-size water bath model, an optional circulation pump is available for an even more homogeneous water temperature.

WNB = water bath, natural circulation, BASIC temperature controller
WNE =water bath, natural circulation, EXCELLENT temperature controller
WPE =water bath, circulation pump, EXCELLENT temperature controller

Standard scope of delivery without cover

Control systems:
- Micro-processor PID-temperature control with integrated self-diagnostics system to find errors quickly
- non-contacting switching element
- one Pt100 DIN-class A in 4-conductors measurement
- integrated digital clock from 1 min. to 99.59 hrs. for:
  ON permanent operation
  WAIT (delays on for duration and limited-time operation)
  HOLD
- digital display (LED) of target and actual temperature (resolution 0.1°C), as well as (remaining) programme run time
- Status-LEDs to monitor programme run

Double overheat protection:
- in case of error-caused excess temperature, the heating is turned off at ca. 10°C above target temperature
- mechanic temperature limit TB protection class 1 to turn off heating at 30°C above max. bath temperature

Structure stainless-steel housing:
- Substance 1.4301 (ASTM 304), corrosion-resistant

Interior - heating concept:
- easy-to-handle, stainless steel workspace enforced by deep-drawing ribbing, substance no. 1.4301 (ASTM 304), laser-welded
- corrosion-protected, large-sized heating placed on 3 sides

Technical data:

Operating temperature range:	min. 5°C (WNB/WNE) 15°C (WPE) above ambient up to +95°C with additional boiling mode (for WPE, only with pump switched off)
Setting temperature range:	+10°C to +95°C with additional boiling mode (100°C)
Power supply:	230 V, 50/60 Hz (other voltages on request)
Temporal temperature deviations:	± 0.1 K
Spatial temperature deviations:	up to size 29: ± 0.25 K, size 45: ± 0.3 K

Available models and sizes:

Type series WNB
With natural circulation and BASIC temperature controller

	Type	Outer L × W × H with flat (sloping) lid mm	Inner L×W×H mm	Vol. approx. l	P rating approx. W	Order No.
①	WNB7	468×356×238 (337)	240×210×140	7	1200	**44 26 30007**
	WNB10	578×356×238 (337)	350×210×140	10	1200	**44 26 30010**
	WNB14	578×436×238 (347)	350×290×140	14	1800	**44 26 30014**
②	WNB22	578×436×296 (405)	350×290×220	22	2000	**44 26 30022**
	WNB29	818×516×238 (343)	590×350×140	29	2400	**44 26 30029**
	WNB45	818×516×296 (401)	590×350×220	45	2800	**44 26 30045**

Type series WNE
With natural circulation and EXCELLENT temperature controller

	Type	Outer L × W × H with flat (sloping) lid mm	Inner L×W×H mm	Vol. approx. l	P rating approx. W	Order No.
	WNE7	468×356×238 (337)	240×210×140	7	1200	**10 26 03007**
③	WNE10	578×356×238 (337)	350×210×140	10	1200	**10 26 03010**
④	WNE14	578×436×238 (347)	350×290×140	14	1800	**10 26 03014**
	WNE22	578×436×296 (405)	350×290×220	22	2000	**10 26 03022**
	WNE29	818×516×238 (343)	590×350×140	29	2400	**10 26 03029**
	WNE45	818×516×296 (401)	590×350×220	45	2800	**10 26 03046**

Continued on next page

Water Baths, Oil Baths

Water bath with circulating pump model WPE 45
With circulation pump and EXCELLENT temperature controller

	Type	Outer L × W × H with flat (sloping) lid mm	Inner L×W×H mm	Vol. approx. l	P rating approx. W	Order No.
⑤	WPE45	818×516×296 (401)	590×350×220	45	2800	**44 26 30145**

Accessories for water baths:

Stainless steel gabled covers

Article	Order No.
for WNB/WNE 7	**44 26 31207**
for WNB/WNE 10	**44 26 31210**
for WNB/WNE 14 and 22	**44 26 31214**
for WNB/WNE 29 and 45	**44 26 31229**

Peltier cooling unit
for water baths for temperatures below room temperature from +10°C. The temperature is regulated by the electronic waterbath controller with a precision of ±0.1 K.Snap-on technology for easy attachment to the bath. Please don't forget to order the installation and connection kit. For all sizes.

Power supply: 230 V, 50/60 Hz or 115 V, 60 Hz
Effective cooling power: 115 W
Refrigerant delivery rate: 600 ml/min

Article	Order No.
Peltier cooling unit CDP115	**10 26 00115**

Shaking device
Incl. support frame (for test-tube racks or perforated shelves with support basket) for fitting into water baths, with electronic speed control (shaking frequency from 35 to 160 strokes per minute; horizontal back/forth movements).

	Article	Order No.
⑥	Shaking device for WNB/WNE14 and 22	**44 26 31500**
	Shaking device for WNB/WNE29 and 45	**10 26 01501**

⑥



④



⑤

Water Baths, Phoenix Instrument

webcode WWSB5037

PHOENIX instrument

Water baths
The waterbaths are generally used in the laboratory to maintain the temperature of the samples constant. The waterbaths WB series, thanks to the maximum operating temperature of 99°C, meet the different needs of operators and therefore allow them to be used in numerous applications.
The models WB 22P and WB-40P are equipped with a recirculation pump to ensures a faster and more uniform temperature distribution. All models are equipped with a drain drop.

Technical data:	**WB-12**	**WB-22/WB-22-P**	**WB-40P**
Volume:	12 litres	22 litres	40 litres
Max. temperature/resolution:	+99/0.1°C	+99/0.1°C / +85/0.1°C	+85/0.1°C
Temp. homogeneity at 37°C:	±0.5°C	±0.5°C	±0.5°
Temp. variation at 37°C:	±0.1°C	±0.1°C	±0.2°C
Timer:	99:59/continuous	99:59/continuous	99:59/continuous
Overheat control:	Yes	Yes	Ja
Int. Dimensions (W×H×D):	390 × 220 mm	490 × 290 mm	620 × 380 mm
Min. height with hud closed:	150 mm	150 mm	150 mm
Voltage/Power:	230 V / 900 W	230 V / 1100 W	230 V / 2200 W
Ext. Dimensions (W×H×D):	480 × 375 × 310 mm	680 × 395 × 310 mm	830 × 390 × 460 mm
Maximum capacity:	4 modules	8 modules	16 modules
Weight:	12 kg	18 kg	28 kg
Safety class:	2	2	2

	Article	Order No.
⑦	WB-12 Water bath	**10 13 76012**
	WB-22 Water bath	**10 13 76022**
	WB-22-P Water bath	**10 13 76023**
	WB-40P Water bath	**10 13 76024**

Accessories

Article	Order No.
Rack for tubes Ø 13 mm / 20 positions	**10 13 76802**
Rack for tubes Ø 18 mm / 20 positions	**10 13 76812**
Rack for tubes Ø 31 mm / 5 positions	**10 13 76822**
Rack for tubes Ø 56 mm / 8 positions (biberon)	**10 13 76842**
Rack for blood bags / 5 positions	**10 13 76852**





⑦

webcode To see other variants and accessories, please enter the webcode on our website.

Water Baths, Oil Baths



Precision Water Baths, Thermo Scientific

Precision general purpose water baths are rugged, high performance baths that are designed to maintain water temperature from ambient to 100°C. Ideal for a wide range of lab applications, capacities range from 2 l to 28 l, including shallow models. Over-temperature safety circuitry is designed to prevent thermal runaway, while new auto-on and auto-off timers allow you to optimize operation schedules. Benefit from outstanding chemical and corrosion resistance with epoxy powder-coated exterior, and easily clean the chamber with its seamless stainless-steel interior.

Thermo Scientific Precision general purpose water baths
- Smaller footprint compared to previous models frees up valuable benchtop space
- Advanced microprocessor controller is designed for extended functionality
- Protect your work with audible alarms
- Conveniently save commonly used settings with four temperature presets
- Baths come with clear polycarbonate gable cover diffuser tray drain hose and rubber duck
- UL Listed and CE Marked
- Stability / Uniformity: ±0.1°C / ±0.2°C
- Global Voltage 100–115V/200–230V, 50/60Hz

		①	②	③	④	⑤	⑥	⑦
Type		TSGP02	TSGP2S	TSGP05	TSGP10	TSGP20	TSGP28	TSGP15D
Ambient temperature	°C	up to 90°C	up to 100°C	up to 90°C	up to 100°C	up to 100°C	up to 100°C	up to 100°C
Dimens. without lid L×W×H	mm	230×199×233	246×355×232	246×355×232	393×383×233	392×555×233	392×555×282	392×587×233
Chamber volume	l	2	2 (Shallow)	5	10	20	28	5 & 10
Working range L×W×H	mm	138×155×150	153×300×65	154×300×150	301×330×150	297×500×150	297×500×200	see TSGP05 and TSGP10
Heating capacity	W	200	300	300	800	1200	1200	300 & 800
Order No.		**10 53 32131**	**10 53 32132**	**10 53 32133**	**10 53 32134**	**10 53 32135**	**10 53 32136**	**10 53 32137**





⑧ **Thermo Scientific Thermal Beads**
Made of a heat-conducting aluminium alloy, the small beads are an excellent alternative to water. Without the need for a rack, the vials can be placed directly into the bath – this is very practical, particularly for the less common vial formats.

- No spilling or evaporation
- Reduced risk of contamination
- No accessories required – for vials of any size and format
- Beads can be chemically disinfected

Article	Order No.
Thermal Beads, 4 l	**10 53 32161**
Precision general purpose water bath GP 02 2 l bath volume with 4 l Thermal Beads	**10 53 32162**
Precision general purpose water bath GP 05 5 l bath volume with 4 l Thermal Beads	**10 53 32163**
Precision general purpose water bath GP 10 10 l bath volume with 8 l Thermal Beads	**10 53 32164**
Precision dual general purpose water bath GP 15D 5 l and 10 l bath volume with 12 l Thermal Beads	**10 53 32165**
Precision general purpose water bath GP 20 20 l baht volume with 16 l Thermal Beads	**10 53 32166**
Precision general purpose water bath GP 28 28 l bath volume with 24 l Thermal Beads	**10 53 32167**

Webcode

Use the webcode on our website to see a larger selection of products from a specific manufacturer.

Continued on next page

Water Baths, Oil Baths

Thermo Scientific Precision circulating water baths

- Achieve enhanced temperature uniformity with perimeter-directed water flow
- Easily clean and maintain bath with coil-free internal design
- Optimize scheduling with auto-on and auto-off timers
- Accommodate taller labware with new hinged lid and extended height
- Help prevent bath overheating and damage with low-fluid protection
- Easily operate and monitor with icon-based graphical display
- Protect your work with audible alarms
- Baths include stainless steel gable covers, diffuser tray, and rubber duck
- UL Listed and CE Marked

		⑨	⑩	⑪
Type		TSCIR19	TSCIR35	TSCIR89
Ambient temperature	°C	up to 100°C	up to 100°C	up to 100°C
Dimensions without lid L×W×H	mm	394×632×249	394×938×249	546×1160×300
Chamber volume	l	19	35	89
Working range L×W×H	mm	305×387×192	305×692×192	483×914×241
Heating capacity	W	1200	1500	1500
Order No.		**10 53 32138**	**10 53 32139**	**10 53 32140**


⑨


⑩


⑪

Shaking Water Baths

Shaking Water Baths, JULABO

webcode WW2KN009

JULABO shaking water baths combine shaking with temperature stabilization for applications in biochemistry, chemistry, biology, pharmacology, medicine etc. For high operating comfort there is a seamless, splash-water protected keyboard and a bright display indicating up to 5 different values. Advanced microprocessor technology with PID temperature control provides high temperature stability. The built-in timer simplifies time-dependent applications. The RS232 interface allows on-line communication with a PC. Sensitive samples in the bath are protected by adjustable high and low temperature warning functions. Designed for unsupervised continuous operation. Bath tanks and all parts in contact with the bath liquid made of high-grade stainless steel.

Models SW

- Bright MULTI-DISPLAY (LED) for 5 values
- Splash-proof mains switch
- Electronically adjustable shaking frequency
- Timer for setting the running time
- Adjustable high/low temperature warning functions
- On-line communication via built-in RS232 interface
- Enhanced temperature stability through integrated circulating pump on model SW23

		⑫	⑬
Type		**SW22**	**SW23**
Width × Depth × Height	cm	70×35×26	70×35×26
Weight	kg	19.4	21.4
Working temperature	°C	20 – 99.9	20 – 99.9
Temperature accuracy ±	°C	0.2	0.02
Temperature display		LED	LED
Heating capacity	W	2000	2000
Shaking frequency	rpm	20 – 200	20 – 200
Shaking frequency display		LED	LED
Shaking amplitude	mm	15	15
Overtemperature cut-out		130°C, permanently set	130°C, permanently set
Bath opening W × D	cm	50×30	50×30
Bath depth H	cm	18	18
Volume	l	8 – 20	8 – 20
Overtemperature display		optical + acoustic	optical + acoustic
Safety class		S1	S1
Order No.		**44 35 00322**	**44 35 00323**


⑫


⑬

Accessories

Article	Order No.
Makrolon lid, hinged	**44 35 00288**

webcode To see other variants and accessories, please enter the webcode on our website.

Shaking Water Baths

webcode WWSB5044

PHOENIX Instrument



Shaking Water Bath SB-35, Phoenix Instrument

The new Water bath SB35 with linear shaking function. Bath, lid, spring basket and support surface for samples are made entirely of stainless steel. Thanks to the flexibility of the universal spring support it is possible to insert different types of flasks, beakers, balloons or other recipients of different capacities and shapes. Electronic regulation of the temperature with PID control and adjustment of the shaking speed by knob. The instrument comes with a practical emptying tube and quick-fit valve for the periodic replacement of the liquid in the tank. The practical basket fixing system allows easy cleaning and maintenance of the tub.

Technical data:

Tank volume:	35 Liter
Max. temperature/resolution:	99/0,1°C
Temperature homogeneity at 37°C:	±1,0°C
Temperature variation at 37°C:	±0,5°C
Timer:	99:59/Dauerbetrieb
Shaking speed:	10 – 150 rpm
Amplitude of platform movement:	30 mm
Overheating protection:	Ja
Spring basket dimension (W×H×D):	320 × 115 × 200 mm
Min. height with closed lid:	150 mm
Voltage/power:	230 V / 1250 W
External dimension (W×H×D):	645 × 350 × 355 mm
Weight:	28 kg
Safety class:	2

Article	Order No.
Shaking water bath SB-35	**10 13 73502**

webcode WW4HV016

thermo scientific



①



②



③



④

Precision Shaking Water Baths, Thermo Scientific

Precision general purpose water baths are rugged, high performance baths that are designed to maintain water temperature from ambient to 100°C. Ideal for a wide range of lab applications, capacities range from 2 L to 28 L, including shallow models. Over-temperature safety circuitry is designed to prevent thermal runaway, while new auto-on and auto-off timers allow you to optimize operation schedules. Benefit from outstanding chemical and corrosion resistance with epoxy powder-coated exterior, and easily clean the chamber with its seamless stainless-steel interior.

Precision shaking water baths

- Easily clean and maintain bath with the new coil-free design
- Optimize scheduling with auto-on and auto-off timers
- Help prevent bath overheating and damage with low-fluid protection
- Conveniently save commonly used settings with four temperature and shaking speed presets
- Help protect your work with audible alarms
- Easily operate and monitor with icon-based graphical display
- Accommodate taller labware with new hinged lid and extended height
- Features next-generation shaker motor
- Baths come with stainless steel gable cover, shaking tray, and rubber duck
- Adjustable shaking speed from 30 to 200 oscillations per minute
- UL Listed and CE Marked
- Stability / Uniformity: ±0.1°C / ±0.05°C
- Removable tray for work area

		①	②	③	④
Type		TSSWB15	TSSWB27	TSSWB15S	TSDUB15
Ambient temperature	°C	bis 100°C	bis 100°C	bis 100°C	bis 100°C
Dimensions without lid L×W×H	mm	394×632×249	394×938×249	394×632×249	394×632×249
Chamber volume	l	15	27	15 (Shallow)	15
Working range L×W×H	mm	305×387×193	305×692×193	305×387×193	305×387×193
Bath opening	mm	305×387×193	305×692×193	305×387×193	305×387×193
Heating capacity	W	1200	1500	1200	1200
Order No.		**10 53 32151**	**10 53 32152**	**10 53 32153**	**10 53 32154**

Julabo
THE TEMPERATURE CONTROL COMPANY

LABORATORY CIRCULATORS



Heating circulator

Operating temperature range

The temperature range which is limited by the electronics. Auxiliary equipment can be used to extend the lower end of the temperature range on temperature circulators.

Working temperature range

The temperature range within the operating temperature range that can be reached by the temperature control system by itself at an ambient temperature of +20°C without auxiliary equipment.



Cooling circulator with integrated refrigeration unit

Temperature stability

Temperature difference between the highest and lowest temperature measured in a laboratory circulator or laboratory bath divided by 2.

Temperature homogeneity

Temperature difference between the highest and lowest temperature measured in the bath vessel.

Temperature display

Temperature displays using LED's are easy to read from any viewing angle, even from a relatively long distance away. In addition to the set-point and actual temperature, the unit should also be able to display high and low temperature warnings. The VFD COMFORT DISPLAY is even more user friendly. For added user comfort, state-of-the-art temperature control systems come with touchscreen displays..

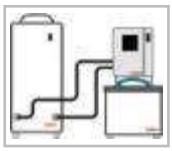
PID and ICC temperature controls

The circulator's temperature control device has a significant influence on heating/cooling characteristics. The basic control technology affects the precision and speed of the heating/cooling process. PID controls have proven to be effective in practical application. These controls either operate with fixed control parameters (Xp, Tn, Tv), or ideally the parameters can be adjusted manually. The ICC (Intelligent Cascade Control) is currently the most advanced type of control. Cascade technology delivers perfect results. The control parameters are automatically adjusted and optimized for the particular application. ICC devices are integrated into the JULABO HighTech series of circulators.

Pump systems

Submerged pumps have a proven track record in the field. They operate without significant wear for long periods of time. In addition to maintaining circulation in the bath, they permanently supply heating/cooling fluid to objects or systems in the pump circuit. It is important to ensure that sufficient pumping capacity is available, particularly in external applications. Electronically controlled pump pressure can have advantages in many applications (for example when delicate glassware is present).

Heating and cooling circulators



Laboratory circulators are divided into heating and cooling circulators. Heating circulators only have a heating element and can only operate above the ambient temperature. External cooling solutions (tap water or a refrigeration unit) can be added for temperature control applications below ambient temperature. If cooling work is necessary on a regular basis, the use of a cooling circulator with integrated refrigeration unit is recommended. Depending on the model, temperatures as low as -95°C can be achieved. Cooling circulators have the additional advantage that they can cool quickly at high temperatures without additional equipment. It is also advisable to invest in a cooling circulator if there is a frequent need for quick cooling. One feature of cooling systems is proportional cooling, where an electronic value is used to control cooling output. This solution allows precision control of cooling output, and it also saves energy.

Early warning systems improve reliability



JULABO early warning system with float and micro switches (DBGM)

Most circulators offer warning and protection functions. These functions enhance operational reliability and protect the sample. The upper and lower temperature limits as well as the liquid level need to be monitored. Adjustable limits as well as warning and shut-off functions offer enhanced reliability. JULABO early warning systems (DBGM) offer advanced features. The low-level early warning system emits an acoustic signal to indicate insufficient heating/cooling fluid before the system shuts down.

Classification is defined in DIN 12876-1

Terminology and classification are defined in DIN 12876, and they provide application information. Circulators are divided into the following categories:

Class I: Equipment in this class has a fixed temperature limit and fixed low liquid level protection. The devices are only suitable for use with non-flammable liquids.

Class III: Equipment in this class has adjustable excess temperature protection and additional low liquid level protection. The devices are suitable for use with flammable liquids.

Attaching an external system



Temperature control system with externally connected system

The following guidelines must be observed when an external system is attached:

- Tubing between the circulator and the external system must be as short as possible. It must be well insulated, and measures must be taken to ensure that tubing does not slip off.
- Always use a suitable, low-viscosity heating/cooling liquid (e.g. JULABO Thermal)
- Optimize the energy exchange between the circulator and the external system (e.g. avoid bottlenecks in the lines).
- Ensure that the external sensor has good thermal coupling.

Heating/cooling fluids

De-ionized water is recommended for working temperatures up to +80°C. Distilled water adsorbs composites from the components, and this can result in corrosion. Special fluids can be used to extend the temperature range, for example JULABO Thermal. These fluids have a significantly lower specific thermal capacity, which is another advantage. Consideration must be given to the flash point and fire point during the selection process. The viscosity specified by the circulator manufacturer must not be exceeded even at low temperatures. Alcohol (e.g. ethanol) has a very low flash point, which means that it is not suitable in some applications.

Calculating heating and cooling power

The following formula can be used for time-dependent calculations:

Q = (m × c × dT) / t

Q = required cooling/heating power in kW

m = material mass in kg

c = specific thermal capacity (water=4.2 / ethanol=2.5 / silicone oil =1.8)

dT = required temperature differential in °C

t = desired cooling/heating time in seconds

The total volume (mass) is made up of the individual volumes (e.g. circulator, tubing, reactor jacket and reactor). This simple formula ignores differences in the specific weight of the liquids and power loss factors. Power loss is caused by tubing (length, insulation), double-wall containers (material, thickness and surface area), high ambient temperature and open applications (surface). A safety margin of 20-30% should be included in the calculation to ensure sufficient heating/cooling performance.

Immersion Thermostats, Bath Circulators









Immersion Circulators, Huber

Immersion thermostats are the basic element of numerous combinations of polycarbonate or stainless steel basins. A universal screw-type clamp is comprised in the delivery for easy mounting of the thermostat on all kinds of existing basins. In connection with a cooling bath, negative temperatures of up to -30°C can be achieved. All models come with a powerful pressure/suction pump and comply with safety class III (FL) for use with combustible liquids. Pump adapters for external heating/cooling and cooling coils for the cooling water connection are available as accessories.
Pilot ONE controller: user-friendly, many functions and easily exchangeable with plug-and-play technology.
KISS controller: Economically priced and robust with all basic functions, for routine tasks.

Technical data:

Heating capacity kW	2
Pump pressure max. l/min / bar	
KISS E:	14 / 0.25
CC-E:	27 / 0.7
CC-E xd:	22 / 0.4
Safety Class[1]:	FL, III

	Type	Temp. range °C	Temp. accur. ± K	Immersion depth mm	Dimensions (W×H×D) mm	Order No.
①	KISS E	(-30) 25 – 200	0.05[2]	150	132 × 163 × 312	**10 59 62004**
②	CC-E	(-30) 25 – 200	0.01[2]	150	132 × 159 × 315	**10 59 62104**
	CC-E xd	(-30) 25 – 200	0.01[2]	195	132 × 159 × 360	**10 59 62504**

[1] FL suitable for use with flammable fluids, III = adjustable high temperature cut-off and low liquid level protection
[2] according to DIN 12876, measured in 12-litre stainless steel bath.

Bridge Circulators, Huber

Bridge circulating thermostats are suitable for heating/cooling any type of bath basins. External systems may be integrated as well via the speed-controlled pressure-suction pump with VPC technology. Use the models with a more powerful heating performance to heat/cool larger bath volumes. The telescopic arm extends to a length of max. 884 millimeters.

	Type	Temp. range °C	Heating cap. kW	Temp. accur. ± K	Pump pressure max. l/min / bar	Order No.
③	CC-200BX	(-20)[1] 28 – 200	2.0	0.02	27 / 0.7	**10 59 60200**
④	CC-300BX	(-20)[1] 28 – 300	3.0/4.0	0.02	25 / 0.7	**10 59 60300**

[1] forced external cooling necessary

Heating Circulators with Polycarbonate Bath, Huber

The transparent polycarbonate baths are suitable for temperatures from 25°C to 100°C (with the optional cooling coil, operating temperatures below ambient temperature are possible). In all models, an immersion thermostat is mounted on a bath bridge. With the addition of a pump adapter, the combinations may be used for externally closed as well as for externally open heating/cooling jobs (with option level control). Models with Pilot ONE have a speed-controlled pressure-suction pump. The temperature constancy pursuant to DIN 12876 is 0.02 K with the Compatible Control models, and 0.05 K with the KISS models.
Pilot ONE controller: user-friendly, many functions and easily exchangeable with plug-and-play technology.
KISS controller: Economically priced and robust with all basic functions, for routine tasks.

Technical data:

Heating power kW (all models):	2
Pump pressure max. (l/min / bar)	
CC models:	27 / 0.7
KISS models:	14 / 0.25
Safety Class:	FL, III

	Type	T_{max} °C	Bath opening W×D mm	Bath vol. l	Dimensions (W×H×D) mm	Order No.
⑤	CC-106A	100	130 × 110	6	147 × 307 × 330	**10 59 61061**
⑥	KISS 106A	100	130 × 110	6	147 × 307 × 330	**10 59 61071**
⑦	CC-108A	100	130 × 210	8	147 × 407 × 330	**10 59 61081**
⑧	KISS 108A	100	130 × 210	8	147 × 407 × 330	**10 59 61091**
⑨	CC-110A	100	130 × 310	10	147 × 507 × 330	**10 59 61101**
⑩	KISS 110A	100	130 × 310	10	147 × 507 × 330	**10 59 61111**
⑪	CC-112A	100	275 × 161	12	333 × 360 × 335	**10 59 61121**
⑫	KISS 112A	100	275 × 161	12	333 × 360 × 335	**10 59 61131**
⑬	CC-118A	100	275 × 321	18	333 × 520 × 335	**10 59 61181**
⑭	KISS 118A	100	275 × 321	18	333 × 520 × 335	**10 59 61191**

Immersion Thermostats, Bath Circulators

Heating Circulators with Stainless Steel Baths, Huber

The insulated stainless steel baths are suitable for temperatures up to 200°C. In all models, an immersion thermostat is mounted on a bath bridge. With the addition of a pump adapter, the combinations may be used for externally closed as well as for externally open heating/cooling jobs (with option level control). Models with Pilot ONE have a speed-controlled pressure-suction pump. The temperature constancy pursuant to DIN 12876 is 0.02 K with the Compatible Control models, and 0.05 K with the KISS models.
Pilot ONE controller: user-friendly, many functions and easily exchangeable with plug-and-play technology.
KISS controller: Economically priced and robust with all basic functions, for routine tasks.



Technical data:

Heating power kW (all models): 2

Pump pressure max. (l/min / bar)
CC models: 27 / 0.7
KISS models: 14 / 0.25

	Type	T_{max} °C	Bath opening W × D mm	Bath vol. l	Dimensions (W×H×D) mm	Order No.
	CC-208B	200	230 × 127	8,5	290 × 350 × 375	**10 59 62081**
①	KISS 208B	200	230 × 127	8,5	290 × 350 × 375	**10 59 62091**
	CC-212B	200	290 × 152	12	350 × 375 × 375	**10 59 62121**
②	KISS 212B	200	290 × 152	12	350 × 375 × 375	**10 59 62111**
	CC-215B	200	290 × 152	15	350 × 375 × 425	**10 59 62151**
③	KISS 215B	200	290 × 152	15	350 × 375 × 425	**10 59 62161**
	CC-220B	200	290 × 329	20	350 × 555 × 375	**10 59 62201**
④	KISS 220B	200	290 × 329	20	350 × 555 × 375	**10 59 62211**
	CC-225B	200	290 × 329	25	350 × 555 × 425	**10 59 62251**
⑤	KISS 225B	200	290 × 329	25	350 × 555 × 425	**10 59 62261**

Immersion Circulators, JULABO

webcode WW2KN002

JULABO immersion circulators are available for various bath tanks up to a capacity of 50 liters. They come equipped with a bath clamp that fits onto all tanks with a wall thickness up to 26mm or else on a laboratory stand. This clamp allows fast and problem-free assembling for existing as well as new bath tanks. The immersed parts are made of high-quality stainless steel or plastic. Typical applications are sample temperature control, temperature testing of food and beverages, material testing and calibration of thermometers and thermal switches.

The CORIO series
Einhängethermostate CORIO C, CORIO CD and CCORIO CP
- Accurate temperature control
- CORIO C for internal applications
- CORIO CD and CORIO CP for internal and external applications (with accessories)
- Particularly silent
- Easy to operate
- CORIO CD with USB connection
- CORIO CP with USB and RS232 interface



⑥



⑦

		⑥	⑦	
Type		**CORIO C**	**CORIO CD**	**CORIO CP**
Width × Depth × Height	mm	132×160×362	132×160×362	132×160×362
Weight	kg	1.9	2.6	2.5
Working temperature	°C	20 – 100	20 – 150	20 – 200
Temperature accuracy ±	°C	0.03	0.03	0.02
Temperature display		LED	LED	LED
Heating capacity	kW	2	2	2
Usable immersion depth	mm	166	166	160
Pump capacity				
Flow rate	l/min	6	15	8 – 27
Pressure	bar	0.1	0.35	0.1 – 0.7
Class division (DIN12876-1)		1	3	
Order No.		**10 35 91100**	**10 35 91200**	**10 35 93000**

Continued on next page

Immersion Thermostats, Bath Circulators



①

DYNEO DD immersion circulator
New temperature control technology for demanding applications
DYNEO DD immersion circulators offer maximum flexibility. They are supplied with a stable, sturdy bath attachment clamp and can be fastened to any type of tank of max. 50 litres. The immersion circulators are used for internal and external temperature control, covering an operating temperature range from +20°C to +200°C. The multilingual 3.5-inch color display and unique rotary knob provide for straightforward and intuitive operation.

Your advantages
- Flexible installation options
- For internal and external applications
- Powerful and infinitely adjustable pressure pump
- Flow rate 23 l/min, pressure 0.6 bar
- Easy switching between internal and external circulation
- Large color TFT display, multilingual interface
- Central rotary knob (controller) simplifies operation
- Integrated programmer for 8 x 60 program steps
- Integrated external Pt100 connection
- USB port
- RS232 interface or analog interfaces (optional)

		①
Type		DYNEO DD
Width × Depth × Height	cm	13.2 × 16 × 35.5
Weight	kg	2.5
Working temperature	°C	20 – 200
Temperature accuracy ±	°C	±0.01
Temperature display		3.5″ TFT Display
Heating capacity	W	2
Usable immersion depth	mm	160
Interface		RS232
Flow rate	l/min	8 – 27
Pressure	mbar	0.1 – 0.7
Order No.		**10 35 90100**



SAHARA Series Heating Bath Circulators with Stainless Steel Bath, Thermo Scientific

Various open baths made of stainless steel are available with different bath openings and depths. The temperature control units are fastened to the bath vessel by means of a bath bridge. In select bridges are openings for adding a cooling coil.
The immersion coolers EK45 and EK90 are available for all baths by a specially bath bridge. Models with SC150L are highly variable in their filling range.
There is a wide selection of accessories for adapting to numerous applications requiring temperature control in the bath.

Features
- Efficient heating in the bath and for closed systems
- Stainless steel baths for heating of RT +13°C up to 200°C
- Robust stainless steel bath, perfectly suited for oil as bath fluid
- The symmetry allows for turning of the head on the bath in 90° increments
- External circulation kit for M16*1 connections, and 8 and 12 mm hose connections comprised in the delivery
- Complete with drain tap at the front and carrying grips
- Bath lid for S7 and S13 included in the delivery
- Complies with CE and RoHS
- 3 years warranty

Technical data:

Type		**S7**	**S13**	**S21**	**S45**	**S49**
Temperature range	°C	Amb +13 to 200	Amb +13 to 200	Amb +13 to 200	Amb +13 to 200	Amb +13 to 200
Dimensions (H×W×D)	mm	456×235×428	456×321×428	409×381×628	556×381×628	456×579×746
Tap water cooling coil	°C	+20 to 200	+20 to 200	+20 to 200	+20 to 200	+20 to 200
Bath capacity[1)]	l	7	11	17	41	51
Work area (D×W×L)	mm	185×154×112	200×239×112	151×297×312	300×298×312	200×498×430
Net weight	kg	10.6	12.3	14.2	20.3	24.3

Type	Heating bath S7	Heating bath S13	Heating bath S21	Heating bath S45	Heating bath S49
	Order No.	**Order No.**	**Order No.**	**Order No.**	**Order No.**
SC100[2)]	**10 53 32107**	**10 53 32113**	**10 53 32121**	**10 53 32145**	**10 53 32149**
SC150[2)]	**10 53 33107**	**10 53 33113**	**10 53 33121**	**10 53 33145**	**10 53 33149**
SC150L[2)]	**10 53 34107**	**10 53 34113**		**10 53 34145**	**10 53 34149**
AC150[3)]	**10 53 35107**	**10 53 35113**	**10 53 35121**	**10 53 35145**	**10 53 35149**
AC200[3)]	**10 53 36107**	**10 53 36113**	**10 53 36121**	**10 53 36145**	**10 53 36149**

[1)] Bath volume varies (depending on the fluid used, temperature range, and items inserted into the reservoir)
[2)] Voltage 230V/50Hz
[3)] Voltage 208-230V/50-60Hz

Continued on next page

Immersion Thermostats, Bath Circulators

Accessories

Article	Order No.
2× rack inserts 283×145 mm rack for 86 test tubes of 10 mm Ø	**10 53 31603**
2× rack inserts 283×145 mm rack for 46 test tubes of 16 mm Ø	**10 53 31604**
2× rack inserts 283×145 mm rack for 23 test tubes of 25 mm Ø	**10 53 31605**
2× rack inserts 283×145 mm rack without holes Customer may provide special size holes	**10 53 31606**
Universal stainless steel rack 160×145 mm for bath types A25B, A40, S21. Two inserts with different sizes of holes can be varied in height within the rack	**10 53 31679**
2× rack inserts 160×145 mm rack for 86 test tubes of 10 mm Ø	**10 53 31680**
2× rack inserts 160×145 mm rack for 46 test tubes of 16 mm Ø	**10 53 31681**
2× rack inserts 160×145 mm rack for 23 test tubes of 25 mm Ø	**10 53 31682**
2× rack inserts 160×145 mm rack without holes Customer may provide special size holes	**10 53 31683**
Stainless steel rack 160×100 mm for bath types S13. Two inserts with different sizes of holes can be varied in height within the rack	**10 53 31626**
2× rack inserts 160×100 mm rack for 86 test tubes of 10 mm Ø	**10 53 31684**
2× rack inserts 160×100 mm rack for 46 test tubes of 16 mm Ø	**10 53 31685**
2× rack inserts 160×100 mm rack for 23 test tubes of 25 mm Ø	**10 53 31686**
2× rack inserts 160×100 mm rack without holes Customer may provide special size holes	**10 53 31687**
S21 extension bridge for liftplate, stainless steel	**10 53 31607**
S21 extension bridge for immersion cooler, stainless steel	**10 53 31677**
S49 extension bridge for liftplate and immersion cooler, stainless steel	**10 53 31609**
Lifting Platform, stainless steel for S21, S45, A10B	**10 53 31611**
Lifting Platform, stainless steel for S49	**10 53 31613**
Tap water cooling coil for SC100/150 und AC150/200 for S13, S21, S49	**10 53 31614**
Tap water cooling coil, long, for SC150L für S13, S15, S30, S45, S49	**10 53 31616**
Tap water cooling coil for S7 with SC100/150 including stainless steel lid	**10 53 31692**
Tap water cooling coil for S7 with SC150L including stainless steel lid	**10 53 31693**
Tap water cooling coil for S7 with AC150/AC200 including stainless steel lid	**10 53 31694**
S21 stainless steel bath lid	**10 53 31638**
S49 stainless steel bath lid	**10 53 31640**
Autorefill (100-230V/50-60Hz) box without level sensor or bath lid; for operation with multifunction port of AC200 heads	**10 53 31630**
Solenoid valve (100-230V/50-60Hz) box for e.g. control of tap water cooling coil; for operation with multifunction port of AC200 heads	**10 53 31610**

Other accessories (bath fluid, test tube rack, hoses, connectors, etc.) are available.



SAHARA Series Heating Bath Circulators, Thermo Scientific

webcode WW4HV012

thermoscientific

Inexpensive open-bath circulators, comprised of very rigid baths made of modified PPO (thermally resistant up to 100°C) and the temperature control units STANDARD (SC) and ADVANCED (AC). The baths have integrated grips and supports. The bridge can be used for later fitting of an immersing cooler and a cooling coil.
A wide range of accessories is available for adapting the units to the usual standard applications. There are insertable racks for test glassware or plastic tubes as well as height-adjustable platforms for placing vessels of different heights in the bath.

Features

- Sahara S5P, S14P, S21P polyphenylene oxide baths are particularly well suited for water as heating fluid
- Circulator heads can be turned on the bath in any kind of 90° increments (not with the small S5P)
- Choose between 3 different bath volumes
- All baths have integrated grip ledges
- Complies with CE and RoHS
- 3 years warranty



Continued on next page

Immersion Thermostats, Bath Circulators



Bath circulators
Technical data:

Type		**S5P heated bath**	**S14P heated bath**	**S21P heated bath**
Temperature range	°C	Amb. +13 to 100	Amb. +13 to 100	Amb. +13 to 100
Dimensions (H×W×D)	mm	160×373×330	330×373×380	330×373×540
Safety class		1 (NFL)	1 (NFL)	1 (NFL)
Bath capacity	l	3 – 5	8 – 14	13 – 21
Net weight	kg	5.1	6.3	6.6
With tap water cooling coil added	°C	+20 – 100	+20 – 100	+20 – 100

Type	Heating bath S5P **Order No.**	Heating bath S14P **Order No.**	Heating bath S21P **Order No.**
SC100[1)]	**10 53 32305**	**10 53 32314**	**10 53 32321**
SC150[1)]	**10 53 33305**	**10 53 33314**	**10 53 33321**
AC150[2)]		**10 53 35314**	**10 53 35321**
AC200[2)]		**10 53 36314**	**10 53 36321**

[1)] Voltage 230V/50Hz
[2)] Voltage 208-230V/50-60Hz

Accessories

Article	**Order No.**
Universal stainless steel rack 283×145 mm for bath types A10B, S49. Two inserts with different sizes of holes can be varied in height within the rack	**10 53 31602**
2× rack inserts 283×145 mm rack for 86 test tubes of 10 mm Ø	**10 53 31603**
2× rack inserts 283×145 mm rack for 46 test tubes of 16 mm Ø	**10 53 31604**
2× rack inserts 283×145 mm rack for 23 test tubes of 25 mm Ø	**10 53 31605**
2× rack inserts 283×145 mm rack without holes Customer may provide special size holes	**10 53 31606**
Extension bridge for S14P + S21P liftplate	**10 53 31698**
Tap water cooling coil for SC100/150 und AC150/200 for S13, S21, S49	**10 53 31614**
Stainless steel bath lid for S5P bath	**10 53 31620**
Stainless steel bath lid for S14P bath	**10 53 31623**
Stainless steel bath lid for S21P bath	**10 53 31622**
Autorefill (100-230V/50-60Hz) box without level sensor or bath lid; for operation with multifunction port of AC200 heads	**10 53 31630**
Solenoid valve (100-230V/50-60Hz) box for e.g. control of tap water cooling coil; for operation with multifunction port of AC200 heads	**10 53 31610**

Circulator Baths



Heating Circulators, Huber

Because of their smaller filling volumes, the models CC-104A and KISS 104A (with polycarbonate bath) and CC-202C und KISS 202C (with stainless steel bath) are particularly suitable for heating smaller external volumes. As a standard, all models are equipped with M16x1 pump connections. Models with Pilot ONE have a speed-controlled pressure-suction pump. The temperature constancy pursuant to DIN 12876 is 0.02 K with the Compatible Control models and 0.05 K with the KISS models.
Pilot ONE controller: user-friendly, many functions and easily exchangeable with plug-and-play technology.
KISS controller: Economically priced and robust with all basic functions, for routine tasks.

Technical data:

Heating power kW (all models):	2
Pump pressure max. (l/min / bar)	
CC models:	27 / 0.7
KISS models:	14 / 0.25

	Type	Temp. range °C	Bath opening mm	Bath vol. l	Dimensions (W×H×D) mm	**Order No.**
①	CC-104A	(15) 25 – 100	Ø 25	4	147 × 235 × 330	**10 59 61041**
	KISS 104A	(15) 25 – 100	Ø 25	4	147 × 235 × 330	**10 59 61051**
②	CC-202C	(-30) 45 – 200	Ø 25	2	178 × 260 × 355	**10 59 62021**
	KISS 202C	(-30) 45 – 200	Ø 25	2	178 × 260 × 355	**10 59 62031**

Circulator Baths

Heating Bath Circulators, Huber



Heating bath circulators are suitable for temperatures of up to 200°C or 300°C. The Compatible Control models have an infinitely adjustable pressure and suction pump. The pump pressure can be controlled with an optional pressure sensor. This for example protects your glass equipment from breaking. The units are preferably used for temperature control of externally connected applications. It is also possible to heat objects directly in the open heating bath.
Pilot ONE controller: user-friendly, many functions and easily exchangeable with plug-and-play technology.
KISS controller: Economically priced and robust with all basic functions, for routine tasks.

Technical data:
Pump pressure max. (l/min / bar):
CC-205B: 27 / 0.7
KISS-205B: 14 / 0.25
CC-304B – CC-315B: 25 / 0.7
Temp. stability acc. to DIN12876: 0.02 K (CC), 0.05 K (KISS)

	Type	Temp. range °C	Bath vol. l	Bath depth mm	Heating cap. kW	Dimensions (W×H×D) mm	Order No.
	CC-205B	(-30)[1] 45 – 200	5.0	150	2.0	178 × 337 × 355	**10 59 62051**
	KISS 205B	(-30)[1] 45 – 200	5.0	150	2.0	178 × 337 × 355	**10 59 62061**
①	CC-304B	(-20)[1] 28 – 300	5.0	155	3.0	210 × 335 × 392	**10 59 60304**
②	CC-308B	(-20)[1] 28 – 300	8.5	155	3.0	242 × 404 × 392	**10 59 60308**
③	CC-315B	(-20)[1] 28 – 300	15	200	3.0/4.0	335 × 382 × 433	**10 59 60315**

[1] forced external cooling necessary

Compact Refrigerated Circulators Ministat®, Huber



Thanks to their small dimensions, these devices fits even in the most confined spaces, for example a fume hood, or can be installed in other units. All three Ministate models are available with air or water cooling. They comply with safety class 3 pursuant to DIN 12876, making them safe for unsupervised permanent operation also at the maximum permissible environmental temperature of 40°C. With powerful, speed-controlled pressure-suction pump for heating/cooling either objects in the bath and/or external applications. Infinitely adjustable pump speed. With the optional pressure sensor, it is possible to control the maximum pressure. VPC (Variable Pressure Control) for optimum circulation to protect sensitive glass objects from breaking. Ultra-short heating and cooling times thanks to small volumes and a powerful heating/cooling performance. Use displacement bodies (available as an option) to reduce the bath volume by half and to increase the effect. Furthermore, the active surface of the fluid and thus the fluid absorption is reduced. All models come with Active Cooling Control for active control of cooling performance at maximum temperature, and automatic cooling performance adjustment for economical operation and less waste heat in the laboratory. The bath opening is wide enough to cool/heat smaller objects directly in the thermostat bath. All components coming into contact with the thermal fluid are made of stainless steel or high-grade plastic.

Benefits:
- Ergonomical design, small dimensions for small footprint
- Pilot ONE with Plug&Play technology
- Large color 5.7″ TFT touch screen, EASY Control
- Connections for RS232, USB, and Ethernet
- Infinitely variable pump speed for homogeneous temperature distribution in the bath or best circulation and heat transfer with external systems
- Active Cooling Control
- Pt100 external sensor connection
- Control sensor can be calibrated
- Adjustable overtemperature protection and level protection
- Safety class III pursuant to DIN 12876-1
- Early warning system for below-minimum level
- Pump connections for external temperature control jobs
- Bath with opening for heating/cooling smaller objects directly in the bath
- Drain tap at the front available as an option

Technical data:
Pump pressure max. (l/min / bar): 22 / 0.7

	Type	Temp. range °C	Bath vol. l	Heating cap. kW	Cooler cap. at 20/0/-20/-30°C kW	Dimensions (W×H×D) mm	Order No.
④	Ministat 125	-25 – 150	2.75/1.3[1]	1.0	0.30/0.21/0.05/–	225×370×429	**10 59 61251**
	Ministat 125w	-25 – 150	2.75/1.3[1]	1.0	0.30/0.20/0.10/–	225×370×429	**10 59 61252**
⑤	Ministat 230	-40 – 200	3.2/1.7[1]	2.0	0.42/0.38/0.25/0.14	255×450×476	**10 59 62301**
	Ministat 230w	-40 – 200	3.2/1.7[1]	2.0	0.42/0.38/0.25/0.14	255×450×476	**10 59 62302**
⑥	Ministat 240	-45 – 200	4.9/2.8[1]	2.0	0.60/0.55/0.35/0.125	300×465×516	**10 59 62401**
	Ministat 240w	-45 – 200	4.9/2.8[1]	2.0	0.60/0.55/0.35/0.125	300×465×516	**10 59 62402**

All models are equiped as standard with natural refrigerant.
[1] with displacement insert

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Circulator Baths



Compatible Control Refrigeration Circulators, Huber

Cooling circulators

Combine immersion thermostats with insulated cooling baths to create cost-efficient solutions for cooling and heating objects in a bath at temperatures between -20/-30°C and 200°C. The cooling baths work with a natural refrigerant. With the addition of a pump adapter, the combinations may be used for externally closed as well as for externally open (with option level control) heating/cooling jobs. Models with Pilot ONE have a speed-controlled pressure-suction pump. The temperature constancy pursuant to DIN 12876 is 0.02 K with the Compatible Control models, and 0.05 K with the KISS models.
Pilot ONE controller: user-friendly, many functions and easily exchangeable with plug-and-play technology.
KISS controller: Economically priced and robust with all basic functions, for routine tasks.

Technical data:

Heating power kW (all models):	2
Pump pressure max. (l/min / bar)	
CC models:	27 / 0.7
KISS models:	14 / 0.25

	Type	Temp. range °C	Cooler cap. at 0/-10/-20°C kW	Bath vol. l	Bath opening W × D mm	Order No.
①	CC-K12	-20 – 200	0.2/0.12/0.05	12	290 × 152	**10 59 61201**
②	KISS K12	-20 – 200	0.2/0.12/0.05	12	290 × 152	**10 59 62098**
③	CC-K15	-20 – 200	0.2/0.12/0.05	15	290 × 152	**10 59 61503**
④	KISS K15	-20 – 200	0.2/0.12/0.05	15	290 × 152	**10 59 61898**
⑤	CC-K20	-30 – 200	0.35/0.27/0.16	20	290 × 329	**10 59 62005**
⑥	KISS K20	-30 – 200	0.35/0.27/0.16	20	290 × 329	**10 59 61398**
⑧	CC-K25	-30 – 200	0.35/0.27/0.16	25	290 × 329	**10 59 62507**
⑨	KISS K25	-30 – 200	0.35/0.27/0.16	25	290 × 329	**10 59 61598**



Compatible control refrigeration circulators

The K6 models are compact cold-heat-bath thermostats for temperatures between -25 and 200°C. With the integrated circulation pump, the combinations may be used for externally closed as well as for externally open (with option level control) heating/cooling jobs. The temperature constancy pursuant to DIN 12876 is 0.02 K with the Compatible Control models, and 0.05 K with the KISS models.
Pilot ONE controller: user-friendly, many functions and easily exchangeable with plug-and-play technology.
KISS controller: Economically priced and robust with all basic functions, for routine tasks.

Technical data:

Heating power kW (all models):	2
Pump pressure max. (l/min / bar)	
CC models:	27 / 0.7
KISS models:	14 / 0.25

	Type	Temp. range °C	Cooler cap. at 0/-10/-20°C kW	Bath vol. l	Bath opening W × D mm	Order No.
⑩	CC-K6	-25 – 200	0.15/0.1/0.05	4.5	140 × 120	**10 59 60611**
⑪	KISS K6	-25 – 200	0.15/0.1/0.05	4.5	140 × 120	**10 59 64598**
⑫	CC-K6s	-25 – 200	0.21/0.15/0.05	4.5	140 × 120	**10 59 60612**
⑬	KISS K6s	-25 – 200	0.21/0.15/0.05	4.5	140 × 120	**10 59 64498**

Webcode

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Circulator Baths

Refrigeration Bath Circulators, Huber

Huber classical design cryostats with heating/cooling baths meet typical laboratory heating and cooling tasks safely and with reproducible results. A powerful and speed-controlled pressure-suction pump allow you to heat or cool objects in the bath or in external applications. The pump speed is infinitely adjustable. With the optional pressure sensor, it is possible to control the maximum pressure. VPC (variable pressure control) for optimum circulation to protect sensitive glass objects from breaking. Ultra-short heating and cooling times thanks to small volumes and a powerful heating/cooling performance. Use displacement bodies (available as an option) to reduce the bath volume by half and to increase the effect. Furthermore, the active surface of the fluid and thus the humidity absorption is reduced. All models come with Active Cooling Control for active control of cooling performance at maximum temperature, and automatic cooling performance adjustment for economical operation and less waste heat in the laboratory. Depending on the model, the units are equipped with carrying grips or castors. Drain tap at the front for easy emptying of the bath fluid. The top cover is heated to prevent formation of ice. Temperature constancy pursuant to DIN 12876 = 0.02 K.

Benefits:

- Ergonomical design, small dimensions for small footprint
- Pilot ONE with Plug&Play technology
- Hose-proof display
- Large color 5.7″ TFT touch screen
- Connections for RS232, USB, and Ethernet
- Infinitely variable pump speed for homogeneous temperature distribution in the bath or best circulation and heat transfer with external systems
- Active Cooling Control - automatic cooling at peak temperature in continuous operation
- Energy management with cooling capacity adjustment for energy-efficient, environmentally compatible operation and less waste heat
- Pt100 external sensor connection via 4-conductor Lemosa connector
- Control sensor can be calibrated
- Adjustable overtemperature protection, level protection
- Safety class III/FL pursuant to DIN 12876-1
- Pump connections for temperature control of objects directly in the circulator bath
- Temperature-controlled cover plate to prevent condensation and ice formation in the bath
- Outlet at the front (for frequent fluid change: drain tap available as an option)



	Type	Temp. range °C	Bath volume l	Heating capacity kW	Pump pressure max. l/min / bar	Cooler capacity at 100/20/0/-20/-30/-40°C kW	Order No.
	CC-405	-40 – 200	5	1.5	25 / 0.7	0.7/0.7/0.7/0.45/0.18/0.03	**10 59 65041**
	CC-405w	-40 – 200	5	1.5	25 / 0.7	0.7/0.7/0.7/0.45/0.18/0.03	**10 59 64053**
	CC-410	-45 – 200	22/8.5[1)]	3.0	25 / 0.7	0.8/0.8/0.8/0.5/0.15/0.1	**10 59 64101**
①	CC-410wl	-45 – 200	22/8.5[1)]	3.0	25 / 0.7	0.8/0.8/0.8/0.5/0.15/0.1	**10 59 64103**
	CC-415	-40 – 200	5	1.5	25 / 0.7	1.2/1.2/1.0/0.6/0.2/0.05	**10 59 64151**
②	CC-415wl	-40 – 200	5	1.5	25 / 0.7	1.2/1.2/1.0/0.6/0.2/0.05	**10 59 64153**
	CC-505	-50 – 200	5	1.5	25 / 0.7	1.2/1.2/1.0/0.6/–/0.15	**10 59 65051**
	CC-505wl	-50 – 200	5	1.5	25 / 0.7	1.2/1.2/1.0/0.6/–/0.15	**10 59 65053**
	CC-508	-55 – 200	5	3.0	25 / 0.7	1.5/1.5/1.5/1.0/–/0.3	**10 59 65081**
	CC-508w	-55 – 200	5	3.0	25 / 0.7	1.5/1.5/1.5/1.0/–/0.3	**10 59 65082**
	CC-510	-50 – 200	26/15[1)]	3.0	25 / 0.7	2.1/2.1/2.1/1.0/–/0.4	**10 59 65101**
	CC-510w	-50 – 200	18/11[1)]	3.0	25 / 0.7	2.4/2.4/2.4/1.0/–/0.4	**10 59 65103**
	CC-515	-55 – 200	26/15[1)]	3.0	25 / 0.7	3.3/3.3/3.3/1.6/–/0.6	**10 59 65151**
	CC-515w	-55 – 200	18/11[1)]	3.0	25 / 0.7	3.3/3.3/3.3/1.6/–/0.6	**10 59 65152**
	CC-520w	-55 – 200	17/10[1)]	3.0	25 / 0.7	5.0/5.0/5.0/3.0/–/1.5	**10 59 65202**
	CC-525w	-55 – 100	17/10[1)]	3.0	25 / 0.7	7.0/7.0/5.0/3.0/–/1.5	**10 59 65252**

[1)] using displacement insert
w = water-cooled refrigerator
wl = water-and-air-cooled refrigerator
Natural refrigerant available on request. Function variants available via E-grade.

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Circulator Baths



Temperature control units for industrial application, Huber

The dynamic temperature control systems of the Unistat series revolutionized fluid temperature control engineering. Unistats are ideal for fast and highly accurate temperature control of external applications, such as reactors, autoclaves, miniplants, pilot systems, reaction calorimeters, or distillation plants. Compared to conventional circulator baths, Unistats convince with their unique thermodynamics for highly accurate and reproducible results. The Unistat technology ensures shortest possible heating and cooling times as well as wide temperature ranges without time-consuming fluid change. Choose from a portfolio of more than 60 models with cooling capacities from 0.7 to 130 kW. Unistat temperature control systems offer a range of professional functions for all types of demands. They feature a colored touch screen display with comfortable menu navigation and graphical real-time indication of temperature curves as well as an intelligent cascade temperature control and powerful circulation pumps with speed control, as well as a programmer, ramp function, calendar start, adjustable user menus, sensor calibration, and analog and digital interfaces.

Advantages & functions:
- Fast heating and cooling:
  Ideal for the implementation of isothermal chemical processes
- Excellent dynamics:
  First choice for exothermal reactions in terms of operational safety
- Highly accurate and reproducible:
  For sophisticated temperature control tasks from -125°C to +425°C
- Uniquely small dimensions, very compact design;
  Convincing volume refrigeration capacity [Watt/dm³]
- Large temperature range without tedious fluid change:
  The thermofluid DW-Therm covers temperatures from -90°C to +200°C
- Large coloured 5.7″ TFT touch screen:
  Graphics capable, multi-lingual, dialog capable, and very easy to operate
- Highest refrigeration capacity density [W/L]:
  For a highly dynamic temperature change
- Flexible communication:
  With USB and Ethernet interfaces

Unistat cooling heating thermostats up to -40°C
As a standard, all models come with natural refrigerant.
eo ?= for externally open operation

Type	Temp. range °C	Pump pressure max. l/min / bar	Heating capacity kW	Cooler capacity at 200/20/0/-20/-30°C kW	Dimensions (W×H×D) mm	Order No.
Petite Fleur	-40 – 200	25 / 0.9	1.5	0.48/0.48/0.45/0.27/0.16	260 × 450 × 504	**10 59 61031**
Petite Fleur w	-40 – 200	25 / 0.9	1.5	0.48/0.48/0.45/0.27/0.16	260 × 450 × 504	**10 59 61032**
Petite Fleur eo	-40 – 200	25 / 0.9	1.5	0,48/0,48/0,45/0,27/0,16	260 × 450 × 504	**10 59 61033**
Grande Fleur	-40 – 200	47 / 0.9	1.5	0.60/0.60/0.60/0.35/0.20	295 × 530 × 570	**10 59 61034**
Grande Fleur w	-40 – 200	47 / 0.9	1.5	0.60/0.60/0.60/0.35/0.20	295 × 530 × 570	**10 59 61035**
Grande Fleur-eo	-40 – 200	47 / 0.9	1.5	0.60/0.60/0.60/0.35/0.20	295 × 530 × 570	**10 59 61036**
Grande Fleur w-eo	-40 – 200	47 / 0.9	1.5	0.60/0.60/0.60/0.35/0.20	295 × 530 × 570	**10 59 61037**

Unistat circulating thermostats up to -55°C
w = water-cooled refrigerator
wl = water-and-air-cooled refrigerator

Type	Temp. range °C	Pump pressure max. l/min / bar	Heating capacity kW	Cooler capacity at 200/20/0/-20/-30°C kW	Dimensions (W×H×D) mm	Order No.
Unistat tango	-45 – 250	55 / 0.9[1)]	3.0	0.7/0.7/0.7/0.7/0.4/0.06	426 × 327 × 631	**10 59 61001**
Unistat tango w	-45 – 250	55 / 0.9[1)]	3.0	0.7/0.7/0.7/0.7/0.4/0.06	426 × 327 × 631	**10 59 61003**
Unistat tango wl	-45 – 250	55 / 0.9[1)]	3.0	0.7/0.7/0.7/0.7/0.4/0.06	426 × 327 × 631	**10 59 61002**
Unistat 405	-45 – 250	55 / 0.9[1)]	3.0	1.0/1.0/1.0/1.0/0.6/0.15	426 × 327 × 631	**10 59 64051**
Unistat 405w	-45 – 250	55 / 0.9[1)]	3.0	1.3/1.3/1.3/1.3/0.7/0.15	426 × 327 × 631	**10 59 64052**
Unistat 405wl	-45 – 250	55 / 0,9[1)]	3,0	1.3/1.3/1.3/1.3/0.7/0.15	426 × 327 × 631	**10 59 64901**
Unistat 410	-45 – 250	56 / 0,9[1)]	3.0	1.3/1.5/2.5/1.5/0.8/0.17	460 × 554 × 1201	**10 59 60201**
Unistat 410w	-45 – 250	56 / 0,9[1)]	1.5/3.0	1.3/1.5/2.5/1.5/0.8/0.17	426 × 360 × 631	**10 59 64102**
Unistat 425	-40 – 250	91 / 1.5[2)]	2.0	2.8/2.8/2.8/2.5/1.9/0.2	460 × 554 × 1453	**10 59 64251**
Unistat 425w	-40 – 250	91 / 1.5[2)]	2.0	2.8/2.8/2.8/2.5/1.6/0.1	460 × 554 × 1453	**10 59 64252**
Unistat 430	-40 – 250	91 / 1.5[2)]	4.0	3.5/3.5/3.5/3.5/2.2/0.3	460 × 554 × 1453	**10 59 64301**
Unistat 430w	-40 – 250	91 / 1.5[2)]	4.0	3.5/3.5/3.5/3.5/2.2/0.3	460 × 554 × 1453	**10 59 64302**
Unistat 510	-50 – 250	112 / 1.5[2)]	6.0	5.3/5.3/5.3/5.3/2.8/0.9	560 × 754 × 1453	**10 59 65100**
Unistat 510w	-50 – 250	112 / 1.5[2)]	6.0	5.3/5.3/5.3/5.3/2.8/0.9	460 × 554 × 1453	**10 59 65102**

[1)] Pressure regulation VPC integrated
[2)] Pressure regulation VPC via optional bypass
Natural refrigerant available on request. Flat-design models available on request.

Continued on next page →

Circulator Baths

Unistat circulating thermostats up to -85°C

	Type	Temp. range °C	Pump pressure max. l/min / bar	Heating capacity kW	Cooler capacity at 250/200/100/0/-20/-40/-60/-80°C kW	Dimensions (W×H×D) mm	Order No.
①	Unistat 705	-75 – 250	55 / 0,9[1)]	1.5/3.0	0.6/0.6/0.6/0.65/0.6/0.6/0.3/–	425 × 400 × 720	**10 59 67051**
	Unistat 705w	-75 – 250	55 / 0,9[1)]	1.5/3.0	0.6/0.6/0.6/0.65/0.6/0.6/0.3/–	425 × 400 × 720	**10 59 67052**
	Unistat 815	-85 – 250	40 / 0,9[1)]	2	1.3/1.3/1.3/1.5/1.5/1.4/1.2/0.2	460 × 604 × 1465	**10 59 68151**
②	Unistat 815w	-85 – 250	40 / 0,9[1)]	2	1.5/1.5/1.5/1.5/1.5/1.4/1.2/0.2	460 × 604 × 1465	**10 59 68152**

[1)] Pressure regulation VPC integrated
Natural refrigerant available on request.

Heating circulator for closed systems up to 300°C

	Type	Temp. range °C	Pump pressure max. l/min / bar	Heating capacity kW	Dimensions (W×H×D) mm	Order No.
③	Chili	65 – 300	45 / 0.9	3	240 × 427 × 393	**10 59 62101**

③



Heating Bath Circulators, JULABO

webcode WW2KN003

CORIO C heating bath circulators
Laboratory bath circulators for routine and standard tasks
The bath circulators of the CORIO™ series are equipped with high-quality stainless steel tanks or transparent tanks.

Type		CORIO C-B5	CORIO C-B13	CORIO C-B17	CORIO C-B19	CORIO C-B27
Bath tank		stainless steel	stainless steel	stainless steel	stainless steel	stainless steel
W × D × H	mm	230×380×410	380×400×420	380×400×470	380×580×420	380×580×470
Weight	kg	7.3	9.1	9.3	10.5	12
Working temperature	°C	20 – 100	20 – 100	20 – 100	20 – 100	20 – 100
Temp. accuracy ±	°C	0.03	0.03	0.03	0.03	0.03
Temperature display		LED	LED	LED	LED	LED
Heating capacity	kW	2	2	2	2	2
Pump capacity						
Flow rate	l/min	6	6	6	6	6
Bath opening	mm	150×150	300×180	300×180	300×350	300×350
Bath depth	mm	150	150	200	150	200
Order No.		**10 35 91405**	**10 35 91413**	**10 35 91417**	**10 35 91419**	**10 35 91427**

Type		CORIO C-BT5	CORIO C-BT9	CORIO C-BT19	CORIO C-BT27
Bath tank		plastics	plastics	plastics	plastics
W × D × H	mm	230×380×380	320×380×380	380×580×380	380×580×430
Weight	kg	4.8	8.3	7	7.2
Working temperature	°C	20 – 100	20 – 100	20 – 100	20 – 100
Temp. accuracy ±	°C	0.03	0.03	0.03	0.03
Temperature display		LED	LED	LED	LED
Heating capacity	kW	2	2	2	2
Pump capacity					
Flow rate	l/min	6	6	6	6
Bath opening	mm	150×150	230×150	300×350	300×350
Bath depth	mm	150	150	150	200
Order No.		**10 35 91305**	**10 35 91309**	**10 35 91319**	**10 35 91327**

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Circulator Baths





CORIO CD heating circulators with open bath
Laboratory bath circulators for routine and standard tasks
The bath immersion circulators of the CORIO™ series are equipped with high-quality stainless steel tanks or transparent tanks and pump connections.

- Models for internal applications
- Bright, white, easy to read display
- Very quiet
- USB port
- Integrated drain screw (for stainless steel tanks, not with B5)

		①		②
Type		**CORIO CD-B5**	**CORIO CD-B13**	**CORIO CD-B17**
Bath tank		stainless steel	stainless steel	stainless steel
W × D × H	mm	230×380×410	380×400×420	380×400×470
Weight	kg	8.2	9.1	9.3
Working temperature	°C	20 – 150	20 – 150	20 – 150
Temp. accuracy ±	°C	0.03	0.03	0.03
Temperature display		LED	LED	LED
Heating capacity	kW	2	2	2
Pump capacity				
Flow rate	l/min	15	15	15
Pressure	bar	0.35	0.35	0.35
Bath opening	mm	150×150	300×180	300×180
Bath depth	mm	150	150	200
Filling volume	l	3.5 – 5	9 – 13	13 – 17
Order No.		**10 35 92405**	**10 35 92413**	**10 35 92417**





		③	④	
Type		**CORIO CD-B19**	**CORIO CD-B27**	**CORIO CD-B33**
Bath tank		stainless steel	stainless steel	stainless steel
W × D × H	mm	380×580×420	380×580×470	910×360×430
Weight	kg	11.5	13	21
Working temperature	°C	20 – 150	20 – 150	20 – 150
Temp. accuracy ±	°C	0.03	0.03	0.03
Temperature display		LED	LED	LED
Heating capacity	kW	2	2	2
Pump capacity				
Flow rate	l/min	15	15	15
Pressure	bar	0.35	0.35	0.35
Bath opening	mm	300×350	300×350	660×320
Bath depth	mm	150	200	150
Filling volume	l	14 – 19	17 – 27	26 – 39
Order No.		**10 35 92419**	**10 35 92427**	**10 35 92433**



					⑤
Type		**CORIO CD-B39**	**CORIO CD-BT5**	**CORIO CD-BT19**	**CORIO CD-BT27**
Bath tank		stainless steel	plastics	plastics	plastics
W × D × H	mm	540×340×570	230×380×380	380×580×380	380×580×430
Weight	kg	18	5.5	8	8.1
Working temperature	°C	20 – 150	20 – 100	20 – 100	20 – 100
Temp. accuracy ±	°C	0.03	0.03	0.03	0.03
Temperature display		LED	LED	LED	LED
Heating capacity	kW	2	2	2	2
Pump capacity					
Flow rate	l/min	15	15	15	15
Pressure	bar	0.35	0.35	0.35	0.35
Bath opening	mm	330×300	150×150	300×350	300×350
Bath depth	mm	300	150	150	200
Filling volume	l	35 – 41	3.5 – 5	14 – 19	20 – 27
Order No.		**10 35 92439**	**10 35 92305**	**10 35 92319**	**10 35 92327**

Circulator Baths

Heating and Refrigerated Circulators, JULABO

webcode WW2KN006

JULABO refrigerated and heating circulators for heating and cooling are suitable for external temperature tasks and for temperature applications directly in the bath. Models are available in various capacity classes. Powerful circulating pump systems and high heating and cooling capacities guarantee short heat-up an cool-down times. With “Active Cooling Control” up to +200°C. “FP” models are equipped with proportional cooling control for lower energy consumption and heat loss. The inevitable dust accumulation that occurs in refrigeration systems is solved by means of an easily removed venting grill, which allows for easy cleaning. Depending on the model, the units are equipped with handles or castors for an easy transportation. All models have a drain tap on the front allowing the fluid to be drained easily. Typical applications are the temperature control of external, closed consumers such as photometers, refractometers, viscosimeters, etc. Temperature applications with small objects in the circulator bath are possible simultaneously.

CORIO refrigerated/heating circulator
Laboratory bath circulators for routine and standard tasks
Refrigerated / heating circulators of the CORIO™ series distinguish themselves with a great price-performance ratio.

They are ideal for all standard tasks and routine work in laboratories and industry.
- Models for internal and external applications
- Bright, white, easy to read display
- Very quiet
- Easy pump change-over (internal and external circulation)
- External pump connections (M16x1)
- USB connection
- Space-saving cooling coil design yields more usable space in the bath tank
- Bath lid and drain tap included
- Removable ventilation grid
- Refrigeration unit without side vents
- Class III (FL) according to DIN 12876-1


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Cooling capacity	+20°C	0°C	-10°C	-20°C	-30°C	-40°C
CORIO CD-200F	0.22 kW	0.17 kW		0.06 kW		
CORIO CD-201F	0.22 kW	0.16 kW		0.06 kW		
CORIO CD-300F	0.31 kW	0.28 kW		0.11 kW		
CORIO CD-600F	0.6 kW	0.46 kW	0.35 kW	0.18 kW	0.1 kW	
CORIO CD-601F	0.6 kW	0.46 kW	0.35 kW	0.18 kW	0.07 kW	
CORIO CD-900F	0.9 kW	0.8 kW	0.55 kW	0.35 kW	0.15 kW	0.01 kW
CORIO CD-1000F	1 kW	0.98 kW	0.73 kW	0.53 kW	0.25 kW	0.02 kW
CORIO CD-1001F	1 kW	0.9 kW	0.63 kW	0.35 kW	0.13 kW	0.1 kW

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Type		**CORIO CD-200F**	**CORIO CD-201F**	**CORIO CD-300F**	**CORIO CD-600F**
Width × Depth × Height	mm	230×380×650	440×410×440	240×420×660	330×470×690
Weight	kg	26	25	28	36
Working temperature	°C	-20 – +150	-20 – +150	-25 – +150	-35 – +150
Temperature accuracy ±	°C	0.03	0.03	0.03	0.03
Temperature display		LED	LED	LED	LED
Heating capacity	kW	2	2	2	2
Pump capacity					
Flow rate	l/min	15	15	15	15
Pressure	bar	0.35	0.35	0.35	0.35
Bath opening	mm	130×150	130×150	130×150	220×150
Bath depth	mm	150	150	150	150
Class division (DIN12876-1)		3	3	3	3
Order No.		**10 35 92701**	**10 35 92702**	**10 35 92703**	**10 35 92704**

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Type		**CORIO CD-601F**	**CORIO CD-900F**	**CORIO CD-1000F**	**CORIO CD-1001F**
Width × Depth × Height	mm	360×460×740	390×620×750	420×490×700	450×640×950
Weight	kg	38.5	52	51.5	74
Working temperature	°C	-40 – +150	-40 – +150	-40 – +150	-38 – +100
Temperature accuracy ±	°C	0.03	0.03	0.03	0.03
Temperature display		LED	LED	LED	LED
Heating capacity	kW	2	2	2	2
Pump capacity					
Flow rate	l/min	15	15	15	15
Pressure	bar	0.35	0.35	0.35	0.35
Bath opening	mm	220×150	260×150	220×150	350×410
Bath depth	mm	200	200	150	300
Class division (DIN12876-1)		3	3	3	3
Order No.		**10 35 92705**	**10 35 92706**	**10 35 92707**	**10 35 92708**

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webcode To see other variants and accessories, please enter the webcode on our website.

Circulator Baths



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CORIO CP refrigerated/heating circulator

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Type		**CORIO CP-200F**	**CORIO CP-201F**	**CORIO CP-300F**	**CORIO CP-600F**
Bath tank		Edelstahl	Edelstahl	Edelstahl	Edelstahl
W × D × H	cm	23 × 39 × 65	44 × 41 × 44	24 × 42 × 66	33 × 47 × 69
Weight	kg	26	25	28	35.7
Working temperature	°C	-20 – +200	-20 – +200	-25 – +200	-35 – +200
Temp. accuracy ±	°C	±0.03	±0.03	±0.03	±0.03
Cooler capacity at 20°C	kW	0.2	0.2	0.3	0.6
Temperature display		LED	LED	LED	LED
Heating capacity	kW	2	2	2	2
Flow rate	l/min	8 – 27	8 – 27	8 – 27	8 – 27
Pressure	bar	0.1 – 0.7	0.1 – 0.7	0.1 – 0.7	0.1 – 0.7
Bath opening	cm	13 × 15	13 × 15	13 × 15	22 × 15
Bath depth	cm	15	15	15	15
Filling volume	l	3 – 4	3 – 4	3 – 4	5 – 7.5
Order No.		**10 35 93701**	**10 35 93702**	**10 35 93703**	**10 35 93704**

Type		**CORIO CP-601F**	**CORIO CP-900F**	**CORIO CP-1000F**	**CORIO CP-1001F**
Bath tank		Edelstahl	Edelstahl	Edelstahl	Edelstahl
W × D × H	cm	36 × 46 × 74	39 × 62 × 75	42 × 49 × 70	45 × 64 × 95
Weight	kg	38.5	52	51,5	73.7
Working temperature	°C	-35 – +200	-38 – +200	-50 – +200	-38 – +100
Temp. accuracy ±	°C	±0.03	±0.03	±0.03	±0.03
Cooler capacity at 20°C	kW	0.6	0.9	1	1
Temperature display		LED	LED	LED	LED
Heating capacity	kW	2	2	2	2
Flow rate	l/min	8 – 27	8 – 27	8 – 27	8 – 27
Pressure	bar	0.1 – 0.7	0.1 – 0.7	0.1 – 0.7	0.1 – 0.7
Bath opening	cm	22 × 15	26 × 35	22 × 15	35 × 41
Bath depth	cm	15	20	15	30
Filling volume	l	8 – 10	21 – 30	5 – 7.5	42 – 56
Order No.		**10 35 93705**	**10 35 93706**	**10 35 93707**	**10 35 93708**



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DYNEO DD refrigerated/heating circulator

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Type		**DYNEO DD-200F**	**DYNEO DD-201F**	**DYNEO DD-300F**	**DYNEO DD-600F**
Bath tank		Stainless steel	Stainless steel	Stainless steel	Stainless steel
W × D × H	cm	23 × 39 × 65	44 × 41 × 44	24 × 42 × 66	33 × 47 × 69
Weight	kg	25.7	24.7	27.7	35.7
Working temperature	°C	-20 – +200	-20 – +200	-25 – +200	-35 – +200
Temp. accuracy ±	°C	±0.01	±0.01	±0.01	±0.01
Cooler capacity at 20°C	kW	0.2	0.2	0.3	0.6
Temperature display		3.5″ TFT Display	3.5″ TFT Display	3.5″ TFT Display	3.5″ TFT Display
Heating capacity	W	2	2	2	2
Flow rate	l/min	8 – 23	8 – 23	8 – 23	8 – 23
Pressure	bar	0.1 – 0.6	0.1 – 0.6	0.1 – 0.6	0.1 – 0.6
Bath opening	cm	13 × 15	13 × 15	13 × 15	22 × 15
Bath depth	cm	15	15	15	15
Filling volume	l	3 – 4	3 – 4	3 – 4	5 – 7.5
Order No.		**10 35 91701**	**10 35 91702**	**10 35 91730**	**10 35 91704**

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Circulator Baths

Type		DYNEO DD-601F	DYNEO DD-900F	DYNEO DD-1000F	DYNEO DD-1001F
Bath tank		Stainless steel	Stainless steel	Stainless steel	Stainless steel
W × D × H	cm	36 × 46 × 74	39 × 62 × 75	42 × 49 × 70	45 × 64 × 95
Weight	kg	38.2	51.7	51.2	73.7
Working temperature	°C	-35 – +200	-38 – +200	-50 – +200	-38 – +100
Temp. accuracy ±	°C	±0.01	±0.01	±0.01	±0.01
Cooler capacity at 20°C	kW	0.6	0.9	1	1
Temperature display		3.5″ TFT Display	3.5″ TFT Display	3.5″ TFT Display	3.5″ TFT Display
Heating capacity	W	2	2	2	2
Flow rate	l/min	8 – 23	8 – 23	8 – 23	8 – 23
Pressure	bar	0.1 – 0.6	0.1 – 0.6	0.1 – 0.6	0.1 – 0.6
Bath opening	cm	22 × 15	26 × 35	22 × 15	35 × 41
Bath depth	cm	20	20	15	30
Filling volume	l	8 – 10	21 – 30	5 – 7.5	42 – 56
Order No.		**10 35 91705**	**10 35 91706**	**10 35 91707**	**10 35 91708**

Heating and Refrigerated Circulators, JULABO

webcode WW2KN007

The HighTech series
HE models

- Bright VFD COMFORT DISPLAY for simultaneous indication of internal/external setpoint and actual values
- ICC (Intelligent Cascade Control) self-optimizing temperature control
- TCF Temperature Control Features for range limiting threshold value setting, co-speed factor and control dynamics
- Electronically adjustable pump capacity, incl. illuminated bar display
- Pt100 external sensor connection for measurement and control
- Integrated programmer for 10 program steps
- Optional electronic insert with analog connections for temperature recorder, setpoint encoder etc.
- Powerful pressure and suction pump for up to 1.1 bar, electronically adjustable

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Type		**F25-HE**	**F32-HE**	**FP50-HE**
Width × Depth × Height	cm	23×42×64	31×42×66	42×49×72
Weight	kg	32	38	57
Working temperature	°C	-28 – 200	-35 – 200	-50 – 200
Temperature accuracy ±	°C	0.01	0.01	0.01
Temperature display		VFD	VFD	VFD
Interface		RS232	RS232	RS232
Pump capacity				
Flow rate	l/min	22 – 26	22 – 26	22 – 26
Pressure	mbar	400 – 700	400 – 700	400 – 700
Suction	mbar	200 – 400	200 – 400	200 – 400
Bath opening W × D	cm	12×14	18×12	18×12
Bath depth H	cm	14	15	15
Overtemperature cut-out		variable	variable	variable
Low level protection		yes	yes	yes
Class division (DIN12876-1)		S3	S3	S3
Order No.		**46 35 92125**	**46 35 92132**	**46 35 92150**



We are also glad to help you in person.
Give us a call!

Circulator Baths

webcode WW2KN011

PRESTO Highly Dynamic Temperature Control Systems, JULABO



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An entirely new generation of highly dynamic temperature control systems by JULABO. The new PRESTO® systems are designed for precise temperature control as well as rapid temperature changes, making them ideal for reactor vessels, material stress tests, or temperature simulations. These instruments cover a working temperature of -92 to +250°C with high cooling and heating capacity. Highly efficient components give these instruments the ability to compensate for exothermic and endothermic reactions with extraordinary speed. Permanent internal monitoring and self-lubricating pumps contribute to the new PRESTO®'s long service life. The integrated 5.7-inch color industrial-grade touch panel is one of the identifying characteristics of the new PRESTO®. It gives the user a clear and well-organized view of important information while greatly improving user-friendliness. Once in operation, the new PRESTO® units are whisper quiet and barely audible in a laboratory. The new PRESTO® units are extremely robust and work reliably even if the ambient temperature climbs as high as +40°C. Multiple interfaces permit remote control of the PRESTO® across networks and in superordinated control systems. Closed side panels without ventilation slits reduce the required footprint of the devices to a minimum.

Benefits and functions:
- Operating temperature range from -92°C to 250°C
- Extremely rapid heating and cooling
- Heating performance from 1.8 kW to 19 kW
- Cooling performance from 0.5 kW to 19 kW
- Magnet-coupled pumps (capacity flow rate up to 80 l/min, pump pressure up to 5.5 bar)
- Air- or water-cooled
- Large, intuitive 5.7″ TFT touchscreen
- Short service times



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PRESTO highly dynamic temperature control systems down to -40°C
PRESTO A30 and A40/W40 are the entry-level models for the highly dynamic JULABO temperature control system. With a heating performance of up to 2.7 kW and a cooling performance of up to 1.2 kW, these PRESTO systems over an operating temperature range between -40°C and 250°C. The systems are very quiet in operation; thanks to the integrated handles and castors, they are easy to move around in the lab. Digital and analog interfaces are included as a standard.

Technical data:

Temperature stability:	±0.01 – ±0.05°C
External Pt100 sensor connection:	yes
Digital interfaces:	RS232, SD-Card, USB, Ethernet, alarm-off, RS485, 2. external Pt100 sensor connection (only A40(W40)
Integrated programmer:	8 × 60 steps
Pump connections:	M24 × 1.5
Display/resolution:	5.7″ TFT/±0.01°C

Cooling capacity	200°C	20°C	0°C	-20°C	-30°C	-40°C
A30	0.5 kW	0.5 kW	0.4 kW	0.17 kW	0.05 kW	–
A40	1.2 kW	1.2 kW	0.9 kW	0.6 kW	0.3 kW	0.1 kW
W40	1.2 kW	1.2 kW	1.0 kW	0.55 kW	0.3 kW	0.06 kW

	Type	Temp. range °C	Heating cap. kW	Flow rate l/min	Pressure bar	W × D × H mm	Order No.
①	A30	-30 – +250	2.7	25	0.5	250×600×620	**10 35 92030**
②	A40	-40 – +250	2.7	16 – 40	0.3 – 1.7	330×600×670	**10 35 92040**
③	W40	-40 – +250	2.7	16 – 40	0.3 – 1.7	330×600×670	**10 35 92140**

PRESTO highly dynamic temperature control systems down to -50°C
The PRESTO A45 and W50 are the most powerful PRESTO models with one-stage cold control. The systems combine maximum heating and cooling power with strong pumps. In the extended version A45T and W50t, they even have a heating performance of 12 kW.
The pump pressure is adjustable and is indicated at the display. Typical applications include temperature control for double-walled reaction vessels, reactor systems, autoclaves, distillations, pilot systems, semiconductor industry etc.

Technical data:

Temperature stability:	±0.05 – ±0.1°C
External Pt100 sensor connection:	yes

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Circulator Baths

Digital interfaces: RS232, SD-Card, USB, Ethernet, alarm-off, RS485, 2. external Pt100 sensor connection
Integrated programmer: 8 × 60 steps
Pump connections: M30 × 1.5
Display/resolution: 5.7″ TFT/±0.01°C

Cooling capacity	200°C	20°C	0°C	-20°C	-30°C	-40°C
A45	3.4 kW	3.5 kW	3.3 kW	1.8 kW	1.0 kW	0.3 kW
A45t	3.4 kW	3.5 kW	3.3 kW	1.8 kW	1.0 kW	0.3 kW
W50	7.0 kW	7.5 kW	6.5 kW	3.0 kW	1.8 kW	0.6 kW
W50t	7.0 kW	7.5 kW	6.5 kW	3.0 kW	1.8 kW	0.6 kW

	Type	Temp. range °C	Heating cap. kW	Flow rate l/min	Pressure bar	W × D × H mm	Order No.
④	A45	-45 – +250	6	25 – 76	0.48 – 3.2	530×665×1260	**10 35 92045**
	A45t	-45 – +250	12	25 – 76	0.48 – 3.2	530×665×1260	**10 35 92046**
⑤	W50	-50 – +250	6	25 – 76	0.48 – 3.2	530×665×1260	**10 35 92150**
	W50t	-50 – +250	12	25 – 76	0.48 – 3.2	530×665×1260	**10 35 92151**


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PRESTO highly dynamic temperature control systems down to -85°C

The devices PRESTO A80 and up use two-stage cold control, allowing them to reach temperatures of -80°C and -85°C respectively. Both models are available with air or water cooling. Air-cooled systems can be flexibly positioned; water-cooled systems, while being even quieter in operation, require a water-cooling connection.


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Technical data:

Temperature stability: ±0.01 – ±0.05°C (A80/A80t/W80/W80t)
±0.05 – ±0.1°C (A85/A85t/W55/W85/W85t)
External Pt100 sensor connection: yes
Digital interfaces: RS232, SD-Card, USB, Ethernet, alarm-off, RS485, 2. external Pt100 sensor connection
Integrated programmer: 8 × 60 steps
Pump connections: M24 × 1.5 (A80/A80t/W80/W80t)
M30 × 1.5 (A85/A85t/W55/W85/W85t)
Display/resolution: 5.7″ TFT/±0.01°C

Cooling capacity	200°C	20°C	0°C	-20°C	-30°C	-40°C	-60°C	-80°C
A80	1.2 kW	1.2 kW	1.2 kW	1.1 kW	1.1 kW	1.1 kW	0.65 kW	0.1 kW
A80t	1.2 kW	1.2 kW	1.2 kW	1.1 kW	1.1 kW	1.1 kW	0.65 kW	0.1 kW
W55	13.5 kW	15 kW	10 kW	4 kW	2.5 kW	1.2 kW		
W80	1.2 kW	1.2 kW	1.2 kW	1.1 kW	1.1 kW	1.1 kW	0.65 kW	0.1 kW
W80t	1.2 kW	1.2 kW	1.2 kW	1.1 kW	1.1 kW	1.1 kW	0.65 kW	0.1 kW
A85	2.8 kW	2.5 kW	2.4 kW	2.4 kW	2.4 kW	2.4 kW	2.2 kW	0.4 kW
A85t	2.8 kW	2.5 kW	2.4 kW	2.4 kW	2.4 kW	2.4 kW	2.2 kW	0.4 kW
W85	2.8 kW	2.5 kW	2.4 kW	2.4 kW	2.4 kW	2.4 kW	2.2 kW	0.4 kW
W85t	2.8 kW	2.5 kW	2.4 kW	2.4 kW	2.4 kW	2.4 kW	2.2 kW	0.4 kW

	Type	Temp. range °C	Heating cap. kW	Flow rate l/min	Pressure bar	W × D × H mm	Order No.
⑥	A80	-80 – +250	1.8	16 – 40	0.3 – 1.7	430×650×1260	**10 35 92080**
	A80t	-80 – +250	3.6	16 – 40	0.3 – 1.7	430×650×1260	**10 35 92081**
	W55	-80 – +250	15 @ 400 V 12 @ 208 V	35 – 80	0.48 – 3.2 @ 400 V 0.48 – 3.0 @ 208 V	610×855×1250	**10 35 91552**
	W80	-80 – +250	1.8	16 – 40	0.3 – 1.7	430×650×1260	**10 35 92180**
	W80t	-80 – +250	3.6	16 – 40	0.3 – 1.7	430×650×1260	**10 35 92181**
⑦	A85	-85 – +250	6	35 – 80	0.48 – 3.2	610×1080×1250	**10 35 92085**
	A85t	-85 – +250	15	35 – 80	0.48 – 3.2	610×1080×1250	**10 35 92086**
	W85	-85 – +250	6	35 – 80	0.48 – 3.2	610×1080×1250	**10 35 92185**
	W85t	-85 – +250	15	35 – 80	0.48 – 3.2	610×1080×1250	**10 35 92186**


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Circulator Baths



webcode WW2KN008

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Ultra-Low Refrigerated Circulators, JULABO

JULABO ultra-flow refrigerated circulators for heating and cooling are suitable for external temperature applications directly in the circulator bath. Powerful circulating pump systems and high heating an cooling capacities guarantee short heat-up an cool-down times even for large-volume, external consumers. An energy saving feature with only minor loss of heat is provided by the proportional cooling capacity control on the FP models. Models with the type suffix “W” are water-cooled. The units are equipped with handles or castors for an easy transportation. All models have a drain tap on the front allowing the fluid to be drained easily. Additionally the instruments are equipped with an improved insulation to help avoid ice-formation, and have a visual liquid level display. Typical applications are the temperature control of double-walled reaction vessels, autoclaves, miniplant systems, kilo laboratories, freezing point determination, low temperature calibration, petroleum tests, etc.

The HighTech series

HL and SL models

- Bright VFD COMFORT DISPLAY for simultaneous indication of internal/external setpoint and actual values
- PID cascade temperature control with highest internal an external temperature stability
- Electronically adjustable pump capacity, incl. illuminated bar display
- 3-point calibration
- Early warning system for low liquid level
- Pt100 external sensor connection for measurement and control
- Integrated programmer for 10 program steps
- LCD DIALOG-DISPLAY, backlit for convenient interactive operation
- ICC (Intelligent Cascade Control) self optimizing temperature control
- TCF Temperature Control Features for range limiting, threshold value setting, co-speed factor and control dynamics
- RS232 / RS485 interface for enhanced online communication and networking
- Stakei connector sockets for solenoid valve or HST booster heater with additional 4kW heat output (optional)
- Integrated programmer for 6 x 60 program steps
- Powerful pressure and suction pump for up to 1.1 bar, electronically adjustable
- Optional electronic insert with analog connections for temperature recorder, setpoint encoder, etc.

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Type		**FP89-HL**	**FP51-SL**	**FP52-SL**
Width × Depth × Height	cm	55×60×92	46×55×89	59×76×116
Weight	kg	135	90	156
Working temperature	°C	-90 – 100	-51 – 200	-60 – 100
Temperature accuracy ±	°C	0.02	0.01	0.05
Temperature display		VFD+LCD	VFD+LCD	VFD+LCD
Interface		RS232/RS485	RS232/RS485	RS232/RS485
Pump capacity				
Flow rate	l/min	22 – 26	22 – 26	22 – 26
Pressure	mbar	400 – 700	400 – 700	400 – 700
Suction	mbar	200 – 400	200 – 400	200 – 400
Filling opening Ø	cm			7
Bath opening W × D	cm	13×15	18×12	
Bath depth H	cm	16	20	22
Overtemperature cut-out		variable	variable	variable
Low level protection		yes	yes	yes
Class division (DIN12876-1)		S3	S3	S3
Order No.		**10 35 93589**	**10 35 93551**	**46 35 93552**

		③	④		
Type		**FPW52-SL**	**FPW55-SL**	**FP90-SL**	**FPW90-SL**
W × D × H	cm	59×76×116	59×76×116	59×76×116	59×76×116
Wght	kg	153	163	195	188
Working temp.	°C	-60 – 100	-60 – 100	-90 – 100	-90 – 100
Temp. accur. ±	°C	0.05	0.05	0.05	0.05
Temp. display		VFD+LCD	VFD+LCD	VFD+LCD	VFD+LCD
Interface		RS232/RS485	RS232/RS485	RS232/RS485	RS232/RS485
Pump cap.					
Flow rate	l/min	22 – 26	22 – 26	22 – 26	22 – 26
Pressure	mbar	400 – 700	400 – 700	400 – 700	400 – 700
Suction	mbar	200 – 400	200 – 400	200 – 400	200 – 400
Filling opening Ø	cm	7	7	7	7
Bath depth H	cm	22	23	20	20
Overtemp. cut-out		variable	variable	variable	variable
Low level protection		yes	yes	yes	yes
Class division (DIN12876-1)		S3	S3	S3	S3
Order No.		**46 35 93553**	**46 35 93556**	**10 35 93590**	**46 35 93591**

Circulator Baths

Heating Immersion Circulators, JULABO

webcode WW2KN005

JULABO heating immersion circulators with stainless steel bath tanks are used for internal an external temperature tasks. They now have increased capacities for temperature application to larger external systems as well as open systems, making them ideal for external temperature jobs. Simultaneous temperature applications of smaller objects can also be carried out in the internal bath of the circulator. Models are available in a selection of sizes and with a variety of features. Accessories for these units include Pt100 sensors, thermal bath fluids, and hoses and adapters for connecting to external systems. An integrated cooling coil is provided for temperature applications at below or near ambient.

CORIO heating circulators
Laboratory bath circulators for routine and standard tasks
CORIO™ heating immersion circulators offer professional technology for high demands. These devices allow for temperature control either in the internal bath or in a connected external application.
- Models for internal and external applications
- Bright, white, easy to read display
- Very quiet
- Easy change between internal and external circulation
- USB connection
- High-quality stainless steel tanks with bath cover and drain tap
- Integrated cooling coil for counter-cooling



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Type		CORIO CD-BC4	CORIO CD-BC6	CORIO CD-BC12	CORIO CD-BC26
Bath tank		stainless steel	stainless steel	stainless steel	stainless steel
W × D × H	mm	230×410×420	240×440×470	330×490×470	390×620×480
Weight	kg	8.8	10	12.2	19
Working temperature	°C	20 – 150	20 – 150	20 – 150	20 – 150
Temp. accuracy ±	°C	± 0.03	± 0.03	± 0.03	± 0.03
Heating capacity	kW	2	2	2	2
Pump capacity					
Flow rate	l/min	15	15	15	15
Pressure	bar	0.35	0.35	0.35	0.35
Bath opening	mm	130×150	130×150	220×150	220×300
Bath depth	mm	150	200	200	200
Filling volume	l	3 – 4.5	4.5 – 6	8.5 – 12	19 – 26
Order No.		**10 35 92504**	**10 35 92506**	**10 35 92512**	**10 35 92526**

The TopTech series
with insulated stainless steel bath tanks, flexible pump capacity and an increased operating temperature range of up to +200°C



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Type		CORIO CP-BC4	CORIO CP-BC6	CORIO CP-BC12	CORIO CP-BC26
W × D × H	cm	23 × 41 × 42	24 × 44 × 47	33 × 49 × 47	39 × 62 × 48
Weight	kg	8.5	10	12	19
Working temperature	°C	20 – 200	20 – 200	20 – 200	20 – 200
Temp. accuracy ±	°C	±0.02	±0.02	±0.02	±0.02
Temperature display		LED	LED	LED	LED
Heating capacity	W	2	2	2	2
Flow rate	l/min	8 – 27	8 – 27	8 – 27	8 – 27
Pressure	mbar	0.1 –0 7	0.1 –0 7	0.1 –0 7	0.1 –0 7
Bath opening	cm	13 × 15	13 × 15	22 × 15	26 × 35
Bath depth	cm	15	20	20	20
Filling volume	l	3 – 4.5	4.5 – 6	8.5 – 12	19 – 26
Order No.		**10 35 93504**	**10 35 93506**	**10 35 93512**	**10 35 93526**

Use the webcode on our website to see a larger selection of products from a specific manufacturer.

webcode

Continued on next page

webcode To see other variants and accessories, please enter the webcode on our website.

Circulator Baths



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DYNEO DD heating immersion circulators
New temperature control technology for demanding applications
DYNEO DD heating circulators for internal and external applications are equipped with closed bath tanks. The tanks are well insulated and include a coil for counter-cooling. An integrated drain tap makes emptying the tank safe and clean. The multilingual 3.5-inch color display and unique rotary knob provide for straightforward and intuitive operation.

		①		②	
Type		**DYNEO DD-BC4**	**DYNEO DD-BC6**	**DYNEO DD-BC12**	**DYNEO DD-BC26**
Bath tank		Stainless steel	Stainless steel	Stainless steel	Stainless steel
W × D × H	mm	23 × 41 × 42	24 × 44 × 47	33 × 49 × 47	39 × 62 × 48
Weight	kg	8.5	10	12	19
Working temperature	°C	20 – 200	20 – 200	20 – 200	20 – 200
Temp. accuracy ±	°C	±0.01	±0.01	±0.01	±0.01
Temperature display		LED	LED	LED	LED
Heating capacity	kW	2	2	2	2
Flow rate	l/min	8 – 27	8 – 27	8 – 27	8 – 27
Pressure	bar	0.1 – 0.7	0.1 – 0.7	0.1 – 0.7	0.1 – 0.7
Bath opening	cm	13 × 15	13 × 15	22 × 15	26 × 35
Bath depth	cm	15	20	20	20
Filling volume	l	3 – 4.5	4.5 – 6	8.5 – 12	19 – 26
Order No.		**10 35 91504**	**10 35 91506**	**10 35 91512**	**10 35 91526**

The HighTech series
HE and SE models
- Bright VFD COMFORT DISPLAY for simultaneous indication of internal/external setpoint and actual values
- ICC (Intelligent Cascade Control) self-optimizing temperature control
- TCF Temperature Control Features for range limiting, threshold value setting, co-speed factor and control dynamics
- Electronically adjustable pump capacity, incl. illuminated bar display
- Pt100 external sensor connection for measurement and control
- Integrated programmer for 10 program steps
- Optional electronic insert with analog connections for temperature recorder, setpoint encoder, etc.
- Powerful pressure and suction pump for up to 1.1 bar, electronically adjustable

		③		
Type		**HE-4**	**SE-6**	**SE-12**
Width × Depth × Height	cm	21×42×40	21×43×44	30×43×47
Weight	kg	11.0	13.5	14.0
Working temperature	°C	20 – 250	20 – 300	20 – 300
Temperature accuracy ±	°C	0.01	0.01	0.01
Temperature display		VFD display	VFD display	VFD display
Heating capacity	W	2000	3000	3000
Interface		RS232	RS232	RS232
Pump capacity				
Flow rate	l/min	22 – 26	22 – 26	22 – 26
Pressure	mbar	400 – 700 max.	400 – 700 max.	400 – 700 max.
Suction	mbar	200 – 400 max.	200 – 400 max.	200 – 400 max.
Bath opening W × D	cm	13×15	13×15	22×15
Bath depth H	cm	15	20	20
Overtemperature cut-out		variable	variable	variable
Low level protection		yes	yes	yes
Class division (DIN12876-1)		S3	S3	S3
Order No.		**46 35 92104**	**46 35 92506**	**46 35 92512**

The HighTech series
HL and SL models (as HE/SE, plus the following)
- LCD DIALOG-DISPLAY, backlit for convenient interactive operation
- RS232 / RS485 interface for enhanced online communication and networking
- Stakei connector sockets for solenoid valve or HST booster heater with additional 4 kW heat output (optional)
- Integrated programmer for 6 x 60 program steps

Technical data:
Heating immersion circulator HL-4 same as HE-4
Heating immersion circulator SL-6 same as SE-6
Heating immersion circulator SL-12 same as SE-12

	Article	Order No.
	Heating immersion circulator HL-4	**46 35 93104**
④	Heating immersion circulator SL-6	**46 35 93506**
⑤	Heating immersion circulator SL-12	**46 35 93512**

Circulator Baths

Circulating Thermostats, A. KRÜSS Optronic



webcode WWY3J011

① **Peltier thermostat PT31**
The PT31 circulation thermostat is equipped with high-performance functions. The device is ideally suited for applications requiring a temperature range at a constant level. The robust locking mechanism of the PT31 provides a sturdy connection and ensures constant temperature control of the medium. The compact and sturdy design does not require much space and can be placed anywhere in the laboratory.

Technical data:

Temp. control range:	8 – 35°C
Accuracy of temp. control:	± 0.2°C
Temp. control resolution:	0.1°C
Electrical data:	100 – 240 V AC, 1.3 A, 50/60 Hz
Dimensions (W×H×D):	108 × 199 × 145 mm
Weight:	1.5 kg

Article	Order No.
Peltier thermostat PT31 for refractometers/polarimeters	**65 61 20031**



② **Circulating thermostat PT80**
The PT80 circulation thermostat is an extremely quiet, energy-efficient and handy device that has been specially developed for small temperature control tasks in the laboratory. Fast temperature control is also possible due to the low filling volume of only 250 ml. With an accuracy of ±0.1°C, the PT80 is ideally suited to high laboratory standards for the temperature control of polarimeters and refractometers. The PT80 is also very well equipped for efficient and environmentally friendly cooling of condensers (e.g. Liebig or reflux condensers) in thermal separation processes on a laboratory scale.

Technical data:

Temp. control range:	5 – 80°C
Accuracy of temp. control:	± 0.1°C
Temp. control resolution:	0.1°C
Pump capacity:	60 l/h
Pump pressure:	110 mbar
Cooling capacity at 20°C:	40 W
Heating capacity:	120 W
Electrical data:	100–240 V AC, 2.5 A, 50/60 Hz
Dimensions (B×H×T):	170 × 225 × 244 mm
Weight:	2.7 kg

Article	Order No.
Circulating thermostat PT80	**10 61 10080**

LAUDA Loop – Thermoelectric circulation thermostats, LAUDA



webcode WW18A011

The device line LAUDA Loop comprises two thermo-electrical (Peltier) circulation thermostats for external temperature control. The thermostat is intended for laboratory applications such as temperature control of refractometers, polarimeters, electrophoresis chambers, or small bioreactors.

- Small footprint
- Energy efficient
- No cooling agent required
- Heating and cooling with the same component, high control accuracy of ±0.1 K
- RS-232 interface integrated as a standard
- Requires little maintenance
- Low weight
- Little vibration, quiet operation
- 3-button control with bright, high-contrast OLED display
- One voltage variant for world-wide use: 100 – 230 V; 50/60 Hz

Technical data:

Temperature range:	4 – 80°C
Temperature accuracy:	± 0.1 K



	Type	Cooler capacity at 20°C kW	Heating capacity kW	W × D × H mm	Order No.
③	L 100	0.1	> 0.1	175×300×265	**10 23 39100**
④	L 250	0.25	> 0.25	260×370×315	**10 23 39250**

webcode To see other variants and accessories, please enter the webcode on our website.

Circulator Baths



① webcode WW18A007



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Heating and Cooling Thermostats Alpha, LAUDA

LAUDA Alpha is the cost-effective choice in the area of high-quality LAUDA thermostats in the temperature range from -25 up to 100 °C. The thermostats are suitable for operation with non-flammable liquids (water, water/glycol) and for both internal and external thermostating tasks.

- 3-keys operation with large and brilliant LED display. Resolution of indication of 0.1°C
- Pressure pump with 0.2 bar pressure and 15 l/min pump flow
- Pump reduction for reducing the flow rate from 15 to 5 l/min as standard
- Temperature range from 25 to 100°C and temperature stabilitiy of ± 0,05 K
- Integrated timer function for automatic shut-down of the device
- 1-point calibration can be performed by the user
- Safety functions such as alarms, warnings and malfunctions are indicated on the LED display

Immersion Thermostat

Type	Temp. range °C	Heating cap. kW	Pump pressure bar	Flow rate l/min	Order No.
A	25 – 100	1.5	0.2	15	**10 23 30226**

Heating thermostats

	Type	Temp. range °C	Heating cap. kW	Bath vol. l	Bath opening W × D mm	Bath depth mm	Order No.
①	A 6	25 – 100	1.5	2.5 – 5.5	145×161	150	**10 23 30733**
	A 12	25 – 100	1.5	8 – 12	235×161	200	**10 23 30734**
	A 24	25 – 100	1.5	18 – 25	295×374	200	**10 23 30735**

Accessories for immersion and heating thermostats

Article	Order No.
Pump circulation set	**10 23 32005**
Cooling coil	**10 23 32004**

Accessoires for heating thermostats

Article	Order No.
Bath cover set A 6	**10 23 33006**
Bath cover set A 12	**10 23 33007**
Bath cover set A 24	**10 23 33008**

Cooling thermostats

	Type	Temp. range °C	Heating cap. kW	Cooler power kW	Bath vol. l	Bath opening W×D mm	Bath depth mm	Order No.
②	RA 8	-25 – 100	1.5	0,225	5 – 7.5	165×190	160	**10 23 31907**
	RA 12	-25 – 100	1.5	0,325	9.9 – 14.5	300×190	160	**10 23 31908**
	RA 24	-25 – 100	1.5	0,425	14 – 22	350×290	160	**10 23 31909**

LAUDA

webcode WW18A008



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Heating and Cooling Thermostats ECO, LAUDA

The LAUDA ECO thermostats are available with two different control heads. The control head Gold offers a colour TFT display, the control head Silver has a monochrome LCD display. A menu navigation in plain text allows easy operation of the devices. Both control heads are equipped with a mini-USB interface as standard. Further interfaces are available as modules.

- Operation via cursor and softkeys
- Simultaneous display of set and actual temperature, navigation in plain text
- Overtemperature setting via display
- Safety class III, FL for flammable liquids
- 1-point calibration by the user
- Vario pump with six levels, flow rate switch for internal or external circulation
- Mini-USB interface as standard

Continued on next page

Circulator Baths

LAUDA ECO immersion thermostats

	Type	Temp. range °C	Temp. accur. ± K	Heating cap. kW	Flow rate l/min	Pump pressure bar	Order No.
③	Silver	20 – 200	0.01	2.0	22	0.55	**10 23 30277**
④	Gold	20 – 200	0.01	2.6	22	0.55	**10 23 30228**



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Accessories for immersion and heating thermostats Silver and Gold

Cooling coil sets
For cooling of heating baths

Article	Order No.
Cooling coil set small suitable for ECO Silver, ECO Gold, baths up to 6 litres	**10 23 30720**
Cooling coil set for ET 15 suitable for ET 15 S, ET 15 G	**10 23 30719**

LAUDA ECO heating thermostats with transparent bath

Types ET XX S are equipped with control head Silver, types ET XX G are equipped with control head Gold. All devices except the ET 15 S and ET 15 G are equipped with a cooling coil as standard. ET 15 S and ET 15 G are equipped with pump connections* as standard.

	Type	Temp. range °C	Temp. accur. ± K	Heating cap. kW	Bath vol. l	Bath opening W × D mm	Bath depth mm	Order No.
	ET 6 S	20 – 100	0.01	1.3	6	130×285	160	**10 23 30096**
⑤	ET 12 S	20 – 100	0.01	1.3	12	300×175	160	**10 23 30286**
	ET 15 S	20 – 100	0.01	1.3	15	275×130	310	**10 23 30288**
	ET 20 S	20 – 100	0.01	1.3	20	300×350	160	**10 23 30290**
	ET 6 G	20 – 100	0.01	2.6	6	130×285	160	**10 23 30097**
	ET 12 G	20 – 100	0.01	2.6	12	300×175	160	**10 23 30287**
	ET 15 G	20 – 100	0.01	2.6	15	275×130	310	**10 23 30289**
	ET 20 G	20 – 100	0.01	2.6	20	300×350	160	**10 23 30291**

* Silver: 13 mm plastic nipples, Gold: M16×1 thread



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LAUDA ECO heating thermostats with stainless steel bath

Types E XX S are equipped with control head Silver, types E XX G are equipped with control head Gold. All heating thermostats are equipped with a cooling coil as standard. E 4 S and E 4 G ar equipped with a bath cover and pump connections* additionally.

	Type	Temp. range °C	Temp. accur. ± K	Heating cap. kW	Bath vol. l	Bath opening W × D mm	Bath depth mm	Order No.
	E 4 S	20 – 200	0.01	2.0	3.5	135×105	150	**10 23 30736**
	E 10 S	20 – 200	0.01	2.0	11	300×190	150	**10 23 30738**
⑥	E 20 S	20 – 200	0.01	2.0	19	300×365	150	**10 23 30742**
	E 25 S	20 – 200	0.01	2.0	25	300×365	200	**10 23 30744**
	E 40 S	20 – 200	0.01	2.0	40	300×613	200	**10 23 30746**
⑦	E 4 G	20 – 200	0.01	2.6	3.5	135×105	150	**10 23 30737**
	E 10 G	20 – 200	0.01	2.6	11	300×190	150	**10 23 30739**
	E 20 G	20 – 200	0.01	2.6	19	300×365	150	**10 23 30743**
	E 25 G	20 – 200	0.01	2.6	25	300×365	200	**10 23 30745**
	E 40 G	20 – 200	0.01	2.6	40	300×613	200	**10 23 30747**

* Silver: 13 mm plastic nipples, Gold: M16×1 thread



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Accessories for immersion and heating thermostats Silver and Gold

Pump connection sets for thermostating of external applications

Article	Order No.
Pump connection set with 13 mm plastic nipples and closing plugs	**10 23 30716**
Pump connection set with 16×1 stainless steel connections, screw caps and 13 mm nipples	**10 23 30717**
Bath cover made of stainless steel, one piece with handle suitable for E 10, E 15	**10 23 30133**
Bath cover made of stainless steel, one piece with handle suitable for E 20, E 25	**10 23 30134**
Bath cover made of stainless steel, three pieces with handle suitable for E 40	**10 23 30718**

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Circulator Baths



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LAUDA ECO cooling thermostats – air cooled

	Type	Temp. range °C	Temp. accur. ± K	Heating cap. kW	Cooler cap. at 20°C kW	Bath vol. l	Bath opening W × D mm	Bath depth mm	Order No.
①	RE 415 S	-15 – 200	0.02	2.0	0.18	4	130×105	160	**10 23 31910**
	RE 420 S	-20 – 200	0.02	2.0	0.2	4	130×105	160	**10 23 31940**
	RE 630 S	-30 – 200	0.02	2.0	0.3	5.7	150×130	160	**10 23 31944**
	RE 1050 S	-50 – 200	0.02	2.0	0.7	10	200×200	160	**10 23 31946**
	RE 1225 S	-25 – 200	0.02	2.0	0.3	12	200×200	200	**10 23 31948**
	RE 2025 S	-25 – 200	0.02	2.0	0.3	20	300×350	160	**10 23 31950**
	RE 415 G	-15 – 200	0.02	2.0	0.18	4	130×105	160	**10 23 31911**
	RE 420 G	-20 – 200	0.02	2.6	0.2	4	130×105	160	**10 23 31941**
	RE 630 G	-30 – 200	0.02	2.6	0.3	5.7	150×130	160	**10 23 31945**
	RE 1050 G	-50 – 200	0.02	2.6	0.7	10	200×200	160	**10 23 31947**
	RE 1225 G	-25 – 200	0.02	2.6	0.3	12	200×200	200	**10 23 31949**
	RE 2025 G	-25 – 200	0.02	2.6	0.3	20	300×350	160	**10 23 31951**

webcode WWSB5047

Circulation Baths, Phoenix Instrument



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The new refrigerated/heating circulating baths are suitable for temperature controlling of samples in a wide range of temperatures.
All the models are designed for external and internal applications, usable for tests in laboratories and industries. Each instrument is standard equipped with a PT100 probe for temperature control in an external circuit. The controller automatically recognizes the presence of the probe and determines the type of work inside or outside the tank. They are equipped with a backlit display for simultaneously displaying of the set temperature, and all other operating parameters.

Technical data:	**CB5-10**	**CB5-20**	**CB-5-30**
Temperature range:	-10 – 100°C	-20 – 100°C	-30 – 100°C
Temp. resolution/ setting:	0.1°C	0.1°C	0.1°C
Temp. stability at 20°C:	±0.3°C	±0.2°C	±0.2°C
Timer:	99:59/cont. operation	99:59/cont. operation	99:59/cont. operation
Cooling capacity:	20°C: 0.37 KW 10°C: 0.33 KW 0°C: 0.30 KW -10°C: 0.22 KW	20°C: 0.41 KW 10°C: 0.37 KW 0°C: 0.33 KW -10°C: 0.28 KW -20°C: 0.16 KW	20°C: 0.44KW 10°C: 0.40KW 0°C: 0.37KW -10°C: 0.32KW -20°C: 0.20KW -30°C: 0.15KW
Pump pressure:	0.35 bar	0.35 bar	0.35 bar
Pump flow rate:	3.2 l/min	6.5 l/min	6.5 l/min
Bath volume:	5 litres	5 litres	5 litres
Bath opening depth:	150×160×150 mm	150×160×150 mm	150×160×150 mm
Dimensions (W×H×D):	290×570×710 mm	380×670×840 mm	380×670×840 mm
Voltage/power:	220 V / 50 Hz	220 V / 50 Hz	220 V / 50 Hz
Weight:	34 kg	54 kg	54 kg

	Article	Order No.
②	Circulation bath CB5-10	**10 13 75101**
③	Circulation bath CB5-20	**10 13 75202**
	Circulation bath CB5-30	**10 13 75302**

Accel 250/500 Laboratory Chiller, Thermo Scientific

thermoscientific

webcode WW4HV014

Accel laboratory chillers are used primarily for heating and cooling external applications. The small internal volume and the integrated cooling circuit allow for very fast dissipation of heat and heating rate; for working temperatures between +80°C and -10°C. Different configurations are available with 2 different cooling powers, 2 pumps, or USB connection.

Functions:
- Innovative control algorithm for faster and more reliable temperature control
- Large LCD display and intuitive menu control in 3 languages
- Up to five programmable set temperatures with RTA (Real Temperature Adjustment) for calibration
- Powerful pumps with two-level pump speed adjustment for turbulence reduction (powerful suction pump available as an option)
- Optional USB interface
- Timer with real-time clock for critical applications
- New energy-saving concept for minimizing the cooling power in dependence on the application
- Low noise (58 dBA)
- State-of-the-art cooling concept for full cooling power even when the unit is set up in a corner

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Circulator Baths

- Combined level indication, filling and draining function at the front
- Safety class 1 (NFL)
- Complies with CE and RoHS
- 2 years warranty



Technical data:

Heating capacity at 20°C:	2 kW
Cooling capacity at 20°C:	250 W (Accel 250) / 500 W (Accel 500)
Temperature range:	-10 to +80°C
Temperature stability:	±0,1°C
Pump power	
Max. flow rate:	15 l/min
Max. pressure:	300 mbar
Pump power suction pump	
Max. flow rate:	21 l/min
Max. pressure:	805 mbar
Reservoir:	2,8 liters
Net weight:	30 kg
Dimensions (H×W×D):	620 × 232 × 487 mm
Voltage:	230 V / 50 Hz

Article	Order No.
Accel 250 with force pump + USB	**10 53 33112**
Accel 250 with force/suction pump + USB	**10 53 33212**
Accel 500 with force pump + USB	**10 53 33122**
Accel 500 with force/suction pump + USB	**10 53 33222**

ARCTIC Series Refrigerated Bath Circulators, Thermo Scientific



thermo scientific

webcode WW4HV006



Refrigerated circulators are used for controlling the temperature (heating and cooling) of internal or external applications. The built-in compressor circuits enable fast heat removal. Working temperatures from -40°C to 200°C are thus possible. Different configurations are available offering various cooling capacities, temperature ranges, and bath volumes. They can be combined with Standard (SC) and Advanced (AC) circulator heads in 2 performance levels.

Functions

- Economy function for low power consumption and economical operation
- Low noise
- Baths made of robust stainless steel
- Circulator heads on the baths can be turned to all sides for greater user comfort
- External circulation kit for M16*1 connections, and 8 and 12 mm hose connections
- State-of-the-art cooling concept for full cooling power even when the unit is set up in a corner
- Drain tap on the front
- Integrated carrying grips
- Bath lid included in the delivery (except in models A10B and A25B)
- Safety class 3 (FL), (SC100 systems = 1 (NFL))
- Complies with CE and RoHS
- 3 years warranty

Type			**A10B**	**A25B**	**A10**	**A25**	**A40**
Temperature range	°C	SC100	-10 to 100	-25 to 100	-10 to 100	-25 to 100	–
Dimensions (H×W×L)	mm	thermostat	471×429×913	740×324×541	632×220×414	711×273×483	–
Temperature range	°C	SC150	-10 to 100	-25 to 150	-10 to 150	-25 to 150	-28 to 150
Dimensions (H×W×L)	mm	thermostat	471×429×913	740×324×541	632×220×414	711×273×483	749×385×519
Temperature range	°C	SC150L	–	–	–	-25 to 150	-28 to 150
Dimensions (H×W×L)	mm	thermostat	–	–	–	711×273×483	749×385×519
Temperature range	°C	AC150	-10 to 150	-25 to 150	-10 to 150	-25 to 150	-30 to 150
Dimensions (H×W×L)	mm	thermostat	509×429×913	778×324×541	670×220×414	749×273×483	787×385×519
Temperature range	°C	AC200	-10 to 200	-25 to 200	-10 to 200	-25 to 200	-40 to 200
Dimensions (H×W×L)	mm	thermostat	509×429×913	778×324×541	670×220×414	749×273×483	787×385×519
Cooling capacity at 20°C	°C		250W	500W	240W	500W	900W
Bath capacity	l		17 – 30	13 – 21	4 – 6	7 – 12	7 – 12
Work area (D×W×L)	mm		201×297×365	233×224×244	150×137×124	204×173×184	204×173×184
Net weight	kg		44.5	42.3	27.5	36.1	55.2

Type	Refrigerated circulator bath A10B **Order No.**	Refrigerated circulator bath A25B **Order No.**	Refrigerated circulator bath A10 **Order No.**	Refrigerated circulator bath A25 **Order No.**	Refrigerated circulator bath A40 **Order No.**
SC100[1)]	**10 53 32410**	**10 53 32425**	**10 53 32510**	**10 53 32525**	
SC150[1)]	**10 53 33410**	**10 53 33425**	**10 53 33510**	**10 53 33525**	**10 53 33540**
SC150L[1)]				**10 53 34525**	**10 53 34540**
AC150[1)]	**10 53 35410**	**10 53 35425**	**10 53 35510**	**10 53 35525**	**10 53 35540**
AC200[1)]	**10 53 36410**	**10 53 36425**	**10 53 36510**	**10 53 36525**	**10 53 36540**

[1)] Voltage 230V/50Hz

Continued on next page

Circulator Baths





Accessories

Article	Order No.
Universal stainless steel rack 283×145 mm for bath types A10B, S49. Two inserts with different sizes of holes can be varied in height within the rack	**10 53 31602**
2× rack inserts 283×145 mm rack for 86 test tubes of 10 mm Ø	**10 53 31603**
2× rack inserts 283×145 mm rack for 46 test tubes of 16 mm Ø	**10 53 31604**
2× rack inserts 283×145 mm rack for 23 test tubes of 25 mm Ø	**10 53 31605**
2× rack inserts 283×145 mm rack without holes Customer may provide special size holes	**10 53 31606**
Universal stainless steel rack 160×145 mm for bath types A25B, A40, S21. Two inserts with different sizes of holes can be varied in height within the rack	**10 53 31679**
2× rack inserts 160×145 mm rack for 86 test tubes of 10 mm Ø	**10 53 31680**
2× rack inserts 160×145 mm rack for 46 test tubes of 16 mm Ø	**10 53 31681**
2× rack inserts 160×145 mm rack for 23 test tubes of 25 mm Ø	**10 53 31682**
2× rack inserts 160×145 mm rack without holes Customer may provide special size holes	**10 53 31683**
Lifting Platform, stainless steel for S21, S45, A10B	**10 53 31611**
A10B stainless steel bath lid	**10 53 31642**
Autorefill (100-230V/50-60Hz) box without level sensor or bath lid; for operation with multifunction port of AC200 heads	**10 53 31630**
Solenoid valve (100-230V/50-60Hz) box for e.g. control of tap water cooling coil; for operation with multi-function port of AC200 heads	**10 53 31610**

Other accessories (bath fluid, test tube rack, hoses, connectors) are available.

Cooling Thermostats and Condensers



Unichiller® (bench-top), Huber

Powerful, budget-friendly Unichiller with OLÉ control for standard applications. Completely re-designed, the Unichillers with OLÉ controller offer a refrigeration capacity of up to 2.5 kW at particularly budget-friendly costs. Thus, the Unichillers are perfect for many standard refrigeration jobs in laboratory and industry. In many applications, the efficient working processes of the chiller reduce water consumption, protecting the environment and reducing the operating costs.
All models are equipped with the new OLÉ controller with state-of-the-art OLED display and RS232 and USB connections, as well as optionally with a Pt100 sensor.

- Refrigeration capacity max. 2.5 kW
- Air- and water-cooled models
- Powerful circulation pumps with 40 l/min; 3.5 bar (optional: up to 80 l/min; 5.5 bar)
- Compact, robust stainless steel casing
- With castors for easy handling
- Optionally with heating to +100°C
- Optionally with Pilot ONE controller

	Type	Temp. range °C	Pump pressure max. l/min / bar	Cooler capacity at 15/0/-10°C kW	Dimensions (W×H×D) mm	Order No.
	Minichiller 280 OLÉ	-5 – 40	14 / 0.25	0.28/0.20/–	225 × 360 × 380	**10 59 60598**
	Minichiller 300 OLÉ	-20 – 40 (80)[1)]	14 / 0.25	0.30/0.20/0.14	225 × 360 × 380	**10 59 68998**
	Minichiller 300w OLÉ	-20 – 40 (80)[1)]	14 / 0.25	0.30/0.20/0.14	225 × 360 × 380	**10 59 69098**
	Minichiller 600 OLÉ	-20 – 40	24 / 0.7	0.60/0.50/0.35	280 × 490 × 424	**10 59 69898**
	Minichiller 600w OLÉ	-20 – 40	24 / 0,7	0.60/0.50/0.35	280 × 490 × 424	**10 59 62297**
	Minichiller 900w OLÉ	-25 – 40	24 / 0.9	0.90/0.70/0.40	280 × 490 × 424	**10 59 62198**
①	Unichiller 007 OLÉ[2)]	-20 – 40	29 / 1.0	0.70/0.55/0.40	350 × 496 × 622	**10 59 61416**
	Unichiller 007w OLÉ[2)]	-20 – 40	29 / 1,0	0.70/0.55/0.40	350 × 496 × 622	**10 59 64298**
	Unichiller 010 OLÉ[2)]	-20 – 40	29 / 1.0	1.00/0.80/0.50	350 × 496 × 622	**10 59 61417**
	Unichiller 010w OLÉ[2)]	-20 – 40	29 / 1,0	1.00/0.80/0.50	350 × 496 × 622	**10 59 62998**
②	Unichiller 012 OLÉ[2)]	-20 – 40	29 / 1.0	1.20/1.00/0.70	420 × 487 × 579	**10 59 61418**
	Unichiller 012w OLÉ[2)]	-20 – 40	29 / 1.0	1.20/1.00/0.70	350 × 496 × 622	**10 59 61425**
	Unichiller 015 OLÉ[2)]	-20 – 40	29 / 1.0	1.50/1.00/0.70	420 × 487 × 579	**10 59 61419**
	Unichiller 015w OLÉ[2)]	-20 – 40	29 / 1.0	1.50/1.00/0.70	350 × 496 × 622	**10 59 61420**
	Unichiller 022 OLÉ[2)]	-10 – 40	29 / 1.0	2.20/1.60/1.00	460 × 590 × 743	**10 59 61421**
	Unichiller 022w OLÉ[2)]	-10 – 40	29 / 1.0	2.20/1.60/1.00	420 × 487 × 579	**10 59 61422**
	Unichiller 025 OLÉ[2)]	-10 – 40	29 / 1.0	2.50/2.00/1.20	460 × 590 × 743	**10 59 61423**
	Unichiller 025w OLÉ[2)]	-10 – 40	29 / 1.0	2.50/2.00/1.20	420 × 487 × 579	**10 59 61424**
	Unichiller P007 OLÉ	-20 – 40	25 / 2.5	0.70/0.55/0.40	350 × 496 × 622	**10 59 66198**
	Unichiller P010 OLÉ	-20 – 40	25 / 2.5	1.00/0.80/0.50	350 × 496 × 622	**10 59 67111**
	Unichiller P012 OLÉ	-20 – 40	25 / 2.5	1.20/1.00/0.70	420 × 487 × 579	**10 59 67300**
	Unichiller P012w OLÉ	-20 – 40	25 / 2.5	1.20/1.00/0.70	350 × 496 × 622	**10 59 67301**

Continued on next page

Cooling Thermostats and Condensers

Type	Temp. range °C	Pump pressure max. l/min / bar	Cooler capacity at 15/0/-10°C kW	Dimensions (W×H×D) mm	Order No.
Unichiller P015 OLÉ	-20 – 40	25 / 2.5	1.50/1.00/0.70	420 × 487 × 579	**10 59 62501**
Unichiller P015w OLÉ	-20 – 40	25 / 2.5	1.50/1.00/0.70	350 × 496 × 622	**10 59 67501**
Unichiller P022 OLÉ	-10 – 40	25 / 2.5	2.20/1.60/1.00	460 × 590 × 743	**10 59 66801**
Unichiller P022w OLÉ	-10 – 40	25 / 2.5	2.20/1.60/1.00	420 × 487 × 579	**10 59 62701**
Unichiller P025 OLÉ	-10 – 40	25 / 2.5	2.50/2.00/1.20	460 × 590 × 743	**10 59 67001**
Unichiller P025w OLÉ	-10 – 40	25 / 2.5	2.50/2.00/1.20v	420 × 487 × 579	**10 59 62911**

[1] permissible return temperature +80°C
[2] options available on request: heating, natural refrigerants, EO models (for externally open applications)
[3] with castors (in the rear)

Unichiller® (free standing unit), Huber

All free-standing units are equipped with the comfortable touch screen control Pilot ONE. A valve controlled by a stepper motor automatically adjusts the cooling capacity to the current requirement. The intelligent, environmentally friendly energy management reduces the waste heat and thus the operating costs for electricity and cooling water for the water-cooled models. Smooth-running, speed-controlled liquefier fans minimize the noise of the air-cooled models. The chillers are particularly robust and can handle ambient temperatures of up to 40°C.

Process thermostats with heater
The optionally available heater turns the Unichiller® into a powerful process thermostat in the medium temperature range of -10/-20°C to 100°C at a temperature constant of ±0.1 K.



Models with air-cooled refrigeration unit

Type	Temp. range °C	Pump pressure max. l/min / bar	Cooler cap. at 15/0/-10/-20°C kW	Dimensions (W×H×D) mm	Order No.
Unichiller 017T	-10 – 40	25 / 3.0	1.7/0.9/0.4/–	450 × 510 × 1231	**10 59 65017**
Unichiller 020T	-20 – 40	25 / 3.0	2.0/2.0/1.5/0.8	450 × 510 × 1230	**10 59 65020**
Unichiller 025T	-10 – 40	25 / 3.0	2.5/1.2/0.6/–	450 × 510 × 1230	**10 59 65025**
Unichiller 040T	-10 – 40	26 / 3.0	4.0/2.5/1.1/–	500 × 552 × 1451	**10 59 65040**
Unichiller 045T	-20 – 40	26 / 3.0	4.5/4.0/2.7/1.4	500 × 552 × 1451	**10 59 65045**
Unichiller 055T	-10 – 40	100 / 5.6	5.5/2.3/0.8/–	600 × 692 × 1613	**10 59 65055**
Unichiller 060T	-20 – 40	80 / 5.6	6.0/5.0/2.8/1.4	600 × 692 × 1613	**10 59 65060**
Unichiller 070T	-10 – 40	84 / 5.6	7.0/4.0/2.3/–	600 × 790 × 1614	**10 59 65065**

Optional: Heating 2 kW up to 100°C (against surcharge); natural refrigerants, winter option, outdoor installation available on request
EO models (for externally open applications) available on request

Models with water-cooled refrigeration unit

	Type	Temp. range °C	Pump pressure max. l/min / bar	Cooler cap. at 15/0/-10/-20°C kW	Dimensions (W×H×D) mm	Order No.
	Unichiller 017Tw	-10 – 40	25 / 3.0	1.7/0.9/0.4/–	400 × 440 × 1100	**10 59 66017**
	Unichiller 020Tw	-20 – 40	25 / 3.0	2.0/2.0/1.5/0.8	400 × 440 × 1100	**10 59 66020**
①	Unichiller 025Tw	-10 – 40	25 / 3.0	2.5/1.2/0.6/–	400 × 440 × 1100	**10 59 66025**
	Unichiller 030Tw	-20 – 40	26 / 3.0	3.0/3.0/2.0/1.0	400 × 440 × 1100	**10 59 66030**
	Unichiller 040Tw	-10 – 40	26 / 3.0	4.0/2.5/1.5/–	400 × 440 × 1100	**10 59 66040**
	Unichiller 055Tw	-10 – 40	57 / 5.6	5.5/4.0/2.0/–	500 × 552 × 1261	**10 59 66055**
	Unichiller 060Tw	-20 – 40	80 / 5.6	6.0/6.0/3.8/2.1	500 × 552 × 1261	**10 59 66060**
②	Unichiller 070Tw	-10 – 40	84 / 5.6	7.0/4.2/2.5/–	500 × 552 × 1261	**10 59 69101**

Optional: Heating 2 kW up to 100°C (against surcharge); natural refrigerants, winter option, outdoor installation available on request
EO models (for externally open applications) available on request

Everything for your laboratory –
from one source

Cooling Thermostats and Condensers



①

Chiller with Low Profile Housing, Huber

Type	Temperature range °C	Cooler capacity at 15/0/-10/-20°C kW	Dimensions (W×H×D) mm	Order No.
① Unichiller 050	-20 – 40	-/4.2/3.0/1.8	740 × 1160 × 1050	**10 59 60011**
Unichiller 050w	-20 – 40	-/4.2/3.0/1.8	740 × 1160 × 1050	**10 59 60012**
Unichiller 075	-20 – 40	-/6.1/4.0/2.4	740 × 1160 × 1050	**10 59 60013**
Unichiller 075w	-20 – 40	-/6.1/4.0/2.4	740 × 1160 × 1050	**10 59 60014**

Available on request as an option: heating, pressure-reinforced pump

webcode WW2KN010

Julabo

Recirculating Coolers/Chillers, JULABO

FL series

The FL series offers a new generation of chillers for routine cooling applications within the laboratory and industry. The working temperature range covers -20°C to +40°C, the temperature stability of the PID control is ±0.5°C.

All units can easily be cleaned and are provided with a splash water proof keypad with LED temperature indication. On the front of the units there is an RS232 interface as well as an alarm shutdown. The filling port is easily accessible placed on the top under a lift-up cover. Another hinged tray serves as a file for the operating manual or other documents concerning the installation. The removible venting grid allows an easy cleaning of the condenser, the drain tap is easily acceable behind the grid. All models include an easily visible level indication. Another advantage is the venting slots are on the front and rear and therefore the units can be placed directly one beside the other (space saving).

- Working temperature range from -20°C to +40°C
- Permissible temperature in return line +80°C
- Cooling capacities from 0.3 to 11 kW
- Powerful immersion pumps to 60 l/min, 6 bar
- Filling level and pressure indicator
- RS232 interface for PC connection



②



③

		②	③	
Type		**FL300**	**FL601**	**FL1201**
Width × Depth × Height	cm	25×50×60	32×50×60	50×76×64
Working temperature	°C	-20 to +40	-20 to +40	-20 to +40
Temperature accuracy ±	°C	0.5	0.5	0.5
Cooler capacity at 20 / 0 / -10 / -20°C	kW	0.3/0.2/0.15/0.1	0.6/0.4/0.33/0.2	1.2/0.9/0.6/0.3
Pump capacity				
Flow rate	l/min	15	40	40
Pressure	bar	0.35	1.0	1.0
Volume	l	3.0 – 4.5	5.5 – 8.0	12.0 – 17.0
Order No.		**10 35 90300**	**10 35 90601**	**10 35 91201**

				④
Type		**FL1203**	**FL1703**	**FL2503**
Width × Depth × Height	cm	50×76×64	50×76×64	60×76×115
Working temperature	°C	-20 to +40	-20 to +40	-20 to +40
Temperature accuracy ±	°C	0.5	0.5	0.5
Cooler capacity at 20 / 0 / -10 / -20°C	kW	1.2/0.8/0.5/0.2	1.7/1.0/0.75/0.3	2.5/1.5/1.2/0.55
Pump capacity				
Flow rate	l/min	40	40	40
Pressure	bar	0.5 – 3.0	0.5 – 3.0	0.5 – 3.0
Volume	l	12.0 – 17.0	12.0 – 17.0	19.0 – 27.0
Order No.		**10 35 91203**	**10 35 91703**	**10 35 92503**

Continued on next page

Cooling Thermostats and Condensers

Type		FL4006	FL7006	FL11006
Width × Depth × Height	cm	60×76×115	78×85×148	78×85×148
Working temperature	°C	-20 to +40	-20 to +40	-20 to +40
Temperature accuracy ±	°C	0.5	0.5	0.5
Cooler capacity at 20 / 0 / -10 / -20°C	kW	4.0/1.9/0.9/0.05	7.0/5.5/3.0/1.7	11.0/7.5/5.0/3.0
Pump capacity				
Flow rate	l/min	60	60	60
Pressure	bar	0.5 – 6.0	0.5 – 6.0	0.5 – 6.0
Volume	l	19.0 – 27.0	25.0 – 35.0	25.0 – 35.0
Order No.		**10 35 94006**	**10 35 97006**	**10 35 91106**



④

F series

Recirculating cooler for basic cooling tasks

Inexpensive, compact recirculating coolers – the alternative to costly tap water!

The compact recirculating coolers of the F series are low-cost models for routine laboratory applications. The units cool in a temperature range of -10 or 0°C up to +40°C, achieving a temperature stability of ±0.5°C. Having a small footprint and no lateral ventilation slots, they also fit in small laboratory spaces. Thanks to their high efficiency, the F series coolers are an economical and environmentally friendly alternative to cooling with tap water. The low procurement costs of the units will pay off within a very short time.

Your benefits:
- Environmentally friendly operation with low energy consumption
- No lateral ventilation slots, units can be set up side by side
- All parts coming into contact with the refrigerant made of stainless steel or high-grade synthetic
- Large, powerful LED temperature indication
- Compact design, small footprint
- Splash-proof membrane keypad
- Outlet valve for straightforward draining
- Easy to fill
- Level indicator



⑤



⑥



⑦

		⑤	⑥	⑦
Type		**F250**	**F500**	**F1000**
W × D × H	cm	24×40×52	37.5×44×59	37.5×49×64
Working temperature	°C	-10 – +40	0 – +40	0 – +40
Temp. accuracy ±	°C	±0.5	±0.5	±0.5
Cooler capacity at 20/10/5/0/-5°C	kW	0.25/0.22/0.21/0.18/0.09	0.5/0.4/0.3/0.25/—	1/0.7/0.65/0.35/—
Pump capacity				
Flow rate	l/min	15	24	23
Pressure	bar	0.35	0.5	1.0
Volume	l	1.7 – 2.6	5 – 7.5	7 – 9.5
Order No.		**10 35 90250**	**10 35 90500**	**10 35 91000**

Chiller C 900, KNF Neuberger

webcode WWKVG011

- Application: rotary evaporation, distillation
- Working temperature range -10 to +40 °C and cooling capacity of 250 W
- Compact design and the small footprint
- Splash-water proofed membrane keyboard
- Easy filling of the unit

Technical data:

Cooling performance:	250 W
Filling volume:	1.7 to 2.6 l
Refrigerant:	R134a
Temperature control:	PID temperature control
Weight:	27 kg
Dimensions W×H×D:	235 × 520 × 400 mm
Working temperature range:	-10 to +40°C
Temperature stability:	± 0,5

Article	Order No.
Chiller C 900	**10 62 71230**



Cooling Thermostats and Condensers

webcode WW18A006

LAUDA



①

Circulation Chillers Microcool, LAUDA

The Microcool product line offers affordable circulation chillers which function reliably in the operating temperature range of -10 to +40°C. RS-232 interface and alarm contact are standard features. LAUDA Microcool circulation chillers are used wherever reliable and fast operating heat needs to be dissipated during chemical production processes or in technical systems.

- Operating element with large LED display and membrane keyboard
- Auto-Start-Timer and Auto-Shut-Down-function for timer-based activation and deactivation of the circulation chillers
- Illuminated window for checking heat transfer liquids condition
- Small footprint, compact design
- Block pump with magnetic coupling prevents sealing problems
- Filling supports on the device at the top of the front for simple and safe filling
- RS-232 interface and alarm contact standard
- Front grid can be easily removed for easy cleaning of the condenser

Technical Data:
Working temp. range: -10 to 40°C
Temperature accuracy: ±0.5 K

	Type	Cooler capacity at 20°C kW	Pump pressure bar	Flow rate l/min	Bath volume l	Order No.
①	MC 250	0.25	0.35	16	4	**10 23 31118**
	MC 350	0.35	0.35	16	5	**10 23 31119**
	MC 600	0.60	1.3	35	8	**10 23 31120**
	MC 1200	1.20	1.3	35	14	**10 23 31121**

Types marked “W” are water-cooled. Cooling water connection is required.

Refrigerators, Upright Freezers



behr Labor-Technik

webcode WWXKS059

Mini Fridge, Behr

The mini fridge allows for manual temperature control and is thus perfectly suited for storing the bacterial test kits. A stainless steel rack additionally ensures that the dip slides stand safely. See page 997 for dip slides.

Technical data:
Temperature range: +4°C to +20°C
Inner dimensions: 24 × 23 × 34 cm
Power consumption: 56 W
Capacity: 19 l

Article	Order No.
Mini fridge, electronically adjustable	**10 48 93152**



②

Laboratory Refrigerators and Freezers, Kirsch

KIRSCH – reliable cooling for the health care industry and for laboratories. A manufacturer of premium-quality products since 1865, KIRSCH knows exactly what counts in respect of cooling your sensitive substances. Your benefit: Units that you can fully rely on.

General features:
Robust, scratch-resistant housing made by ourselves: “Quality made in Germany”. The interior is made of impact-resistant synthetic with moulded supports (undercounter models) or smooth aluminium with a protective coating with height-adjustable support rails (for all stand-alone models of 280 l cooling volume and up). The insulation consists of premium-quality environmentally friendly material. The units have lockable doors with hinges that can be changed. The temperature regulation controlled by microprocessor allows for accurate temperature control with safety functions in case of fault. The control is protected with a key switch against manipulation and equipped with a digital display and a minimum/maximum temperature memory. Furthermore, the KIRSCH cooling units have a USB connection for manual data acquisition with the free KIRSCH-DATANET software (only with PRO-ACTIVE) and a floating contact for forwarding alarms. The KIRSCH forced-air cooling provides for even temperature distribution and thus for a uniform storage temperature in the entire refrigeration space. Forced-air cooling is optimized for every model and consists of an individually adjusted combination of blower and ventilation plate.

Continued on next page

Refrigerators, Upright Freezers

LABEX® – for your safety
Laboratory refrigerators and freezers with explosion-proof interior (LABEX® and FROSTER-LABEX® models) meet the most challenging quality standards and safety requirements. The design safety has been tested by TÜV SÜD to Directive 2014/34/EU. A test report describes the KIRSCH LABEX® safety concept and makes the LABEX® refrigerators and freezers the safest explosion-proof frosters on the market. In the LABEX® models of the PRO-ACTIVE series, safety barriers provide additional safety for the temperature sensors. The interior is made of conductive materials, the integrated circulating-air fans are explosion protected (except for ESSENTIAL FROSTER LABEX 71, FROSTER LABEX 96 PRO-ACTIVE, LABEX 105 PRO-ACTIVE)

3 product lines:

① ULTIMATE
- Touch display, elegant glass design
- Convenient operation via capacitive touch display
- Remote operation possible
- Digital data documentation with KIRSCH Datanet software
- Access monitoring with log
- Operation via touch while wearing laboratory gloves
- Plain-text fault alarms and troubleshooting
- Graphic display of the temperature curve and Min/Max temperature
- Fast commissioning
- Comprises the benefits of the PRO-ACTIVE line

PRO-ACTIVE
- Up to 60% reduction of power consumption (depending on model)
- Faster reaction to pending faults thanks to pro-active fault alarms
- Data records can be read out via USB interface by means of USB thumb drive and software
- Minimum temperature deviation in the cooling chamber
- Matching components ensure premium storage safety
- Comprises the benefits of the ESSENTIAL line

ESSENTIAL
- Entry-level KIRSCH quality
- Highest quality and reliability
- Robust design
- Temperature stability
- Flexibility
- Maximum safety

Laboratory refrigerators with ignition source-free interior (without recirculating air cooling)

Type	Vol. l	Temp. approx. °C	Outer W×D×H cm	Qty drawers/ shelves	P input W	Order No.
LABEX® 105 PRO-ACTIVE[1)]	95	+2 – +15	54×54×82	1/2	86	**41 34 04105**
ESSENTIAL LABEX® 125[1)]	120	+2 – +12	54×54×81	1/2	115	**10 34 04125**

Laboratory refrigerators with explosion-proof interior (with recirculating air cooling)

Type	Vol. l	Temp. approx. °C	Outer W × D × H cm	Qty drawers/ shelves	P input W	Order No.
LABEX® 288 PRO-ACTIVE[2)]	280	+2 – +15	67×70×124	1/3	100	**10 34 04288**
LABEX® 288 ULTIMATE[2]	280	+2 – +15	67×765×131	1/3	100	**10 34 00288**
LABEX® 340 PRO-ACTIVE[2)]	330	+2 – +15	67×63×181	2/4	128	**10 34 04340**
LABEX® 340 ULTIMATE[2]	330	+2 – +15	67×69×188	2/4	128	**10 34 00340**
LABEX® 468 PRO-ACTIVE[2)]	460	+2 – +15	74×75×181	–/6	150	**10 34 04468**
LABEX® 468 ULTIMATE[2)]	460	+2 – +15	74×80×188	–/6	170	**10 34 00468**



③

Laboratory refrigerators without explosion-proof interior (without recirculating air cooling)

Type	Vol. l	Temp. approx. °C	Outer W × D × H cm	Qty drawers/ shelves	P input W	Order No.
ESSENTIAL LABO 85[1)]	80	+2 – +12	47×51×74	1/2	100	**10 34 00085**
ESSENTIAL LABO 125[1)]	120	+2 – +15	54×54×81	–/2	125	**10 34 00125**

Laboratory refrigerators without explosion-proof interior (with recirculating air cooling)

	Type	Vol. l	Temp. approx. °C	Outer W×D×H cm	Qty drawers/ shelves	P input W	Order No.
③	LABO 100 PRO-ACTIVE[1)]	95	+2 – +15	54×54×82	–/2	76	**41 34 00100**
	LABO 340 PRO-ACTIVE[2)]	330	+2 – +15	67×63×181	1/3	110	**10 34 03340**
	LABO 340 ULTIMATE[2]	330	+2 – +15	67×69×188		110	**10 34 00341**
	LABO 468 PRO-ACTIVE[2)]	460	+2 – +15	74×75×181	–/4	170	**41 34 03468**
	LABO 468 ULTIMATE[2]	460	+2 – +15	74×80×188		170	**10 34 00469**
	LABO 520 PRO-ACTIVE[2)]	500	0 – +15	77×76×193–196	–/5	250	**41 34 02520**
	LABO 520 ULTIMATE[2]	500	0 – +15	77×76×196		250	**10 34 00520**
	LABO 720 PRO-ACTIVE[2)]	700	0 – +15	77×98×193–196	–/5	250	**41 34 02720**
	LABO 720 ULTIMATE[2]	700	0 – +15	77×98×196		250	**10 34 00720**
	LABO 720 CHROMAT PRO-ACTIVE[2)]	700	+4 – +15	77×98×193–196	–/5	250	**10 34 02721**
	LABO 720 CHROMAT ULTIMATE[2)]	700	+4 – +15	77×98×196		250	**10 34 00721**

Laboratory freezers with explosion-proof interior (without recirculating air cooling)

Type	Vol. l	Temp. approx. °C	Outer W×D×H cm	Qty drawers/ shelves	P input W	Order No.
ESSENTIAL FROSTER LABEX® 71[1)]	70	-15 – -22	47×51×74	1/3	100	**10 34 06070**
FROSTER LABEX® 96 PRO-ACTIVE[1)]	90	-5 – -25	54×54×82	–/3	119	**10 34 06095**

[1)] build-in model, [2)] stand-alone model ULTIMATE and ESSENTIAL models on request.

Continued on next page

Refrigerators, Upright Freezers



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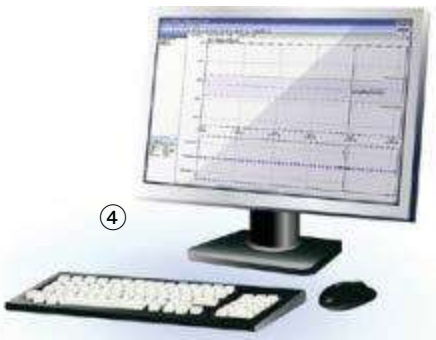
Laboratory freezers with explosion-proof interior (with recirculating air cooling)
Contrary to the products by comparable competitors, all FROSTER-LABEX® models offer the unique combination of explosion-proof interior, forced-air cooling, automatic quick defrosting, and controlled pressure compensation.

Type	Vol. l	Temp. approx. °C	Outer W × D × H cm	Qty drawers/ shelves	P input W	Order No.
FROSTER LABEX® 330 PRO-ACTIVE[2)]	300	-5 – -30	74×78×159	–/4	540	**10 34 06320**
FROSTER LABEX® 330 ULTIMATE[2)]	300	-5 – -30	74×78×166	–/4	540	**10t 34 00330**
③ FROSTER LABEX® 530 PRO-ACTIVE[2)]	500	-5 – -30	77×76×193-196	–/5	550	**10 34 06520**
FROSTER LABEX® 530 ULTIMATE[2)]	500	-5 – -30	77×76×196	–/5	550	**10 34 00530**
FROSTER LABEX® 730 PRO-ACTIVE[2)]	700	-5 – -30	77×98×193–196	–/5	550	**10 34 06720**
FROSTER LABEX® 730 ULTIMATE[2)]	700	-5 – -30	77×98×196	–/5	550	**10 34 00730**

Laboratory freezers without explosion-proof interior (with recirculating air cooling)
With an automatic rapid defrosting system.

Type	Vol. l	Temp. approx. °C	Outer W × D × H cm	Qty drawers/ shelves	P input W	Order No.
FROSTER LABO 330 PRO-ACTIVE[2)]	300	-5 – -30	74×78×159	–/4	590	**10 34 05320**
FROSTER LABO 330 ULTIMATE[2)]	300	-5 – -30	74×77×166	–/4	590	**10 34 00331**
FROSTER LABO 530 PRO-ACTIVE[2)]	500	-5 – -30	77×76×193–196	–/5	605	**41 34 05520**
FROSTER LABO 530 ULTIMATE[2)]	500	-5 – -30	77×76×196	–/5	605	**10 34 00531**
FROSTER LABO 730 PRO-ACTIVE[2)]	700	-5 – -30	77×98×193–196	–/5	605	**41 34 05720**
FROSTER LABO 730 ULTIMATE[2)]	700	-5 – -30	77×97×196	–/5	605	**10 34 00731**

[1)] build-in model, [2)] stand-alone model ULTIMATE and ESSENTIAL models on request.



④

④ **Temperature documentation and quality assurance with KIRSCH-DATANET software**
Complete, simple, reliable, time-saving

PC-KIT-NET

Allows for connection to a network, incl. KIRSCH-DATANET software for PRO-ACTIVE models (comes as a standard with ULTIMATE models).
Monitoring, recording and evaluation of a multitude of technical parameters with PC-KIT-NET (door opening, alarms, temperature curves, technical operating statuses of cooling units, fans etc.)

Article	Order No.
PC-KIT-NET (network-compatible version)	**10 34 01675**

Kirsch DATALOG

For retrofitting automatic temperature documentation and monitoring in units without PRO-ACTIVE or ULTIMATE control incl. software KIRSCH-DATANET and temperature sensor which needs to be integrated into the cooling unit on site.
Monitoring and recording of the temperature data and the set alarm limits.

Article	Order No.
DATALOG-NET	**10 34 01687**

Webcode

Use the webcode on our website to see a larger selection of products from a specific manufacturer.

Refrigerators, Upright Freezers

Laboratory Refrigerators with Comfort Electronics, LIEBHERR

All units have a self-closing door with integrated lock, integrated data memory with min./max. temperatures, floating contact, RS485 interface, feedthrough for external temperature sensor and a safety temperature limiter (in fridges, prevents temperatures below +2°C in case of failure), acoustic and optical temperature and door opening alarms. The program portfolio comprises 2 free-standing and 2 under-worktop laboratory fridges, each with insulation and glass door, temperature range adjustable from 3 to 16°C. The dynamic cooling system ensures high temperature constancy and an even temperature distribution. The product range is complemented by the laboratory fridge and freezer combination LCv4010 which features 2 separately controllable cooling circuits.

Type	Gross volume l	Temperature range °C	Outer dimensions W × D × H mm	Connection W	**Order No.**
LKUv 1610	142	+3 – +16	601×618×820	190	**10 45 61610**
LKUv 1613[1)]	152	+3 – +16	601×618×820	190	**10 45 61613**
LKv 3910	361	+3 – +16	601×618×1840	280	**10 45 63910**
LKv 3913[1)]	386	+3 – +16	601×618×1840	280	**10 45 63913**
LCv 4010	254	-9 – -30, +3 – +16	601×618×2000	280	**10 45 64010**

[1)] with glass door and switchable LED lighting



webcode WWRVA001

Laboratory Refrigerators and Freezers with Professional Electronics, LIEBHERR

Equipment: Dynamic cooling, electronic system with plain text display and real-time clock, rollers (two with holding brake), hot-gas defrosting for short defrosting cycles, plastic-coated racks and smooth CNS interior tanks, integrated data memory (alarm events and temperature curve), mains-independent current supply to feed the electronics in case of mains failure, infrared interface to external documentation, max. temperature stability and constancy measured pursuant to ISO 60068-3, 3-point calibration.

Type	Gross volume l	Temperature range °C	Outer dimensions W × D × H mm	Connection W	**Order No.**
LKPv 6520	597	-2 – +16	700×830×2160	370	**10 45 66521**
LKPv 6523[1)]	597	0 – +16	700×830×2160	370	**10 45 66523**
LKPv 8420	856	-2 – +16	790×980×2160	370	**10 45 68420**
LKPv 1420	1361	-2 – +16	1430×830×2160	470	**10 45 61420**
LKPv 1423[1)]	1361	0 – +16	1430×830×2160	560	**10 45 61423**
LGPv 6520	597	-10 – -35	700×830×2160	740	**10 45 66522**
LGPv 8420	856	-10 – -35	790×980×2160	840	**10 45 68421**
LGPv 1420	1361	-10 – -26	1430×830×2160	830	**10 45 61421**

[1)] with glass door and switchable LED lighting



webcode WWRVA003

Medication Refrigerators with Comfort Electronics, LIEBHERR

The medication refrigerators pursuant to DIN 58345 offer a wide range of functions: Medication refrigerators with Comfort Electronics have a floating contact for alarm forwarding to an external remote alarm system; optical and acoustic temperature alarm give out warnings if the set temperature deviation limits of 2 and 8°C have been exceeded. The gapless plastic interior container is easy to clean. The units are in compliance with DIN 58345 for storing medication at 5°C.

Type	Gross volume l	Outer dimensions W × D × H mm	Connection W	**Order No.**
MKUv 1610	142	601×618×820	273	**10 45 61614**
MKUv 1613[1)]	152	601×618×820	369	**10 45 61615**
MKv 3910	361	601×618×1840	309	**10 45 63914**
MKv 3913[1)]	386	601×618×1840	480	**10 45 63915**

[1)] with glass door and switchable LED lighting

Available on request: each in version H63 incl. drawers



webcode WWRVA004



Refrigerators, Upright Freezers

webcode WWW4U107



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Laboratory-Pharmacy Refrigerator +2°C – +12°C, LAT

Fully sealed, low-noise, high-efficiency hermetical compressor and ventilated condenser (also suitable for use in tropical regions). Forced-air cooling system designed to ensure maximum temperature stability in the fridge, even in case of frequent door opening. The evaporator fan switches off when the door is opened. CFC-free freezing agent R404a or CFC / H-CFC-free natural freezing agent R290 available on request.

Standard equipment
- Shelves
- Four one-way wheels with stabilizing adjustable feet
- Power cord with Schüko type plug or British type plug
- RFI filter
- Password protected power switch and settings
- 4.3″ LCD touchscreen with alarm system
- Data Logger with USB port

Optional accessories
- Scotch-Brite stainless steel sliding drawers
- Plexiglas frontal side
- Kit of dividers for drawer
- Additional shelf
- Weekly temperature chart recorder
- Back-up battery
- GSM alarm to send SMS alarm messages
- DIN 58345 conformity
- LAN port
- Test hole (Ø 25 mm)
- Electric digital key lock

Technische Daten:

Temperature: +2°C to +12°C
Noise: 45 db

	Model	Volume l	Quantity shelves	Weight kg	Width × Depth × Height mm	Order No.
①	SB 10	100	2	57	600×600×860	**10 20 13010**
②	FS 15	150	2	73	600×600×1360	**10 20 13015**
	FS 20	200	3	82	600×600×1560	**10 20 13020**
	FS 25	250	4	88	600×600×1760	**10 20 13025**
③	FS 30	300	5	97	600×600×1960	**10 20 13030**

Special sizes of up to 1,400 litres are available as well. Accessories available on request, please contact us.

webcode WWRVA002



Explosion-proofed Laboratory Refrigeraters and Freezers with Comfort Electronics, LIEBHERR

Designed specifically for storage of explosive and highly flammable substances, for example in chemical industry, the laboratory range comprises units with explosion-proofed interior in compliance with the safety requirements of EU Directive 94/9/EC (ATEX95); they have been approved by the ATEX Conformity Assessment Institution electro-suisse - SEV.

Type	Gross volume l	Temperature range °C	Outer dimensions W × D × H mm	Connection W	Order No.
LKUexv 1610	141	+3 – +16	601×618×820	190	**10 45 61611**
LKexv 3910	360	+3 – +16	601×618×1840	280	**10 45 63911**
LGUex 1500	139	-9 – -26	601×618×820	190	**10 45 61500**
LGex 3410	310	-9 – -30	601×618×1840	280	**10 45 63410**
LCexv 4010	254	-9 – -30, +3 – +16	600×615×2000	280	**10 45 64011**

Refrigerators, Upright Freezers

Laboratory Refrigerators with an Explosion-Proof Interior, Lovibond®

webcode WWSE2002

The German DGUV 213-850 guideline for laboratories stipulates that interior spaces must be explosion-protected where hazardous, explosive atmospheres can develop (for example, due to the presence of flammable liquids).
The Lovibond® cabinets in the EX range meet the requirements of this guideline and are fully equipped for daily laboratory use. ATEX certified.

Technical data:

Cooling:	Powerful compressor unit, mounted on low noise, vibration-free bearings
Defrost:	Automatic defrost-condensation drains into a collection bowl within the refrigerator
Temperature:	+2°C to 10°C
Power supply:	230 V / 50 Hz
Compliance:	CE
EX-safety:	Spark-free interior

Type	Useful capacity l	Outer dimensions H × W × D mm	Order No.
EX 160	160	860 × 600 × 600	**10 77 12105**
EX 220	220	1250 × 600 × 610	**10 77 12115**
EX 300	300	1640 × 600 × 610	**10 77 12125**
EX 490	490	1640 × 730 × 750	**10 77 12135**



Blood Bank Refrigerator +2°C – +6°C, LAT

Certified according to Medical Device Directive 93/42/EEC Class IIa for storing and preserving blood. Available for 64 to 770 blood bags (of 450 ml each).

Standard equipment
- Shelves
- Four one-way wheels with stabilizing adjustable feet
- Power cord with Schuko type plug or British type plug
- RFI filter
- Password protected power switch and settings
- 4.3″ LCD touchscreen with alarm system
- Data Logger with USB port
- DIN 58371 conformity
- Weekly temperature chart recorder

Optional accessories
- Digital humidity sensor
- Kit of dividers for drawer
- GSM alarm to send SMS alarm messages
- LAN port
- Test hole (Ø 25 mm)
- Electric digital key lock

	Model	Vol. l	for blood bags 450 ml pc	Noise level dB	Wght kg	W × D × H mm	Order No.
	SB 10E	100	64	45	68	600×600×860	**10 20 10010**
	FS 20E	200	128	45	94	600×600×1360	**10 20 10020**
	FS 30E	300	192	45	118	600×600×1960	**10 20 10030**
①	PN 52E	520	330	49	142	700×800×2040	**10 20 10052**
②	AF 140E	1400	770	50	194	1400×800×1990	**10 20 11400**



webcode WWW4U103

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Chest Freezers, Upright Freezers

webcode WWQGZ018

BINDER
Best conditions for your success



Ultra-Low Temperature Freezers, Serie UF V, BINDER

Environmental compatibility is one of the major benefits of the new BINDER ultra-low temperature freezer: It has the lowest energy consumption in its class and uses environmentally friendly refrigeranst. Its multi-level safety concept can be combined individually to match every installation environment. The product range comprises various unit sizes tailored to the requirements in laboratories, well-thought-out options and practical accessories – in short, everything which is desirable for reliable long-term storage of valuable and sensitive samples.

Equipment:
- Temperature range: -90°C to -40°C
- Efficient thermal insulation with vacuum insulation panels
- Ergonomic door handle
- Lowest energy consumption in its class
- Powerful cascade compressor cooling unit
- Water cooling (depending on variant)
- Environmentally friendly refrigerants R-290 and R-170
- Rust-proof interior made completely of stainless steel

Type	Interior vol. l	Outer W × H × D mm	Inner W × H × D mm	**Order No.**
UF V 500	477	826×1966×938	606×1300×605	**10 40 10347**
UF V 700	700	1110×1966×938	890×1300×605	**10 40 10348**

webcode WW4HV033



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Thermo Scientific™ HERAfreeze™ HDE Series Ultra Low Temperature Freezers, Thermo Scientific

Environmentally friendly energy-saving freezers with a temperature range of -50 to -86°C.

- Maximum temperature recovery time after door has been opened: 24 minutes
- Ergonomic design
- Very silent operation: under 53 dB (A)
- Capacity for 300 – 600 boxes
- 5 inner doors and interior with 5 subdivisions for inserts < 24 cm height – compatible with most shelving systems
- Natural hydrocarbon-based freezing agents
- Water-blown foam insulation avoids harmful chemical emissions and reduces long-term emission of blowing agents
- Intuitive touchscreen operation with indication of all relevant data
- Datalogger function with safe cloud saving option and smartphone connection

Model	No. of 5 cm cryoboxes	Cap. l	Inner W × D × H cm	Outer W × D × H cm	**Order No.**
HDE 30086 FV	300	422	45.2×71.9×130.1	58.4×97.7×198.1	**10 79 23086**
HDE 40086 FV	400	549	58.8×71.9×130.1	71.9×97.7×198.1	**10 79 24086**
① HDE 50086 FV	500	682	73.0×71.9×130.1	86.4×97.7×198.1	**10 79 25086**
HDE 60086 FV	600	816	87.3×71.9×130.1	100.6×97.7×198.1	**10 79 26086**

To see other ULT freezer models and accessories, please enter webcode WW4HV033 to access our online catalogue.

webcode WW4HV034

thermoscientific



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High performance freezers from the Thermo Scientific™ TSX series, Thermo Scientific

The high-performance refrigerators and freezers of the Thermo Scientific™ TSX series are designed for the storage of media, reagents, and other laboratory products. The V-drive increases the speed of the processor to ensure that the temperature is restored quickly after the door has been opened.
- Automatic defrosting
- Extra silent with a noise level of only 52 dB(A)
- Natural refrigerants (R290)
- Compatible with wireless monitoring systems and remote alarm contacts
- Acoustic and optical alarm
- GMP cleanroom class A/ISO 6 (ISO EN 14644-1) compatible with corresponding preparation before installation
- Four 2″ castors; the two front castors can be locked
- Self-closing door with 90° stop
- Datalogger available as an option

Article	Vol. l	Outer W×D×H mm	Inner W × D × H mm	**Order No.**
TSX 1230 FV -30°C, single door	326	619×790×1854	508×554×1331	**10 79 21230**
TSX 2330 FV -30°C, single door	650	711×962×1994	610×723×1473	**10 79 22332**
TSX 3030 FV -30°C, single door	827	864×962×1994	762×723×1473	**10 79 23030**
② TSX 5030 FV -30°C, two doors	1447	1435×962×1994	1334×723×1473	**10 79 25030**

To see other refrigerator and freezer models, please enter webcode WW4HV034 to access our online catalogue.

Ice Flake Machines

Dry Ice Machine SnowPack®, BÜRKLE

webcode WWR4Q053

SnowPack® enables you to obtain a -79 °C dry ice tablet weighing 50 or 250 g within a few moments, without complicated techno-logy and without electricity!

SnowPack® is used in hospitals, universities, schools, institutes, laboratories, in the chemical industry and in materials testing facilities.

Examples of use: lowering the temperature in cooling baths or cold traps, pre-cooling tissue samples, ensuring safe transport or embedding biological substances, freezing blood and tissue samples, studies in chemistry, physics and materials technology, etc.. The SnowPack® dry ice machine can be installed on any commercial CO_2-bottle with a standpipe (without pressure regulator) (thread W 21.80 × 1/14″ acc. to DIN 477 Nr. 6).

Article	Tablets weight approx. g	Tablet dia. × H mm	**Order No.**
SnowPack® 50	50	50 × 30	**10 04 59853**
SnowPack® 250	250	80 × 60	**10 04 59852**






SCOTSMAN Ice Flakers, HIBU

SCOTSMAN automatic ice flakers and ice stores
Stainless-steel ice flaker for producing ice flakes for a wide range of applications. Based on a patented ice flaking process. Each flake is saturated, firm and non-sticking. Perfect hygiene, laboratory ice at a constant -0,5°C. Integrated storage container. Electronic control with error diagnosis system. Small wastewater quantities for extra-high economic efficiency. Ideal for production, presentation, medical applications, and laboratories.

Water inlet and outlet hose and ice shovel comprised in the delivery.

Automatic ice flaker
Version identical with EF, with integrated waste water pump. Installation is also possible in cases where the drain is not flush with the floor and at max. 15 meter distance.

Technical data:

Power supply:	230 V / 50 Hz / 1 Ph
Features:	stainless steel, air-cooled
Performance:	ambient temperature 21°C water temperature 10°C
Warranty:	2 years
Technical standards:	ISO 9001, ICIM SQ 80/0 and CE /96
Refrigerant:	environment-friendly R134 A and R452 A
Special features:	convertible to fully demineralized water

	Type	W × D × H mm	H incl. legs mm	Output max. kg/day	**Order No.**
①	AF80	535×620×797	890	67	**41 88 00080**
②	AF103	592×622×997	1078	120	**10 88 00103**
	AF124	950×605×789	872	113	**10 88 00124**
	AF156	950×605×1000	1083	150	**10 88 00156**
③	AF206	950×605×1000	1083	192	**10 88 00206**
	EF103[1)]	592×622×997	1078	120	**10 88 01103**
	EF124[1)]	950×605×789	872	113	**10 88 01124**
	EF156[1)]	950×605×1000	1083	150	**10 88 01156**
	EF206[1)]	950×605×1000	1083	192	**10 88 01206**
④	MF26	563×536×531	-	114	**41 88 01022**
	MF36	563×536×531	-	195	**41 88 01031**
	MF46	538×663×645	-	305	**41 88 01041**

Ice flake stores for MF models

	Type	Storage Capacity kg/day	for type	**Order No.**
⑤	SB 193	129	MF26/36	**41 88 02193**
	SB 393	181	MF26/36/46[1)]	**41 88 02393**
	SB 530	243	MF26/36/46[1)]	**10 88 02530**

[1)] Requires adapter CBT30EFSD


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webcode To see other variants and accessories, please enter the webcode on our website.

Ice Flake Machines


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Ice Flaker, Manitowoc

Ice flakers (suitable for build-in)
The powerful ice flakers of the UFP/RFP produce medium volumes of compact granular ice flakes particularly quickly and cost-efficient. The hermetically closed ice production in a vertical evaporation cylinder with interior worm system ensure compliance with the strictest hygiene requirements. HACCP compliant.
The ice flakers are designed for an ambient temperature of 10°C to 43°C and by default suitable for fully demineralized water. 2 years warranty.

Equipment UFP series:
Stainless steel feet, height-adjustable from 110 to 150 mm, water inlet set and outlet set, ice shovel

Technical Data:	**UFP 0244 A**	**UFP 0200 A**	**UFP 0388 A**	**UFP 0399 A**
Performance kg/24h:	113	113	153	153
Storage volume kg:	20	30	40	55
Wattage:	470	470	700	700
Ambient temperature:	10° – 43°	10° – 43°	10° – 43°	10° – 43°
Refrigerant:	R 290	R 290	R 290	R 290
Connection V/Hz [1]:	230/50/1	230/50/1	230/50/1	230/50/1
Weight kg:	59	67	85	94
W×D×H mm:	500×660×843	500×660×953	738×690×1007	738×690×1173

[2] special voltages available on request

	Model	Cooling	Colour	**Order No.**
①	UFP 0244 A	Air	silver	**10 17 00244**
②	UFP 0200 A	Air	silver	**10 17 00200**
③	UFP 0388 A	Air	silver	**10 17 00388**
④	UFP 0399 A	Air	silver	**10 17 00399**

Equipment RFP series:
water inlet set and outlet set

Technical Data:	**RFP 0320 A**	**RFP 0320 W**	**RFP 0620 A**	**RFP 0620 W**
Performance kg/24h:	157	157	280	280
Storage:	D320/D420	D320/D420	D320/D420	D320/D420
Wattage:	830	830	1100	1100
Ambient temperature:	10° – 43°	10° – 43°	10° – 43°	10° – 43°
Refrigerant:	R 290	R 290	R 290	R 290
Connection V/Hz [1]:	230/50/1	230/50/1	230/50/1	230/50/1
Weight kg:	74	74	104	104
W×D×H mm:	559×599×660	559×599×660	559×599×660	559×599×660

[2] special voltages available on request

	Model	Material	Cooling	Colour	**Order No.**
⑤	RFP 0320 A	stainless steel	air	silber	**10 17 00320**
	RFP 0320 W	stainless steel	water	silber	**10 17 01320**
⑥	RFP 0620 A	stainless steel	air	silber	**10 17 00620**
	RFP 0620 W	stainless steel	water	silber	**10 17 01620**

⑦ **Storage consistent with RFP series 0320 and 0620**
Equipment: height-adjustable feet, ice shovel

Technical Data:	**RFP 0320 A**	**RFP 0320 W**	**RFP 0620 A**	**RFP 0620 W**
Performance kg/24h:	157	157	280	280
Storage:	D320/D420	D320/D420	D320/D420	D320/D420
Wattage:	830	830	1100	1100
Ambient temperature:	10° – 43°	10° – 43°	10° – 43°	10° – 43°
Refrigerant:	R 290	R 290	R 290	R 290
Connection V/Hz [1]:	230/50/1	230/50/1	230/50/1	230/50/1
Weight kg:	74	74	104	104
W×D×H mm:	559×599×660	559×599×660	559×599×660	559×599×660

[2] special voltages available on request

Technical Data:	**D 320**	**D 420**
Capacity kg:	95	141
Weight kg:	34	49
Dimensions W×D×H mm:	559×864×965	559×864×1270

Model	Material	Colour	**Order No.**
D 320	plastic	silver	**10 17 02320**
D 420	plastic	silver	**10 17 02420**

Accessories

Article	Capacity ml	**Order No.**
Ice shovel, big	2500	**10 17 02603**
Ice shovel, small	900	**10 17 02593**
Cleaner, 473 ml		**10 17 05162**
Disinfectant, 473 ml		**10 17 05264**

Ice Flake Machines

Ice Flake Machines, ZIEGRA

Ziegra ice flakes are ideal for laboratory and hospital use. Available for flake sizes “Standard” and “Micro”. Guaranteed ice temperature -0.5°C; the flakes remain detached and are easy to remove.
Robust, hygienic stainless steel surfaces inside and out. High-quality components und state-of-the-art refrigeration technology for optimum reliability and energy saving. Versions for potable and demineralized water available without surcharge. Various special features (for added hygiene, installation accessories) available on request.

Technical data:

Power supply: 1/N/PE ~ 230 V/50 Hz
Cooling: air (water cooling also possible)
Protection class: I acc. to DIN 57700 Part 1/VDE 0700 Part 1
Test marks: GS
Warranty: 2-years within Germany

	Type	Ice/24 h kg	Storage kg	External W×H×D cm	P rating W	Noise level dBA	Order No.
①	ZBE 30-10	30	10	40×71×50	400	45	**41 66 03010**
	ZBE 70-35	70	35	46×91×60	400	45	**41 66 07035**
	ZBE 110-35	110	35	46×91×60	600	47	**41 66 11035**
②	ZBE 150-100	150	100	70×156×70	700	50	**41 66 15100**
	ZBE 150-200	150	200	70×196×70	700	50	**41 66 15200**
②	ZBE 250-100	250	100	70×156×70	1100	51	**41 66 25100**
	ZBE 250-200	250	200	70×196×70	1100	51	**41 66 25200**
②	ZBE 350-100	350	100	70×156×70	1600	55	**41 66 35100**
	ZBE 350-200	350	200	70×196×70	1600	55	**41 66 35200**

Larger models and special machines on request


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Nitrogen Stores, Nitrogen Freezing Containers

High Capacity Refrigerators, tec-lab GmbH

webcode WWH29003 tec-lab GmbH

HC series
Containers of this series combine the requirement for increased storage capacity with compact external dimensions.

The following accessories are available on request:

Roller bases: R018-8C00 for HCL12, HC20
R033-8C00 for HC34, HC35, VHC35
Low-level alarm: R034-8C15 for HC20, HC34
R037-8C15 for HC35
R036-8C30 for VHC35

Type	Capacity 2 ml cryo tubes	Working time days	Ø mm	H mm	Order No.
HCL12	—	37	396	482	**38 16 10012**
HC20	684	54	396	615	**38 16 10020**
HC34	684	125	478	668	**38 16 10034**
HC35	1020	81	478	681	**38 16 10035**
VHC35	1260	81	478	681	**38 16 10135**



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Nitrogen Stores, Nitrogen Freezing Containers



webcode WWH29004

tec-lab GmbH

Shipping Containers, tec-lab GmbH

CX series
Containes for the reliable shipping of biological material. A specially developed absorbent absorbs the liquid nitrogen in the CX containers, enabling dry and cryogenic storage of the product. This enhances safety over long distances in particular. The containers comply with IATA regulations.

New: The removable adsorption material in CXR types permits reliable cleaning - a first for this kind of container. The optional temperature logger allows continuous monitoring and recording of the temperature in the containers.

Type series CX

Type	Capacity 2 ml cryo tubes	Working time days	Ø mm	H mm	Order No.
CX100	102	21	234	467	**38 16 20100**
CXR100	114	11	391	493	**38 16 21100**
CXR500[1)]	500	8	391	683	**38 16 21500**

[1)] CXR500 supplied without tower

Accessories

Article	Type	Order No.
Tower for 5 cryo boxes	RS30-9C44	**38 16 30944**
Tower for 9 cryo blood bags	CP70-9C18	**38 16 70918**
Temperature logger for CX100	M380CE	**38 16 71380**
Temperature logger for CXR	M385CE	**38 16 71385**
Temperature logger for CXR100	M382CE	**38 16 71382**

webcode WWH29005



Laboratory Systems, tec-lab GmbH

LS series
The LS series was specially designed to combine convenient storage in cryogenic boxes with high storage capacities and low nitrogen consumption. This gives it low operating costs and long refill intervals.

The following accessories are available on request:
Roller bases: R033-8C00 for LS750
R05K-8C00 for LS3000, LS4800, LS6000
Low-level alarm: R036-8C30 for LS750 / RS30K-8C40 for LS3000
R05K-8C26 for LS4800 / RS60-8C40 for LS6000

Type	Capacity 2 ml cryo tubes	Working time days	Ø mm	H mm	Order No.
LS750	750	80	478	681	**38 16 72750**
LS3000	3000	66	683	731	**38 16 73000**
LS4800	4800	102	683	892	**38 16 74800**
LS6000	6000	120	683	991	**38 16 76000**

LS3000-LS6000 are available with automatic refill system and licensed in compliance with European medical product laws (93/42/EC).

webcode WWH29006



Liquid Nitrogen Dewars, tec-lab GmbH

LD series
Containers of the LD series are used for the storage of liquid nitrogen but can also be used for work with this medium, e.g. in materials testing. The series includes containers with a storage capacity of 4 to 50 liters.

The following accessories are available on request:
Withdrawal device: D250-8C05 for LD25, LD35, LD50
Tipping stand: D025-8C00 for LD25, Classic25
Roller bases: R018-8C00 for LD25
R033-8C00 for LD35, LD50
D024-8C02 for Classic25

Type	Evaporation rate days l	Liquid nitrogen capacity l	Ø mm	H mm	Order No.
LD4	0.4	4	193	432	**38 16 81004**
LD5	0.77	5	193	445	**38 16 81005**
LD10	0.22	10	290	597	**38 16 81010**
LD25	0.23	25	396	655	**38 16 81025**
Classic25	0.21	25	394	582	**38 16 82025**
LD35	0.23	35	475	668	**38 16 82035**
LD50	0.41	50	475	823	**38 16 82050**

Nitrogen Stores, Nitrogen Freezing Containers

High Capacity Refrigerators, tec-lab GmbH

① **Type series K**

Taylor-Wharton K Series systems are designed to accommodate various inventory control systems. The high capacity makes it possible to hold up to 38,350 2 ml vials.

The following accessories are available on request:
Automatic level controller M505 and M550
Inventory control systems for vials or blood bags

Type	Capacity 2 ml cryo tubes	LN_2 capacity l	Work time day	Outer Ø mm	Order No.
3K	3726	48	19	391	**10 16 73003**
10K	10400	165	33	587 × 775	**10 16 73010**
24K	24050	365	52	864 × 965	**10 16 73024**
38K	38350	590	74	1067 × 1397	**10 16 73038**



①

② **Type series LABS**

LABS Series freezers are designed for efficient long-term storage of larger volumes of specimens. With a capacity of up to 93,000 2 ml vials and a storage temperature virtually at the level of the liquid nitrogen temperature even in the gas phase and low nitrogen consumption, the LABS Series sets new industry benchmarks.

The following accessories are available on request:
Automatic level controller M505 and M550
Inventory control systems for vials or blood bags

Type	Capacity 2 ml cryo tubes	LN_2 capacity l	Work time day	Outer Ø mm	Order No.
LABS20	19500	407	102	864	**10 16 74020**
LABS38	37700	626	143	1067	**10 16 74038**
LABS40	41600	606	135	1143	**10 16 74040**
LABS80	79300	1350	169	1511	**10 16 74080**
LABS94	93000	1630	210	1511	**10 16 74094**



②

webcode WWH29007

tec-lab GmbH

webcode WWH29008

Storage and Transport Cylinders, tec-lab GmbH

Type series XL

These vessels are designed for the requirements of liquid nitrogen storing and can be connected to most large-volume freezers.

The following accessories are available on request:
Withdrawal hose 1,200 mm, 1,800 mm
Phase separator

Type	Gross volume l	Overall height mm	Outer Ø mm	Order No.
XL70PBCE	70	1115	508	**10 16 75070**
XL120CE	126	1350	508	**10 16 76070**
XL120PBCE	126	1350	508	**10 16 75120**
XL180CE	189	1280	660	**10 16 76180**
XL180PBCE	189	1280	660	**10 16 75180**
XL240CE	250	1510	660	**10 16 76240**
XL240PBCE	250	1510	660	**10 16 75240**









webcode To see other variants and accessories, please enter the webcode on our website.

Nitrogen Stores, Nitrogen Freezing Containers

webcode WWH29009

Cryogenic Protective Equipment, tec-lab GmbH



①



①

① Cryogenic protective gloves Cryokit 400
Cryogenic protection gloves cryokit 400 with CE certificate Cat. 3a provide protection in the ultra-low temperature range. Accordingly, this protection equipment is suitable for working at low temperatures and for handling dry ice (-72°C) and liquid nitrogen (-196°C). Water-tight, forearm-covering (40 cm long). Cryo Gloves by cryokit, for optimum nitrogen handling. With data sheet and instructions for use. Interior insulation: multi-layer polyester fleece 410 g/m² and Polyolefi-Porelle® membrane.

Size	Order No.
S (7)	**10 16 71320**
M (8)	**10 16 71286**
L (9)	**10 16 71274**
XL (10)	**10 16 71288**
XXL (11)	**10 16 71289**



②



②

② Cryogenic protective gloves Cryokit 550
Cryogenic protection gloves cryokit 400 with CE certificate Cat. 3a provide protection in the ultra-low temperature range. Accordingly, this protection equipment is suitable for working at low temperatures and for handling dry ice (-72°C) and liquid nitrogen (-196°C). Water-tight, forearm-covering (55 cm long). Cryo Gloves by cryokit, for optimum nitrogen handling. With data sheet and instructions for use. Interior insulation: multi-layer polyester fleece 410 g/m² and Polyolefi-Porelle® membrane.

Size	Order No.
M (8)	**10 16 71275**
L (9)	**10 16 71302**
XL (10)	**10 16 71303**
XXL (11)	**10 16 71377**



③



③ Cryogenic protective gloves CryoPLUS 400-2.0
Cryogenic waterproof glove made of special coated and laminated blue fabric. Internal insulation ployester fleece (240 g/m²) and polyolefin Porelle® membrane, 15 cm split leather, safety cuff with tightening adjustment. Overall length 40 cm. Suitable for all jobs in presence of liquid nitrogen and other cryogenic gases to protect from cold contact and prevent burns in case of leakage of liquid gas. With CE certificate cat. 3a.

Size	Order No.
M (8)	**10 16 71276**
L (9)	**10 16 71297**
XL (10)	**10 16 71298**
XXL (11)	**10 16 71299**

Cryogenic protective gloves CryoPLUS 400-2.1
Cryogenic waterproof glove made of special coated and laminated blue fabric. Internal insulation ployester fleece (240 g/m²) and polyolefin Porelle® membrane. Overall length 38 cm. Suitable for all jobs in presence of liquid nitrogen and other cryogenic gases to protect from cold contact and prevent burns in case of leakage of liquid gas. With CE certificate cat. 3a.

Size	Order No.
S (7)	**10 16 71321**
M (8)	**10 16 71322**
L (9)	**10 16 71323**
XL (10)	**10 16 71324**
XXL (11)	**10 16 71325**



④



④

④ Cryogenic protective gloves CryoPLUS 55
Cryogenic waterproof glove made of special coated and laminated blue fabric. Internal insulation ployester fleece (240 g/m²) and polyolefin Porelle® membrane. 30 cm cuff. Overall length 55 cm. Suitable for all jobs in presence of liquid nitrogen and other cryogenic gases to protect from cold contact and prevent burns in case of leakage of liquid gas. With CE certificate cat. 3a.

Size	Order No.
M (8)	**10 16 71277**
L (9)	**10 16 71300**
XL (10)	**10 16 71301**
XXL (11)	**10 16 71326**



⑤



⑤ Cryogenic gloves Cryo-Lite
Water-repellent grain leather cryogenic glove for light industrial application. Internal insulation polyester fleece (320 g/m²) and polyolefin film Porelle®, that ensures waterproofness. 15 cm split leather, safety cuff with tightening adjustment. Overall length 40 cm. CE certificate cat. 3a.

Size	Order No.
M (8)	**10 16 71280**
L (9)	**10 16 71330**
XL (10)	**10 16 71331**

Continued on next page

Nitrogen Stores, Nitrogen Freezing Containers

⑥ **Cryogenic gloves Cryo-HD**
Cryogenic gloves Cryo HD with CE certificate cat. 3a. Water-repellent grain leather (1.2 mm) cryogenic glove for heavy duty application. Internal insulation polyester fleece (320 g/m²) and polyolefin film Porelle®, that ensures waterproofness. Overall length 40 cm.

Size	Order No.
L (9)	**10 16 71281**
XL (10)	**10 16 71287**





⑦ **Cryogenic protective apron**
Protection from splashes of cryogenic gases. Made with a special extra resistant composite coated fabric, with adjustable clips buckles in the neck and hip area. With CE certificate cat. 3aa.

Dimensions cm	Order No.
70 × 90	**10 16 71278**
70 × 110	**10 16 71327**
70 × 120	**10 16 71328**
70 × 135	**10 16 71329**







⑧ **Cryogenic protection set CRYO**
Practical carrying case containing: 1 pair of CRYOPLUS gloves size 10, 1 apron T-CRYO LIGHT 70 × 90 cm, 1 pair of overshoes GHETTE CRYO, 1 clear CRYO face shield.

Article	Order No.
Cryogenic protection set CRYO	**10 16 71283**



⑨ **Cryogenic face shield**
Face shield for protection from liquid gas splashes. Ergonomic headgear made of anallergic material. Interchangeable front foam sweatband. Upper band for height adjustment of the cap. adjustment of the head circumference by rack (53 to 61 cm). 90° flip-up through friction. Clear polycarbonate visor (395 × 240 × 2 mm).

Article	Order No.
Cryogenic face shield	**10 16 71284**

Dewar Vessels

Dewar Flasks, Thermo Scientific Nalgene, IDL

webcode thermoscientific
WWRJN106

High density polyethylene Dewar flasks, polyethylene covers with polyethylene coated handle. Unbreakable and absolutely safe for handling ice water, dry ice-solvent mixtures, hot water baths and liquid nitrogen. Chemical-resistant HDPE double-walls filled with urethane foam, withstand temperatures from -196 to +100°C. Ventilated, insulating cover, 1, 2 and 4 liter sizes with carrying handle. 10 liter size without handle.

Volume l	I.D. opening mm	I.H. mm	Overall H mm	Order No.
1	96	195	251	**23 87 41501**
2	122	231	282	**23 87 41502**
4	158	295	353	**23 87 41503**
10	198	396	470	**23 87 41504**



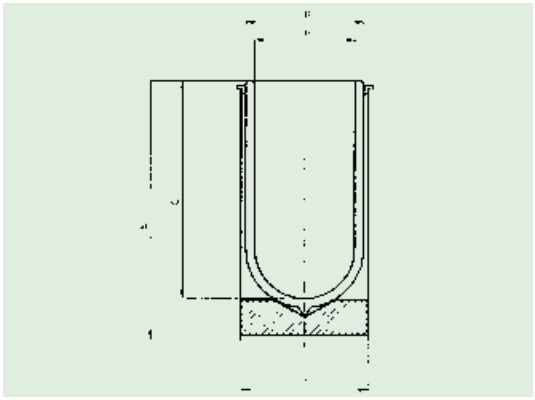


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webcode

Dewar Vessels





Dewar Vessels acc. to DIN EN ISO 16496, KGW-Isotherm

These Dewar vessels are made of borosilicate glass 3.3 (DIN/ISO 3585), silvered and evacuated. Supplied as standard in a blue, plastic-coated and galvanized iron sheet cover.

Type	Vol. approx. ml	Ø A approx. mm	Ø B approx. mm	Ø C approx. mm	D approx. mm	E approx. mm	Order No.
00	100	40	56	63	90	135	**17 50 10300**
0	200	40	56	63	170	215	**17 50 10330**
1	300	47	60	72	190	240	**17 50 10301**
2	450	47	60	72	270	310	**17 50 10302**
3	500	57	70	81	210	260	**17 50 10303**
4	750	57	70	81	310	370	**17 50 10304**
5	1250	57	70	81	500	550	**17 50 10305**
6	800	67	80	90	240	295	**17 50 10306**
7	1200	67	80	90	350	395	**17 50 10307**
8	1700	67	80	90	500	560	**17 50 10308**
9	1000	77	95	105	235	290	**17 50 10309**
10	1500	77	95	105	345	395	**17 50 10310**
11	2100	77	95	105	500	550	**17 50 10311**
12	1500	90	115	124	245	300	**17 50 10312**
13	2000	90	115	124	340	390	**17 50 10313**
14	3200	90	115	124	600	665	**17 50 10314**
15	1500	100	120	130	240	300	**17 50 10315**
16	2000	100	120	130	290	345	**17 50 10316**
17	4000	100	120	130	600	660	**17 50 10317**
18	2500	110	130	140	290	345	**17 50 10318**
19	5000	110	130	140	600	660	**17 50 10319**
20	3000	138	160	165	230	280	**17 50 10320**
S21	4000	138	160	165	310	375	**17 50 10321**
S22	8000	138	160	165	600	660	**17 50 10322**

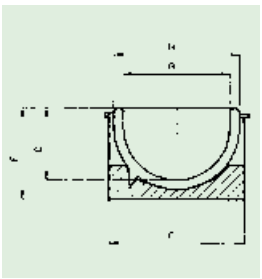


Dewar Vessels with Handle, KGW-Isotherm

Cylindrical Dewar vessels made of stainless steel with hoop handle and side handle. Dewar vessels from the GSS series are vacuum-insulated and made of rust-proof chromium-nickel steel. All vessels have a side handle, and sizes of 1 liter and more also have a removable hoop handle.

Type	Vol. cm^3	I.D. mm	O.D. mm	I.H. mm	O.H. mm	Wght g	Order No.
GSS 500	500	65	80	180	200	520	**38 50 00500**
GSS 1000	1000	85	100	206	225	860	**38 50 01000**
GSS 1000 W	1000	100	104	156	178	630	**38 50 01001**
GSS 2000	2000	100	104	285	305	1230	**38 50 02000**
GSS 3000	3000	184	200	160	190	1500	**38 50 03000**
GSS 6000	6000	184	200	270	300	2120	**38 50 06000**





Dewar Dishes acc. to DIN EN ISO 16496, KGW-Isotherm

Dish-shaped Dewar vessels are ideal for tempering round flasks or for freezing small samples. Supplied with an aluminium cover.

Type	Vol. max. approx. ml	Ø A mm	Ø B mm	Ø C mm	D mm	E mm	Order No.
SCH 6 CAL	80	67	80	90	40	75	**17 50 80006**
SCH 9 CAL	120	77	95	110	50	90	**17 50 80009**
SCH 15 CAL	260	100	120	130	65	110	**17 50 80015**
SCH 18 CAL	400	110	130	138	70	115	**17 50 80018**
SCH 20 CAL	800	138	160	170	80	125	**17 50 80020**
SCH 30 CAL	1600	170	205	215	110	145	**17 50 80030**
SCH 31 CAL	2700	200	230	238	125	160	**17 50 80031**
SCH 33 CAL	5300	250	280	292	150	195	**17 50 80033**

Dewar Vessels

Dewar Containers acc. to DIN EN ISO 16496, KGW-Isotherm





These Dewar containers are made of borosilicate glass 3.3 (DIN/ISO 3585). Extra tough design with blue plastic-coated cover made of galvanized iron or stainless steel. With thermally insulated plastic lid held by two springs. Detachable carry-handle. The lid has to have a 2 mm hole when the containers are used to transport and store liquid nitrogen or any other gassing refrigerants.

Cover made of blue plastic-coated and galvanized iron sheet

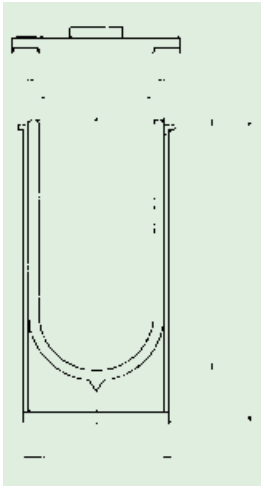
Type	Vol. l	Ø A approx. mm	Ø B approx. mm	Ø C approx. mm	D approx. mm	E approx. mm	Order No.
26	1	100	120	132	150	215	**17 50 30261**
27	2	138	160	170	170	245	**17 50 30271**
28	3	138	160	170	230	305	**17 50 30281**
29	4	138	160	170	310	385	**17 50 30291**

Cover made of stainless steel

Type	Vol. l	Ø A approx. mm	Ø B approx. mm	Ø C approx. mm	D approx. mm	E approx. mm	Order No.
26	1	100	120	132	150	215	**17 50 30262**
27	2	138	160	170	170	245	**17 50 30272**
28	3	138	160	170	230	305	**17 50 30282**
29	4	138	160	170	310	385	**17 50 30292**

Large Insulating Vessels acc. to DIN EN ISO 16496, KGW-Isotherm





These Dewar vessels are made of borosilicate glass 3,3 (DIN/ISO 3585). Large capacity, insulated, with tough cover made of blue, plastic-coated and galvanized iron sheet or structured aluminium. Insulated lid with hoop-shaped carry-handle.

Cover made of plastic-coated and galvanized iron sheet

Type	Vol. l	Ø A approx. mm	Ø B approx. mm	Ø C approx. mm	D approx. mm	E approx. mm	Order No.
30	7	200	230	250	275	385	**17 50 40301**
31	10	200	230	250	350	475	**17 50 40311**
32	14	200	230	250	500	610	**17 50 40321**
33	21	250	280	300	480	615	**17 50 40331**
34	28	250	280	300	620	750	**17 50 40341**

Cover made of structured aluminium

Type	Vol. l	Ø A approx. mm	Ø B approx. mm	Ø C approx. mm	D approx. mm	E approx. mm	Order No.
30	7	200	230	250	275	385	**17 50 40302**
31	10	200	230	250	350	475	**17 50 40312**
32	14	200	230	250	500	610	**17 50 40322**
33	21	250	280	300	480	615	**17 50 40332**
34	28	250	280	300	620	750	**17 50 40342**

Spherical Dewar Vessels acc. to DIN EN ISO 16496, KGW-Isotherm





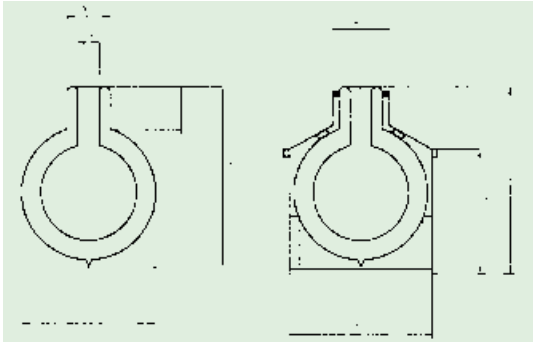
These Dewar vessels are made of borosilicate glass 3,3 (DIN/ISO 3585). For storing and transporting liquid nitrogen. With aluminium cover. The glass inserts rest on soft plastic bearings for additional protection from breakage.

① **Spherical Dewar vessels, spare glass inserts for alu covers:**

Type	Vol. l	Ø A approx. mm	Ø B approx. mm	Ø C approx. mm	H approx. mm	E approx. mm	Order No.
21 A	1	30	50	165	70	265	**17 50 50021**
22 A	3	60	85	205	110	330	**17 50 50022**
23 A	5	60	85	250	110	380	**17 50 50023**
24 A	10	65	95	310	85	400	**17 50 50024**

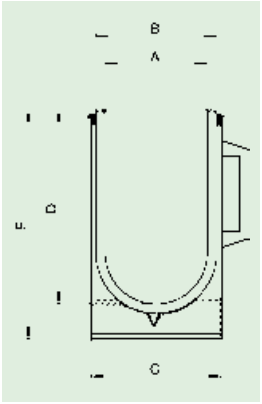
② **Spherical Dewar vessels, with brushed aluminium cover:**

Type	Vol. l	Ø B approx. mm	Ø C approx. mm	H approx. mm	E approx. mm	Order No.
21 AL	1	60	175	150	300	**17 50 70454**
22 AL	3	105	225	210	380	**17 50 70468**
23 AL	5	105	260	275	450	**17 50 70473**
24 AL	10	105	330	310	480	**17 50 70486**



Dewar Vessels





Dewar Vessels with Handle acc. to DIN EN ISO 16496, KGW-Isotherm

These Dewar vessels are made of borosilicate glass 3.3 (DIN/ISO 3585), silvered and evacuated. Supplied as standard in a blue, plastic-coated and galvanized iron sheet cover with handle.

Type	Vol. approx. ml	Ø A approx. mm	Ø B approx. mm	Ø C approx. mm	D approx. mm	E approx. mm	Order No.
G 0	200	40	56	63	170	215	**17 50 20300**
G 1	300	47	60	72	190	240	**17 50 20301**
G 2	450	47	60	72	270	310	**17 50 20302**
G 3	500	57	70	81	210	260	**17 50 20303**
G 4	750	57	70	81	310	370	**17 50 20304**
G 6	800	67	80	90	240	295	**17 50 20306**
G 7	1200	67	80	90	350	395	**17 50 20307**
G 9	1000	77	95	105	235	290	**17 50 20309**
G 10	1500	77	95	105	345	395	**17 50 20310**
G 12	1500	90	115	124	245	300	**17 50 20312**
G 13	2000	90	115	124	340	390	**17 50 20313**
G 15	1500	100	120	130	240	300	**17 50 20315**
G 16	2000	100	120	130	290	345	**17 50 20316**
G 18	2500	110	130	140	290	345	**17 50 20318**

Cooling Boxes, Chests, Ice Baths



webcode WW2NY411





CellCamper® Maxi Cool Transport Box incl. Aluminium Block, neoLab®

With the CellCamper® Maxi cool box, you can transport your cooled samples securely without using ice or another energy source. Thanks to different cooling units covering three temperature ranges (0 to +4°C / -20 to 0°C / -22 to -18°C), the temperatures can be maintained for 5 to 14 hours. Dry ice can be used as an alternative to the cooling units. The CellCamper® Maxi comes with two cooling units and a universal aluminium box which can easily be replaced by two aluminium blocks. With practical shoulder strap for longer-distance transport of cells. The CellCamper® Maxi is designed to prevent toppling of the transported cells, improving the safety and control of cell transport compared to conventional solutions. In case of contamination, the CellCamper® Maxi is easy to clean with alcohol.

Scope of delivery:
- CellCamper® Maxi
- Universal box made of aluminium for various vessels
- 2 × cooling unit cool, frozen or ultrafrozen
- Shoulder strap
- Size (L × W × H): 28 × 21 × 21 cm

Article	Order No.
CellCamper® Maxi incl. cooling unit Cool	**10 01 23710**
CellCamper® Maxi incl. cooling unit Frozen	**10 01 23711**
CellCamper® Maxi incl. cooling unit Ultrafrozen	**10 01 23712**

for my lab neoLab



webcode WW2NY414

CellCamper® Midi Cool Box incl. Aluminium Block, neoLab®

With the CellCamper® Midi cool box, you can transport your cooled samples securely without using ice or another energy source. Thanks to different cooling units covering three temperature ranges (0 to +4°C / -20 to 0°C / -22 to -18°C), the temperatures can be maintained for 6 to 14 hours. Dry ice can be used as an alternative to the cooling units. The CellCamper® Midi comes with an aluminium block which has room for 30 vials of 1.5 / 2.0 ml volume; it is equipped with a display to check the temperature. The CellCamper® Midi is designed to prevent toppling of the transported cells, improving the safety and control of cell transport compared to conventional solutions. In case of contamination, the CellCamper® Midi is easy to clean with alcohol.

Scope of delivery:
- CellCamper® Midi
- Aluminium block with temperature scale for 30 × 1.5 / 2.0 ml
- Cooling unit Cool, Frozen or Ultrafrozen

Version	Temperature range °C	Temperature maintenance duration	Order No.
Cooling unit Cool	0 – 4	14 h	**10 01 23713**
Cooling unit Frozen	-20 – 0	14 h	**10 01 23714**
Cooling unit Ultrafrozen	-22 – -18	6 h	**10 01 23715**

Cooling Boxes, Chests, Ice Baths

CellCamper® Aluminium Blocks, neoLab®

webcode WW2NY415



CellCamper® aluminium blocks are suitable for use with the CellCamper® Maxi and Midi. These aluminium blocks can usually be used at temperatures of -196 to over 100°C. The temperature distribution over the whole block is very even and deviates by just ± 0.1°C. All aluminium blocks can be cleaned easily with soap or alcohols and are stable under UV light.

Article	Order No.
CellCamper® aluminium block 120×0.2 ml PCR	**10 01 23719**
CellCamper® aluminium block 35×1.5 ml tubes	**10 01 23720**
CellCamper® aluminium block 35×2.0 ml tubes	**10 01 23721**
CellCamper® aluminium block 35×2.0 ml cryo vials	**10 01 23722**

CellCamper® Cooling Units, neoLab®



webcode WW2NY413

for my lab neoLab

The cooling units are suitable for use with the CellCamper® Maxi and Midi. The cooliing units cover 3 different temperature zones (0 to +4°C / -20 to 0°C / -22 to -18°C), the temperatures can be maintained for 6 to 14 hours. After cooling at -80°C, allow to rest at room temperature for 10 minutes to eliminate the surface temperature.

Type	Temperature range °C	Temperature maintenance duration	Order No.
Cool	0 – 4	14 h	**10 01 23716**
Frozen	-20 – 0	14 h	**10 01 23717**
Ultrafrozen	-22 – -18	6 h	**10 01 23718**

CellCamper® Cooling Rack with Gel Filling, neoLab®

webcode WW2NY412



① **CellCamper® cooling racks**
CellCamper® cool racks for storing and cooling samples on the laboratory bench. The cool racks are filled with an inert, non-toxic gel. 2 temperature zones available.
- CellCamper® cool rack -20°C: after 3 hours still -10°C.
- CellCamper® cool rack 0°C: temperature retention time approx. 5 hours.

Autoclave-safe.

Article	Order No.
CellCamper® -20°C cryo rack for cryo tubes, PC, 32 places	**10 01 23730**
CellCamper® 0°C cryo rack for cryo tubes, PC, 32 places	**10 01 23731**



② **CellCamper® cooling racks with colour changing**
CellCamper® cool racks with colour coding for storing and cooling samples on the laboratory bench. These racks keep their temperature of 4°C for approx. 3.5 hours at room temperature (with the lid on). When they heat up, the colour changes clearly from green to yellow. Autoclave-safe.

Article	Order No.
CellCamper® colour changing cryo rack for 24 cryo tubes	**10 01 23732**
CellCamper® colour changing cryo rack for 96 PCR tubes	**10 01 23733**

Cool Packs, neoLab®



③ **Cool Packs**
Cool-Packs filled with special gel, made of sturdy metal-coated PE foil. Long term protection against gel spill, leak-proof. After thawing, contents return to gel state. For laboratory use to protect temperature sensitive samples, tissue, serums, organs, etc.
Pre-freeze bags in the deep freezer at -23°C for some hours, until the gel is hard.
Reusable, non-toxic.

Type	Weight g	Length × Width × Depth cm	Order No.
418	336	17 × 10 × 2.5	**23 01 11400**
597	448	17 × 17 × 2.0	**23 01 11403**
420	672	19 × 14 × 2.5	**23 01 11401**
427	1344	26 × 19 × 3.0	**23 01 11402**



④ **Gel packs**
The neoLab gel packs are ideal for shipping temperature-sensitive products. The gel packs are filled with a hydrous gel, are non-toxic and can be disposed of with household waste.
All materials used give the highest standards of robustness and freedom from harmful substances and are approved for the pharmaceutical, laboratory and food sectors.

Weight g	Length × Width × Depth cm	Order No.
230	13.7 × 14.0 × 2.0	**10 01 11407**

webcode WW2NY23

Cooling Boxes, Chests, Ice Baths

webcode WW2NY037

for my lab neoLab®

Ice Baths, neoLab®

Very well insulated ice baths made of double-wall polystyrene.

Ice Baths

	Article	Inner dimensions W × H × D mm	Order No.
①	Ice bath, small	210 × 70 × 140	**23 01 16031**
②	Ice bath, large	350 × 100 × 210	**23 01 16030**

① 

Aluminium inserts for small ice bath

Article	Order No.
Aluminium insert for 2 × 7 reaction vessels 1.5 ml	**23 01 16033**
Aluminium insert for 2 × 4 reaction vessels 5 ml, conical bore	**10 01 16037**
Aluminium insert with customized drillings. Please indicate diameter, quantity and depth	**23 01 16032**


②

Aluminium inserts for large ice bath

Article	Order No.
Aluminium insert for 2 × 12 reaction vessels 1.5 ml	**23 01 16028**
Aluminium insert for 8 × 1 reaction vessels 5 ml, conical bore	**10 01 16027**
Aluminium insert with customized drillings. Please indicate diameter, quantity and depth.	**10 01 16029**

BRAND®

webcode WWQED083



Cooling Box, BRAND

Durable, rigid polyurethane foam. For bench-top cold storage. Excellent insulating properties. Sturdy, octagonal design for improved stability. Tapered side with molded handles and flat lid for easy handling and storage. Suitable for chemical disinfection. Operating temperature -196°C to +95°C.

Article	Order No.
Cooling box with lid, PU-foam, stackable, 4.5 l	**10 49 15610**

Webcode

Use the webcode on our website to see a larger selection of products from a specific manufacturer.

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Magnetic Stirring Bars, Remover

BOLA Magnetic Stirring Bars, Bohlender

Magnetic stirring bars with fluoroplastic (PTFE) coating, resistant to practically all chemicals, temperature-resistant from -200 to +260°C.

① Cylindrical magnetic stirring bars

L approx. mm	Ø approx. mm	Order No.	PU pc/Pack
5	2	**10 17 65000**	10
6	3	**10 17 65004**	10
7	2	**10 17 65005**	20
8	3	**10 17 65007**	10
10	3	**10 17 65008**	20
10	6	**10 17 65009**	10
12	4,5	**10 17 65011**	20
13	3	**24 17 35011**	10
15	4,5	**24 17 35013**	10
15	6	**24 17 35014**	20
20	6	**24 17 35015**	10
20	7	**24 17 35016**	10
25	6	**24 17 35018**	10
25	7	**10 17 65021**	10
30	6	**24 17 35020**	10
30	7	**24 17 35021**	10
35	6	**10 17 65023**	10
40	7	**10 17 65024**	10
40	8	**24 17 35025**	10
50	8	**24 17 35029**	10
55	12	**10 17 65034**	3
60	7	**10 17 65031**	3
60	9	**10 17 65032**	3
70	9	**10 17 65033**	3
80	10	**10 17 65035**	3
110	27	**10 17 65036**	1

Available only in original packaging units. No fractions possible.

② Egg-shaped magnetic stirring bars

L approx. mm	Ø approx. mm	Order No.	PU pc/Pack
20	10	**24 17 35802**	3
25	12	**24 17 35804**	3
30	15	**24 17 35806**	3
35	15	**24 17 35808**	3
40	20	**24 17 35810**	1
50	20	**24 17 35812**	1
65	20	**24 17 35814**	1
70	20	**24 17 35816**	1

Available only in original packaging units. No fractions possible.

③ Triangular magnetic stirring bars

L approx. mm	Ø approx. mm	Order No.	PU pc/Pack
20	8	**24 17 35706**	3
25	8	**24 17 35709**	3
25	15	**24 17 35712**	3
35	10	**24 17 35715**	3
40	15	**24 17 35718**	3
50	12	**24 17 35721**	3
55	15	**24 17 35724**	1
80	16	**24 17 35727**	1
130	44	**24 17 35730**	1

Available only in original packaging units. No fractions possible.

④ Dumbbell-shaped magnetic stirring bars

PTFE-encapsulated magnetic core (Alnico 5). Stable discs on both sides provide an excellent stirring. Sliding discs Ø approx. 20 mm, rod Ø ca. 8 mm. Universal chemical resistance, temperature-resistant from -200 to +250°C.

Length approx. mm	Order No.	PU pc/Pack
37	**10 17 65903**	3
55	**10 17 65906**	3

Available only in original packaging units. No fractions possible.









Continued on next page

Magnetic Stirring Bars, Remover



① **Power magnetic stirring bars (cylindrical)**
PTFE-encapsulated magnetic core made of a very strong magnetic material (rare earth magnet samarium-cobalt), torque loads transmitted are about 4 times larger than those of conventional magnetic stirring bars. Universal chemical resistance, temperature-resistant from -200 to +250°C.

Length approx. mm	Ø approx. mm	Order No.	PU pc/Pack
20	8	**10 17 66520**	1
40	14	**10 17 66540**	1
50	19	**10 17 66550**	1



BOLA Beakerliner, Bohlender

PTFE-encapsulated magnetic core (Alnico 5) axially mounted in a guide cage made of PTFE, universal chemical resistance.

No shear action on the bottom of the beaker, smooth running in glass beakers also on an uneven bottom. The cage acts like a baffel and thus provides optimum mixing results.

Technical data:

Material:	PTFE
Temperature resistance:	from -200°C to +250°C
Chemical resistance:	+++ universal
Vacuum:	suitable
Autoclave:	121°C

for beaker size ml	Outer Ø cage mm	Height cage mm	Length × Ø stirring bar mm	Order No.
250, 400	67	21	50 × 8	**10 17 66208**
600, 800, 1000	74	29	60 × 9	**10 17 66212**
2000	103	32	80 × 10	**10 17 66216**
3000, 5000	125	48	106 × 25	**10 17 66220**

webcode WWJRM008

Stirring Bar ASTEROID 40, 2mag



Magnetic stirrer bar, very powerful, for large quantities and/or viscous media, stirring over distances, for unfavorably shaped bottoms, 4 × higher torque, unrivalled increase of mixing effect, significantly higher speeds can be reached, no de-magnetization effect, concave shape for minimum contact surface while operationally reliable rotation is ensured, 300% less PTFE wear, triangle contour for high shearing load, added mixing effect at lower speeds, smooth and sealed PTFE coating, pursuant to FDA regulations, suitable for steam-sterilization at 121°C, significant power increase for all magnetic stirrers.

Technical data:

Shape:	triangular, concave
Cover material:	PTFE

Article	Ø mm	Length mm	Weight kg	Order No.
ASTEROID 25	14	25	0.07	**10 18 54425**
ASTEROID 40	28	40	0.12	**10 18 54440**
ASTEROID 70	39	70	0.37	**10 18 54471**

webcode WW7R3015

Magnetic Stirring Bars Set, IDL



This set of magnetic stirring bars covers most applications. A selection of bar sizes allows you to choose the correct bar for stirring any medium.
Dimensions: 188 × 116 × 34 mm

Contents

Form	Dimensions approx.	Qty
cylindrical simple form	10 × 6 mm	1
	15 × 6 mm	1
	25 × 7 mm	1
	30 × 7 mm	2
	40 × 7 mm	1
	50 × 8 mm	1

Contents

Form	Dimensions approx.	Qty
cylindrical with center ring	12 × 4,5 mm	1
	20 × 6 mm	1
	30 × 6 mm	1
triangular	25 × 8 mm	1
	40 × 14 mm	1
egg-shaped	20 × 10 mm	1
	35 × 15 mm	1
cross-shaped	14 mm	1
dog-bone	37 mm long	1

Article	Order No.
Magnetic stirring bar set Norma with bar remover	**24 00 10010**
Magnetic stirring bar set Norma without bar remover	**24 00 10020**

Magnetic Stirring Bars, Remover

Magnetic Stirring Bars Sets, neoLab®

webcode WW2NY047

for my lab neoLab

① Magnetic stirring bar set, 7 sizes
10 Teflon coated magnetic stirring bars in a reusable storage box.

Content of set:

Dimensions (L × dia.) mm	Qty	Dimensions (L × dia.) mm	Qty
15 × 6	1	40 × 7	2
20 × 7	2	50 × 7	1
25 × 7	2	60 × 7	1
30 × 7	1		

Article	Order No.
Magnetic stirring bars set, 7 sizes	**24 01 61999**



①

② Magnetic stirring bars set, 5 sizes
10 magnetic stirring bars, PTFE coated, strong magnetic core, clearly in the case.

Content of set:

Dimensions (L × Ø) mm	Qty	Dimensions (L × Ø) mm	Qty
10 × 6	2	25 × 6	2
15 × 6	2	30 × 6	2
20 × 6	2		

Article	Order No.
Magnetic stirring bars set, 5 sizes	**10 01 61996**


②

Magnetic Stirring Bars, BRAND

webcode WWQED085

BRAND®

③ Magnetic stirring bars, cylindrical, PTFE
Round, smooth surface, for universal applications.

L mm	O.D. mm	Order No.	PU pc/Pack	L mm	O.D. mm	Order No.	PU pc/Pack
2.5	2.5	**10 49 37100**	10	15	6	**10 49 37114**	10
3.5	3.5	**10 49 37101**	10	20	6	**10 49 37115**	10
5	2	**10 49 37102**	10	25	6	**10 49 37120**	10
6	3	**10 49 37103**	10	30	6	**10 49 37125**	10
8	3	**10 49 37104**	10	35	6	**10 49 37127**	10
12	4.5	**10 49 37105**	10	40	8	**10 49 37130**	10
7	2	**10 49 37106**	10	45	8	**10 49 37132**	10
8	1.7	**10 49 37107**	10	50	8	**10 49 37135**	10
10	3	**10 49 37108**	10	60	9	**10 49 37140**	10
13	3	**10 49 37109**	10	70	9	**10 49 37145**	10
15	4.5	**10 49 37110**	10	80	9	**10 49 37150**	10
15	1.7	**10 49 37111**	10	108	27	**10 49 37155**	1
10	6	**10 49 37113**	10	159	27	**10 49 37160**	1


③

④ Magnetic stirring bars, cylindrical with pivot ring, PTFE
For vessels with slightly uneven bottoms. The pivot ring reduces the contact surface and enables the stirrer to adopt the optimum stirring position.

L mm	O.D. mm	Order No.	PU pc/Pack	L mm	O.D. mm	Order No.	PU pc/Pack
8	4	**10 49 37404**	10	3	8	**10 49 37427**	10
12	6	**10 49 37405**	10	40	8.5	**10 49 37430**	10
15	6	**10 49 37410**	10	45	10	**10 49 37432**	10
20	8	**10 49 37415**	10	50	11	**10 49 37435**	10
25	7	**10 49 37420**	10	70	10	**10 49 37444**	10
30	7.5	**10 49 37425**	10				


④


⑤

⑤ Magnetic stirring bars, crosshead, PTFE
Steady spinning position. Excellent stirring action.

H mm	O.D. mm	Order No.	PU pc/Pack	H mm	O.D. mm	Order No.	PU pc/Pack
5	10	**10 49 37630**	10	12	30	**10 49 37636**	10
9	20	**10 49 37632**	10	15	38	**10 49 37638**	10
10	25	**10 49 37634**	10				


⑥

⑥ Magnetic stirring bars, double-ended, PTFE
Excellent centering, small contact surface and high turbulence even at low speeds.

Length mm	Outer Ø mm	Ø plate mm	Order No.	PU pc/Pack
37	8	20	**10 49 37930**	10
54	8	20	**10 49 37935**	10

Continued on next page

webcode To see other variants and accessories, please enter the webcode on our website.

Magnetic Stirring Bars, Remover



① Magnetic stirring bars, oval, PTFE
Ideal for vessels with round bottom, e.g. round-bottom flasks.

L mm	O.D. mm	Order No.	PU pc/Pack
10	5	**10 49 37300**	10
15	6	**10 49 37301**	10
20	10	**10 49 37302**	10
25	12	**10 49 37305**	10
32	15	**10 49 37307**	10
34	15	**10 49 37310**	10
40	20	**10 49 37312**	10
50	20	**10 49 37315**	10
65	20	**10 49 37320**	10
70	20	**10 49 37325**	10



② Magnetic stirring bars, triangular, PTFE
Wedge-shaped. Ideal for dissolving solids and mixing of sediments due to scraping action. Angular surface creates high turbulence even at low speeds.

L mm	O.D. mm	Order No.	PU pc/Pack
25	8	**10 49 37810**	10
25	14	**10 49 37812**	10
30	10	**10 49 37815**	10
40	14	**10 49 37817**	10
50	12	**10 49 37820**	10
55	14	**10 49 37822**	10
80	16	**10 49 37826**	10



③ Magnetic stirring bars, octagonal with pivot ring, PTFE
Angular surface creates high turbulence even at low speeds. For vessels with slightly uneven bottoms. The pivot ring reduces the contact surface and enables the stirrer to adopt the optimum position.

L mm	O.D. mm	Order No.	PU pc/Pack
13	10	**10 49 37607**	10
15	9.5	**10 49 37608**	10
25	9.5	**10 49 37610**	10
25	11	**10 49 37612**	10
38	9.5	**10 49 37615**	10
38	11	**10 49 37617**	10
51	9.5	**10 49 37618**	10
51	11	**10 49 37620**	10
64	11	**10 49 37622**	10
75	14.5	**10 49 37625**	10





Magnetic stirring bar retriever, magnetic core fully sealed

	Material	Length mm	Outer Ø mm	Order No.
④	PTFE	150	8	**10 49 37700**
	PTFE	250	8	**10 49 37710**
	PTFE	350	8	**10 49 37720**
⑤	PP	300	10	**10 49 37750**
	PP	450	10	**10 49 37755**



BOLA Magnetic Stirring Bar Retrievers, Bohlender

Magnetic stirring bar retrievers made of fluoroplastic (PTFE), resistant to practically all chemicals, temperature-resistant -200 to +260°C, with powerful permanent magnet.

Length mm	Magnet mount Ø mm	Rod Ø mm	Order No.
200	10	8	**24 17 37204**
250	10	8	**24 17 37206**
300	10	8	**24 17 37208**
350	10	8	**24 17 37210**
400	10	8	**24 17 37212**

webcode WW7R3359

FischMAG, IDL

The laboratory sink is the Bermuda triangle for magnetic stir bars
The FischMAG retains almost all commercially available Teflon-coated magnetic stir bars in the laboratory sink. This prevents the loss of the stir bars and the clogging of the sink, which remains fully passable for liquids and residues. The FischMAG consists primarily of polyethylene and polypropylene. It is resistant to diluted acids, lyes, and alcoholic solutions.

- Temperature resistant from +5 to maximum 60°C
- Use commercially available detergent for cleaning
- 3 adjustable feet



Designation	Colour	Diameter mm	Order No.
FischMAG	white	120	**10 00 58434**
FischMAG	black	120	**10 00 58435**

Magnetic Stirrers without Heater

Single Point Stirrers with Integrated Control, 2mag

webcode WWJRM002

Technical data:

	MIX 1	MIX 1 eco
Stirring points:	1	1
Stirring volume/ stirring point:	1 – 10.000 ml	1 – 3.000 ml
Speed range:	100 – 2000 rpm	120 – 1400 rpm
Stirring power (max.):	20 W	10 W
Power settings:	4-steps (5/10/15/20 W)	–
Material housing:	Stainless steel	Stainless steel
Dimensions (W×D×H):	188 × 230 × 38 mm	120 × 120 × 35 mm
Weight:	4.2 kg	1.8 kg
Protection class:	IP 65	IP 65
Operating voltage:	100–240 V / 50–60 Hz / 1,5 A	100–240 V / 50–60 Hz / 0.7 A



2mag MIX 1

100% wear-free magnetic stirrer, without motor. 1 position for max. 10,000 ml, powerful, wide range of speeds from 100 - 2,000 rpm, power can be set in 4 levels for high power for large volumes of viscous material and reduced power for permanent operation without heating. Digital display, SoftStart,sealed stainless steel housing, easy to clean, robust, long service life, 3 years warranty, made in Germany.

	Article	Order No.
①	**Single point stirrer 2mag MIX 1**	**10 18 53001**



2mag MIX 1 eco

Budget option: Technically identical with MIX 1, but with max. 3,000 ml stirring volume, speed range 120 – 1,400 ml/min., very robust, easy operation via control knob/speed scale.

	Article	Order No.
②	**Single point stirrer 2mag MIX 1 eco**	**10 18 53101**

2mag luMIX

Motorless, 100% wear-free magnetic stirrer with 1 stirring position und bright luminescent plate, white LEDs, homogenous and non-reflecting illumination, 4-steps adjustable light intensity, up to 3,000 ml, wide speed range 100-2,000 rpm, stirrer power setting (4-steps), digital display, SoftStart, sealed stainless steel housing, easy to clean, robust and reliable, 3 years warranty, Made in Germany.



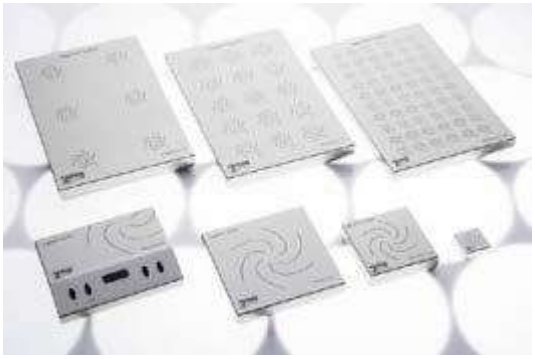
Technical data:	**luMIX**
Stirring points:	1
Stirring volume/point:	1 – 3,000 ml
Speed range:	100 – 2,000 rpm
Stirring power (max.):	20 watts
Material housing:	Stainless steel/PMMA
Dimensions (W×D×H):	188 × 238 × 44 mm
Weight:	4.4 kg
Protection category:	IP 65
Electrical data:	100–240 volts / 50–60 Hz / 1.5 A

	Article	Order No.
③	**Single point stirrer 2mag luMIX**	**10 18 53011**

Use the webcode on our website to see a larger selection of products from a specific manufacturer.

webcode

webcode WWJRM003



Magnetic Stirrers without Heater

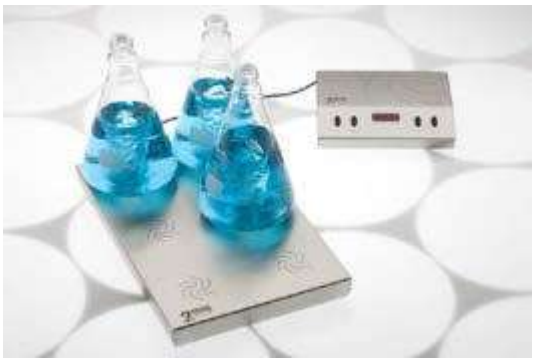
Stirring Systems (Submersible) with External Control for Viscous Liquids or Volumes up to 40 liter, 2mag

Technical data:

	MIXdrive 1 eco	MIXdrive 1	MIXdrive 6	MIXdrive 15
Stirring points:	1	1	6	15
Stirring volume/ stirring point:	3,000 ml	10,000 ml	3,000 ml	3,000 ml
Stirring power (max.):	10 W	20 W	20 W	20 W
Material housing:	Stainless steel	Stainless steel	Stainless steel	Stainless steel
Dimensions (W×D×H):	120×120×35 mm	180×180×38 mm	245×375×38 mm	
Weight:	1.6 kg	3.5 kg	9.4 kg	9.5 kg
Protection class:	IP 68	IP 68	IP 68	IP 68
Permitted operation conditions:	-10°C up to +50°C (at 100% humidity) +50°C in water immersed			
Permitted operation conditions HT:	-30°C up to +200°C (at 100% humidity) +95°C in water immersed			

2mag MIXdrive 15 / 15 HT
100% wear-free magnetic stirrer, without motor. 15 positions for 15 × 250 ml cup glasses (tall form), positions spaced at 65 mm, powerful, 100% synchronized, stainless steel housing sealed against water, dust, and germs, IP68, submersible, suitable for CO_2 cabinets, easy to clean, robust, extra long service life, 3 years warranty, made in Germany. Choose between 2 different temperature ranges: **MIXdrive Basic Version** up to +50°C, **MIXdrive HT version** up to +95°C submersed in water baths und up to +200°C in the oven, customized sizes available on request, 3 years warranty, made in Germany.

Article	Order No.
Sirring system 2mag MIXdrive 15	**10 18 54015**
Sirring system 2mag MIXdrive 15 HT	**10 18 54215**



2mag MIXdrive 60 / 60 HT
Technically identical with MIXdrive 15, but with 60 positions for 60 test tubes, positions spaced at 32.5 mm.

Article	Order No.
Rührsystem 2mag MIXdrive 60	**10 18 54060**
Rührsystem 2mag MIXdrive 60 HT	**10 18 54260**

2mag MIXdrive 6 / 6 HT
Technically identical with MIXdrive 15, but with 6 positions for 6 × 1,000 ml conical flasks, positions spaced at 130 mm.

Article	Order No.
Stirring system 2mag MIXdrive 6	**10 18 54006**
Stirring system 2mag MIXdrive 6 HT	**10 18 54206**

2mag MIXdrive 1 / 1 HT
Technically identical with MIXdrive 15, but with 1 position for max. 10,000 ml.

Article	Order No.
Stirring system 2mag MIXdrive 1	**10 18 54001**
Stirring system 2mag MIXdrive 1 HT	**10 18 54201**

2mag MIXdrive 1 eco / 1 eco HT
Technically identical with MIXdrive 1, but with 1 position for max. 3,000 ml. Small footprint.

Article	Order No.
Stirring system 2mag MIXdrive 1 eco	**10 18 54101**
Stirring system 2mag MIXdrive 1 eco HT	**10 18 54301**

Combination possibilities of stirring systems: **MIXdrive – MIXcontrol**

MIXdrive (basic) **up to** +50°C (in air and immersed)	MIXdrive 60 MIXdrive 15 MIXdrive 6	MIXcontrol 40 MIXcontrol 20 MIXcontrol eco
	MIXdrive 1	MIXcontrol 20 MIXcontrol eco
	MIXdrive 1 eco MIXdrive 1 XS	MIXcontrol eco
MIXdrive (HT) (HT = High Temperature) up to +200°C (in air) up to +95°C (immersed)	MIXdrive 60 HT MIXdrive 15 HT MIXdrive 6 HT	MIXcontrol 40 MIXcontrol 20 MIXcontrol eco
	MIXdrive 1 HT	MIXcontrol 20 MIXcontrol eco
	MIXdrive 1 eco HT MIXdrive 1 XS HT	MIXcontrol eco

Please order control devices MIXcontrol additionally.

Continued on next page

Magnetic Stirrers without Heater

Control Devices MIXcontrol For MIXdrive Stirring Drives
Technical data:

	MIXcontrol eco	MIXcontrol 20	MIXcontrol 40
Speed range:	100 – 1,200 rpm	100 – 1,600 rpm	100 – 2,000 rpm
Stirring power (max.):	10 W	20 W	40 W
Power settings:	–	4-steps	10-steps
Material housing:	Plastic	Stainless steel	Stainless steel
Dimensions (W×D×H):	65 × 50 × 45 mm	200 × 155 × 38 mm	200 × 155 × 38 mm
Weight:	0.5 kg	1.9 kg	1.9 kg
Protection class:	IP 20	IP 20	IP 20
Power supply :	0.7 A	100–240 V / 50–60 Hz / 1.5 A	



① ②

2mag MIXcontrol 40
Efficient control unit for **2 × stirrer drives MIXdrive**, powerful 40 Watt stirring performance, speed range 100–2,000 U/min, jerk-free stirring even at low speed, power can be set in 10 levels (10–100%) for high power for large volumes of viscous material and reduced power for permanent operation without heating e.g. for incubators, digital display, SoftStart, stainless steel housing, 3 years warranty, made in Germany.

	Article	Order No.
①	**Control device 2mag MIXcontrol 40**	**10 18 59040**


③

2mag MIXcontrol 20
Universal control unit, **for 1 × MIXdrive**, 20 Watt stirring power, speed range 100–1,600 U/min, power can be set in 4 levels (25–100%), otherwise identical with MIXcontrol 40.

	Article	Order No.
②	**Control decive 2mag MIXcontrol 20**	**10 18 59020**

2mag MIXcontrol eco
Budget control unit, for 1 × MIXdrive, 10 Watt stirring power, speed range 100–1,200 U/min, SoftStart, easy operation via control knob/speed scale.

	Article	Order No.
③	**Control device 2mag MIXcontrol eco**	**10 18 59010**

Accessories for MIXdrive stirring drives

2mag distriBOX 4 / 8
4-/8-fold distributor for synchronous operation of 4/8 × MIXdrive units at one MIXcontrol 20/40 unit, sealed stainless steel housing.
Dimensions: distriBOX 4: 48×48×25 mm, distriBOX 8: 48×92×25 mm

	Article	Order No.
④	**Distribution box 2mag distriBOX 4**	**10 18 54904**
	Distribution box 2mag distriBOX 8	**10 18 54908**


④

⑤ **2mag MIXdrive 1 XL / MIXcontrol XL**

2mag MIXdrive 1 XL
Ultra flat, strong magnetic stirrer, up to 40 liter, up to +100°C ambient temperature, 3 years warranty, Made in Germany.

2mag MIXcontrol XL
Powerful control unit for MIXdrive 1 XL, wide speed range 70–2,000 rpm, jerk-free, even and smooth stirring even at slow speeds, **incl. mixWATCH**, stirring bar monitoring with fully automatic trim of the maximum reachable speed, for reliable and unattended operation, digital display, 4-step power setting, high power setting for viscous liquids and reduced power setting for long-term operation without warming effect, adjustable SoftStart for different volumes/viscosities, adjustable interval times for automated restart, QuickStop against after-run and glass breakage, RS232, 3 years warranty, Made in Germany.

Hint: Please order control unit separately!

Technical data:	**MIXdrive 1 XL**	**MIXcontrol XL**
Stirring volume:	1 – 40 liter	
Stirring power (max.):	20 watts	20 watts
Speed range:	70 – 2.000 rpm	70 – 2.000 rpm
Acceleration:	variable, 10/30/60/120 s	variable, 10/30/60/120 s
Interval:	variable, 0–240 s	variable, 0–240 s
Material housing:	Stainless steel	Stainless steel
Dimensions (W×D×H):	225×225×38 mm	200×155×38 mm
Weight:	4.0 kg	1.9 kg
Protection category:	IP 66	IP 20
Operation conditions:	+5 to +100°C (at 95% humidity)	
Electrical data:	24 V	100-240 V/1,5 A

Article	Order No.
Stirring system 2mag MIXdrive 1 XL	**10 18 54601**
Control decive 2mag MIXcontrol XL	**10 18 59060**


⑤

Continued on next page

Magnetic Stirrers without Heater



2mag mixBATH
Stainless steel bath, for MIXdrive 6/15/60, long service life, sturdy, easy to clean, suitable for immersion thermostats (heating/cooling), exact positioning of stirrer with immersion circulators, identification of stirrer position in the bath.

Technical data:
Inner dimensions (W×D×H): 277 × 537 × 175 mm
Outer dimensions (W×D×H): 318 × 600 × 190 mm
Weight: 8.0 kg

Article	Order No.
① **Stainless steel bath 2mag mixBATH**	**10 18 54950**

① **2mag mixCOVER**
Chemically resistant, transparent cover (polycarbonate) for mixBATH, for minimization of evaporating effects, different cutouts for immersion thermostat - version MIXdrive 6 und 15 available.

Technical data:
Material: Polycarbonate
Dimensions (W×D×H): 315 × 575 × 8 mm
Weight: 6.3 kg

Article	Order No.
2mag mixCOVER for MIXdrive 6	**10 18 54806**
2mag mixCOVER for MIXdrive 15	**10 18 54815**



2mag mixBATH PC
Water bath made of polycarbonate, durable up to +50°C, robust, easy to clean, suitable for MIXdrive 1/6/15/60 as well as MIXdrive 1 XS/1 eco, fitting for immersion thermostats (heating/cooling), easy to clean, exact positioning of the stirrer in the case of use the stirrer under the bath.

Technical data:
Inner dimensions (W×D×H): 280 × 540 × 178 mm
Outer dimensions (W×D×H): 300 × 560 × 198 mm
Weight: 8.3 kg

Article	Order No.
② 2mag mixBATH PC	**10 18 54085**

webcode WWJRM004

2mag magnetic motion

Single Point Stirring System With External Control for High Viscous Media And Capacity Up To 1.000 Liters, 2mag



Technical data:

	MAXdrive	MAXcontrol	FABdrive	FABcontrol
Stirring volume/ stirring point:	1 – 250 liters	–	1–1000 liters	–
Stirring power (max.):	60 W	60 W	100 W	100 W
Speed range:	100 – 1,200 rpm	100 – 1,200 rpm	100 – 990 rpm	100 – 990 rpm
Acceleration:	variable, 20 – 99 s	variable, 20 – 99 s	variable, 20 – 99 s	variable, 20 – 99 s
Material housing:	Stainless steel	Stainless steel	Stainless steel	Stainless steel
Dimensions (W×D×H):	260×260×68 mm	200×175×51 mm	180×180×75 mm	200×175×51 mm
Weight:	9.8 kg	2.0 kg	4.8 kg	2.0 kg
Protection class:	IP 65	IP 20	IP 65	IP 20
Operating voltage:	24 V	100 – 240 V/1.5 A	24 V	100 – 240 V/1.5 A

2mag MAXdrive
Very powerful magnetic stirrer, large surface, max. capacity 250 liters, very powerful magnetic coupling, for highly viscous media, stirring over distances, for thick-bottomed vessels / double shell vessels, ideal for integration into procedural plants, maintenance-free drive, speed range 100–1,200 rpm, sealed stainless steel housing, IP65, very robust design, easy to clean, long service life, customized dimensions available on request, 3 years warranty, made in Germany.

Article	Order No.
③ **Single point stirring system 2mag MAXdrive**	**10 18 55001**

Necessary accessories:
2mag MAXcontrol
Efficient control unit for MAXdrive, powerful 60 Watt stirring performance, speed range 100–1,200 rpm, variable SoftStart for different volumes/viscosities, digital display, QuickStop for protection against overtravel and glass breakage, stainless steel housing, 3 years warranty, made in Germany.

Article	Order No.
④ **Control unit 2mag MAXcontrol**	**10 18 59440**

Continued on next page

Magnetic Stirrers without Heater

2mag FABdrive
Technically identical with MAXcontrol, but with a more powerful motor/magnet coupling, max. capacity 1,000 liters, housing with small footprint for integration.

Article	Order No.
Single point stirring system 2mag FABdrive	**10 18 55101**

Necessary accessories:
2mag FABcontrol
Technically identical with MAXcontrol, but 100 Watt, speed range 80–990 U/min, indication of actual speed, acoustic alarm when speed falls below limit.

Article	Order No.
Control unit 2mag FABcontrol	**10 18 59442**

Please order control devices always separately!

webcode WWJRM005

Single Point Stirring System With External Control For High Viscous Media And Capacity Up To 150 Liters, 2mag

Technical data:

	maxMIX	MIX 1 XL
Stirring volume/ stirring point:	1 – 150 liters	500 ml – 40 liters
Stirring power (max.):	40 W	20 W
Stirring power, levels:	4 levels (5/10/15/20 W)	–
Speed range:	100 – 1,200 rpm	70 – 2,000 rpm
Acceleration, levels:	variable, 20 – 99 s	adjustable, 20/30/60/120 s
Interval, levels:	–	adjustable, 0 – 240 s
Material housing:	Stainless steel	Stainless steel
Dimensions (W×D×H) mm:	265 × 320 × 68	225 × 280 × 35
Weight:	10.0 kg	4.0 kg
Protection class:	IP 64	IP 64
Operating voltage:	100 – 240 V/50 – 60 Hz/1.5 A	100 – 240 V/50 – 60 Hz/1.5 A



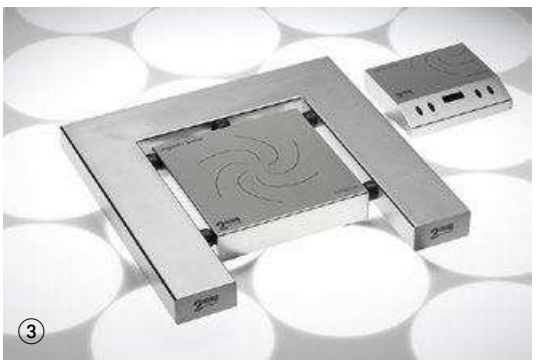
2mag maxMIX
Powerful magnetic stirrer, large surface, max. capacity 150 liters, powerful magnetic coupling, for highly viscous media, stirring over distances, for thick-bottomed vessels / double shell vessels, maintenance-free drive, speed range 100 - 1,200 rpm, sealed stainless steel housing, IP64, robust design, easy to clean, integrated 40 Watt control, variable SoftStart for different volumes/viscosities (20–99 s.), digital display, QuickStop for protection against overtravel and glass breakage, stainless steel housing for a long service life, easy to clean, 3 years warranty, made in Germany.

Article	Order No.
① **Single point stirring system 2mag maxMIX**	**10 18 53501**



2mag MIX 1 XL
Technically identical with maxMIX but ultra-flat, max. capacity 40 liters, 70 – 2,000 rpm, integrated 20 Watt control, incl. mixWATCH, stirrer bar monitoring function with automatic adjustment of the maximum attainable speed for reliable unsupervised stirrer operation, digital display, 4 levels for setting high power for large volumes of viscous material and reduced power for permanent operation without heating, variable SoftStart for different volumes/viscosities, adjustable intervals for re-start, QuickStop for protection against overtravel and glass breakage, 3 years warranty, made in Germany.

Article	Order No.
② **Single point stirring system 2mag MIX 1 XL**	**10 18 53201**



③ **Accessory for magnetic stirrer FABdrive, maxMIX and MAXdrive**
Frame for easy and fast enlargement of surface area and loading capacity of magnetic stirrer series FABdrive, maxMIX and MAXdrive, solid welded construction, easy to clean due to the enclosed construction, high chemical resistance, surface area 500 × 500 mm, loading capacity 1,000 kg.
Technical data:

Material:	Stainless steel
Dimensions (W×D×H):	500 × 500 × 70 mm
Weight:	9.5 kg

Article	fits	Order No.
2mag fabFRAME	FABdrive	**10 18 58600**
2mag maxFRAME	MAXdrive, maxMIX	**10 18 54850**

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Magnetic Stirrers without Heater



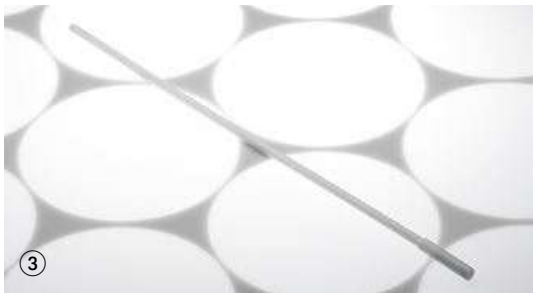


2mag – stirring bar SATELLITE
2mag – stirring bar SATELLITE 70
Extremely strong, abrasion-free and wear-free magnetic stirring bar, bearing on a tripod-construction, especially for the use in stainless steel vessels and in the case of media containing abrasive particles, e.g. sand or sediments, no direct contact between stirring bar and reaction vessel, therefore steady firm, wear-free, chemical resistance comparable to PTFE, material FDA-conform, recommended magnetic stirrers: 2mag MIX 1 XL and MIXdrive 1 XL.

2mag – stirring bar SATELLITE 140
Identical to SATELLITE 70, but for larger volumes/vessels, recommended magnetic stirrers: 2mag maxMIX, MAXdrive, FABdrive.

Technical data:	**SATELLITE 70**	**SATELLITE 140**
Shape:	round, tripod	round, tripod
Material (cover):	ZEDEX	ZEDEX
Number of bars:	2	1
Dimension bar (Ø×L):	13 × 70 mm	32 × 140 mm
Dimensions tripod:	Ø 99 mm	Ø 227 mm
Weight:	0.15 kg	0.46 kg

	Article	Order No.
①	**Stirring Bar SATELLITE 70**	**10 18 54470**
②	**Stirring Bar SATELLITE 140**	**10 18 54490**





2mag – Stirring Bar Remover
2mag – Stirring Bar Remover PTFE
PTFE-coated flexible stirring bar remover with extremely strong permanent magnet, 70 cm length, chemical resistance also in aggressive media, ideal for fast removal of heavy and big magnetic stirring bars with a weight up to 400 g.

2mag – Stirring Bar Remover XL
Extremely strong stirring bar remover with an integrated high energy magnet, for reliable inserting and removing of strong and heavy magnetic stirring bars up to 1 kg, simple handling due to a special stripping mechanism, 100cm length for deep reaction vessels, stainless steel, solid, easy to clean, high chemical resistance.

Technical data:	**PTFE**	**XL**
Material:	PTFE	Stainless steel
Dimensions (Ø×L):	15×700 mm	28×1000 mm
Weight:	0.5 kg	1.8 kg

	Article	Order No.
③	**2mag – stirring bar remover PTFE**	**10 18 54507**
④	**2mag – stirring bar remover XL**	**10 18 54510**

webcode WWJRM006

Stirring Systems For Cell And Tissue Cultures, 2mag



2mag bioMIXdrive
Magnetic stirrer with 1/2/3/4 positions, for gentle mixing of cell suspensions and culture broths as well as for viscous cultures, maintenance-free, large surface, 100% jerk-free, speed 5 – 250 rpm, sealed stainless steel housing, water, dust, and germ-tight, IP 68, submergible, easy to clean, robust structure, flat design, suitable for culture bottles with suspended rotating or oscillating stirrer bar systems, individual sizes available on request, 3 years warranty, made in Germany.

Technical data:

Stirring volume:	5 – 5,000 ml
Speed range:	5 – 250 rpm
Stirring power/stirring point:	6 W
Material housing:	Stainless steel
Adm. operating temp.:	-10 bis +50°C (at 100% humidity), +50°C in water immersed
Protection class:	IP 68



	Model	Stirring places	W × D × H mm	Wght kg	Order No.
⑤	bioMIXdrive 1	1	180×180×38	2.5	**10 18 58001**
	bioMIXdrive 2	2	130×270×38	2.9	**10 18 58002**
⑥	bioMIXdrive 3	3	130×410×38	4.1	**10 18 58003**
	bioMIXdrive 4	4	270×270×38	5.6	**10 18 58004**

Please order control devices always additionally!

Continued on next page

Magnetic Stirrers without Heater

Control devices

Technical data:

	bioMIXcontrol	bioMIXcontrol S	bioMIXcontrol 4MS
Speed range :	5 – 250 rpm	5 – 250 rpm	5 – 250 rpm
Stirring capacity (max.):	4 – 40 W (10 steps)	4 – 40 W (10 steps)	6 W (automatic)
Material housing:	Stainless steel	Stainless steel	Stainless steel
Dimensions (W×D×H):	200 × 155 × 38 mm	215 × 120 × 57 mm	200 × 155 × 38 mm
Weight:	1.9 kg	1.9 kg	1.9 kg
Protection class:	IP 20	IP 20	IP 20
Operating voltage:	100 – 240 V/50 – 60 Hz/1.5 A		

2mag bioMIXcontrol

Controller for 1 × bioMIXdrive 1/2/3/4, speed range 5 – 250 rpm, 10 levels for setting high power for large volumes of viscous material and reduced power for permanent operation without heating, e.g. in CO_2 incubators, digital display, SoftStart, stainless steel housing, 3 years warranty, made in Germany.

Article	Order No.
⑦ **Control device 2mag bioMIXcontrol**	**10 18 59840**

2mag bioMIXcontrol S

Technically identical with bioMixcontrol S, but with stackable housing

Article	Order No.
⑧ **Control device 2mag bioMIXcontrol S**	**10 18 59850**

2mag bioMIXcontrol MS4

Technically identical with bioMixcontrol S, but for 4 × bioMIXdrive 1, individual and independent setting of speed and ON/OFF function for each stirrer drive, synchronous operation of all drives at the push of a button.

Article	Order No.
⑨ **Control device 2mag bioMIXcontrol 4MS**	**10 18 59864**


⑥


⑧


⑨

Cell Culture Stirrer With Integrated Control, 2mag

webcode WWJRM007

Budget magnetic stirrer for gentle mixing of cell suspensions and culture broths as well as for viscous cultures, maintenance-free, large surface, small footprint, 100% jerk-free, speed range 5-250 rpm, 10 levels for setting high power for large volumes of viscous material and reduced power for permanent operation without heating, digital display, SoftStart, sealed stainless steel housing, germ-tight, IP 64, easy to clean, robust structure, flat design, suitable for culture bottles with suspended rotating or oscillating stirrer bar systems, 3 years warranty, made in Germany.

Note: For use in incubators, we recommend the units of the bioMIXdrive series for their lower heat dissipation.

Technical data:

	bioMIX 1
Stirring volume:	1 – 5.000 ml
Speed range:	5 – 250 U/min
Stirring power (max.):	6 W (10 – 100%, einstellbar)
Material housing:	Stainless steel
Dimensions (W×D×H):	188 × 230 × 38 mm
Weight:	3.3 kg
Protection class:	IP 64

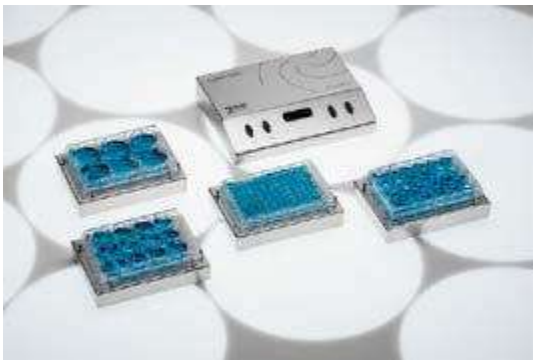
Article	Order No.
Magnetic stirrer 2mag bioMIX 1	**10 18 58501**



Magnetic Stirrers without Heater

MIXdrive MTP Magnetic Stirrers for Microtiter Plates, 2mag

webcode WWJRM011



MIXdrive MTP
Ultra flat, wear-free magnetic stirrer with 6/12/24/96 stirring positions, external steering unit, fully encapsulated and hermetically sealed stainless steel housing, IP68, water-, dust- and germproof, extremely robust construction and performance, easy to clean and maximum resistance, submersible in water- resp. oil baths up to +50°C. Suitable for the use in CO_2 incubators and ovens, removable centering pins, suitable for integration into robots, individual dimensions and high temperature versions up to +200°C on request.

Please order control unit separately.

Technical data:

Stirring power (max.):	10 W
Material housing:	stainless steel
Permitted operation conditions:	-10°C up to +50°C in air, +50°C in water
Operating voltage (max.):	48 VDC
Dimensions (W×D×H):	140 × 102 × 26 mm
Protection category:	IP68
Weight (gross):	approx. 1.3 kg

Type	Stirring places	Distance between stirring places mm	Stirring volumen per stirring point ml	Order No.
6 MTP	6	39	20	**10 18 54306**
12 MTP	12	26	7	**10 18 54312**
24 MTP	24	19	3.5	**10 18 54324**
96 MTP	96	9	0.5	**10 18 54396**

MIXcontrol – Control units for stirring drive MIXdrive MTP
MIXcontrol eco
Price-optimized control unit, 100 – 1200 rpm, with rotary knob for speed setting and ON/OFF

MIXcontrol MTP
Stainless steel housing, digital speed indication, 100 – 2,000 rpm, 4-level power setting

MIXcontrol MTP RS232
with RS232 interface

Type	Speed rpm	Dimensions mm	Power rating W	Weight kg	Order No.
MIXcontrol eco	100–1200	65×50×45	10	0.5	**10 18 59010**
MIXcontrol MTP	100–2000	200×155×38	10 (4-step)	1.9	**10 18 59025**
MIXcontrol MTP RS232	100–2000	200×155×38	10 (4-step)	1.9	**10 18 59026**

Magnetic stirrer atexMIXdrive, 2mag

webcode WWJRM012



atexMIXdrive
Explosion protected with ATEX certificate
1 stirring position, 100% maintenance-free and wear-free by inductive 2mag-Magnetic-Drive concept for powerful mixing of solutions, jerk-free stirring even at low speeds. Fully encapsulated and hermetically sealed stainless steel housing, IP68, water-, dust- and germproof. Extremely robust construction and performance, easy to clean and maximum resistance. Submersible in water- resp. oil baths, suitable for the use in CO_2-incubators and ovens, temperate range up to +40°C, certified according to ATEX II 2G Ex mb IIC T4 Gb.

Please order control unit separately.

Technical data:

Operation temperature:	-10°C up to +40°C at 100% r.h., +40°C in water
Material housing:	stainless steel
Protection category:	IP 68

	Type	Stirring volume l	Dimensions mm	Weight kg	Order No.
①	atexMIXdrive (zone 1)	0.1 – 10	180×180×38	3.5	**10 18 54901**

Control units for stirring drive atexMIXdrive

	Type	Dimensions mm	Weight kg	Order No.
	atexMIXcontrol (zone 1)	360×460×200	18.0	**10 18 59920**
②	atexMIXcontrol cleanroom (zone 2)	210×55×30	4.5	**10 18 59930**

Magnetic Stirrers without Heater

Magnetic Stirrer, IDL



webcode WW7R3320

MS-12B magnetic stirrer without heater
Incl. adapter, 2× non-slip top element (1× white, 1× black) and one magnetic stir bar
- Dimensions W × H × D: 130 × 130 × 65 mm
- Diameter: 120 mm
- Infinitely adjustable
- 150 to 2,500 rotations min^{-1} / 5 Watt
- for stirring volumes up of to 1 liter
- for magnetic stir bars of max. 30 × 8 mm
- max. load capacity 15 kg
- Weight 0.6 kg

Article	Order No.
Magnetic stirrer MS-12B without heater	**10 00 33115**

Magnetic Stirrer RSM-Eco, Phoenix Instrument



webcode WWSB5032

Customized magnetic stirrer for liquid mixing, suitable for chemical analysis, biology reagent mixing, regular laboratory experiments and liquid handling up to 1,5 l volume.
- Powerful magnet
- Adjustable speed between 300 to 2000 rpm
- Chemical resistance surface
- Maintenance-free brushless DC-motor
- Ultrasilence, vibration-free operation
- Shaft included to fit with a PH sensor or sensors for other purposes
- 2 years warranty

Technical data:

Voltage:	100 – 240 V
Power:	7.2 W
Max. stirring quantity:	1.5 l H_2O
Stirring plate:	Ø 120 mm
Stirring bar:	max. 40 mm
Material plate:	ABS
Speed:	300 – 2000 rpm
Speed adjustment:	analog
Dimensions:	150 × 145 × 50 mm
Protection class:	IP 21
Weight:	0,3 kg

Article	Order No.
Magnetic stirrer RSM-Eco	**10 13 79030**

Magnetic Stirrer, Phoenix Instrument

webcode WWSB5018



- compact construction
- sealed housing (IP42)
- brushless motor
- holder for rod
- 2 years warranty

Technical data:

Voltage:	100–240 V
Max. stirring quantity (H_2O):	3 l
Stirring bar:	max. 50 mm
Stirring speed:	200 to 1500 rpm
Speed accuracy:	10 rpm
Plate size:	Ø 135 mm, plastic
Dimensions (W×D×H):	155 × 215 × 75 mm
Protecion class:	IP 42
Weight:	0.9 kg

Article	Order No.
① **Magnetic stirrer RSM-10A, display analog, scale**	**10 13 74110**
② **Magnetic stirrer RSM-10B, display analog, LED** • LED-display for precise control of the speed • digital speed regulation	**10 13 74111**

webcode To see other variants and accessories, please enter the webcode on our website.

Magnetic Stirrers without Heater

webcode WWW4U108

High Volume Magnetic Stirrer MSL 50, LAT



The digital magnetic stirrer ensures continuous operation at low or high speed for volumes of up to 50 litres. Designed to meet the highest requirements with its sophisticated programming options and premium safety.

Technical data:

User interface:	digital
Motor:	brushless motor
Plate material:	stainless steel
Stirring volume (H_2O):	up to 50 l
Stirring speed range:	20 – 1000 rpm
Stirring accuracy:	5 rpm
Timer:	yes
Auto reverse:	yes
Lock function:	yes
Automatic shut down:	after 10 sec.
Dimensions (W×H×D):	354 × 77 × 369 mm
Ambient temperature:	5°C to 40°C
Weight:	4 kg

Article	Order No.
High volume magnetic stirrer MSL 50	**10 20 15000**

Magnetic Stirrers with Heater

webcode WWJRM009

STIRRING HOTPLATE, 2mag





STIRRING HOTPLATE

Stirring – Motor-less, 100% wear-free magnetic stirrer, powerful, wide speed range from 100 – 2,000 rpm, 100% synchronous rotation, power setting (4-level) for high performance when stirring large and viscous volumes and reduced power for non-heated permanent operation, digital display, SoftStart.

Heating – Heating plate, resistant aluminium alloy, PTFE coated, long useful life, easy to clean, integrated electrical heater, fast heat-up, even temperature distribution, maximum heating temperature +200 °C, independent overtemperature protection.

Separate **control unit heatMIXcontrol**, operation of magnetic stirrer and heater, independently settable overtemperature limiter, ideal for unsupervised operation e.g. overnight, stainless steel housing, compact, small footprint, connection for external P100 probe, RS232 interface.

Technical data:	**STIRRING-HOTPLATE 6**	**STIRRING-HOTPLATE 15**
Stirring positions:	6	15
Stirring positions distance:	130 mm	65 mm
Stirring volume/stirring point:	1 – 1,500 ml	1 - 1,000 ml
Speed range, stirrer:	100 – 2,000 rpm	100 – 2,000 rpm
Stirring power:	40 W (adustable in 4 steps, 25/50/75/100%)	
Material heating plate:	aluminium alloy, PTFE-coated	
Material frame:	stainless steel	stainless steel
Temperature range:	+40 to +200°C	+40 to +200°C
Over-temperature protection:	irreversible	irreversible
Dimensions (W×D×H):	250 × 430 × 75 mm	250 × 430 × 75 mm
Weight:	approx. 13 kg	approx. 13 kg
Protection category:	IP 20	IP 20
Electrical data:	230 V / 1,200 W	230 V / 1,200 W

	Article	Order No.
	2mag STIRRING HOTPLATE 6 Stirring-heating plate combination with 6 stirring positions, universally applicable for miscellaneous vessel sizes and shapes, stirring point distance 130 mm, suitable for 6 × 1,000 ml Erlenmeyer flasks.	**10 18 56306**
①	**2mag STIRRING HOTPLATE 15** Stirring-heating plate combination with 15 stirring positions, universally applicable for miscellaneous vessel sizes and shapes, stirring point distance 65 mm, suitable for 15 × 250 ml beaker glasses (tall form)	**10 18 56315**

Accessories

External probe sensor Pt100

External probe sensor Pt100 for control unit heatMIXcontrol, temperature sensor for direct controlling of the probe temperature.

Techincal data:

Sensor:	Pt100
Material:	Stainless steel
Dimensions (D×L):	Ø 3 × 150 mm
Cable lenght:	1 m
Weight:	approx. 0.1 kg

Continued on next page

Magnetic Stirrers with Heater

	Article	Order No.
②	External probe sensor Pt100	10 18 56910

Stand
Stand for vertical positioning of the control unit heatMIXcontrol, incl. assembling material.

Technical data:

Material:	Stainless steel
Dimensions (W×D×H):	225 × 132 × 150 mm
Weight:	approx. 1.0 kg

	Article	Order No.
③	Stand for heatMIXcontrol	10 18 56950


③

webcode WWJRM010

STIRRING DRYBATH, 2mag

STIRRING DRYBATH
Stirring – Motor-less, 100% wear-free magnetic stirrer, powerful, wide speed range from 100 – 2,000 rpm, 100% synchronous rotation, power setting (4-level) for high performance when stirring large and viscous volumes and reduced power for non-heated permanent operation, digital display, SoftStart.

Heating – Solid, one-piece heating block, resistant aluminium alloy, PTFE coated, long useful life, easy to clean, integrated electrical heater, fast heat-up, even temperature distribution, maximum heating temperature +200 °C, smallest possible temperature gradient in the sample vessels, low-loss energy transfer on all sides, insulated stainless steel frame, low-energy and time-saving heat-up, even temperature distribution, independent over-temperature protection.

Separate control unit **heatMIXcontrol**, operation of magnetic stirrer and heater, independently settable overtemperature limiter, ideal for unsupervised operation e.g. overnight, stainless steel housing, compact, small footprint, connection for external P100 probe, RS232 interface.

Technical data:

Stirring positions:	15	15
Stirring positions distance:	65 mm	84 mm
Stirring volume:	150 ml	400 ml
Speed range:	100 – 2,000 rpm	100 – 2,000 rpm
Stirring power:	40 W (adjustable in 4 steps, 25/50/75/100%)	
Bore holes (Ø×T):	57.5 × 48 mm	71 × 78 mm
Material heating block:	aluminium alloy, PTFE-coated	
Material frame:	stainless steel	stainless steel
Temperature:	+20 to +200°C	+20 to +200°C
Over-temperature protection:	irreversible	irreversible
Dimensions (W×D×H):	280 × 430 × 120 mm	335 × 515 × 150 mm
Weight:	approx. 20.0 kg	approx. 35.0 kg
Protection category:	IP 20	IP 20
Electrical data:	230 Volt / 1.200 Watt	230 Volt / 1.200 Watt

	Article	Order No.
	2mag STIRRING DRYBATH 15-100 Stirring-heating block combination with 15 stirring positions, 15 bore holes, Ø 57.5 mm, depth 48 mm, distance 65 mm, suitable for 100 ml lab-flasks and for 150 ml beaker glasses	10 18 56310
④	**2mag STIRRING DRYBATH 15-250** Stirring-heating block combination with 15 stirring positions, 15 bore holes, Ø 71.5 mm, depth 78 mm, distance 84 mm, suitable for 250 ml lab-flasks and for 400 ml beaker glasses	10 18 56325


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Accessories

External probe sensor Pt100
External probe sensor Pt100 for control unit heatMIXcontrol, temperature sensor for direct controlling of the probe temperature.

Techincal data:

Sensor:	Pt100
Material:	Stainless steel
Dimensions (D×L):	Ø 5 × 90 mm
Cable lenght:	1 m
Weight:	approx. 0.1 kg

	Article	Order No.
⑤	External probe sensor Pt100	10 18 56910

Stand
Stand for vertical positioning of the control unit heatMIXcontrol, incl. assembling material.

Technical data:

Material:	Stainless steel
Dimensions (W×D×H):	225 × 132 × 150 mm
Weight:	approx. 1.0 kg

	Article	Order No.
⑥	Stand for heatMIXcontrol	10 18 56950


⑥

webcode To see other variants and accessories, please enter the webcode on our website.

Magnetic Stirrers with Heater

webcode WW7R3279



Heated Magnetic Stirrer, IDL

Magnetic stirrer with heating plate
With a highly resistant, ceramic coated heating plate for exceptional chemical resistance, especially against acids and alkalies. The robust aluminium die cast housing is ideal for daily laboratory use. Heavy-duty, electronically controlled motor can be used for both short and long-term tests.

Technical data

External (W × D × H):	205 × 260 × 110 mm
Stirring and heating plate:	190 × 190 mm (stainless steel with ceramic coating)
Stirring capacity:	max. 10 liters
Temperature range:	5°C over RT to 420°C
Heating power:	500 W
Speed range:	60 to 1500 min^{-1}
Power supply:	230 V, 50/60 Hz

Article	Order No.
Magnetic stirrer	**51 00 01003**

Magnetic Stirrer with Round Heating Plate, Type 2002 LED, IDL

webcode WW7R3353



Magnetic stirrer in an attractive modern-style casing.
- With LED displays for target value and actual value indication of temperature and speed; height of each LED indication 13 mm
- Casing made of aluminium casting
- With large setting buttons for heater and stirrer
- Thanks to the design of the heating plate, penetration of liquids into the interior of the magnetic stirrer is mostly prevented in case of overcooking or toppling
- The DC motor has no collector and is maintenance-free
- The ceramic coating of the aluminium heater plate allows for excellent heat transfer and protects the heating plate
- The integrated PID regulation programme in connection with the Pt1000 sensor provides for optimum temperature control accuracy and stirring speed
- The soft motor start-up (even if higher speeds are preselected) prevents the magnetic stirring staff from jumping out

Scope of delivery
Delivery COMPLETE with magnetic stirring staff and temperature sensor Pt1000. Comes without tripod parts.

Technical data:

Diameter heating plate:	135 mm
Heating power:	600 W
Temperature deviation with the use of the Pt1000:	±1°C
Max. stirring volume:	5 litres
Speed range adjustable:	from 50 to 1500 rpm
Heating temperature range:	from ambient temperature to 310°C
Warning LED indicator:	when surface is getting warmer than 50°C
Dimensions (W×D×H):	150 × 250 × 85 mm
Voltage:	200 to 240 V, 50/60 Hz
Weight:	2.5 kg
Protection class:	IP 42

Article	Order No.
Magnetic stirrer with heating plate, type 2002 LED	**10 00 02002**

Accessories

Article	Order No.
Frame rod with socket and clamp for mounting the temperature sensor	**10 00 02010**

Magnetic Stirrer with Square Heating Plate, Type 2005 LED, IDL

Magnetic stirrer with modern control panel casing and large heating plate
- With LED displays for target value and actual value indication of temperature and speed; height of each LED indication 13 mm
- Casing made of aluminium casting
- The integrated PID regulation programme in connection with the Pt1000 sensor provides for optimum temperature control accuracy and stirring speed
- With large setting buttons for heater and stirrer
- Thanks to the design of the heating plate, penetration of liquids into the interior of the magnetic stirrer is mostly prevented in case of overcooking or toppling
- Stainless steel heating plate with ceramic coating for high temperatures of up to 550 °C, with excellent mechanical strength

Continued on next page

Magnetic Stirrers with Heater

- With double overtemperature protection: via the device software, and via the temperature sensor
- The soft motor start-up (even if higher speeds are preselected) prevents the magnetic stirring staff from jumping out
- Warning light lights up from 50 °C surface temperature
- With digital timer, adjustable from 0 to 99 h 59 min



webcode WW7R3354

Scope of delivery
Delivery COMPLETE with magnetic stirring staff and temperature sensor Pt1000. Comes without tripod parts.

Technical data:

Dimensions heating plate:	185 × 185 mm
Material heating plate:	stainless steel, ceramic coated
Heating power:	1000 W
Temperature deviation:	up to 100°C ±1°C, >100°C 1%
Max. stirring volume:	20 litres
Speed range adjustable:	from 50 to 1500 rpm
Heating temperature range:	from ambient temperature to 310°C
Warning LED indicator:	when surface is getting warmer than 50°C
Dimensions (W×D×H):	220 × 350 × 100 mm
Voltage:	200 to 240 V, 50/60 Hz
Protection class:	IP 42

Article	Order No.
Magnetic stirrer with heating plate, type 2005 LED	**10 00 02005**

Accessories

Article	Order No.
Frame rod with socket and clamp for mounting the temperature sensor	**10 00 02010**

Magnetic Stirrers, Phoenix Instrument

webcode WWSB5010

PHOENIX instrument

Magnetic stirrer RSM-02HSP/HPP
- Magnetic stirrer of the latest generation
- Stirring capacity 20 Liter
- Indicator for hot surface
- Stainless steel plate (RSM-02HSP)
- Stainless steel plate with porcelain surface (RSM-02HPP)
- Heating function, 340°C
- Sturdy metal housing (IP 42)
- Digital control, backlit display
- RS 232 interface
- Connector for PT-1000, integrated control function
- Automatic deduction of PT-1000
- Comprehensive range of accessories
- 2 years warranty



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Technical data:	**RSM-02HSP**	**RSM-02HPP**
Voltage:	200 – 240 V	200 – 240 V
Power:	530 W	530 W
Max. stirring quantity H_2O:	20 l	20 l
Max. stirrer bar:	80 mm	80 mm
Plate Ø:	135 mm	135 mm
Plate material:	stainless steel	stainless steel with porcelain surface
Speed:	100 – 1500 rpm	100 – 1500 rpm
Speed control:	digital	digital
Temperature range:	RT +5 – 340	RT +5 – 340
Temperature adjustment:	digital	digital
RS-232 interface:	yes	yes
Dimensions:	160 × 280 × 85 mm	160 × 280 × 85 mm
Protection class:	IP-42	IP-42
Weight:	2.8	2.8

Article	Order No.
① Magnetic stirrer RSM-02 HSP	**10 13 70115**
② Magnetic stirrer RSM-02 HPP	**10 13 70116**

Accessories

Article	Order No.
Protective hood for RSM-01/02 without heating plate	**10 13 70340**
Protective hood for RSM-01/02 with heating plate	**10 13 70350**
PT-1000 for RSM-02 H, -02, -04, -05, -10	**10 13 70320**
Stand kit for PT-1000, RSM-01, -02, -04, -05	**10 13 70330**
Stand kit for RSM-10	**10 13 74335**
Protective hood for RSM10HS/HP	**10 13 74355**

Further accessories upon request.

webcode To see other variants and accessories, please enter the webcode on our website.

Magnetic Stirrers with Heater

webcode WWSB5009

Magnetic Stirrers, Phoenix Instrument



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Magnetic stirrer RSM-01
- Classical magnetic stirrer in a modern design
- Stirring plate stainless steel
- Model RSM-01 HS + HP heatable
- Robust design (metal housing, IP42)
- High stirring power
- 2 years warranty

Technical data:

Model:	RSM-01 HS	RSM-01 HP	RSM-01 S
Voltage:	200 – 240 V	200 – 240 V	200 – 240 V
Power consumption:	530 W	530 W	30 W
Max. stirring quantity H_2O:	20 l	20 l	20 l
Max. stirrers:	80 mm	80 mm	80 mm
Stirrer plate Ø:	135 mm	135 mm	135 mm
Material of stir plate:	stainless steel	stainless steeel with porcellain surface	stainless steel
RPM:	50 – 1500 rpm	50 – 1500 rpm	50 – 1500 rpm
Setting of speed:	manual	manual	manual
Temperature range:	RT+5°C – 340°C	RT+5°C – 340°C	–
Setting of temperature range:	manual	manual	–
Dimensions (W×D×H):	160×280×85 mm	160×280×85 mm	160×280×85 mm
Protection class:	IP42	IP42	IP42
Weight:	2.8 kg	2.8 kg	2.8 kg

	Article	Order No.
	Magnetic stirrer RSM-01 HS	**10 13 70112**
	Magnetic stirrer RSM-01 HP	**10 13 73111**
①	Magnetic stirrer RSM-01 S	**10 13 70113**



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Accessories

Article	Order No.
Protective hood for RSM-01/02 without heating plate	**10 13 70340**
Protective hood for RSM-01/02 with heating plate	**10 13 70350**
Stand kit for PT-1000, RSM-01, -02, -04, -05	**10 13 70330**

Further accessories upon request.

Magnetic stirrer with heating, digital
- Heating range up to 380°C
- Work plate 140 × 140 mm
- Maintenance-free, brushless motor
- Max stirring volume 5 Liter
- Easy-to-read LCD-display
- Digital control of speed and temperature
- Connector for external temperature sensor Pt-1000
- Built-in temperature control function
- 2 years warranty

Technical data:

Voltage:	200 – 240 V
Power:	530 W
Max. stirring quantity:	5 l H_2O
Max. stirrer bar:	50 mm
Plate:	140 × 140 mm
Plate material:	aluminium, with porcellain surface
Speed:	200 – 1500 rpm
Speed control:	digital
Temperature range:	RT +5 – 340°C
Temperature adjustment:	digital
Dimensions:	180 × 320 × 108 mm
Protection class:	IP-42
Weight:	2.2 kg

	Article	Order No.
②	Magnetic stirrer RSM-14HP+	**10 13 70114**

Magnetic Stirrers with Heater

Magnetic Stirrers, Phoenix Instrument

webcode WWSB5019

RSM-10HS / RSM-10HP

- LED-Display for accurate regulation of speed and temperature
- digital controled speed and temperature
- indicator for hot surface, even when the stirrer is shut-off
- connector for PT-1000
- integrated temperature control function
- holder for rod
- brushless motor
- 2 years warranty



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Technical data:

Voltage:	200–240 V
Max. stirring quantity (H_2O):	3 l
Stirring bar:	max. 50 mm
Stirring speed:	200 to 1500 rpm
Speed accuracy:	10 rpm
Display:	LED
Plate size:	Ø 135 mm
Temperature range:	RT+5°C to 280°C
Temperature accuracy:	1°C
Control accuracy:	±2°C
Heating power:	500 W
Dimensions (W×D×H):	155 × 215 × 100 mm
Weight:	1.5 kg

	Article	Plate	Order No.
①	Magnetic stirrer RSM-10HS	stainless steel	**10 13 74010**
	Magnetic stirrer RSM-10HP	porcelain coated	**10 13 74011**

RSM-05H

- sturdy full metal housing
- backlit digital display or LED
- glass ceramic hotplate
- selectable safety temperature (RSM-05H)
- hot plate warning, even when the stirrer is shut-off (RSM-05H)
- connector for PT-1000 (included in scope of delivery)
- integrated control function, no contact thermometer necessary
- RS232 Interface (RSM-05H)
- high stirring volume, up to 20 l with RSM-05H
- 2 years warranty



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Technical data:	**RSM-05H**
Voltage:	200–240 V
Power:	1050 W
Max. stirring quantity (H_2O):	20 l
Stirring bar:	max. 80 mm
Plate size:	184 × 184 mm, glass ceramic
Speed:	100 to 1500 rpm
Temperature range:	RT+5°C to 550°C
Safety temperature:	580°C
Temperature range:	LCD
RS232:	yes
Weight:	4.4 kg

	Article	Order No.
②	Magnetic stirrer RSM-05H	**10 13 74005**

Accessories

Article	Order No.
PT-1000 for RSM-02 H, -02, -04, -05, -10	**10 13 70320**
Stand kit for PT-1000, RSM-01, -02, -04, -05	**10 13 70330**
Stand kit for RSM-10	**10 13 74335**
Protective hood for RSM10HS/HP	**10 13 74355**

webcode To see other variants and accessories, please enter the webcode on our website.

Magnetic Stirrers with Heater

webcode WW1WS017

SI Analytics
a xylem brand



Laboratory Stirrers with Heating and Controlling, SI Analytics

Using the SLR laboratory stirrer with heating system, the process of mixing liquids can be selected from careful to intense, and the device can also be used for speedy heating up or controlled temperature adaptation.
All functions can be viewed and monitored on the large, clear LCD display. Stirrer and heater can be separately operated by means of hand rotary knobs.

The stirrer speed ranges from 100 to 1100 min^{-1} and can be set in steps of 10 min^{-1}.
The heating power can be set in 24 steps and reaches an average heating output of 0.9 kW at step 24. Connecting a Pt 1000 temperature sensor enables the temperature to be controlled between 25°C and 200°C at an accuracy level of ±2° to 5°C as a function of liquid volume, heat capacity and ambient temperature. The display informs the user at intervals of 5 s about the actual and the set temperature.

Technical data:

Speed:	100 to 1100 min^{-1}
Max. stirring volume:	10 l water
Heater power:	0.9 kW
Heated zones:	dia. 155 mm
Hot plate area:	235 × 235 mm
Max. hot plate temperature:	approx. 550°C
Temperature sensor connector:	yes, Pt 1000
Dimensions (W×H×D):	370 × 85 × 240 mm
Weight:	approx. 3.8 kg

Article	Order No.
Laboratory stirrer SLR 115 V	**51 27 16279**
Laboratory stirrer SLR 230 V	**51 27 16373**

webcode WW2NY407

for my lab neoLab



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neoMag® IR – Magnetic Stirrer with Infrared Heating Plate, neoLab®

The neoMag® IR – magnetic stirrer with infrared heating plate is ideal for complex heating and mixing applications. Compared to conventional steel heating plates, the IR heating plate has a more efficient heating behaviour with less heat loss and is thus more ecological. Bright and clear LCD digital display and setting for the working temperature, stirring speed, working time, and safety temperature. The sturdy steel housing ensures that the stirrer sits safely on the bench.

Properties:
- Advanced microprocessor controlling system guarantees the reliability and temperature stability
- Memory function for stirring speed and setting temperature, convenient for experiments with fixed conditions
- Direct connection for Pt100 temperature sensor for convenient solution temperature control
- Sealed outer shell and isolated critical parts design for enhanced longevity even in a harsh laboratory environment
- When the temperature of the top plate is above 60□, hot-top indicator lights up

	Article	Order No.
①	**neoMag® IR** infrared hot plate stirrer, 450°C, 1500 rpm	**10 01 06110**
②	**neoLabLine dry bath** for neoMag® IR magnetic stirrer, aluminium with PTFE insulation jacket for filling with aluminium heating pearls	**10 01 06111**
	neoLabLine alloy seeds for dry bath, 2 kg	**10 01 06112**

webcode

Use the webcode on our website to see a larger selection of products from a specific manufacturer.

Multiple Stirrers

Multiple Stirrers with Integrated Control, 2mag

webcode WWJRM001

Technical data:

	MIX 6	MIX 15	MIX 15 eco
Stirring points:	6	15	15
Stirring point distance:	130 mm	65 mm	65 mm
Stirring volume/ stirring point:	1 – 3.000 ml	1 – 3.000 ml	1 – 1.500 ml
Speed range:	100 – 2000 rpm	100 – 2000 rpm	120 – 1200 rpm
Stirring power (max.):	20 W	20 W	10 W
Power settings:	4-steps (5/10/15/20 W)		–
Material housing:	Stainless steel		
Dimensions (W×D×H):	245 × 425 × 38 mm		
Weight:	9.0 kg		
Protection class:	IP 65		
Operating voltage:	100–240 V / 50–60 Hz / 1,5 A		

2mag MIX 15

100% wear-free magnetic stirrer, without motor. 15 positions for 15 × 250 ml cup glasses (tall form), powerful, wide range of speeds from 100-2,000 rpm, 100% synchronized, power can be set in 4 levels for high power for large volumes of viscous material and reduced power for permanent operation without heating. Digital display, SoftStart,sealed stainless steel housing, easy to clean, robust, long service life, 3 years warranty, made in Germany.

	Article	Order No.
①	**Multiple magnetic stirrer 2mag MIX 15**	**10 18 53015**

2mag MIX 6

Technically identical with MIX 15, but with 6 positions for 6 × 1,000 ml conical flasks, positions spaced at 130 mm.

	Article	Order No.
②	**Multiple magnetic stirrer 2mag MIX 6**	**10 18 53006**

2mag MIX 15 eco

Budget option: Technically identical with MIX 15, but without power setting function and reduced power and speed range.

	Article	Order No.
③	**Multiple magnetic stirrer 2mag MIX 15 eco**	**10 18 53115**

2mag MIX XL
2mag MIX 12 XL

Motorless, 100% wear-free magnetic stirrer with 12 stirring positions, for 12 × 600 ml beaker glasses (tall form), power reserve for 3 liters per position, wide speed range 100-1,600 rpm, 100% synchronized speed, 4-step power setting, high power setting for viscous liquids and reduced power setting for long-term operation without any warming effect, digital display, SoftStart, sealed stainless steel housing, easy to clean, robust and reliable, 3 years warranty, Made in Germany.

2mag MIX 8 XL

Identical to MIX 8 XL, but with 8 stirring positions for 8 × 600 ml beaker glasses (high form).

Technical data:	MIX 8 XL	MIX 12 XL
Stirring points:	8	12
Stirring point distance:	90 mm	
Stirring volume/point:	1 - 3,000 ml	
Speed range:	100 - 1,600 rpm	
Stirring power (max.):	20 W	
Power setting:	4-step (5/10/15/20 W)	
Material housing:	Stainless steel	
Dimensions (W×D×H):	185×420×38 mm	275×420×38 mm
Weight:	7.8 kg	10.2 kg
Protection category:	IP 65	
Electrical data:	100–240 volts / 50-60 Hz / 1.5 A	

	Article	Order No.
④	**Multiposition stirrer 2mag MIX 12 XL**	**10 18 53212**
⑤	**Multiposition stirrer 2mag MIX 8 XL**	**10 18 53208**


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Multiple Stirrers



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2mag MIX 4 MS

Motorless, 100% wear-free magnetic stirrer with **4 individually and independent controlled stirring positions** (speed and ON/OFF), for 4 × 2,000 ml Erlenmeyer flasks, power reserve for 3 liter per position, wide speed range 100 – 2,000 rpm, digital display, SoftStart, sealed stainless steel housing, easy to clean, robust and reliable, 3 years warranty, Made in Germany.

Technical data:	**2mag MIX 4 MS**
Stirring points:	4
Stirring point distance:	140 mm
Stirring volume/point:	1 – 3,000 ml
Speed range:	100 – 2,000 rpm
Stirring power (max.):	28 W (4×7 W)
Material housing:	Stainless steel
Dimensions (W×D×H):	245×425×38 mm
Weight:	9.1 kg
Protection category:	IP 65
Electrical data:	100–240 volts / 50-60 Hz / 1.5 A

Article	Order No.
① **Multiposition stirrer 2mag MIX 4 MS**	**10 18 53404**

webcode WWSB5011

Multiple Channel Magnetic Stirrers, Phoenix Instrument

RSM-03-10
Multiple channel magnetic stirrers RSM-03
- 10-point magnetic stirrer
- Heatable, model RMS-03-10KH
- Sturdy design (IP42)
- Infinitely adjustable speed
- Silicon-coated surface
- Even distribution of temperature
- 2 years warranty



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Technical data:

Model:	**RSM-03-10KH**	**RSM-03-10K**
Voltage (V):	200 – 240	200 – 240
Power consumption (W):	490	20
Number of stirring points:	10	10
max. stirring quantity (l H_2O):	0.4/stirring point	0.4/stirring point
Stirrers (max. in mm):	40	40
Material of stir plate:	Stainless steel with silicone coating	Stainless steel with silicone coating
RPM:	50 – 1100	50 – 1100
Setting of speed:	manual	manual
Temperature range:	RT–120	–
Setting of temperature range:	manual	–
Dimensions (W×D×H mm):	182×552×65	182×552×65
Protection class:	IP42	IP42
Weight (kg):	3.2	3.2

Article	Order No.
② Multiple magnetic stirrer RSM-03-10KH	**10 13 70311**
Multiple magnetic stirrer RSM-03-10K	**10 13 70312**

Stirring Rods

webcode WW7R3005



Stirring Rods, AR-Glas, IDL

Stirring rods made of solid glass, round fused ends.

Length mm	Outer Ø mm	**Order No.**	PU pc/Pack
150	4	**15 00 01504**	10
200	5	**15 00 02005**	10
250	6	**15 00 02506**	10
300	7	**15 00 03007**	10

❗ Available only in original packaging units. No fractions possible.

Stirring Rods

Stirring Rods, neoLab®

webcode WW2NY151



① **Stirring rods made of wood, for once-only use**

Article	Length mm	Ø mm	Order No.	PU pc/Pack
Wood stirring bars	250	6	**37 01 17050**	100
Wood stirring bars	200	5	**37 01 17049**	100
Wood stirring bars	150	4	**37 01 17048**	100

Available only in original packaging units. No fractions possible.

② **Stirring rods made of glass**

Length mm	Ø mm	Order No.	PU pc/Pack
150	4	**10 01 74000**	10
200	5	**10 01 74001**	10
250	6	**10 01 74002**	10
300	7	**10 01 74003**	10

Available only in original packaging units. No fractions possible.

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Stirrers

Stirrers, IDL

webcode WW7R3185

Laboratory stirrers for all stirring tasks up to the “medium viscosity” range. Handy size, slender design and minimal weight, insertable stirring rods and universal use of stirring tools by means of a precision chuck are all outstanding features of these units.

Stirrer for stirring capacities up to 50 l
Electronically controlled, sturdy laboratory stirrer, 18 Ncm, stirring rod non-insertable.

Technical Data RE 18:

Drive:	Permanently actuated DC drive
Speed range:	110 to 2000 rpm (RE18)
Power output:	85 W
Torque across the total speed range:	18 Ncm (RE18)
Chuck range:	0.5 to 10.5 mm
Viscosity of medium:	RE18 low viscosity medium (runny)
Mains voltage:	200 V to 250 V, 50/60 Hz
Diameter of arm:	13 mm
Weight:	approx 2.1 kg
Dimensions (W×D×H):	65 × 108 × 100 mm (plus 55 mm for chuck)
Permissible ambient temperature:	+5°C to +40°C max. 80% relative humidity
Permissible operating time:	100%

Article	Order No.
Stirrer RE 18	**51 00 23010**

Supplied without the illustrated accessories



Stirrers for Laboratories, Phoenix Instrument

webcode WWSB5017

③ **Analog stirrers RSO-20A / RSO-40A**

- digital speed readout
- stepless speed adjustment
- very quiet operation
- stick-through stirring shaft
- overload protection
- 2 years warranty

Technical data:	**RSO-20A**	**RSO-40A**
Max. stirring quantity (H_2O):	20 l	40 l
Motor rating input:	70 W	130 W
Speed range:	50 to 2200 rmp, infinitely	50 to 2200 rmp, infinitely
Speed display:	LED	LED
Max. viscosity:	10,000 mPas	50,000 mPas
Max. Torgue:	30 Ncm	60 Ncm
Ø Chuck range:	0.5 to 10 mm	0.5 to 10 mm
Push through shaft:	yes	yes
Torgue display:	no	no
Dimensions (W×H×D):	83 × 220 × 186 mm	83 × 220 × 186 mm
Weight:	2.5 kg	3.5 kg
RS232:	no	no
Voltage:	100-240 V	100-240 V

Article	Order No.
Stirrer RSO-20A	**10 13 75520**
Stirrer RSO-40A	**10 13 75540**



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Continued on next page

Stirrers





① Digital stirrers RSO-20D / RSO-40D

- digital stirrer with LCD-display
- micro-processor controled speed accuracy
- smooth start procedure
- very quiet operation
- overload protection
- stick-through stirring shaft
- selectable display of speed/torgue
- RS232 Interface
- 2 years warranty

Technical data:	RSO-20D	RSO-40D
Max. stirring quantity (H_20):	20 l	40 l
Leistungsaufnahme:	70 W	130 W
Speed range:	50 to 2200 rpm, infinitely	50 to 2200 rpm, infinitely
Speed accuracy:	±3	±3
Speed display:	LCD	LCD
Max. viscosity:	10.000 mPas	50.000 mPas
Max. torgue:	30 Ncm	60 Ncm
Ø chuck range:	0.5 to 10 mm	0.5 to 10 mm
Push through shaft:	yes	yes
Torgue display:	yes	yes
Dimensions (W×H×D):	83 × 220 × 186 mm	83 × 220 × 186 mm
Weight:	2.5 kg	3.5 kg
RS232:	yes	yes
Voltage:	100–240 V	100–240 V

Article	Order No.
Stirrer RSO-20D	**10 13 75220**
Stirrer RSO-40D	**10 13 75240**

Accessories

Article	Order No.
② **Plate stand RSO-E 07** plate stand with holding clamp and limiter	**10 13 75307**
Propeller stirrer RSO-E 10 with 4 blades, stirrer diameter 50 mm	**10 13 75310**
Paddle stirrer RSO-E 11 stirrer diameter 70 mm	**10 13 75311**
Propeller stirrer RSO-E 12 with a flexible blade	**10 13 75312**
Centrifugal stirrer RSO-E 13 stirrer diameter 90 mm	**10 13 75313**



PLR Compressed Air Laboratory Stirrers With Tachometer, Buddeberg

The PLR comporessed air laboratory stirrers with tachometer up to 25 l for use in potentially explosive atmospheres are designed for all kinds of standard mixing tasks. The vane type, air-driven motor offers a high power density and is significantly lighter and smaller than an equivalent electric motor.

General specifications:

- Operating pressure max. 6 bar
- Air consumption 260 l/min at 6 bar
- Power output 200 W at 6 bar
- Clockwise rotation
- ATEX certification in accordance with Directive 2014/34/EU

Basic models include:

- All-stainless steel housing, grade 1.4305
- Continuously adjustable speed control valve
- Analogue tachometer
- Support arm Ø 14 mm
- Tubing nozzle connector for NW 5
- Output shaft (L x Ø) 26 x 10 mm

Technical data:	Viscosity	ATEX Code
PLR 10 T	1000 mPas	II 2G Ex h IIC T4 Gb
PLR 11 T	50000 mPas	II 2G Ex h IIC T5 Gb
PLR 12 T	70000 mPas	II 2G Ex h IIC T5 Gb
PLR 28 T	100000 mPas	II 2G Ex h IIC T5 Gb
PLR 13 T	150000 mPas	II 2G Ex h IIC T5 Gb

Type	Volume max. l	Idling speed rpm	Torque Nm	Order No.
PLR 10T	3	15000	0.3	**51 14 61010**
PLR 11T	20	1800	3.5	**51 14 61110**
PLR 12T	25	950	5.3	**51 14 61210**
PLR 28T	25	550	10.4	**10 14 52810**
PLR 13T	25	80	19.8	**51 14 61310**

All models available as “GA version” featuring exhaust air ducting by means of a separate tubing connector.
Connection coupling VK 10 required for the connection to a stirring shaft.

Stirrers

Compressed Air Stirrers, Buddeberg



① **PLR compressed air laboratory stirrers up to 25 l for use in potentially explosive atmospheres**

PLR compressed air laboratory stirrers are designed for all kinds of standard mixing tasks. The vane type, air-driven motor offers a high power density and is significantly lighter and smaller than an equivalent electric motor.

General specifications:
- Operating pressure max. 6 bar
- Air consumption 260 l/min at 6 bar
- Power output 200 W at 6 bar
- Clockwise rotation
- ATEX certification in accordance with Directive 2014/34/EU

Basic models include:
- All-stainless steel housing, grade 1.4305
- Continuously adjustable speed control valve
- Support arm Ø 14 mm
- Tubing nozzle connector
- Output shaft (L x Ø) 26 x 10 mm

Technical data:	Viscosity	ATEX Code
PLR 10	1000 mPas	II 2G Ex h IIC T4 Gb
PLR 11	50000 mPas	II 2G Ex h IIC T5 Gb
PLR 12	70000 mPas	II 2G Ex h IIC T5 Gb
PLR 28	100000 mPas	II 2G Ex h IIC T5 Gb
PLR 13	150000 mPas	II 2G Ex h IIC T5 Gb

Type	Vol. max. l	Idling speed rpm	Torque Nm	Order No.
PLR 10	3	15000	0.3	**10 14 52473**
PLR 11	20	1900	3.5	**10 14 52510**
PLR 12	25	1000	5.3	**10 14 52602**
PLR 28	25	580	10.4	**10 14 52820**
PLR 13	25	80	19.8	**10 14 52688**

All models available as “GA version” featuring exhaust air ducting by means of a separate tubing connector.
Connection coupling VK 10 required for the connection to a stirring shaft.



②

Accesories for compressed air stirrers type PLR
Connection couplings VK

Fixed-diameter connection for motor and stirring rod. Suitable for use in potentially explosive atmospheres.

	Type	for stirrer shaft Ø mm	Order No.
②	VK 10 × 8	8	**10 14 57429**
	VK 10 × 10	10	**10 14 57416**

Alternative diameters available on request.



③



④

Stands
Floor stand BS
Side length 600 mm, rod Ø 34 mm

Wall bracket WS
Rod Ø 34 mm, clearance from wall: 200 mm

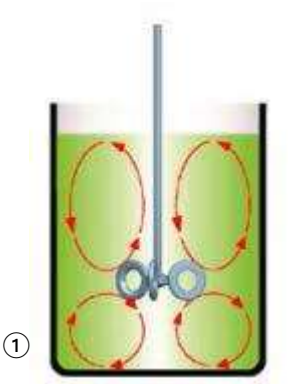
	Type	Specification	Length mm	Order No.
③	BS 1	Floor stand	1000	**10 14 50868**
	BS 2	Floor stand	1500	**10 14 50837**
④	WS	Wall bracket	1000	**10 14 50875**

Your specialized laboratory dealer –
fast, competent and economical

Stirrers



①



①

Stirrers, Buddeberg

① **BuddeMix Stirring System**
This stirring system has been conceived to mix low viscosity fluids as well as highly viscous media at slow speeds.

Its special design creates inherent dynamic currents to produce perfectly homogeneous mixing results in very little time. Additional components like baffles, bottom bearings, etc. are not needed.

Advantages at a glance:
- Suitable for low to highly viscous fluids
- Stirs media containing solids and fibres without any difficulty
- Gentle, low-shear stirring, due to slow stirring speed
- Constant product temperature, with no heating effect
- Short mixing times as the entire contents of the container are agitated
- No air addition, no foaming
- No baffles required
- Low gear wear due to balanced forces
- Minimal power consumption thanks to low speeds and short operation times
- Easy cleaning

Particularly for potentially explosive atmospheres:
- A single stirring zone, near to the container base, ensures easy mixing of settled residues, e.g. in flow-through mixing containers
- No baffles required, thus no additional sources of ignition

	Type	Material No.	Length mm	Ø Stirrer mm	Ø Shaft mm	Order No.
①	BuddeMix 1	1.14404	350	60	10	**10 14 56001**
	BuddeMix 2	1.14404	350	80	10	**10 14 56002**
	BuddeMix 3	1.14404	550	120	10	**10 14 56003**
	BuddeMix 4	1.14404	850	150	10	**10 14 56004**



②

② **Propeller stirring rotors type PR**
The 3-blade propellers produce axial flow and reduce shear forces to a minimum, even at high stirring speeds, thanks to their optimised blade design. Recommended for medium to high speed operations.

Type	Ø Stirrer mm	Ø Shaft mm	Wave length mm	Order No.
PR 2	55	8	350	**10 14 57001**
PR 5	75	10	550	**10 14 57005**

All stirring rotors made from stainless steel. Alternative stirrer sizes and/or shaft lengths are available on request.



③

③ **Dissolver stirring rotors type DS**
Dissolver stirring rotor type DS creates a radial flow with high turbulence. The mixture is drawn from top to bottom. High shear forces are created at the dissolver disk, which provides effective particle reduction. Recommended for medium to high speed operations.

Type	Ø Stirrer mm	Ø Shaft mm	Wave length mm	Order No.
DS 1	30	8	350	**10 14 57101**
DS 3	50	10	550	**10 14 57103**
DS 6	80	10	550	**10 14 57106**

All stirring rotors made from stainless steel. Alternative stirrer sizes and/or shaft lengths are available on request.



④

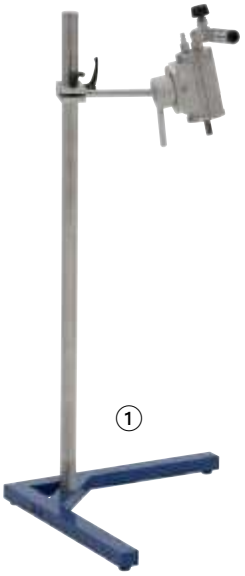
④ **Diagonal blade stirring rotors type PSR**
The 4-blade diagonal blade stirring rotor provides axial flow and creates increasing shear forces at higher stirring speeds. Recommended for medium to high speed operations.

Type	Ø Stirrer mm	Ø Shaft mm	Wave length mm	Order No.
PSR 1	50	8	350	**10 14 57201**
PSR 3	100	10	550	**10 14 57203**

All stirring rotors made from stainless steel. Alternative stirrer sizes and/or shaft lengths are available on request.

Stirrers

Compressed Air Industrial Stirrers, Buddeberg





① **Compressed air floor standing stirrer type BSR 64**
Basic models include:

- Continuously adjustable speed control valve
- Spherical clamping device with support arm Ø 16 mm, length 200 mm
- Floor stand with rod (height 1000 mm, width 600 mm)
- Bosshead
- Tubing clip connector
- Silencer
- ATEX certification: II 2G Ex h IIC T5 Gb

Type		BSR 64/160-A-V	BSR 64/65-A-V	BSR 64/30-A-V
Power rating	W	640	640	640
Volume max.	l	200	200	200
Viscosity approx.	mPa/s	20000	50000	100000
Idling speed	rpm	1600	650	300
Torque	Nm	4.7	9.4	21
Order No.		**10 14 54941**	**10 14 54958**	**10 14 54965**

Connection coupling VK 14 required.

② **Accessories for compressed air industrial stirrers**
Connection coupling required to connect motor and stirring shaft. All types made from stainless steel grade 1.4404.



Article	Order No.
VK 14 × 10 mm	**10 14 57058**
VK 14 × 12 mm	**10 14 56471**
VK 14 × 14 mm	**10 14 57447**
VK 14 × 20 mm	**10 14 50790**

Additional sizes available on request.

Stirring rotors for compressed air industrial stirrers
Propeller stirring rotor type PR, the 3-blade propellers produce axial flow, and reduce shear forces to a minimum, even at high stirring speeds, thanks to their optimised blade design. Recommended for medium to high speed operations. Model type PR 4 as screw design.

Dissolver stirring rotor type DS creates a radial flow with high turbulence. The mixture is drawn from top to bottom. High shear forces are created at the dissolver disk, which provides effective particle reduction. Recommended for medium to high speed operations.

BuddeMix stirring systems create inherent dynamic currents to produce perfectly homogeneous mixing results in very little time. This means gentle, low-shear stirring at slow stirring speed.

BuddeMix swing-out stirring system SW is specially designed for the use with industrial drums and containers. Foldable stirrers available for bunghole openings of 2″ to 150 mm.

	Type	Ø Stirrer mm	Ø Shaft mm	Wave length mm	Order No.
③	PR 4 (screw)	140	10	850	**10 14 51261**
	PR 9	100	14	850	**10 14 51339**
	PR 11	150	14	1000	**10 14 51353**
④	DS 9	150	14	1000	**10 14 51513**
	DS 10	200	20	1000	**10 14 51520**
⑤	BuddeMix 6	170	12	550	**10 14 55290**
	BuddeMix 7	210	14	850	**10 14 55306**
⑥	BuddeMix SW 4	300/44	14	750	**10 14 55740**

Stirrer seals, shafts see page 333

Vibratory Shakers

webcode WWQJ3068

MixMate®, Eppendorf







MixMate is a compact and fascinatingly versatile mixer, which has been developed especially for the quick and controlled mixing of small volumes(5 µl -2 ml) in diverse plate formats and test tubes. The quick and precisely controlled mixing movements (2D mix control) enable homogenous and reproducible mixing of all tube formats with Anti-Spill technology. MixMate is used in almost all application areas in which test tubes, PCR-plates and strips, Deepwell plates and MTPs are used. The integrated vortex-function, with intelligent 2-second lag for ergonomic working, round off the unique profile.

- 2DMix-Control: very quick and efficient mixing of small volumes (5 µl -2ml)
- 3-in-1 format: mixes plates, test tubes and vortex
- Anti-Spill-technology: controlled mixing movements prevent lid sprinkling and spilling
- Universal holder enables safe mixing of all MTP-plate formats (up to 96-and 384-Well-format) PCR-plates (skirted, semi-skirted, unskirted)
- Tube holders enable controlled mixing of test tubes (0.2 ml to 2.0 ml) and PCR-strips
- Pre-programmed direct selection keys: ideally coordinated mixing frequency and duration for each plate type and tube
- Vortex-function: touch vortex or continuous vortex for mixing individual tubes
- Automatic balance recognition
- High stability, even at maximum mixing frequency
- User-friendly
- IvD-conform

	Article	Order No.
①	**MixMate®, without tube holders** 230 V/50 – 60 Hz (EU)	**10 69 30510**
	Tube holder 0.5 ml For 24 × 0.5 ml reaction vessels	**10 69 34121**
	Tube holder 1.5/2.0 ml For 24 × 1.5 ml or 2.0 ml reaction vessels	**10 69 34130**
	Tube holder 5/15 ml For 8 conical 5/15 ml tubes	**10 69 84148**
	Tube holder 25/50 ml For 4 conical 30/50 ml tubes	**10 69 34156**
	Tube holder PCR 96 For 96 × 0.2 ml PCR tubes, PCR strips or 1 × 96-well PCR plate, semi-skirted or unskirted	**10 69 34113**

webcode WW2NY334

Vortex Mixer Genie®, neoLab®





Vortex-Genie®, the universal small shaker!
- High-speed vortexer
- Quick vortexing of problematic samples
- Easy to operate
- Circular motion, 6 mm orbit
- Including rubber plate (inner 2.5 cm Ø) and with 7.6 cm platform
- Top pieces easily exchangeable

Vortex Genie® 2
Variably adjustable shaking frequency from 600 to 2700 RpM
Non-stop function or Press-to-Mix
Can be used in cold rooms and incubators

Vortex Genie® 2 T
As Vortex Genie® 2, but additionally with integrated timer: Press-to-Mix 1-60 sec., operation 1-60 min. or non-stop operation, with automatic stop after end of process.

Vortex Genie® 2 Digital
As Vortex Genie® 2 T, but additionally with digital control of speed and time.
A digital display shows accuracy, reproducibility.
Timer function: Press-to-Mix 1-90 sec, operation 1-99 min. or non-stop operation.

Dimensions: 165 × 122 × 165 mm (W × D × H)
Weight: 4 kg
Power Supply: 240 V, 50 Hz

	Article	UpM	Order No.
②	Vortex Mixer Genie® 2	600-2700	**10 01 70092**
③	Vortex Mixer Genie® 2 T	600-2700	**10 01 70093**
④	Vortex Mixer Genie® 2 Digital	600-2700	**10 01 70094**

Continued on next page

Vibratory Shakers

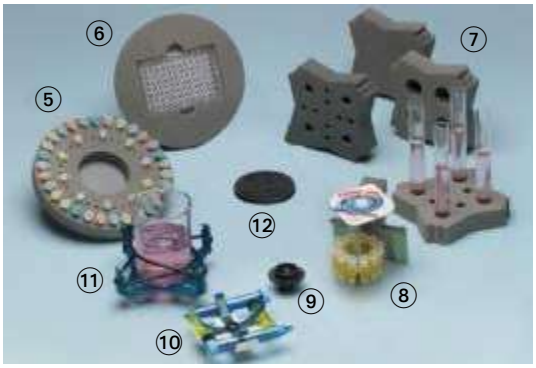
Accessories

You will need as adapter the shaking plate no. 100170503 for assembling the attachments for reaction vessels and microplates.

The angle plate order no. 100170512 you will need as adapter for the attachments for test tubes. The elastic bands for shaking of glasses, flasks, bottles or the like are included in delivery of the angle plate.

	Article	Order No.
⑤	Shaking disk 15 cm Ø, adapter for 100170504/-05	**10 01 70503**
⑤	Attachment for 60 test tubes	**10 01 70504**
⑥	Attachment for microtitration plates	**10 01 70505**
⑦	Attachment for 12 test tubes 9-16 mm Ø	**10 01 70506**
⑦	Attachment for 8 test tubes14-29 mm Ø	**10 01 70507**
⑦	Attachment for 4 test tubes 29-37 mm Ø	**10 01 70508**
⑧	TurboMix® attachment for 12 × 1.5 ml	**10 01 70509**
⑨	Alternate standard attachment	**10 01 70510**
⑩	Attachment for 4 test tubes 10-17 mm Ø	**10 01 70511**
⑪	Recessed platform + 2 elastic bands for glasses, flasks, bottles	**10 01 70512**
⑫	Alternate shaking disk 7.5 mm Ø, with rubber disk	**10 01 70513**





neoVortex, neoLab®

webcode WW2NY349

neoVortex

Vortex mixer with infinitely variable speed from 0 to 2500 rpm or with fixed speed from 2500 rpm.

- Press-to-Mix or continuous function
- Orbital movement, 4 mm orbit
- Specially designed silicone feet and steel base for excellent vibration damping
- Sturdy cast casing

Technical data:

Power output:	10 W
Power:	60 W
Ambient temperature:	5 – 40°C
Relative humidity:	max. 80%
Voltage:	200 – 230 W, 50/60 Hz
Dimensions (W × H × D):	127 × 130 × 160 mm
Weight:	3.5 kg
Protection class:	IP 21

Type	Speed rpm	Order No.
neoVortex with variable speed	0 – 2500	**10 01 06012**
neoVortex with fixed speed	2500	**10 01 06013**



Accessories

Article	with	Order No.
Spare platform head, Ø 30 mm		**10 01 96030**
Support bar		**10 01 96031**
Universal holding plate, Ø 100 mm		**10 01 96032**
Mount for 48 tubes, Ø 6 mm	...6031/...6032	**10 01 96033**
Mount for 15 tubes, Ø 10 mm	...6031/...6032	**10 01 96034**
Mount for 12 tubes, Ø 12 mm	...6031/...6032	**10 01 96035**
Mount for 8 tubes, Ø 16 mm	...6031/...6032	**10 01 96036**
Mount for 8 tubes, Ø 20 mm	...6031/...6032	**10 01 96037**
Universal attachment for tubes and vials up to Ø 99 mm	...6032	**10 01 96038**
4 spare suction feet with screws for neo-Vortexer ...6012/13		**10 01 96039**

webcode To see other variants and accessories, please enter the webcode on our website.

Vibratory Shakers



Ohaus Mini Vortex Mixers, METTLER TOLEDO

Sturdy, robust and low-cost
- Safe stand, designed for a long service life, robust drive
- Choose from digital, analogue, or fixed-speed models
- Separate displays for speed and time, all data at a glance (digital models)
- Microprocessor-controlled for even mixing (digital models)
- Incl. cup and 7.6 cm head (for beakers, flasks,...), stainless steel holder for twelve test tubes (for VXMNPS), with click fastener for easy change of heads.
- Ample range of accessory attachments for different tubes

Technische Daten:	VXMNAL	VXMNDG	VXMNFS	VXMNPS
Speed range[1]:	500 – 2500 U/min	300 – 2500 U/min	2500 U/min	500 – 2500 U/min
Duty rating:	intermittent	intermittent	intermittent	intermittent
Timer:	–	1 s – 160 h	–	1 s – 160 h

[1] the maximum speed depends on the accessories used

Article	Order No.
Ohaus mini vortex mixer VXMNAL Analogue Vortex mixer, orbit: 4.9 mm Control: Auto/Off/On, rotary button for speed	**10 97 02117**
Ohaus mini vortex mixer VXMNDG Digital Vortex mixer, orbit: 4.9 mm Control: Auto/Standby/On, displays for speed/time, Up/Down adjustment buttons	**10 97 02124**
Ohaus mini vortex mixer VXMNFS Fixed-speed Vortex mixer, orbit: 4.9 mm	**10 97 02110**
Ohaus mini vortex mixer VXMNPS Digital Vortex mixer with pulse function, orbit: 2.5 mm Control: Auto/Standby/On, displays for speed/time, Up/Down adjustment buttons, pulse button	**10 97 02131**

webcode WW2NY358



for my lab neoLab

Mini Vortex Mixer Sunlab®, neoLab®

Thanks to its compact size, the Sunlab® Mini Vortex Mixer SU1900 does not take up much space in the laboratory. With a shaking frequency of 3000 UpM, it quickly and efficiently mixes samples with a volume of max. 50 ml and a vessel diameter of max. 30 mm.

- Small & light-weight (0.55 kg), small footprint
- Easy to use
- Requires low activation pressure

Article	Order No.
Mini Vortex Mixer	**10 01 98900**

webcode WW2NY357



Vortexmaster Sunlab®, neoLab®

With its weight of 4 kg, this heavy Vortexmaster has a firm footing on the worktop, even at high speeds. Holders for reaction vessels (7 × 1.5/2 ml) or micro-titration plates available as accessories.
- With digitally controlled timer and speed
- Touch control timed or continuous run
- 200 – 3000 rpm
- With big LED display
- Dimensions: 205 × 155 × 108 mm

Article	Order No.
Vortexmaster	**10 01 98901**
Microplate holder head	**10 01 98902**
Holder head for 7 × 1.5/2 ml reaction vessels	**10 01 98903**
Adapter for ...8903	**10 01 98904**

Vibratory Shakers

Vortexer, Phoenix Instrument

webcode WWSB5038

Vortexer RS-VF 10 / RS/VA 10
- Touch or permanent operation
- Variable speed from 0-2500 rpm (RS-VA 10)
- Anti-slip silicon feet
- Various adapters are available for the RS-VA 10
- Sturdy housing
- Incl. 1 universal adapter for vessels of max. 30 mm

Technical data:

Model:	**RS-VF 10**	**RS-VA 10**
Voltage:	220 – 230 V	220 – 230 V
Power consumption:	60 W	60 W
Shaking movement:	orbital	orbital
Shaking stroke:	4 mm	4 mm
Speed:	2500 rpm	0 – 2500 rpm
Dimensions (W×D×H):	127 × 160 × 130 mm	127 × 160 × 130 mm
Protection class:	IP21	IP21
Weight:	3.5 kg	3.5 kg

	Article	Order No.
	Vortexer RS-VF 10	**10 13 76010**
①	Vortexer RS-VA 10	**10 13 76110**

Accessories on request.



①

Thermal Mixers

ThermoMixer® C, Eppendorf

webcode WWQJ3060

The **Eppendorf ThermoMixer®C** combines unique mixing performance with excellent temperature control to consistently guarantee complete, dependable and reproducible test results. Improve your assay results by mixing and incubating samples at the same time.

- Excellent mixing performance due to unique 2DMix-Control technology
- Prevent condensation and improve temperature homogeneity with the new ThermoTop
- Ergonomic design
- Eppendorf QuickRelease™ technology for simple exchange of SmartBlocks
- Maximum flexibility due to large selection of exchangeable SmartBlocks
- Heating, mixing and cooling in all commercially available tube and plate formats from 5 µl to 50 ml

Eppendorf ThermoTop® – The perfect addition
Now you can control the temperature of your samples with ease: The new ThermoTop with its unique condens.protect technology reliably prevents condensation formation on the tube lid and wall. The Eppendorf ThermoTop allows for easy, intuitive operation and does not need an additional cable connection. When the ThermoTop is placed on the device, it begins heating immediately. The temperature optimally adapts to the test temperature to ensure that it does not negatively affect the sample. Condensation droplets have no opportunity to form.

	Article	Order No.
②	**ThermoMixer® C** Base unit without Eppendorf SmartBlock™, 220 V–240 V	**10 69 82015**
③	**ThermoTop®** with condens.protect® technology	**10 69 83003**
	SmartExtender, 1,5 ml	**10 69 80008**



②



③

Use the webcode on our website to see a larger selection of products from a specific manufacturer.

webcode

Thermal Mixers

webcode WWQJ3061



ThermoMixer® F1.5/FP, Eppendorf

These products are perfect for mixing and heating of routine applications. The Eppendorf ThermoMixer® F0.5/F1.5/F2.0 and FP have one fixed holder each for 0.5/1.5/2.0 ml vessels and plates.

Use the optional heated lid Eppendorf ThermoTop to reliably prevent the formation of condensate in small vessels.

Properties and benefits of the Eppendorf ThermoMixer F

- Heating and mixing in 0.5/1.5/2.0 ml reaction vessels (F0.5/F1.5/F2.0) or plates (FP)
- Up to 1,500 rpm (F1.5/F2.0) or 2,000 rpm (F0.5/FP) for efficient sample mixing
- Excellent mixing performance thanks to the unique 2DMix-Control technology
- Compatible with Eppendorf ThermoTop (condens.protect®) for sample handling without condensation
- Pre-defined temperature buttons (37°C, 42°C, 56°C and 95°C) for simple and intuitive operation
- Less waiting thanks to extremely fast heating of up to 18°C/min

	Article	Order No.
①	**ThermoMixer® F0.5** with thermoblock for 24 reaction vessels 0.5 ml, 220 – 240 V / 50 – 60 Hz	**10 69 86010**
②	**ThermoMixer® F1.5** with thermoblock for 24 reaction vessels 1.5 ml, 220 – 240 V / 50 – 60 Hz	**10 69 84012**
③	**ThermoMixer® F2.0** with thermoblock for 24 reaction vessels 2.0 ml, 220 – 240 V / 50 – 60 Hz	**10 69 87013**
④	**ThermoMixer® FP** with thermoblock for microplates and deepwell plates, including lid, 220 – 240 V / 50 – 60 Hz	**10 69 85016**
	Lid for Eppendorf ThermoMixer® F0.5 / F1.5 / F2.0 and FP, for Eppendorf SmartBlock™ 0.5 – 2.0 ml, plates, PCR 96, PCR 384 and DWP	**10 69 30233**
	ThermoTop® with condens.protect® technology	**10 69 83003**
	SmartExtender, 1,5 ml	**10 69 80008**

webcode WWQJ3071



SmartBlocks™, Eppendorf

For the Eppendorf ThermoMixer C and the ThermoStat C, Eppendorf offers a great variety of exchangable SmartBlocks for all commercially available tube formats from 5 µl to 50 ml.

- With Eppendorf QuickRelease™ technology for quick and easy changing
- With optimated block design for excellent temperature transfer to the sample

Article	Order No.
SmartBlock™ 0.5 ml thermoblock for 24 test tubes 0.5 ml	**10 69 53610**
SmartBlock™ 1.5 ml thermoblock for 24 test tubes 1.5 ml	**10 69 53600**
SmartBlock™ 2.0 ml thermoblock for 24 test tubes 2.0 ml	**10 69 53620**
SmartBlock™ 5 ml thermoblock for 8 Eppendorf Tubes® 5.0 ml, 8 × 5.0 ml reaction vessels	**10 69 70007**
SmartBlock™ 15 ml thermoblock for 8 conical vessels 15 ml	**10 69 53660**
SmartBlock™ 50 ml thermoblock for 4 conical vessels 50 ml	**10 69 53650**
SmartBlock™ 12 mm thermoblock for 24 test tubes Ø 11 – 11,9 mm	**10 69 53640**
SmartBlock™ cryo thermoblock for 24 cryo tubes 1.5 – 2.0 ml, all bottom shapes	**10 69 53670**
SmartBlock™ plates thermoblock for micro test plates and deepwell plates, incl. lid	**10 69 53630**
SmartBlock™ PCR 96 thermoblock for PCR plates 96, incl. lid	**10 69 53060**
SmartBlock™ PCR 384 thermoblock for PCR plates 384, incl. lid	**10 69 53070**
Eppendorf SmartBlock™ DWP 500 thermoblock for Eppendorf Deepwell Plates 96/500 µL, incl. lid	**10 69 60004**
Eppendorf SmartBlock™ DWP 1000 thermoblock for Eppendorf Deepwell Plate 96/1,000 µL, incl. lid	**10 69 10002**

Continued on next page

Thermal Mixers

Accessories:

Article	Order No.
Transfer Rack 0.5 ml for Eppendorf SmartBlock™ 1.5 ml and Eppendorf SmartBlock™ 2.0 ml	**10 69 80305**
Transfer Rack 1.5/2.0 ml for Eppendorf SmartBlock™ 0.5 ml	**10 69 10151**

Thermoshaker neoMix, neoLab®

neoMix for tempering and mixing tasks in the laboratory, neoMix Cool with cooling function. Replaceable reaction blocks suitable for vessels from 0.2 to 50 ml or for multiwell plates.
Temperature range up to +100°C, where the block temperature homogeneity is included <+0.5°C. The device has a backlit display with plain text display.

Delivered WITHOUT temperature control block. To operate the thermal shaker, a temperature control block is required as an accessory.



Thermoshaker neoMix
Technical data:

Speed:	200 – 1500 rpm
Amplitude:	2 mm
Resolution:	1°C
Temp. accuracy:	± 0,3°C
Heating rate:	9°C/min
Cooling rate (neoMix Cool):	5°C/min
Height:	170 mm
Length:	220 mm
Width/depth:	280 mm
Weight:	8.5 kg

	Article	Temperature range	Order No.
①	Thermomixer with cooling function neoMix Cool	-18° below room temperature to +100°C	**10 01 70920**
②	Thermomixer neoMix	5°C above room temperature to +100°C	**10 01 70921**



Accessories

Article	Order No.
Reaction exchange block WB PCR, for 96 × 0.2 ml PCR reaction vessels	**10 01 70922**
Reaction exchange block WB 0.5 ml, for 54 × 0.5 ml reaction vessels	**10 01 70923**
Reaction exchange block WB 1.5 ml, for 35 × 1.5 ml reaction vessels	**10 01 70924**
Reaction exchange block WB 2.0 ml, for 35 × 2.0 ml reaction vessels	**10 01 70925**
Reaction exchange block WB 0.5/1.5 ml, for 15 × 0.5 + 20 × 1.5 ml reaction vessels	**10 01 70926**
Reaction exchange block WB 12 ml, for 24 × 12 ml tubes	**10 01 70927**
Reaction exchange block WB 15 ml, for 12 × 15 ml tubes	**10 01 70928**
Reaction exchange block WB 50 ml, for 6 × 50 ml tubes	**10 01 70929**
Reaction exchange block WB H2O, water bath block	**10 01 70930**
Reaction exchange block WB MTP, for 96-well microtiter plate	**10 01 70931**
Reaction exchange block WB for Ø 24 × 14 mm	**10 01 70932**
Reaction exchange block WB Deep Well, for 96 deep well plates	**10 01 70933**
Reaction exchange block WB 5 ml, for 15 × 5 ml reaction vessels	**10 01 70934**

webcode WW2NY404

for my lab neoLab®

webcode WW2NY301

Thermo Shaker for Microplates, neoLab®

Thermo shaker with circular motion for 2 microtiter plates.
- High-precision temperature control, uniform temperature distribution
- Digital control of temperature, RPM and time
- Memory for user settings
- Special anti-vibration system
- Maintenance-free motor, suitable for continuous use

Technical data:

Amplitude (orbital):	1.5 mm
Timer:	1 to 999 min./ continuous operation
RPM:	100 to 1300
Ambient temperature:	+4 to +40°C
Rel. air humidity:	max. 80%
Temperature range:	Rt +5 to +60°C
Accuracy:	+/- 0.1°C
Dimensions (W × D × H):	347 × 275 × 115 mm
Weight:	6.2 kg
Connection:	230 V, 50/60 Hz

Article	Order No.
Thermoshaker for microplates	**10 01 70951**



Thermal Mixers

webcode WWQ7T021

ZEFA



Thermal Mixer with and without Cooling Function, Zefa

Thermal mixer
The thermal mixer TS100 is a thermal mixer with variably adjustable mixing frequency and variable incubation temperature; the TSK100 with cooling function provides for a temperature range of 20°C below room temperature to 100°C with a resolution of 0.1°C. Thirteen exchangeable blocks for reaction vessels, Falcon tubes or microtiter plates cover all common laboratory applications. The mixing frequency of 200 rpm to 1,500 rpm (adjustable in increments of 10 rpm) and the 2 mm shaking movement allow gentle or vigorous shaking of the samples. Shaking can be permanent, with timer function, or as short-mix.

The setpoint and actual values for temperature, mixing frequency and time are indicated in the 2-line display.

Via the existing memory function, 5 speed-and-time combinations can be saved.

Article	Order No.
Thermal mixer TS 100	**10 83 29852**
Thermal mixer TSK 100	**10 83 29853**

Accessories

Article	Order No.
Exchangeable block 96 × 0.2 ml	**10 83 20838**
Exchangeable block 54 × 0.5 ml	**10 83 20247**
Exchangeable block 35 × 1.5 ml	**10 83 20274**
Exchangeable block 35 × 2.0 ml	**10 83 24572**
Exchangeable block 15 × 5.0 ml Eppendorf	**10 83 20843**
Exchangeable block 20 × 1.5 / 15 × 0.5 ml	**10 83 20839**
Exchangeable block 24 × Ø 12 mm	**10 83 20840**
Exchangeable block 24 × 5.0 ml round bottom	**10 83 20847**
Exchangeable block 12 × Falcon 15 ml	**10 83 20841**
Exchangeable block 6 × Falcon 50 ml	**10 83 20842**
Bath block 103 × 67 × 30 mm	**10 83 20844**
Exchangeable block for microtitreplates 96	**10 83 20845**
Exchangeable block for deep well plates 96	**10 83 20846**



Ohaus Thermal Shaker with Heating and Cooling Function, METTLER TOLEDO

High-speed thermal shakers with heating/cooling function

- Premium performance and high, TÜV certified quality at an attractive price.
- Intuitive colour touchscreen for easy operation and programming, 6 languages
- Easy generation of programmes, pulse/quick mixing mode
- USB connection for data logging, saving of programmes and software updates
- Valox Cool-Touch housing
- Temperature limitation, calibration mode and ramp function
- Compatible with Eppendorf-Thermomixer® R-blocks
- Block with lid for 1.5 ml tubes comprised in the scope of delivery! Ample accessories

Technical data:

Speed range: 300 – 3000 rpm
Timer: 1 min – 99 h

Model	Designation	Temperature range	Order No.
ISTHBLHTS	Thermal shaker, orbit 3 mm	ambient +4°C – 100°C	**10 97 02005**
ISTHBLCTS	Cooling thermal shaker, orbit 3 mm	17°C below ambient – 100°C	**10 97 01998**

Have any questions?
Just give us a call!

Shakers, Incubators

Stainless Steel Shaker KM CO_2, Bühler

webcode WWXRZ007

Using stainless steel components, the new shaker was especially designed for use in incubators with up to 20% CO_2 concentration and up to 95% humidity. This guarantees the optimum development of your cell cultures.

Technical data:

Shaking motion:	orbital
Shaking platform:	200 × 295 mm
Max. load:	2 kg
Shaking speed:	5 – 220 min^{-1} (adjustable in steps of 5)
Stroke:	20 mm
Runtime:	0 – 99 h 59 min
LED display:	for shaking speed and runtime
CO_2 concentration:	20%
Relative humidity:	~ 95% non-condensing
Ambient temperature:	4°C – 45°C
Electrical supply:	100 – 240 V, 50/60 Hz
Heat emission:	max. 4 W
Standard cable length (KM CO_2):	200 cm
Ribbon cable length (KM CO_2-FL):	120 cm
Dimensions (W × D × H):	230 × 340 × 145 mm
Weight:	7.6 kg

	Article	Order No.
①	**Stainless steel shaker KM CO_2**	**10 61 66136**
②	**Stainless steel shaker KM CO_2 - FL**	**10 61 66137**

Scope of delivery:
Basic device incl. basic platform and rubber mat (without clamping strips), external control unit.





Small Shakers, Bühler

webcode WWXRZ001

High-performance miniature shaker with integrated tray.

Technical data:

Shaking motion:	orbital
Working surface:	200 × 295 mm
Max. load:	2 kg

	Article	Order No.
③	**Small shaker KM 2**	**52 61 61130**

Speed:	5 – 220/min, in steps of 5
Shaking amplitude:	20 mm
Runtime:	0 – 99 h 59 min
External dimensions:	250 × 415 × 145 mm
Supply voltage:	100–240 V, 50/60 Hz

Basic unit includes:
Tray with rubber mat
Clamping rails or universal trays for spring clips are available as accessories

Article	Order No.
Small shaker KM 2 Akku	**52 61 61350**

Same as KM 2, but with voltage supply from lead gel battery. Particularly suitable for use in cooling/incubating cabinets. 40 hour minimum running time with battery.

	Article	Order No.
④	**Microplate shaker TiMix 2**	**52 61 61100**

Speed:	100 – 1400/min infinitely variable
Shaking amplitude:	3 mm
Timer:	0 – 120 min or continuous operation
External dimensions:	220 × 410 × 110 mm
Supply voltage:	230 V, 50/60 Hz (115 V on request)

Basic unit includes:
Tray for 4 MT plates





Shakers, Incubators





Ohaus Standard Orbital Shaker, METTLER TOLEDO

Robust and safe!
- Long service life due to robust die-cast housing, stainless steel triple eccentric drive, permanent-lubrication ball bearing, maintenance-free motor, TÜV certificate.
- Microplate shaker for max. 4 micro plates or 2 microtube racks
- Safe: overload protection, slow start prevents splashing
- Tray and non-slip mat comprised in the scope of delivery of orbital shakers
- More than 20 easy-to-install accessories

Model	Designation	Speed rpm	Timer	Capacity	Order No.
SHLDMP03DG	Microplate shaker	100–1200	1 s – 160 h	4 microplates or 2 micro-tube racks	**10 97 01907**
SHLD0415AL	Light analogue orbital shaker	40–300	–	3.6 kg	**10 97 01893**
SHLD0403DG	Light digital orbital shaker, 3 mm orbit	100–1200	1 s – 160 h	3.6 kg	**10 97 01900**
SHLD0415DG	Light digital orbital shaker, 15 mm orbit	40–300	1 s – 160 h	3.6 kg	**10 97 01914**



Ohaus Incubating Orbital Shakers, METTLER TOLEDO

Top-quality shaker with perfect temperature control
- Long service life due to robust die-cast housing, stainless steel triple eccentric drive, permanent-lubrication ball bearing, maintenance-free motor, TÜV certificate.
- Safe: overload protection, slow start prevents splashing, indication of “Danger, hot” alarm
- User-controlled temperature calibration for sensitive applications
- Tray comprised in the scope of delivery, more than 10 easy-to-install accessories

Technical data:
Speed range: 100 – 1200 rpm
Timer: 1 s – 160 h
Temperature range: ambient +5°C to 65°C

Model	Designation	Capacity	Order No.
ISLD04HDG	Incubating orbital shaker	3.6 kg	**10 97 01919**
ISLDMPHDG	Thermal microplate shaker with transparent lid	4 microplates or 2 micro-tube racks	**10 97 01933**
ISLDMPHDGL	Thermal microplate shaker with opaque lid	4 microplates or 2 micro-tube racks	**10 97 01926**

webcode WW4HV024

thermoscientific

Thermo Scientific™ Solaris™ 2000 and 4000 orbital shakers, Thermo Scientific



①

The new compact Thermo Scientific™ Solaris™ 2000 and 4000 orbital shakers are available in two practical sizes for laboratory tables. They offer a wide range of platforms and the matching clamp kits and test tube racks. They can be used for a large variety of applications in microbiological incubators, warm rooms, environmental chambers or refrigerators.

- Variable speed control from 15 to 525 rpm
- Shaking amplitude: 2.54 cm
- Operate in temperature ranges of 0° to 40°C at 20 to 80% noncondensing humidity
- Feature a maintenance-free, solid-state DC brushless motor
- Unbalanced load sensor stops platform motion when excess vibration is detected and triggers visual/audible alarms
- Easy programming of speed and runtime

Continued on next page

Shakers, Incubators

- The full-colour touchscreen display allows you to clearly view speed and runtimes concurrently
- Historical monitoring of alerts, alarms and interaction logs
- USB and Ethernet connections for monitoring and data output
- Engineered to perform with a reduced noise level
- Easy-to-remove platforms and rounded corners make cleaning fast and easy

	Model	Max. load kg	Dimensions without shelf L×W×H cm	Connection	Order No.
①	Solaris 2000	25	46.9 × 36.4 × 14.1	100–240 V, 50/60 Hz	**10 79 22000**
②	Solaris 4000	43	64.8 × 57.3 × 17.7	100–240 V, 50/60 Hz	**10 79 24000**

To see our large portfolio of models and accessories, please enter webcode WW4HV024 to access our online catalogue.



②

Orbital Shaker, neoLab®

- Optimal rotation amplitude for intensive mixing
- With digital timer 1 to 999 min.
- Suitable for continuous operation
- Precision speed control
- Rotation: orbital
- Ambient temp. +4°C to +55°C
- Rel. air humidity (20°C): max. 80%
- Acoustic signal after timer has run out
- Supplied with 2 magnetic clips

Connection: 12 V AC adapter, 1000 mA

Platform mm	Amplitude mm	L × W × H mm	Speed rpm	Load capacity max. kg	Order No.
168 × 168	20	193 × 170 × 70	10 – 250	1.5	**52 01 70030**



webcode WW2NY395

for my lab neoLab

Orbital Shaker, neoLab®

webcode WW2NY318

Orbital Shaker
- Movements: orbital, reciprocal, and vibrating
- Sophisticated motor control system for continuous operation in silence
- Precision speed control
- With digital timer 1 to 999 min
- Acoustic signal when the time is up
- Memory for user-defined settings
- Programmable mixing modes with up to 4 different movements

The Multi Shaker is supplied with 8 magnetic clips and a universal platform. To this, **universal stands** can be fixed to ensure reliable clamping of bottles etc. The holding rod set consists of 2 rim fixations with clips for putting on the platform, as well as of 4 plastic holding rods for the vessels.

Platform mm	Amplitude mm	L × W × H mm	Speed rpm	Load cap. max. kg	Order No.
410 × 297	10	420 × 310 × 100	50 – 500	7.0	**10 01 70950**



Accessories

Article	Order No.
Rod set for 520170031	**52 01 70032**
Slip resistant mat for 520170031	**10 01 70091**
Adapter platform for 2×4 microtiter plates for 520170031	**10 01 70059**
Adapter made of foam for 12 × 30 mm Ø tubes	**10 01 70072**
Adapter made of foam for 24 × 16 mm Ø tubes	**10 01 70073**
Spare magnetic clip	**10 01 70079**

webcode To see other variants and accessories, please enter the webcode on our website.

Shakers, Incubators

webcode WWSB5012

Shakers, Phoenix Instrument



①

Laboratory shakers RS-OS 10/20 – RS-LS 10/20

- Compact laboratory shaker for a maximum load of 2.5 or 7.5 kg
- Illuminated display for setting and indicting speed and time
- Extensive range of accessories
- Settable safety speed
- Control of shaker and indication of data on the PC via RS 232 interface
- 2 years warranty

Technical data:

Model:	RS-OS 10	RS-OS 20	RS-LS 10	RS-LS 20
Voltage (V):	100 – 240	100 – 240	100 – 240	100 – 240
Power consumption (W):	30	30	30	30
Shaking movement:	orbital	orbital	linear	linear
Shaking stroke (mm):	4	10	4	10
Max. shaking weight (kg):	2.5	7.5	2.5	7.5
RPM:	100 – 800	100 – 500	100 – 350	100 – 350
Operation:	Time/continuous operation	Time/continuous operation	Time/continuous operation	Time/continuous operation
Displaying rpm/time:	LCD	LCD	LCD	LCD
Setting of rpm/time:	digital	digital	digital	digital
Dimensions (W×D×H mm):	340×300×100	420×370×100	340×300×100	420×370×100
Protection class:	IP21	IP21	IP21	IP21
Weight (kg):	8.1	13.5	8.1	13.5

	Article	Order No.
	Laboratory shaker RS-OS 10	**10 13 75010**
①	Laboratory shaker RS-OS 20	**10 13 75020**
	Laboratory shaker RS-LS 10	**10 13 75011**
	Laboratory shaker RS-LS 20	**10 13 75021**



②

Laboratory shakers RS-OS 5 - RS-LS 5

These analog shakers are characterized by a compact design and an excellent price/performance ratio. Delivery comprises the top unit with anti-slip mat and rubber band fasteners.

Technical data:

Power/Frequency:	100–240 V / 50–60 Hz
Speed:	10 to 200 rmp
Weight:	3.1 kg
Dimensions (W×D×H):	330 × 270 × 110 mm
Capacity:	3 kg
Shaking movement:	RS-OS 5: orbital, 20 mm / RS-LS 5: linear, 20 mm

	Article	Order No.
②	Laboratory shaker RS-OS 5	**10 13 75005**
	Laboratory shaker RS-LS 5	**10 13 75006**

Accessories laboratory shakers

Article	Order No.
Universal bracket incl. tension rollers for OS/LS 10	**10 13 75100**
Baseplate for OS/LS 10 for the reception of Erlenmeyer retaining clips	**10 13 75105**
Universal bracket incl. tension rollers for OS/LS 20	**10 13 75200**
Baseplate for OS/LS 20 for the reception of Erlenmeyer retaining clips	**10 13 75205**
Retaining clip for 25 ml Erlenmeyer flask	**10 13 75120**
Retaining clip for 50 ml Erlenmeyer flask	**10 13 75125**
Retaining clip for 100 ml Erlenmeyer flask	**10 13 75130**
Retaining clip for 200/250 ml Erlenmeyer flask	**10 13 75135**
Retaining clip for 500 ml Erlenmeyer flask	**10 13 75140**

Further accessories upon request.



③

Microtitre plate shaker RS-MM 10

- Compact mixer for size 96 microplates
- Infinitely adjustable speed
- Different adapters are available for RS-MM 10

Technical data:

Model:	RS-MM 10
Voltage (V):	100 – 240
Power consumption (W):	20
Shaking movement:	orbital
Shaking stroke (mm):	4.5
RPM:	0 – 1500
max. load (kg):	0.5
Dimensions (W×D×H mm):	150×80×260
Protection class:	IP21
Weight (kg):	3

	Article	Order No.
③	Microtitre plate shaker RS-MM 10	**10 13 77010**

Accessories on request.

Continued on next page

Shakers, Incubators

Rocking- and 3D-Shaker, Phoenix Instrument

webcode WWSB5013

RS-RR 10 / RS-RD 10

New and powerful shaker for gentle mixing of samples. The adjustment and control of speed and time can be done easily via the LCD-Display with this fully digital version. Delivery comprises the top unit with anti-slip mad and rubber band fasteners.

Technical data:

Power/Frequency:	100–240 V / 50–60 Hz
Angle:	±9°
Speed:	0 to 70 rpm
Display:	LCD
Timer-Function:	1 to 1199 min.
Run type:	timer/continuous
Ambient temperature:	4 to 40°C
Protection class:	IP 21
Weight:	9 kg

	Type	Movement	Capacity kg	Dimensions (W×H×D) mm	Order No.
①	RS-RR10	see-saw rocking	10	420×360×106	**10 13 77210**
②	RS-RD10	3D orbital	5	420×360×200	**10 13 77110**



①



②

③ RS-RS 5 / RS-DS 5

These analog shakers are characterized by a compact design and an excellent price/performance ratio. Delivery comprises the top unit with anti-slip mad and rubber band fasteners.

Technical data:

Power/Frequency:	100–240 V / 50–60 Hz
Angel:	7°
Speed:	5 to 80 rpm
Weight:	3.2 kg
Dimensions (W×D×H):	330 × 270 × 130 mm
Capacity:	3 kg
Shaker movement:	RS-RS 5: seesaw / RS-DS 5: 3D orbital

Article	Order No.
Shaker RS-RS 5	**10 13 77205**
Shaker RS-DS 5	**10 13 77105**



③

Compact Shakers, Bühler

webcode WWXRZ003

Rugged, reliable shakers for everyday use. Reciprocal motion, analogue or digital control. Matching trays available for all standard applications.

Includes basic unit without shaker plate and without tray. Please order the tray that you need.

Technical data:

Max. load:	15 kg (KS 15), 5 kg (TiMix 5)
Frequency range:	30 – 420/min (KS), 100 – 1400/min (TiMix 5)
Amplitude:	17 mm (KS 15), 3 mm (Timix5)
Working surface:	400 × 300 mm
External dimensions (W×D×H):	510 × 490 × 150 mm
Supply voltage:	230 V, 50/60 Hz (115 V on request)

KS 15 Compact Shaker

	Article	Order No.
④	**Compact shaker KS 15 A**	**52 61 61710**

Shaking motion:	orbital
Control:	analog with rotary buttons
Timer:	0 – 120 min or continuous operation

	Article	Order No.
⑤	**Compact shaker KS 15 A control**	**52 61 61700**

Shaking motion:	orbital
Control:	“control” with memory for shaking programs and touch-display
Timer:	programmable[1)]

	Article	Order No.
④	**Compact shaker KS 15 B**	**52 61 61730**

Shaking motion:	reciprocal (horizontal)
Control:	analog with rotary buttons
Timer:	0 – 120 min or continuous operation

	Article	Order No.
⑤	**Compact shaker KS 15 B control**	**52 61 61720**

Shaking motion:	reciprocal (horizontal)
Control:	“control” with memory for shaking programs and touch-display
Timer:	programmable[1)]



④+⑦



⑤+⑦

Continued on next page

Shakers, Incubators



⑤+⑧

Tops and accessories for KS 15 models

Article	Order No.
⑥ **Combifix KS** Frame rack with 3 clamping rails and rubber mat	**52 61 52071**
⑦ **Universal tray KS** Tray with holes with spring clips or test tube racks (clips/racks on request)	**52 61 51471**
⑧ **Incubation hood TH 15** For controlling the temperature of the loaded material between 5°C above room temperature and 50°C. Option: extended temperature range up to +60°C on request.	**52 61 61610**

TiMix 5 Microplate shaker

Article	Order No.
⑨ **TiMix 5**	**52 61 61660**

Shaking motion: accurately orbital
Control: analog with rotary buttons
Timer: 0 – 120 min or continuous operation

Article	Order No.
TiMix 5 control	**52 61 61670**

Shaking motion: accurately orbital
Control: "control" with memory for shaking programs and touch-display
Timer: programmable[1)]
Options for TiMix 5 control:
Specially for use in automated systems. Defined stop, USB 2.0 interface, control interface.



⑨

Tops and accessories for TiMix 5 models

Article	Order No.
Standard top TiMix 5 Tray with clamping holders for 8 MT plates	**52 61 52101**
Extension tray TiMix 5 Tray for an additional 8 MT plates as second level on standard tray	**52 61 52102**
Top with maxi pins Tray with stack holder for 3 × 8 standard MT plates one above the other	**52 61 52104**
Top with pins For 8 standard microplates	**10 61 62096**
Top with metal pins For 48 standard microplates directly stacked about each other	**10 61 62125**
Incubation hood TH 15 For controlling the temperature of the loaded material between 5°C above room temperature and 50°C. Option: extended temperature range up to +60°C on request.	**52 61 61610**

[1)] Programmable controller with enhanced functionality!

webcode WWXRZ002

Edmund Bühler GmbH Since 1880



⑩

Vario Shakers, Bühler

Small, reliable bench top shakers with special shaking motion.

Technical data:
Max. load: 2 kg (KL 2), 10 kg (TL 10/WS 10)
External dimensions (W×D×H): 355 × 455 × 195 mm, resp. 355 × 450 × 205 mm
Supply voltage: 230 V, 50/60 Hz (115 V on request)

Article	Order No.
⑩ **Combination shaker KL 2**	**52 61 61150**

"2 in 1" unit that can be switched over at any time from orbital to reciprocal motion.
Shaking area: 300 × 300 mm
Speed: 30 – 420/min infinitely variable
Shaking amplitude: 8 mm
Timer: 0 – 120 min or continuous operation
Basic unit includes:
Tray with 3 clamping rails and rubber mat



⑪

Article	Order No.
⑪ **Rocking shaker WS 10**	**52 61 61140**

Rocking shaker with slow, linear up-and-down motion.
Shaking area: 340 × 340 mm
Speed: 1 – 23/min infinitely variable
Rocking angle: 5° fixed
Timer: 0 – 120 min or continuous operation
Basic unit includes:
Rocking plate with rubber mat.
Multi-level rack with 2 additional trays available as an accessory.

Article	Order No.
Three-dimensional orbital shaker TL 10	**52 61 61170**

Same as WS 10, but with slow three-dimensional orbital motion.
Level inclination gyrating motion can be adjustable from 0° to 9°.

Shakers, Incubators

Shakers, LAUDA

webcode WW18A010

Shakers VS 8
LAUDA shakers are available with orbital, reciprocating, rocking or orbital rocking motion. Compact, durable mechanics for reliable continuous operation. Drive system with overload-protected AC motor, guaranteeing constant speed even in continuous duty and independently of the load. Suitable for use in laboratories, incubation and temperature stabilizing rooms at ambient temperatures between +10°C and +50°C (models VS 8 OE and VS 8 BE up to +60°C).
Infinitely adjustable electronic speed control. Gentle starting. The devices are maintenance-free and CE marked.
Models VS 8 O, VS 8 B, VS 15 / VS 30 microprocessor-controlled: adjustable in steps of 1.0 rpm or 0.5 rpm (VS 15 T and VS 15 R).
Housing made of electrolytically galvanized, powder-coated steel sheet. The base plate is made of electrolytically galvanized, powder-coated steel sheet, the shaking platform of anodized aluminium, equipped with four plastic pins for secure attachment of accessory equipment (for nearly all forms of standard laboratory vessels).
Model VS 30 O: The base plate is made of electrolytically galvanized steel sheet, with four support rods with screw-type clamps made of stainless steel for secure attachment of accessory equipment.

Well arranged control panel for easy operation.


I


II

I Models with analog control:
VS 8 OE / VS 8 BE
Timer switch-selectable between time-limited operation up to 60 minutes and continuous operation. Suitable for use in incubators up to +60°C.

II Models with digital control:
VS 8 O / VS 8 B / VS 15 / VS 30
Microprocessor-controlled, timer: 1 minute to 99:59 hours or continuous operation. Speed and remaining operating time are indicated by two LC displays. An RS 232 interface for data transmission of measurement and control tasks via PC is optionally available on request.

Shakers VS 8 OE / VS 8 O with orbital motion and shakers VS 8 BE / VS 8 B with reciprocating motion
High-duty, low-noise and space-saving, equally suitable for gentle liquid motion and for vigorous mixing.
In daily use in biology and microbiology laboratories and in diagnostic test reactions, in medical diagnostics or analysis, as well as for growing micro-organisms, cell and tissue cultures.


①

Technical data:	**VS 8 OE / VS 8 BE**	**VS 8 O / VS 8 B**
Exterior dimensions (W×D×H):	350 × 375 × 160 mm	350 × 355 × 160 mm
Moving platform:	330 × 330 mm	330 × 330 mm
Load:	max. 8 kg at even load distribution	
Shaking motion:	VS 8 OE: orbital VS 8 BE: reciprocating	VS 8 O: orbital VS 8 B: reciprocating
Timer:	up to 60 minutes or continuous operation	1 min up to 99:59 h or continuous operation
Shaking amplitude:	VS 8 OE: 10 mm VS 8 BE: 20 mm	VS 8 O: 10 mm VS 8 B: 20 mm
Shaking frequency:	VS 8 OE: 20 – 500 rpm VS 8 BE: 20 – 300 rpm	VS 8 O: 20 – 500 rpm VS 8 B: 20 – 300 rpm
Electrical connection:	230 V, 50–60 Hz, 65 W	
Net/gross weight:	11/13 kg	11/13 kg

Type	**Order No.**	Type	**Order No.**
① Typ VS 8 OE	**10 11 03055**	① Typ VS 8 BE	**10 11 03056**
② Typ VS 8 O	**10 11 03057**	② Typ VS 8 B	**10 11 03058**

Supplied without the illustrated accessories. Other voltage variants on request.


②

Shaker VS 15 T with orbital rocking motion
For gentle and uniform rocking motion, quiet. Applications mainly in AIDS research, for diagnostic tests with test plates or for growing cell cultures and micro-organisms. (Optionally interface RS 232).

Technical data:	
Overall dimensions (W×D×H):	480 × 487 × 160 mm
Moving platform:	450 × 450 mm
Load:	max. 15 kg at even load distribution
Shaking motion:	three-dimensional, orbital rocking
Timer:	1 min up to 99:59 hours or continuous operation
Shaking amplitude:	3 degrees
Shaking frequency:	2 to 50 rpm
Electrical connection:	230 V 50/60 Hz, 90 W
Net/gross weight:	19.5/23.5 kg

Article	**Order No.**
Shaker type VS 15 T	**10 11 03059**

without the illustrated accessories

Continued on next page

webcode To see other variants and accessories, please enter the webcode on our website.

Shakers, Incubators



Shaker VS 15 R with rocking motion
For slow and uniform rocking, low noise level.
The units create reproducible growth and processing conditions at low speeds for cell cultures and other media. Ideal rising and tumbling of the samples. They have a wide range of applications, e.g. for supply of parallel cultures and cell lines or for staining or discoloration of gels. (3014: optionally with interface RS 232).

Technical data:

Overall dimensions (W×D×H):	480 × 487 × 160 mm
Moving platform:	450 × 450 mm
Load:	max. 15 kg at even load distribution
Shaking motion:	rocking
Timer:	1 min up to 99:59 hours or continuous operation
Rocking amplitude:	3 degrees
Rocking frequency:	2 to 50 rpm
Electrical connection:	230 V (Other voltages on request)
Net/gross weight:	18/21 kg

Article	Order No.
Shaker type VS 15 R	**10 11 03060**

without the illustrated accessories

Shaker VS 15 O with orbital motion
For gentle motion and vigorous shaking of liquids, low noise level.
Universally applicable. Applications in biochemistry, biotechnology, micorbiology, bacteriology and virology, above all for growing micro-organisms, cell and tissue cultures. (Optionally interface RS 232).

Technical data:

Overall dimensions (W×D×H):	510 × 625 × 142 mm
Moving platform:	450 × 450 mm
Load:	max. 15 kg at even load distribution
Shaking motion:	orbital
Timer:	1 min up to 99:59 hours or continuous operation
Shaking amplitude:	30 mm
Shaking frequency:	20 to 300 rpm
Electrical connection:	230 V 50/60 Hz, 65 W
Net/gross weight:	19.5/23.5 kg

	Article	Order No.
①	Shaker type VS 15 O	**10 11 03061**

without the illustrated accessories

Shaker VS 15 B with reciprocating motion
For vigorous and intensive shaking, low noise level. The shaking platform's jerky back-and-forth motion creates high turbulence, thus thoroughly mixing the media, e.g. in the production of suspensions and emulsions. Applications e.g. for medical diagnostics, in foodstuffs or environmental analyses. (Optionally interface RS 232).

Technical data:

Overall dimensions (W×D×H):	480 × 487 × 160 mm
Moving platform:	450 × 450 mm
Load:	max. 15 kg at even load distribution
Shaking motion:	reciprocating
Timer:	1 min up to 99:59 hours or continuous operation
Shaking amplitude:	30 mm
Shaking frequency:	20 to 300 rpm
Electrical connection:	230 V 50/60 Hz, 65 W
Net/ gross weight:	19.5/23.5 kg

	Article	Order No.
②	Shaker type VS 15 B	**10 11 03062**

without the illustrated accessories

Shaker VS 30 O with orbital motion
With a large shaking tray for accommodating heavier loads, attractive shaking amplitude and variability. Equally suitable for gentle motion as for vigorous mixing. Low noise level, universally applicable, e.g. for analysis or diagnostics in pharmacy, chemistry or biology, plant cultivation and the food industry. (Optionally interface RS 232).

Technical data:

Overall dimensions (W×D×H):	705 × 607 × 160 mm
Moving platform:	676 × 540 mm
Load:	max. 30 kg at even load distribution
Shaking motion:	orbital
Timer:	1 min up to 99:59 hours or continuous operation
Shaking amplitude:	32 mm
Shaking frequency:	20 to 250 rpm, when the rack frame is used 20 to 200 rpm
Electrical connection:	230 V 50/60 Hz, 90 W
Net/gross weight:	38/44 kg

Article	Order No.
Shaker type VS 30 O	**10 11 03063**

without the illustrated accessories

Continued on next page

Shakers, Incubators

Accessories for shakers

Shaking trays
Made of stainless steel, with holes to accommodate clamps for Erlenmeyer flasks and other accessories (see also shaking incubators page 692).

Article	Order No.
Tray type A000044 For shakers VS 8, 330 × 330 mm	**52 11 23950**
③ **Tray type A000045** For shakers VS 15 and shaking incubator VS 60 OI. 450 × 450 mm	**52 11 23966**
Tray type A000047 For shakers VS 30 O and shaking incubator VS 150 OI, 670 × 537 mm.	**52 11 23980**

Made of 3 mm thick, anodized aluminium, with holes to accommodate Erlenmeyer flasks and other accessories.


③

④ **Clamps for Erlenmeyer flasks**
Made of stainless steel, for screwing on to trays A000044, A000045 and A000047. Complete with attachment materials (see also shaking incubators page 692).
Number of clamps per tray, see table:

Type	for flasks ml	Shaker VS 8	Shaker VS 15	Shaker VS 30 O	Order No.
A000025	25	45	79	99	**52 11 23983**
A000026	50	25	49	99	**52 11 23984**
A000027	100	16	36	50	**52 11 23985**
A000028	200	12	22	26	**52 11 23986**
A000029	250 – 300	9	16	26	**52 11 23987**
A000030	500	9	12	26	**52 11 23988**
A000031	1000	4	9	12	**52 11 23989**
A000053	2000	2	4	9	**52 11 23990**


④

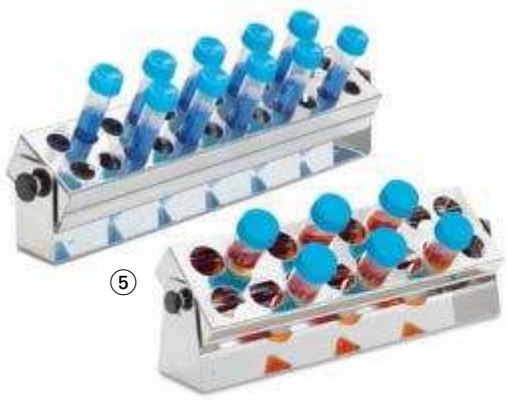
Insertable rack for test tubes
Made of stainless steel, perforated section can be tilted by 90°, with clamping springs for secure grip and silent shaking of glasses; can be screwed on to shaking trays A000044, A000045 and A000047. For shakers VS 8, VS 15 und VS 30 (see also shaking incubators page 692).

Capacity each tray:

Tray A000044:	Type A000059: max. 3 racks
	Type A000060: max. 2 racks
Tray A000045:	Type A000059: max. 6 racks
	Type A000060: max. 4 racks
Tray A000047:	Type A000059: max. 9 racks
	Type A000060: max. 8 racks

Article	for	Order No.
⑤ Type A000059	max. 24 tubes 12 to 17 mm Ø	**52 11 23953**
Type A000060	max. 16 tubes 25 to 29 mm Ø	**10 11 03954**

without the illustrated accessories.


⑤

⑥ **Clamps for separating funnels**
Made of stainless steel, for screwing on to shaking trays A000044 and A000045.

Type	Separatory funnel vol. ml	Neck width	Clamps	Order No.
A000054	50	19 / 26 (ISO / Squibb)	6 / 11[1)]	**52 11 23957**
A000055	100	19 / 26 (ISO / Squibb)	6 / 11[1)]	**52 11 23958**
A000056	250	19 / 26 (ISO / Squibb)	4 / 8[1)]	**52 11 23959**
A000057	250	29 / 32 (Conical form)	4 / 8[1)]	**10 11 03955**
A000058	500	29 / 32 (ISO / Squibb)	3 / 6[1)]	**52 11 23956**

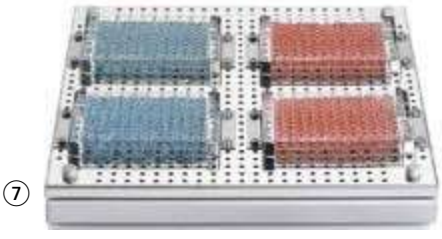
[1)] Max. number of clamps per shaking tray A000044 / A000045 for shakers VS 8 / VS 15. Other clamps on request.


⑥

Holding frame for a test plate
Made of stainless steel for attachment of a test plate, for screwing on to shaking trays A000044 and A000045. Capacity: A000044 / 4, A00004 / 6 test plates complete with attachment materials. For shaking devices VS 8, VS 15 O and VS 15 B (see also shaking incubators VS 45 OI and VS 60 OI page 692).

Article	Order No.
⑦ Type A000061	**52 11 23910**

without the illustrated accessories


⑦

Continued on next page

Shakers, Incubators









Non-slip rubber mats
For the shaking platform. For slow moving, e.g. nutrient solutions in petri dishes and flasks (see also shaking incubator VS 60 OI page 692).

	Article	Order No.
	Type A000042 300 × 300 mm, for shakers VS 8	**52 11 23951**
①	**Type A000043** 420 × 420 mm, for shakers VS 15 and shaking incubator VS 60 OI	**52 11 23965**

Universal mounts
For secure attachment of various shaking objects (see also shaking incubator VS 60 OI page 692).

	Article	Order No.
	Universal mount A000048 For shakers VS 8. With 4 rubber-coated bars.	**52 11 23952**
②	**Universal mount A000049** For shakers VS 15 and shaking incubator VS 60 OI. With 6 rubber-coated bars.	**52 11 23967**
	Universal mount A000050 For shakers VS 30. Consists of 2 longitudinal bars and 6 transverse bars. Screw-type clamps are used for adjusting the longitudinal bars vertically and the transverse bars horizontally.	**52 11 23982**

Platform frame
With 4 levels, with top rims, three levels removable. Frame and trays made of stainless steel. Distance between trays- 60 mm. Grooved rubber mats on trays to ensure secure grip of objects. Only for shaking devices VS 15 T and VS 15 R.

	Article	Order No.
③	Type A000051	**52 11 23968**

Adhesive mat, black
Highly adhesive special mat for easy fastening of a wide range of different vessels on tray or shaker table, shaking speed up to approx. 250 rpm (depending on shape and weight of the vessel and size of the shaking amplitude).
- Size: 200 × 200 mm, can be cut to size with scissors.
- Temperature range: 15 to 60°C.

For shakers VS 30 O: can only be used in connection with tray type A000047. Also see LAUDA shaker incubators page 692.

	Article	Type	Order No.
④	Adhesive mat, black	A000041	**10 11 03949**



Shaking Mixers TURBULA T2F, BACHOFEN

This machine is a low-noise, maintenance-free unit designed to ensure sterile, hygienic and dust-free operation. The mixing principle allows up to 99% of the vessel volume to be made use of (depending on the substance being mixed). Flexible drive elements and a newly-developed eccentric transmission actuate and control the movements of the mixing basket. The rubber tensioners used for holding the mixing vessel in the basket are available in two configurations.
Containers of different shapes and sizes (up to two-liter capacity) can be used as mixing vessels. The desired turning speed is obtained by placing the drive belt onto the drive pulleys in one of five positions.

Technical data:

Dimensions (W × H × D):	501 × 608 × 393 mm
Weight:	38 kg
Load capacity:	max. 10 kg
Container dimensions:	max. 130 mm dia. × 215 mm
Container capacity:	max. 2 l
Speeds:	20, 30, 42, 62, or 90 min^{-1} optional infinitely variable 20 to 100 min^{-1}
Power supply:	1 × 230 V/50 Hz/180 W

Article	Order No.
Shaking mixer TURBULA® T2F excl. packaging	**52 34 30122**

Shakers, Incubators

Universal Shaker, WINLAB®

webcode WW5PT075

WINLAB®



A truly universal laboratory shaker for different vessels such as Erlenmeyer, volumetric, or other flasks.
The universal clamping unit provides for safe fastening of different flask types.

The universal shaker is available with orbital or reciprocal motion.

Equipped with two LED displays for convenient setting and reading of shaking frequency and time.

Technical data:

Dimensions of the universal attachment:	318 × 315 mm
Overall dimensions of the shaker:	450 × 400 × 105 mm (L×B×H)
Motor type:	DC motor, brushless
Maximum load:	7 kg
Radius of movement:	10 mm
Speed of movement:	30 to 500 rpm
Time setting:	0 to 99 h and to 59 min
Protection class:	IP 21
Voltage:	240 V

Article	Order No.
WINLAB universal shaker	**10 03 03002**

Universal Shakers, Bühler

webcode WWXRZ004

Edmund Bühler GmbH Since 1880

Bench top shakers for heavy loads and continuous operation. Available with orbital or reciprocal motion or as “2 in 1”, digital or analogue control. Wide range of matching trays and accessories available.
Includes basic unit with shaker plate and rubber mat, without tray stand.

Technical data:

Max. load:	30 kg
Frequency range:	15 – 300/min
Working surface:	560 × 400 mm
External dimensions (W×D×H):	680 × 610 × 160 mm
Supply voltage:	230 V, 50/60 Hz (115 V on request)

SM 30 Universal shaker

	Article	Order No.
①	**Universal shaker SM 30 A**	**52 61 61010**

Shaking motion:	orbital
Shaking amplitude:	26 mm
Control:	analog with rotary buttons
Timer:	0 – 120 min or continuous operation

	Article	Order No.
②	**Universal shaker SM 30 A control**	**52 61 61000**

Shaking motion:	orbital
Shaking amplitude:	26 mm
Control:	“control” with memory for shaking programs and touch-display
Timer:	programmable[1)]



①+④

	Article	Order No.
①	**Universal shaker SM 30 B**	**52 61 61030**

Shaking motion:	reciprocal (horizontal)
Shaking amplitude:	30 mm or 46 mm and 50 mm (option)
Control:	analog with rotary buttons
Timer:	0 – 120 min or continuous operation

	Article	Order No.
②	**Universal shaker SM 30 B control**	**52 61 61020**

Shaking motion:	reciprocal (horizontal)
Shaking amplitude:	30 mm or 46 mm and 50 mm (option)
Control:	“control” with memory for shaking programs and touch-display
Timer:	programmable[1)]



②+⑤

	Article	Order No.
①	**Universal shaker SM 30 C**	**52 61 61050**

Shaking motion:	orbital/reciprocal (swicth selectable)
Shaking amplitude:	26 mm
Control:	analog with rotary buttons
Timer:	0 – 120 min or continuous operation

Continued on next page

Shakers, Incubators



③



⑥



②+⑦

	Article	Order No.
②	**Universal shaker SM 30 C control**	**52 61 61040**

Shaking motion: orbital/rfeciprocal (switch selectable)
Shaking amplitude: 26 mm
Control: “control” with memory for shaking programs and touch-display
Timer: programmable[1)]

Hot plate shaker SM 30 AT control
Table-tob shaker with heating plate for mixing of difficult media.
Basic equipment: Basic device with heating plate, without rack system.

Technical data:
Shaking motion: orbital
Temperature range: up to 120°C
Control accuracy: approx. ±1°C
Max. load: 25 kg
Stroke: 26 mm
Control: “control” with memory for shaking programs and touch-display
Timer: programmable[1)]

	Article	Order No.
③	**Hot plate shaker SM 30 AT control**	**10 61 66200**

Tops and accessories for SM 30 models

	Article	Order No.
	Combifix SM Set A Frame rack with 5 clamping rails for upright vessels	**52 61 50154**
④	**Combifix SM Set B** Frame rack with 4 double clamping rails for tall or lying vessels	**52 61 50155**
	Combifix SM Set C Frame rack with rails for fastening filter funnels	**52 61 50156**
⑤	**Universal tray SM [2)]** Tray with holes for spring clips or test tube racks (clips/racks on request)	**52 61 51472**
⑥	**2-level top SM [2)]** Two-level rack with trays with holes. Suitable fittings on request	**52 61 52065**
⑦	**Incubation hood TH 30 [2)]** For temperature control of the loaded material from 5°C above room temperature to 50°C. Complete with lighting and UV light. Accessories for TH 30 and connection for cooling units on request. Option: extended temperature range up to +60°C on request.	**52 61 62000**

[1)] Programmable controller with enhanced functionality!

[2)] not for SM 30 AT control!

webcode WWXRZ005

Large Shakers, Bühler

Designed for heavy loads and continuous operation (floor placement only). Choice of orbital or reciprocal motion. Wide range of accessories for various applications.

Includes basic unit without trays or stands. Please order the trays or stands that you need.

Technical data:
Max. load: 75 kg
Frequency range: 30 – 200/min
Working surface: 760 × 600 mm
Control: “control” with memory for shaking programs and touch-display
Timer: programmable[1)]
External dimensions (W×D×H): 1050 × 835 × 250 mm
Supply voltage: 100 – 240 V, 50/60 Hz



⑧+⑩

VKS 75 Multi-flask shaker

	Article	Order No.
⑧	**Multi-flask shaker VKS 75 A control**	**52 61 61110**

Shaking motion: orbital
Shaking amplitude: 26 mm

	Article	Order No.
⑨	**Multi-flask shaker VKS 75 B control**	**52 61 61120**

Shaking motion: reciprocal (horizontal)
Shaking amplitude: 50 mm or 36, 60, 80 mm (option)

Continued on next page

Shakers, Incubators

Tops and accessories for VKS 75 models

	Article	Order No.
	Oscillating plate VKS Base plate for fastening the VKS Combifix fittings or the VKS universal tray (1-level mode)	**52 61 52070**
	Combifix VKS Set A Frame rack with 9 clamping rails for upright vessels (1-level mode)	**52 61 51487**
⑩	**Combifix VKS Set B** Frame rack with 4 double clamping rails for tall or lying vessels (1 -level mode)	**52 61 51488**
	Combifix VKS Set C Frame rack with rails for fastening filter funnels (1-level mode)	**52 61 51489**
	Universal tray VKS Tray with holes for spring clips or test tube racks (clips/racks on request) (1-level mode)	**52 61 51474**
	Top VKS 2-storey 2-level frame rack for high loading capacities. Each level can be loaded with either 1 tray size 760 × 600 mm or with 2 trays size 560 × 400 mm. Suitable trays on request. Distance between levels: 400 mm. Height sufficient for 5000 ml Erlenmeyer flasks.	**10 61 62186**
⑪	**Top VKS Gigant** 3-level frame rack for high loading capacities. Each level can be loaded with either 1 tray size 760 × 600 mm or with 2 trays size 560 × 400 mm. Suitable trays on request. Distance between levels: 340 mm. Height sufficient for 3000 ml Erlenmeyer flasks.	**52 61 52068**

[1] **Programmable controller with enhanced functionality!**



⑨+⑪

Ohaus Extreme Environment Shaker, METTLER TOLEDO

The specialist for incubators and other extreme environments

- Reliable with high humidity (up to 100%), CO2 content, temperature
- Long service life due to robust die-cast housing, stainless steel triple eccentric drive, permanent-lubrication ball bearing, maintenance-free motor, TÜV certificate
- Separate, magnetic display with ribbon cable (passes underneath an incubator door)
- Accu-Drive shaker system for high accuracy and reproducibility
- RS232 interface (bi-directional) for logging and control
- Tray (28 × 33 cm) with non-slip rubber mat comprised in the scope of delivery
- More than 50 accessories available to adapt the shaker to your individual requirements

Model	Speed rpm	Timer	Temperature range °C	Capacity kg	Order No.
SHEX1619DG	15 – 500	1 s – 160 h	10 – 60	16	**10 97 01816**



Failed to find what you are looking for?
Give us a call!

Shakers, Incubators

LAUDA

webcode WW18A013



①

Shaking Incubators, LAUDA

Shaking incubators VS 45 OI, VS 60 OI und VS 150 OI with orbital motion
LAUDA shaking incubators with orbital motion are universally applicable for shaking jobs requiring exactly reproducible orbital motion and temperatures up to +70°C, e.g. for incubations, fermentations, homogenizations, chemical and biochemical reactions, enzyme and tissure studies and the cultivation of bacteria cultures.

- Temperature range: from 8°C above ambient temperature to +70°C, serial cooling coil for operation below ambient temperature to connect to the water mains or to an external refrigerated circulator
- Temperature range (Operation with cooling coil): +20°C to +70°C (dependent on cooling media and ambient temperature)
- Temperature constancy (temporal): ± 0.2°C
- Temperature regulation: microprocessor-controlled, PID type
- Temperature setting and display: via LED display, in steps of 0.1°C
- Over-temperature cut-out: electronical / dependent on the set value, to protect the test substances, and electro-mechanically, to protect the unit
- Under-temperature cut-out: electronical, max. 9.9°C below set temperature
- Shaking motion: orbital, can be switched on and off
- Shaking frequency regulation: microprocessor-controlled
- Shaking frequency displayand setting: digital - LED
- Incubation time:microprocessor-controlled, 1 minute to 999:59 hours
- Time display and setting: digital - LED
- Fast and exact temperature setting, exact reproducibility of set values, such as temperature, shaking frequency and incubation time, due tomicroprocessor-technique
- Integrated interface RS 232 for remote control of measuring, controlling and regulating tasks via PC
- Optimum temperature distribution throughout the cabinet interior with a ventilator
- Electronic function monitoring
- Silent and robust shaking mechanism with gentle start-up and even orbital motion, independent of load, set shaking frequency and incubation time
- The microprocessor-controlled timer displays continuously the current remaining running time of the incubation time and signals acoustically its expiry
- Membrane keyboard with prominent symbols
- The units come with the CE mark

Model VS 45 OI: Acrylic glass window in the door, approx. 45 l useful volume. Capacity: 2 shaking trays 450 × 300 mm, for vessel height of more than 150 mm, 1 shaking tray.

Model VS 60 OI: with lift-up acrylic glass cover, approx. 68 l useful volume. Capacity: 1 shaking tray 450 × 450 mm. Outer housing made of heavy-duty ABS and powder-coated, electrolytically galvanized sheet steel.

Model VS 150 OI: Acrylic glass window in both doors, approx. 150 l useful volume. Capacity: 2 shaking trays 674 × 540 mm, for vessel height of more than 180 mm, 1 shaking tray.

All models: Outer housing made of powder-coated, electrolytically galvanized sheet steel.

Shaking Incubator type VS 45 OI
Chamber interior and insides of doors made of stainless steel. Basic equipment includes frame rack for trays. Interior lighting: switchable fluorescent lamp under a scattered light pane.

Technical data:

Shaking frequency:	20 to max. 250 rpm
Shaking amplitude:	25 mm
Load:	max. 12 kg
Volume:	approx. 45 l, 2 shaking trays, for vessel height of more than 150 mm, 1 shaking tray
Interior dimensions (W×D×H):	450 × 300 × 320 mm
Exterior dimensions (W×D×H):	710 × 650 × 710 mm
Electrical connection:	230 V 50/60 Hz, 0.8 kW
Net/gross weight:	70/80 kg

Article	Order No.
Shaking incubator type VS 45 OI	**52 11 03032**

Supplied without the illustrated accessories

Continued on next page

Shakers, Incubators

① **Shaking Incubator type VS 60 OI**
Shaking table with four plastic pins to accommodate the shaking tray, the non-slip mat or the universal mount (accessories) made of aluminium.

Technical data:

Shaking frequency:	20 to max. 250 rpm
Shaking amplitude:	30 mm
Load:	max. 12 kg
Volume:	approx. 68 l, 1 shaking tray
Interior dimensions (W×D×H):	450 × 450 × 338 mm
Exterior dimensions (W×D×H):	525 × 686 × 631 mm
Electrical connection:	230 V 50/60 Hz, 0.8 kW
Net/gross weight:	41.5/53 kg

Article	Order No.
Shaking incubator type VS 60 OI	**10 11 03052**

Supplied without the illustrated accessories

② 

Shaking Incubator type VS 150 OI
Chamber interior and insides of doors made of stainless steel. Basic equipment includes frame rack for trays. Interior lighting: switchable fluorescent lamp under a scattered light pane.

Technical data:

Shaking frequency:	20 to max. 250 rpm if only bottom tray is loaded, 20 to max. 200 rpm if both trays are loaded
Shaking amplitude:	25 mm
Load:	max. 20 kg
Volume:	approx. 150 l, 2 shaking trays, for vessel height of more than 180 mm, 1 shaking tray
Interior dimensions (W×D×H):	674 × 540 × 430 mm
Exterior dimensions (W×D×H):	930 × 890 × 820 mm
Electrical connection:	230 V, 50/60 Hz, 0.8 kW
Net/gross weight:	135/270 kg

Article	Order No.
Shaking incubator type VS 150 OI	**52 11 03033**

Supplied without the illustrated accessories

③ 

Shaking trays for shaking incubators VS 45 OI, VS 60 OI and VS 150 OI
Made of stainless steel (type A000045 und A000046), with holes to accept clamps for Erlenmeyer flasks and other accessories (see also shakers VS 15 (A000045) und VS 30 O (A000047), page 685).

Article	Order No.
② **Tray type A000045** For shakers VS 15 and shaking incubator VS 60 OI. 450 × 450 mm	**52 11 23966**
Tray type A000046 For shaking incubator VS 45 OI. 450 × 300 mm	**52 11 23970**
Tray type A000047 For shakers VS 30 O and shaking incubator VS 150 OI, 670 × 537 mm.	**52 11 23980**

Made of 3 mm thick, anodized aluminium, with holes to accommodate Erlenmeyer flasks and other accessories.

③ **Clamps for Erlenmeyer flasks**
Made of stainless steel, to be screwed onto shaking trays A000045, A000046 and A000047. Complete with fixing material (see also shakers page 685).

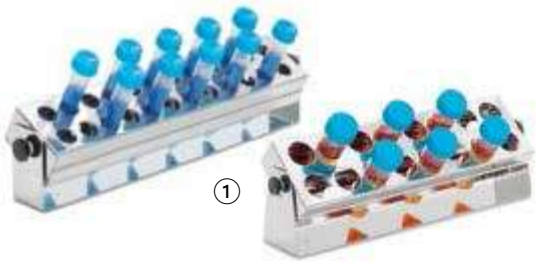
Max. quantity of flask clamps per shaking tray:

Type	for flasks ml	Tray A000045	Tray A000046	Tray A000047	Order No.
A000025	25	79	52	99	**52 11 23983**
A000026	50	49	33	99	**52 11 23984**
A000027	100	36	22	50	**52 11 23985**
A000028	200	22	15	26	**52 11 23986**
A000029	250 – 300	16	13	26	**52 11 23987**
A000030	500	12	10	26	**52 11 23988**
A000031	1000	9	6	12	**52 11 23989**
A000053	2000	4	3	9	**52 11 23990**

VS 45 OI (Tablar A000046): From clamps 300 ml only 1 tray applicable
VS 150 OI (Tablar A000047): From clamps 1000 ml only 1 tray applicable
Other clamps on request

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Shakers, Incubators



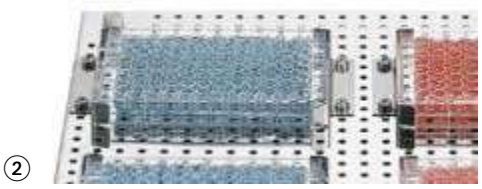
Test tube racks
Made of stainless steel, perforated part can be tilted by 90°, with clamping springs for secure hold and silent shaking of the tubes, to be screwed on to shaking trays A000045, A000046 and A000047. For incubators VS 45 OI, VS 60 OI und VS 150 OI (see also shakers page 685).

Capacity each tray:

Tray A000045:	Type A000059: max. 6 racks
	Type A000060: max. 4 racks
Tray A000046:	Type A000059: max. 3 racks
	Type A000060: max. 3 racks
Tray A000047:	Type A000059: max. 9 racks
	Type A000060: max. 8 racks

	Article	for	Order No.
①	Type A000059	max. 24 tubes 12 to 17 mm Ø	**52 11 23953**
	Type A000060	max. 16 tubes 25 to 29 mm Ø	**10 11 03954**

Supplied without the illustrated accessories



Test plate holding frame
Made of stainless steel, for attachment of a test plate, for screwing on to shaking trays A000045 and A000046. Capacity: A000045 / 6, A000046 / 6 test plates. Complete with attachment material (see also shakers VS 8, VS 15 O and VS 15 B, page 685).

	Article	Order No.
②	Type A000061	**52 11 23910**

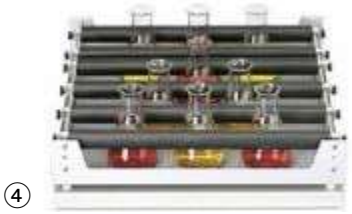
Supplied without the illustrated accessories



Non-slip rubber mat for type VS 60 OI
For the shaking platform, 420 × 420 mm. For slow moving e.g. of nutritions in petri dishes and culture bottles (see also shakers VS 15 T and VS 15 R, page 685).

	Article	Order No.
③	Type A000043	**52 11 23965**

Supplied without the illustrated accessories



Universal mount for shaking incubator type VS 60 OI
For secure fixing of different shaking objects between the six rubber-coated bars. (see also shakers VS 15, page 685).

	Article	Order No.
④	Universal mount A000049	**52 11 23967**

Supplied without the illustrated accessories



Adhesive mat, black
Highly adhesive special mat for easy fastening of a wide range of different vessels on tray or shaker table, shaking speed up to approx. 250 rpm (depending on shape and weight of the vessel and size of the shaking amplitude).
- Size: 200 × 200 mm, can be cut to size with scissors.
- Temperature range: 15 to 60°C.

For shaker incubator VS 150 OI: can only be used in connection with tray type A000047. Also see shaker VS 30 O, page 685.

	Article	Type	Order No.
⑤	Adhesive mat, black	A000041	**10 11 03949**

webcode WWSB5014

PHOENIX instrument

Incubator Shaker, Phoenix Instrument



- digital temperature and speed indication
- integrated timer
- stops automatically when hood is opened
- wide choice of accessories
- brushless motor
- overload protection
- easy to operate

Technical data:

Shaking movement:	orbital
Shake stroke:	20 mm
Max. speed:	40 – 300 rpm
Max. load capacity:	5 kg
Heating range:	RT +5° – 60°C

Article	Order No.
Incubator shaker IS-OS 20	**10 13 77520**

Shakers, Incubators

Stackable Incubator Shaker, Zefa

webcode WWQ7T015

ZEFA

① **Incubator Shaker Model ZWYR-D240**
Premium stackable incubator shakers
Model ZWYR-D2401, ZWYR-D2402, ZWYR-D2403

Features:
- 5.6″ LCD Touchscreen monitor
- Folding door with soft-stop mechanism and stop of shaking action when door is opened
- 304/1.4301 stainless steel 190-litre interior with rounded inner corners for easier cleaning inside the chamber
- The models are optionally available with moisture and CO_2 control
- Brushless maintenance-free heavy-duty drive for soft start, quiet running, low-vibration handling of cultures, from 30 – 400 rpm (standard 30 – 300 rpm)
- Type of shaking action: circular; vibration amplitude infinitely variable from 1 – 50 mm
- Restart after power failure automatically with the most recent settings
- Temperature range from 4 – 60°C (on request, from 4 – 80°C), accuracy 0.1°C
- Two powerful fans with a performance of 268 m^3/h
- Programmable with fixed values or up to 9 segment settings, MPC memory, timer 1 – 9,999 minutes
- Visual and if required audible alarm, settings adjustable to your individual limit values
- To protect the samples, the heating switches off in case of control malfunction
- Stop of shaking action in case of overload, vibration and/or door opening
- Interior lighting
- Tray 800 × 420 mm with threaded hole screening for retaining clamps 50 ml – 5,000 ml, test tube frames, universal multi-spring retainer, holder for microtiter deepwell plates or adhesive tape/film
- Connection 220/240 Volt, 50/60 Hz



①

Quantity trays		1	2	3
Inner dimensions	mm	920×532×395	920×532×395	920×532×395
Outer dimensions	mm	1300×950×1310	1300×950×1310	1300×950×1310
Weight	kg	250	430	630
Power rating	W	1200	2400	3600
Order No.		**10 83 20770**	**10 83 20779**	**10 83 20782**

② **“ULTIMATE-CELL” stackable incubator shaker USOK 1257**
- Intuitive TouchScreen panel, user-friendly and intelligent with autodiagnosis alarm system
- QuinDrive Self Balance for an even orbital shaking motion
- Extended chamber capacity
- Highly precise temperature control system
- Direct injection moisturising system
- Advanced CO2 regulation with infrared sensor
- Photosynthesis LED light
- Contamination control
- Password protected screen and door-locking mechanism prevent unauthorised access



②

Technical data:

Outer dimensions:	1320 × 870 × 590 mm
Inner dimensions:	940 × 570 × 480 mm
CO_2 range:	0 – 20%
CO_2 accuracy:	± 0,15
Humidity range:	40 – 80% RH at 25 – 55°C
Humidity accuracy:	1% RH
Humidity reproducibility:	± 3% RH
Tray size:	850 × 450 mm (included in scope of delivery)
Max. tray load:	25 kg
Speed:	30 – 300 rpm variably adjustable
Timer:	0 – 9999 minutes
Shaking mode:	orbital
Shaking amplitudes:	12.5 / 25 or 50 mm selectable
Air circulation:	360 m^3 / hour
Light type:	LED, 50% red, 50% blue
Spectrum:	red 640 – 660 nm, blue 430 – 450 nm
Light intensity:	13,000 lux

Article	Order No.
Ultimate Cell Stackable Shaking Incubator USOK 1257	**10 83 25269**
Steam humidification kit	**10 83 25292**
Infrared CO2 kit	**10 83 25293**
Lighting panel white	**10 83 26044**
Lighting panel red-blue	**10 83 25290**
Base frame	**10 83 25291**

Continued on next page

Shakers, Incubators

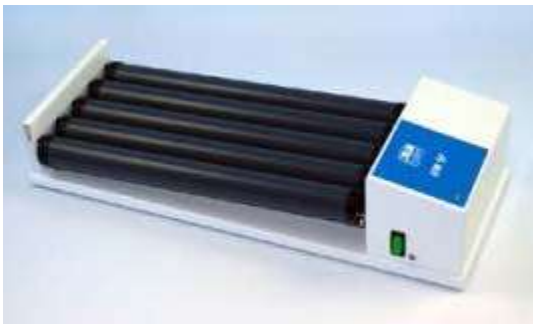
Clamps for Erlenmeyer flasks made from stainless steel

Article	Order No.
Clamps for Erlenmeyer flask 50 ml	**10 83 25457**
Clamps for Erlenmeyer flask 100 ml	**10 83 25458**
Clamps for Erlenmeyer flask 250 ml	**10 83 25459**
Clamps for Erlenmeyer flask 500 ml	**10 83 25460**
Clamps for Erlenmeyer flask 1000 ml	**10 83 25462**
Clamps for Erlenmeyer flask 2000 ml	**10 83 25463**
Clamps for Erlenmeyer flask 5000 ml	**10 83 29244**
Sticky Mat 20 × 20 cm	**10 83 26076**

Please enter the webcode WWQ7T015 to see more accessories in our online catalogue

Shaking water baths see page 696

Roller Mixers



Multi-Axle Rotating Mixer, Hecht-ASSISTENT CE

Multi-axle rotating mixer with 5 synchronous turning, eccentric bearings
The 5 synchronous bearings are designed to form a synchronous rotating surface for sample bottles etc. At the same time as being rotated around their longitudinal axis the bottles are rocked back and forth along their bearing surface.
These units are designed specially for the uniform mixing of examination samples (e.g. whole blood) for haematological determinations and for the gentle mixing of other cell suspensions. They also prevent the sedimentation of samples (dispersions) of all kinds, e.g. paints, lacquers, oils, cosmetics etc.

Technical data:

External W × H × D:	180 × 95 × 430 mm
Roller length:	330 mm
Power supply:	230 V~, 50 Hz with connecting cable and earthing-pin plug
Speed:	36 rpm

Article	Order No.
Multi-axle rotating mixer with 5 rollers	**52 18 00348**

webcode WWXRZ008

Tube Roller RM 2, Bühler

Tube roller RM 2
Space saving tube roller with gentle tilting and rotating motion

Basic equipment
Basic device with 6 removable plastic rolls and spill tray

Loading Capacity (Examples)
Suitable for all standard tube sizes, flasks and universal vessels up to 80 mm in diameter thanks to removable rolls

Technical data:

Motion:	rotating, tilting motion
Shaking platform:	200 × 300 mm
Dimensions of rolls:	300 × Ø 32 mm
Number of rolls:	6 pcs
Max. load:	2 kg
Shaking speed:	5 – 80 rpm, in steps of 5
Angle of tilt:	3° fixed
Stroke at end of rolls:	15 mm
Runtime:	0 – 99 h 59 min / continuous
Electrical supply:	100 – 240 V, 50 / 60 Hz
Dimensions (W×D×H):	244 × 465 × 115 mm


①


②

	Article	Order No.
①	Tube roller RM 2	**10 61 68000**

Accessories

	Article	Order No.
②	**Overhead rack** with 12 drillings à Ø 29,5 mm (other drillings on request)	**10 61 60003**

Roller Mixers

Multi-Axle Rotating Mixer, IDL

webcode WW7R3187

Five synchronous rotating PVC rollers provide a uniform gyrating surface for small sample bottles, etc. The sample bottles are simultaneously rotated about their longitudinal axis and rocked back and forth along their contact surface.

This device is specially designed for the uniform mixing of research samples (e.g. whole blood) for hematologic determinations and for gentle mixing of other cell suspensions. Additionally, the device prevents probe sedimentation (dispersions) of all kinds, such as colors, paints, oils, cosmetics, etc.
Changing of rolls is not possible.

Type		RM5F
Outer dimensions W × D × H	mm	480 × 180 × 113
Roller length usable	mm	334
Weight	kg	3.7
Voltage	VDC	24
Power output	W	25
Speed in no load	min^{-1}	40
Max. load	kg	5
Order No.		**10 00 60207**



Tube Roller, Phoenix Instrument

webcode WWSB5016

The tube roller provides gentle and effective mixing by rocking and rolling action. The adjustment of speed will be done with a knob and a scale.

We are offering 2 years warranty.

Technical data:

Power supply:	100–240 V / 50–60 Hz
Shaking movement:	roll and tilt
Number of rolls:	6
Speed:	5 to 70 rpm
Run type:	continuous
Max. load:	4 kg
Dimensions (D×W×H):	460 × 260 × 120 mm
Ambient temperature:	4 to 40°C

Article	Order No.
Tube roller RS-TR 5	**10 13 77905**



Roller Incubators

Hybridisation-Flasks, Rettberg

webcode WWQVD160

Hybridisation-flasks made of borosilicate glass 3.3
Hybridization flasks made of borosilicate glass 3.3, complete with special polypropylene screw top and special buna N O-ring seal, screw thread GL 45. The flasks should be ordered according to the sizes indicated below for hybridization incubators as supplied by a variety of manufacturers.

Length approx. mm	Outer Ø approx. mm	Inner Ø approx. mm	Order No.
300	50	45	**13 41 12300**
300	40	35	**13 41 14300**
273	50	45	**13 41 18273**
250	40	35	**10 70 23250**
225	40	35	**13 41 19225**
150	40	35	**13 41 20150**

Other sizes on request.

Spare parts

Article	Order No.
Special screw cap made of PP for hybridization bottles	**13 41 22110**
Special round ring seal made of Perbunan	**13 41 22120**



Overhead Mixers

Rotating Shakers, LAUDA

LAUDA

webcode WW18A012



Special shaker with uniform rotating motion. Versatile, e.g. for mixing and processing of soil samples, powders or viscous substances.
Compact, low-wear drive mechanism. Housing made of electrolytically galvanized, powder-coated steel sheet. Clearly laid out control panel for easy operation: LED display for speed indication. Rotating rack with lock for easy securing of the sample vessels. Electronic speed control, stepless, constant speed during continuous operation. Rotating rack with ball bearings on both sides, in four planes, each plane with three holding frames to accommodate a max. of 12 flasks/vessels, round or square, up to a diameter of Ø 110 mm and a height of max. 270 mm. A d.c. motor with overload protection drives the unit. Holding frame for safe, secure clamping of the sample vessels, made of stainless steel. The unit can be used in ambient temperatures between +10°C and +40°C. Maintenance free and CE marked.

Technical data:

Overall dimensions (W×D×H):	770 × 700 × 715 mm
Load:	max. 20 kg with uniform load distribution
Motion:	orbital rotating
Capacity:	max. 12 bottles/vessels
Bottle/vessel dimensions:	up to max. Ø 110 mm and 1 up to max. 270 mm height, round or square
Revolutions:	1 to 20 min^{-1}
Electrical connection:	230 V, 50/60 Hz, 100 W
Net/gross weight:	62/78 kg

Article	Order No.
Rotating shaker type VS 20 OH	**52 11 33040**

Supplied without the illustrated accessories

Rotating Shakers, neoLab®



for my lab neoLab

webcode WW2NY272

Rotating Shakers
For overhead mixing-through of samples in test tubes or reaction vessels. The vessels are held by the vinyl coated spring steel clamps. The rotating plate can be adjusted to an angle between 27° and 90° and is exchangeable without any trouble.
Please order the rotating plate separately. Power connection lead is included.
Further rotating plates on request.

Power supply: 230 V/50 Hz

Speed rpm	Display	W × D × H mm	Wght kg	Order No.
10 fix	without	210×200×220	2.6	**52 01 21175**
5 – 50 variabel	without	210×200×270	3.6	**10 01 21184**
5 – 50 variabel	digital (speed, timer)	210×200×270	3.8	**10 01 21185**

Rotating plate

Article	Order No.
Rotating disk for test tubes 1.5/2.0 ml	**52 01 21179**
Rotating disk for 20 microtubes 11-15 mm Ø	**52 01 21176**
Rotating disk for test tubes 15 ml, 14-18 mm Ø	**52 01 21177**
Rotating disk for test tubes 50 ml, 30 mm Ø	**10 01 21182**
Adapter fo dual disk support	**10 01 21183**

Webcode

Use the webcode on our website to see a larger selection of products from a specific manufacturer.

Overhead Mixers

Rotator with Vortex Mixer, neoLab®





Rotator with variable speed in combination with the advantages of a vortexer. From soft hybridization at low speed to rapid vortexing, the various racks and operating variations make it all possible.

Improve your blotting results with the blotting rack. The blotting modes B1 – B4 are specifically designed for western blot protocols (Vibrospin Technology). Rigorously tested, this blotting method has consistently excelled in the sensitivity and specificity of western blots.

Transform your rotator with vortexer into a rocking shaker with the rocking platform.
- Racks for all receptacles from 0.5 to 50 ml
- 34 different programs
- 6 variable vortexer programs
- 3 additional programs can be stored separately
- Maintenance-free motor
- Combi Rack can be loaded with 2 × 50 ml, 4 × 15 ml, 8 × 5 ml and 8 × 1.5 ml

Technical data:

Rotation:	1 to 99 RPM (increments of 1)
Programs:	34
Ambient temperature:	2 to 50°C
Rel. air humidity:	max. 80%
Dimensions (W × D × H):	344 × 125 × 168 mm
Weight:	1.6 kg (without racks)
Connection:	12 V, inc. AC adapter, 1500 mA

Rotator with Vortex Mixer

Article	Order No.
Rotator without rack	**52 01 70045**

Racks

Article	for	Order No.
Rack	10 × 30 mm Ø	**52 01 70046**
Rack	0.5 ml Eppis	**10 01 70044**
Rack	16 × 16 mm Ø	**52 01 70047**
Rack	28 × 13 mm Ø	**52 01 70048**
Rack	32 × 11 mm Ø	**52 01 70049**
Combination rack	10, 13, 16, 30 mm Ø	**52 01 70050**
Blotting rack	50 ml vials/horizontally	**10 01 70043**
Rocking rack		**10 01 70053**

webcode WW2NY304

for my lab neoLab

Revolver Rotator, neoLab®

webcode WW2NY390



The rotator is designed for a multitude of mixing jobs in biochemistry, histochemistry, clinical chemistry and molecular biology. Sample vessels of different volumes can be fixed in any intermediate position. Both halves of the paddle can be arranged independently of each other between 0 and 90°. The paddle is easy to fix by means of plug connection without the need for tools. The paddle for 6x50 ml tubes can be inserted in vertical and in horizontal position.

Scope of delivery:
- Rotator incl. power pack
- 2 paddles for 7 × 10/15 ml tubes each
- 2 paddles for 7 × 5/7 ml blood sample tubes each
- 2 paddles for 15 × 1.5/2.0 ml reaction vessels each
- 2 paddles for 21 × 0.5/0.8 ml tubes each
- 1 paddle for 6 × 50 ml tubes
- 1 additional rotary axis for paddle 6 × 50 mm
- 10 spare O-rings

Technical data:

Dimensions (W×D×H):	225 × 154 × 195 mm
Permissible operating temperature:	4 to 60°C at 80% rF
Power supply:	230/240 V, 50/60 Hz

Revolver Rotator with fixed speed

Article	Speed rpm	Weight kg	Order No.
Revolver Rotator, fixed speed	18	0.8	**10 01 96049**

Revolver Rotator with variable speed
With variable speed and Vortex mode which is automatically enabled every 40 degree in direction of rotation. The combination of rotation and oscillation provides for more efficient sample mixing.

Article	Speed rpm	Display	Weight kg	Order No.
Revolver Rotator, variable speed	10 – 40	LED	1.2	**10 01 96050**

Continued on next page

Overhead Mixers

Accessories

Article	Tubes ml	Order No.	PU pc/Pack
Rotation paddle for 7 tubes	10/15	**10 01 96051**	2
Rotation paddle for 7 blood sample tubes	5/7	**10 01 96052**	2
Rotation paddle for 15 reaction vessels	1.5/2.0	**10 01 96053**	2
Rotation paddle for 21 tubes	0.5/0.8	**10 01 96054**	2
Rotation paddle for 6 tubes	50	**10 01 96055**	1

webcode WW2NY361

Rotator Digi Mixer Sunlab®, neoLab®



The Sunlab® Rotator Digi Mixer is the practical solution for intensive or gentle shaking or for inverting of samples in powder or liquid form. Speed, time, and amplitude can be infinitely set in 10 different programs. The large LCD display gives you a clear overview of all parameters. **Up to 99 UpM can be set**.

Easy operation, highly versatile. Thanks to its low weight, the Digi Mixer can easily set up in different locations. Use the Digi Mixer on the workbench, in the cool room, incubator, or safety workbench. The Digi Mixer is designed for temperatures between 4 – 65 °C and a humidity of max. 80% (with 20°C).

The scope of delivery of the Digi Mixer comprises the combi rack for 1.5, 5, 15 and 50 ml. Additional racks for reaction vessels of various volumes are available as accessories. They can be shaken vertically, horizontally, or variably.

Dimensions: approx. 42 × 15 × 19 cm (L×W×H)

Article	for tubes ml	Places	Filling	Order No.
Rotator Digi Mixer with combirack	1.5 / 2 / 5 / 15 / 50	30	variabel	**10 01 98801**
Rack	1.5 / 2	36	variabel	**10 01 98802**
Rack	5 / 15	22	vertical	**10 01 98803**
Rack	50	12	vertical	**10 01 98804**
Rack	5 / 15	12	horizontal	**10 01 98805**
Rack	50	12	horizontal	**10 01 98806**

Disk-Mixer and Rotator, Phoenix Instrument





webcode WWSB5015

Disk-Mixer RS-RD 20
For gentle and effective mixing samples in various tubes and flasks. Adjustment and control of the parameter speed and time can be done easily via the LCD-display.

- instrument will be supplied incl. tube holder (RS-RR20) or disk mixer (RS-RD 20) for 50 ml tubes
- Dual-Use–rotator RS-RR 20 can also be used as disk mixer
- fix stand with anti-slipping feet
- backlit display to adjust speed and time
- comprehensive range of accessories
- 2 years warranty

Technical data:

Power / frequency:	100–240 V / 50–60 Hz
Speed:	10 to 70 rpm
Timer function:	1 to 1199 Min.
Run type:	timer/continuous
Ambient temperature:	4 to 40°C

Article	Order No.
① Disk mixer RS-RD 20	**10 13 75820**
② Rotator RS-RR 20	**10 13 75920**

Disk mixer for RS-RD 20 (accessories)

Article	for	Order No.
Disk modul RSE-RD 05	60 × 1.5 ml tubes	**10 13 75805**
Disk modul RSE-RD 10	16 × 15 ml tubes	**10 13 75810**
Disk modul RSE-RD 15	8 × 50 ml tubes	**10 13 75815**
Adapter RSE-RD 50	to use several disk moduls	**10 13 75850**

Continued on next page

Overhead Mixers

Tube holders for RS-RR 20 (accessories)

Article	for	Mixing	Order No.
Rotator modul RSE-RR 05	48 × 1.5 ml tubes	horizontal	**10 13 75905**
Rotator modul RSE-RR 10	24 × 15 ml tubes	horizontal	**10 13 75910**
Rotator modul RSE-RR 15	24 × 50 ml tubes	horizontal	**10 13 75915**
Rotator modul RSE-RR 25	32 × 1.5 ml tubes	vertical	**10 13 75925**
Rotator modul RSE-RR 30	16 × 15 ml tubes	vertical	**10 13 75930**
Rotator modul RSE-RR 35	16 × 50 ml tubes	vertical	**10 13 75935**

Disk-Mixer and rotator RS-RD 5 / RS-RR 5

These analog rotators are characterized by a compact design and an excellent price/performance ratio. Delivery comprises the top unit with holding clamps for 1.5/2 ml, 15 ml, and 50 ml tubes.

Technical data:

Power / frequency: 100–240 V / 50–60 Hz
Speed: 10 to 80 rpm

	Article	Order No.
③	Disk-mixer RS-RD 5	**10 13 75705**
④	Rotator RS-RR 5	**10 13 75605**



③



④

Overhead Shaker MZ40, Zefa

webcode WWQ7T018

ZEFA

The overhead shaker MZ40 is made of solid aluminum and stainless steel and allows for simultaneous treatment of up to 40 samples. Each of the four levels of the MZ40 is equipped with 10 locking devices and a snap-action mechanism matching the size of your bottle or vessel. The samples are treated at 122 Nm shaft power constantly at four revolutions per minute. A speed regulator extendable to 1 to 16 rpm is available as an option. A transparent front screen prevents the user from reaching into the machine while the unit is running: When the screen is raised, the unit stops immediately. While the screen is raised, the platform can be moved at the push of a button. Pursuant to the EU Directive "Deutsches Einheitsverfahren zur Wasser-, Abwasser- und Schlammuntersuchung – Bestimmung der Eluierbarkeit mit Wasser" (German standard methods for the examination of water, waste water and sludge – determination of leachability with water). Bottles/vessels are not comprised in the delivery.

- Large robust unit made of seawater-proof aluminium and stainless steel for overhead shaking of sediment and leachate bottles and other vessels
- Capacity for max. 40 bottles or vessels of up to 2,000 ml
- Speed permanently set to 4 rpm (can be extended to variable speeds as an option)
- Sizes (W×D×H) 1450 × 820 × 800 mm
- 122 Nm shaft power
- Wattage 220 Watt, power consumption 400V/50-60 Hz

Article	Order No.
Overhead shaker MZ40	**10 83 23318**
Surcharge for variable speed 1 to 16 revolutions per minute	**10 83 23319**
Stacking frame for placing one unit of top of another	**10 83 23320**



We are also glad to help you in person.
Give us a call!

CENTRIFUGATION

As a rule, a mixture has to be separated in order to obtain single components. A simple and widely used separation method is centrifugation. Centrifuges use the centrifugal forces which have an impact on the mixture components during a rotation to accelerate the separation process. Centrifuges whose separation principle is based on the different behaviours of the mixture components in the gravity field are called sedimentation centrifuges. During sedimentation, the different components of a mixtures organise in certain layers. The sinking or sedimentation speed of the components mainly depends on their density. Particles of highest density settle at the bottom. The remaining substances following in the order of decreasing density.

Under the influence of natural gravity, the sedimentation can take hours or days. Because the gravitation forces in the centrifuge are multiples of gravity, the mixture components separate much quicker.

A significant number of different rotor types has been developed for centrifuges. In laboratory centrifuges, fixed-angle rotors and swing-bucket rotors are used most frequently. Both rotor types have specific benefits.

The fixed-angle rotor



Fixed-angle rotors are almost always solid bodies with smooth and closed surfaces. They have holes where the centrifuging vessels are inserted. The sample tubes are in a fixed angle to the rotor axes and they keep this angle during centrifugation. Due to their design, fixed-angle rotors provide low aerodynamic resistance and can reach higher revolutions than swing-bucket rotors at the same drive capacity. The centrifuged particles first move radially outward, then hit the tilted tube wall after a relatively short distance, and then slide down to the bottom of the tube, driven by gravity. Convection streams in the tube additionally contribute to a quicker sedimentation. Therefore, fixed-angle rotors make relatively short centrifuging times possible.

The swing-bucket rotor



In this type of rotor, the pendants swing to up to 90° from the vertical position with increasing rotor revolution. Therefore, the centrifuging tubes orientate towards the effective field of gravity. The sedimentation process happens towards the tube axis, so that the sediment is formed at the bottom of the tube in evenly thick layers. Due to strong aerodynamic resistance, which is caused by the ragged form of the rotors with the swinging pendants, the swing-bucket rotors reach lower revolutions than comparable fixed-angle rotors. This and the longer way which the particles in the swing-bucket rotor have to cover to the tube bottom results in longer centrifuging times.

Calculation of the centrifugal force

The relative centrifugal force (RCF) is a major evaluation criterion of the separation performance of a centrifuge or a rotor. The relative centrifugal force, also called g-number, indicates the factor by which the centrifugal force exceeds the gravitational acceleration. The g-number is only a number and does not have a unit.

To determine the RCF, the rotor diameter and the revolution are needed. The following formula is used:

RCF = $(n/1000)^2$ x r x 1,118

n = Revolution in min^{-1} (RPM)

r = Radius in mm (= distance between rotor centre and bottom of the centrifuge tube)

Important note for practical application: doubling the rotor radius of a centrifuge results in doubling the relative centrifugal force, doubling the revolution results in quadruplication.

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Micro Centrifuges

Micro Centrifuges, Eppendorf

webcode WWQJ3039

eppendorf

① **Micro centrifuges MiniSpin® and MiniSpin® plus**
Product features of the MiniSpin® and MiniSpin® plus centrifuges:
- Exceptionally small footprint
- Extremely quiet
- Maintenance-free drive

Additional product features of the MiniSpin® centrifuge:
- Includes standard rotor made of anodized aluminum
- Max. speed of 13,400 rpm; max. rcf of 12,100 x g

Additional product features of the MiniSpin® plus centrifuge:
- Max. speed of 14,500 rpm; max. rcf 14,100 x g
- rpm/rcf setting as required
- Timer can be set up to 99 minutes
- Continuous centrifugation possible



①

Article	Order No.
Centrifuge MiniSpin®	**55 69 54520**
230 V/50-60 Hz, incl. standard rotor, anodized aluminium, 45° angle, 12 bores for 1.5/2 ml reaction tubes with max. Ø 11 mm, complete with stainless steel lid	

Article	Order No.
Centrifuge MiniSpin® plus	**55 69 54530**
230 V/50-60 Hz, incl. "F-45-12-11" rotor, in refined black aluminium, 45° angle, 12 bores for 1.5/2 ml reaction tubes with max. Ø 11 mm, complete with stainless steel lid	



②

Accessories

Article	Order No.
② **PCR strip rotor F-55-16-5-PCR** including rotor cover	**10 69 27007**
Rotor cover Stainless steel with knurled nut	**55 69 02000**
Adapter For 0.5 ml micro centrifuge tube and 0.6 ml Microtainers®, 6 pieces	**55 69 16001**
Adapter For 0.4 ml micro centrifuge tube, 6 pieces	**55 69 17008**
Adapter For 0.2 ml PCR tube, 6 pieces	**55 69 15005**

BD Microtainer®: registered trademark of Becton Dickinson

webcode To see other variants and accessories, please enter the webcode on our website.

Micro Centrifuges



webcode WWQJ3065

Micro-centrifuge 5418 R, Eppendorf

Centrifuge 5418 R
The compact Centrifuge 5418 R has a capacity of 18 × 1.5/2.0 ml vessels and reaches a maximum RCF of 16,873 × g at a revolution of 14,000 1/min. The micro centrifuge is equipped with a aerosol-proof standard rotor, which can be operated without rotor lid for your convenience, without the noise level increasing noticeably. The Centrifuge 5418 R is the perfect solution for customers who require a high-quality centrifuge for processing small samples.

Features
- 18-place rotor for 1.5/2.0 ml test tubes
- Max. 16,873 × g
- Quiet operation even without rotor lid
- Aerosol-proof standard rotor, certified
- Comfortable and intuitive two-button-operation, typical for Eppendorf
- Short-spin key
- Automatic lid opening after end of procedure
- Needs very little space
- The patented compressor technology reduces vibrations to a minimum to protect your valuable sample!
- Temperature range: 0°C to +40°C
- Low access height of 26 cm due to refrigeration unit at the rear of the device
- Constant 4°C at max. speed
- Fast Temp function for quick pre-cooling of the centrifuge
- Constant temperature during permanent cooling when no centrifugation is performed

	Article	Order No.
1	**Micro-centrifuge 5418 R, 230 V/50-60 Hz (refrigerated)** including rotor FA-45-18-11	**10 69 00013**
2	**Rotor FA-45-18-11** including rotor cover, aerosol consistent	**10 69 07005**
3	**Rotor cover FA-45-18-11** aerosol consistent	**10 69 08001**

Centrifuge 5420
- Non-refrigerated
- Keyboard
- 230 V/50 – 60 Hz

	Article	Order No.
4	**Centrifuge 5420, rotor FA-24×2**	**10 69 42016**
	Centrifuge 5420 G, Rotor FA-24x2	**10 69 42113**
	Centrifuge 5420, without rotor	**10 69 20210**
	Centrifuge 5420 G, without rotor	**10 69 80318**
5	**Rotor FA-24x2** Aerosol-tight, for 24 × 1.5/2.0 ml tubes, incl. aerosol-tight rotor lid	**10 69 40001**
6	**Rotor F-32x0.2-PCR** For 32 × 0.2 ml PCR tubes or 4 × 8 PCR strips, incl. rotor lid	**10 69 44007**

Micro-centrifuge 5424 R and 5425, Eppendorf

Micro-centrifuge 5424 and 5424 R
With its four rotors, the variable 24-place micro centrifuge by Eppendorf fits perfectly in every biomolecular laboratory. It meets all requirements for a high-quality, 24-place micro centrifuge. By default, the Micro Centrifuge 5424 is equipped with an aerosol-proof rotor which can be operated without lid for your convenience, without the noise level increasing noticeably.
- 24-place-rotor for 1.5/2.0 ml test tubes
- Max. 20,238 x g
- Very quiet, even without rotor lid
- Aerosol-proof standard rotor, certified
- Selection between 4 different rotors
- Even better chemical resistance by means of special coating
- 18-place-kit-rotor for 4 x 8er PCR-vessel strips

Continued on next page

Micro Centrifuges

- Optional with turning knobs or membrane keyboard
- Version with buttons speeds up the setting of parameters
- Membrane version facilitates cleaning the display
- Automatic lid opening after end of procedure
- Low access height

Refrigeration features

- The patented compressor technology reduces vibrations to a minimum to protect your valuable sample!
- Temperature range: -9°C to +40°C
- Small footprint and low access height of 26 cm due to refrigeration unit at the rear of the device
- Constant 4°C at max. speed
- Fast Temp function for quick pre-cooling of the centrifuge, f.e. from ~21°C to 4° in only 8 minutes
- Constant temperature during permanent cooling when no centrifugation is performed



webcode WWQJ3066

① eppendorf

	Article	Order No.
①	**Micro-centrifuge 5424 R, 230 V/50 Hz, knob variant (refrigerated)** Including rotor FA-45-24-11	**10 69 40413**
	Micro-centrifuge 5424 R, 230 V/50 Hz, foil variant (refrigerated) Including rotor FA-45-24-11	**10 69 40014**
	Micro-centrifuge 5424 R, 230 V/50 Hz, knob variant (refrigerated) Without rotor	**10 69 40618**
	Micro-centrifuge 5424 R, 230 V/50 Hz, foil variant (refrigerated) Without rotor	**10 69 40219**
②	**Rotor FA-45-24-11, incl. rotor cover** Including rotor cover, aerosol consistent	**10 69 02007**
	Rotor cover for FA-45-24-11 Aerosol consistent	**10 69 03003**
③	**Rotor FA-45-24-11-Special** Including rotor cover, aerosol consistent, coated	**10 69 00004**
	Rotor cover for FA-45-24-11-Special Aerosol consistent, coated	**10 69 01000**
④	**Rotor FA-45-18-11-Kit** Including rotor cover	**10 69 06002**
	Rotor cover for FA-45-18-11-Kit	**10 69 07009**
⑤	**Rotor FA-45-32-5-PCR** Including rotor cover	**10 69 04000**
	Rotor cover for FA-45-32-5-PCR	**10 69 08005**



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Micro-centrifuge 5425

- Non-refrigerated
- 230 V/50 – 60 Hz

Article	Order No.
Centrifuge 5425, without rotor, keyboard	**10 69 50310**
⑥ **Centrifuge 5425, without rotor, rotary knobs**	**10 69 50719**
Centrifuge 5425, with rotor, keyboard	**10 69 50115**
Centrifuge 5425, with rotor, rotary knobs	**10 69 50514**
Rotor FA-24x2 Aerosol-tight, for 24 × 1.5/2.0 ml tubes, incl. aerosol-tight rotor lid	**10 69 50006**
Rotor FA-24x2-PTFE Aerosol-tight, with PTFE coating, for 24 × 1.5/2.0 ml tubes, incl. aerosol-tight rotor lid	**10 69 53005**
Rotor FA-10x5 Aerosol-tight, for 10 × 5.0 ml tubes (snap and screw cap), incl. aerosol-tight rotor lid	**10 69 55008**
Rotor FA-18x2-Kit Aerosol-tight, for 18 × 1.5/2.0 ml tubes or spin columns, incl. aerosol-tight rotor lid	**10 69 78007**
Rotor F-32x0.2-PCR For 32 × 0.2 ml PCR tubes or 4 × 8 PCR strips, incl. rotor lid	**10 69 51001**
Rotor S-96x0.2-PCR For 96 × 0.2 ml PCR tubes or 12 × 8 PCR strips, incl. buckets	**10 69 51204**



⑥

webcode To see other variants and accessories, please enter the webcode on our website.

Micro Centrifuges

Micro-centrifuge 5427 R, Eppendorf



webcode WWQJ3072

















If there is a demand for high sample throughput, many centrifuges call it a day in regards to capacity. This does not apply to the Centrifuge 5427 R. With a new double-row 48-place rotor it lives up to the increased efficiency requirements with fast running times in a safe and reliable manner. This is supported by an intuitive human interface and design concept which makes for a compelling user comfort and ensures a smooth workflow.
For these reasons, the Centrifuge 5427 R becomes the ideal solution for high-end research applications.
In addition, this microcentrifuge convinces with an innovative compressor technology which—by taking ecological aspects into account—tempers sensible samples precisely to guarantee a proper preparation of your analysis.

- New 48-place rotor reduces time expenditure of daily routine works significantly
- Short-Spin function allows for quick short centrifugation with pre-selectable rotation speed
- Eppendorf QuickLock system for quick rotor lid opening and closing
- Very quiet operation due to further improved sound insulation
- FastTemp for rapid pre-cooling of the centrifuge, e.g. from 23°C to 4°C in approx. 11 minutes
- Continuous cooling keeps the temperature after the run constant – Your samples stay safe
- Alternatively to continuous cooling: ECO-shut off of the compressor (adjustable after 1, 2, 4 or 8 hours of non-use) for a lower energy consumption

	Article	Order No.
	Centrifuge 5427 R 230 V/50-60 Hz, with knobs	**10 69 90012**
	Centrifuge 5427 R with rotor FA-45-24-11	**10 69 90217**
	Centrifuge 5427 R with rotor FA-45-30-11	**10 69 90535**
①	**Rotor FA-45-24-11** including rotor cover, aerosol consistent[1)]	**10 69 97020**
②	**Rotor F-45-30-11, incl. rotor cover** including rotor cover	**10 69 97080**
③	**Rotor FA-45-30-11** including rotor cover, aerosol consistent[1)]	**10 69 97060**
④	**Rotor FA-45-48-11** including rotor cover, aerosol consistent[1)]	**10 69 97100**
⑤	**Rotor FA-45-24-11-Kit** including rotor cover, aerosol consistent[1)]	**10 69 97040**
⑥	**Rotor F-45-48-11** including rotor cover	**10 69 97120**
⑦	**Rotor S-24-11-AT** including rotor cover, aerosol consistent[1)]	**10 69 97150**
	Adapter For 0.2 ml PCR tube, 6 pieces	**55 69 15005**
	Adapter For 0.4 ml micro centrifuge tube, 6 pieces	**55 69 17008**
	Adapter For 0.5 ml micro centrifuge tube and 0.6 ml Microtainers®, 6 pieces	**55 69 16001**
⑧	**Rotor F-45-48-5-PCR**	**10 69 97140**

[1)] certified aerosol consistent

Microcentrifuge 5430 and 5430 R, Eppendorf

webcode WWQJ3067



This versatile 30-place centrifuge is incomparably fast and offers numerous application possibilities due to its wide selection of rotors. The modern and ideally designed control panel is the result of an ergonomics study. This combination of programmable applications and ergonomic control panel makes your daily laboratory work easier and makes concrete application possible. The Centrifuge 5430 and Centrifuge 5430 R offer a versatile choice of high quality aluminium rotors which serve specific applications. In this regard, the eight proven rotor types have been complemented with further especially designed models. Besides the 48-place rotors (1.5/2.0 ml), these include a swing bucket rotor for up to 24 × 2.0 ml tubes. All new aerosol-tight rotors come with Eppendorf QuickLock-sealing . The Centrifuge 5430 reaches a maximum RCF of over 30,000 × g.

- 30-place centrifuge for 1.5/2.0 test tubes
- Unrivalled 30,130 × g
- Selection between 8 different rotors, e.g. MTP-rotor, Falcon-rotor
- Automatic rotor recognition
- Saves up to 50 routine programmes
- Menu-operated control in 4 languages
- LCD-display with background illumination
- Automatic lid opening after end of procedure

Additional features of 5430 R centrifuges

- Temperature range: -11°C to +40°C
- +4°C at max. speed with all rotors

Continued on next page

Micro Centrifuges

- Continuous refrigeration after centrifugation
- “Fast Temp” function for fastest-possible reaching the required temperature
- “Fast Temp pro” function for pre-cooling the centrifuge to have it ready for startup at the time you need it

	Article	Order No.
	Centrifuge 5430, foil variant, 230 V including rotor FA-45-30-11	**10 69 00216**
	Centrifuge 5430, foil variant, 230 V without rotor	**10 69 00011**
	Centrifuge 5430, knob variant, 230 V including rotor FA-45-30-11	**10 69 00411**
	Centrifuge 5430, knob variant, 230 V without rotor	**10 69 00615**
	Centrifuge 5430 R, foil variant, 230 V including rotor FA-45-30-11	**10 69 00015**
	Centrifuge 5430 R, foil variant, 230 V without rotor	**10 69 00210**
	Centrifuge 5430 R, knob variant, 230 V including rotor FA-45-30-11	**10 69 00414**
	Centrifuge 5430 R, knob variant, 230 V without rotor	**10 69 00619**
①	**Rotor FA-45-48-11** including rotor cover, aerosol consistent[1) 2)]	**10 69 27754**
②	**Rotor F-45-48-11** including rotor cover[2)]	**10 69 27755**
③	**Rotor S-24-11-AT** including rotor cover, aerosol consistent[1) 2)]	**10 69 27757**
④	**Rotor FA-45-30-11** including rotor cover, aerosol consistent[1)]	**10 69 27753**
⑤	**Rotor F-45-30-11** including rotor cover	**10 69 12003**
⑥	**Rotor FA-45-24-11-Kit** including rotor cover, aerosol consistent[1)]	**10 69 03004**
⑦	**Rotor FA-45-24-11-HS** including rotor cover, aerosol consistent[1)]	**10 69 10000**
⑧	**Rotor F-45-18-17-Cryo** including rotor cover and adapter	**10 69 05007**
⑨	**Rotor F-45-64-5-PCR** including rotor cover and adapter	**10 69 14006**
	Adapter for rotor F-45-64-5-PCR (set of 4 pcs)	**10 69 17005**
⑩	**Rotor F-35-6-30** including rotor cover and adapter for 15/50 ml tubes	**10 69 16009**
	Adapter 1 x 50 ml Falcon® for F-35-6-30 (set of 2 pcs)	**10 69 27000**
	Adapter 1 x 15 ml Falcon® for F-35-6-30 (set of 2 pcs)	**10 69 26004**
⑪	**A-2-MTP, incl. 2 MTP buckets and rotor cover**	**10 69 00005**
	MTP replacement buckets for A-2-MTP (set of 2 pcs)	**10 69 22009**

[1)] Certified aerosol-tight
[2)] Please contact your local Eppendorf organization or dealer about required software update for your existing devices.


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Micro Centrifuges, Phoenix Instrument

Clinical centrifuge CD-0412
Well-priced, universal centrifuge for all lab and clinical application, fully equipped, easy handling, corresponds with all safety demands.

Technical data:

Speed:	300 to 4500 min^{-1}, in 100 min^{-1} steps
Max. RCF:	2490 g
Time:	0.5 to 99 minutes, continuous
Dimensions:	26 × 25 × 14 cm
Weight:	6 kg
Max. capacity:	8 × 15 ml, 12 × 10, 7, 5 ml
Noise level:	< 56 db
Scope of delivery:	inclusive CD04-8-15, CD04-A15, CD04-A15plug

	Article	Order No.
⑫	Benchtop centrifuge CD-0412	**10 13 70412**


⑫

webcode WWSB5021

Continued on next page

Micro Centrifuges



①

Accessories for CD-0412

Article	Order No.
CD04-8-15 rotor, 8 × 15 ml	**10 13 74815**
CD04-A15 adapter, 12 pieces	**10 13 74151**
CD04-A15plug adapter mat, 12 pieces	**10 13 74152**

Mini centrifuge CD-1008

Small Mini centrifuge with a fix speed of 7000 rpm. The max. capacity is 8 × 1.5/2 ml. Centrifuge includes two rotors, 8 × 1.5/2 ml und 2 × 8 × 0.2 ml PCR. Available in two different lid colours.

Technical data:

Speed:	7000 rpm
Max. RCF:	2680 g
Time:	continuous
Dimension:	150 × 150 × 120 mm
Weight:	0.5 kg
Max. capacity:	8 × 1.5/2 ml
Scope of delivery:	inclusive CD 08-2, CD 02-PCR 8

	Article	Order No.
①	Mini centrifuge CD-1008, lid colour blue	**10 13 71081**
	Mini centrifuge CD-1008, lid colour green	**10 13 71084**

Accessories CD-1008

Article	Order No.
CD08-8-2 rotor, 8 × 1.5/2 ml	**10 13 70882**
CD08-2-PCR8 Rotor, 2 × 8 × 0.2 ml PCR	**10 13 70828**
CD08-A02 Adapter 2 ml to 0.2 ml, 8 pieces	**10 13 70803**
CD08-A05 Adapter 2 ml to 0.5 ml, 8 pieces	**10 13 70805**



②

Micro centrifuge CD-2012

Small, powerful Micro centrifuge. The backlit display and the clear structure of control elements allows an easy operation for the user. The centrifuge corresponds with all safety standards.

Technical data:

Speed:	15000 rpm in 100 rpm steps
Max. RCF:	15100 g
Time:	0.5 to 99 minutes, continuous
Dimensions:	260 × 250 × 140 mm
Weight:	6 kg
Max. capacity:	12 × 1.5/2 ml
Scope of delivery:	inclusive CD12-2P

	Article	Order No.
②	Micro centrifuge CD-2012	**10 13 72012**

Accessories for CD-2012

Article	Order No.
CD12-2P rotor with lid, 12 × 1.5/2 ml	**10 13 71220**
CD12-A02 adapter 2 ml to 0.2 ml, 24 pieces	**10 13 71203**
CD12-A05 adapter 2 ml to 0.5 ml, 24 pieces	**10 13 71205**

Micro centrifuges CD-3024

High speed Micro centrifuge up to 15000 rpm and a capacity of 24 × 1.5/2 ml or 18 × 5 ml. Comfortable and intuitive operation for the user. The centrifuge corresponds with all safety standards.

Technical data:

Speed:	200 to 15000 rpm in 10 rpm steps
Max. RCF:	212380 g
Time:	0.5 to 99 minutes, continuous
Max. capacity:	18 × 5 ml, 24 × 2 ml, 36 × 0.5 ml

	Article	Dimensions mm	Wght kg	Temp. range °C	Order No.
③	Micro centrifuge CD-3024	280×360×270	12	—	**10 13 73024**



③

Accessories for CD-3024

Article	Order No.
CD24-18-5 rotor with lid, 18 × 5 ml, bio-safe	**10 13 72418**
CD24-24-2 rotor with lid, 24 × 1.5/2 ml, bio-safe	**10 13 72424**
CD24-36-05 rotor with lid, 36 × 0.5 ml, bio-safe	**10 13 72436**
CD24-4-PCR8 rotor with lid, 4 × 8 × 0,2 ml PCR, bio-safe	**10 13 72448**
CD12-A02 adapter 2 ml to 0.2 ml, 24 pieces	**10 13 71203**
CD12-A05 adapter 2 ml to 0.5 ml, 24 pieces	**10 13 71205**
CD24-A02-36 adapter 0.5 ml to 0.2 ml, 36 pieces	**10 13 72402**

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Micro Centrifuges

High speed micro centrifuge CD-3024R, refrigerated
The refrigerated high speed Micro centrifuge CD-3124R has a capacity of 24 × 2 ml, 18 × 5 ml or 36 × 0.5 ml.
Easy handling and control is guaranteed with the backlit LCD-Display and the clear operation panel. For safety reasons the centrifuges are equipped with dual door interlock, self-control of speed and temperature

- Centrifuge chamber door with automatic adsorption door lock design
- Up to 9 program storage capacity according to experimental needs
- Self diagnostic, control of speed and temperature
- User-friendly large LCD display shows running information
- Powerful cooling capacity compressor
- Warranty 2 years

Technical data:

Speed:	200 – 15.000 rpm in 100 rpm Schritten
Max. RCF:	21,380 g
Temperature:	-20 – 40°C
Time:	0.5 – 99 minutes, continous
Dimensions (W×D×H):	34 × 55 × 28 cm
Weight:	30 kg
Max. capacity:	1.5/2 ml × 24, 0.5 ml × 36, PCR 8 × 4, 5 ml × 18
Noise level:	< 56 db
Rotor:	24 × 1.5/2 ml, aerosol save
Scope of delievry:	CD24-24-2

	Article	Order No.
④	CD-3124R high-speed microcentrifuge, refrigerated	**10 13 73124**


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Accessories for CD-3124R

Article	Order No.
CD24-18-5 rotor with lid, 18 × 5 ml, bio-safe	**10 13 72418**
CD24-24-2 rotor with lid, 24 × 1.5/2 ml, bio-safe	**10 13 72424**
CD24-36-05 rotor with lid, 36 × 0.5 ml, bio-safe	**10 13 72436**
CD24-4-PCR8 rotor with lid, 4 × 8 × 0,2 ml PCR, bio-safe	**10 13 72448**

Benchtop Centrifuges MIKRO 200 / 200 R, HETTICH

Benchtop centrifuges MIKRO 200 / 200 R
The MIKRO 200 are amongst the highest-speed microliter centrifuges in their class. Their range of accessories comprises rotors for microliter, PCR, and cryo tubes. MIKRO 200 achieves a maximum RCF of 21,382 with up to 30 tubes, enabling rapid processing of samples and optimal separation, at low noise levels of 54 dB(A).

This unit is available with refrigeration and a temperature range from -10°C to +40°C (MIKRO 200 R).

Technical data:

External dimensions (W×D×H):	275 × 344 × 260 mm (MIKRO 200) 281 × 553 × 260 mm (MIKRO 200 R)
Weight:	approx. 11.5 kg (MIKRO 200) approx. 28 kg (MIKRO 200 R)
Power supply:	200 – 240 V, 50/60 Hz (MIKRO 200) 200 – 240 V, 50 Hz (MIKRO 200 R)
Connected load:	240 VA (MIKRO 200) 450 VA (MIKRO 200 R)
Max. speed:	15000 min^{-1}
Max. RCF:	21382
Max. capacity:	30 × 1,5/2,0 ml
Emission/ Immunity:	EN/IEC 61326-1, class B
Cooling MIKRO 200 R:	adjustable from -10°C to +40°C, with precooling function and stand-by cooling

	Article	Order No.
⑤	MIKRO 200, benchtop centrifuge without rotor	**55 56 12400**
⑥	MIKRO 200 R, benchtop refrigerated centrifuge without rotor	**55 56 12405**


⑤


⑥

Accessories

Article	Order No.
Fixed-angle rotor 2434 for 24 × 1.5/2 ml, with lid bio-containment	**10 56 12434**
Fixed-angle rotor 2437 for 30 × 1.5/2 ml, with lid bio-containment	**10 56 12437**
Fixed-angle rotor 2428 for 24 × 0,2 - 1,5/2 ml and Spin Column Kits with lid with bio-containment	**10 56 12428**

More rotors and accessories on request.

Micro Centrifuges

webcode WW2NY183

Micro Centrifuges, neoLab®



①

Sunlab® Mini-Centrifuge
Mini Centrifuge with orange Design for 1.5 and 2 ml tubes (8 pcs.) in the standard rotor. 8 × 0.2 ml PCR tubes (also as strips) in the PCR strip rotor. The fixed RpM of 7000 is reached very quickly and is stabel throughout the period of usage. When opening the lid, the rotor stops almost imediately to reduce the users risk. Due to the optimized acoustic isolation the centrifuge onle reaches a soundlevel of 45 dB.

Scope of delivery:
- Centrifuge
- Rotor for 8 × 1,5/2 ml Reaktionsgefäße
- Rotor for 2 × 8 0.2 ml PCR Strips
- 8 × Adapter for 2 ml to 0.2 ml PCR
- 8 × Adapter for 2 ml to 0.5 ml PCR
- Power cable
- Manual

Technical data:

Sunlab model:	SU1550
RpM:	7000
RCF:	2680 g
Voltage:	100 – 240 V, 50 Hz
Dimensions:	150 × 150 × 120 mm
Weight:	0.6 kg
Perm. ambient temp:	+5 to +40°C
Perm rel. humidity:	80%
Certifications:	DIN EN60529, IP21

	Article	Speed rpm	PU	Order No.
①	Sunlab® Mini-Centrifuge	7000		**10 01 98550**
	Spare adapters 2.0 ml to 0.2 ml PCR		8 pc/Pack	**10 01 98551**
	Spare adapters 2.0 ml to 0.5 ml PCR		8 pc/Pack	**10 01 98552**
	Spare rotor for 8 × 1.5/2 ml test tubes			**10 01 98553**
	Spare rotor for 2 × 8 0.2 ml PCR strips			**10 01 98554**



②

neoFuge® 8-6K Micro Centrifuge
The micro centrifuge neoFuge® 8-6K with a fixed rotation speed of 6000 rpm is the optimal solution if you need to centrifuge again quickly. The neoFuge is particularly suitable for microfiltration, cell separation, centrifugal sedimentation in a tube and simple centrifuging. It takes up little space on the bench due to the slim design.

The centrifuge has 8 places for standard 1.5 and 2.0 ml reaction vessels. The scope of delivery also includes adapters for 0.2 and 0.5 ml (PCR) reaction tubes as well as adapters for 8-strip PCR reaction vessels.

Four suction cups on the bottom of the centrifuge ensure a firm stand during operation. In addition, the emergency stop function ensures immediate braking of the rotor when opening the lid.

Technical data:
Dimensions (W × H × D): 157× 115 × 157 mm
Capacity: 8 × 2.0 ml / 1.5 ml / 0.5 / 0.2 ml
Exchangeable rotor for 2 × 8 × 0.2 ml PCR 8-stripes

	Article	Order No.
②	neoFuge® 8-6K micro centrifuge	**10 01 06080**



③

Mini Star centrifuge
Mini centrifuge in colorful design with 2 rotors for reaction vessels of different sizes.
The black rotor can hold a maximum of 18 vessels of 1.5 to 2.0 ml and from 0.2 to 05 ml. The green rotor is suitable only for PCR strips.
The rotors are easy to replace. The bottom of the centrifuge is made of ABS, the cover of polycarbonate.
The powerful low-noise motor takes only 5 to 8 seconds to reach the maximum speed. With the cover closed, the rotor comes to a standstill in approx. 10 seconds, and in approx. 3 seconds when the cover is opened.

Technical data:

Dimensions:	150 × 170 × 120 mm
Weight:	0.65 kg
Rotor black:	6 × 1.5/2.0 ml, 6 × 0.5 ml and 6 × 0.2 ml tubes
Rotor green:	2 × 8 × 0.2 ml strips
Power input:	85 ~ 250 V / 50 Hz
Maximum speed:	7200 rpm
Maximum centrifugal force:	2350 g

	Article	Order No.
③	Mini Star centrifuge	**10 01 06020**

Micro Centrifuges

neoLabLine Plate Centrifuge, neoLab®



The compact neoLabLine plate centrifuge is the favorable alternative to large devices with extra rotor. Centrifuge PCR, ELISA and microtiter plates as well as PCR reaction tubes strips quickly and easily. Suitable for all standard 96er, 384er well plates skirted or non-skirted.

- quiet engine
- easy cleaning of the rotor by fast removal
- with timer function (up to 10 minutes)
- with LED display
- with alarm and stop function when opening the lid during operation
- acoustic signal sounds after completion and unlocking of the lid

webcode WW2NY403

Technical data:

Voltage:	230 V
Height:	140 mm
Weight:	3.6 kg
Length:	360 mm
Width/Breadth:	290 mm
Color:	white/blue
With continuous function:	Yes
With continuously adjustable rotation speed:	Yes
Rotational speed:	max. 2200 rpm
RZB:	480 g

Article	Order No.
neoLabLine plate centrifuge for two PCR/microtitreplates or 24 × 0.2 ml PCR strips, 2500 rpm, 850 x g	**10 01 06081**

Centrifuge with Vortex Mixer, neoLab®



webcode WW2NY303

2 devices in one!
Centrifuge with up to 7000 RPM in combination with a vortexer for all reaction vessels. For up to 36 reaction vessels from 0.2 ml (PCR) to 2.0 ml.

- Small and quiet to run, saves space
- Variable speed from 2000 to 7000 RPM
- 3200 RCF at 7000 RPM
- 6 different effective vortex programs with varying intensity
- Spin-Mix-Spin sequence
- Timer can be set from 0.1 to 30 min.

Technical data:

Dimensions (W × D × H):	190 × 170 × 115 mm
Weight:	1.3 kg
Connection:	230V/24 V adapter

Article	Speed rpm	Order No.
Centrifuge with vortexer	2000-7000	**52 01 70040**

Micro Centrifuges, Thermo Scientific

webcode WW4HV013



Micro centrifuges Pico™ and Fresco™
The Pico and Fresco micro centrifuges offer a wide selection of rotors, have a small footprint, and allow for a high sample throughput thanks to their short acceleration and brake times (only 12 seconds each). The user-friendly operating panel with its clearly structured display makes programming easy. The lid gives an audible click to indicate that it is safely closed for the complete centrifugation process.

Technical data:	**Pico und Fresco 17**	**Pico und Fresco 21**
Max. RCF:	17,000 × g	21,100 × g
Max. rotation speed:	13,300 min^{-1}	14,800 min^{-1}
Temperature range:	-9°C to +40°C (only Fresco models)	
Dimensions (H × W × D):	225 × 243 × 352 mm (Pico models) 330 × 295 × 445 mm (Fresco models)	
Power supply:	230 V 50/60 Hz	

Article	Order No.
Micro centrifuge Pico 17 incl. 24 × 1.5/2.0 ml rotor with ClickSeal Biocontainment lid	**10 79 22410**
Micro centrifuge Fresco 17 incl. 24 × 1.5/2.0 ml rotor with ClickSeal Biocontainment lid	**10 79 22420**
Micro centrifuge Pico 17 incl. hematocrit rotor	**10 79 22491**
Micro centrifuge Pico 17 incl. dual row rotor 18 × 2.0 /0.5 ml with screw-on lid	**10 79 22414**
Micro centrifuge Fresco 17 incl. dual row rotor 18 × 2.0 /0.5 ml with screw-on lid	**10 79 22423**

Continued on next page

Micro Centrifuges



Article	Order No.
Micro centrifuge Pico 21 incl. 24 × 1.5/2.0 ml rotor with ClickSeal Biocontainment lid	**10 79 22415**
Micro centrifuge Fresco 21 incl. 24 × 1.5/2.0 ml rotor with ClickSeal Biocontainment lid	**10 79 22425**
Micro centrifuge Pico 21 incl. dual row rotor 18 × 2.0 /0.5 ml with screw-on lid	**10 79 22553**
Micro centrifuge Fresco 21 incl. dual row rotor 18 × 2.0 /0.5 ml with screw-on lid	**10 79 22555**
Micro centrifuge Pico 21 incl. 24 × 1.5/2.0 ml rotor with ClickSeal Biocontainment lid and dual row rotor 18 × 2.0 /0.5 ml with screw-on lid	**10 79 22475**
Micro centrifuge Fresco 21 incl. 24 × 1.5/2.0 ml rotor with ClickSeal Biocontainment lid and dual row rotor 18 × 2.0 /0.5 ml with screw-on lid	**10 79 22476**

Accessories

Article	Order No.
Rotor 24 × 1.5/2.0 ml, with ClickSeal Biocontainment lid	**10 79 23424**
Rotor 36 × 0.5 ml, with screw-on lid	**10 79 23436**
Rotor 8 × 8, PCR, with screw-on lid	**10 79 23489**
Rotor 4 × 8, PCR, with ClickSeal Biocontainment lid	**10 79 23440**
Rotor 18 × 2 ml and 18 × 0.5 ml, dual, with screw-on lid	**10 79 23418**
Rotor 10 × 5 ml, with ClickSeal Biocontainment lid	**10 79 23465**
Hematocrit rotor (for Pico17)	**10 79 23473**
Adapter for 0.5 / 0.6 ml test tubes	**10 79 23758**
Adapter for 0.25 / 0.4 ml test tubes	**10 79 23759**
Adapter for 0.2 ml PCR test tubes	**10 79 23750**

To see other centrifuge models for a wide range of application, please enter webcode WW4HV013 to access our online catalogue.

Table Centrifuges, Universal Centrifuges

webcode WWQJ3044

eppendorf

Benchtop Centrifuges, Rotors, Eppendorf

Benchtop Centrifuges 5702, 5702R and 5702RH
Centrifuge 5702 was developed to carry out routine centrifugation in small, medical and cell culture labs.

Centrifugations. Specific features of centrifuge 5702:
- Due to optimized rotor chamber ventilation, the samples become less hot
- Lid opens automatically after centrifugation – prevents samples from getting hot, gives easy access to samples

Specific features of centrifuge 5702 R and RH:
Two program keys for saving routine processes
FastTemp function for quick pre-cooling
- Standby temperature control keeps the centrifuge at the set temperature
- ECO switch-off is enabled after 8 hours without operation to save energy and extend the compressor life
- Discharge of condensate prevents water from collecting in the chamber

Specific features of centrifuge 5702 RH:
- Active heating ensures high temperature accuracy over the entire centrifugation



① ②

	Type	W×D×H cm	Wght kg	P input W	Mains connection	Order No.
①	**5702,** unchilled, without rotor	32×40×24	20	200	230 V/50–60 Hz	**55 69 57020**
②	**5702 R,** chilled, without rotor	38×58×26	36	2380	230 V/50–60 Hz	**55 69 57030**
③	**5702 RH, h**eating/cooling, without rotor	38×58×26	36	2380	230 V/50–60 Hz	**55 69 57040**



③

Rotors and accessories
4 × 85 ml swing-bucket rotor A-4-38
- Maximum speed: 3000 × g (4400 1/min)
- Standard rotor for centrifugation of blood collection tubes or 15/50 ml Falcon® tubes
- Rotor can be operated with round or rectangular buckets
  - Rotor buckets for tubes 1.5 ml to 85 ml (aerosol-tight caps optionally available)
  - Rectangular buckets for glass tubes from 5 ml to 25 ml
- Broad variety of adapters available to fit all types of blood collection tubes and cell culture tubes

Article	Order No.
Swing-bucket rotor A-4-38 incl. 4 × 85 ml round beakers	**55 69 20003**
Swing-bucket rotor without beakers	**55 69 40004**
Round beakers, 85 ml, 4 pieces	**55 69 22006**
Rectangular beakers, 90 ml, 4 pieces	**55 69 09000**
Aerosol-tight caps for round beakers 85 ml, 2 pieces	**55 69 21000**

Adapter on request.

Continued on next page

Table Centrifuges, Universal Centrifuges

④ **8 × 15 ml swing-bucket rotor A-8-17**

- Maximum speed: 2.800 x g (4.400 rpm)
- Economical rotor for centrifugation of 15 ml Falcon® tubes or 15 ml glass tubes
- Adapters for 15 ml Falcon® tubes and rubber mat inserts for centrifugation of glass tubes optionally available

Article	Order No.
8 × 15 ml swing-bucket rotor A-8-17, without adapter or rubber mats	**55 69 00002**
Adapter for 15 ml Falcon® tubes, 8 pieces	**55 69 02005**
Rubber mats for 15 ml, 8 pieces	**55 69 01009**

⑤ **30 × 15 ml fixed-angle rotor F-35-30-17**

- Maximum speed: 2.750 x g (4.400 rpm)
- Fixed angle rotor for 20 x 15 ml Falcon® tubes or 30 x 15 ml glass tubes
- Adapters for 15 ml Falcon® tubes/conical tubes and rubber mat inserts for centrifugation of glass tubes comprised in the delivery
- Steel sleeves have an interior diameter of 17 mm and a depth of 92 mm

Article	Order No.
Fixed-angle rotor 30 × 15 ml incl. 30 steel sleeves for 15 ml tubes, with 20 Falcon® adapters and 30 rubber mats	**55 69 04008**
Fixed-angle rotor 10 × 15 ml incl. 10 steel sleeves for 15 ml tubes, with 10 Falcon® adapters and 10 rubber mats	**55 69 05004**

Falcon®: registered trademark of Becton Dickinson

⑥ **Fixed-angle rotor F-45-24-11**

- Max. RCF: 1770 × g (4400 1/min)
- Low-noise centrifugation without rotor lid
- Centrifugation of 1.5 ml and 2 ml Eppendorf vessels
- Adapter for:
  0.2 ml PCR-vessels
  0.4 ml centrifuge vessels
  0.5 ml micro reaction vessels and 0.6 ml BD Microtainer®
- Rotors and adapters are autoclavable (121°C, 20 min)

Article	Order No.
Fixed-angle rotor 24 × 1.5/2 ml tubes, without cover	**10 69 46002**

⑦ **Fixed-angle rotor F-45-18-17-Cryo**

- Max. RCF: 1840 × g (4400 1/min)
- Low-noise centrifugation without rotor lid
- Rotors and adapters are autoclavable (121 °C, 20 min)
- Centrifugation of 1 – 2 ml Cryo-vessels (max. 13 mm Ø, usable with adapter) and screw cap centrifuge vessels (max. 17 mm Ø, directly usable)

Article	Order No.
Fixed-angle rotor without cover and adapter	**10 69 47009**

Centrifuge bundles for cell culture and clinical applications

Whether you need a refrigerated or non-refrigerated centrifuge for low, medium or high-throughput applications, one of these bundles will definitely suit your requirements.

The cell culture centrifuge bundles are optimized for swing-bucket rotor applications in standard 15 ml and 50 ml Falcon® tubes.

Cell Culture Centrifuge Bundle includes:

- Centrifuge 5702, swing-bucket rotor incl. buckets
- Four adapters for 15 ml Falcon® tubes (two sets of 2)
- Four adapters for 50 ml Falcon® tubes (two sets of 2)

The centrifuge bundle for clinical applications is optimized for Centrifuge 5702 R with adapters for 13 and 16 mm blood collection tubes or urine tubes.

Clinical Centrifuge Bundle includes:

- Centrifuge 5702 R, swing-bucket rotor A-4-38 incl. round buckets
- Four adapters for 13 mm blood collection tubes or urine tubes (two sets of 2)
- Four adapters for 16 mm blood collection tubes or urine tubes (two sets of 2)

Article	Order No.
Centrifuge Bundles for Cell Culture	**10 69 00329**
Centrifuge 5702, 230V/50 – 60 Hz with swing-bucket rotor A-4-38 incl. round buckets and 15-/50-ml-Falcon®-adapters	
Centrifuge Bundles for Clinical applications	**10 69 00322**
Centrifuge 5702 R, refrigerated, 230 V / 50 – 60 Hz with swing-bucket rotor A-4-44 incl. rectangular buckets and adapters for 13 mm and 16 mm blood collection or urine tubes	
Paket 5703000425	**10 69 30425**
Centrifuge 5702 R, refrigerated, with Rotor A-4-38 incl. adapters for 15/50 mL conical tubes, 2 sets of 2 adapters, rotary knobs, 230 V/50 – 60 Hz	





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Table Centrifuges, Universal Centrifuges

webcode WWQJ3026

eppendorf







Benchtop Centrifuges 5804/5804 R and 5810/5810 R, Eppendorf

Centrifuges 5804 (cooled 5804 R) and 5810 (cooled 5810 R)

The two non-refrigerated basic models differ in capacity but are identical in operation. What is decisive are the user's individual needs. While Centrifuge 5804 has a maximum capacity of 1,000 ml in a swing-bucket rotor, Centrifuge 5810 provides a capacity of 2,000 ml in a swing-bucket rotor. The successful concept of different rotors permits flexible handling of the most diverse tube capacities and shapes.

With the swing-bucket and fixed-angle rotors it is possible to centrifuge the vast majority of commercial tubes, MTPs and deepwell plates. The range of accessories has been greatly expanded - and flexibitity increased accordingly - in particular for the swing bucket rotors A-4-81 and A-4-81-MTP, which enable the centrifuging of up to 28 × 50 ml Falcon® tubes or up to 16 MTPs in the centrifuges A-4-81 and A-4-81-MTP. Using modular adapters you can adapt your rotor to changing needs.

Product features of the centrifuges:
- Speed, rcf and radius correction values can be entered by the user
- Temperature range from -9 to +40°C (5804 R and 5810 R)
- Stand-by refrigeration (5804 R and 5810 R)
- Speed can be set from 200 rpm in increments of 10 rpm
- Short-spin key with selectable rotational speed
- Fast-temp function for rapid cooling of the centrifuge chamber
- "at set rpm" for even more reproducible results
- 10 acceleration and 10 braking ramps for sensitive sample material

Type	W×D×H cm	Wght kg	P input W	Mains connection	Order No.
5804 without rotor	47×55×34	55	750	230 V/50 Hz	**55 69 58040**
5804 R without rotor	64×55×34	80	1350	230 V/50 Hz	**55 69 58050**
5810 without rotor	54×61×35	68	850	230 V/50 Hz	**55 69 58100**
5810 R without rotor	70×61×35	99	1350	230 V/50 Hz	**55 69 58110**

Rotors for centrifuges type 5804/5804 R and 5810/5810 R

The new generation of swing-bucket and fixed-angel rotors further improves the efficiency of the centrifuges 5804 (cooled: 5804 R) and 5810 (cooled: 5810 R). They are characterized by their particularly long useful life.

Swing-bucket rotors:
- Capacities for almost all common tube formats from 1.5 to 500 ml
- Aerodynamic design for improved energy efficiency
- New Eppendorf QuickLock® caps for single-hand operation

Fixed angle rotors:
- New Eppendorf QuickLock® caps for ergonomical lid closing
- Excellent temperature control. Aluminum for high thermal conductivity
- Highly resistant to chemicals
- Perfect tube support also with high rotor speed

Product features of the adapters for swing-bucket rotors
- Commercially available tubes can be centrifuged in the swing-bucket rotors with help of the adapters
- Flexible modular principle: different tube lengths fit into one adapter
- Stable bench-top position, well suited for the processing and preparation of series of samples
- Fully autoclavable (20 min, 121°C)
- Easy to take apart and easy to clean

Type	Version	Speed max. 1/min	RCF max. × g	Order No.
Swing-bucket rotor S-4-72	incl. 4 × 250 ml round beakers	4200	3234	**10 69 74607**
Swing-bucket rotor A-4-44	incl. 4 × 100 ml rectangular beakers	5000	4400	**55 69 09004**
Swing-bucket rotor A-4-44	inkl. four 2 × 50 ml beakers	5000	4500	**10 69 71900**
Deepwell plate rotor A-2-DWP	incl. 2 deepwell plate suspension gears	3700	2250	**55 69 40009**
Fixed-angle rotor F-34-6-38	for 6 × 85 ml tubes incl. lid	11000	15550	**55 69 27002**
Fixed-angle rotor FA-45-6-30	for 6 × 50 ml tubes, incl. aerosol-tight QuickLock® lid	11000	16639	**10 69 71506**
Fixed-angle rotor F-35-48-17	incl. 48 steel sleeves for 15 ml tubes, with 40 conical inserts and 48 rubber mats	5500	5005	**10 69 77200**
Fixed-angle rotor F-35-48-17	incl. 24 steel sleeves for 15 ml tubes, with 24 conical inserts and rubber mats	5500	5005	**10 69 77103**
Fixed-angle rotor FA-45-48-11	for 48 × 1.5/2.0 ml tubes, incl. aerosol-tight QuickLock® lid	13000	19803	**10 69 76001**
Fixed-angle rotor FA-45-30-11	for 30 × 1.5/2.0 ml tubes, aluminium lid, aerosol-tight	14000	20800	**55 69 26006**
Fixed-angle rotor F-45-30-11	for 30 × 1.5/2.0 ml tubes, aluminium lid	14000	20800	**55 69 15004**
Fixed-angle rotor F-45-48-PCR	for 6× strips of 8 PCR tubes, 6× strips of 5 PCR tubes or 48×0.2 ml individual PCR tubes	12000	15350	**55 69 35005**

Adapter and accessories for all rotors on request.

Continued on next page

Table Centrifuges, Universal Centrifuges

Rotors only for centrifuges type 5810/5810 R

Type	Version	Speed max. 1/min	RCF max. × g	Order No.
Swing-bucket rotor S-4-104	incl. 4 × 250 ml round beakers	3900	3214	**10 69 74000**
Swing-bucket rotor S-4-104	incl. 4 × plates beaker (aerosol-tight possible)	3900	2568	**10 69 54001**
Swing-bucket rotor S-4-104	without suspension ears/beakers			**10 69 75508**
Swing-bucket rotor A-4-81	incl. 4 × 500 ml rectangular beakers	4000	3220	**55 69 18007**
Swing-bucket rotor A-4-81	incl. 4 × MTP/flex suspension gears	4000	2900	**55 69 25003**
Swing-bucket rotor A-4-81	without suspension gears/beakers	4000		**10 69 74301**
Swing-bucket rotor A-4-62	incl. 4 × 250 ml rectangular beakers	4000	3200	**55 69 09008**
Swing-bucket rotor A-4-62	incl. 4 × MTP suspension gears	4000	2750	**55 69 11002**
Deepwell plate rotor A-2-DWP-AT	incl. beakers, aerosol-tight caps and plates	4500	3486	**10 69 71004**

Adapter and accessories for all rotors on request.

Accessories for rotor A-4-81

Article	Order No.
Buckets for 7 x 50 ml Falcon® test tubes, set of 4	**10 69 73003**
Adapter for 15 ml Falcon® test tubes, set of 7	**10 69 71805**
500 ml wide mouth bottle, set of 2	**10 69 70703**



Adapters

Article	Order No.
Adapter for 15 ml Falcon® test tubes, set of 2	**10 69 71709**
Adapter for 10 ml Oak Ridge tubes, set of 2	**10 69 71901**
Adapter for 16 ml Oak Ridge tubes, set of 2	**10 69 72000**
Adapter for 30 ml Oak Ridge tubes, set of 2	**10 69 72106**
Adapter for 35 ml Oak Ridge tubes, set of 2	**10 69 72202**

Cell culture centrifuge bundles

Whether you need a refrigerated or non-refrigerated centrifuge for low, medium or high-throughput applications, one of these bundles will definitely suit your requirements. The Cell Culture Centrifuge Bundles are optimized for swing-bucket rotor applications in standard 15 ml and 50 ml conical tubes.

Cell Culture Centrifuge Bundle includes:

- Centrifuge 5804/ 5804 R oder 5810/ 5810 R
- Swing-bucket rotor incl. buckets
- Four adapters for 15 ml conical tubes (two sets of 2)
- Four adapters for 50 ml conical tubes (two sets of 2)

Article	Order No.
Centrifuge 5804, with rotor A-4-44 incl. adapter for 15 ml/50 ml conical tubes. Max. capacity of conical tubes each rotor: 16 × 15 ml / 4 × 50 ml	**10 69 58041**
Centrifuge 5804 R, refrigerated, with rotor A-4-44 incl. adapter for 15 ml/50 ml conical tubes. Max. capacity of conical tubes each rotor: 16 × 15 ml / 4 × 50 ml	**10 69 58040**
Centrifuge 5804, with rotor S-4-72 incl. adapter for 15 ml/50 ml conical tubes. Max. capacity of conical tubes each rotor: 32 × 15 ml / 16 × 50 ml	**10 69 58042**
Centrifuge 5804 R, refrigerated, with rotor S-4-72 incl. adapter for 15 ml/50 ml conical tubes. Max. capacity of conical tubes each rotor: 32 × 15 ml / 16 × 50 ml	**10 69 58043**
Centrifuge 5810, with rotor A-4-62 incl. adapter for 15 ml/50 ml conical tubes. Max. capacity of conical tubes each rotor: 36 × 15 ml / 16 × 50 ml	**10 69 58100**
Centrifuge 5810 R, refrigerated, with rotor A-4-62 incl. adapter for 15 ml/50 ml conical tubes. Max. capacity of conical tubes each rotor: 36 × 15 ml / 16 × 50 ml	**10 69 58102**
Centrifuge 5810, with rotor A-4-81 incl. adapter for 15 ml/50 ml conical tubes. Max. capacity of conical tubes each rotor: 48 × 15 ml / 20 × 50 ml	**10 69 58101**
Centrifuge 5810 R, refrigerated, with rotor A-4-81 incl. adapter for 15 ml/50 ml conical tubes. Max. capacity of conical tubes each rotor: 48 × 15 ml / 20 × 50 ml	**10 69 58103**
Centrifuge 5810, with rotor S-4-104 incl. adapter for 15 ml/50 ml conical tubes. Max. capacity of conical tubes each rotor: 56 × 15 ml / 28 × 50 ml	**10 69 58104**
Centrifuge 5810 R, refrigerated, with rotor S-4-104 incl. adapter for 15 ml/50 ml conical tubes. Max. capacity of conical tubes each rotor: 56 × 15 ml / 28 × 50 ml	**10 69 58105**

To see other variants and accessories, please enter the webcode on our website.

Table Centrifuges, Universal Centrifuges



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Benchtop Centrifuges EBA 200 / EBA 200 S, HETTICH

The EBA 200 and EBA 200 S are practical laboratory centrifuges for small sample volumes. The more powerful EBA 200 S model can deliver platelet poor plasma for clinical analyses in 3 minutes only.
As a standard, both models are equipped with an 8-place fixed angle rotor to hold blood and urine tubes of up to 15 ml.

Technical data:

External dimensions (W×D×H):	261 × 353 × 228 mm
Weight:	ca. 9 kg (EBA 200) ca. 11 kg (EBA 200 S)
Power supply:	200 – 240 V, 50/60 Hz
Connected load:	100 VA (EBA 200) 160 VA (EBA 200 S)
Max. speed:	6000 min^{-1} (EBA 200) 8000 min^{-1} (EBA 200 S)
Max. RCF:	3461 (EBA 200) 6153 (EBA 200 S)
Max. capacity:	8 × 15 ml
Emission/ Immunity:	EN/IEC 61326-1, class B

	Article	Order No.
①	EBA 200, benchtop centrifuge complete with angle rotor 8 × 15 ml	**10 56 11800**
	EBA 20 S, benchtop centrifuge complete with angle rotor 8 × 15 ml	**10 56 11802**



Benchtop Centrifuge EBA 270, HETTICH

The EBA 270 is a small centrifuge with a swing-out rotor that has been developed specifically for use in clinical settings. It can centrifuge commonly used blood tubes and urine tubes up 15 ml in volume at a maximum speed of 4,000 RPM / 2,254 RCF.

Its 90° rotor is ideally suited for spinning blood tubes containing a separating gel.

Technical data:

External dimensions (W×D×H):	326 × 389 × 239 mm
Weight:	approx. 14 kg
Power supply:	200 – 240 V, 50/60 Hz
Connected load:	130 VA
Max. speed:	4000 min^{-1}
Max. RCF:	2254
Max. capacity:	6 × 15 ml
Emission/ Immunity:	EN/IEC 61326-1, class B

Article	Order No.
EBA 270, benchtop centrifuge complete with swing-bucket rotor 6 × 15 ml	**10 56 12300**



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Benchtop Centrifuge ROTOFIX 32 A, HETTICH

Benchtop centrifuge ROTOFIX 32 A
For decades, the ROTOFIX 32 A has set the standard in daily lab routine thanks to its versatility and solid construction. The benchtop centrifuge spins sample volumes up to 6 × 94 ml, 40 blood collection tubes or 8 × 50 ml conical tubes with a simple user interface. Hettich's cytology rotors are compatible with the cyto-systems by most competitors and have bio-containment lids.

Technical data:

External dimensions (W×D×H):	366 × 430 × 257 mm
Weight:	approx. 23 kg
Power supply:	208 – 240 V, 50/60 Hz
Connected load:	300 VA
Max. speed:	6000 min^{-1}
Max. RCF:	4226
Max. capacity:	4 × 100 ml / 6 × 94 ml
Emission/ Immunity:	EN/IEC 61326-1, class B

	Article	Order No.
②	ROTOFIX 32 A, benchtop centrifuge without rotor	**10 56 11206**

Table Centrifuges, Universal Centrifuges

Accessories

	Article	Order No.
③	**Swig-out rotor 1624, without suspension gear** for max. 4 × 100 ml or 4 slide samples, max. RCF 2665	**55 56 11624**
	Round bucket 1398, alloy, 50 ml, fits in rotor 1324	**10 56 11398**
	Round bucket 1490, alloy, 100 ml, fits in rotor 1324	**10 56 11490**
	Round bucket 1481, alloy, 100 ml, fits in rotor 1624	**10 56 11481**
	Lid for bucket 1481, 1495 and 1490, with biocontainment	**10 56 11492**
④	**Swing-bucket rotor 1324 for max. 4 × 100 ml, without suspension gear**	**10 56 11324**
⑤	**Fixed-angle rotor for max. 6 × 94 ml**	**10 56 11620**

Supplied without the illustrated accessories. More rotors and accessories on request.



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Benchtop Centrifuges UNIVERSAL 320 / 320 R, HETTICH

Benchtop centrifuges UNIVERSAL 320 / 320 R

The UNIVERSAL 320 is a compact, versatile and indispensable benchtop centrifuge. Excellent performance and a comprehensive range of accessories enable the UNIVERSAL 320 to carry out virtually any centrifuging tasks including plates, blood tubes, cell culture, microliter and cytology.

This unit is available with refrigeration and a temperature range from -20°C to +40°C (UNIVERSAL 320 R).

Technical data:

External dimensions (W×D×H):	401 × 529 × 346 mm (UNIVERSAL 320) 407 × 698 × 346 mm (UNIVERSAL 320 R)
Weight:	ca. 31 kg (UNIVERSAL 320) / 52 kg (UNIVERSAL 320 R)
Power supply:	200 to 240 V, 50/60 Hz (UNIVERSAL 320) 200 to 240 V, 50 Hz /240 V, 60 Hz (UNIVERSAL 320 R)
Connected load:	400 VA (UNIVERSAL 320) 800 VA (UNIVERSAL 320 R)
Max. speed:	16000 min^{-1}
Max. RCF:	24900
Max. capacity:	4 × 200 ml
Emission/ Immunity:	EN/IEC 61326-1, class B
Cooling UNIVERSAL 320 R:	adjustable from -20°C to +40°C, with precooling function

	Article	Order No.
⑥	UNIVERSAL 320, benchtop centrifuge without rotor	**55 56 11401**
⑦	UNIVERSAL 320 R, benchtop refrigerated centrifuge without rotor	**55 56 11406**



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Accessories

	Article	Order No.
	Swing-out rotor 1554, without suspension gear for max. 4 × 200 ml, max. RCF 3328	**10 56 11554**
⑧	**Swing-bucket rotor 1324 for max. 4 × 100 ml, without suspension gear**	**10 56 11324**
	Swig-out rotor 1624, without suspension gear for max. 4 × 100 ml or 4 slide samples, max. RCF 2665	**55 56 11624**
	Round bucket 1490, alloy, 100 ml, fits in rotor 1324	**10 56 11490**
	Round bucket 1560, alloy, 200 ml, fits in rotor 1554 with one-handed swing stopper	**10 56 11560**
	Lid for bucket 1560, with bio-containment	**10 56 11561**
⑨	**Swing-out rotor 1494, without suspension gear** for max. 4 × 100 ml, max. RCF 4193	**55 56 11494**
	Round bucket 1481, alloy, 100 ml, fits in rotor 1624	**10 56 11481**
	Round bucket 1495, alloy, 100 ml, fits in rotor 1494	**10 56 11495**
	Lid for bucket 1481, 1495 and 1490, with biocontainment	**10 56 11492**

Supplied without the illustrated accessories. More Rotors and accessories on request.



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We are also glad to help you in person.
Give us a call!

Table Centrifuges, Universal Centrifuges


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Benchtop Centrifuges ROTINA 380 / 380 R, HETTICH

Benchtop centrifuges, ROTINA 380 / 380 R

High performance unit supporting a wide array of accessories for multiple applications in just one rotor. Its size and performance makes it the ideal bench top centrifuge for most clinical, reaearch and industrial laboratories.

This unit is available with refrigeration and a temperature range from -20°C to +40°C (ROTINA 380 R).

Technical data:

External dimensions (W×D×H):	457 × 600 × 418 mm (ROTINA 380) 457 × 750 × 418 mm (ROTINA 380 R)
Weight:	approx. 51 kg (ROTINA 380) approx. 81 kg (ROTINA 380 R)
Power supply:	200 – 240 V, 50/60 Hz
Connected load:	650 VA (ROTINA 380) 1300 VA (ROTINA 380 R)
Max. speed:	15000 min^{-1}
Max. RCF:	24400
Max. capacity:	4 × 290 ml
Emission/ Immunity:	EN/IEC 61326-1, class B
Cooling ROTINA 380 R:	adjustable from -20°C to +40°C

	Article	Order No.
①	ROTINA 380, benchtop centrifuge without rotor	**10 56 11701**
②	ROTINA 380 R, benchtop refrigerated centrifuge without rotor	**10 56 11706**

Accessories

	Article	Order No.
③	Swing-bucket rotor 1754 for max. 4 × 290 ml, without suspension gear	**10 56 11754**
	Round bucket 1752, alloy, 290 ml, fits in rotor 1754	**10 56 11752**
	Lid for bucket 1752, with bio-containment	**10 56 11751**
④	Swing-out rotor 1770 for 12 microtiter plates, 2-fold, without suspension gear	**10 56 11770**
	Suspension gear 4745, fits in rotor 1770 for 6 microtiter plates, 4 culture plates or 1 deepwell plate	**10 56 14745**
⑤	Fixed-angle rotor 1792 for max. 6 × 94 ml	**55 56 11792**

Supplied without the illustrated accessories. More rotors and accessories on request.


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Benchtop Centrifuges ROTINA 420 / 420 R, HETTICH

Benchtop Centrifuges ROTINA 420 / 420 R

This compact benchtop centrifuge has been developed for high sample throughput and large sample volumes. It has a maximum capacity of 4 × 600 ml bottles, 140 blood tubes, 16 microtiter plates or 52 × 15 ml conical tubes, all on a single cost-effective rotor.

This unit is available with refrigeration and a temperature range from -20°C to +40°C (ROTINA 420 R).

Technical data:

External dimensions (W×D×H):	506 × 650 × 423 mm (ROTINA 420) 713 × 654 × 423 mm (ROTINA 420 R)
Weight:	approx. 75 kg (ROTINA 420) approx. 108 kg (ROTINA 420 R)
Power supply:	200 – 240 V, 50/60 Hz (ROTINA 420) 200 – 240 V, 50 Hz (ROTINA 420 R)
Connected load:	870 VA (ROTINA 420) 1600 VA (ROTINA 420 R)
max. speed:	15000 min^{-1}
max. RCF:	24400
max. capacity:	4 × 600 ml
Emission/ Immunity:	EN/IEC 61326-1, class B
Cooling ROTINA 420 R:	adjustable from -20°C to +40°C

	Article	Order No.
⑥	ROTINA 420, benchtop centrifuge without rotor	**10 56 14701**
⑦	ROTINA 420 R, benchtop refrigerated centrifuge without rotor	**10 56 14706**

Accessories

	Article	Order No.
⑧	**Swing-bucket rotor 4784-A for max. 4 × 600 ml, without suspension gear**	**10 56 14784**
	Round bucket 4780, max. 600 ml, fits in rotor 4784-A with one-handed swing stopper	**10 56 14780**
	Lid for bucket 4780, with bio-containment	**10 56 14783**
⑧	**Suspension gear for plates, fits in rotor 4784-A**	**10 56 14782**

Supplied without the illustrated accessories. More rotors and accessories on request.


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Table Centrifuges, Universal Centrifuges

Benchtop Centrifuge CD0412-50, Phoenix Instrument

webcode WWSB5039

Benchtop centrifuge CD0412-50
Doesn't matter if in a biological, analytical or environmental laboratory – everywhere is the demand to centrifuge samples up to 50ml in a fast and economical way. Phoenix Instrument offers with the new CD-0412-50 the ideal instrument. The centrifuge is equipped with a rotor for 6 x 50ml tubes and 6 x 15ml tubes, so the instrument can hereby be used very fl exible and universal either for 15ml tubes or 50ml tubes. The rotor CD-A6-50 is fi x mounted and included in the delivery.

- Fix angle rotor (54°) for 6 × 50 ml or 6 × 15 ml
- Automatic self-diagnosis to control all functions
- Backlit LCD-display for easy-read out of parameter
- Such as Speed, RCF and time
- Easy, intuitive operation
- Timer function 0,5 – 99 minutes
- Timer starts after the selected speed is reached
- Quick spin function
- Lid with electric lock and automatic release function to save processing time and prevent sample overheating
- Maintenance free brushless motor
- 2 years warranty



Technical data:

Speed:	300 – 4000 rpm in 100 rpm steps
Max. RCF:	1800 g
Time:	0.5 – 99 minutes, continous
Dimensions (W×D×H):	30 × 35 × 20 cm
Weight:	6 kg
Max. capacity:	6 × 15 ml or 6 × 50 ml plastic tubes
Noise level:	< 54 db
Rotor:	54° fix angle
Scope of delievry:	inclusive rotor CD-A6-50P

Article	Order No.
Benchtop centrifuge CD-0412-50	**10 13 70413**

Accessories

Article	Order No.
CD-A6-50P Rotor 6 × 15 ml or 6 × 50 ml plastic tubes	**10 13 70650**
CD04-R50G Glass tubes with round bottom, 50 m	**10 13 70450**
CD04-R50P Plastic tubes with round bottom, 50 m	**10 13 70451**

Thermo Scientific™ Multifuge™ X Pro and Megafuge™ ST Plus Universal Centrifuges, Thermo Scientific

The new Thermo Scientific™ Multifuge™ X Pro and Megafuge™ ST Plus universal centrifuges offer improved performance, high reliability, reproducibility, and safety.

With a relative centrifugal force (RCF) of more than 25,000 × g with a fixed angle rotor and more than 7,000 x g with a swing-out rotor, even the most complex separations are achieved faster and with better results. The units can accommodate sample volumes of up to 4 litres (4 × 1,000 ml) and are available as air-cooled or cooled versions.

- Intuitive touchscreen user interface for fast and easy programming (Pro series)
- Auto-Lock™ technology for safe and easy rotor change
- Durable Fiberlite™ carbon fibre rotors
- Aerosol-tight ClickSeal™ lids which can be opened and closed easily even while wearing gloves



① 

webcode WW4HV036

Technical data:	**Multifuge X4 Pro / X4R Pro**	**Megafuge ST4 Plus / ST4R Plus**
Max. capacity:	4 × 1,000 ml with swing-out rotor 6 × 250 ml with fixed angle rotor	4 × 1,000 ml with swing-out rotor 6 × 100 ml with fixed angle rotor
Max. speed:	6,000 rpm (swing-out rotor) 15,200 rpm (fixed angle rotor)	5,300 rpm (swing-out rotor) 15,200 rpm (fixed angle rotor)
Max. RZB:	7,164 × g (swing-out rotor) 25,830 × g (fixed angle rotor)	5,590 × g (swing-out rotor) 25,830 × g (fixed angle rotor)

	Model	Temp. range °C	Number of compatible rotors	Dimensions (W×D×H) with the lid closed cm	Order No.
	Multifuge X4 Pro	–	17	56.6 × 69.0 × 36.2	**10 79 29900**
①	Multifuge X4R Pro	-10 – +40	17	74.6 × 69.0 × 36.1	**10 79 29915**
②	Megafuge ST4 Plus	–	12	56.6 × 69.0 × 36.2	**10 79 29903**
	Megafuge ST4R Plus	-10 – +40	12	74.6 × 69.0 × 36.1	**10 79 29918**

Please enter the webcode WW4HV036 to see other centrifuge models as well as an extensive selection of rotors and accessories for a wide range of applications in our online catalogue.

②

Centrifuge tubes, racks see page 134

FILTRATION

Hahnemühle



The selection of the appropriate filter type for analytic separation depends on many different factors. The chemical and physical properties of the sample you want to filter must be considered, as well as those of the subsequent analysis or further processing of the precipitation or filtrate. The following questions help you to reliably find the filter which best meets your requirements:

Important questions for selecting the appropriate filter type:



- Are you looking for a filter for filtration or absorption (impregnation, sampling), blotting or chromatography?
  Select the appropriate product group with the respective properties!
- Clarification (liquid is used further) or separation filtration (analysis of the separated particles)?
  In clarification, all particles should be removed. In separation filtration, only the particles of a specified size are to be captured. Choose the appropriate retention rate!
- What is the size of the particles you wish to capture?
  Choose a paper type with a matching retention rate!
- What does a retention rate of e.g. 12–15 µm signify?
  This paper retains only some of the particles of size 12 µm but all particles of size 15 µm and up. If you need to capture all 12 µm particles, use a retention rate of e.g. 8-12 µm.
- Do you wish to filter air?
  Often, glass fibre papers are better suited for filtering air because they have a higher permeability but still capture particles down to 1 µm.
- How many particles do you wish to capture?
  Thick paper can carry more particles than thin paper!
- Which is the sample volume?
  Because creped papers have a larger filter surface, they are better suited for large volumes in the laboratory funnel. This applies independent of the filtration time and is due to the particle retention in µm.
- What is the pH and the pressure?
  With high pressure or vacuum and/or extreme pH values, hard filtration papers are more appropriate than the regular wet-strength types.
- What is the temperature and viscosity?
  Highly viscous samples should be warmed to reduce viscosity!
- Which is the optimum filter type?
  The type that ensures complete separation of the target particles at an acceptable filtration rate.

The major filter types:

Ashless filter papers for quantity analysis are acid-washed and water-neutralized. Free of minerals and metal ions, they are ideal for the detection of trace elements (mean value 0.004% ash), gravimetric routine tests and for sample preparation for instrumental analysis.

For their high purity (mean ash content 0.08%), **highly pure filter papers** for quality analysis are recommended for precise identification of materials and for sample preparation prior to sensitive detection methods. These reliable papers are perfectly qualified for food control, beverage analysis and environmental monitoring.

Glass fibre filters with and without binder are particularly recommended for monitoring air and water pollution. Compared to paper filters, they have a high flow rate and air permeability, extremely low metal content, and good stability at high temperatures.

Cellulose or glass fibre extraction thimbles allow for reliable, fast analyses in food control and environmental monitoring. Suitable for Soxhlet type, Tecator type or similar devices, to extract certain components out of solid material with an appropriate solvent. The high, even porosity of the sleeves ensures a fast flow.



Hint on the ideal filter diameter

Diameter of the filter hopper d1 in mm versus recommended diameter d2, filter circles folded double (or diameter of folded filters)

d1 mm	35	45	55	70	80	100	120	150	180	200	250
d2 mm	45–55	55–70	70–90	110–125	125–150	150–185	185–240	240–270	270–320	320–385	385–400

Filter Papers

Ashless Round Filter Papers for Quantitative Analysis, Hahnemühle

webcode WW6PB001

Hahnemühle



Ashless filter papers (mean ash content 0.004 %), recommended for quantitative analysis, routine gravimetric tests and sample preparation for instrumental analysis.
- Acid-washed and neutralised with water
- Free of minerals and metallic ions, ideal for the detection of trace elements
- For analytical applications, quantitative analysis and/or routine gravimetric tests
- These filter papers are perfectly qualified for food control, beverage analysis and environmental monitoring

Technical specifications:

Grade	Properties	Filtration Herzberg s	Retention of particles µm	Weight g/m²	Thickness mm
589/1 - black	fast	50	12 – 25[2]	79	0.19
589/2 - white	medium fast	140	4 – 12[2]	85	0.18
589/4 - yellow	medium fast, low in fat	170	4 – 7	81	0,17
589/5 - red	medium fast	450	2 – 4[2]	84	0.17
589/6 - green	slow, thin	900	2	74	0,16
589/3 - blue	slow	750[1]	<2	84	0.16

[1] Measured with 100 mm water column instead of 50 mm
[2] Approximate values

Ø mm	PU pc/Pack	589/1 - black Order No.	589/2 - white Order No.	589/4 - yellow Order No.	589/5 - red Order No.	589/3 - blue Order No.
12.7	1000		**10 15 90125**			
40.5	100		**10 15 90405**			
47	100	**10 15 91147**				**10 15 93147**
55	100	**10 15 91055**	**10 15 92055**		**10 15 95055**	**10 15 93955**
70	100	**10 15 91070**	**10 15 92070**			**10 15 93070**
90	100	**10 15 91090**	**10 15 92090**	**10 15 94090**	**10 15 95090**	**10 15 93090**
110	100	**10 15 91110**	**10 15 92110**	**10 15 94110**	**10 15 95110**	**10 15 93110**
125	100	**10 15 91125**	**10 15 92125**	**10 15 94925**	**10 15 95125**	**10 15 93125**
150	100	**10 15 91150**	**10 15 92150**	**10 15 94950**	**10 15 95150**	**10 15 93150**
185	100	**10 15 91185**	**10 15 92185**			**10 15 93185**
240	100	**10 15 91240**				**10 15 93240**

Other sizes on request.

Ashless Round Hardened Filter Papers for Quantitative Analysis, Hahnemühle

webcode WW6PB002

Hahnemühle



Ashless hardened filter papers (mean ash content 0.002%), recommended particularly for vacuum and pressure filtration and the filtration of acidic and alkaline solutions.
- Acid-washed and neutralised with water
- Free of minerals and metallic ions, ideal for the detection of metallic ions
- Precipitations can be wiped off or washed off easily and free of fibres
- High resistance to aggressive chemical components, like sulphuric and nitric acids (up to 40% at 50° Celsius) and bases (up to 10% at 20° Celsius)

Technical specifications:

Grade	Properties	Filtration Herzberg s	Retention of particles µm	Weight g/m²	Thickness mm
1505	fast	50	12 – 25[2]	88	0.17
1506	medium fast	170	4 – 12[2]	90	0.16
1507	slow	600[1]	<2[2]	90	0.14

[1] Measured with 150 mm water column instead of 50 mm
[2] Approximate values

Ø mm	PU pc/Pack	1505 Order No.	1506 Order No.	1507 Order No.
110	100	**10 15 95210**		
125	100	**10 15 94185**	**10 15 98125**	**10 15 97125**
150	100	**10 15 94150**	**10 15 96150**	**10 15 97150**
185	100			**10 15 97186**
240	100		**10 15 96240**	

Other sizes on request.

webcode WW6PB003

Hahnemühle



Filter Papers

Clear Filtration Filter Papers, Hahnemühle

Recommended for identification of substances, clarification of liquids and for the preparation of samples in a broad range of chemical analyses.
- Creped filter papers have a particularly large surface area and correspondingly shorter filtration times
- For reliable clarification of viscous liquids
- For quick separation of large particles
- Sample preparation

For clarification of:
- Alcohols, essences, vinegar, essential oils, extracts
- Galvanic baths, flotation slurries
- Gelatine, glycerine, paints, varnishes, hair tonics, perfumes, tinctures
- Wort, spirits, syrup
- Brines

Technical specifications:

Grade	Surface	Filtration	Filtration Herzberg s	Retention of particles[1] µm	Weight g/m²	Thickness mm
520b	creped	very fast, wet-strengthened	30	16 – 20	155	0.65
520a	creped	very fast, very wet-strengthened	35	15 – 18	90	0.32
2772	creped	very fast, wet-strengthened	40	12 – 14	65	0.24
0903	smooth	fast	40	12 – 25	66	0.25
0905	creped	fast	40	12 – 25	74	0.27
0858	grained	medium fast	110	7 – 12	75	0.17
0860	smooth	medium fast	120	7 – 12	74	0.17
0859	smooth	medium fast	150	7 – 12	61	0.14
400	smooth	medium fast	200	7 – 12	61	0.17

[1] Approximate values

General Use Filter Papers

Grade	Dimensions mm	Order No.	PU pc/Pack
0903	580×580	**10 15 90903**	500
0859	580×580	**10 15 90859**	500
400	460×570	**10 15 94000**	100

Folded filters

Grade	Ø mm	Order No.	PU pc/Pack
520b	150	**10 15 99523**	100
520b	185	**10 15 99524**	100
520b	240	**10 15 99525**	100
520b	500	**10 15 99527**	20
520b	600	**10 15 99528**	20
520a	240	**10 15 99521**	100
520a	500	**10 15 99522**	100
2772	500	**10 15 92772**	100
0905	320	**10 15 95320**	100
0858	150	**10 15 98150**	100
0858	240	**10 15 98240**	100
0858	320	**10 15 98320**	100
0860	150	**10 15 97861**	100
0860	185	**10 15 97862**	100
0860	240	**10 15 90240**	100
0860	320	**10 15 90320**	100
400	70	**10 15 94001**	100
400	90	**10 15 94002**	100
400	110	**10 15 94003**	100
400	125	**10 15 94004**	100
400	130	**10 15 94005**	100
400	150	**10 15 94006**	100
400	185	**10 15 94007**	100
400	200	**10 15 94008**	100
400	300	**10 15 94010**	100
400	320	**10 15 94011**	100
400	400	**10 15 94012**	100
400	650	**10 15 94014**	100

Filter circles

Grade	Ø mm	Order No.	PU pc/Pack
400	47	**10 15 94015**	100
400	55	**10 15 94016**	100
400	70	**10 15 94017**	100
400	90	**10 15 94018**	100
400	110	**10 15 94019**	100
400	125	**10 15 94020**	100
400	150	**10 15 94021**	100
400	185	**10 15 94022**	100
400	240	**10 15 94023**	100
400	500	**10 15 94026**	100

Other sizes on request.

Filter Papers

Low Ash Filter Papers for Qualitative Analysis, Hahnemühle

webcode WW6PB004

Hahnemühle



Highly pure filter paper (mean ash content approx. 0.08%) recommended for precise identification of materials and for sample preparation prior to sensitive detection methods.
Ideal for feed analyses pursuant to LFBG (German Food and Feedstuff Code) § 64 section 1 and 2, drinks analyses, and environmental monitoring.

Technical specifications:

Grade	Properties	Filtration Herzberg s	Retention of particles[1] µm	Weight g/m²	Thickness mm
604	fast	50	12 – 25	79	0.19
591	medium fast, thick	90	7 – 12	161	0.35
598	medium fast, thick	100	8 – 10	139	0.32
597	medium fast	155	4 – 7	85	0.18
595	medium fast, thin	160	4 – 7	68	0.15
593	medium fast to slow	450	2 – 5	84	0.16
602h	slow, dense	750[2]	2	84	0.16
602eh	very slow, very dense	1500[2]	< 2	84	0.15

[1] Approximate values
[2] Measured with 100 mm water column instead of 50 mm

Sheets

Grade	Dimensions mm	Order No.	PU pc/Pack
598	460×570	**10 15 97224**	100
597	580×580	**10 15 98223**	100
595	580×580	**10 15 97222**	100

Folded filters

Ø mm	PU pc/Pack	604 Order No.	593 Order No.	598 Order No.	597 Order No.
90	100	**10 15 97245**			**10 15 97248**
110	100	**10 15 97246**	**10 15 97225**		**10 15 97110**
125	100	**10 15 94125**	**10 15 97226**	**10 15 97233**	**10 15 97126**
150	100	**10 15 94151**	**10 15 97227**	**10 15 97234**	**10 15 97151**
185	100	**10 15 94186**	**10 15 97228**	**10 15 97235**	**10 15 97185**
240	100	**10 15 94240**	**10 15 97229**	**10 15 97236**	**10 15 97240**
270	100				**10 15 97270**
320	100	**10 15 97247**			**10 15 97320**
385	100				**10 15 97232**
500	100				

Ø mm	PU pc/Pack	595 Order No.	602h Order No.	602eh Order No.
90	100	**10 15 95096**	**10 15 97237**	
110	100	**10 15 95111**	**10 15 97238**	**10 15 97251**
125	100	**10 15 95126**	**10 15 92126**	**10 15 97241**
150	100	**10 15 95151**	**10 15 92151**	**10 15 97242**
185	100	**10 15 95186**	**10 15 92186**	**10 15 97243**
240	100	**10 15 95240**	**10 15 92240**	
270	100	**10 15 95270**		
320	100	**10 15 95321**	**10 15 97239**	**10 15 97244**
385	100	**10 15 97230**		
500	100	**10 15 97231**		

Filter circles

Grade	Ø mm	Order No.	PU pc/Pack
604	55	**10 15 97154**	100
604	90	**10 15 97127**	100
604	110	**10 15 99110**	100
604	125	**10 15 99125**	100
604	150	**10 15 99150**	100
604	185	**10 15 99185**	100
598	90	**10 15 97120**	100
598	110	**10 15 98110**	100
597	47	**10 15 97152**	100
597	55	**10 15 93055**	100
597	70	**10 15 93071**	100
597	90	**10 15 93091**	100
597	110	**10 15 93111**	100
597	125	**10 15 93126**	100
597	150	**10 15 93151**	100
597	185	**10 15 93186**	100
597	240	**10 15 97119**	100
595	47	**10 15 97117**	100
595	55	**10 15 91056**	100
595	70	**10 15 91071**	100

Grade	Ø mm	Order No.	PU pc/Pack
595	90	**10 15 91091**	100
595	110	**10 15 91111**	100
595	125	**10 15 91126**	100
595	150	**10 15 91151**	100
595	185	**10 15 91186**	100
595	240	**10 15 97118**	100
593	90	**10 15 97111**	100
593	125	**10 15 97112**	100
593	150	**10 15 97113**	100
593	185	**10 15 97114**	100
593	320	**10 15 97115**	100
602h	70	**10 15 97122**	100
602h	90	**10 15 96090**	100
602h	110	**10 15 96110**	100
602h	125	**10 15 96126**	100
602h	150	**10 15 96151**	100
602h	240	**10 15 97123**	100
602eh	125	**10 15 97124**	100
602eh	240	**10 15 97153**	100

Other sizes on request.

Filter Papers



webcode WW6PB005

webcode WW6PB020

Hardened Low Ash Filter Papers for Qualitative Analysis, Hahnemühle

Very low mineral content (mean ash content 0.05 %) and extremely high mechanical and chemical stability, recommended particularly for vacuum and pressure filtration and for acidic and alkaline solutions.

- Very high wet strength; precipitations can be wiped off or washed off easily and free of fibres
- High resistance to aggressive chemical components, like sulphuric and nitric acids (up to 40% at 50° Celsius) and alkalis (up to 10% at 20° Celsius)

Technical specifications:

Grade	Properties	Filtration Herzberg s	Retention of particles[2] µm	Weight g/m²	Thickness mm
1573	fast	50	12 – 25	88	0.17
1574	medium fast	170	7 – 12	90	0.16
1575	slow	600[1]	2	92	0.14

[1] Measured with 100 mm water column instead of 50 mm
[2] Approximate values

Sheets

Grade	Dimensions mm	Order No.	PU pc/Pack
1574	460 × 570	**10 15 97446**	100

Folded filters

Grade	Ø mm	Order No.	PU pc/Pack
1573	125	**10 15 97394**	100
1573	185	**10 15 97395**	100
1573	240	**10 15 97396**	100
1574	240	**10 15 94241**	100

Filter circles

Grade	Ø mm	Order No.	PU pc/Pack
1573	90	**10 15 97309**	100
1573	125	**10 15 97312**	100
1573	150	**10 15 97315**	100
1573	185	**10 15 97318**	100
1573	240	**10 15 97319**	100
1574	47	**10 15 97403**	100
1574	70	**10 15 97404**	100
1574	90	**10 15 97409**	100
1574	110	**10 15 97411**	100
1574	150	**10 15 97415**	100
1574	240	**10 15 97416**	100
1575	55	**10 15 97507**	100
1575	70	**10 15 97508**	100
1575	110	**10 15 97511**	100
1575	125	**10 15 97512**	100
1575	150	**10 15 97515**	100
1575	240	**10 15 97516**	100

Other sizes on request.



Cytocentrifuge Papers, Hahnemühle

Pure, absorbent papers for centrifugation. The filter papers 2589c and 2589d are available cut to standard format 25 mm × 75 mm, each with two 6 mm holes.

Grade	Dimensions mm	Weight g/m²	Order No.	PU pc/Pack
2589c	25 × 75	400	**10 15 92589**	200
2589d	25 × 75	500	**10 15 92590**	200

webcode WW7R3316



Folded Filters, IDL

Folded filter for qualitative analyses, made of 100% cellulose, medium-quick filtering.

Retention range:	5 to 8 µm
Filtering speed acc. to Herzberg:	50 sec.
Grammage:	87 g/m²
Paper thickness:	0.16 mm
Packaging unit:	100 counts in dispensing box

Ø mm	Order No.
90	**10 00 11302**
110	**10 00 11303**
125	**10 00 11304**
150	**10 00 11305**
185	**10 00 11306**

Filter Papers

Round Filters, IDL

webcode WW7R3314

① Round filters for qualitative analysis, type Basic

Slow filtering.

Filtering speed acc. to Herzberg:	130 sec.
Grammage:	75 g/m²
Pore size:	ca. 8 µm
Packaging unit:	100

Ø mm	Order No.	Ø mm	Order No.
70	**10 00 24501**	150	**10 00 24505**
90	**10 00 24502**	185	**10 00 24506**
110	**10 00 24503**	240	**10 00 24507**
125	**10 00 24504**		



② Round filters for quantitative analysis, type Blue

Very slow filtering, for very fine precipitations.

Filtering speed acc. to Herzberg:	180 sec.
Grammage:	80 g/m²
Ash content:	0.007%
Pore size:	ca. 2 to 3 µm
Packaging unit:	100

Ø mm	Order No.	Ø mm	Order No.
70	**10 00 21301**	150	**10 00 21305**
90	**10 00 21302**	185	**10 00 21306**
110	**10 00 21303**	240	**10 00 21307**
125	**10 00 21304**		



③ Round filters for quantitative analysis, type White

Quick filtering, for medium-coarse precipitations.

Filtering speed acc. to Herzberg:	20 sec.
Grammage:	80 g/m²
Ash content:	0.007%
Pore size:	ca. 15 µm
Packaging unit:	100

Ø mm	Order No.	Ø mm	Order No.
70	**10 00 21201**	150	**10 00 21205**
90	**10 00 21202**	185	**10 00 21206**
110	**10 00 21203**	240	**10 00 21207**
125	**10 00 21204**		



④ Round filters for quantitative analysis, type Black

Very quick filtering, for coarse precipitations.

Filtering speed acc. to Herzberg:	10 sec.
Grammage:	80 g/m²
Ash content:	0,007%
Pore size:	ca. 20 to 25 µm
Packaging unit:	100

Ø mm	Order No.	Ø mm	Order No.
70	**10 00 21101**	150	**10 00 21105**
90	**10 00 21102**	185	**10 00 21106**
110	**10 00 21103**	240	**10 00 21107**
125	**10 00 21104**		



Filter Papers



①

Ashless filter papers, MACHEREY-NAGEL

① **MN 640 m - medium speed**

Ash less filter paper with medium speed and medium retention. Typical applications include gravimetric analysis, quantitative determinations of sediments and high purity clean up procedures.

Filtration speed according to DIN 53137: 27 s
Thickness: 0.2 mm
Basis weight: 85 g/m²
Ash content: < 0.01%

Type	Diameter mm	Order No.	PU pc/Pack
Round filter MN 640 m	55	**10 46 92305**	100
Round filter MN 640 m	70	**10 46 92307**	100
Round filter MN 640 m	90	**10 46 92309**	100
Round filter MN 640 m	110	**10 46 92311**	100
Round filter MN 640 m	125	**10 46 92312**	100
Round filter MN 640 m	150	**10 46 92315**	100
Round filter MN 640 m	185	**10 46 92318**	100
Round filter MN 640 m	240	**10 46 92324**	100

Available only in original packaging units. No fractions possible.



② **MN 640 w - fast filtration**

Ash less filter paper for fast filtration of coarse particles and gelatinous precipitates.

Filtration speed according to DIN 53137: 9 s
Thickness: 0.2 mm
Basis weight: 85 g/m²
Ash content: < 0.01%

Type	Diameter mm	Order No.	PU pc/Pack
Round filter MN 640 w	55	**10 46 92205**	100
Round filter MN 640 w	70	**10 46 92207**	100
Round filter MN 640 w	90	**10 46 92209**	100
Round filter MN 640 w	110	**10 46 92211**	100
Round filter MN 640 w	125	**10 46 92212**	100
Round filter MN 640 w	150	**10 46 92215**	100
Round filter MN 640 w	185	**10 46 92218**	100
Round filter MN 640 w	240	**10 46 92224**	100

Available only in original packaging units. No fractions possible.



③



③ **MN 640 d - slow filtration**

Ash less filter paper for fitlration of fine precipitates like barium sulfate.

Filtration speed according to DIN 53137: 140 s
Thickness: 0.17 mm
Basis weight: 85 g/m²
Ash content: < 0.01%

Type	Diameter mm	Order No.	PU pc/Pack
Round filter MN 640 d	55	**10 46 92505**	100
Round filter MN 640 d	70	**10 46 92507**	100
Round filter MN 640 d	90	**10 46 92509**	100
Round filter MN 640 d	110	**10 46 92511**	100
Round filter MN 640 d	125	**10 46 92512**	100
Round filter MN 640 d	150	**10 46 92515**	100
Round filter MN 640 d	185	**10 46 92518**	100
Round filter MN 640 d	240	**10 46 92524**	100

General purpose filter papers, MACHEREY-NAGEL

④ **MN 615 - General purpose filter paper**

Most widely used general purpose filter paper with medium retention and flow rate. This paper covers a wide range of laboratory applications and is frequently used for clarifying liquids.

Filtration speed according to DIN 53137: 22 s
Thickness: 0,16 mm
Basis weight: 70 g/m²

Continued on next page

Filter Papers

Type	Diameter mm	Order No.	PU pc/Pack
Round filter MN 615	55	**10 46 94305**	100
Round filter MN 615	70	**10 46 94307**	100
Round filter MN 615	90	**10 46 94309**	100
Round filter MN 615	110	**10 46 94311**	100
Round filter MN 615	125	**10 46 94312**	100
Round filter MN 615	150	**10 46 94315**	100
Round filter MN 615	185	**10 46 94318**	100
Round filter MN 615	240	**10 46 94324**	100
Folded filter MN 615 ¼	55	**10 46 95305**	100
Folded filter MN 615 ¼	70	**10 46 95307**	100
Folded filter MN 615 ¼	90	**10 46 95309**	100
Folded filter MN 615 ¼	110	**10 46 95311**	100
Folded filter MN 615 ¼	125	**10 46 95312**	100
Folded filter MN 615 ¼	150	**10 46 95315**	100
Folded filter MN 615 ¼	185	**10 46 95318**	100
Folded filter MN 615 ¼	240	**10 46 95324**	100

Available only in original packaging units. No fractions possible.



④

⑤ **M 617 - Dense filter paper for fine precipitates**

Fast filter paper with excellent retention of coarse particles and gelatinous precipitates. Used for example for routine clean up of biological or organic solutions.

Filtration speed according to DIN 53137: 9 s
Thickness: 0,2 mm
Basis weight: 85 g/m²

Type	Diameter mm	Order No.	PU pc/Pack
Round filter MN 617	55	**10 46 93405**	100
Round filter MN 617	70	**10 46 93407**	100
Round filter MN 617	90	**10 46 93409**	100
Round filter MN 617	110	**10 46 93411**	100
Round filter MN 617	125	**10 46 93412**	100
Round filter MN 617	150	**10 46 93415**	100
Round filter MN 617	185	**10 46 93418**	100
Round filter MN 617	240	**10 46 93424**	100
Folded filter MN 617 ¼	55	**10 46 93505**	100
Folded filter MN 617 ¼	70	**10 46 93507**	100
Folded filter MN 617 ¼	90	**10 46 93509**	100
Folded filter MN 617 ¼	110	**10 46 93511**	100
Folded filter MN 617 ¼	125	**10 46 93512**	100
Folded filter MN 617 ¼	150	**10 46 93515**	100
Folded filter MN 617 ¼	185	**10 46 93518**	100
Folded filter MN 617 ¼	240	**10 46 93524**	100

Available only in original packaging units. No fractions possible.



⑤

⑥ **MN 619 - Dense filter paper for fine precipitates**

Filter paper with very high retention and slow flow rate. Excellent clarifying filter for cloudy suspensions and for water and soil analysis.

Filtration speed according to DIN 53137: 100 s
Thickness: 0,17 mm
Basis weight: 75 g/m²

Type	Diameter mm	Order No.	PU pc/Pack
Round filter MN 619	55	**10 46 93705**	100
Round filter MN 619	70	**10 46 93707**	100
Round filter MN 619	90	**10 46 93709**	100
Round filter MN 619	110	**10 46 93711**	100
Round filter MN 619	125	**10 46 93712**	100
Round filter MN 619	150	**10 46 93715**	100
Round filter MN 619	185	**10 46 93718**	100
Round filter MN 619	240	**10 46 93724**	100
Folded filter MN 619 ¼	55	**10 46 93805**	100
Folded filter MN 619 ¼	70	**10 46 93807**	100
Folded filter MN 619 ¼	90	**10 46 93809**	100
Folded filter MN 619 ¼	110	**10 46 93811**	100
Folded filter MN 619 ¼	125	**10 46 93812**	100
Folded filter MN 619 ¼	150	**10 46 93815**	100
Folded filter MN 619 ¼	185	**10 46 93818**	100
Folded filter MN 619 ¼	240	**10 46 93824**	100

Available only in original packaging units. No fractions possible.


⑥

Filter Papers

webcode WW6PB014



Antibiotica Test Papers, Hahnemühle

Recommended for identification of pathogens of infectious diseases by determination of the degree of resistance against antibiotics pursuant to the zone of inhibition test method.
- Made from ultrapure raw materials, entirely without additives to ensure that no interference will occur during the incubation
- Consistent thickness and absorption volume per paper

Corresponds to the specifications for a substance carrier pursuant to DIN 58940 – 2

Grade	Ø mm	Weight g/m²	Order No.	PU pc/Pack
22	6	180	**10 15 92206**	1000
22	9	180	**10 15 92214**	1000
2668	6	320	**10 15 96802**	1000
2668	9	320	**10 15 96803**	1000
3324	6	280	**10 15 92409**	1000

webcode WW6PB015



Kieselguhr Papers, Hahnemühle

For separation of ultra-fine semi-colloidal turbidities
- Clarification of extracts from soil suspensions, milk serum, starch solutions, and sugary solutions prior to refractometry
- For the retention of protein precipitates and slime particles from solutions
- Clear filtration of urine

Grade	Ø mm	Weight g/m²	Order No.	PU pc/Pack
287	125	154	**10 15 92871**	100
287	150	154	**10 15 92872**	100
287	185	154	**10 15 92873**	100
287	240	154	**10 15 92874**	100

Other sizes on request.

webcode WW6PB016



Filter Paper, Low Nitrogen, Hahnemühle

Recommended for filtration of fine precipitations prior to Kjeldahl solubilisation. Extremely low nitrogen content, approx. 0.05 mg / 110 mm paper.

Grade	Ø mm	Weight g/m²	Order No.	PU pc/Pack
2095	240	85	**10 15 92095**	100

Other sizes on request.

webcode WW6PB017



Filter Papers for Sugar Analysis, Hahnemühle

Recommended for the clarifying filtration of beet extracts and juices prior to analysis.
- High filtration speed combined with high retention of particles
- Two surfaces are available: smooth or creped

Technical data:

Grade	Properties	Filtration Herzberg s	Thickness mm
3459	fast, creped	110	0.3
3002	medium fast, smooth	150	0.14

Grade	Ø mm	Weight g/m²	Order No.	PU pc/Pack
3002	200	69	**10 15 93002**	1000
3459	230	74	**10 15 93459**	100

Other sizes on request.

Filter Papers

Filter Papers for Beer Analysis, Hahnemühle



webcode WW6PB024

These filter papers are recommended for filtration analysis and determinations in beer brewing based on the specifications by the MEBAK (Middle European Brewery Analysis Commission)
- Ideal for sample preparation and clarification
- Suitable for removing CO_2 and turbidities

Grade	Form	Ø mm	Weight g/m²	Order No.	PU pc/Pack
2555	folded filter, grained	185	75	**10 15 92555**	100
2555	folded filter, grained	240	75	**10 15 92556**	100
2555	folded filter, grained	320	75	**10 15 92557**	100
597	filter circles, smooth	185	81	**10 15 93186**	100
597	filter circles, smooth	320	81	**10 15 97321**	100

Black Filter Paper, Hahnemühle



webcode WW6PB019

Recommended for the detection of very fine traces of light particles and precipitates.
- The filter paper grade 551 is a technical filter paper made from pure cellulose with the addition of black dye
- White and light particles can be detected easily by the strong contrast to the black filter paper
- 95 g/sqm, 0.2 µm thick, 850 s filtration (Herzberg)

Grade	Ø mm	Order No.	PU pc/Pack
551	55	**10 15 90551**	100
551	70	**10 15 91551**	100

Grade	Ø mm	Order No.	PU pc/Pack
551	90	**10 15 92551**	100
551	240	**10 15 93551**	100

Other sizes on request.

Hahnemühle

Activated Carbon Filter Paper, Hahnemühle



webcode WW6PB025

Recommended for the adsorption of certain molecules from solutions and gases and for separation of ultra-fine semi-colloidal turbidities.
- High-performance adsorption
- Minimum 35% activated carbon content
- 196 g/sqm, 0.52 µm thick, 360 s filtration (Herzberg)

Grade	Form	Ø mm	Weight g/m²	Order No.	PU pc/Pack
508	filter circles	110	196	**10 15 95081**	100

Other sizes on request.

Seed Testing Papers, Hahnemühle

webcode WW6PB023

Recommended for reliable seed testing. All papers comply with the ISTA recommendations. All seed testing papers are made of highly pure cellulose and are free of spores, bacteria, and any toxic substances which might affect the germination of the seeds.

Article	Dimensions mm	Order No.	PU pc/Pack
Type 3236, pleated strips, grey	110 × 20 × 2000, 50 double folds	**10 15 93762**	1008
Type 3014, pleated strips, white	110 × 20 × 2000, 50 double folds	**10 15 93763**	1008
Type 3014, pleated strips, white	110 × 20 × 2000, 50 double folds	**10 15 93764**	306
Type 0858, Wrapping strips for pleated strips	110 × 580	**10 15 93761**	500
Type 520b, creped, white	580 × 580	**10 15 92058**	100
Type 5703, absorbent, white	580 × 580	**10 15 97858**	100



Membrane Filters

Membrane Filters, Hahnemühle


①

webcode WW6PB011

① Cellulose acetate membrane filters

Ideal for aqueous samples, biological applications and protein filtration

- Resistant to aqueous solutions with a pH value of 4 – 8, to most alcohols, hydrocarbons and oils
- Filtration of aqueous solutions for biological and clinical analyses
- Sterilisation of biological solutions (CA membranes with a pore size of 0.2 µm are specifically recommended if the extraction of proteins is of particular importance)
- Sterilisation of culture media (0.2 µm)
- Maximum temperature 180°C

Ø mm	PU pc/Pack	Pore size µm 0.2 Order No.	0.45 Order No.
25	100	**10 15 91025**	**10 15 92025**
47	100	**10 15 91047**	**10 15 92047**
50	100		**10 15 92050**

Other sizes on request.

Cellulose nitrate membrane filters

Ideal for clarification and sterilisation of aqueous solutions, for microbiological analyses and particle count determination

- High non-specific adsorption: 160 µg/cm² for gamma-globulin
- Resistant to aqueous solutions with a pH value of 4 – 8, to hydrocarbons and some diluted solvents
- Maximum temperature: 130°C
- Membranes with grid lines are suitable for microbiological analyses (determination of the bacteria count) of water, drugs, drinks, cosmetics, etc. for evidence of E.coli, coliform bacteria, and other microbes.
- Sterilised membranes are packaged individually

Pore size µm	Ø mm	Version	Order No.	PU pc/Pack
0.2	25	non sterile, white	**10 15 93035**	100
0.2	47	non sterile, white	**10 15 93036**	100
0.2	50	non sterile, white	**10 15 93039**	100
0.45	25	non sterile, white, gridded	**10 15 93041**	100
0.45	47	non sterile, white, gridded	**10 15 93042**	100
0.45	47	non sterile, white	**10 15 93043**	100
0.45	50	non sterile, white	**10 15 93050**	100
0.8	47	non sterile, white	**10 15 93051**	100
0.2	47	sterile, white, gridded	**10 15 93046**	100
0.45	47	sterile, white, gridded	**10 15 93047**	100
0.45	47	sterile, white	**10 15 93048**	100
0.45	47	sterile, black, gridded	**10 15 93049**	100
0.45	50	sterile, black, gridded	**10 15 93059**	100

Other sizes on request.


②

② Mixed cellulose ester membrane filter

Ideal for clarification and sterilisation of aqueous solutions, for microbiological analyses and particle count determination

- Well suited for gravimetric analyses, constant weight
- Suitable for aqueous solutions (pH value 4 – 8), hydrocarbons and some diluted solvents
- High non-specific adsorption, 160 µg/cm² for gamma-globulin (with 0.2 µm pore size, reduction with increasing pore size)
- Temperature resistance up to 180°C
- Membranes with grid lines are suitable for microbiological analyses (determination of the bacteria count) of water, drugs, drinks, cosmetics, etc. for evidence of E.coli, coliform bacteria, and other microbes; sections with 3.1 x 3.1 mm grid
- Sterilised membranes are packaged individually

Pore size µm	Ø mm	Version	Order No.	PU pc/Pack
0.2	50	white, non-sterile	**10 15 94030**	100
0.45	25	white, non-sterile	**10 15 94031**	100
0.45	47	white, non-sterile	**10 15 94932**	100
0.45	47	white, non-sterile, gridded	**10 15 94933**	100
0.45	50	white, non-sterile, gridded	**10 15 94941**	100
0.45	50	black, non-sterile, gridded	**10 15 94934**	100
3	47	white, non-sterile	**10 15 94935**	100
5	47	white, non-sterile	**10 15 94936**	100
8	47	white, non-sterile	**10 15 94937**	100
0.2	47	white, sterile, gridded	**10 15 94938**	100

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Membrane Filters

Pore size µm	Ø mm	Version	Order No.	PU pc/Pack
0.2	50	white, sterile, gridded	**10 15 94939**	100
0.45	47	white, sterile, gridded	**10 15 94940**	100
0.45	50	white, sterile, gridded	**10 15 94029**	100

Other sizes on request.

③ **Nylon membrane filters**
Recommended for filtration, sterilisation and clarification of the mobile phases in HPLC analyses, of aqueous, alkaline, and organic samples.
- Made of hydrophilic polyamide
- High non-specific adsorption, high mechanical stability
- Filtration for removal of particles from water and aqueous solutions, and from solvents for HPLC
- Temperature resistance of up to 134°C

Pore size µm	Ø mm	Order No.	PU pc/Pack
0.2	47	**10 15 95051**	100
0.45	47	**10 15 95053**	100

Other sizes on request.

PTFE membrane filters
Made of 100% PTFE (polytetrafluorethylene), reinforced with a polypropylene net.
- Permanently hydrophobic
- Resistant to almost all chemicals, very strong acids, cryoliquids, alkalis, aggressive organic solvents
- Prior to the filtration of aqueous samples, moisten the membranes with an organic solvent such as ethanol, methanol, or isopropanol
- Temperature resistance up to 145°C

Pore size µm	Ø mm	Version	Order No.	PU pc/Pack
0.2	25	non-sterile, white	**10 15 94161**	100
0.2	47	non-sterile, white	**10 15 94162**	100
0.45	25	non-sterile, white	**10 15 94163**	100
0.45	47	non-sterile, white	**10 15 94164**	100
5	47	non-sterile, white	**10 15 94165**	100
5	90	non-sterile, white	**10 15 94166**	25

Other sizes on request.



③

qpore Membrane Filters, neoLab®

qpore CME membrane filters consist of cellulose acetate and cellulose nitrate. Being biologically inert, they are suitable for a wide range of applications: sterile filtration, bio-assays, clear filtration, particle analysis in liquids and in air.

Sterile, with grid, MCE
These CME membrane filter have a high-contrast grid. The grid lines are spaced at 3.1 mm and do not affect colony growth. Sterile, packaged individually.

Pore size µm	Ø mm	Order No.	PU pc/Pack
0.22	47	**10 01 60030**	100
0.45	47	**10 01 60031**	100
0.8	47	**10 01 60032**	100
0.22	50	**10 01 60033**	100
0.45	50	**10 01 60034**	100

webcode WW2NY393



Non-sterile, without grid, MCE

Pore size µm	Ø mm	Order No.	PU pc/Pack
0.22	25	**10 01 60026**	200
0.22	47	**10 01 60027**	200
0.45	25	**10 01 60028**	200
0.45	47	**10 01 60029**	200

Non-sterile, CA
The hydrophilic qpore membrane filters made of pure cellulose acetate CA belong to the group of filters with very low binding properties. These filters enable high filtration quantities and thus reduce the need for filter changes. CA membrane filters are ideally suited for the filtration of proteins and enzymes, sterile filtration of cell culture media and other applications, i.e. wherever the preservation of the original protein composition and concentration is important.

Pore size µm	Ø mm	Order No.	PU pc/Pack
0.22	47	**10 01 60082**	200
0.45	47	**10 01 60083**	200



Continued on next page

Membrane Filters



Non-sterile, PTFE, hydrophobe
The hydrophilic qpore membrane filters made of polytetrafluoroethylene PTFE are ideally suited for the filtration of dipolar media where high chemical resistance is required. PTFE membranes are biologically and chemically inert and have high flow rates.

Pore size µm	Ø mm	Order No.	PU pc/Pack
0.22	47	**10 01 60084**	200
0.45	47	**10 01 60085**	200

Non-sterile, PTFE, hydrophile
The hydrophilic qpore membrane filters made of polytetrafluoroethylene PTFE are ideally suited for the filtration of dipolar media where high chemical resistance is required. PTFE membranes are biologically and chemically inert and have high flow rates.

Pore size µm	Ø mm	Order No.	PU pc/Pack
0.22	47	**10 01 60086**	200
0.45	47	**10 01 60087**	200

Non-sterile, PVDF, hydrophobe
The hydrophobic qpore membrane filters made of polyvenylidene fluoride PVDF bind far less protein than membrane filters made of nylon, PTFE or mixed cellulose ester. They have a very high flow rate compared to other membrane materials. Due to their low protein and active substance binding properties, PVDF membrane filters are ideally suited for filtration in life sciences. These membrane filters are also excellently suited for the filtration of air and other gases.

Pore size µm	Ø mm	Order No.	PU pc/Pack
0.22	47	**10 01 60088**	200
0.45	47	**10 01 60089**	200

Non-sterile, PVDF, hydrophile
The hydrophilic qpore membrane filters made of polyvenylidene fluoride PVDF bind far less protein than membrane filters made of nylon, PTFE or mixed cellulose ester. They have a very high flow rate compared to other membrane materials. Due to their low protein and active substance binding properties, PVDF membrane filters are ideally suited for filtration in life sciences. These membrane filters are also excellently suited for the filtration of air and other gases.

Pore size µm	Ø mm	Order No.	PU pc/Pack
0.22	47	**10 01 60090**	200
0.45	47	**10 01 60091**	200

Non-sterile, Nylon
The hydrophilic qpore pure nylon membrane filters on carrier material are designed to be uniformly wetted and retain their tear strength when used in general filtration or medical examinations, eliminating the need for wetting agents that could be extracted when filtering aqueous solutions. Nylon membrane filters are flexible, durable and tear resistant and can be autoclaved at 135°C.

The high-quality nylon membrane filters are suitable for filtering aqueous solutions and most organic solvents. Nylon membrane filters are suitable for a variety of biological samples and can be used where other membranes are unsuitable or difficult to use.

Pore size µm	Ø mm	Order No.	PU pc/Pack
0.22	47	**10 01 60094**	200
0.45	47	**10 01 60095**	200

Non-sterile, PES
The hydrophilic qpore membrane filters made of pure polyethersulfone PES have the highest flow rate compared to other membrane materials due to their asymmetric pore structure. Due to their low protein binding and drug binding properties, PES membrane filters are ideally suited for filtration in the life science sector. Due to their high thermal stability, PES membrane filters can also be used to filter hot liquids.

Pore size µm	Ø mm	Order No.	PU pc/Pack
0.22	47	**10 01 60096**	200
0.45	47	**10 01 60097**	200

Membrane Filters

In-Line Filters, Thermo Scientific Nalgene, IDL

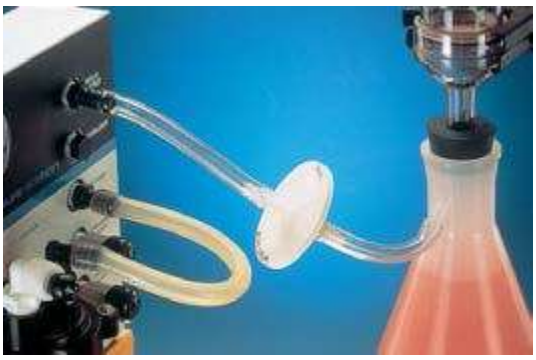
webcode WWRJN149

thermoscientific

Polypropylene housing with PTFE membrane with a diameter of 50 mm
For cleaning alcohols and organic solutions. For aerating with air and other gases. Non-sterile, autoclavable.

Pore size µm	Membrane Ø mm	Order No.	PU pc/Pack
0.2	50	**26 87 22220**	10
0.45	50	**26 87 22245**	10

Available only in original packaging units. No fractions possible.



Membrane Filters, Berrytec®

webcode WWMUD022

Berrytec

① **Membrane Filters Berrytec®**
- For versatile applications in molecular biology, genetics and microbiology
- For filtration, sterilisation and purification
- Other formats and pore sizes available on request

PTFE membrane hydrophobic: filtration of acids, lyes and solvents, non-polar fluids and gases, almost all chemicals

PTFE membrane hydrophilic: see PTFE hydrophobic, additionally filtration of aqueous solutions

PVDF membrane hydrophilic: filtration of aqueous and organic samples, resistant to common organic solvents, lyes and alkalines, very low protein adsorption, PH 3-12

Nylon (PA) membrane hydrophilic: Purification and sterile filtration of organic and aqueous samples, e.g. HPLC, GC, robust membrane, PH 3-14

CA membrane hydrophilic: filtration of aqueous solutions, low protein adsorpion, high stability and flow, purification filtration, PH 4-8

PES membrane hydrophilic: filtation of cell culture and biological fluids, high flow rate, very low protein adsorption, PH 1-13

CMEmembrane hydrophilic: filtration of aqueous solutions, high flow rate, high non-specific adsorption, high stability, PH 4-8

PPmembrane hydrophilic: excellent thermal stability, aqueous and alcoholic solutions and solvents, binds proteins, DNA and RNA applications



Ø mm	Pore size µm	PU pc/Pack	Polytetrafluorethylene (PTFE) hydrophobic Order No.	Polytetrafluorethylene (PTFE) hydrophilic Order No.	Nylon (PA) Order No.	PU pc/Pack	Polyvinylidene fluoride (PVDF) Order No.
25	0.22	100	**10 63 51121**	**10 63 51537**	**10 63 51119**	50	**10 63 51101**
25	0.45	100	**10 63 51122**	**10 63 51538**	**10 63 51120**	50	**10 63 51102**
47	0.22	100	**10 63 51105**	**10 63 51543**	**10 63 51103**	50	**10 63 51107**
47	0.45	100	**10 63 51106**	**10 63 51544**	**10 63 51104**	50	**10 63 51108**
50	0.22	100	**10 63 51660**	**10 63 51628**	**10 63 51310**	50	**10 63 51316**
50	0.45	100	**10 63 51254**	**10 63 51548**	**10 63 51311**	50	**10 63 51317**
142	0.22	50	**10 63 51661**	**10 63 51662**	**10 63 51440**	50	**10 63 51322**
142	0.45	50	**10 63 51258**	**10 63 51564**	**10 63 51441**	50	**10 63 51323**

Ø mm	Pore size µm	PU pc/Pack	Polyethersulfone (PES) Order No.	PU pc/Pack	Mixed Cellulose Ester (MCE) Order No.	Cellulose acetate (CA) Order No.	Polypropylene (PP) Order No.
25	0.22	100	**10 63 51227**	100	**10 63 51284**	**10 63 51402**	**10 63 51570**
25	0.45	100	**10 63 51228**	100	**10 63 51285**	**10 63 51403**	**10 63 51571**
47	0.22	100	**10 63 51233**	100	**10 63 51290**	**10 63 51409**	**10 63 51577**
47	0.45	100	**10 63 51234**	100	**10 63 51291**	**10 63 51410**	**10 63 51578**
50	0.22	100	**10 63 51239**	100	**10 63 51296**	**10 63 51415**	**10 63 51583**
50	0.45	100	**10 63 51226**	100	**10 63 51297**	**10 63 51350**	**10 63 51584**
142	0.22	25	**10 63 51244**	50	**10 63 51302**	**10 63 51421**	**10 63 51601**
142	0.45	25	**10 63 58142**	50	**10 63 51303**	**10 63 51422**	**10 63 51602**

Continued on next page

Membrane Filters



①



②

Grid membranes, white, sterile

Ø mm	Pore size µm	Packing type	Order No.	PU pc/Pack
47	0.22	on band	**10 63 50300**	150
47	0.45	on band	**10 63 50010**	150
50	0.22	on band	**10 63 53310**	150
50	0.45	on band	**10 63 50020**	150
47	0.22	individually packed	**10 63 50030**	200
47	0.45	individually packed	**10 63 50040**	200
50	0.22	individually packed	**10 63 50060**	200
50	0.45	individually packed	**10 63 50070**	200

Accessories

	Article	Order No.
①	**Membrane dispenser** for grid membrane sterile on band	**10 63 51642**
②	**Filter bar made of stainless steel, 3 places** for 47 – 50 mm filter, with stopcocks and stainless steel support frits	**10 63 55030**
	Filter bar made of stainless steel, 6 places for 47 – 50 mm filter, with stopcocks and stainless steel support frits	**10 63 51060**

Syringe Filters, Filter Holders



webcode WWMUD011

Berrytec

webcode WWMUD023

Syringe Filters Sterile, Berrytec®

- For a wide range of applications in molecular biology, genetics, and microbiology
- Available with the most commonly used membranes (PVDF, PES, CA)
- Special filters with pore size 0.1 µm for the cell culture

PVDF membrane, hydrophilic: Filtration of aqueous and organic samples, resistant to commonly used organic solvents, acids and alkalines, very low protein adsorption, PH 3-12
CA membrane, hydrophilic: Filtration of aqueous solutions, low protein adsorption, high stability and flow, clarifying filtration, PH 4-8
PES membrane, hydrophilic: Filtration of cell culture and biological fluids, high flow rate, very low protein adsorption, PH 1-13

Technical data:

Membrane Ø:	**13 mm**	**25 mm**	**30 mm**
Housing material:	polypropylene (PP)	polypropylene (PP)	polypropylene (PP)
Connection input:	female luer-lock	female luer-lock	female luer-lock
Connection output:	male luer-slip	male luer-slip	male luer-slip
Operating pressure max.:	6 bar	6 bar	6 bar
Sample volumes:	up to 15 ml	up to 100 ml	up to 200 ml
Filter surface:	approx. 1.00 cm^2	approx. 3.50 cm^2	approx. 5.00 cm^2

Ø mm	Pore size µm	PU pc/ Pack	Cellulose acetate (CA) Order No.	Polyethersulphone (PES) Order No.	Polyvinylidene fluoride (PVDF) Order No.
13	0.1	50		**10 63 53304**	**10 63 53301**
25	0.22	50	**10 63 52601**	**10 63 52512**	**10 63 52502**
25	0.45	50	**10 63 52504**	**10 63 52503**	**10 63 52600**
33	0.22	50	**10 63 53100**	**10 63 53000**	**10 63 53200**
33	0.45	50	**10 63 53150**	**10 63 53300**	**10 63 53250**



Syringe Filters, Berrytec®

- For effective sample preparation
- Suitable for HPLC, IC, GC, and general particle filtration
- 1000 pc. bulk packs available on request

PTFE membrane hydrophobic: filtration of acids, lyes and solvents, non-polar fluids and gases, almost all chemicals
PTFE membrane hydrophilic: see PTFE hydrophobic, additionally filtration of aqueous solutions
PVDF membrane hydrophilic: filtration of aqueous and organic samples, resistant to common organic solvents, lyes and alkalines, very low protein adsorption, PH 3-12
Nylon (PA) membrane hydrophilic: Purification and sterile filtration of organic and aqueous samples, e.g. HPLC, GC, robust membrane, PH 3-14
CA membrane hydrophilic: filtration of aqueous solutions, low protein adsorption, high stability and flow, purification filtration, PH 4-8

Continued on next page

Syringe Filters, Filter Holders

PES membrane hydrophilic: filtration of cell culture and biological fluids, high flow rate, very low protein adsorption, PH 1-13
CME membrane hydrophilic: filtration of aqueous solutions, high flow rate, high non-specific adsorption, high stability, PH 4-8
RC membrane hydrophilic: filtration of aqueous and organic solutions such as HPLC and GC, low protein adsorption, high flow, PH 3-12
GF membrane hydrophilic: fast filtration with very high retention (pre-filtration), resistant to solvents, acids and alkalines
PP membrane hydrophobic: turns hydrophilic by moistening with organic solutions (ethanol), excellent thermal stability, aqueous and alcoholic solutions and solvents, binds proteins, DNA and RNA applications

Ø mm	Pore size µm	PU pc/ Pack	Polytetrafluorethylene (PTFE) hydrophobic **Order No.**	Polytetrafluorethylene (PTFE) hydrophilic **Order No.**	Polyvinylidene fluoride (PVDF) **Order No.**	Nylon (PA) **Order No.**	Cellulose acetate (CA) **Order No.**
13	0.22	100	**10 63 51003**	**10 63 51011**	**10 63 55003**	**10 63 52003**	**10 63 57003**
13	0.45	100	**10 63 51004**	**10 63 51012**	**10 63 55004**	**10 63 52004**	**10 63 57004**
25	0.22	100	**10 63 54005**	**10 63 51013**	**10 63 55005**	**10 63 52005**	**10 63 57005**
25	0.45	100	**10 63 51006**	**10 63 51014**	**10 63 55006**	**10 63 52006**	**10 63 57006**
30	0.22	100	**10 63 51007**	**10 63 51015**	**10 63 55007**	**10 63 52007**	**10 63 57007**
30	0.45	100	**10 63 51008**	**10 63 51016**	**10 63 55008**	**10 63 52008**	**10 63 57008**

Ø mm	Pore size µm	PU pc/ Pack	Polyethersulfone (PES) **Order No.**	Mixed cellulose ester (MCE) **Order No.**	Regenerated cellulose (RC) **Order No.**	Polypropylene (PP) **Order No.**	Pore size µm	Glas fibre (GF) **Order No.**
13	0.22	100	**10 63 56003**	**10 63 53003**	**10 63 50190**	**10 63 51607**		
13	0.45	100	**10 63 56004**	**10 63 53004**	**10 63 50200**	**10 63 51608**		
25	0.22	100	**10 63 56005**	**10 63 53005**	**10 63 50210**	**10 63 51609**	0.7	**10 63 52560**
25	0.45	100	**10 63 56006**	**10 63 53006**	**10 63 50220**	**10 63 51610**	1.2	**10 63 52550**
30	0.22	100	**10 63 56007**	**10 63 53007**	**10 63 50230**	**10 63 51611**	0.7	**10 63 52580**
30	0.45	100	**10 63 56008**	**10 63 53008**	**10 63 50240**	**10 63 51612**	1.2	**10 63 52570**

Micropur Syringe Filters, Altmann Analytik

webcode WW4T2058

These syringe filters are ideal for filtering the sample solution before the injection. Different materials have their own specific properties. For this reason, the selection of the appropriate filter depends primarily on the filtration solutions used.



Regenerated cellulose (RC):
- Hydrophilic membrane with very low adsorption
- For aqueous and organic/aqueous liquids (polar and medium polar sample solutions)
- Binding capacity for proteins 84 µg/filter (with 25 mm filter)
- Perfect for biological samples
- High chemical resistance
- High flow rates

Cellulose acetate (CA):
- Hydrophilic membrane
- Very high shape stability in aqueous solutions
- Extremely low binding capacity for proteins 21 µg/filter (with 25mm filter)
- Especially suited for filtration of tissue cultures and biological macromolecules

Polyamide (PA):
- Hydrophilic membrane
- For aqueous and organic/aqueous medium polar liquids
- Resistant to many organic solvents
- Not resistant to acids and base
- High retention of proteins

Polytetrafluorethylene (PTFE):
- Hydrophobic membrane
- For non-polar liquids and gases
- Very resistant to all kinds of solvents, acids and bases
- Flushing with alcohol and water makes the originally hydrophobic membrane water-wettable
- Suitable for degasing of HPLC solvents
- Unsuitable for aqueous solutions

Ø mm	Pore size µm	PU pc/Pack	Material RC **Order No.**	CA **Order No.**	PA **Order No.**	PTFE **Order No.**
25	0.2	100	**10 32 16011**	**10 32 16021**	**10 32 16031**	**10 32 16041**
25	0.45	100	**10 32 16012**	**10 32 16022**	**10 32 16032**	**10 32 16042**
15	0.2	100	**10 32 16013**	**10 32 16023**	**10 32 16033**	**10 32 16043**
15	0.45	100	**10 32 16014**	**10 32 16024**	**10 32 16034**	**10 32 16044**

webcode To see other variants and accessories, please enter the webcode on our website.

Syringe Filters, Filter Holders

webcode WW6PB012

Hahnemühle



Syringe Filters, Hahnemühle

Technical data:

Membran Ø	**13 mm**	**25 mm**	**30 mm**
Housing material:	Polypropylene	Polypropylene	Polypropylene
Fitting inlet:	Female Luer-Lock	Female Luer-Lock	Female Luer-Lock
Fitting outlet:	Male Luer-Slip	Male Luer-Slip	Male Luer-Slip
Filter area:	1.09 cm^2	4.08 cm^2	5.39 cm^2
Sample volume:	1 – 10	10 – 100 ml	> 100 ml
Hold um volume:	< 25 µl	< 100 µl	< 200 µl
Max. pressure:	6 bar	6 bar	6 bar

① **Cellulose acetate syringe filters**
Recommended for clarification, purification and sterilisation of aqueous solutions and biological samples.

- Cellulose acetate membrane, surfactant-free, hydrophilic
- Low non-specific adsorption
- Filtration of biological liquids, sera or tissue culture additives in which the sample loss is to be kept to a minimum by means of an extremely low protein binding to the membrane
- Perfect for aqueous solutions (pH 4 - 8) and most alcohols, hydrocarbons and oils



Pore size µm	Housing Ø mm	Version	**Order No.**	PU pc/Pack
0.2	25	non-sterile	**10 15 92101**	100
0.45	25	non-sterile	**10 15 92103**	100
0.45	25	non-sterile	**10 15 92114**	500
0.45	30	non-sterile	**10 15 92107**	100
0.45	30	non-sterile	**10 15 92108**	500
0.2	25	sterile	**10 15 92105**	50
0.2	30	sterile	**10 15 92109**	50
0.45	25	sterile	**10 15 92106**	50
0.45	30	sterile	**10 15 92111**	50



② **Regenerated cellulose syringe filters**
High resistance in filtration and sterilisation of aqueous and organic samples in HPLC and GC applications.

- Regenerated cellulose membrane, hydrophilic
- Resistant to almost all solvents and aqueous solutions in a pH range of 3-12
- Low protein adsorption
- Sterilisation and clarification of cell and protein solutions and biological liquids without protein loss

Pore size µm	Housing Ø mm	**Order No.**	PU pc/Pack
0.2	13	**10 15 92408**	100
0.2	25	**10 15 92402**	100
0.45	13	**10 15 92413**	100
0.45	25	**10 15 92404**	100
0.45	30	**10 15 92405**	100

Other sizes on request

③ **Nylon syringe filters**
Recommended for analytical applications, filtration of samples and solvents for HPLC, under non-extreme conditions.

- Nylon membrane, hydrophilic
- Suitable for diluted organic solvents (e.g. acetone, methylenchloride and acetonitrile) and alkaline solutions
- Free of surfactants

Pore size µm	Housing Ø mm	**Order No.**	PU pc/Pack
0.2	13	**10 15 92308**	100
0.2	25	**10 15 92301**	100
0.2	25	**10 15 92303**	500
0.45	13	**10 15 92307**	100
0.45	25	**10 15 92304**	100
0.45	25	**10 15 92306**	500

Continued on next page

Syringe Filters, Filter Holders

④ **PTFE syringe filters**
Recommend for HPLC and GC samples, sterilisation and clarification of most solvents and for air sterilisation.
- Polytetrafluorethylene (Teflon) membrane, hydrophobic
- High chemical resistance to most organic solvents and acids
- Free of surfactants
- Prior to the filtration of aqueous samples, rinse the membranes with ethanol or isopropanol as surfactant
- Suitable for clarification of most solvents (e.g. acetone, dimethylformamide or DMSO) or highly aggressive liquid solvents or acids

Pore size µm	Housing Ø mm	Order No.	PU pc/Pack
0.2	13	**10 15 92201**	100
0.2	25	**10 15 92203**	100
0.45	13	**10 15 92204**	100
0.45	25	**10 15 92207**	100
0.45	25	**10 15 92208**	500
0.45	30	**10 15 92209**	100



④

qpore Syringe Filters and Safety Filters, neoLab®

webcode WW2NY394

⑤ **Syringe filters, qpore, CA**
The qpore® syringe filter made of cellulose acetat CA is ideal for the preparation of samples in the 1.5 to 100 ml volume range. Due to its low protein binding, this syringe filter is recommended for sterile and clear filtration of culture media, buffers etc. and of aqueous solutions in general.

Sterile	Pore size µm	Ø mm	Order No.	PU pc/Pack
yes	0.22	25	**10 01 60012**	100
yes	0.45	25	**10 01 60013**	100
yes	0.22	30	**10 01 60014**	100
yes	0.45	30	**10 01 60015**	100
no	0.22	30	**10 01 60062**	100
no	0.45	30	**10 01 60063**	100



⑤

⑥ **Syringe filters, qpore, Nylon**
This non-sterile qpore® syringe filter has a hydrophilic nylon membrane and is ideal for filtration of aqueous solutions and solvents. The clean and pure nylon membrane combines the fastest flow rates with a low unspecific binding. Includes pre-filter made of fiberglass.
Thus, this syringe filter can be used anywhere where the application or the clear filtration is allowed under unsterile conditions, as usually in the sample preparation before HPLC or GC.

Sterile	Pore size µm	Ø mm	Order No.	PU pc/Pack
no	0.22	13	**10 01 60116**	100
no	0.45	13	**10 01 60117**	100
no	0.22	17	**10 01 60016**	100
no	0.45	17	**10 01 60017**	100
no	0.22	30	**10 01 60018**	100
no	0.45	30	**10 01 60019**	100



⑥

⑦ **Syringe filters, qpore, PTFE**
The qpore® syringe filter made of polytetrafluorethylene PTFE are perfectly suited for the fitration of media which require a high chemical resistance. The PTFE membranes are biologically and chemically inert and have high flow rates. The PTFE membrane is available in a hydrophobic and in a hydrophilic version.

Sterile	Pore size µm	Ø mm	Property	Order No.	PU pc/Pack
yes	0.22	33	hydrophobic	**10 01 60080**	100
yes	0.45	33	hydrophobic	**10 01 60081**	100
yes	0.22	25	hydrophobic	**10 01 60129**	100
yes	0.45	25	hydrophobic	**10 01 60130**	100
no	0.22	13	hydrophobic	**10 01 60112**	100
no	0.45	13	hydrophobic	**10 01 60113**	100
no	0.22	17	hydrophobic	**10 01 60020**	100
no	0.45	17	hydrophobic	**10 01 60021**	100
no	0.22	30	hydrophobic	**10 01 60022**	100
no	0.45	30	hydrophobic	**10 01 60023**	100
no	0.22	13	hydrophilic	**10 01 60133**	100
no	0.45	13	hydrophilic	**10 01 60024**	100
no	0.22	25	hydrophilic	**10 01 60134**	100
no	0.45	25	hydrophilic	**10 01 60025**	100



⑦

Continued on next page

Syringe Filters, Filter Holders



①



②

Syringe filters, qpore, PES

This qpore® syringe filter has a hydrophilic membrane from polyether sulfone PES with high mechanical and chemical resilience with minimal protein absorption. Through an excellent flow-through rate it is optimally suited for sterile filtration, clear filtration and cell removal under sterile conditions.

Sterile	Pore size µm	Ø mm	Order No.	PU pc/Pack
yes	0.1	13	**10 01 60123**	100
yes	0.22	13	**10 01 60124**	100
yes	0.45	13	**10 01 60125**	100
yes	0.1	25	**10 01 60043**	100
yes	0.22	25	**10 01 60044**	100
yes	0.45	25	**10 01 60045**	100
yes	0.1	30	**10 01 60046**	100
yes	0.22	30	**10 01 60047**	100
yes	0.45	30	**10 01 60048**	100
yes	0.1	33	**10 01 60067**	100
yes	0.22	33	**10 01 60068**	100
yes	0.45	33	**10 01 60069**	100
no	0.22	25	**10 01 60064**	100
no	0.45	25	**10 01 60065**	100

Syringe filters, qpore, fiberglass

The qpore® glass fibre syringe filter with pore size 1 µm are particularly well suited for pre-filtration of heavily contaminated samples. Thanks to the special housing, this syringe filter can be attached to another syringe filter to allow for two-step filtration in one go. The male luer-lock connection at the outlet of the glass fibre syringe filter ensures solid attachment to the female luer-lock connection at the inlet of the second syringe filter.

Sterile	Pore size µm	Ø mm	Order No.	PU pc/Pack
no	1	33	**10 01 60061**	100

Syringe filters, qpore, PVDF

The qpore® syringe filters made of polyvenylidene fluoride PVDF bind far less protein than syringe attachment filters made of nylon, PTFE or mixed cellulose ester. They have a very high flow rate compared to other membrane materials. Due to their low protein and active substance binding properties, PVDF membrane filters are ideally suited for filtration in the life science sector. The PTFE membrane is available in a hydrophobic and in a hydrophilic version.

Sterile	Pore size µm	Ø mm	Property	Order No.	PU pc/Pack
yes	0.22	33	hydrophilic	**10 01 60070**	100
yes	0.45	33	hydrophilic	**10 01 60071**	100
no	0.22	13	hydrophobic	**10 01 60114**	100
no	0.45	13	hydrophobic	**10 01 60115**	100
no	0.22	30	hydrophilic	**10 01 60072**	100
no	0.45	30	hydrophilic	**10 01 60073**	100
no	0.22	30	hydrophobic	**10 01 60074**	100
no	0.45	30	hydrophobic	**10 01 60075**	100

Syringe filters, qpore, CME

This qpore® syringe filter has a hydrophilic CME membrane with excellent thermal and chemical resistance. Thanks to its premium flow rate, it is perfectly suited for sterile filtration, clarification and cell removal under sterile conditions.

Sterile	Pore size µm	Ø mm	Order No.	PU pc/Pack
yes	0.22	13	**10 01 60127**	100
yes	0.45	13	**10 01 60128**	100
yes	0.22	30	**10 01 60076**	100
yes	0.45	30	**10 01 60077**	100
no	0.22	13	**10 01 60118**	100
no	0.45	13	**10 01 60119**	100
no	0.8	13	**10 01 60135**	100
no	1.0	13	**10 01 60136**	100
no	3.0	13	**10 01 60137**	100
no	5.0	13	**10 01 60138**	100
no	8.0	13	**10 01 60139**	100
no	0.22	30	**10 01 60078**	100
no	0.45	30	**10 01 60079**	100
no	0.8	30	**10 01 60140**	100
no	1.0	30	**10 01 60141**	100
no	3.0	30	**10 01 60142**	100
no	5.0	30	**10 01 60143**	100
no	8.0	30	**10 01 60144**	100

Continued on next page

Syringe Filters, Filter Holders

① **Filter holder**
This membrane filter holder can be attached to syringes via a luer lock. It matches membrane filters of 25 mm diameter. Autoclavable.

Article	Order No.	PU pc/Pack
qpore® filter holder, for filter Ø 25 mm	**10 01 60066**	10

② **Safety filters, qpore, Noliquids, PTFE**
qpore Noliquids safety filters prevent the contamination of the ambient air with harmful aerosols and protect vacuum pumps from the entry of liquids. Also suitable for sterile ventilation of bio-reactors. Connection: clip for tubes of 7-11 mm internal diameter.

Pore size µm	Ø mm	Order No.
0.22	50	**10 01 60035**

Pore size µm	Ø mm	Order No.
0.45	50	**10 01 60036**

Minisart® Syringe Filters with PP-Housing, Sartorius Lab Products and Services

webcode WWEZ6021

SARTORIUS

Elimination of particles from your samples prior to analysis is essential in order to maximize the its operating life time of your chromatography column. Minisart® syringe filters are optimized for sample preparation and consist of a polypropylene (PP) housing and membrane components featuring maximum chemical compatibility and minimum extractables to ensure excellent results. Due to the typical range of volumes from less than 1 ml to 100 ml, these filters are available in three different diameters with an effective filtration area of 0.12 cm^2, 1.7 cm^2 and 4.8 cm^2.

Membrane	Case	Ø mm	Pore size µm	sterile	Order No.	PU pc/Pack
RC	PP	15	0.2	yes	**10 16 67760**	50
RC	PP	15	0.2	no	**10 16 67761**	50
RC	PP	15	0.45	no	**10 16 67762**	50
RC	PP	25	0.2	yes	**10 16 67768**	50
RC	PP	25	0.2	no	**10 16 67764**	50
RC	PP	25	0.45	no	**10 16 67765**	50
RC	PP	4	0.2	no	**10 16 67821**	50
RC	PP	4	0.45	no	**10 16 67822**	50
NY	PP	15	0.2	no	**10 16 67601**	50
NY	PP	15	0.45	no	**10 16 67602**	50
PTFE	PP	15	0.2	no	**10 16 67558**	50
PTFE	PP	15	0.45	no	**10 16 67559**	50
PTFE	PP	15	0.2	yes	**10 16 67572**	50
PTFE	PP	15	0.2	no	**10 16 67573**	50
PTFE	PP	15	0.45	no	**10 16 67574**	50
PTFE	PP	25	0.2	yes	**10 16 67575**	50
PTFE	PP	25	0.2	no	**10 16 67578**	50
PTFE	PP	25	0.45	no	**10 16 67576**	50
PTFE	PP	4	0.45	no	**10 16 67820**	50

Please enter the webcode WWEZ6021 to see the other variants and accessories in our online catalogue.





Use the webcode on our website to see a larger selection of products from a specific manufacturer.

webcode

Syringe Filters, Filter Holders

SARTORIUS

webcode WWEZ6027



Microsart® Manifolds made of Stainless Steel, Sartorius Lab Products and Services

The ability to accurately detect and quantify microorganisms in liquid samples is of prime importance for any quality control laboratory. This is why membrane filtration is the established method of choice for liquid testing as it provides reliable and reproducible results. Facilitate your daily microbiological testing procedures with the Microsart® Manifold: select the proper manifold for your individual microbiological testing procedure. Decide between different sizes of manifolds and whether you prefer disposable or stainless steel funnels or filter units.

Benefits:
- 100% stainless steel for minimized cleaning effort: full autoclavability without disassembly
- Sterile venting in critical applications: reduced risk of secondary contamination
- Quick connection adapters: for fast connection of tubing and fast interconnection of 2 manifolds
- Low working height: for ergonomic working in laminar flow

Model	Type	Order No.
168M1-MS	Microsart® 1-branch manifold for Microsart® funnels and filters	**10 16 61680**
168M1-BS100	Microsart® 1-branch manifold for Biosart® 100 monitors	**10 16 61681**
168M1-BS250	Microsart® 1-branch manifold for Biosart® 250 funnels	**10 16 61682**
168M1-SS100	Microsart® 1-branch manifold for 100 ml stainless steel funnels	**10 16 61611**
168M1-SS500	Microsart® 1-branch manifold for 500 ml stainless steel funnels	**10 16 61615**

Please enter the webcode WWEZ6027 to see the other variants and accessories in our online catalogue.

Membrane Filtration Units



BOLA Flow Filters, Bohlender

BOLA flow filters suitable for overpressure or vacuum, usable for example as added filter or as large-area in-line apparatus in a line system. Suitable for temperatures up to +160°C. The optionally available filtering membranes can be exchanged easily. Tubing can be connected to GL threads by means of the included laboratory screw joints. The filters are produced without plasticisers and have an almost universal chemical resistance. They do not release any trace elements into the filtrate. Due to the non-adhesive surface, they are easy to clean and can be reused.

Technical data:

Material:	PTFE
Temperature resistance:	from -200°C to +160°C
Chemical resistance:	+++ universal
Vacuum:	suitable
Sterilization:	autoclavable up to 121°C

for membrane dia. mm	Filtration surface cm^2	Connection thread GL	for tubing outer Ø mm	Order No.
25	3.1	14	3.2 + 6.0	**10 17 67008**
47	13.8	18	6.0 + 8.0	**10 17 67016**
90	52.0	25	8.0 + 10.0	**10 17 67024**

Everything for your laboratory –
from one source

Membrane Filtration Units

BOLA Vacuum Filters, Bohlender



Filtration unit made of PTFE
Multi-stage hose connector with integrated lock screw for connecting vacuum tubing with I.D. 6 mm or 8 mm, PTFE supporting disc to fit optionally available filtering discs. Collecting vessel made of PFA, filling vessel with lid for protection against contaminations also made of PFA. Temperature resistance -200°C to +250°C, universal chemical resistance.

Flow rate:
Flow capacity for water under vacuum of 100 kPa (1000 mbar) using a PTFE filtering membrane with a thickness of 0.2 mm:

For membrane-Ø 47 mm with pore size 1.00 µm: flow 55 ml/min
For membrane-Ø 47 mm with pore size 0.45 µm: flow 20 ml/min
For membrane-Ø 47 mm with pore size 0.20 µm: flow 11 ml/min

For membrane-Ø 90 mm with pore size 1.00 µm: flow 199 ml/min
For membrane-Ø 90 mm with pore size 0.45 µm: flow 72 ml/min
For membrane-Ø 90 mm with pore size 0.20 µm: flow 42 ml/min

for membrane dia. mm	Filtration surface cm^2	Cap. of filling vessel ml	Outer Ø mm	Total height mm	**Order No.**
47	13.8	240	86	250	**10 17 66408**
47	13.8	500	100	290	**10 17 66516**
90	55.4	1000	130	370	**10 17 66524**

Filter Units with Bottletop Filters with PES Membrane, Thermo Scientific Nalgene, IDL

webcode WWRJN141



Rapid-Flow filter funnels and bottletop filters with PES membrane
0.1 µm, 0.2 µm and 0.45 µm pore size, gamma sterilized disposable filter, polystyrene housing, non-cytotoxic, non-pyrogenic. Compared to cellulose nitrate, cellulose acetate and nylon membranes, this hydrophilic membrane has very low extractable levels, high flow rates with aqueous solutions and low protein binding.

Thermo Scientific offers this system as a complete filter system and as bottle-top filter, fits all 33-mm-Ø and 45-mm-Ø standard bottles with threads. 0.1 µm and 0,2 µm units have an asymmetric (V-shaped) pore structure, now also equipped with an improved RapidFlow membrane support structure for increasing the flow. This results in higher flow rates and improved service life compared to standard PES membranes. 0.1 µm pore size for reduction of mycoplasm.

All filter units are individually packaged in sterile packs. Batch number, pore size, and membrane type for easier identification are printed on the filter part, and for filter systems additionally on the filtrate bottle.

Bottletop filters with PES membrane
Top part with filter, individually packed in a sterile way. Batch number, pore size durability and membrane type are printed on for easier identification. Suitable for the common bottles with 33-mm Ø and 45-mm Ø diameter. Otherwise same as above.

Volume ml	Thread mm	Pore size µm	Membrane Ø mm	**Order No.**	PU pc/Pack
150	33	0.2	50	**26 87 59633**	12
150	33	0.45	50	**26 87 96334**	12
150	45	0.2	50	**26 87 59645**	12
150	45	0.45	50	**26 87 96454**	12
500	33	0.2	75	**26 87 59533**	12
500	33	0.45	75	**26 87 95334**	12
500	45	0.2	75	**26 87 59545**	12
500	45	0.45	75	**26 87 95454**	12
1000	33	0.2	90	**26 87 59733**	12
1000	45	0.2	90	**26 87 59745**	12

Available only in original packaging units. No fractions possible.

Membrane Filtration Units

webcode WW2NY416

qpore® Bottletop Filters, neoLab®

qpore® offers an extensive spectrum of bottletop filters from different materials which are particularly suited for the filtration of larger sample amounts. All membranes are produced from best raw materials under highest quality standards.



① **qpore® bottletop filters with polyethersulfone membrane (PES)**
These sterile qpore® bottletop filters with polyethersulfone membrane (PES) have fastest flow-through rates and have very low protein binding properties, making them optimal for filtration of cell culture media. With a GL 45 screw cap and hose connection these bottletop filters are suited for negative pressure filtration applications directly in the sterile bottle.

Properties:
- green color coding
- fast connection for hoses with inner Ø 8 – 12 mm
- graduated filtration top
- sterile, pyrogen-free, free of detergents
- the bottletop filters are packaged individually sterile to 24 pieces

Application range:
- sterile filtration of cell culture media
- microbiological media
- buffer solutions and other biological solutions

Material	Pore size µm	Ø mm	Volume ml	Order No.	PU pc/Pack
PES	0.1	50	250	**10 01 60037**	24
PES	0.22	50	250	**10 01 60004**	24
PES	0.45	50	250	**10 01 60005**	24
PES	0.1	90	500	**10 01 60040**	24
PES	0.22	90	500	**10 01 60008**	24
PES	0.45	90	500	**10 01 60009**	24



② **qpore® bottletop filters with cellulose acetate membrane (CA)**
These sterile qpore® bottletop filters with cellulose acetate membrane (CA) have fast flow-through rates and have very low protein binding properties, making them optimal for filtration of cell culture media. With a GL 45 screw cap and hose connection these bottletop filters are suited for negative pressure filtration applications directly in the sterile bottle.

Properties:
- blue color coding
- fast connection for hoses with inner Ø 8 – 12 mm
- graduated filtration top
- sterile, pyrogen-free, free of detergents
- the bottletop filters are packaged individually sterile to 24 pieces

Application range:
- sterile filtration of cell culture media
- microbiological media
- buffer solutions and other biological solutions

Material	Pore size µm	Ø mm	Volume ml	Order No.	PU pc/Pack
CA	0.22	50	250	**10 01 60006**	24
CA	0.45	50	250	**10 01 60007**	24
CA	0.22	90	500	**10 01 60010**	24
CA	0.45	90	500	**10 01 60011**	24



③ **qpore® bottletop filters with hydrophilic polyvenylidene fluoride membrane (PVDF)**
These sterile qpore® bottletop filters with hydrophilic polyvenylidene fluoride membrane (PVDF) have the fastest flow rates. With a GL 45 screw cap and hose connection, these bottletop filters are suitable for vacuum filtration applications directly into the sterile bottle.

Properties:
- yellow color coding
- quick connector for hoses with inner Ø 8 – 12 mm
- graduated filter head
- sterile, pyrogen-free, detergent-free
- the bottletop filters are individually sterile packed in 24 pieces.
- packaging with cut-in tear-off aid; can therefore be opened without further aids

Areas of application:
- sterile filtration of cell culture media
- microbiological media
- buffer solutions and other biological solutions

Material	Pore size µm	Ø mm	Volume ml	Order No.	PU pc/Pack
PVDF	0.22	50	250	**10 01 60038**	24
PVDF	0.45	50	250	**10 01 60039**	24
PVDF	0.22	90	500	**10 01 60041**	24
PVDF	0.45	90	500	**10 01 60042**	24

Glass Filters

Glass Filter Apparatuses, ROBU®

Porosity table

ISO 4793-80 International standard			Typical fields of application
Designation		Pore size µm	
Por. 00	P 500	250 – 500	Liquid and gas distribution
Por. 0	P 250	160 – 250	Gas distribution in liquids at low pressures, coarse filtration support in flow systems
Por. 1	P 160	100 – 160	Coarse filtration and gas distribution, extraction of coarser materials supporting layer for resilient filters
Por. 2	P 100	40 – 100	Preparative fine filtration, mercury filtration, preparative work with coarse crystalline products
Por. 3	P 40	16 – 40	Analytical work with medium fine precipitates, analytical filtration, fine gas filtration, special filtration of cellulose
Por. 4	P 16	10 – 16	Analytical fine filtration, analytical and preparative works with finest precipitates, mercury return and stop valves
Por. F		4 – 4.5	Fine analytical filtration
Por. 5	P 1.6	1 – 1.6	Finest analytical filtration, general bacteria filtration, semi-sterile filtration

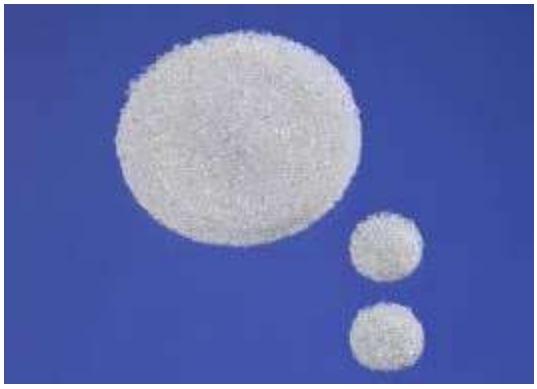


Filter Discs VitraPOR®, ROBU®

Centered, surfaces untreated

Porosity	Ø mm	Order No.	PU pc/Pack
0	10	**10 60 65100**	10
1	10	**10 60 65101**	10
2	10	**10 60 65102**	10
3	10	**10 60 65103**	10
4	10	**10 60 65104**	10
F	10	**10 60 61510**	10
0	20	**10 60 65200**	10
1	20	**10 60 65201**	10
2	20	**10 60 65202**	10
3	20	**10 60 65203**	10
4	20	**10 60 65204**	10
F	20	**10 60 61520**	10
0	25	**10 60 65250**	10
1	25	**10 60 65251**	10
2	25	**10 60 65252**	10
3	25	**10 60 65253**	10
4	25	**10 60 65254**	10
F	25	**10 60 61525**	10
0	30	**10 60 65300**	10
1	30	**10 60 65301**	10
2	30	**10 60 65302**	10
3	30	**10 60 65303**	10
4	30	**10 60 65304**	10
F	30	**10 60 61530**	10
0	40	**10 60 65400**	10
1	40	**10 60 65401**	10
2	40	**10 60 65402**	10
3	40	**10 60 65403**	10
4	40	**10 60 65404**	10
F	40	**10 60 61540**	10
0	50	**10 60 65500**	10
1	50	**10 60 65501**	10
2	50	**10 60 65502**	10
3	50	**10 60 65503**	10
4	50	**10 60 65504**	10
F	50	**10 60 61550**	10

Porosity	Ø mm	Order No.	PU pc/Pack
0	60	**10 60 65600**	5
1	60	**10 60 65601**	5
2	60	**10 60 65602**	5
3	60	**10 60 65603**	5
4	60	**10 60 65604**	5
F	60	**10 60 61560**	5
0	70	**10 60 65700**	5
1	70	**10 60 65701**	5
2	70	**10 60 65702**	5
3	70	**10 60 65703**	5
4	70	**10 60 65704**	5
F	70	**10 60 61570**	5
0	80	**10 60 65800**	5
1	80	**10 60 65801**	5
2	80	**10 60 65802**	5
3	80	**10 60 65803**	5
4	80	**10 60 65804**	5
F	80	**10 60 61580**	5
0	90	**10 60 65900**	5
1	90	**10 60 65901**	5
2	90	**10 60 65902**	5
3	90	**10 60 65903**	5
4	90	**10 60 65904**	5
F	90	**10 60 61590**	5
0	100	**10 60 65110**	1
1	100	**10 60 65111**	1
2	100	**10 60 65112**	1
3	100	**10 60 65113**	1
4	100	**10 60 65114**	1
F	100	**10 60 61511**	1
0	120	**10 60 65120**	1
1	120	**10 60 65121**	1
2	120	**10 60 65122**	1
3	120	**10 60 65123**	1
4	120	**10 60 65124**	1
F	120	**10 60 61512**	1





Further sizes, poresizes and bi-plane ground availabe on request

webcode To see other variants and accessories, please enter the webcode on our website.

Glass Filters

webcode WW6PB007

Hahnemühle





Glass Fibre Filters, Hahnemühle

Recommended for environmental analysis and investigation of air and water pollution.
- Made of 100% pure borosilicate glass
- Chemical stability: It keeps all its properties in contact with acid solutions (except hydrofluoric acid) and basic solutions at moderate concentrations
- Extremely low metal content
- High flow speed and high permeability to air
- Can be used as prefilter for membranes (GF9)
- Deposition of (radioactive) aerosols, monitoring of nuclear power stations
- Gravimetric analyses of organic and inorganic contaminations in water and waste water pursuant to DIN 38409 and EN 872 (suspended particles)
- Measurement of immissions, dust measurement in the air and in gases, monitoring of filtration and de-dusting efficiency, monitoring of the combustion air of power stations and in the steel and iron industry
- Gravimetric measurement of dust release at workplaces and in production processes, breathing air purification
- Scintillation measurement

Glass fibre with binder, filter cyrcles
NEW: Glass fibre filter GF20 with strong hydrophilic binder.
Ideal for fast clarification of aqueous solutions and degassing of acidulous solutions (containing CO_2)

Technical specifications:

Grade	Filtration Gurley s	Weight g/m²	Thickness mm	Retention rate[1] %	Max T° °C	Binder	Filter class
GF 6	40	80	0.35	99.97	500	inorg.	H 14
GF 8	12	75	0.35	99	500	inorg.	–
GF 9	27	70	0.35	99.97	500	inorg.	U 15
GF 10	12	70	0.35	99.97	180	org.	H 13
GF 20	15	86	0.45	–	180	org.	–

[1]) Tested with NaCl particles size <1 µm, maximum at 0.3 to 0.5 µm.

Grade	Ø mm	Order No.	PU pc/Pack
GF 6	25	**10 15 96002**	100
GF 6	47	**10 15 96047**	100
GF 6	50	**10 15 96005**	100
GF 6	55	**10 15 96055**	100
GF 6	70	**10 15 96007**	100
GF 6	90	**10 15 96009**	100
GF 6	100	**10 15 96010**	100
GF 6	125	**10 15 96127**	100
GF 6	142	**10 15 96142**	100

Grade	Ø mm	Order No.	PU pc/Pack
GF 6	185	**10 15 96186**	100
GF 6	293	**10 15 96293**	100
GF 9	50	**10 15 99050**	100
GF 9	90	**10 15 99090**	100
GF 10	47	**10 15 91004**	100
GF 10	100	**10 15 90100**	100
GF 10	200	**10 15 90200**	100
GF 20	150	**10 15 90151**	250

Glass fibre without binder, filter circles

Technical specifications:

Grade	Filtration Gurley s	Air permeability[1] l/m²s (or resistance[2]) mbar	Weight gr/m²	Thickness mm	Retention rate[3] %	Max T° °C	Binder	Filter class
GF 50	19	25	56	0.29	99.97	500	free	H 14
GF 51	44	11	140	1.00	99.993	500	free	H 13
GF 52	25	(54)[2]	54	0.28	99.995	500	free	U 15
GF 55	67	<10	75	0.40	99.999	500	free	U 15

[1]) According DIN 53887
[2]) At 400 cm³/s, A= 10 cm²
[3]) Tested with NaCl particles size <1 µm, maximum at 0.3 to 0.5 µm

Grade	Ø mm	Order No.	PU pc/Pack
GF 50	25	**10 15 95002**	100
GF 50	37	**10 15 95003**	100
GF 50	47	**10 15 95004**	100
GF 50	50	**10 15 95005**	100
GF 50	70	**10 15 95007**	100
GF 50	90	**10 15 95009**	100
GF 50	125	**10 15 95012**	100

Grade	Ø mm	Order No.	PU pc/Pack
GF 51	47	**10 15 95147**	100
GF 52	47	**10 15 95204**	100
GF 52	50	**10 15 95205**	100
GF 52	70	**10 15 95207**	100
GF 52	90	**10 15 95209**	100
GF 52	110	**10 15 95211**	100
GF 55	47	**10 15 95504**	100

Glass fibre without binder, sheets

Grade	Dimensions mm	Order No.	PU pc/Pack
GF 50	203 × 254	**10 15 95020**	100

Other sizes on request.

Notes for handling:
Weight consistency: No relevant changes in weight due to variations in the ambient humidity.
Limited bending resistance. Brushing against other surfaces may cause the loss of fibres (keep the filters in their original box until their use).

Glass Filters

Quartz Microfibre Filters, Hahnemühle

webcode WW6PB008

These filters are recommended for atmospheric pollution control and for particles determination at high temperatures.

- Made of pure quartz microfibre (SiO_2), free of binding elements or additives
- Perfect for trace analysis for their extremely low metal content
- Determination of suspended particles (SPM and TSP) in the ambient air pursuant to the relevant specifications of the US EPA (Environmental Protection Agency) and EN 23210
- Excellent retention of very fine particles through the adsorption mechanisms of quartz fibres
- Chemical stability: excellent stability with hardly any loss of filter-material due to chemical reactions under extreme conditions with acid gases (HCl, SO_2, SO_3, H_2SO_4, NO and NO_3)
- Excellent resistance to solvents: bases, acids (except hydrofluoric acid) and alkaline substances
- Stability at high temperatures: higher resistance than glass microfiber, up to 1000°C



Technical specifications:

Grade	Weight g/m²	Thickness mm	TSI efficacy % (particles 0.3 µm)	T Max C°	Binder
QFH	85	0.45	99.999	1000	no

Vers.	Dimensions mm	Order No.	PU pc/Pack
Filter circles	Ø 47	**10 15 90047**	50
Filter circles	Ø 150	**10 15 90150**	50
Sheets	203 × 254	**10 15 93254**	50

Other sizes on request.

Glass fiber filters, MACHEREY-NAGEL

① **MN 85/90 Glass fiber filter**

Most widely used general purpose glass fiber filter with very good mechanical stability. The filter contains an organic binder.

Thickness: 0.40 mm
Basis weight: 90 g/m²
max. termperature: 200 °C



①

Type	Diameter mm	Order No.	PU pc/Pack
Round filter MN 85/90	55	**10 46 94505**	100
Round filter MN 85/90	70	**10 46 94507**	100
Round filter MN 85/90	90	**10 46 94509**	100
Round filter MN 85/90	110	**10 46 94511**	100
Round filter MN 85/90	125	**10 46 94512**	100
Round filter MN 85/90	150	**10 46 94515**	100

❗ Available only in original packaging units. No fractions possible.

② **MN 85/90 BF - Binder free glass fiber filter**

Suitable for difference weight analysis. This paper is especially used in water treatment facilities for example for determination of undisclosed solids.

Thickness: 0.40 mm
Basis weight: 90 g/m²
max. termperature: 500 °C



②

Type	Diameter mm	Order No.	PU pc/Pack
Round filter MN 85/90 BF	55	**10 46 94655**	100
Round filter MN 85/90 BF	70	**10 46 94607**	100
Round filter MN 85/90 BF	90	**10 46 94609**	100
Round filter MN 85/90 BF	110	**10 46 94611**	100
Round filter MN 85/90 BF	125	**10 46 94612**	100
Round filter MN 85/90 BF	150	**10 46 94615**	100

❗ Available only in original packaging units. No fractions possible.

Continued on next page

Glass Filters



①

① **MN GF-1 - Binder free glass fiber filter**
Binder free paper with fine particle retention and good loading capacity. It is used for high efficiency laboratory filtration as well as air sampling.

Thickness: 0.3 mm
Basis weight: 55 g/m²
max. termperature: 500 °C

Type	Diameter mm	Order No.	PU pc/Pack
Round filter MN GF-1	55	**10 46 94105**	100
Round filter MN GF-1	70	**10 46 94107**	100
Round filter MN GF-1	90	**10 46 94109**	100
Round filter MN GF-1	110	**10 46 94111**	100
Round filter MN GF-1	125	**10 46 94112**	100
Round filter MN GF-1	150	**10 46 94115**	100

Available only in original packaging units. No fractions possible.

Filtration Aids

webcode WWKEF022

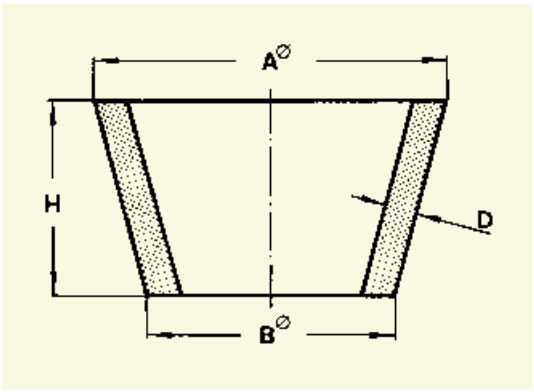
Schlee GmbH & Co.



Quartz Wool, Schlee

Filtration aid for elemental analysis, or for use in chromatography columns.
Fine-fibre, approx. 9 µm

Article	Order No.
Quartz wool, 50 g in bag	**10 34 45001**
Quartz wool, 100 g in bag	**10 34 45002**
Quartz wool, 250 g in bag	**10 34 45003**



Rubber Spacers for Filtering (Guko), Deutsch & Neumann

Rubber spacers for filtering

O.D. mm	B Ø mm	H mm	D mm	Size	Colour	Order No.	PU pc/Pack
21	12	18	2.5	1	Gray	**24 34 20011**	10
21	12	18	2.5	1	Red	**24 34 20012**	10
27	17	20	3	2	Gray	**24 34 20021**	10
27	17	20	3	2	Red	**24 34 20022**	10
33	21	24	3	3	Gray	**24 34 20031**	10
33	21	24	3	3	Red	**24 34 20032**	10
41	27.5	27	4	4	Gray	**24 34 20041**	10
41	27.5	27	4	4	Red	**24 34 20042**	10
53	33	34	5	5	Gray	**24 34 20051**	10
53	33	34	5	5	Red	**24 34 20052**	10
68	48	35	5.5	6	Gray	**24 34 20061**	5
68	48	35	5.5	6	Red	**24 34 20062**	5
78	58	35	6	7	Gray	**24 34 20071**	5
78	58	35	6	7	Red	**24 34 20072**	5
89	66	40	6.5	8	Gray	**24 34 20081**	5
89	66	40	6.5	8	Red	**24 34 20082**	5

Also available as GuKo sets.



Rubber Spacers for Filtering (Guko), Deutsch & Neumann

Complete sets, spacers for filtering made of rubber

Size	Version	Colour	Order No.
1-5	5-piece	Gray	**24 34 20151**
1-5	5-piece	Red	**24 34 20152**
1-7	7-piece	Gray	**24 34 20171**
1-7	7-piece	Red	**24 34 20172**
1-8	8-piece	Gray	**24 34 20181**
1-8	8-piece	Red	**24 34 20182**

Filtration Aids

Guko Seals made of EPDM, DURAN Group / IDL

webcode WWEQ2078

Rubber seals, conical, for filter funnels, sterilizable up to +150°C

Ø at top mm	O.D. at bottom mm	I.D. at bottom mm	Order No.	PU pc/Pack
22	12	7	**11 29 20212**	10
29	16	9	**11 29 20217**	10
36	22	15	**11 29 20223**	10
44	27	19	**11 29 20227**	10
53	33	24	**11 29 20232**	10
63	43	33	**11 29 20236**	10
73	52	42	**11 29 20239**	10
84	61	50	**11 29 20243**	10

Available only in original packaging units. No fractions possible.



Guko set

Article	Order No.
Guko set, complete, all 8 sizes from 22 to 84 mm Ø at top	**11 29 20200**

Filtration Racks, BÜRKLE-LaboPlast®

webcode WWR4Q006

Funnel stands
Flexible, extendable funnel rack with adapters for safe use with funnels of different sizes..

Excellent for use as a filtration rack.
- For two or four funnels
- For funnels of 40 to 180 mm Ø
- PP, chrome-plated steel
- Height variable adjustable up to 450 mm with innovative magnet concept
- Additional funnel holders available as accessories







Article	Order No.
① **Filtration rack for 2 funnels** External dimensions (L×W×H): 340 × 138 × 500 mm	**24 05 13102**
② **Filtration rack for 4 funnels** External dimensions (L×W×H): 251 × 251 × 500 mm	**24 05 13104**

Supplied without the illustrated accessories

③ **Stand for sedimentation funnel**
Flexible, extendable funnel rack for sedimentation funnels with Ø 90 mm or more.
- Special holders for sedimentation funnels
- PP, chrome-plated steel
- Height variable adjustable up to 450 mm with innovative magnet concept
- Additional funnel holders available as accessories

Article	Order No.
Stand for 2 sedimentation funnels Outer dimensions (L×W×H): 340 × 138 × 500 mm	**10 04 53106**

Supplied without the illustrated accessories

Filter Crucibles, DURAN®, DURAN Group / IDL

webcode WWEQ2071

Porosity	Volume ml	Plate Ø mm	Order No.	PU pc/Pack
2	8	24	**11 25 85102**	10
3	8	24	**11 25 85103**	10
4	8	24	**11 25 85104**	10
1	15	28	**11 25 85111**	10
2	15	28	**11 25 85112**	10
3	15	28	**11 25 85113**	10
4	15	28	**11 25 85114**	10
1	30	36	**11 25 85121**	10
2	30	36	**11 25 85122**	10
3	30	36	**11 25 85123**	10
4	30	36	**11 25 85124**	10
5	30	36	**11 25 85125**	10
1	50	46	**11 25 85131**	10
2	50	46	**11 25 85132**	10
3	50	46	**11 25 85133**	10
4	50	46	**11 25 85134**	10
5	50	46	**11 25 85135**	10



Filtration Aids

webcode WWQVD159

Special Filter Crucibles, Rettberg





① ②

Raw fiber crucible made of borosilicate glass 3.3
Special crucible for Tecator apparatus with specially hardened filter plate.

Volume approx. ml	Porosity	Order No.
① 30	P1	**13 41 22316**
30	P2	**13 41 22416**

② **Cellulase crucibles made of borosilicate glass 3.3**
Special crucible with screw thread GL 45 and screw-on cap at top, also screw thread GL 32 and screw-on lid below. (Cap seal suitable for temperatures of up to +200°C)

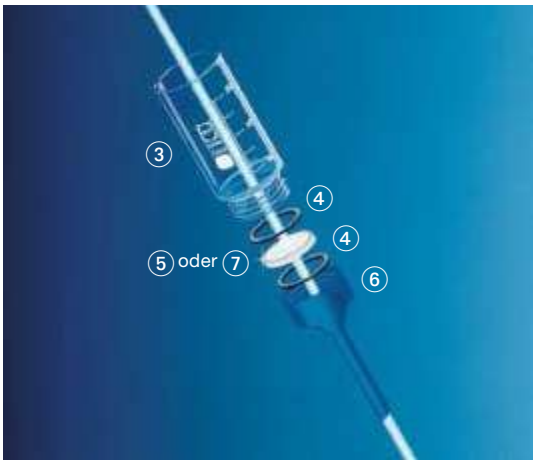
Volume approx. ml	Porosity	Order No.
50	P1	**13 41 22617**
50	P2	**13 41 22717**

Accessories

Article	Order No.
Spare screw cap with seal for GL 32	**13 41 22732**
Spare screw cap with seal for GL 45	**13 41 22745**

webcode WWEQ2075

Filter Head with PP-Funnel and 2 FKM Seals, DURAN®, DURAN Group / IDL



DURAN® filter heads with PP funnel and 2 FKM seals
Filter disks must always be ordered separately.
Important: The filter disk has to be placed between 2 seals.

Easy, safe removal of the filtered material. Longer useful life of the filter disk because the filtered material is not scraped off. Accessible from both sides for easy cleaning.

Volume ml	for plate Ø mm	Thread mm	Order No.
30	24	28	**11 24 72024**
250	50	54	**11 24 72050**
1000	90	95	**11 24 72090**

③ **Single parts: DURAN® filter head with thread**

Volume ml	Thread mm	Order No.
30	28	**11 24 72124**
250	54	**11 24 72150**
1000	95	**11 24 72190**



④ **FKM seals (fluorocaoutchouc)**

for plate Ø mm	Order No.	PU pc/Pack
24	**11 29 22024**	10
50	**11 29 22050**	10
90	**11 29 22090**	10

Available only in original packaging units. No fractions possible.

⑤ **Filter disks with glass rim**

Plate Ø mm	Porosity	Order No.
24	1	**11 25 20241**
24	2	**11 25 20242**
24	3	**11 25 20243**
24	4	**11 25 20244**
50	1	**11 25 20501**
50	2	**11 25 20502**

Plate Ø mm	Porosity	Order No.
50	3	**11 25 20503**
50	4	**11 25 20504**
90	1	**11 25 20901**
90	2	**11 25 20902**
90	3	**11 25 20903**
90	4	**11 25 20904**

⑥ **PP funnel, autoclavable up to +140 °C**

Thread mm	Stem O.D. mm	Order No.
28	10	**11 29 22124**
54	12	**11 29 22150**
95	18	**11 29 22190**

Continued on next page

Filtration Aids

⑦ **DURAN® slotted filter disk (holder for membrane and paper filters)**
Fits for order No. 112472050

for plate Ø mm	Order No.	PU pc/Pack
48	**11 21 34031**	10

Available only in original packaging units. No fractions possible.

Filter Funnels, DURAN®, DURAN Group / IDL

Filter funnels are connected to the filtering flask by means of a cone-shaped rubber seal (GUKO).

Porosity	Vol. ml	Plate Ø mm	Stem O.D. mm	Order No.
1	50	35	10	**11 25 85201**
2	50	35	10	**11 25 85202**
3	50	35	10	**11 25 85203**
4	50	35	10	**11 25 85204**
5	50	35	10	**11 25 85205**
1	75	45	10	**11 25 85211**
2	75	45	10	**11 25 85212**
3	75	45	10	**11 25 85213**
4	75	45	10	**11 25 85214**
5	75	45	10	**11 25 85215**
1	125	60	10	**11 25 85221**
2	125	60	10	**11 25 85222**
3	125	60	10	**11 25 85223**
4	125	60	10	**11 25 85224**
5	125	60	10	**11 25 85225**
1	500	95	22	**11 25 85231**
2	500	95	22	**11 25 85232**
3	500	95	22	**11 25 85233**
4	500	95	22	**11 25 85234**
5	500	95	22	**11 25 85235**
1	1000	120	22	**11 25 85241**
2	1000	120	22	**11 25 85242**
3	1000	120	22	**11 25 85243**
4	1000	120	22	**11 25 85244**
5	1000	120	22	**11 25 85245**
1	4000	175	30	**11 25 85261**
2	4000	175	30	**11 25 85262**
3	4000	175	30	**11 25 85263**
4	4000	175	30	**11 25 85264**



webcode WWEQ2076

Buechner Funnels, DURAN®, DURAN Group / IDL

Buechner funnels as support for membrane and paper filters.

Plate Ø mm	Vol. ml	Stem O.D. mm	matching round filter Ø mm	Order No.
48	70	10	45	**11 21 34122**
60	125	10	55	**11 21 34128**
73	220	18	70	**11 21 34134**
95	500	22	90	**11 21 34144**
120	1000	22	110	**11 21 34154**



webcode WWEQ2077

Filtration Aids

webcode WW7R3296



Filter Funnels, Hard Porcelain, IDL

Filter funnels, Büchner type. The nominal size corresponds to the diameter of the matching paper filter.

Nominal size	Filter vol. approx. ml	Order No.	PU pc/Pack
18	3	**10 00 20601**	10
27	10	**10 00 20602**	10
40	25	**10 00 20603**	10
45	50	**21 00 20604**	10
55	75	**21 00 20605**	10
70	135	**21 00 20607**	10
90	290	**21 00 20609**	10
110	580	**21 00 20611**	1
125	795	**21 00 20612**	1
150	1250	**21 00 20615**	1
185	1900	**21 00 20618**	1
240	4300	**21 00 20624**	1
270	5800	**21 00 20627**	1
320	10600	**21 00 20632**	1

Filter funnels see page 751

Filtering Flasks

webcode WWEQ2080







Filtering Flasks, DURAN®, DURAN Group / IDL

Filtering flasks with removable plastic hose connector (POM), screw (PP), seals (VMQ, EPDM), complete, DIN 12 476, ISO 6556. These filtering flasks fulfil the regulations of the "equipment and product safety regulations". Heavy walled for vacuum use.

① **Erlenmeyer shape**

Vol. ml	max. O.D. mm	Height mm	Neck I.D. approx. mm	Order No.	PU pc/Pack
100	64	105	24	**11 21 20424**	10
250	85	155	34	**11 21 20436**	10
500	105	185	34	**11 21 20444**	10
1000	135	230	45	**11 21 20454**	10
2000	166	255	60	**11 21 20463**	1

② **Bottle shape**

Vol. ml	max. O.D. mm	Height mm	Neck I.D. approx. mm	Order No.
3000	170	295	70	**11 21 19468**
5000	185	360	80	**11 21 19473**
10000	240	420	82	**11 21 19486**
15000	255	500	84	**11 21 19488**
20000	290	535	85	**11 21 19491**

Accessories

Article	Order No.	PU pc/Pack
③ Spare seal for tube connector made of silicone rubber, tube made of PP	**11 29 22010**	10
Keck assembly set for filtering flask	**11 29 25854**	10

Filtering Flasks

Filtering Flasks, DURAN®, DURAN Group / IDL

webcode WWEQ2079

Filtering flasks with tubulature, vacuum-proof, DIN 12476, ISO 6556. These filtering flasks fulfil the regulations of the “equipment and product safety regulations”. Heavy walled for vacuum use.

These filtering flasks have a ground tubulature 17,5/26 for vacuum hoses from 15 to 18 mm O.D. (e.g. 6 × 5 or 8 × 5, DIN 12865). Filtering flasks with tubulature make it easier to perform many jobs in preparative and analytical laboratories and also help to reduce the risk of accidents.

The matching vacuum hose is plugged into the tubulature of the filtering flask until secured by the conical shape of the tubulature. When the hose is connected to a water spray pump, its end is secured even more firmly in the cone, tightly sealing off the tubulature.





① **Erlenmeyer shape**

Vol. ml	max. O.D. mm	Height mm	Neck I.D. approx. mm	Order No.	PU pc/Pack
250	85	155	34	**11 21 18336**	10
500	105	185	34	**11 21 18344**	10
1000	135	230	45	**11 21 18354**	10
2000	166	255	60	**11 21 18363**	1

② **Bottle shape**

Vol. ml	max. O.D. mm	Height mm	Neck I.D. approx. mm	Order No.
3000[1)]	170	295	70	**11 21 19368**
5000[1)]	185	360	80	**11 21 19373**
10000[1)]	240	420	82	**11 21 19386**
15000[1)]	255	500	84	**11 21 19388**
20000[1)]	290	535	85	**11 21 19391**

[1)] Non-DIN ISO size.

Filtration Apparatus

Filtration Apparatuses, Witt Type, DURAN®, DURAN Group / IDL



webcode WWEQ2151

Filtration apparatuses, with replaceable tubulature lid with standard ground (NS) joint 29/32 and KECK™ assembly set.

Height mm	Lid height mm	Socket NS	Inner Ø DN mm	Order No.
160	76	29/32	100	**12 24 73046**
200	102	29/32	150	**12 24 73057**
300	126	29/32	200	**12 24 73061**

Use the webcode on our website to see a larger selection of products from a specific manufacturer.

webcode

Filtration Apparatus

webcode WW2NY410



①

qpore® Filtration Unit, neoLab®

These sterile polyethersulfone membrane (PES) qpore® filtration units have the fastest flow rates and very low protein binding, making them ideal for filtration of cell culture media. At the end of filtration, the sterile solution in the flask bottle can be stored until ready for use.
The scope of delivery of the complete unit includes the filter funnel with PES membrane, a vacuum port, a lid, the filtrate bottle and a cap.

Characteristics:
- green color coding
- quick connection for hoses with inside Ø 8 – 12 mm
- graduated filter top
- sterile, pyrogen-free, free of detergents
- the filtration units are individually sterile packed in 12 pieces
- packaging with cut-open aid; thereby to open without further aids

Applications:
- sterile filtration of cell culture media
- microbiological media
- buffer solutions and other biological solutions

	Mat.	Pore size µm	Membrane Ø mm	Vol. funnel ml	Vol. bottle ml	Order No.	PU pc/Pack
①	PES	0.22	50	250	250	**10 01 60051**	12
	PES	0.45	50	250	250	**10 01 60052**	12
	PES	0.1	50	250	500	**10 01 60053**	12
	PES	0.22	50	250	500	**10 01 60054**	12
	PES	0.45	50	250	500	**10 01 60055**	12
	PES	0.22	90	500	500	**10 01 60056**	12
	PES	0.45	90	500	500	**10 01 60057**	12
	PES	0.1	90	500	1000	**10 01 60058**	12
	PES	0.22	90	500	1000	**10 01 60059**	12
	PES	0.45	90	500	1000	**10 01 60060**	12

webcode WW7R3256



Filter Funnels (Glass), IDL

Glass filter units, complete unit
Borosilicate glass 3.3, clamp and bottom part with outlet tube with 15 mm Ø, to fit all membrane filters with a Ø of 47 or 50 mm.

Article	Order No.
Glass filter unit with glass filter plate	**26 00 10000**
Glass filter unit with plate, PTFE coated	**26 00 10100**

Individual parts

Article	Order No.
Top for glass filter unit, with flange, 250 ml	**26 00 10110**
PTFE support ring with glass filter plate porosity 2	**26 00 10120**
PTFE support ring with perforated plate, PTFE coated	**26 00 10130**
Metal clamp	**26 00 10140**
Bottom part with flange	**26 00 10150**
Suction flask, 1 liter, vacuum-proof	**26 00 10160**
Suction flask, 2 liter, vacuum-proof	**26 00 10165**
Silicone stopper for 1 liter suction flask 41×49×40 mm with bore, for fitting the filter unit to the 1 liter suction flask	**26 00 10170**
Silicone stopper for 2 liter suction flask 56×65×45 mm with bore, for fitting the filter unit to the 2 liter suction flask	**26 00 10190**
Lid with hole, silicone rubber, red	**10 00 10180**

More than 20,000 articles in this catalogue –
and still more on our website!

Filtration Apparatus

Filter Funnels (Glass), IDL



webcode WW7R3257

Glass filter units, complete unit
Borosilicate glass 3.3, with adapter, clamp and 1 liter collecting flask, for all membrane filters with a Ø of 47 or 50 mm.

Article	Order No.
Glass filter unit with glass filter plate	**26 00 20000**
Glass filter unit with perforated plate, PTFE coated	**26 00 20100**

Individual parts

Article	Order No.
Top for glass filter unit, with flange, 250 ml	**26 00 10110**
PTFE support ring with glass filter plate porosity 2	**26 00 10120**
PTFE support ring with perforated plate, PTFE coated	**26 00 10130**
Metal clamp	**26 00 10140**
Intermediate piece with flange and NS 45 for collecting bottle, with vacuum connection	**26 00 20110**
Collecting flask, 1 liter, Erlenmeyer form, cone NS, vacuum-proof	**26 00 20120**
Collecting flask, 2 liter, Erlenmeyer form, cone NS, vacuum-proof	**26 00 20121**

Media Bottle, BRAND



webcode WWQED076

Media bottles
Media bottle, 500 ml, boro 3.3, GL 56, screwed cap PP, low bottle height, with scale, vacuum resistant for sterile filtration.

Article	Order No.	PU pc/Pack
Media bottle, 500 ml	**10 49 12710**	4

Accessories

Article	Order No.	PU pc/Pack
Screw caps for media bottle 500 ml, GL 56, PP, white	**10 49 12750**	10
Thread adapter, PTFE, for media bottle, GL 56 / GL 45, autoclavable	**10 49 12755**	1
Vacuum filter funnel for media bottle, 0.2 µm sterile membrane PES, GL 45	**10 49 12760**	12
Vacuum filter funnel for media bottle, 0.45 µm sterile membrane PES, GL 45	**10 49 12765**	12

DURAN® Filter Funnels, DURAN Group / IDL

webcode WWEQ2218



① **DURAN® Filter Funnels**
The DURAN® filter funnel is made of premium borosilicate glass. The medium comes into contact only with the glass and with PTFE; thus, the filter funnel can be used more or less universally for all chemicals that you wish to filter.

The PTFE plate holder makes sure that not only slotted screen plates can be used but also glass filters of different porosities. Thanks to the porosity range of glass filters (10 µm – 160 µm), not only coarse and fine filtration but also analytical filtrations can be carried out.

The DURAN® filter funnel is suitable for filtering and cleaning aqueous and organic solutions for particle contamination analysis or for production of HPLC media.

Benefits:
- The medium only has contact with glass and PTFE
- Filter plates are removable for easy cleaning
- Slotted screen plate as carrier for filter papers and membrane filters (diameter 47 mm) comprised in the delivery
- Feed vessel with scale
- Safe plastic clip (matches hoses with ID 8 mm)
- All components available as spare part

Article	Order No.
DURAN® Filtrer funnel, 1000 / 250 ml complete with PTFE adapter plate and clamp, suction bottle (1000 ml, NS 45/40), feed vessel (250 ml, with scale)	**10 21 15451**
DURAN® Filtrer funnel, 2000 / 500 ml complete with PTFE adapter plate and clamp, suction bottle (2000 ml, NS 45/40), feed vessel (500 ml, with scale)	**10 21 16304**

Continued on next page

Filtration Apparatus

Spare parts

Article	Order No.
PTFE adapter disk	**10 21 12813**
Clamp (anodised aluminium)	**10 21 13609**
DURAN® funnel, 250 ml	**10 21 13602**
DURAN® funnel, 500 ml	**10 21 14401**
Extension NS 45/40	**10 21 13203**
DURAN® filtering flask with NS 45/40, 1000 ml	**10 21 15404**
DURAN® filtering flask with NS 45/40, 2000 ml	**10 21 16306**
Filter disks/DURAN, Ø 50 mm, porosity 2	**11 25 20502**

Article	Order No.	PU pc/Pack
Plastic tubing connector, straight	**13 29 25506**	10
Screw cap, GL 14	**13 29 22705**	10
Slotted filter disk/DURAN, for disk Ø 48 mm	**11 21 34031**	10



webcode WWHXJ027

Filtration/Degasser Device for Screw Neck Vials GL-45, Landgraf

Filtration/Degasser Device for Screw Neck Vials GL-45

Glass filtration device for filtration and degassing of solvents for chromatography. Direct filtration in commercially available HPLC screw neck vials GL-45. Suitable for use with membrane filters 47 and 50 mm. With tap for locking the filtration unit and re-degassifying under vacuum. Vial coated with Duran, vacuum and pressure resistant (max. 1 bar).

Scope of delivery:
- Filtration attachment with clamp
- 1,000 ml bottle, coated

Article	Order No.
Filtration/degasser unit complete	**10 67 21000**

Accessories

Article	Order No.
Stand	**10 67 21001**

webcode WW2NY391

Magnetic Filter Holder, neoLab®

Magnetic filter holder

A filter holder for different bottles. The magnetic filter holder matches membrane filters with a diameter of 47 mm. The user-friendly design allows for one-hand operation and prevents potential damage to the membrane. Use the magnetic filter holder with suction bottles or laboratory bottles. Connection to a vacuum is possible at any time thanks to the clip comprised in the delivery. The PES material makes the filter holder autoclavable and is highly resistant to chemicals. The filter lid makes continuous filtration possible.

Applications:
- Microbiological filtration tests
- General filtration of aqueous samples

Article	Order No.
Magnetic filter holder, 300 ml, for feeding bottles	**10 01 83000**
Magnetic filter holder, 300 ml, for laboratory bottles	**10 01 83001**
Magnetic filter holder, 500 ml, for feeding bottles	**10 01 83002**
Magnetic filter holder, 500 ml, for laboratory bottles	**10 01 83003**

Accessories

Article	Order No.
Replacement lid, incl. venting filter and 3 covers	**10 01 83004**
Replacement carrier for membrane filter 47 mm	**10 01 83005**
Replacement venting filter for magnetic filter holder	**10 01 83006**
Silicone plug with bore	**10 01 83007**
Adapter for GL45 screw connection	**10 01 83008**



Suitable membrane filters

Pore size µm	Ø mm	Material	Grid	sterile	Order No.	PU pc/Pack
0.22	47	MCE	yes	yes	**10 01 60030**	100
0.45	47	MCE	yes	yes	**10 01 60031**	100
0.8	47	MCE	yes	yes	**10 01 60032**	100
0.22	47	MCE	no	no	**10 01 60027**	200
0.45	47	MCE	no	no	**10 01 60029**	200

Filtration Apparatus

Exhaust Unit made of Borosilicate Glass, Behr

webcode WWXKS050

behr Labor-Technik

- 400 ml filter heads, threaded
- Polypropylene funnel, threaded
- Slit sieve plate with 2 seals
- Stainless steel frame
- Glass water-jet pump
- Suitable for 50 mm filter

Article	Order No.
Filtration unit FU 4 with 4 places	**10 48 41135**
Filtration unit FU 6 with 6 places	**10 48 41144**



Vacuum Manifolds, Stainless Steel, ISOLAB

webcode WWMUE008

ISOLAB Laborgeräte GmbH

Vacuum manifolds allow filtration of multiple samples either at once or independently by controlling the separate branch valves. Suitable to be used with 47/50 mm diameter membrane filters. Body and the funnels are manufactured from AISI 304 quality stainless steel to be used at food, beverage, pharmaceutical and water quality laboratories.
The main body is featured with handles on both sides for easy hold and carriage. Stainless steel funnels has a volume capacity of 500 ml. They can be used for sample volumes from 50 ml up to 500 ml. Volume graduation inside walls of the funnels offer practical volume indication of the sample.

Attachment and removal of the funnels can be easily achieved with the attached closure clamp. Closure clamps under each funnel once closed guarantee perfect and vacuum tight sealing.

The stainless steel frit filter support ensures a uniform distribution of the residues.
All parts of vacuum filter set are fully autoclavable. They can also flame strilized.
Vacuum manifolds are supplied with a cap for each funnel.

Article	Order No.
Vacuum manifolds, 1 station	**10 66 40801**
Vacuum manifolds, 3 stations	**10 66 40803**
Vacuum manifolds, 6 stations	**10 66 40806**









Sieving Aids

Sieves, neoLab®

webcode WW2NY174

neoLab

Sieves made of metal mesh, rust-proof. Sturdy handle with plastic inlay and eyelet for hanging.

Article	Sieve Ø mm	Order No.
Metal sieve	70	**39 01 27530**
Metal sieve	100	**39 01 27531**
Metal sieve	160	**39 01 27532**
Metal sieve	180	**39 01 27533**



webcode To see other variants and accessories, please enter the webcode on our website.

Sieving Machines

webcode WWGF3011

FRITSCH



Vibratory Sieve Shakers ANALYSETTE 3, (2 Models), FRITSCH

Vibratory Sieve Shakers ANALYSETTE 3 PRO and SPARTAN
For quantitative particle size analysis of dry samples and suspensions of all kind by dry and wet sieving with woven test sieves. FRITSCH Sieve Shakers satisfy all requirements for accurate and reproducible sieving analysis and perform automatic sieve analysis with the control and evaluation software AUTOSIEVE, which is comprised in the delivery free of charge for a 90-days test period. Compared to the ANALYSETTE 3 SPARTAN, the ANALYSETTE 3 PRO is additionally equipped with an automatic amplitude control function and a function for the individual generation of sieving programs; it can interface as a test tool with every quality management system and has an RS232 interface.

Technical data ANALYSETTE 3 PRO and SPARTAN:

Sieving:	dry or wet
Sieve diameters:	100 mm, 200 mm or 8″
Maximum number of sieves:	10 × 50 mm or 16 × 25 mm height
Sieve type:	Woven metallic sieves
Measuring range:	Dry sieving 20 µm – 63 mm Wet sieving 20 µm – 10 mm
Sample quantity:	Dry sieving up to 2 kg (depending on the sample material and sieve used) Wet sieving 20 – 100 g
Sieving time:	Dry sieving 3 – 20 min Wet sieving 3 – 10 min
Supply requirements:	100 – 240 V/1~, 50 – 60 Hz
Dimensions (W × D × H):	37 × 40 × 20 cm
Weight net:	21 kg

	Article	Order No.
①	**Vibratory Sieve Shaker ANALYSETTE 3 PRO**	**54 98 03702**
②	**Vibratory Sieve Shaker ANALYSETTE 3 SPARTAN**	**54 98 03802**

Clamping lid, sieve pan and sieves must be ordered additionally.
Further sieve shakers available on request.

Accessories for Vibratory Sieve Shakers ANALYSETTE 3 PRO and SPARTAN

Article	Order No.
Sieve clamping lid made of plexiglas for test sieves 200 mm/8″ Ø	**54 98 31202**
Sieve clamping lid plastic POM (without window) for all test sieves up to 200 mm/8″ Ø	**54 98 31205**
Interposed sieve pan made of stainless steel, 200 mm dia., 50 mm height	**10 98 01303**
Interposed sieve pan made of stainless steel, 8″ dia., 2″ height	**10 98 01302**
Sieve pan made of stainless steel, 200 mm Ø, 50 mm height	**54 98 31130**
Sieve pan made of stainless steel, 8″ Ø, 2″ height	**54 98 31132**

Accessories for wet sieving are also available.
Test sieves as well as accessories for micro-precision sieving and for use of the ANALYSETTE 3 as Micro Mill (for grinding small sample quantities) on request.
Sieves, clamping lid and sieve pans with and without outlet are also available in 100 mm Ø, as well as in 200 mm Ø, 25 mm height and in 8″ Ø, 1″ height.



Sieve Shakers, RETSCH

Typ AS 200 basic / AS 200 digit cA / AS 200 control / AS 300 control / AS 450 basic / AS 450 control
Application:
RETSCH analytical sieve shakers are used in research & development, quality control of raw materials, interim and finished products as well as in production monitoring.

Features:
- Throwing motion with angular momentum
- For wet and dry sieving
- Short sieving times
- Low-noise, maintenance-free

AS 200 basic:
Basic model with membrane keypad, digital indication of performance and time

AS 200 digit cA:
Added features model with membrane keypad, digital indication of controlled amplitude and time, interval sieving

AS 200 control:
like AS 200 digit cA but with freely selectable intervals. Up to 99 programs can be stored. The AS 200 control is calibratable and allows for 100% reproducibility of sieving results

Continued on next page

Sieving Machines

all over the world, also when comparing different machines. With integrated USB interface for the evaluation software EasySieve®. Like the other control units, the AS 200 control meets the requirements for test equipment monitoring pursuant to ISO 9000 ff.

AS 300 control:
like AS 200 control; also suitable for sieves up to 315 mm diameter and for higher loads.

AS 450 basic:
Basic model, 9 power levels, digital time indication, interval sieving

AS 450 control:
like AS 200 control; also suitable for sieves up to 400 mm and 450 mm diameter. The optimized electromagnetic drive of the AS 450 in combination with the patented CET technology enable amplitudes of up to 2.2 mm, even with high loads of max. 25 kg sieving material. This eliminates the need for time-consuming re-sieving.

	Article	Voltage	Order No.
③	AS 200 basic	230 V, 50 Hz	**10 29 23030**
④	AS 200 digit cA	100 – 240 V, 50/60 Hz	**10 29 23031**
⑤	AS 200 control	100 – 240 V, 50/60 Hz	**10 29 23032**
	AS 300 control	100 – 240 V, 50/60 Hz	**10 29 23033**
	AS 450 basic	230 V, 50 Hz	**10 29 23029**
⑥	AS 450 control	230 V, 50/60 Hz	**10 29 20450**

Sieves, collecting pans and clamping device have to be ordered separately.



Technical data:

	AS 200 basic	AS 200 digit cA	AS 200 control	AS 300 control	AS 450 basic	AS 450 control
Measuring range:	20 µm – 25 mm	20 µm – 25 mm	20 µm – 25 mm	20 µm – 25 mm	20 µm – 25 mm	20 µm – 25 mm
Dry/Wet measurement:	yes / yes	yes / yes	yes / yes	yes / yes	yes / yes	yes / yes
Max.batch/ feed capacity:	3 kg	3 kg	3 kg	6 kg	15 kg	25 kg
Max. number of fractions (depending on sieve size)	9 / 17	9 / 17	11 / 23	9 / 17	12 / 8	13 / 9
Max. mass of sieve stack:	4 kg	4 kg	6 kg	10 kg	50 kg	50 kg
Setting of amplitude:	analog	analog	digital	digital	digital	digital
Adjustment range of amplitude:	1 – 100 %	0.2 – 3 mm	0.2 – 3 mm	0.2 – 2.2 mm	0 – >2 mm	0.2 – 2.2 mm
Sieve acceleration: 1 g = 9.81 m/s²	–	–	1.0 – 15.1 g	1.0 – >10 g	–	1 – >11 g
Time display (min):	digital 1 – 99	digital 1 – 99	digital 1 – 99	digital 1 – 99	digital 1 – 99	digital 1 – 99
Interval operation:	–	10 s fix	yes	yes	10 s fix	yes
Programs:	–	–	up to 99	up to 99	1	up to 9
Incl. Test certificate/can be calibrated:	–	–	yes	yes	–	yes
Serial USB interface:	–	–	yes	yes	–	yes
Sieving motion	Throwing motion with angular momentum	Throwing motion with angular momentum	Throwing motion with angular momentum	Throwing motion with angular momentum	Throwing motion with angular momentum	Throwing motion with angular momentum
Suitable sieve sizes (mm):	100 / 150 / 200 / 203	100 / 150 / 200 / 203	100 / 150 / 200 / 203	100 / 150 / 200 / 203 / 305 / 315	400 / 450	400 / 450
Height of sieve stack:	up to 510 mm	up to 510 mm	up to 620 mm	up to 510 mm	up to approx. 830 mm	up to approx. 963 mm
Size (W×H×D mm):	417×212×384	417×212×384	417×212×384	417×222×384	680×280×680	714×435×658
Weight:	approx. 35 kg	approx. 35 kg	approx. 35 kg	approx. 42 kg	approx. 140 kg	approx. 200 kg

Clamping devices AS 200

Article	Order No.
Clamping device “economy” for test sieves Ø 100/150/200/203 mm	**10 29 26203**
Clamping device “standard” for test sieves Ø 200/203 mm	**10 29 26202**
Clamping device “comfort” for test sieves Ø 200/203 mm	**10 29 26201**
Universal clamping device “standard” for test sieves Ø 100/150/200/203 mm	**10 29 26205**
Universal clamping device “comfort” for test sieves Ø 100/150/200/203 mm	**10 29 26204**
Universal wet sieving clamping device “standard” for test sieves Ø 100/150/200/203 mm	**10 29 26207**

Clamping devices AS 300

Article	Order No.
Clamping device “standard” for test sieves Ø 305 mm	**10 29 26208**
Clamping device “comfort” for test sieves Ø 305 mm	**10 29 26209**
Wet sieving clamping device “standard” for test sieves Ø 305 mm	**10 29 26212**
Wet sieving clamping device “comfort” for test sieves Ø 305 mm	**10 29 26214**

Clamping devices AS 450 basic

Article	Order No.
Clamping device “standard” for test sieves Ø 400/450 mm	**10 29 26220**
Wet sieving clamping device “standard” for test sieves Ø 400/450 mm	**10 29 26233**

Continued on next page

Sieving Machines

Clamping devices AS 450 control

Article	Order No.
Clamping device “standard” for test sieves Ø 400/450 mm	**10 29 26215**
Clamping device “comfort” for test sieves Ø 400/450 mm	**10 29 26216**
Wet sieving clamping device “standard” for test sieves Ø 400/450 mm	**10 29 26217**
Wet sieving clamping device “comfort” for test sieves Ø 400/450 mm	**10 29 26218**

IQ/OQ documents on request







Sieve Shakers, RETSCH

Type AS 400 control, AS 200 tap and AS 200 jet

① **Application AS 400 control:**
The AS 400 control is used for dry sieving with analysis sieves of up to 400 mm diameter. Due to the even, horizontally rotating sieving movement, the material to be sieved accurately separated.

Features:
- Sieving with rotating movements according to DIN 53 477
- Digital setting of all sieving parameters (time, speed, interval)
- Up to 9 SOPs can be stored
- Integrated interface for the evaluation software EasySieve®

Article	Order No.
AS 400 control	**54 29 22001**
Clamping device “standard” for analytical sieves 400 mm Ø	**10 29 22010**
Clamping device “comfort” for analytical sieves 400 mm Ø	**10 29 22011**

Please order clamping unit, sieves and bottom separately.
The clamping units of AS 200 and AS 300 fit as well

② **Sieve Shaker AS 200 tap**
Application AS 200 tap:
For defining the grain size of certain poducts, for example activated carbon, abrasives, coal, spices, and diamonds in accordance with the respective standards.

Features:
- Horizontally rotating movement of the sieving material with vertical knock impulses
- Suitable for dry-sieving
- Robust, maintenance-free

Article	Order No.
AS 200 tap incl. sound enclosure cabinet	**10 29 25101**

Sieves and sieve bottom please order separately.

③ **Sieve Shaker AS 200 jet**
Application AS 200 jet:
The Air Jet Sieve AS 200 jet is particularly suitable for sieve cuts of powdered materials which require efficient dispersion and desagglomeration.

Features:
- Open Mesh function for reduction of the number of near-mesh particles
- For RETSCH sieves 203 mm (8″) and 200 mm (with adapter), 25 and 50 mm high
- Collection of two fractions possible by use of cyclone (accessory)
- Free manual (standard) or automatic (accessory) pressure regulation
- High flexibility through adjustable nozzle speed
- Memory for up to 9 SOPs, additional Quick Start mode

Article	Order No.
Analytical sieve AS 200 jet	**10 29 27001**
Industrial vacuum cleaner, 230 V, 50/60 Hz	**10 29 28004**
Cyclone with holder and collecting receptacle (250 ml and 500 ml sample bottle)	**10 29 25008**
Automatic vacuum regulation	**10 29 21002**

Sieves and industrial vacuum cleaner please order separately.

Technical data:

	AS 400 control	AS 200 tap	AS 200 jet
Sieving motion:	Horizontal movement	Horizontal, circular movement with taps	Air jet sieving
Measuring range:	45 µm - 63 mm	20 µm - 25 mm	10 µm - ~4 mm
Dry/Wet measurement:	yes / no	yes / no	yes / no
Max. batch/ feed capacity:	5 kg	3 kg	0.3 – 100 g
Suitable sieve sizes (mm):	100 / 150 / 200 / 203 / 305 / 315 / 400	200 / 203	200 / 203

Continued on next page

Sieving Machines

Max. numbers of fractions (depending on sieve size):	7 / 9 / 17	7 / 13	1 / 2 with cyclone
Max. mass of sieve stack:	15 kg	6 kg	–
Setting of speed:	digital, 50–300 min^{-1}	–	digital, 5–55 min^{-1} (jet)
Sieve acceleration:	0.04 – 1.51 g	–	–
Oscillations/ Taps:	–	280 min^{-1} / 150 min^{-1}	
Time display:	digital, 1–99 min	digital, 1–99 min	digital, 00:00–99:59 min
Interval operation:	yes	–	–
Depression indicator:	–	–	2–9999 Pa / 20–99 mbar / 0.3–1.45 psi
Programs:	9	–	9
Incl. Test certificate/ can be calibrated:	yes	–	yes
Serial interface:	yes	yes	yes
Max. height of sieve stack:	450 mm	350 mm	50 mm
Dimensions (W×H×D):	540×260×507 mm	735×675×530 mm with sound enclosure cabinet	460×288×305 mm
Weight (net):	approx. 70 kg	approx. 92 kg with sound enclosure cabinet	approx. 14 kg

Test Sieve Shakers, HAVER & BOECKER

webcode WWKZV001

HAVER & BOECKER
DIE DRAHTWEBER

HAVER test sieve shakers for dry and wet sieving can classify all types of bulk goods. The HAVER 3D laboratory sieve shakers have a self-readjusting amplitude and an electro-magnetic drive.

- Electro-magnetic drive
- 3-dimensional sieving
- Measuring range: 20 µm to 125 mm
- Memory function for sieving programs
- Suitable for dry and wet sieving
- Delivery including clamping system and machine cover, sieves and pan not comprised in the delivery



HAVER EML 200 Premium (dry sieving) and Premium Remote (wet sieving)

Technical data:

Sieve diameters:	50 mm – 203 mm
Sample weight:	approx. 3 kg
Weight of seive set:	max. 8.7 kg
Netzspannung:	110 – 230 V, 50 – 60 Hz
Amplitude:	freely selectable up to 3 mm
Sound emission:	≦ 70 dBA

Article	Order No.
HAVER EML 200 Premium (dry sieving)	**10 16 95099**
HAVER EML 200 Premium Remote (wet sieving)	**10 16 95100**

At purchase of a new HAVER EML 200, the evaluation software CSA Basic is provided free of charge.

HAVER EML 315 digital plus for dry sieving (T) and wet sieving (N)

Sieve diameters:	200 – 315 mm
Sample weight:	approx. 6 kg
Weight of sieve set:	max. 21 kg
Power supply:	110 – 230 V, 50 – 60 Hz
Amplitude:	constant, self-readjusting up to max. 2 mm
Sound emission:	≦ 70 dBA

Article	Order No.
EML 315 digital plus T, clamping system TwinNut	**10 16 93002**
EML 315 digital plus N, clamping system TwinNut	**10 16 93004**

HAVER EML 450 digital plus for dry sieving (T) and wet sieving (N)

Sieve diameters:	200 – 450 mm
Sample weight:	approx. 15 kg
Weight of sieve set:	max. 42 kg
Power supply:	110 – 230 V, 50 – 60 Hz
Amplitude:	freely selectable up to 3 mm
Sound emission:	≦ 70 dBA

Article	Order No.
EML 450 digital plus T, clamping system TwinNut	**10 16 94503**
EML 450 digital plus N, clamping system TwinNut	**10 16 94504**

webcode To see other variants and accessories, please enter the webcode on our website.

Sieving Machines

Ultrasonic Sieving Support, HAVER & BOECKER



webcode WWKZV007

- Increase of throughput of biulk materials ≦ 300 µm
- Permanent sieve mesh cleaning effect
- The sieving of loose adhesive materials is made possible
- Multiple test sieves can be excited with a single generator

Whole system consisting of:

Article	Order No.
Analogue generator AGS35-100-230, 50 W	**10 16 99359**
Converter with connecting cable	**10 16 99290**
Clamping ring for test sieves	**10 16 99358**

Test Sieves

Test Sieves, Stainless Steel, LINKER

webcode WWJTQ008



① **Sieves with identification number and works certificate acc. to 2.1 EN 10204**
No seam above the sieve bottom, hence no loss of retained material.
Material: stainless steel sieve mesh acc. to ISO 3310-1.

Versions:
1 = with soft PVC weld, temperature-resistant up to +70°C
2 = with soft solder weld, temperature-resistant up to +170°C

Mesh width ISO 565 3310-1	Version 1 Sieve Ø 200 mm Inner height 25 mm **Order No.**	Version 1 Sieve Ø 200 mm Inner height 50 mm **Order No.**	Version 2 Sieve Ø 200 mm Inner height 25 mm **Order No.**	Version 2 Sieve Ø 100 mm Inner height 45 mm **Order No.**	Version 2 Sieve Ø 200 mm Inner height 50 mm **Order No.**
20 µm	**39 73 00112**	**39 73 00111**	**39 73 00114**	**39 73 00115**	**39 73 00113**
25 µm	**39 73 00122**	**39 73 00121**	**39 73 00124**	**39 73 00125**	**39 73 00123**
32 µm	**39 73 00142**	**39 73 00141**	**39 73 00144**	**39 73 00145**	**39 73 00143**
36 µm	**39 73 00152**	**39 73 00151**	**39 73 00154**	**39 73 00155**	**39 73 00153**
38 µm	**39 73 00162**	**39 73 00161**	**39 73 00164**	**39 73 00165**	**39 73 00163**
40 µm	**39 73 00172**	**39 73 00171**	**39 73 00174**	**39 73 00175**	**39 73 00173**
45 µm	**39 73 00182**	**39 73 00181**	**39 73 00184**	**39 73 00185**	**39 73 00183**
50 µm	**39 73 00192**	**39 73 00191**	**39 73 00194**	**39 73 00195**	**39 73 00193**
53 µm	**39 73 00202**	**39 73 00201**	**39 73 00204**	**39 73 00205**	**39 73 00203**
56 µm	**39 73 00212**	**39 73 00211**	**39 73 00214**	**39 73 00215**	**39 73 00213**
63 µm	**39 73 00222**	**39 73 00221**	**39 73 00224**	**39 73 00225**	**39 73 00223**
71 µm	**39 73 00232**	**39 73 00231**	**39 73 00234**	**39 73 00235**	**39 73 00233**
75 µm	**39 73 00242**	**39 73 00241**	**39 73 00244**	**39 73 00245**	**39 73 00243**
80 µm	**39 73 00252**	**39 73 00251**	**39 73 00254**	**39 73 00255**	**39 73 00253**
90 µm	**39 73 00262**	**39 73 00261**	**39 73 00264**	**39 73 00265**	**39 73 00263**
100 µm	**39 73 00272**	**39 73 00271**	**39 73 00274**	**39 73 00275**	**39 73 00273**
106 µm	**39 73 00282**	**39 73 00281**	**39 73 00284**	**39 73 00285**	**39 73 00283**
112 µm	**39 73 00292**	**39 73 00291**	**39 73 00294**	**39 73 00295**	**39 73 00293**
125 µm	**39 73 00302**	**39 73 00301**	**39 73 00304**	**39 73 00305**	**39 73 00303**
140 µm	**39 73 00312**	**39 73 00311**	**39 73 00314**	**39 73 00315**	**39 73 00313**
150 µm	**39 73 00322**	**39 73 00321**	**39 73 00324**	**39 73 00325**	**39 73 00323**
160 µm	**39 73 00332**	**39 73 00331**	**39 73 00334**	**39 73 00335**	**39 73 00333**
180 µm	**39 73 00342**	**39 73 00341**	**39 73 00344**	**39 73 00345**	**39 73 00343**
200 µm	**39 73 00352**	**39 73 00351**	**39 73 00354**	**39 73 00355**	**39 73 00353**
212 µm	**39 73 00362**	**39 73 00361**	**39 73 00364**	**39 73 00365**	**39 73 00363**
224 µm	**39 73 00372**	**39 73 00371**	**39 73 00374**	**39 73 00375**	**39 73 00373**
250 µm	**39 73 00382**	**39 73 00381**	**39 73 00384**	**39 73 00385**	**39 73 00383**
280 µm	**39 73 00392**	**39 73 00391**	**39 73 00394**	**39 73 00395**	**39 73 00393**
300 µm	**39 73 00402**	**39 73 00401**	**39 73 00404**	**39 73 00405**	**39 73 00403**
315 µm	**39 73 00412**	**39 73 00411**	**39 73 00414**	**39 73 00415**	**39 73 00413**
355 µm	**39 73 00422**	**39 73 00421**	**39 73 00424**	**39 73 00425**	**39 73 00423**
400 µm	**39 73 00432**	**39 73 00431**	**39 73 00434**	**39 73 00435**	**39 73 00433**
425 µm	**39 73 00442**	**39 73 00441**	**39 73 00444**	**39 73 00445**	**39 73 00443**
450 µm	**39 73 00452**	**39 73 00451**	**39 73 00454**	**39 73 00455**	**39 73 00453**
500 µm	**39 73 00462**	**39 73 00461**	**39 73 00464**	**39 73 00465**	**39 73 00463**
560 µm	**39 73 00472**	**39 73 00471**	**39 73 00474**	**39 73 00475**	**39 73 00473**
600 µm	**39 73 00482**	**39 73 00481**	**39 73 00484**	**39 73 00485**	**39 73 00483**
630 µm	**39 73 00492**	**39 73 00491**	**39 73 00494**	**39 73 00495**	**39 73 00493**

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Test Sieves

Mesh width ISO 565 3310-1	Version 1 Sieve Ø 200 mm Inner height 25 mm **Order No.**	Version 1 Sieve Ø 200 mm Inner height 50 mm **Order No.**	Version 2 Sieve Ø 200 mm Inner height 25 mm **Order No.**	Version 2 Sieve Ø 100 mm Inner height 45 mm **Order No.**	Version 2 Sieve Ø 200 mm Inner height 50 mm **Order No.**
710 µm	**39 73 00502**	**39 73 00501**	**39 73 00504**	**39 73 00505**	**39 73 00503**
800 µm	**39 73 00512**	**39 73 00511**	**39 73 00514**	**39 73 00515**	**39 73 00513**
850 µm	**39 73 00522**	**39 73 00521**	**39 73 00524**	**39 73 00525**	**39 73 00523**
900 µm	**39 73 00532**	**39 73 00531**	**39 73 00534**	**39 73 00535**	**39 73 00533**
1.00 mm	**39 73 00542**	**39 73 00541**	**39 73 00544**	**39 73 00545**	**39 73 00543**
1.12 mm	**39 73 00552**	**39 73 00551**	**39 73 00554**	**39 73 00555**	**39 73 00553**
1.18 mm	**39 73 00562**	**39 73 00561**	**39 73 00564**	**39 73 00565**	**39 73 00563**
1.25 mm	**39 73 00572**	**39 73 00571**	**39 73 00574**	**39 73 00575**	**39 73 00573**
1.40 mm	**39 73 00582**	**39 73 00581**	**39 73 00584**	**39 73 00585**	**39 73 00583**
1.60 mm	**39 73 00592**	**39 73 00591**	**39 73 00594**	**39 73 00595**	**39 73 00593**
1.70 mm	**39 73 00602**	**39 73 00601**	**39 73 00604**	**39 73 00605**	**39 73 00603**
1.80 mm	**39 73 00612**	**39 73 00611**	**39 73 00614**	**39 73 00615**	**39 73 00613**
2.00 mm	**39 73 00622**	**39 73 00621**	**39 73 00624**	**39 73 00625**	**39 73 00623**
2.24 mm			**39 73 00634**	**39 73 00635**	**39 73 00633**
2.36 mm			**39 73 00644**	**39 73 00645**	**39 73 00643**
2.50 mm			**39 73 00654**	**39 73 00655**	**39 73 00653**
2.80 mm			**39 73 00664**	**39 73 00665**	**39 73 00663**
3.15 mm			**39 73 00674**	**39 73 00675**	**39 73 00673**
3.35 mm			**39 73 00684**	**39 73 00685**	**39 73 00683**
3.55 mm			**39 73 00694**	**39 73 00695**	**39 73 00693**
4.00 mm			**39 73 00704**	**39 73 00705**	**39 73 00703**
4.50 mm			**39 73 00714**	**39 73 00715**	**39 73 00713**
4.75 mm			**39 73 00724**	**39 73 00725**	**39 73 00723**
5.00 mm			**39 73 00734**	**39 73 00735**	**39 73 00733**
5.60 mm			**39 73 00744**	**39 73 00745**	**39 73 00743**
6.30 mm			**39 73 00754**	**39 73 00755**	**39 73 00753**
6.70 mm			**39 73 00764**	**39 73 00765**	**39 73 00763**
7.10 mm			**39 73 00774**	**39 73 00775**	**39 73 00773**
8.00 mm			**39 73 00784**	**39 73 00785**	**39 73 00783**
9.00 mm			**39 73 00794**	**39 73 00795**	**39 73 00793**
9.50 mm			**39 73 00804**	**39 73 00805**	**39 73 00803**
10.00 mm			**39 73 00814**	**39 73 00815**	**39 73 00813**
11.20 mm			**39 73 00824**	**39 73 00825**	**39 73 00823**
12.50 mm			**39 73 00834**	**39 73 00835**	**39 73 00833**
13.20 mm			**39 73 00844**	**39 73 00845**	**39 73 00843**
14.00 mm			**39 73 00854**	**39 73 00855**	**39 73 00853**
16.00 mm			**39 73 00864**	**39 73 00865**	**39 73 00863**
18.00 mm			**39 73 00874**	**39 73 00875**	**39 73 00873**
19.00 mm			**39 73 00884**	**39 73 00885**	**39 73 00883**
20.00 mm			**39 73 00894**	**39 73 00895**	**39 73 00893**
22.40 mm			**39 73 00904**	**39 73 00905**	**39 73 00903**
25.00 mm			**39 73 00914**	**39 73 00915**	**39 73 00913**

Other sieve diameters, version and standards available on request.

Stainless steel lid without or with spray attachment

	Article	Order No.
②	without spray attachment for sieve Ø 200 mm	**39 73 00950**
	without spray attachment for sieve Ø 100 mm	**39 73 00951**
③	with spray attachment for sieve Ø 200 mm	**39 73 00952**
	with spray attachment for sieve Ø 100 mm	**39 73 00953**



Stainless steel collection vessels without or with outlet tube

	Article	Order No.
④	without outlet tube for sieve Ø 200 mm, inner height. 25 mm	**39 73 00954**
	without outlet tube for sieve Ø 100 mm, Inner height 30 mm	**39 73 00955**
	without outlet tube for sieve Ø 200 mm, Inner height 50 mm	**39 73 00958**
	with outlet tube for sieve Ø 200 mm, inner height 25 mm	**39 73 00956**
	with outlet tube for sieve Ø 100 mm, Inner height 45 mm	**39 73 00957**
	with outlet tube for sieve Ø 200 mm, Inner height 50 mm	**39 73 00959**





Acceptance test certificate

Article	Order No.
Acceptance test certificate according to EN 10204 (DIN 50049) 3.1.B	**39 73 11000**

Certificate for test sieves based on digital image measurement. Fully automatic determination of the actual average mesh width at 20 µm to 1 mm acc. to ISO 3310-1. Values quoted separately for weft and warp.

webcode To see other variants and accessories, please enter the webcode on our website.

Test Sieves

webcode WWJTQ007

LINKER INDUSTRIE-TECHNIK







Plastic Test Sieves, LINKER

Plastic test sieves, available mesh widths

Diameter: 200 mm
Inner height: 45 mm
Frame: POM
Material: nylon sieve mesh acc. to DIN 4197

Mesh width µm	Order No.
2000	**39 73 22001**
1800	**39 73 22004**
1700	**39 73 22007**
1600	**39 73 22010**
1400	**39 73 22013**
1250	**39 73 22016**
1180	**39 73 22019**
1000	**39 73 22025**
900	**39 73 22028**
850	**39 73 22031**
800	**39 73 22034**
700	**39 73 22037**
630	**39 73 22040**
600	**39 73 22043**
500	**39 73 22049**
450	**39 73 22052**
425	**39 73 22055**
400	**39 73 22058**
355	**39 73 22061**
315	**39 73 22064**
300	**39 73 22067**
280	**39 73 22070**
250	**39 73 22076**
212	**39 73 22079**

Mesh width µm	Order No.
200	**39 73 22082**
180	**39 73 22085**
160	**39 73 22088**
150	**39 73 22091**
140	**39 73 22094**
125	**39 73 22097**
112	**39 73 22100**
106	**39 73 22103**
100	**39 73 22106**
90	**39 73 22109**
80	**39 73 22112**
70	**39 73 22118**
63	**39 73 22121**
53	**39 73 22127**
41	**39 73 22136**
36	**39 73 22139**
30	**39 73 22142**
28	**39 73 22145**
25	**39 73 22148**
20	**39 73 22151**
15	**39 73 22154**
11	**39 73 22157**
5	**39 73 22160**

Accessories

	Article	Order No.
①	Plastic lid, Ø 200 mm	**39 73 23001**
②	Plastic collection vessel, Ø 200 mm, depth 45 mm	**39 73 23004**
③	Plastic intermediary collection vessel (intermediate layer), Ø 200 mm	**39 73 23007**



Test Sieve/Evaluation Software, RETSCH

The unique RETSCH manufacturing process guarantees a previously unattained quality and consistency in sieve production. Convince yourself of the benefits for the quality of your analyses as well as the ease of handling and lifetime of your sieves (available for sieve diameters of 200 and 203 mm).

- One-piece sieve frame and fabric-transition without grooves prevent cross contamination (no sample residues etc.).
- No hollow spaces which need to be sealed (no epoxy)
- High degree of corrosion resistance and easy cleaning thanks to high-alloy stainless steels
- Innovative tensioning technology guarantees permanently tight sieve fabric
- Excellent product quality due to extensive optical inspection
- Maximum stability and optimum sealing when used in sieve stacks thanks to the o-ring which is placed in the recess designed for this purpose
- Clear and precise labeling of the sieves with full traceability based on individualized laser engraving
- On request, all sieves are optionally available pursuant to ASTM E 11
- Acceptance test certificate and calibration certificate available on request

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Test Sieves

Standard sieve set

Article	Order No.
Sieve set for AS 200 consisting of 8 sieves (ISO 3310-1), 200 mm Ø, 50 mm high (45 µm, 63 µm, 125 µm, 250 µm, 500 µm, 1 mm, 2 mm, 4 mm) and collecting pan	**54 29 10099**
Sieve set for AS 300 control consisting of 7 sieves (ISO 3310-1), 305 mm Ø, 50 mm high (630 µm, 1.25 mm, 2.50 mm, 5 mm, 10 mm, 20 mm, 31.5 mm) and collecting pan	**54 29 80099**
Sieve set for AS 450 control consisting of 10 sieves (ISO 3310-1), 450 mm Ø, 100 mm high (63 µm, 125 µm, 250 µm, 500 µm, 1 mm, 2 mm, 4 mm, 8 mm, 16 mm, 31.5 mm) and collecting pan	**54 29 60099**
Sieve set for AS 450 control consisting of 7 sieves (ISO 3310-1), 450 mm Ø, 100 mm high (63 µm, 125 µm, 250 µm, 500 µm, 1 mm, 2 mm, 4 mm) and collecting pan	**10 29 21099**



Collecting pans, stainless steel

Diameter × Height mm	Outlet	Order No.
100 × 40	–	**10 29 26101**
200 × 50	–	**10 29 26103**
200 × 25	–	**10 29 26102**
203 × 50 (8″ × 2″)	–	**10 29 26104**
305 × 40	–	**10 29 26105**
400 × 65	–	**10 29 26106**
450 × 50	–	**10 29 26107**
100 × 40	yes	**10 29 26111**
200 × 50	yes	**10 29 26113**
203 × 50 (8″ × 2″)	yes	**10 29 26114**
305 × 56	yes	**10 29 26115**
400 × 70	yes	**10 29 26116**
450 × 85	yes	**10 29 26117**

Intermediate rings, stainless steel

Diameter × Height mm	Venting ring for wet sieving	Order No.
100 × 40	–	**10 29 26501**
200 × 25	–	**10 29 26502**
200 × 50	–	**10 29 26503**
203 × 50 (8″ × 2″)	–	**10 29 26504**
305 × 40	–	**10 29 26505**
400 × 65	–	**10 29 26506**
450 × 100	–	**10 29 26507**
200 × 25	yes	**10 29 26512**
203 × 25 (8″ × 1″)	yes	**10 29 26514**
305 × 40	yes	**10 29 26515**
400 × 65	yes	**10 29 26516**
450 × 100	yes	**10 29 26517**



Intermediate pans, stainless steel

Diameter × Height mm	Order No.
200 × 25	**10 29 26302**
200 × 50	**10 29 26303**
203 × 50 (8″ × 2″)	**10 29 26304**
305 × 40	**10 29 26305**
400 × 65	**10 29 26306**
450 × 100	**10 29 26307**

Sieve covers, stainless steel

Diameter mm	Order No.
100	**10 29 26401**
200	**10 29 26402**
305	**10 29 26403**
400	**10 29 26404**
450	**10 29 26405**

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Test Sieves

Software for grain size analysis EasySieve®
Features:
- Automatic recording, evaluation and administration of the measurement data
- Logical structure, self-explanatory
- Measurement log according to standards
- Controlling of all RETSCH sieve machines “control” as well as AS 200 tab and AS 200 jet.
- Automatic, simultaneous data transfer to LIMS-systems
- Now only Windows 10 (no 2000, XP, Vista, 7 and/or 8)
- 21 CFR Part 11 compliant version available on request

Article	Order No.
EasySieve® with Single User License	**10 29 25031**

webcode WWKZV002



Test Sieves, Stainless Steel, HAVER & BOECKER

HAVER & BOECKER is one of the major international manufacturers of wire mesh. Accordingly, HAVER test sieves are characterised by their high precision and stability. Each test sieve is accompanied free of charge by a manufacturer’s certificate 2.1 pursuant to DIN EN 10204. An individual certification or calibration test certificate 3.1 pursuant to DIN EN ISO 10204 is available for each mesh width and diameter. HAVER & BOECKER also offers testing of the sieves pursuant to DIN EN ISO / IEC 17025 in their accredited in-house calibration lab.
HAVER test sieves are manufactured in compliance with the applicable standards DIN ISO 3310, ASTM E11, ISO 565, B 410, AFNOR, ISO 5223 etc.

Technical data:

Diameter (mm):	50	76,2	100	150	200/203	250	300	305	315	350	400	450
Usable height (mm):	25	25	45	50	32/50	55	30/60	60	75	60	65	70
Mesh sizes:	from 5 µm											

Mesh width ISO 565 3310-1	Size 1 Sieve Ø 200 mm Useful height 50 mm **Order No.**	Size 2 Sieve Ø 400 mm Useful height 65 mm **Order No.**
125 mm	**10 16 95040**	**10 16 90594**
112 mm	**10 16 90259**	**10 16 90595**
106 mm	**10 16 95023**	**10 16 90596**
100 mm	**10 16 92598**	**10 16 90597**
90 mm	**10 16 93212**	**10 16 90598**
80 mm	**10 16 91379**	**10 16 90599**
75 mm	**10 16 91432**	**10 16 90600**
71 mm	**10 16 90246**	**10 16 90601**
63 mm	**10 16 91362**	**10 16 90602**
56 mm	**10 16 91386**	**10 16 90603**
53 mm	**10 16 95016**	**10 16 90604**
50 mm	**10 16 91355**	**10 16 90605**
45 mm	**10 16 91348**	**10 16 90606**
40 mm	**10 16 91331**	**10 16 90607**
37.5 mm	**10 16 91456**	**10 16 90608**
35.5 mm	**10 16 91324**	**10 16 96731**
31.5 mm	**10 16 91317**	**10 16 90696**
28 mm	**10 16 91310**	**10 16 90610**
26.5 mm	**10 16 95009**	**10 16 90611**
25 mm	**10 16 91292**	**10 16 90612**
22.4 mm	**10 16 91285**	**10 16 90613**
20 mm	**10 16 91278**	**10 16 95992**
19 mm	**10 16 91463**	**10 16 90614**
18 mm	**10 16 91261**	**10 16 90615**
16 mm	**10 16 91254**	**10 16 90571**
14 mm	**10 16 91247**	**10 16 90191**
13.2 mm	**10 16 93243**	**10 16 90617**
12.5 mm	**10 16 91240**	**10 16 90184**
11.2 mm	**10 16 91223**	**10 16 90618**
10 mm	**10 16 91216**	**10 16 96755**
9.5 mm	**10 16 93260**	**10 16 99366**
9 mm	**10 16 91209**	**10 16 90619**
8 mm	**10 16 91191**	**10 16 95978**
7.1 mm	**10 16 91184**	**10 16 90177**
6.7 mm	**10 16 93236**	**10 16 90620**
6.3 mm	**10 16 91177**	**10 16 95961**
5.6 mm	**10 16 91170**	**10 16 97391**
5 mm	**10 16 91153**	**10 16 97199**
4.75 mm	**10 16 93111**	**10 16 90621**
4.5 mm	**10 16 91146**	**10 16 96003**
4 mm	**10 16 91139**	**10 16 95947**
3.55 mm	**10 16 91122**	**10 16 90622**

Mesh width ISO 565 3310-1	Size 1 Sieve Ø 200 mm Useful height 50 mm **Order No.**	Size 2 Sieve Ø 400 mm Useful height 65 mm **Order No.**
1.7 mm	**10 16 93071**	**10 16 90629**
1.6 mm	**10 16 91051**	**10 16 90631**
1.4 mm	**10 16 91045**	**10 16 92148**
1.25 mm	**10 16 91037**	**10 16 92130**
1.18 mm	**10 16 93065**	**10 16 90632**
1.12 mm	**10 16 91020**	**10 16 90633**
1 mm	**10 16 91014**	**10 16 95916**
900 µm	**10 16 91006**	**10 16 90634**
850 µm	**10 16 93057**	**10 16 90635**
800 µm	**10 16 90995**	**10 16 92123**
710 µm	**10 16 90988**	**10 16 96273**
630 µm	**10 16 90971**	**10 16 90727**
600 µm	**10 16 93033**	**10 16 90636**
560 µm	**10 16 90964**	**10 16 90637**
500 µm	**10 16 90958**	**10 16 95909**
450 µm	**10 16 90940**	**10 16 96189**
425 µm	**10 16 93020**	**10 16 90638**
400 µm	**10 16 90933**	**10 16 96172**
355 µm	**10 16 90927**	**10 16 96034**
315 µm	**10 16 90919**	**10 16 90639**
300 µm	**10 16 92303**	**10 16 90640**
280 µm	**10 16 90902**	**10 16 90641**
250 µm	**10 16 90895**	**10 16 96267**
224 µm	**10 16 90887**	**10 16 90642**
212 µm	**10 16 92985**	**10 16 90643**
200 µm	**10 16 90870**	**10 16 90644**
180 µm	**10 16 90864**	**10 16 96072**
160 µm	**10 16 90856**	**10 16 96088**
150 µm	**10 16 92961**	**10 16 96142**
140 µm	**10 16 90849**	**10 16 90645**
125 µm	**10 16 90832**	**10 16 96761**
112 µm	**10 16 90825**	**10 16 90646**
106 µm	**10 16 92947**	**10 16 96135**
100 µm	**10 16 90818**	**10 16 90648**
90 µm	**10 16 90801**	**10 16 96259**
80 µm	**10 16 90793**	**10 16 90649**
75 µm	**10 16 92940**	**10 16 96128**
71 µm	**10 16 90779**	**10 16 96855**
63 µm	**10 16 90762**	**10 16 96158**
56 µm	**10 16 90755**	**10 16 90650**
53 µm	**10 16 92915**	**10 16 90651**
50 µm	**10 16 90748**	**10 16 90652**

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Test Sieves

Mesh width ISO 565 3310-1	Size 1 Sieve Ø 200 mm Useful height 50 mm **Order No.**	Size 2 Sieve Ø 400 mm Useful height 65 mm **Order No.**
3.35 mm	**10 16 93096**	**10 16 90624**
3.15 mm	**10 16 91115**	**10 16 95940**
2.8 mm	**10 16 91108**	**10 16 96801**
2.5 mm	**10 16 91099**	**10 16 90625**
2.36 mm	**10 16 93158**	**10 16 90626**
2.24 mm	**10 16 91082**	**10 16 90627**
2 mm	**10 16 91075**	**10 16 96747**
1.8 mm	**10 16 91068**	**10 16 90628**

Mesh width ISO 565 3310-1	Size 1 Sieve Ø 200 mm Useful height 50 mm **Order No.**	Size 2 Sieve Ø 400 mm Useful height 65 mm **Order No.**
45 µm	**10 16 90731**	**10 16 96110**
40 µm	**10 16 90724**	**10 16 90653**
38 µm	**10 16 92909**	**10 16 90684**
36 µm	**10 16 90717**	**10 16 96956**
32 µm	**10 16 90700**	**10 16 90686**
25 µm	**10 16 90685**	**10 16 90703**
20 µm	**10 16 90661**	**10 16 90001**
Sieve pan	**10 16 90018**	**10 16 90498**

Other sieve diameters, types (grain, air jet, wood rim sieves), standards, sieve covers etc. upon request.

Evaporators

Vacuum Concentrator, CHRIST

Rotary vacuum concentrator RVC 2-18 CDplus inclusive vacuum pump

For aqueous specimens or specimens which have a low boiling point and contain solvents, specimen volume <20 ml per reaction vessel.
The RVC 2-18 CDplus is a good choice fast bench top analysis. It is especially suitable for increasing the concentration of DNA/RNA and proteins and for similar preparatory work. A range of rotors is available which extends the specimen capacity, for example 72 × 1.5 ml reaction vessels. The design of the drive subsystem, which has no moving parts outside of the centrifuge chamber, is an outstanding feature of the product.
A user-friendly display provides information about the current operating parameters in a format that is easy to understand.
Product highlights:
- gently increases the concentration of DNA/RNA, proteins, etc.
- high specimen capability, e.g. 72 × 1.5 ml reaction vessels
- vaporization over large areas for very short drying times
- continuous temperature pre-selection (+30°C to +60°C)
- timer pre-select - 5 minutes to 12 hours or unlimited
- display for simple operation via intuitive menu structure

The vacuum concentrator is supplied ready to use with a chemical-resistant membrane pump which delivers a final vacuum of about 10 mbar and has a suction capacity of 2 m^3/h. All of the necessary connection fittings are also included.
The pump ensures that the process continually runs as liquid vaporization and not as freeze drying, which would be the case with pumps that deliver a lower final vacuum and which would significantly increase processing time.

Complete system ready to use, consisting of:
- RVC 2-18 CDplus basic unit
- vacuum chemical membrane pump 2 m^3/h
- vacuum pump
- electromagnetic shut-off valve



①

	Article	Order No.
①	**Rotary vacuum concentrator RVC 2-18 CDplus**	**55 86 00220**

Please order rotors separately.

Rotary vacuum concentrator RVC 2-18 CDplus without vacuum pump

	Article	Order No.
②	**Rotary vacuum concentrator RVC 2-18 CDplus (without vacuum pump)**	**55 86 00222**

RVC 2-18 CDplus basic unit for connection to existing vacuum system via a standard DN 16 connecting flange. Please order rotors separately.



②

Rotors for RVC 2-18 CDplus

Article	Order No.
Fixed-angle rotor 40 × 0.25/0.5 ml	**55 86 10334**
Fixed-angle rotor 30 × 0.5/0.75 ml	**55 86 24505**
Fixed-angle rotor 24 × 1.5/2.2 ml	**55 86 24502**
Fixed-angle rotor 36 × 1 ml	**55 86 10218**
Fixed-angle rotor 24 × 2.5 ml	**55 86 10327**
Fixed-angle rotor 12 × 4 ml	**55 86 10265**
Fixed-angle rotor 18 × 4/7 ml	**55 86 24512**
Fixed-angle rotor 12 × 10/15 ml	**55 86 24516**
Fixed-angle rotor 6 × 50 ml	**55 86 10226**
Fixed-angle rotor 6 × 50 ml (FALCON)	**55 86 10252**

Evaporators



Vacuum Concentrator, CHRIST

Vacuum Concentrator RVC 2-25 CDplus

Universal bench top unit for routine work which requires an increase in specimen concentration. Can handle large specimen volumes and is suitable for aqueous products and products than contain solvents. Complete system including membrane pump and cold trap (2 liters, condenser temperature -50°C).
Large selection of rotors: 108 × 1.5/2.2 ml, 48 × 4 to 7 ml, 24 × 10 to 15 ml, 12 × 30 ml, 8 × 50 ml, 2 × microtitration plates.

Other product highlights:
- vaporization over large surfaces for very short drying times
- continuous temperature pre-selection from +30°C to +80°C
- timer pre-select - 5 minutes to 12 hours or unlimited
- unit control CDplus with operator-friendly user interface for intuitive control of evaporation processes under rotation
- innovative drive unit design, no moving parts outside of the centrifuge chamber

The vacuum pump is supplied ready to use with a chemical-resistant membrane pump which delivers a final vacuum of about 10 mbar and has a suction capacity of 2 m^3/h. All of the necessary connection fittings are also included as well as a cold trap (2 liters, -50°C).

The pump ensures that the process continually runs as liquid vaporization and not as freeze drying, which would be the case with pumps that deliver a lower final vacuum and which would significantly increase processing time.

Article	Order No.
Rotary vacuum concentrator RVC 2-25 CDplus, without accessories	**55 86 00225**
Vacuum chemical diaphragm pump 2 m^3/h	**55 86 25297**
Electromagnetic shut-off valve	**55 86 25800**
Cooling trap CT 02-50	**55 86 00502**
Glass lid with connecting tubes	**55 86 21370**
Vacuum sensor VSK 3000	**10 86 25474**
Rotary vacuum concentrator RVC 2-25 CDplus, complete with accessories	**55 86 10225**

Rotors for RVC 2-25 CDplus (essential accessory)

Article	Order No.
Fixed-angle rotor 36 × 1.5/2.2 ml	**55 86 24552**
Fixed-angle rotor 36 × 2 ml	**55 86 10369**
Fixed-angle rotor 30 × 5 ml	**55 86 10391**
Fixed-angle rotor 48 × 5/7 ml	**55 86 24562**
Fixed-angle rotor 36 × 8/10 ml	**55 86 24563**
Fixed-angle rotor 24 × 10/15 ml	**55 86 24566**
Fixed-angle rotor 12 × 30 ml	**55 86 24575**
Fixed-angle rotor 8 × 50 ml (FALCON)	**55 86 24580**
Fixed-angle rotor 8 × 50 ml	**55 86 24584**
Fixed-angle rotor 6 × 100 ml	**55 86 24595**
Swing-bucket rotor 2 × microtiter plates	**55 86 24600**

webcode WWQJ3070

eppendorf



Vacuum Concentrator, Eppendorf

Concentrator plus

The Concentrator plus has a new LCD-display as well as a user-friendly control panel with clear assignment of the function keys to the display. The Concentrator plus is available in two versions: as complete system with integrated, maintenance-free vacuum pump or as Concentrator single device, which can be connected to an existing vacuum pump. Both configurations enable a quick and efficient - and at the same time gentle - vacuum concentration of the samples (e.g. DNA/RNA, proteins). The complete system contains a condensate separator, which purifies the outgoing air to up to 85% and thus protects from unpleasant odours. At the same time, an automatic condensate evacuation extends the life span of all components, which encounter the vapours. A big selection of fixed-angle rotors, which can be loaded with up to 144 samples by stapling, as well as the micro test plate rotor A-2-VC make it possible to use the Concentrator plus for a wide range of applications in the laboratory.

Product features:
- Small width of 32 cm saves precious space on the laboratory bench
- Chemical-resistant PTFE-membrane pump
- Chemical-resistant stainless steel tank
- Very quiet operation, even with running pump
- Automatic condensate evacuation
- Three freely selectable operation programmes (watery, alcoholic or high vapour pressure), depending on solvent used → reducing expenditure of time to up to 20 %

Continued on next page

Evaporators

- Four heating levels available (room temperature, 30°C, 45°C, 60°C), which enables safe and efficient concentrating of different samples
- Centrifugation and desiccator function
- Complete system with connection for external devices offers additional flexibility

	Article	Order No.
①	**Concentrator plus complete system** with built-in diaphragm pump and 48 × 1.5/2.0 ml fixed-angle rotor	**10 69 50215**
	Concentrator plus complete system with built-in diaphragm pump, with junction for external devices (e.g. gel-dryer), without rotor	**10 69 50614**
	Concentrator plus complete system with built-in diaphragm pump, without rotor	**10 69 50410**
	Concentrator plus basic device, with 48 × 1.5/2.0 ml fixed-angle rotor	**10 69 50010**


②

Swing-bucket rotor A-2-VC
Max. tube capacity

Two buckets for
- 0.2 ml PCR tubes
- 5-tube or 8-tube strips
- PCR plates
- Microplates
- Cell culture plates
- Deepwell plates (max. height = 27 mm)
- Slides (with CombiSlide® adapter)

	Type	Tube capacity ml	Tube dim. (Ø×L or L×W×H) mm	Tube capacity per rotor	Order No.
②	A-2-VC	96 × 0.2	128 × 86 × 27 26 × 75[1)]	2	**10 69 45009**

[1)] with CombiSlide® adapter

③ **Fixed-angle rotors**

Type	Tube capacity ml	Tube dim. (Ø×L or L×W×H) mm	Tube capacity per rotor	Order No.
F-45-72-8	0.5	8×31	72	**10 69 34007**
F-45-70-11	1.5 2	11×41 11×47	70	**10 69 32004**
F-45-48-11	1.5 2	11×41 11×47	48	**10 69 30001**
F-45-24-12	6[2)]	12×67-100	24	**10 69 36000**
F-50-8-16	15	16×97	8	**10 69 41003**
F-50-8-18	16[2)]	18×105-128	8	**10 69 42000**
F-45-8-17	15	17×120	8	**10 69 38002**
F-40-36-12	1.5	12×32	36	**10 69 40007**
F-45-36-15	6	15×48	36	**10 69 35003**
F-45-16-20	6.5 10	20×42 20×55	16	**10 69 43006**
F-40-18-19	10	19×66	18	**10 69 37006**
F-45-12-31	20	31×55	12	**10 69 44002**
F-35-8-24	25	24×86	8	**10 69 39009**
F-35-6-30	50	29.5×116-123	6	**10 69 47001**

[2)] Min./max. tube length and max. volume, respectively.


③

Accessories

Article	Order No.
Rotor spacer required for stacking rotors F-45-72-8 and F-45-48-11	**10 69 16005**
Adapter for CombiSlide® (set of 2)	**10 69 06005**
Adapter For 0.5 ml micro centrifuge tube and 0.6 ml Microtainers®, 6 pieces	**55 69 16001**
Adapter For 0.2 ml PCR tube, 6 pieces	**55 69 15005**
Work trays for 96 x 0.2 ml PCR tubes (set of 10) and plates without frame	**10 69 24235**
Frame for work tray (set of 5)	**10 69 24243**

webcode To see other variants and accessories, please enter the webcode on our website.

Evaporators

webcode WW4HV029

thermo scientific

Thermo Scientific™ Savant™ SpeedVac™ SPD1030 und SPD2030 Integrated Vacuum Concentrator Systems, Thermo Scientific



①

The Thermo Scientific™ Savant™ SpeedVac™ SPD1030 and SPD2030 vacuum concentrator systems combine a concentrator, an oil-free vacuum pump and a cold trap in a single compact unit. They are the ideal solution for drying DNA/RNA precipitates, PCR samples, proteins, enzyme, HPLC fractions in plates or tubes in water/ethanol or isopropanol and other organic solvents. Both systems fit under a standard lab fume hood.

- Plug-and-Play installation - no tubing required
- Intuitive control panel with a bright display; three pre-set and three user-defined programmes
- Radiant cover for fast evaporation and efficient solvent removal
- Vacuum ramping and pressure controls eliminate sample bumping to maintain sample integrity
- Two timers for heating time and runtime with acoustic alarm
- of Wide variety of rotors to support sample format from micro tubes, vials and microplates to large-volume flasks
- Oil-free vacuum membrane pump – no addition of oil, no oil change
- PTFE coating protects the chamber from corrosion and makes cleaning easy

Technical data:

Max. vacuum:	<10 Torr (13 mbar)
Displacement:	30 l/min at 50 Hz
Chamber temperature:	35°C to 80°C
Dimensions (W×D×H):	64 × 66 × 41 cm (SPD1030) / 79 × 71 × 53 cm (SPD2030)
Weight:	69 kg (SPD1030) / 93 kg (SPD2030)
Power supply:	230 V / 50 Hz

	Article	Order No.
	SpeedVac SPD1030 system kit incl. RH40-12 rotor (40 × 1.5 ml), CryoCool heat transfer fluid (1 l) and glass condensation flask	**10 79 21030**
①	**SpeedVac SPD2030 system kit** incl. RH200-12 rotor (200 × 1.5 ml), CryoCool heat transfer fluid (1 l) and glass condensation flask	**10 79 22030**

To see our large portfolio of models and accessories, please enter webcode WW4HV029 to access our online catalogue.

webcode WW4HV030

thermo scientific

Thermo Scientific™ Savant™ SpeedVac™ SPD120 vacuum concentrator kits, Thermo Scientific



①



②

The modular vacuum concentrators Thermo Scientific™ Savant™ SpeedVac™ SPD120 provide flexibility for your benchtop space. They are ideal for evaporation of non-aggressive organics.

- Radiant glass cover to accelerate evaporation and reduce drying time
- 3 preset and 3 user-defined programmes
- Safe Soft-Close lid lock protects the user and the sample
- Two timers for heating time and runtime, with acoustic alarm
- PTFE-coated chamber for high chemical resistance and easy cleaning
- Data transfer via USB connection

	Article	Order No.
①	**SpeedVac SPD120P1 kit for standard evaporation** incl. universal vacuum system with oil-free vacuum pump and cold trap (–50°C), tubing kit, 1 l CryoCool heat transfer fluid, glass condensation flask and RH40-11 rotor (40 × 1.5 ml)	**10 79 21201**
②	**SpeedVac SPD120P2 kit for lyophilization** incl. ultra-low temperature cold trap (-105°C), vacuum pump, digital vacuummeter, RH40-11 rotor (40 × 1.5–2.0 ml), chemical trap with disposable cartridge for neutralisation of acids, 1 l CryoCool heat transfer fluid, glass condensation flask and oil for vacuum pump and universal tubing kit	**10 79 21202**

To see our large portfolio of models and accessories, please enter webcode WW4HV030 to access our online catalogue.

Rotary Evaporators

Rotary Evaporators RC 900 and RC 600, KNF Neuberger

webcode WWKVG013

RC 900
- **Lean design, very small footprint**
  The RC 900 needs little space and offers maximum ease of operation.
- **Perfectly silent for high operating comfort**
  Lift and rotary system of the RC 900 are as good as noiseless.
- **Flexible application, easy to use**
  Central remote control for all functions, operation via touch screen and rotary knob.

RC 600
- **Immediately operative**
  Central operation of all functions via membrane keyboard, extremely easy to operate.
- **Perfectly robust**
  The structure and all components of the unit are designed to withstand heavy strain.
- **Compact and safe**
  Cordless heating bath with drain, hose holder attached to the tower, easy piston change – well-conceived solutions eliminate the typical safety hazards.



Technical data:
Heating bath:
Heating bath temperature: 20 to 180°C
Coolant supply parameters (chilled condenser):
Permissible pressure: 3 bar
Permissible temperature: -15 to +20°C
Coolant-coated surface: 1230 cm²
Parameters of evaporation flask:
Size of evaporation flask: 50 to 3000 ml
Rotational speed: 25 to 250 1/min
Length of stroke: 150 mm
Lifting speed: ca. 38 mm/s
Weight: 9.1 kg
Dimensions W × H × D:
without glass: 431 × 464 × 447 mm (RC 900)
431 × 464 × 453 mm (RC 600)
with glass: 487 × 823 × 447 mm (RC 900)
487 × 823 × 453 mm (RC 600)

Article	Order No.
Rotary evaporator RC 600	**10 62 70600**
Rotary evaporator RC 900	**10 62 70900**

Rotary Evaporator, Phoenix Instrument

webcode WWSB5020

Features at a glance:
- Easy to read large digital LCD screen displays heating, temperature, rotation, speed and timing
- Speed range from 20 to 280 rpm
- Large 5 l water-oil heating bath with heating temperature range of RT to 180°C
- Heating bath with precise temperature control and adjustable safety circuit
- Designed a detachable operating panel allows remote control
- Patented condenser (cooling surface 1,500 cm²) with excellent cooling effect
- Motorized lift with quick-action, automatic release evaporating flask to top position in case of power failure
- Adjustable final position recognition to protect operator and sample against breakage
- Evaporating flask with an ejector, convenient to remove
- USB-interface
- Timer function
- Right/left intermittent run



Technical data:
Speed range: 20 to 280 rpm
Speed display: LCD
Temperature range: RT to 180°C
Temperature accuracy: ±1°C
Heating power: 1300 W
Temperature display: LCD
Lift stroke: 150 mm
Timer function: yes
Timer display: LCD
Time setting range: 1 to 999 min
Dimensions: 600 × 450 × 820 mm
Weight: 19 kg
Ambient temperature: 5 to 40°C
Relative humidity: 80%
Safety class: IP20

Article	Order No.
Rotary evaporator RE-100D	**10 13 79100**

Rotary Evaporators

webcode WWQVD053



①



②



③



④

rettberg.biz
GLASAPPARATEBAU • LABORATORY GLASSWARE

Rotary Evaporator Flasks, Rettberg

① **Rotary evaporator flasks, pear-shaped**
centered, with ground socket, borosilicate glass 3.3

Vol. ml	Gr. joint NS	Order No.
5	14.5/23	**13 70 00007**
10	14.5/23	**13 70 00008**
25	14.5/23	**13 70 00014**
50	14.5/23	**13 70 00017**
100	14.5/23	**13 70 00024**
50	29/32	**13 70 01005**

Vol. ml	Gr. joint NS	Order No.
100	29/32	**13 70 01010**
250	29/32	**13 70 01025**
500	29/32	**13 70 01050**
1000	29/32	**13 70 01100**
2000	29/32	**13 70 01200**
3000	29/32	**13 70 01300**

② **Rotary evaporator flasks, round**
centered, with ground socket, borosilicate glass 3.3

Vol. ml	Gr. joint NS	Order No.
3000	29/32	**13 70 02300**

Vol. ml	Gr. joint NS	Order No.
4000	29/32	**13 70 02400**

③ **Collecting flasks for rotary evaporator flasks**
round, with spherical ground dish, borosilicate glass 3.3

Vol. ml	Gr. joint KS	Order No.
100	35	**13 70 03010**
250	35	**13 70 03025**
500	35	**13 70 03050**
1000	35	**13 70 03100**

Vol. ml	Gr. joint KS	Order No.
2000	35	**13 70 03200**
3000	35	**13 70 03300**
4000	35	**13 70 03400**

Collecting flasks for rotary evaporator flasks, coated
round, with spherical ground dish, borosilicate glass 3.3

Vol. ml	Gr. joint KS	Order No.
250	35	**10 70 00118**
500	35	**10 70 00119**

Vol. ml	Gr. joint KS	Order No.
1000	35	**10 70 00120**

④ **Special flasks for drying powdery substances**
pear shape, centered, with ground socket, borosilicate glass 3.3

Vol. ml	Gr. joint NS	Order No.
500	29/32	**13 70 04050**
1000	29/32	**13 70 04100**

Vol. ml	Gr. joint NS	Order No.
2000	29/32	**13 70 04200**
3000	29/32	**13 70 04300**



⑤

webcode WWQVD129

⑥

Accessories for Condenser, Rettberg

⑤ **Stutzer-type splash heads, straight**
Borosilicate glass 3.3, standard ground socket 29, centered, for rotary evaporators.

Ground cone NS	Order No.
14.5/23	**13 40 61714**

Ground cone NS	Order No.
29/32	**13 40 61729**

⑥ **Inlet stopcock made of borosilicate glass 3.3 with PTFE tube**

Article	Order No.
Inlet stopcock made of borosilicate glass 3.3	**13 70 04500**

webcode WWQVD131



⑦

Steam Ducts, Rettberg

	Article	Length mm	Version	Order No.
⑦	Steam duct	165	for setup V and C	**13 70 04525**
	Steam duct	282	for setput A	**13 70 04527**
	Vacuum seal KD 22, PTFE		improved PTFE	**13 70 04529**

Rotary Evaporators

Steam Ducts, Rettberg

Article	fits	Order No.
Steam duct, shaft 26 mm	Heidolph Laborota	**13 70 04536**
Seal, PTFE for 26 mm shaft	Heidolph Laborota	**13 70 04538**



webcode WWQVD132

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Special-Connector for Rotary Evaporators, Rettberg

webcode WWQVD163

Adapter for Rotary Evaporator for distillation direct from the storage jar without the need to transfer.
The unit consists of a central funnel tube NS 29/32 which feeds into the shaft using a double-ended PVDF screw section with an internal FPM O-ring to fit storage jars from 5 to 50 ml.



Connector for rotary evaporators

Article	Order No.
Adapter for 5 and 10 ml threaded jars	**13 70 04401**
Adapter for 15, 20, 30, 40 and 50 ml- threaded jars	**13 70 04402**

Screw jars for the adapters

Article	Order No.	PU pc/Pack
Screw-top jar 5 ml	**13 70 04407**	100
Screw-top jar 10 ml	**13 70 04408**	100
Screw-top jar 15 ml	**13 70 04411**	100
Screw-top jar 20 ml	**13 70 04412**	100
Screw-top jar 30 ml	**13 70 04416**	100
Screw-top jar 50 ml	**13 70 04419**	100

Freeze Drying

Freeze Dryer, CHRIST



Alpha 1-2 LDplus Freeze dryer, ice capacity 2 kg, ice condenser temperature -55°C, process B, drying in 8 round flasks and on 3 unheated shelves Ø = 200 mm.
Small, powerful benchtop unit for efficient lyophilisation of samples for standard laboratory tasks. The LDplus user interface makes working extra easy.

- Clearly structured graphical display
- Indication of key parameters
- Wide language selection
- Vacuum control for optimization/reduction of process times (electromagnetic pressure control valve available as option)
- Conversion of product temperature and vacuum according to the vapour pressure curve above ice
- Interface (option)

Total capacity 2 kg, ice condenser temperature -55°C, supplied with 8 rubber valves for drying in flasks and 3 unheated shelves for dish drying, system ready to use, includes vacuum pump (2 m^3/h suction capacity), air cooled, 230 V supply voltage, dimensions (width×depth×height) 315 × 460 × 345 mm, weight approx. 28 kg, practical accessories available for universal use in nearly all drying applications in round flasks, dishes, ampoules and vials.

Article	Order No.
Laboratory freeze dryer Alpha 1-2 LDplus, without accessories	**49 86 01021**
Vacuum gauge VCP 63	**49 86 25478**
Vacuum hose	**49 86 25702**
Base plate	**49 86 20890**
3 unheated shelves	**49 86 20893**
Acrylic drying chamber with 8 connections	**49 86 21455**
Rubber valve[1)]	**49 86 21860**
Vacuum pump 2 m^3/h	**49 86 25302**
Exhaust filter	**49 86 25501**
Laboratory freeze dryer Alpha 1-2 LDplus, compl. with accessories	**49 86 11021**

[1)] 8 required.

Freeze Drying



Freeze Dryer, CHRIST

Alpha 1-4 LSCbasic freeze dryer, ice capacity 4 kg, ice condenser temperature -55°C, process B, drying in 12 round flasks and on 3 unheated shelves Ø = 265 mm.
Universal lab system for routine applications with intuitive LSCbasic system control.

- Clearly structured display on 5.7" colour touchscreen
- Interactive visualisation of the layout
- Wide language selection
- Vacuum control for optimization/reduction of process times (electromagnetic pressure control valve available as option)
- Conversion of product temperature and vacuum according to the vapour pressure curve above ice
- Interface (option)

Total capacity 4 kg, ice condenser temperature -55°C, includes 12 rubber valves and 3 unheated shelves for dish drying, system ready to use, includes vacuum pump (suction capacity m^3/h), 230 V supply voltage, dimensions (width×depth×height) 390 × 555 × 415 mm, weight approx. 42 kg; modular design, wide range of accessories available for substantial capacity expansion.

Article	Order No.
Laboratory freeze dryer Alpha 1-4 LSCbasic, without accessories	**10 86 22370**
Vacuum gauge VCP 63	**49 86 25478**
Vacuum hose	**49 86 25704**
Base plate	**49 86 20900**
3 unheated shelves	**49 86 20903**
Acrylic drying chamber with 12 connections	**49 86 21550**
Rubber valve[1)]	**49 86 21860**
Vacuum pump 5 m^3/h	**49 86 25312**
Exhaust filter	**49 86 25502**
Laboratory freeze dryer Alpha 1-4 LSCbasic, compl. with accessories	**10 86 25411**

[1)] 12 required.



Freeze Dryer, CHRIST

Beta 1-8 LSCbasic freeze dryer, ice capacity 8 kg, ice condenser temperature -55°C, process B, drying in 12 round flasks and on 5 unheated shelves Ø = 265 mm, no vacuum control.

Lab system for routine drying of large batches with intuitive LSCbasic system control.

- Clearly structured display on 5.7" colour touchscreen
- Interactive visualisation of the layout
- Wide language selection
- Vacuum control for optimization/reduction of process times (electromagnetic pressure control valve available as option)
- Conversion of product temperature and vacuum according to the vapour pressure curve above ice
- Interface (option)

Total ice capacity 8 kg, ice condenser temperature -55°C, includes 12 rubber valves for flasks and 5 unheated shelves Ø = 265 mm for dish drying, includes vacuum pump (suction capacity 5 m^3/h), air-cooler, 230 V supply voltage, dimensions (width×depth×height) 780 × 540 × 415 mm, weight approx. 63 kg; practical accessories for universal use in nearly all drying applications in round flasks, dishes, ampoules and injection vials.

Article	Order No.
Laboratory freeze dryer Beta 1-8 LSCbasic, without accessories	**10 86 22420**
Vacuum gauge VCP 63	**49 86 25478**
Hand shut-off valve	**49 86 25920**
Base plate	**49 86 20900**
Acrylic drying chamber with 12 connections	**49 86 21555**
Rubber valve[1)]	**49 86 21860**
5 unheated shelves	**49 86 20902**
Vacuum hose	**49 86 25704**
Vacuum pump 5 m^3/h	**49 86 25312**
Exhaust filter	**49 86 25502**
Laboratory freeze dryer Beta 1-8 LSCbasic, compl. with accessories	**10 86 25811**

[1)] 12 required.

Freeze Drying

Freeze Dryer, CHRIST



Alpha 1-4 LSCplus plus freeze dryer, ice capacity 4 kg, ice condenser temperature -55°C, process B, 5 heated shelves Ø = 200 mm, 12 rubber valves, with vacuum control.

Universal freeze drying system with intuitive LSCplus user interface.

- Clearly structured display on 5.7" colour touchscreen
- Graphic representation of the freeze-drying process
- Detailed message texts
- Memory for 30 user-defined programmes (optional)
- WINDOWS®-based process control and documentation software available

Ice capacity 4 kg, ice condenser temperature -55°C, process B: separate freezing e.g. in the freezer and drying outside of the ice condenser chamber, 12 rubber valves for flasks and 5 (heated) shelves Ø = 200 mm for dish drying, vacuum control and shelf heating for accelerated, reproducible processing; ready to use, includes vacuum pump (suction capacity 2 m^3/h), air-cooled, 230 V supply voltage, dimensions (width×depth×height) 390 × 555 × 415 mm, weight approx. 48 kg; modular design, a wide range of accessories is available for substantial capacity expansion.

Article	Order No.
Laboratory freeze dryer Alpha 1-4 LSCplus, without accessories	**49 86 02041**
Extension unit HED-16 LSCplus	**49 86 25040**
Electromagnetic pressure control valve	**49 86 25910**
WST Base plate	**10 86 20880**
Acrylic drying chamber with 12 connections	**49 86 21550**
Rubber valve[1)]	**49 86 21860**
Carry-rack for 5 shelves	**10 86 21145**
Shelf with WST technology	**10 86 22576**
Vacuum hose	**49 86 25702**
Vacuum pump 2 m^3/h	**49 86 25302**
Exhaust filter	**49 86 25501**
Laboratory freeze dryer Alpha 1-4 LSCplus, complete with accessories	**49 86 12041**

Freeze Dryer, CHRIST



Alpha 2-4 LSCplus freeze dryer, ice capacity 4 kg, ice condenser temperature -85°C, process A, temperature-controlled shelf Ø = 200 mm with stoppering device, vacuum control.

Universal freeze drying system with intuitive LSCplus user interface.

- Clearly structured display on 5.7" colour touchscreen
- Graphic representation of the freeze-drying process
- Detailed message texts
- Memory for 30 user-defined programmes (optional)
- WINDOWS ®-based process control and documentation software available

Total capacity 4 kg, ice condenser temperature -85°C, 1 (heated) shelf Ø = 200 mm. Process A: freezing and drying in vials, temperature range about -35°C to +99°C, stoppering under vacuum or inert gas, vacuum control and shelf heating for faster, reproducible processing; ready to use, includes vacuum pump (suction capacity 2 m^3/h), air cooled, 230 V supply voltage, dimensions (width×depth×height) 390 × 555 × 415 mm, weight approx. 60 kg; modular design, wide range of accessories for substantial capacity expansion.

Article	Order No.
Freeze dryer Alpha 2-4 LSCplus, without accessories	**49 86 02042**
Extension unit HED-16 LSCplus	**49 86 25040**
Programmer PGM 30	**49 86 25099**
Electromagnetic pressure control valve	**49 86 25910**
Shelf with stoppering device acrylic lid, Ø = 200 mm	**49 86 21009**
Vacuum hose	**49 86 25702**
Vacuum pump 2 m^3/h	**49 86 25302**
Exhaust filter	**49 86 25501**
Laboratory freeze dryer Alpha 2-4 LSCplus, complete with accessories	**49 86 12042**

webcode To see other variants and accessories, please enter the webcode on our website.

Freeze Drying



Alpha 3-4 LSCbasic – Special System for Organic Solvents, CHRIST

Universal system configuration which meets increased safety requirements. The Alpha 3-4 solvents package allows for safe handling of solvents, many of which are flammable. The unit is equipped with the user-friendly LSCbasic control. Ice capacity 4 kg, ice condenser temperature -105°C, method B, drying in 12 flasks and 3 unheated positions Ø 200 mm.

- Drying chamber made of safety glass
- Safe: no ignition source such as the commonly used Pirani vacuum sensors
- Resistant: high-quality materials such as stainless steel 316 L and solvent-resistant gaskets
- Powerful: internal condenser with -105°C
- Solvent-resistant hybrid vacuum pump

Equipped with capacitive vacuum measuring probe, 12 rubber valves for flask drying and 3 unheated positions for shelf drying, coated mineral glass drying chamber, unit fully operative with vacuum-chemicals-hybrid pump (capacity 6 m3/h), air-cooled unit, electrical connection 230 V, dimensions (width × height × depth) 780 × 415 × 540, weight approx. 80 kg, natural cooling agent, practical and universal accessories for almost all drying applications in flasks, shelves available

Article	Order No.
Alpha 3-4 LSCbasic solvent packet universal	**10 86 22395**

Available as a package only

Columns



rettberg.biz

webcode WWQVD006

Chromatography Columns, Rettberg

Chromatography columns made of borosilicate glass 3.3
With little dead space, with PTFE stopcock (bore 2.5 mm), with standard ground socket.

Version A with fused glass filter plate Por. O
Version B with fused glass filter plate Por. O and GL14
(without screw cap and tube)

Ground socket NS	Filling height approx. mm	Inner Ø approx. mm	Version ① A Order No.	② B Order No.
14.5/23	200	10	**86 70 00211**	**10 70 00233**
14.5/23	300	10	**86 70 00311**	**10 70 00234**
29/32	200	20	**86 70 01211**	**10 70 00239**
29/32	300	20	**86 70 01311**	**10 70 00240**
29/32	200	30	**86 70 01321**	**10 70 00241**
29/32	300	30	**86 70 01331**	**10 70 00242**
29/32	500	30	**86 70 01351**	**10 70 00287**
29/32	1000	30	**86 70 01391**	**10 70 00288**
45/40	750	60	**10 70 00283**	**10 70 00235**
45/40	750	70	**10 70 00284**	**10 70 00236**
45/40	750	80	**10 70 00285**	**10 70 00237**
45/40	750	90	**10 70 00286**	**10 70 00238**

Screwing cap for tube pipe culverts made of PBT with PTFE inner part

Inner Ø approx. mm	Thread	Order No.
1.6	GL 14	**10 70 00221**
3.2	GL 14	**10 70 00421**



③ Solvent reservoir for chromatography columns made of borosilicate glass 3.3

Volume ml	Ground joint cone and socket	Order No.
50	NS 14.5	**10 70 00313**
100	NS 14.5	**10 70 00314**
250	NS 14.5	**10 70 00315**
100	NS 29	**10 70 00316**
250	NS 29	**10 70 00317**
500	NS 29	**10 70 00318**
1000	NS 29	**10 70 00319**
2000	NS 45/ NS 29	**10 70 00330**
3000	NS 45/ NS 29	**10 70 00333**
4000	NS 45/ NS 29	**10 70 00331**
5000	NS 45/ NS 29	**10 70 00332**

Thin Layer Chromatography

Devices and Accessories for Thin Layer Chromatography, biostep

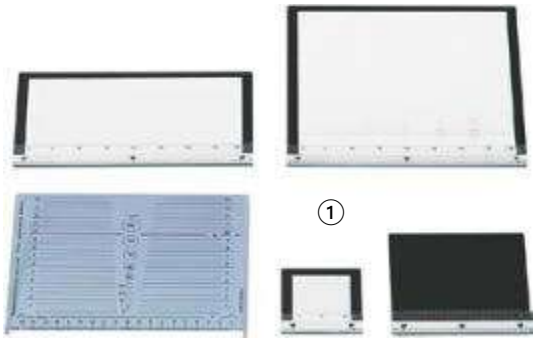
webcode WWAZJ006

biostep

Accessories

① Application templates for thin layer chromatography
- for applying the samples precisely on the DC plates
- for plate sizes 50 × 50, 100 × 100, 200 × 100 and 200 × 200 mm
- numbered triangular cut-outs provide exact guidance for pipette
- non-slip undersurface

Article	Order No.
Application template 50 × 50 mm	**10 12 80135**
Application template 100 × 100 mm	**10 12 80134**
Application template 200 × 100 mm	**10 12 80136**
Application template 200 × 200 mm	**10 12 80137**



② Vertical separating chambers for thin layer chromatography
- Different chamber types, sizes, and lids for the respective applications, with/without chamber saturation, pre-conditioning etc.
- Standard separating chamber for 20 × 20 cm plates
- Nano separating chamber for small plates of up to 10 × 10 cm

Article	Order No.
Standard separating chamber for plates 200 × 200 mm, GC	**10 12 80405**
Standard separating chamber for plates 200 × 200 mm, KC	**10 12 80160**
Nano separating chamber for plates 100 × 100 mm, GC	**10 12 80410**

GC = glass cover, KC = knob cover



③ Horizontal separating chambers for thin layer chromatography
- inexpensive, fast, cost-efficient
- for plate sizes 5 × 5 cm or 10 × 10 cm
- good monitoring of the development conditons, either in an atmosphere saturated in solvent vapor or optionally without pre-steaming
- clear results are achieved in a short time – perfect for laboratory, drugstore/pharmacy, schools, internship
- low contamination of the atmosphere with solvent vapors

Article	Order No.
H-separating chamber for 50 × 50 mm plates incl. 1 frit rod and glass lid	**10 12 80150**
H-separating chamber for 100 × 100 mm plates incl. 2 frit rods and glass lid	**10 12 80151**
Frit rods for H-separating chambers, pack. à 5 pc. Pack. à 5 pc.	**10 12 80155**



Devices

④ HPTLC applicator AS 30
Accurate sample application, semi-automatic
- spray-on-technique by gas stream
- accurate application of the samples as dot or as line
- samples can be applied on TLC plates, HPTLC plates or foils up to 20 × 20 cm
- user-friendly menu, 2 line LCD display
- dual syringe system with 10 µl dosing and 25 µl filling syringe
- incl. PC-software for MS Windows 10

Article	Order No.
HPTLC applicator AS 30	**10 12 80500**



⑤ Autosampler BS 35
Sampler specifically modified for HPTLC-Applicator AS 30
- combination AS 30 and BS 35 = fully automated sample application
- Y, Y, Z axes mechanism
- advantageous for high sample through-put
- permanently lubricated pilot bearings
- double-needle injection design to prevent clogging with septum particles
- sample capacity: 80 samples of 1.5 ml each

Article	Order No.
Autosampler BS 35	**10 12 85101**

⑥ Sprayer SGe1
Even spraying of DC plates
- for derivatizing the TLC/HPTLC plates
- ultrafine spray mists are generated independent of mains connection
- licluding rechargeable batteries and a battery-charging station
- for fluids up to the viscosity of light oils – particle diameter 5 to 10 µm
- ergonomical shape for fatigue-free work

Article	Order No.
Sprayer SG e1	**10 12 80605**



Continued on next page

Thin Layer Chromatography



① **ChromaJet DS 20**
Fully-automated reagent spraying device
- highest precision when spraying reagents on TLC plates or foils; very high reproducibility
- great reduction of required reagent quantity, extremly low aerosol formation
- 4 spray methods can be created and saved, GxP conform
- suitable for routine tasks
- intuitive operation, easy sequence of setting options
- free selection of X-Y-coordinat direction, spray evenly individual tracks and areas of any size up to 20 × 20 cm
- incl. PC-software for MS Windows 10

Article	Order No.
ChromaJet DS 20	**10 12 80700**



② **ProViDoc-System DD 70**
PC controlled documentation station for producing and documenting DC samples etc. in a visible and UV range of 254/366 nm
- with high-resolution reflex camera, 24 Mpixel
- CabUVIS dark hood with reflected and transmitted UV light
- processing and easy archiving of the images in conformity with G×P
- incl. argusX2 control software with user administration and database
- extensive post-processing and labeling functions including RF scale
- optional 21 CFR Part11 module with complete system audit trails, backup function
- compatible with Microsoft Windows 10

Article	Order No.
ProViDoc system DD70	**10 12 80061**
incl. reflex camera, CabUVIS and software	
21 CFR Part 11 module	**10 12 80095**



③ **HPTLC Densitometer CD 60**
Compact, intelligent measuring device for quantification
- spectral range 190 – 900 nm
- remission and transmission
- compact intelligent measuring instrument
- for reliable results and ease of operation
- extinction or fluorescence mode
- dual / multi-wavelength measurement, among others
- calibration: linear, polynomial or Michaelis-Menten function
- including control and analysis software ProQuant for quantitative applications (TLC, HPTLC and electropherogram) with MS windows 10

Article	Order No.
HPTLC Densitometer CD 60	**10 12 81800**

webcode WW6PB018

Hahnemühle

Chromatography Paper, Hahnemühle



Recommended for chromatographic analysis and preparations.
- Made from pure cotton linters with an α-cellulose content > 98 %
- High-performance resolution and wet strength
- The fibres are oriented in predominantly one direction
- Thicker papers allow higher sample volumes
- Lower capillary rises offer higher resolutions

Technical data:

Grade	Properties	Weight	Thickness	Capillary rise[1)]
Analytical chromatography papers				
2043 a	medium fast	90 g/m²	0.17 mm	105 mm
2043 b	medium fast	120 g/m²	0.22 mm	105 mm
Preparative chromatography papers				
2668	very fast	320 g/m²	0.90 mm	155[2)] mm
2727	very fast	700 g/m²	1.45 mm	170[1)] mm

[1)] Measures in 30 min.
[2)] Measures in 10 min.

Grade	Dimensions mm	Order No.	PU pc/Pack
2668	580×600	**10 15 94370**	50
2043A	460×570	**10 15 94371**	100
2043A	580×600	**10 15 94372**	100
2043B	460×570	**10 15 97373**	100
2727	190×190	**10 15 90800**	100

CHAPTER OVERVIEW

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Equipment

webcode WWFH8013

BANDELIN Ultraschall seit 1955

BactoSonic Ultrasonic Special Bath, BANDELIN



①



①



②

Ultrasonic special bath for gentle removing of biofilm
Fast microbiological diagnostic method for implant-associated infections
The successful treatment of implant infections depends on an accurate microbiological diagnosis. Microorganisms form biofilms on implant surfaces, what makes them difficult to detect by conventional methods. BactoSonic®gently removes biofilms from implant surfaces. After sonication the liquid is cultered on agar plates and can be used for further analysis (e.g. microcalorimetry). Fast diagnosis of infections is possible.

Principle of BactoSonic®
The implants are placed in the air-tight implant boxes and sonicated in the specially designed ultrasonic device BactoSonic®. Compared to other ultrasonic baths, BactoSonic® works with a very low ultrasound intensity. The biofilm is removed without killing the bacteria, a quantitative assessment is possible.

Assessment of biofilm-forming bacteria on implants by BactoSonic®
The sonicated liquid is cultured and the quantity of bacteria can be determined. Compared to standard methods (e.g. biopsies from periprosthetic tissue) up to 10,000 times more bacteria can be detected. Mixed infections and different bacteria morphotypes can better be identified. The sensitivity especially of patients with previous antibiotic therapy is improved.

BactoSonic 14.2
Ready-to-use set consisting of:
- Ultrasonic special bath BS 14.2, with scientifically tested procedure, wire frame for foil test FT 14, TICKOPUR R 33 (contact liquid - concentrate) - 250 ml

Implant boxes
- IB 5, PP, 0,52 l – 2 pcs, 145 × 110 × 67
- IB 6, PP, 0,6 l – 2 pcs, Ø 142 × 68
- IB 10, PP, 1,0 l – 1 pcs, 278 × 115 × 60
- IB 18, PP, 1,8 l – 1 pcs, 208 × 143 × 94
- IB 20, PP, 2,0 l – 1 pcs, 135 × 102 × 282

Box trays for implant boxes
- BT 5, PC, for 2 pcs IB 5
- BT 6, PC, for 2 pcs IB 6
- BT 10, PC, for 1 pcs IB 10
- BT 18, PC, for 1 pcs IB 18
- GH 14, stainless steel, for 3 pcs IB 20

Implant boxes can be ordered seperately. Package quantity 5 pieces.

Continued on next page

Equipment

Technical Data:

Inner tank dimensions, stainless steel:	325 × 300 × 150 mm (l×w×d)
Filling volume for operation:	9.5 liters (contact liquid)
Exterior dimensions:	355 × 325 × 305 mm (l×w×h)
Drain:	ball valve G ½, left side
Timer:	1 – 15 min and ∞
Power selection switch:	adjustable 20, 40, 60 80 and 100 %
Ultrasonic nominal power:	max. 200 W
Frequency:	40 kHz
Current consumption:	1.0 A
Mains connection:	230 V~, (±10%) 50/60 Hz
Weight with accessories:	14.0 kg

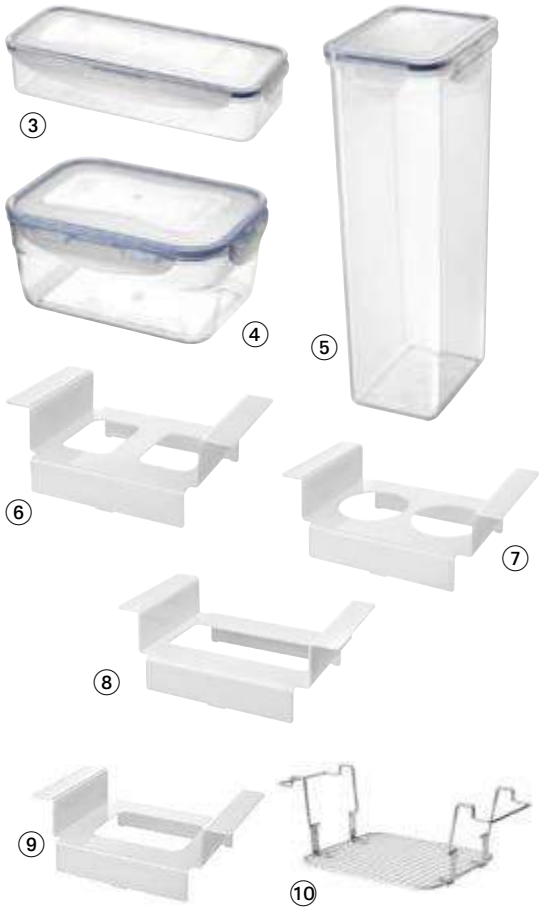
	Article	Order No.
①	BactoSonic 14.2	**10 07 33290**

Implant boxes for reordering

	Article	Pcs/pack	Order No.
	Implant box IB 5	5	**10 07 33280**
②	Implant box IB 6	5	**10 07 33281**
③	Implant box IB 10	5	**10 07 33282**
④	Implant box IB 18	5	**10 07 33283**
⑤	Implant box IB 20	5	**10 07 33284**

Box trays for reordering

	Article	fits	Order No.
⑥	Box tray BT 5	IB 5	**10 07 33296**
⑦	Box tray BT 6	IB 6	**10 07 33252**
⑧	Box tray BT 10	IB 10	**10 07 33254**
⑨	Box tray BT 18	IB 18	**10 07 33263**
⑩	Box tray GH 14	IB 20	**10 07 30291**



PCR Thermocycler RePure Series, JoJo Life Science

webcode WW5RD002

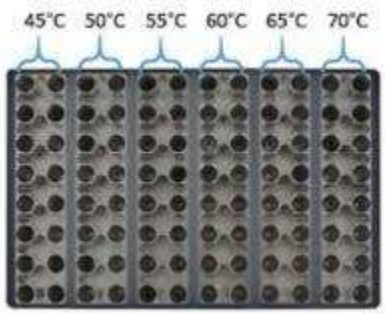
JoJo Life Science

The RePure96 Gradient is a state-of-the-art thermocycler both in terms of the operation via the 10.1 inch capacitive touchscreeen and of the temperature control via the eight high-quality Peltier elements. The unit ensures fast and easy working processes with premium results – for more satisfaction and reliable success in your laboratory routines.

- Reinforced aluminium module with Eloxal technology guarantees fast heat transfer into the PCR assays. The material is highly resistant to corrosion.
- 8 Peltier elements, which have along service life, provide temperature control rates of up to 6°C/sec.
- The auto-adjusting pressure heating lid with contact pressure protection allows for closing and tightening of the lid in a single step; it is suitable for PCR tubes and plates of different heights.
- The ventilation channel is located at the front and rear of the cycler so that the units can be set up side by side.
- The unit has an Android operating system and a capacitive 10.1 inch touchscreen.
- The graphic user interface makes the unit extra easy to operate.
- 11 integrated standard programming templates for quick and easy generation of individual programmes.
- Real-time indication of the running programme and the remaining time so that the file can be edited while the programme is running.
- Software update and additional programme storage via USB
- Integrated WiFi module; one unit can control several PCR machines via computer or smartphone. Internet connection is required.
- Notification via email at completion of the experiment is possible.

Article	Order No.
RePure-96 Gradient with 96 × 0.2 ml block, gradient function over 12 rows with 1 to 42°C spread, heating/cooling output: 5°C/sec. / 5°C/sec.	**10 56 61073**
RePure-96 Performance with 96 × 0.2 ml block, with 6 temperature zones for targeted temperature differences of max. 5°C from zone to zone, heating/cooling output: 6°C/sec. / 5°C/sec.	**10 56 61074**





webcode To see other variants and accessories, please enter the webcode on our website.

Equipment

webcode WW5RD004

JoJo Life Science

PCR Thermocycler Gene Explorer, JoJo Life Science



①



②



③

The Gene Explorer Thermocycler systems combine state-of-the-art technology with intuitive software and premium product quality. All components are high-quality branded products.

- All models with gradient function (except model Triple)
- Intuitive control via 8″ touchscreen
- Programme memory for 10,000 programmes
- 2 × USB2.0 and 1 × LAN connection
- Easy to control via a computer system
- Supports E-mail notification function
- Optional GLP report and log-in management for user security
- One-click incubation function, 11 standard programme templates
- Heating lid with contact pressure limiter

Model series Gene Explorer Basic

- Fixed temperature control block formats: 96 × 0.2 ml, 96 × 0.2 ml + 77 × 0.5 ml, 60 × 0.5 ml or size-384 PCR plate
- Max. heating output 5°C/s, max. max. cooling output 4°C/s
- Temperature control via 6 high-quality Peltier elements
- Block homogeneity ≦±0.2°C / block temperature accuracy ≦±0.1°C

Model series Gene Explorer Advanced

- Exchangeable temperature control block formats: 96 × 0.2 ml, 96 × 0.2 ml + 77 × 0.5 ml,
- 60 × 0.5 ml, size 384 PCR plate or double block 2 × 48 × 0.2 ml
- Max. heating output 5°C/s, max. max. cooling output 4°C/s
- Temperature control via 8 high-quality Peltier elements
- Block homogeneity ≦±0.2°C / block temperature accuracy ≦±0.1°C

Model series Gene Explorer Triple

- Fixed three-block system: 3 × 32 × 0.2 ml
- Temperature gradient over 8 rows per block (GE Triple Grad.)
- Max. heating output 4.5°C/s, max. max. cooling output 4°C/s
- Temperature control via 3 high-quality Peltier elements
- Block homogeneity ≦±0.3°C / block temperature accuracy ≦±0.2°C

	Article	Order No.
①	**Gene Explorer Basic 96 graded** with block 96 × 0.2 ml	**10 56 60094**
	Gene Explorer Basic 96/77 graded with universal block 96 × 0.2 ml / 77 × 0.5 ml	**10 56 60605**
	Gene Explorer Basic 384 graded with block 384 PCR plate	**10 56 60607**
②	**Gene Explorer Advanced 96 graded** with block 96 × 0.2 ml	**10 56 60007**
	Gene Explorer Advanced 96/77 graded with universal block 96 × 0.2 ml / 77 × 0.5 ml	**10 56 60604**
	Gene Explorer Advanced 60 graded with block 60 × 0.5 ml	**10 56 60493**
	Gene Explorer Advanced 384 graded with block 384 PCR plate	**10 56 60494**
	Gene Explorer Advanced D48 graded with double block 2 × 48 × 0.2 ml	**10 56 60043**
③	**Gene Explorer Triple** with triple block 3 × 32 × 0.2 ml	**10 56 60044**
	Gene Explorer Triple graded with triple block 3 × 32 × 0.2 ml, with gradient function	**10 56 60495**

webcode

Use the webcode on our website to see a larger selection of products from a specific manufacturer.

Equipment

UV Sterilisation Cabinet for PCR Preperation, JoJo Life Science

The UV sterilisation cabinet is a convenient space for setting up PCR reactions in an environment free of nucleic acids for limiting the contamination of PCR reactions.

A low-cost alternative to a clean-room, the sterilisation cabinet features powerful UV lamps which denature nucleic acids in 5 to 30 minutes, rendering them unfit for amplification. White light ensures excellent visibility when working in the cabinets.

The UV lamps are time-controlled; the cabinet doors have safety switches which switch the UV lamps off automatically when the doors are opened.

Article	Order No.
UV sterilisation cabinet Mini with timer four UV lamps and white light, without collecting tray, 27 × 53 × 32 cm	**10 56 61058**
UV sterilisation cabinet Midi with timer four UV lamps and white light, without collecting tray, 42.5 × 53 × 39 cm	**10 56 61056**
UV sterilisation cabinet Maxi with timer four UV lamps and white light, without collecting tray, 60 × 53 × 41 cm	**10 56 61054**
White collecting tray for liquids 68 × 54 cm	**10 56 61101**
Yellow collecting tray for radioactive material 68 × 54 cm	**10 56 61102**
Disposable linings for collecting trays 68 × 54 cm, pack = 25 pcs.	**10 56 61103**



webcode WW5RD007

JoJo Life Science

Chemiluminescence Documentation Systems, JoJo Life Science

webcode WW5RD009

Chemiluminescence documentation systems chemiLITE and chemiPRO
Accurate Western-Blot and gel data is the precondition for great research. With so many ways to image chemiluminescence, fluorescence, and visible dyes, you need to know which imaging systems capture real results. We offer both an entry-level chemiluminescence documentation system and complete solutions for chemiluminescence and fluorescence western blot images.

	Article	Order No.
①	**chemiLITE chemiluminescence imaging system** for blots of up to 11 × 8 cm incl. software for imaging and analysis	**10 56 61340**
②	**chemiPRO chemiluminescence imaging system** for blots of up to 30.5 x 22.7 cm incl. software for imaging and analysis. Optional UV transilluminator, blue and white light, RGB and nIR fluorescence applications.	**10 56 61373**
③	**chemiPRO-XL chemiluminescence imaging system** for blots of up to 34.5 x 27.6 cm incl. software for imaging and analysis. Optional UV transilluminator, blue and white light, RGB and nIR fluorescence applications.	**10 56 61526**
④	**chemiPRO-XS chemiluminescence imaging system** for blots of up to 15 × 12 cm incl. software for imaging and analysis. Optional UV transilluminator, blue and white light, RGB and nIR fluorescence applications.	**10 56 61527**

Please enter webcode WW5RD009 to see more variants in our online catalogue.



Your specialized laboratory dealer –
fast, competent and economical

Equipment





webcode WW5RD011

JoJo Life Science

Chemilumines-/Fluorescence Documentation Systems, JoJo Life Science

JoJo ChemiScope chemilumines/fluorescence documentation systems

The ChemiScope series features the latest detection system and an interactive computer program. It provides gel documentation, documentation with visible light, RGB fluorescence and chemiluminescence imaging applications. With its frozen high-performance camera, the ChemiScope series can detect even weak signals. It offers high sensitivity and a large linear area.

Article	Order No.
ChemiScope 6200 System with frozen CCD camera, 6.05 megapixel, 16 bit, QE: ≧75%, motorised F0.8 lens, image capture and analysis software. PC required!	**10 56 61482**
ChemiScope 6200 Touch System with frozen CCD camera, 6.05 megapixel, 16 bit, QE: ≧75%, motorised F0.8 lens, image capture and analysis software,10-inch-touch industrial PC	**10 56 61484**
UVSmart™ UV Transilluminator (302 nm)	**10 56 61485**
Super flat blue LED Transilluminator (470 nm)	**10 56 61486**
Super flat white LED Transilluminator (470 nm)	**10 56 61487**
Filter wheel, 8 slots	**10 56 61488**
UV light excitation 365 nm Detection 460 nm / 30 F, detects UV light of excited stains	**10 56 61489**
Blue light excitation 470 nm Detection 525 nm / 30 F, detects blue light of excited stains	**10 56 61490**
Green light excitation 530 nm Detection 585 nm / 20 F, detects green light of excited stains	**10 56 61491**
Red light excitation 630 nm Detection 690 nm / 45 F, detects red light of excited stains	**10 56 61492**
Near-IR excitation 660 nm Detection 715 nm / 30 F, detects near-IR light of excited stains	**10 56 61493**
Near-IR excitation 770 nm Detection 810 nm / 40 F, detects near-IR light of excited stains	**10 56 61494**

Please enter the webcode WW5RD011 to see the other variants in our online catalogue.

webcode WW5RD010



Gel Documentation Systems, JoJo Life Science

Gel documentation systems microDOC, gelLITE, gelONE and gelPRO

Gel documentation is a fundamental component of electrophoretic analysis. We offer a range of gel documentation systems suitable for conventional ethidium bromide dyed DNA as well as for state-of-the-art alternatives to ethidium bromide. With 5 model series from the budget microDOC basic to the powerful gelPRO system, we offer the solution for any application and requirement.

	Article	Order No.
①	**microDOC Basic gel documentation system** incl. 24.1 Megapixel camera	**10 56 60884**
②	**microDOC gel documentation system** with 24.1 Megapixel digital camera and touchscreen control	**10 56 61041**
③	**gelLITE gel documentation system** gelLITE darkroom, 302 nm UV transilluminator 20 × 20 cm, UV filter, camera and software for imaging and analysis	**10 56 61525**
④	**gelONE gel documentation system** gelONE darkroom, 302 nm UV transilluminator 20 × 24 cm, UV filter, camera, touchscreen control, software for imaging and analysis	**10 56 61026**
⑤	**gelPRO gel documentation system** gelPRO darkroom, 302 nm UV transilluminator 25 × 30 cm, UV filter, software for imaging and analysis	**10 56 60803**

Please enter the webcode WW5RD010 to see the other variants in our online catalogue.

Equipment

Gel Documentation Systems, JoJo Life Science

webcode WW5RD012

JoJo Life Science

JoJo GenoSens gel documentation systems

The gel documentation and analysis system of the GenoSens series is designed for evidencing and documenting nucleic acids and proteins. It is equipped with a highly sensitive high-resolution scientific CCD camera which allows the device to register extremely weak signals. The automatic control and intuitive software make the complex process of image capturing easier, which increases the efficiency of the experiments.

Article	Order No.
GenoSens 2200 System Digital camera, 5.2 megapixel, QE: ≧82%, F1.2 motorised lens, UV Smart™ ultra-flat UV transilluminator (302 nnm), 590 nm filter, image capture and analysis software. PC required!	**10 56 61496**
GenoSens 2200 Touch System Digital camera, 5.2 megapixel, QE: ≧82%, F1.2 motorised lens, UV Smart™ ultra-flat UV transilluminator (302 nnm), 590 nm filter, image capture and analysis software, 10-inch touch industrial PC.	**10 56 61498**
Super flat blue LED Transilluminator (470 nm)	**10 56 61486**
Super flat white LED Transilluminator (470 nm)	**10 56 61487**
Filter wheel, 8 slots	**10 56 61488**
UV light excitation 365 nm Detection 460 nm / 30 F, detects UV light of excited stains	**10 56 61489**
Blue light excitation 470 nm Detection 525 nm / 30 F, detects blue light of excited stains	**10 56 61490**
Green light excitation 530 nm Detection 585 nm / 20 F, detects green light of excited stains	**10 56 61491**
Red light excitation 630 nm Detection 690 nm / 45 F, detects red light of excited stains	**10 56 61492**
Near-IR excitation 660 nm Detection 715 nm / 30 F, detects near-IR light of excited stains	**10 56 61493**
Near-IR excitation 770 nm Detection 810 nm / 40 F, detects near-IR light of excited stains	**10 56 61494**

Please enter the webcode WW5RD012 to see the other variants in our online catalogue.





Have any questions?
Just give us a call!

Chambers, Accessories



webcode WW5RD006

JoJo Life Science

webcode WW5RD005





Electrophoresis Chambers OmniPAGE, JoJo Life Science

omniPAGE vertical electrophoresis systems
The perfect unit for routine vertical electrophoresis with pre-cast or hand-cast gels.

- Molded tank for leak-proof running
- Simple clamping system for tight seal between the buffer chambers
- Exchangeable modules including electro blotting module, high-intensity electroblotting module, and capillary IEF module available
- Only one internal module for gel casting and for running – no transfer of glass plates during gel casting

Comprised in the scope of delivery: tank with electrodes and safety lid, internal running module, 2 glass plates with 1 mm spacers, 2 slotted glass plates, 2 combs thickness 1 mm, 1 pair of connecting cables

Article	Order No.
omniPAGE Mini for gels 10 × 10 cm equipment for 2 gels	**10 56 61518**
omniPAGE Mini for gels 10 × 10 cm equipment for 2 gels, with pouring base	**10 56 60780**
omniPAGE Mini for gels 10 × 10 cm equipment for 2 gels, with pouring base and additional pouring stand	**10 56 60823**
omniPAGE Mini for gels 20 × 10 cm equipment for 2 gels	**10 56 61530**
omniPAGE Mini Wide for gels 20 × 10 cm equipment for 2 gels, with pouring base	**10 56 61531**
omniPAGE Mini Wide for gels 20 × 10 cm equipment for 2 gels, with pouring base and additional pouring stand	**10 56 61532**
omniPAGE WAVE Maxi for gels 20 × 20 cm equipment for 2 gels	**10 56 61529**
omniPAGE WAVE Maxi for gels 20 × 20 cm equipment for 2 gels, with pouring base	**10 56 60887**
omniPAGE WAVE Maxi for gels 20 × 20 cm equipment for 2 gels, with pouring base and additional pouring stand	**10 56 60819**

Please enter the webcode WW5RD006 to see the other variants in our online catalogue.

Electrophoresis Chambers MultiSUB, JoJo Life Science

MultiSUB horizontal gel-electrophoresis systems
The MultiSUB series offers the most versatile solution for horizontal DNA and RNA agarose gel electrophoresis currently available on the market.

- 5 model sizes for more flexibility
- Exact matches for the required gel sizes and sample numbers
- Low buffer volume and different try sizes per unit
- Easy to use, leak-proof “plug and go” gel casting dams

Comprised in the scope of delivery: chamber with platinum electrodes and safety lid, UV gel tray, 2 combs thickness 1 mm, 1 pair of gel casting dams, 1 pair of connecting cables

Article	Order No.
MultiSUB Mini7 Tray 7 × 7 cm, 8-samples combs	**10 56 60811**
MultiSUB Mini10 Tray 7 × 10 cm, 8-samples combs	**10 56 60812**
MultiSUB MiniDuo Tray 7 × 7 cm and 7 × 10 cm, 8-samples combs	**10 56 60017**
MultiSUB Midi7 Tray 10 × 7 cm, 16-samples combs	**10 56 61086**
MultiSUB Midi10 Tray 10 × 10 cm, 16-samples combs	**10 56 61302**
MultiSUB MidiDuo Tray 10 × 7 cm and 10 × 10 cm, 16-samples combs	**10 56 60779**
MultiSUB Choice7 Tray 15 × 7 cm, 20-samples combs	**10 56 60813**
MultiSUB Choice10 Tray 15 × 10 cm, 20-samples combs	**10 56 60814**
MultiSUB Choice15 Tray 15 × 15 cm, 20-samples combs	**10 56 60815**
MultiSUB ChoiceTrio Tray 15 × 7 cm, 15 × 10 cm and 15 × 15 cm, 20-samples combs	**10 56 60018**
MultiSUB ChoiceStretch20 Tray 15 × 20 cm, 4 × 28-samples combs	**10 56 61500**
MultiSUB ChoiceStretch25 Tray 15 × 25 cm, 4 × 28-samples combs	**10 56 60896**
MultiSUB Maxi10	**10 56 61501**

Continued on next page

Chambers, Accessories

Article	Order No.
Tray 20 × 10 cm, 20-samples combs	
MultiSUB Maxi15	**10 56 61502**
Tray 20 × 15 cm, 20-samples combs	
MultiSUB Maxi20	**10 56 61503**
Tray 20 × 20 cm, 20-samples combs	
MultiSUB Maxi25	**10 56 61504**
Tray 20 × 25 cm, 20-samples combs	
MultiSUB MaxiDuo	**10 56 61505**
Tray 20 × 10 cm and 20 × 20 cm, 20-samples combs	
MultiSUB Screen16	**10 56 61506**
Tray 26 × 16 cm, 6 × 28-samples combs and gel pouring stand	
MultiSUB Screen24	**10 56 61507**
Tray 26 × 24 cm, 6 × 28-samples combs and gel pouring stand	
MultiSUB Screen32	**10 56 61115**
Tray 26 × 32 cm, 6 × 28-samples combs and gel pouring stand	
MultiSUB ScreenTrio	**10 56 60020**
Tray 26 × 16 cm, 26 × 24 cm and 26 × 32 cm, 6 × 28-samples combs and gel pouring stand	

Please enter the webcode WW5RD005 to see the other variants in our online catalogue.



Blotting Papers, Equipment

Blotting Chambers, JoJo Life Science

webcode WW5RD001

JoJo Life Science

Electroblotting is a technique for immobilising proteins or for nucleic acid separation on a solid membrane support. The samples are then detected with specific antibodies, ligands or nucleic acid probes that bind individual proteins or nucleic acid sequences. We offer three types of systems: the modular electroblotters, tank transfer systems and semi-dry transfer systems.

omniBLOT blotter
- Mini-System transfers up to 4 Mini gels, Maxi-System up to 4 Maxi gels, 8 Mini Wide and 16 Mini gels
- Complete runtime flexibility from overnight to just a few hours
- Cool Pack for low-cost cooling for high-intensity transfer
- Compatible with OmniPage systems

omniBLOT blotter, high intensity
- Ideal for wet electroblotting of proteins - Western Blotting
- Platinum plate electrodes for increased transfer speed
- Fold-up cassettes for added convenience
- Suitable for gel strengths of 0.25 to 3 mm
- Compatible with OmniPage systems

electroBLOT blotter
- Ideal for wet electroblotting of proteins - Western Blotting
- Up to five gel-blot cassettes can be used in parallel
- Fold-up cassettes for added convenience
- Suitable for gel strengths of 0.25 to 3 mm

Semi-Dry blotter
- Fast transfer times
- Western-, Southern- and Northernblots
- Economical transfers thanks to very small buffer volumes
- Screw-on lid
- Gels of a thickness between 0.25 and 10 mm can be blotted
- Even heat distribution
- Electrodes with a long service life



	Article	Order No.
①	**OmniBlot Mini, 10 × 10 cm blotting chambers** incl. 4 cassettes	**10 56 61519**
②	**OmniBlot Mini Wide, 20 × 10 cm blotting chambers** incl. 3 cassettes	**10 56 61520**
	OmniBlot Maxi, 20 × 20 cm blotting chambers incl. 4 cassettes	**10 56 61521**
③	**omniPAGE Blot Mini, 10 × 10 cm High intensity system** including tank and lid, 2 cassettes, 8 fibre pads, cool pack	**10 56 61523**
	WAVE Sub Blot, 20 × 20 cm High intensity system including tank and lid, 1 cassette, 6 fibre pads, cooling coil	**10 56 61524**
④	**Electro Blot Mini, 10 × 10 cm Five Position** incl. 5 cassettes	**10 56 61522**
	Electro Blot Maxi, 20 × 20 cm Five Position incl. 5 cassettes	**10 56 61091**
⑤	**Semi-Dry Mini, 10 × 10 cm System**	**10 56 61060**
	Semi-Dry Maxi, 20 × 20 cm System	**10 56 60830**

Please enter the webcode WW5RD001 to see the other variants in our online catalogue.



Blotting Papers, Equipment

webcode WW6PB010

Hahnemühle



Blotting Papers, Hahnemühle

Recommended for blotting techniques with gels, such as southern, northern and western blots and semidry blotting of proteins
- Made from ultrapure raw materials, entirely without additives, to ensure that no contamination of gels and membranes will occur during the transfer steps
- Uniform capillary strength and even transfer of liquids
- High wet strength for safe handling.

Technical specifications:

Grade	Properties	Surface	Thickness	Weight
BP002	medium absorbency	smooth	0.35 mm	192 g/m²
BP003	medium absorbency	smooth	0.9 mm	320 g/m²
BP005	high absorbency	smooth	1.5 mm	570 g/m²

Grade	Size mm	Order No.	PU Sheet/Pack
BP002	460 × 570	**10 15 94657**	100
BP002	580 × 600	**10 15 95860**	100
BP003	580 × 600	**10 15 95861**	50
BP005	580 × 600	**10 15 95862**	25

Other sizes on request.

webcode WW2NY392

for my lab neoLab



qpore Transfer Membranes, neoLab®

qpore transfer membrane, NC
qpore transfer membranes made of NC are suitable for a large range of applications: western, northern and southern blotting, protein-dotblots and nucleic acid detection. The transfer membranes are very robust and hydrophobic. With low background for increased sensitivity.

Pore size µm	Dimensions roll mm	Dimensions mm	PU	Order No.
0.20	300 × 3000			**10 01 60000**
0.45	300 × 3000			**10 01 60001**
0.22		100 × 100	100 pcs.	**10 01 60049**
0.45		100 × 100	100 pcs.	**10 01 60050**

qpore transfer membrane, PVDF
qpore transfer membranes made of PVDF are suitable for a large range of applications: western, northern and southern blotting, protein-dotblots and nucleic acid detection. The transfer membranes are very robust and hydrophobic. With low background for increased sensitivity.

Pore size µm	Dimensions roll mm	Order No.
0.20	300 × 3000	**10 01 60002**
0.45	300 × 3000	**10 01 60003**

Power Supply Units

JoJo Life Science

webcode WW5RD003



①



②

Power Supplies, JoJo Life Science

Power packs for electrophoresis and blotting
Whether you need power supply for routine horizontal DNA agarose gel routing electrophoresis, or for technically demanding technologies for SSCP analysis within a large-format vertical or first-dimensional IEF with IPG strips: Our extensive portfolio of power packs offers the appropriate unit for your requirements.

nanoPAC-Mini power packs
The new and improved series of nanoPAC Mini powerpacks comprises ultra-compact, low-cost units ideal for use with DNA/RNA (horizontal) and protein (vertical) electrophoresis systems.

powerPRO 5 output power packs
Designed for the supply of horizontal MultiSUB and vertical OmniPAGE electrophoresis tanks, the power packs of the PowerPro series are highly versatile. Each power pack has a 2.4″ LCD display. They offer constant voltage, current, and power options as well as pre-programmed or customer-programmed conditions which allow the users to save and repeat their experiments.
Thanks to the 5 output pairs, several tanks can be operated in parallel.

	Article	Order No.
①	**nanoPAC-300P-Mini power supply** 300V 400mA 60W - 230V	**10 56 60899**
	nanoPAC-500-Mini power supply 500V 400mA 120W - 230V	**10 56 60935**
②	**powerPRO-300 power supply** 300V 700mA 150W - 230V	**10 56 60781**
	powerPRO-500 power supply 500V 400mA 200W - 230V	**10 56 60936**
	powerPRO-3AMP power supply 300V 3000mA 300W - 230V	**10 56 60782**

UV Illumination Plates/Transilluminators

UV Lamps, neoLab®

webcode WW2NY071

UV lamps
Complete with handle, connecting cable and power switch.
Outer dimensions (L × W × H): 280 × 86 × 65 mm
Filter dimensions: 56 × 150 mm
Voltage: 220 V~, 50 Hz

Article	Order No.
Type 6 KLU, short and long-wave short and long wave (254 + 366 nm), with switch for selection, rating 6 W	**30 01 25062**
Type 12 K, short-wave short wave (254 nm), rating 12 W	**30 01 25066**
Type 12 L, long-wave long wave (366 nm), rating 12 W	**30 01 25067**



Accessories

Article	Order No.
Table stand, fits type 6 and 12	**30 01 25063**

UV-Transiluminators, JoJo Life Science

Our transilluminators are available in the sizes 21 × 21 cm and 21 × 26 cm. The transilluminators have a large surface which makes them a perfect work station for observing and working with fluorescent dyed protein and nucleic acid gels.

As a standard, each transilluminator comprises a high/low intensity safety switch and an efficient start switch for fast and flicker-free activation of each of the six 8-Watt UV tubes; a special filter glass keeps undesirable background light to a minimum. All these features ensure maximum contrast and sensitivity so that you can observe also very weak fluorescent gels. Two models with two wavelengths offer additional flexibility and convenience.

Wavelength nm	Dimensions cm 21 × 21 **Order No.**	26 × 21 **Order No.**
254	**10 56 61508**	**10 56 60900**
312	**10 56 60817**	**10 56 61513**
365	**10 56 61509**	**10 56 61514**
254/312	**10 56 61510**	**10 56 61515**
254/365	**10 56 61511**	**10 56 61516**
312/365	**10 56 61512**	**10 56 61517**



webcode WW5RD008

JoJo Life Science

Blue-Light-Transilluminators, JoJo Life Science

webcode WW5RD013

JoJo LED blue light transilluminators

Many new stains have been developed to replace the conventional method of nucleic acid detection using toxic EtBr. These new stains can be used with wavelengths in the visible blue colour spectrum. This makes the UV light redundant which damages the nucleic acid. The 4 blue light transilluminators from our product range are the optimum tools for achieving perfect results with these new stains.

	Article	Order No.
①	**runVIEW Mini** 11.2 × 7.5 cm viewing range, matches MultiSUB Mini and MultiSUB Midi	**10 56 61528**
②	**SafeVIEW Mini** 15.3 × 15.3 cm viewing range, incl. orange-coloured filter cover	**10 56 60841**
③	**SmartBlue** 17 × 12 cm viewing range, incl. orange-coloured filter cover, cut-resistant surface	**10 56 60042**
④	**Bluevision 200 LED** 17 × 13 cm viewing range, incl. hinged orange-coloured filter cover	**10 56 61499**



webcode To see other variants and accessories, please enter the webcode on our website.

Reaction Vessels, Tubes









Microcentrifuge Tubes with Lid, BRAND

Microcentrifuge tubes made of PP
With frosted marking area, subdivisions for approximate volume determination (without microcentrifuge tubes 1.5 ml). Uniform lid membrane thickness ensures trouble-free piercing. Consistent wall thickness. Tight fitting attached lid provides leak-free seal, yet reopens easily (microcentrifuge tube ②: without lid). High clarity. Autoclavable at 121°C (2 bar), acc. DIN EN 285. Withstand RCF up to 20 000 g (0.5 ml up to 10000 g) at 20°C.

	Vol. ml	Colour	O.D. mm	Height mm	Packing type	Order No.	PU pc/Pack
	0.5	transparent	7.9	31.4	bag of 1000 pcs	**10 49 80507**	1000
①	1.5	transparent	10.75	40.8	bag of 500 pcs	**29 49 80500**	500
	1.5	transparent	10.75	40.8	6 bags of 500 pcs	**29 49 80502**	3000
②	1.5	transparent	10.75	39.5	bags of 2000 pcs	**10 49 78505**	2000
	1.5	yellow	10.75	40.8	bag of 500 pcs	**29 49 80521**	500
	1.5	blue	10.75	40.8	bag of 500 pcs	**29 49 80522**	500
	1.5	green	10.75	40.8	bag of 500 pcs	**29 49 80523**	500
	1.5	orange	10.75	40.8	bag of 500 pcs	**29 49 80524**	500
	1.5	amber	10.75	40.8	bag of 500 pcs	**29 49 80525**	500
③	2.0	transparent	10.7	41.15	bag of 500 pcs	**10 49 80550**	500

❗ Available only in original packaging units. No fractions possible.

webcode WWQED031

1.5 ml, lid with lid closure
Made of PP. Free of RNase, DNase, DNA and endotoxins. lid closure to achieve especially effective sealing and prevent accidental opening. Frosted marking area, subdivisions for approx. volume determination.

RCF max. 30000 (at 20°C, for 20 min), outer-Ø 10.7 mm, height 38.8 mm. 1 bag = pieces.

	Article	Order No.	PU pc/Pack
④	1.5 ml, lid with lid closure	**10 49 80540**	1000

❗ Available only in original packaging units. No fractions possible.

BRAND®

webcode WWQED032

Screw Cap Micro Tubes, BRAND

Screw cap micro tubes are ideal for storage of serums and blood samples, and for boiling, configuration, etc.

Features:
- Available in different formats, designs and quality grades.
- Micro tubes of PP and screw caps of PE or PP are precisely matched to ensure a secure seal. Available screw caps: with sealing cone, with silicone seal or with tamper-evident screw cap with silicone seal.
- Cap inserts for coding, available in a variety of colors.
- Fast opening and closing with 1¼ turns of the cap.
- Micro tubes with ring stands (self-standing) can be placed in suitable racks without the use of both hands.
- Micro tubes without ring stands can be centrifuged at up to an RCF of 17000 at 20°C, for 20 min.
- Dimensions: outer dia.11 mm, height 47 mm.



⑤ **Micro tubes (PP), attached lip seal screw cap (PE) with sealing cone**
Non-sterile, non-graduated. Colored cap inserts for identification (optional). Withstands -90°C to 100°C.

Volume ml	Version	Order No.	PU pc/Pack
0.5	with stand ring	**29 49 80700**	1000
1.5	with stand ring	**29 49 80701**	1000
1.5	without stand ring	**29 49 80702**	1000
2.0	with stand ring	**29 49 80703**	1000
2.0	without stand ring	**29 49 80704**	1000

❗ Available only in original packaging units. No fractions possible.

Continued on next page →

Reaction Vessels, Tubes

⑥ Micro tubes (PP), attached screw cap (PP) with seal (SI)

Non-sterile, graduated. With frosted marking area. Cap inserts in different colors for identification (optional). Withstands -196°C to 121°C.

Volume ml	Graduation up to ml	Version	Order No.	PU pc/Pack
0.5[1)]	-	with stand ring	**29 49 80710**	1000
1.5	1.0	with stand ring	**29 49 80711**	1000
1.5	1.0	without stand ring	**29 49 80712**	1000
2.0	1.2	with stand ring	**29 49 80713**	1000
2.0	1.2	without stand ring	**29 49 80714**	1000

❗ Available only in original packaging units. No fractions possible.

[1)] ungraduated



⑦ Colored cap inserts for micro tubes screw cap

Colour	Order No.	PU pc/Pack
white	**29 49 80720**	500
blue	**29 49 80721**	500
red	**29 49 80722**	500
green	**29 49 80723**	500
yellow	**29 49 80724**	500

❗ Available only in original packaging units. No fractions possible.



⑧ Micro tubes (PP), screw cap (PP) with seal (SI)

Sterile (SAL 10-[6]) with cap, graduated. With frosted marking area. Separately available: colored cap inserts (PP) for identification. Withstands -196°C to 121°C. DNA, DNase, and RNase-free, endotoxin-free, non-mutagenic, non-toxic.

Volume ml	Graduation up to ml	Version	Order No.	PU pc/Pack
0,5[1)]	without	with stand ring	**29 49 80750**	500
1.5	1	with stand ring	**29 49 80751**	500
1.5	1	without stand ring	**29 49 80752**	500
2.0	1.2	with stand ring	**29 49 80753**	500
2.0	1.2	without stand ring	**29 49 80754**	500

❗ Available only in original packaging units. No fractions possible.

[1)] non-graduated



Micro tubes (PP), without cap

Non-sterile, graduated. With frosted marking area. Cap inserts available in different colors (optional) for identification. Withstands -196°C to 121°C.

Vol. ml	RCF max. × g	O.D. mm	Height mm	Grad. up to ml	Version	Order No.	PU pc/Pack
0.5[1)]	17000	13	44	without	with stand ring	**29 49 80730**	1000
1.5	17000	13	44	1.0	with stand ring	**29 49 80731**	1000
1.5	20000	13	44	1.0	without stand ring	**29 49 80732**	1000
2.0	17000	13	44	1.2	with stand ring	**29 49 80733**	1000
2.0	20000	13	44	1.2	without stand ring	**29 49 80734**	1000

❗ Available only in original packaging units. No fractions possible.

[1)] non-graduated

⑨ Colored screw caps for micro tubes (PP)

Colour	Order No.	PU pc/Pack
white	**29 49 80740**	1000
blue	**29 49 80741**	1000
red	**29 49 80742**	1000
green	**29 49 80743**	1000
yellow	**29 49 80744**	1000

❗ Available only in original packaging units. No fractions possible.



Continued on next page

Reaction Vessels, Tubes



Micro tubes, bulk tamper-evident screw cap (PP), sterile (SAL 10-⁶) or non-sterile
PP, graduated, screw cap PP. Frosted marking area. Operating range: -196°C to +121°C. Autoclavable at 121°C (2 bar), acc. DIN EN 285. Sterile: DNA, DNase and RNase-free, endotoxin-free, non-mutagenic, non-toxic.
Available separately: colored tamper-evident screw caps.



	Vol. ml	RCF max. × g	O.D. mm	Height mm	Grad. up to ml	Version	Order No.	PU pc/Pack
①	0.5[1)]	17000	13	44	ohne	self-standing, sterile with screw cap	**10 49 80755**	500
①	1.5	17000	13	44	1.0	self-standing, sterile with screw cap	**10 49 80756**	500
①	1.5	20000	13	44	1.0	round bottom, sterile with screw cap	**10 49 80757**	500
①	2	17000	13	44	1.2	self-standing, sterile with screw cap	**10 49 80758**	500
①	2	20000	13	44	1.2	round bottom, sterile with screw cap	**10 49 80759**	500
②	0.5[1)]					self-standing, non sterile without screw cap	**10 49 80760**	1000
②	1.5[1)]					self-standing, non sterile without screw cap	**10 49 80761**	1000
②	1.5[1)]					round bottom, non sterile without screw cap	**10 49 80762**	1000
②	2[1)]					self-standing, non sterile without screw cap	**10 49 80763**	1000
②	2[1)]					round bottom, non sterile without screw cap	**10 49 80764**	1000

[1)] non-graduated



③ Lid, non-sterile, tamper-evident screw-cap

Colour	Order No.	PU pc/Pack
clear	**10 49 80770**	1000
blue	**10 49 80771**	1000
green	**10 49 80772**	1000
lila	**10 49 80773**	1000
red	**10 49 80774**	1000
yellow	**10 49 80775**	1000

webcode WWQED026

BRAND

Microcentrifuge Tubes BIO-CERT®, BRAND



1,5 ml with lid
PP. Frosted marking field and gradation for approximate volume reading. Captive lid provides leak-free seal and fits tight, yet is easily re-opened. High transparency. Lid membrane dia. 8.5 mm, about 0.3 mm thick.
Suitable for centrifuge up to 20,000 RCF at 20°C, 2 bar, acc. DIN EN 285.
O.D. × H in mm: 10.75 × 40.8 mm.

- Sterile / Free of endotoxins, DNA, RNase, ATP
- Produced at the highest purity level to meet the most demanding requirements
- All lots tested for sterility and pyrogens (endotoxins) and monitored for DNA-, RNase- and ATP concentration.
- Supplied with a Certificate of Analysis

Article	Order No.	PU pc/Pack
Microcentrifuge tube BIO-CERT®, 1.5 ml with lid	**29 49 80400**	450

❗ Available only in original packaging units. No fractions possible.
Packs of 450 as 30 blisters of 15

Reaction Vessels, Tubes

PCR Tubes, BRAND

webcode WWQED033

BRAND

BRAND significantly increased their range of ultra-thin disposable products designed specifically for the high demands of PCR.

Polymerase chain reaction (PCR) revolutionized molecular biology and is being used today in many different fields that greatly differ from each other, thus requiring many different formats of disposable PCR products.

Features:
- Manufactured under the most modern clean room conditions in compliance with ISO 14 644-1 class 5 to 8
- DNase-, DNA- and RNase-free
- Autoclavable at 121°C (2 bar), acc. DIN EN 285
- High-quality pure plastics without additives
- PP, extra-thin, even wall thickness for optimal thermal transfer and short cycle times
- Can be universally used in almost all commercially available thermocyclers
- Highly transparent flat caps makes them ideal for qPCR
- **qPCR:** products suitable for Real Time PCR



PCR single tubes with attached cap

PP. 0.2 ml and 0.5 ml PCR tubes with attached caps are compatible with leading thermal cyclers with heated lids. Unique cap design ensures tight fit and helps reduce sample evaporation. The caps are easy to open and close. The various colors of the PCR tubes allow fast sample classification.

	Version	Colour	Order No.	PU pc/Pack
1	0.2 ml, single, domed cap	colorless	**29 49 81300**	1000
	0.2 ml, single, flat cap	colorless	**29 49 81305**	1000
	0.2 ml, single, flat cap	pink	**29 49 81301**	1000
	0.2 ml, single, flat cap	yellow	**29 49 81302**	1000
	0.2 ml, single, flat cap	green	**29 49 81303**	1000
	0.2 ml, single, flat cap	blue	**29 49 81304**	1000
2	0.5 ml, single, flat cap	colorless	**29 49 81310**	1000
	0.5 ml, single, flat cap	pink	**29 49 81311**	1000
	0.5 ml, single, flat cap	yellow	**29 49 81312**	1000
	0.5 ml, single, flat cap	green	**29 49 81313**	1000
	0.5 ml, single, flat cap	blue	**29 49 81314**	1000

Available only in original packaging units. No fractions possible.



3 Strip of 8 PCR tubes with attached cap strip

PP. 8 tube strips (0.2 ml) with attached cap strips. Domed caps facilitate one-handed operation. Easy to use; positive seal.

Version	Order No.	PU pc/Bag
Colorless (1000 tubes total)	**29 49 81330**	125

Available only in original packaging units. No fractions possible.



4 Strip of 8 PCR tubes with detached cap strip

PP. 8 connected 0.2 ml tubes. The detached, domed or flat caps are also available in strips of 8. They are easy to open and close without tools. The tubes have a holding strap at one end, and the cover strips on each cap have a small lip on the side for careful, contamination-free opening. The flat caps are suitable for Real Time PCR (qPCR). Optionally available as a combi pack with 250 strips of 8 tubes and caps each (total of 2,000 tubes and caps).

	Version	Colour	Order No.	PU pc/Bag
	Strips of 8 PCR tubes, 0.2 ml, without lid	colorless	**29 49 81320**	125
	Strips of 8 PCR tubes, 0.2 ml, without lid	pink	**29 49 81321**	125
	Strips of 8 PCR tubes, 0.2 ml, without lid	yellow	**29 49 81322**	125
	Strips of 8 PCR tubes, 0.2 ml, without lid	green	**29 49 81323**	125
	Strips of 8 PCR tubes, 0.2 ml, without lid	blue	**29 49 81324**	125
5	Strips of 8 PCR tubes, 0.2 ml, without lid	white	**10 49 81325**	125
	Strips of 8 PCR lides, domed	colorless	**29 49 81340**	125
	Strips of 8 PCR lides, domed	pink	**29 49 81341**	125
	Strips of 8 PCR lides, domed	yellow	**29 49 81342**	125
	Strips of 8 PCR lides, domed	green	**29 49 81343**	125
	Strips of 8 PCR lides, domed	blue	**29 49 81344**	125
	Strips of 8 PCR lides, flat, qPCR	colorless	**10 49 81334**	125
	Package with strips of 8 PCR tubes with cap strips, plain, qPCR	colorless	**10 49 81326**	250
	Package with strips of 8 PCR tubes with cap strips, domed	colorless	**10 49 81327**	250

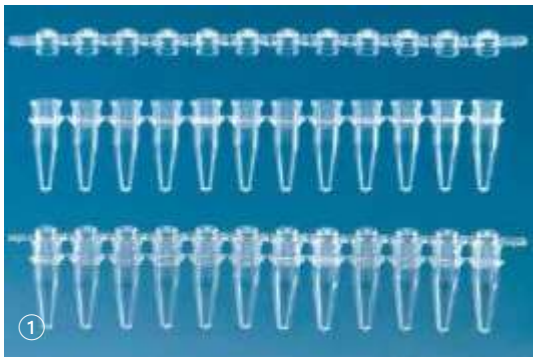
Available only in original packaging units. No fractions possible.





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Reaction Vessels, Tubes



① Strip of 8 PCR tubes with separate cap strip

PP. 12 connected 0.2 ml tubes. The detached, domed caps are also available in strips of 12. The tight-fitting caps help prevent cross-contamination during the PCR process.

Version	Colour	Order No.	PU pc/Bag
Strips of 12 PCR tubes, 0.2 ml, without lid	colorless	**10 49 81280**	125
Strips of 12 PCR lides, domed	colorless	**10 49 81290**	125

Available only in original packaging units. No fractions possible.







Strip of 8 PCR tubes with attached flat individual caps

PP. 8 connected 0.2 ml- or 0.15 ml vessels with attached, flat individual caps - ideal protection against contamination. The highly transparent cap makes them ideal for real-time PCR. Available in standard and low-profile versions.
White PCR-Strips also available. They provide considerably better results for qPCR and many manufacturer of thermocyclers recommended them!

	Volume ml	Specification	Colour	Order No.	PU pc/Bag
②	0.2	Standard	colorless	**10 49 81332**	120
③	0.2	Standard	white	**10 49 81316**	120
④	0.15	Low Profile	colorless	**10 49 81333**	120
	0.15	Low Profile	white	**10 49 81317**	120

Available only in original packaging units. No fractions possible.

webcode WWQED043

BRAND

Tube Racks, BRAND



⑤ Tubes 1.2 ml, rack packed, for 8×12 configuration

PP. Ideal for biological tests, such as PCR, cell uptake studies, RIA, EIA, etc. For storing, freezing down to -80°C and transporting reagents and specimens. Compatible with standard microtiter plates, and suitable for sample transferring with multichannel pipettors.

Features
- 8 × 12 configuration.
- Alphanumeric identification system.
- Tubes and rack are autoclavable at 121°C (2 bar), acc. DIN EN 285.
- Dimensions: outer Ø 8.8 mm, height 45 mm.
- Suitable for storage to -80°C.
- Capacity: 1.2 ml (1.1 ml capped).
- Individual or 8 strips configurations.
- Caps made of PE are not autoclavable

Article	Material	Order No.	PU pc/Pack
Rack with 96 individual tubes, non-sterile	PP	**29 49 81500**	10
Rack with 12 strips of 8 tubes, non-sterile	PP	**29 49 81510**	10
Tubes, single, non-sterile, loose	PP	**29 49 81520**	960
Strips of 8 caps, non-sterile, loose	PP	**29 49 81525**	120
Caps, single, non-sterile, loose	PE	**29 49 81530**	960
Strips of 8 caps, non-sterile, loose	PE	**29 49 81535**	120
Rack with grid, non-sterile, empty	PP	**29 49 81540**	10

Available only in original packaging units. No fractions possible.





⑥ Rack of 96 with 0.65 ml or 1.2 ml tubes (with or without coding)
Non-sterile, for use with robots

Tubes and rack are autoclavable at 121°C (2 bar), acc. DIN EN 285. Cover mat / strips (TPE) not autoclavable. Tubes, racks, and lids can withstand temperatures as low as -80°C. The seal of the tubes is pressure-tested. Thanks to the stable connection between the mounting plate and the racks, the stackable ANSI/SLAS racks are especially well-suited for use with robots and other automated dispensing systems. Coded tubes (A1 – H12) and rack sides suitable for barcode labels simplify sample organization (not available in the USA).

Article	Material	Order No.	PU pc/Pack
Rack with lid with 96 coded 0.65 ml tubes	PP	**10 49 81565**	50
Rack with lid with 96 coded 1.2 ml tubes	PP	**10 49 81566**	50

Available only in original packaging units. No fractions possible.

Reaction Vessels, Tubes

Micro Test Standard Eppendorf Tube® 3810X, Eppendorf



A tube for all applications in molecular biology, chemistry and biochemistry. Perfect sealing qualities, excellent chemical stability and optimal construction materials guarantee even better resistance to centrifugal force.
- Flat, frosted lid and writing surface on body of tube offer generous labeling area
- Easy to open and close thanks to improved lid geometry
- Graduation from 0.1 to 1.5 ml on body of tube
- Autoclavable when open (121°C, 20 min)
- Can be centrifuged at up to 30,000 × g in fixed-angle rotor
- Micropestle-compatible

	Article	Volume ml	Order No.	PU pc/Pack
①	colorless	1.5	**29 69 25150**	1000
	blue	1.5	**29 69 25177**	1000
	yellow	1.5	**29 69 25207**	1000
	green	1.5	**29 69 25185**	1000
	red	1.5	**29 69 25193**	1000
	PCR clean, colorless	1.5	**29 69 25215**	1000

❗ Available only in original packaging units. No fractions possible.

webcode WWQJ3048

Micro Test Safe-Lock Eppendorf Tube®, Eppendorf

The patented hinged lid on these tubes eliminates any danger of leaks. Safe-Lock micro test tubes guarantee absolute safety during work with expensive or toxic samples, radioactive substances or DNA. The 0.5 ml, 1.5 ml and 2.0 ml test tubes have a graduation scale and a writing surface. The 0.5 ml Safe-Lock micro test tube is ideal for all PCR experiments.
- A small hook on the patented hinged lid clips around the rim of the test tube
- Tubes can be autoclaved when open (121°C, 20 min)
- Can be opened easily using one hand
- Frosted writing surface
- The lid hook prevents the tube from opening accidentally (e.g. during heating)
- Excellent mechanical stability during centrifugation
- Graduation scale
- Autoclavable micropestle enables resuspension of pellets in 1.5 – 2.0 ml test tubes
- Safe-Lock micro test tubes are also available in Eppendorf Biopur® and PCR clean quality

webcode WWQJ3045



Colour	Version Eppendorf Quality™ Volume 500 pcs 0.5 ml **Order No.**	Version Eppendorf Quality™ Volume 1000 pcs 1.5 ml **Order No.**	Version Eppendorf Quality™ Volume 1000 pcs 2.0 ml **Order No.**
colorless	**29 69 21023**	**29 69 20086**	**29 69 20094**
yellow	**29 69 21112**	**29 69 20159**	**29 69 20205**
red	**29 69 21120**	**29 69 20167**	**29 69 20213**
blue	**29 69 21139**	**29 69 20175**	**29 69 20221**
green	**29 69 21147**	**29 69 20183**	**29 69 20230**
ambra (light protection)	**29 69 21155**	**29 69 20191**	**29 69 20248**
Color assortment	**29 69 21708**	**29 69 21694**	**29 69 21686**

❗ Available only in original packaging units. No fractions possible.

Assortment of yellow, red, blue, green and colorless.

webcode WWQJ3047

Micro Test Safe-Lock Eppendorf Tube®, PCR clean, Eppendorf

All “PCR clean” products are clean-room manufactured in automatic processes. Only trained staff in special protective suits are allowed to enter this manufacturing area, which is isolated from all other areas.
- Free of DNase and RNase
- Free of contaminating nuclein acids, primarily human DNA.
- Free of PCR inhibitors
- Certificate available upon request
- Colorless

Article	Order No.	PU pc/Pack
Safe-Lock Eppendorf tubes, PCR clean, 0.5 ml	**29 69 23301**	500
Safe-Lock Eppendorf tubes, PCR clean, 1.5 ml	**29 69 23328**	1000
Safe-Lock Eppendorf tubes, PCR clean, 2.0 ml	**29 69 23344**	1000

❗ Available only in original packaging units. No fractions possible.

webcode To see other variants and accessories, please enter the webcode on our website.

Reaction Vessels, Tubes



webcode WWQJ3046

Safe-Lock Micro Test Tubes, Biopur®, Eppendorf

This highest biological purity category is achieved by a fully automatic production process under clean-room conditions and the subsequent environmentally-friendly b-sterilization.

- Sterile
- Free of pyrogen, RNase, DNA and ATP
- Monitored and certified by and external lab
- Colorless

Article	Order No.	PU pc/Pack
Biopur® Safe-Lock test tubes, 0.5 ml	**29 69 21570**	50
Biopur® Safe-Lock test tubes, 1.5 ml	**29 69 21589**	100
Biopur® Safe-Lock test tubes, 2.0 ml	**29 69 21597**	100

Available only in original packaging units. No fractions possible.

eppendorf

webcode WWQJ3059



Micro Test Tubes, PCR clean, Eppendorf

The DNA LoBind Tube finally provides the genomics user with the certainty that sample loss of genetic material caused by interaction with the plastic surface of the tube will be insignificant. With the combination of the purest selected types of polypropylene and specially developed production technologies, a tube has been developed that ensures nearly 100% recovery of DNA/RNA.

A comparison of the recovery rates of various providers shows that the DNA LoBind Tube has the lowest loss rate. Particularly with high salt concentrations, the difference in comparison to traditional tubes is great. The tube is predestined for sample preparation in the genomics area without a loss of quality - and that all in PCR clean purity.

- Less than 1% loss of DNA/RNA at low concentrations and critical conditions (high salt, short DNA-fragments (<150 bp)
- Free of surface coating, e.g. silicone
- Free of DNA, DNase, RNase and PCR inhibitors (PCR clean)
- Special PP type manufactured under optimized conditions
- Available as 0.5 ml, 1.5 ml and 2.0 ml Safe-Lock tubes
- High centrifugation transparency
- High degree of transparency

Article	Order No.	PU pc/Pack
DNA LoBind tubes, 0.5 ml	**29 69 08035**	250
DNA LoBind tubes, 1.5 ml	**29 69 08051**	250
DNA LoBind tubes, 2.0 ml	**29 69 08078**	250
DNA LoBind tubes, 5.0 ml	**10 69 08310**	200
DNA LoBind tubes, 15.0 ml	**10 69 22208**	200
DNA LoBind tubes, 50.0 ml	**10 69 22232**	200

Available only in original packaging units. No fractions possible.



Micro Test Protein LoBind® Tubes, PCR clean, Eppendorf

With this recently developed Eppendorf tube type, for the first time Eppendorf offers problem-free handling with the tiniest volumes / concentrations of a variety of proteins. Whereas previously, preliminary handling of tubes by saturation with BSA or siliconization was required in order to guarantee the recovery of the proteins in the plastic tube, the new protein LoBind Tube from Eppendorf offer real advantages. Recovery rates of more than 99% are now achievable . Enzyme-activities, for example, are not reduced by this tube, and denaturing effects caused by interaction with the surface are almost completely excluded. All of these properties are possible without the undesired side-effects of a surface coating.

- Minimum protein loss (less than 3%, BSA 1 µg/ml)
- Free of surface coating, e.g. silicone
- Free of DNA, DNase, RNase and PCR inhibitors (PCR clean)[1)]
- Special polypropylene type manufactured under optimization processing conditions
- Available as 0.5 ml, 1.5 ml and 2.0 ml Safe-Lock tubes
- High degree of centrifugations durability
- High degree of transparency

Continued on next page

Reaction Vessels, Tubes

Article	Order No.	PU pc/Pack
Protein LoBind tubes, PCR clean, 0.5 ml	**29 69 08094**	100
Protein LoBind tubes, PCR clean, 1.5 ml	**29 69 08116**	100
Protein LoBind tubes, PCR clean, 2.0 ml	**29 69 08132**	100
Protein LoBind tubes, PCR clean, 5.0 ml	**10 69 08302**	100
Protein LoBind tubes, PCR clean, 15.0 ml	**10 69 22216**	200
Protein LoBind tubes, PCR clean, 50.0 ml	**10 69 02240**	200

Available only in original packaging units. No fractions possible.

[1] The term “free of” in connection with the purity levels means that the test proved conformity within the detection limits (see lot-specific certificate).

webcode WWQJ3052

eppendorf

PCR-Micro Test Tubes, Eppendorf

webcode WWQJ3057

PCR-Micro Test Tubes

Original Eppendorf PCR tubes are manufactured to the highest Eppendorf quality standards. These thin-walled polypropylene tubes ensure efficient and homogeneous heat transfer in the sample thanks to the even wall thickness and smooth wall surface. Heat-sealed bags enclosed in boxes sealed with a PCR Clean sticker ensure the highest degree of purity.

Article	Order No.	PU pc/Pack
PCR tubes, 0.2 ml, colorless	**29 69 24332**	1000
Series 8 PCR tubes, 0.2 ml, colorless Row of 120	**29 69 24359**	960
PCR tubes, 0.5 ml, colorless Thin-walled with hinged lid	**10 69 24537**	500

Available only in original packaging units. No fractions possible.



PCR tube strips und cap strips

- Tubes and strips with 8 micro-seals
- Easy, quick sealing of PCR plates and PCR tube strips
- Strip can be extended for easy removal
- A and H marks at the ends
- Autoclavable (121°C, 20 min)
- Certified free of human DNA, DNase, RNase, and PCR inhibitors

	Article	Order No.
①	Cap Strips, domed, 10 × 12 strips	**10 69 24839**
①	Cap Strips (8-strips), flat, 10 × 12 strips	**10 69 24847**
	PCR Tube Strips, 0.1 ml, without caps, 10 × 12 strips	**10 69 24804**
②	PCR Tube Strips und Cap Strips, domed, 10 × 12 strips	**10 69 24812**
②	PCR Tube Strips und Cap Strips, flat, 10 × 12 strips	**10 69 24820**
	Fast PCR Tube Strips, 0.1 ml, without caps, PCR clean, 10 × 12 strips	**10 69 24901**
	Fast PCR Tube Strips und Cap Strips, 0.1 ml, domed, PCR clean, 10 × 12 strips	**10 69 24928**
	Fast PCR Tube Strips und Cap Strips, 0.1 ml, flat, PCR clean, 10 × 12 strips	**10 69 24910**



Microtubes, Black, neoLab®



for my lab neoLab

webcode WW2NY324

Black microtubes made of PP for storage of light-sensitive samples and for other applications requiring light-protected storage.
The 1.5 ml microtube is graduated at 0.1, 0.5, 1.0 and 1.5 ml.

- Conical taper
- Temperature-resistant from -80°C to +121°C
- Can be centrifuged up to 15,000 × g.

Material: PP, autoclavable

Article	Vol. ml	Order No.	PU pc/Pack
Microtubes, black	0.5	**10 01 77589**	500
Microtubes, black	1.5	**29 01 77590**	500

Reaction Vessels, Tubes



webcode WW2NY258

for my lab neoLab

webcode WW2NY260



ratiolab disposables for sciences

webcode WW4ZG002



Microtubes, neoLab®

Microtubes with thread, made of natural colored PP for low-wetting surfaces, non-graduated. Ideal for nucleic acid or protein work.
Dimensions: 44 mm high, 11 mm dia.
Temperature-resistant: -196°C to +121°C, autoclavable
Max relative centrifugal acceleration: 17.000 g
Matching caps: Order No. 29 01 74530 ff or 29 01 74540 ff, see below

Type	Volume ml	Form	Order No.	PU pc/Pack
low wetting	0.5	self-standing	**29 01 74712**	1000
low wetting	1.5	self-standing	**29 01 74713**	1000
low wetting	1.5	Bottom conical	**29 01 74714**	1000
low wetting	2.0	self-standing	**29 01 74715**	1000
low wetting	2.0	Bottom conical	**29 01 74716**	1000

Available only in original packaging units. No fractions possible.

Sealing Caps for Microtubes, neoLab®

Screw caps with inner conical seal (LIP SEAL).
Material: HDPE
Suitable for Order No. 29 01 74590 ff, 29 01 74575 ff, 29 01 74580 ff, 29 01 74700 ff, 29 01 74706 ff, 29 01 74712 ff

Article	Colour	Order No.	PU pc/Pack
Sealing cap without hoop	transparent	**29 01 74540**	1000
Sealing cap without hoop	blue	**29 01 74541**	1000
Sealing cap without hoop	green	**29 01 74542**	1000
Sealing cap without hoop	red	**29 01 74543**	1000
Sealing cap without hoop	yellow	**29 01 74544**	1000
Sealing cap without hoop	white	**29 01 74545**	1000

Available only in original packaging units. No fractions possible.

Safety-Cap Microcentrifuge Tubes, ratiolab®

The new cap sealing of test tubes ensures an extreme tightness which is essential for applications with valuable samples, radioactive materials and DNA.

- autoclavable with opened cap at 121°C, 20 min
- centrifugable up to 30000 g
- free of RNase-, DNase-, DNA-, pyrogens
- free of human DNA, endotoxin-free
- produced in microbiologically controlled clean room ISO Class 8 146441-1
- optimal tightness due to tight serration at the cap and tight channel at the tube; thereby a low evaporation is guaranteed
- secured shut due to form-closed cap lock; accidental opening of the lid during incubation is not possible
- high chemical resistance
- labeling areas on the cap and tube
- graduated for easy determination of the volume
- made of Polypropylene (PP)

	Volume ml	Packing type	Order No.	PU pc/Pack
①	0.5	2 × 500	**10 23 05038**	1000
②	1.5	1 × 1000	**10 23 05008**	1000
③	2.0	2 × 500	**10 23 05108**	1000
④	5.0	1 × 100	**10 23 05158**	100

webcode

Use the webcode on our website to see a larger selection of products from a specific manufacturer.

Reaction Vessels, Tubes

Eppendorf Tubes® with Screw- or Snap Cap, Eppendorf

webcode WWQJ3073

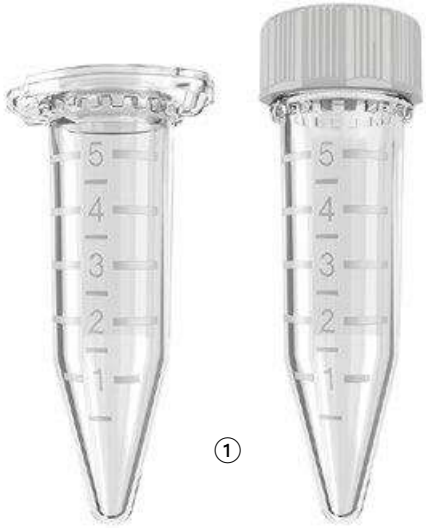
eppendorf

High g-safe® stability for fast and safe centrifugation.

Ergonomic one-hand operation of the snap cap, excellent closure safety of the screw cap version, large labelling area.

① **Eppendorf Tubes® 5.0 ml with screw- or snap cap**

Article	Order No.	PU pc/Pack
Eppendorf Tubes® 5.0 ml with snap cap in Eppendorf Quality™	**10 69 19401**	200
Eppendorf Tubes® 5.0 ml with screw cap in Eppendorf Quality™	**10 69 22305**	200
Eppendorf Tubes® 5.0 ml with snap, sterile	**10 69 19487**	200
Eppendorf Tubes® 5.0 ml with screw cap, sterile	**10 69 22321**	200
Eppendorf Tubes® 5.0 ml with snap cap, PCR clean	**10 69 19460**	200
Eppendorf Tubes® 5.0 ml with snap cap, PCR clean	**10 69 22313**	200
Eppendorf Tubes® 5.0 ml, amber (light protection)	**10 69 19452**	200
Eppendorf Tubes® 5.0 ml, Biopur (individually wrapped)	**10 69 19479**	50
Eppendorf Tubes® 5.0 ml starter pack 400 tubes (2 packages with 2 bags of 100 each), 2 racks (with 16 locations each), white, 8 universal adapters for rotors with bore holes for 15 ml conical tubes, PCR clean, colorless	**10 69 19380**	1
Tube Clip for Eppendorf Tubes® 5.0 ml, Eppendorf Quality™	**10 69 19509**	10



①

② **Eppendorf Tubes® 25 ml with screw- or snap cap**

Article	Order No.	PU pc/Pack
Eppendorf Conical Tubes 25 ml with snap cap, Eppendorf Quality 5 bags of 40 tubes each	**10 69 18405**	200
Eppendorf Conical Tubes 25 ml with snap cap, PCR clean 5 bags of 40 tubes each	**10 69 18413**	200
Eppendorf Conical Tubes 25 ml with snap cap, sterile pyrogen-, DNase-, RNase-, and DNA-free, 6 bags of 25 Tubes each	**10 69 18421**	150
Eppendorf Conical Tubes 25 ml with snap cap, Starter Pack PCR clean, 200 tubes, 4 Single Tube Stands, 6 adapters for rotors with bore for 50 ml conical tubes	**10 69 18502**	1
Eppendorf Conical Tubes 25 ml with screw cap, Eppendorf Quality 5 bags of 40 tubes each	**10 69 22410**	200
Eppendorf Conical Tubes 25 ml with screw cap, CR clean 5 bags of 40 tubes each	**10 69 22429**	200
Eppendorf Conical Tubes 25 ml with screw cap, terile pyrogen-, DNase-, RNase-, and DNA-free, 8 bags of 25 tubes each	**10 69 22437**	200
Eppendorf Conical Tubes 25 ml with screw cap, Starter Pack PCR clean, 200 tubes, 4 Single Tube Stands, 6 adapters for rotors with bore for 50 ml conical tubes	**10 69 22500**	1



②

Accessories

Article	Order No.	PU pc/Pack
Tube Rack for 5.0, 15 und 50 ml tubes 12 wells (6 wells for 5.0/15 ml and 6 wells for 50 ml), 2 pcs., white, autoclavable	**10 69 19835**	2
Storage Box 3 x 3 for 9 tubes, 2 pcs., height 88.9 mm, 3.5 inch, polypropylene, for freezing to -86°C, autoclavable, with lid and alphanumeric code	**10 69 40729**	2
Single Tube Stand for Conical Tubes 25 ml and 50 ml white, autoclavable	**10 69 19860**	4

Eppendorf Conical Tubes 15 ml and 50 ml on request

webcode To see other variants and accessories, please enter the webcode on our website.

Reaction Vessels, Tubes

webcode WWZNZ001



Sterile Centrifuge and Sample Tubes, Greiner Bio-One

Sterile centrifuge tubes, PP, conical, graduated, with screw cap

Article	Order No.	PU pc/Pack
Centrifuge tube, 50 ml, 30 × 115 mm with labeling field, 25 packs of 20	**29 47 22726**	500
Centrifuge tube, 50 ml, 30 × 115 mm with labeling field, with standing ledge, 18 pck. of 25	**10 47 60261**	450
Centrifuge tube, 15 ml, 17 × 120 mm 10 boxes of 50	**29 47 18826**	500
Centrifuge tube, 15 ml, 17 × 120 mm 10 boxes of 100	**10 47 68271**	1000

Available only in original packaging units. No fractions possible.

webcode WW2NY396



neoCulture Cell Culture Centrifuge Tubes, neoLab®

Centrifuge tube with white labeling field in excellent transparency and with high chemical resistance of PP. With precise graduation by blue print.

- conical 15/50 ml
- self-standing 50 ml

Article	Order No.	PU pc/Pack
neoCulture centrifuge tubes, PP, 15 ml, conical, sterile	**10 01 08215**	500
neoCulture centrifuge tubes, PP, 50 ml, conical, sterile	**10 01 08216**	500
neoCulture centrifuge tubes, PP, 15 ml, self-standing, sterile	**10 01 08217**	500

webcode WW2NY221



Racks for PCR Tubes, neoLab®

Especially designed for 0.2 ml PCR tubes in strips.
- for strips with 8 or 12 tubes
- for 96 PCR tubes (8 × 12 places)
- alphanumeric index
- stackable
- with transparent and dust-proof lid

Material: Polypropylene, autoclavable up to 121°C

Article	Colour	Order No.
Storage rack with cover	yellow	**24 01 22600**
Storage rack with cover	green	**24 01 22601**
Storage rack with cover	orange	**24 01 22602**
Storage rack with cover	pink	**24 01 22603**
Storage rack with cover	blue	**24 01 22604**

webcode WW2NY225



Storage Boxes neoBox-50, neoLab®

Stackable storage boxes with 5 × 10 compartments for vessels up to 12 mm in diameter with a maximal height of 46 mm such as HPLC vials, cryo vials, 1.5 and 2 ml test tubes. Tight closing hinged lid.
Material: Polypropylene, autoclavable up to 121°C
Dimensions: 140 × 86 × 55 mm (W × D × H)

Article	Colour	Order No.
neoBox-50	transparent	**29 01 21966**
neoBox-50	yellow	**29 01 21941**
neoBox-50	pink	**29 01 21942**
neoBox-50	green	**29 01 21944**
neoBox-50	blue	**29 01 21945**
neoBox-50	orange	**29 01 21946**
Storage box with overlap lid for 50 vessels up to 9 mm Ø	transparent	**29 01 21965**

Reaction Vessels, Tubes

Storage Boxes neoBox-100 made of PP, neoLab®

webcode WW2NY224



Stackable storage boxes with 10 × 10 compartments for vessels up to 12 mm in diameter with a maximal height of 46 mm such as HPLC vials, cryo vials, 1,5 and 2 ml test tubes.
- Tight closing hinged lid
- Transparent lid, lower parts in various colors

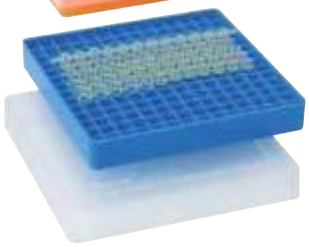
Material: Polypropylene, autoclavable up to 121°C
Dimensions: 140 × 153 × 55 mm (W × D × H)

Article	Colour	Order No.
neoBox-100	transparent	**29 01 21967**
neoBox-100	yellow	**29 01 21935**
neoBox-100	pink	**29 01 21936**
neoBox-100	green	**29 01 21937**
neoBox-100	blue	**29 01 21938**
neoBox-100	orange	**29 01 21940**

PCR Storage Box, neoLab®



webcode WW2NY294



Storage rack for PCR tubes and strips 0.2 ml, with transparent lid.
What is so special about this box are the 14 rows that enable even strips of 12 to be inserted and removed easily since the outer row remains free.
- For strips with 8 or 12 receptacles
- 14 × 14 rows for max. 196 individual receptacles or 12 sets of strips of 8 or 12
- Stackable
- Alphanumeric identification on the base

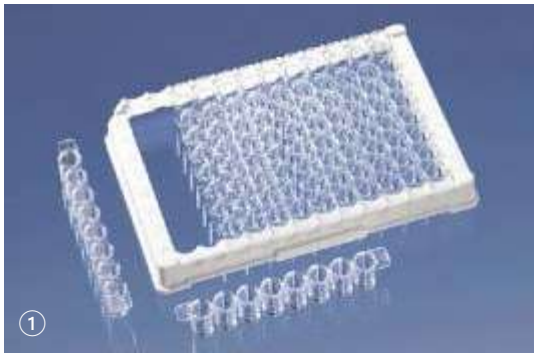
Dimensions: 133 × 133 × 30 mm (L × W × H)
Material: PP, can be autoclaved up to 121°C
Large quantities on request!

Article	Colour	Order No.
PCR box	transparent	**29 01 21910**
PCR box	yellow	**29 01 21911**
PCR box	pink	**29 01 21912**
PCR box	green	**29 01 21913**
PCR box	blue	**29 01 21914**
PCR box	orange	**29 01 21915**

Plates, Dishes

BRANDplates® Strip Plates, BRAND

webcode WWQED070



With the new strip plates for immunological applications, BRAND extends their product range of BRANDplates® microplates.

BRANDplates® 96-well strip plates are very flexible as you use only that number of cavities that you need. Depending on the application, strip plates with and without grid are available. Select from high-binding or medium-binding versions:

immunoGrade™
OmmunoGrade™ high binding capacity (high-binding), ideal for IgG and molecules with hydrophobic and hydrophilic regions

pureGrade™
pureGrade™ medium binding capacity (medium-binding), somewhat more hydrophobic than immunoGrade™

Strip plates without grid
for processing 12 strips of 8 wells each. Individual strip can be removed from the frame and reinserted. The strips are not separable.

Strip plates with grid
for 12 strips of 8 wells each, F-floor, separable. Individual strips are removable from the plate and can be reinserted. The strips can be divided into 8 individual vessels and can be inserted individually into the frame plate.





	Type	Bottom shape/Well vol.	Order No.	PU pc/Pack
①	96-well strip plate without grid, transparent, pureGrade™	F/360 µl	**10 49 82300**	100
②	96-well strip plate with grid, dividable, transparent, pureGrade™	F/350 µl	**10 49 82301**	100
③	96-well strip plate without grid, transparent, immunoGrade™	F/360 µl	**10 49 82305**	100
②	96-well strip plate with grid, dividable, transparent, immunoGrade™	F/350 µl	**10 49 82306**	100

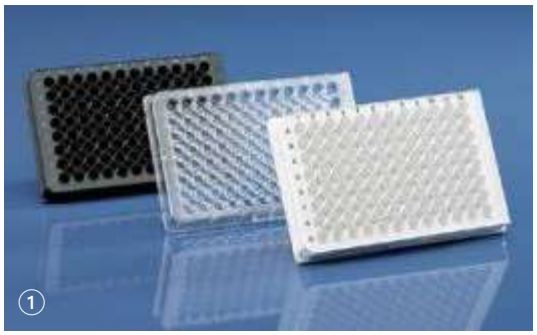
PureGrade™ (medium binding) and immunoGrade™ (high binding) standard plates see page 800.

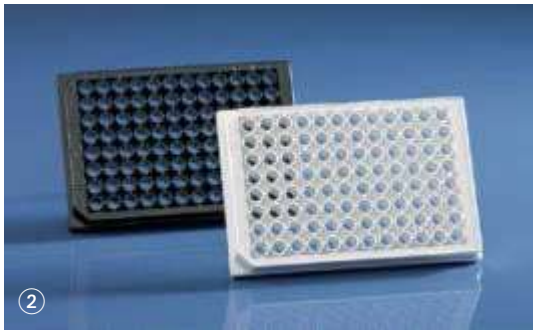
webcode To see other variants and accessories, please enter the webcode on our website.

Plates, Dishes

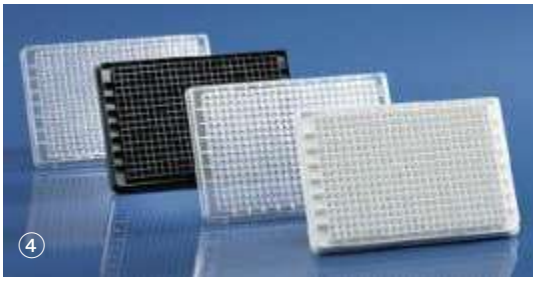
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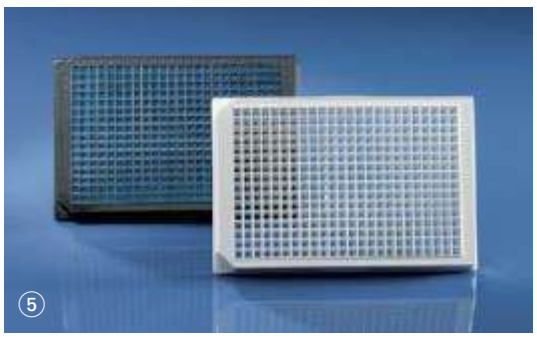
BRAND











BRANDplates® microplates, BRAND

BRANDplates® – A complete premium-quality line – for every application!
Modern research methods require high-quality disposables. BRANDplates® microplates can be used in all important fields of life science. BRANDplates® microplates are available with nine different surfaces. The product line covers a multitude of standard applications (e.g. homogenous assays, screenings) as well as applications in the fields of immunology and cell culture technique. Get yourself familiar with the new range by using the BRANDplates® selection guide under www.brand.de.

BRANDplates® microplates non-treated (sterile or non-sterile)

pureGrade™ (medium binding)
Non-treated, non-sterile surface. The standard plate for most applications. Particularly applicable for homogenous assays, screening, and in the field of storage.

pureGrade™ S
Non-treated surface, sterile. Sterilized via ß-radiation. Especially suited for bacteriological assays.

Colors, wells and shapes:
- 96-, 384- and 1536-well format, transparent, white or black
- Standard, UV transparent foil bottom or transparent bottom, Different bottom shapes: U-, V-, F-, C-bottom for 96-well format
- Clearly distinguishable via color code: grey embossed alphanumeric coding for 96-well standard plates in white or black
- Free from endotoxins (< 0.01 EU/ml), DNase, DNA, RNase, non-cytotoxic (according to ISO 10993)
- Sterile Products comply with ISO 11137 and AAMI guidelines. A SAL of 10^{-6} is reached. Supplied individually wrapped with lid.

pureGrade™

	Type	Bottom shape/ Well vol.	Order No.	PU pc/Pack
1	96-well, transparent	U/330 µl	**10 49 81600**	100
1	96-well, transparent	V/360 µl	**10 49 81601**	100
1	96-well, transparent	F/350 µl	**10 49 81602**	100
1	96-well, transparent	C/350 µl	**10 49 81603**	100
1	96-well, white	U/330 µl	**10 49 81604**	100
1	96-well, white	F/350 µl	**10 49 81605**	100
1	96-well, black	U/330 µl	**10 49 81607**	100
1	96-well, black	F/350 µl	**10 49 81608**	100
2	96-well, white/transparent	F/330 µl	**10 49 81610**	100
2	96-well, black/transparent	F/330 µl	**10 49 81611**	100
3	96-well, transparent, UV-Polymer[1)]	F/350 µl	**10 49 81614**	50
2	96-well, black/UV-transparent	F/350 µl	**10 49 81615**	50
4	384-well, transparent	F/100 µl	**10 49 81620**	50
4	384-well, white	F/100 µl	**10 49 81621**	50
4	384-well, black	F/100 µl	**10 49 81622**	50
5	384-well, white/transparent	F/120 µl	**10 49 81626**	50
5	384-well, black/transparent	F/120 µl	**10 49 81627**	50
6	1536-well, transparent	F/10 µl	**10 49 81640**	50
6	1536-well, white	F/10 µl	**10 49 81641**	50
6	1536-well, black	F/10 µl	**10 49 81642**	50

Available only in original packaging units. No fractions possible.

[1)] PS with UV-transparent foil bottom, slightly hydrophilized, bottom thickness 25 µm, transmission at 240 nm: 80%.

Strip plates with pureGrade™ (medium binding) surface see page 799.

pureGrade™ S

	Type	Bottom shape/ Well vol.	Order No.	PU pc/Pack
1	96-well, transparent	U/330 µl	**10 49 81660**	50
1	96-well, transparent	V/360 µl	**10 49 81661**	50
1	96-well, transparent	F/350 µl	**10 49 81662**	50
1	96-well, transparent	C/350 µl	**10 49 81663**	50
1	96-well, white	F/350 µl	**10 49 81665**	50
1	96-well, black	F/350 µl	**10 49 81668**	50
2	96-well, white/transparent	F/330 µl	**10 49 81670**	50
2	96-well, black/transparent	F/330 µl	**10 49 81671**	50
4	384-well, transparent	F/100 µl	**10 49 81680**	50
4	384-well, white	F/100 µl	**10 49 81681**	50
4	384-well, black	F/100 µl	**10 49 81682**	50
5	384-well, white/transparent	F/120 µl	**10 49 81686**	50
5	384-well, black/transparent	F/120 µl	**10 49 81687**	50
6	1536-well, transparent	F/10 µl	**10 49 81700**	50
6	1536-well, white	F/10 µl	**10 49 81701**	50
6	1536-well, black	F/10 µl	**10 49 81702**	50

Available only in original packaging units. No fractions possible.

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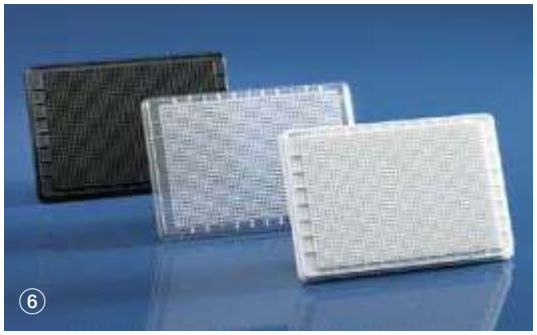
Plates, Dishes

BRANDplates® microplates non treated (non sterile)
immunoGrade™ (high binding)
Optimized for the immobilization of IgG, highest binding capacity for molecules with mixed hydrophilic and hydrophobic regions. The surface of choice for the majority of standard ELISAs.

hydroGrade™
Strongly hydrophilic, high affinity to hydrophilic molecules like e.g., glycoproteins and peptides, antibodies with predominantly hydrophilic regions and nucleic acids.

lipoGrade™
Strongly hydrophobic (lipophilic), immobilization of biomolecules with predominantly hydrophobic regions. An alternative to the immunoGrade™ surface for the immobilization of molecules, like e.g. lipoproteins or peptides.

Colors, wells and shapes:
- 96- and 384-well format, transparent, white or black
- Standard, transparent bottom, Different bottom shapes: U-, V-, F-, C-bottom for 96-well format
- Modification via a physical-chemical process, good shelf life at room temperature
- Clearly distinguishable via color code: blue embossed alphanumeric coding for 96-well standard plates
- Free from endotoxins (< 0.01 EU/ml), DNase, DNA, RNase, non-cytotoxic (according to ISO 10993)



immunoGrade™

	Type	Bottom shape/ Well volume	Order No.	PU pc/Pack
7	96-well, transparent	U/330 µl	**10 49 81720**	100
7	96-well, transparent	V/360 µl	**10 49 81721**	100
7	96-well, transparent	F/350 µl	**10 49 81722**	100
7	96-well, white	U/330 µl	**10 49 81724**	100
7	96-well, black	U/330 µl	**10 49 81727**	100
8	96-well, black/transparent	F/330 µl	**10 49 81731**	100
8	96-well, black/transparent	F/330 µl	**10 49 81732**	5
9	384-well, transparent	F/100 µl	**10 49 81740**	50
9	384-well, white	F/100 µl	**10 49 81741**	50
9	384-well, black	F/100 µl	**10 49 81742**	50

Available only in original packaging units. No fractions possible.

Strip plates with immunoGrade™ (high binding) surface see page 799.



hydroGrade™

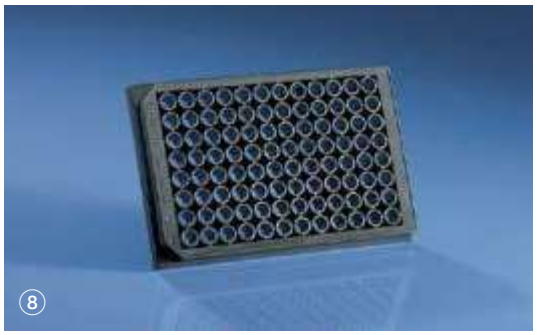
	Type	Bottom shape/Well vol.	Order No.	PU pc/Pack
7	96-well, transparent	U/330 µl	**10 49 81780**	100
7	96-well, transparent	F/350 µl	**10 49 81782**	100

Available only in original packaging units. No fractions possible.

lipoGrade™

	Type	Bottom shape/Well vol.	Order No.	PU pc/Pack
7	96-well, transparent	U/330 µl	**10 49 81840**	100
7	96-well, transparent	F/350 µl	**10 49 81842**	100

Available only in original packaging units. No fractions possible.



BRANDplates® for Cell Culture (sterile)
cellGrade™
Standard surface for the cultivation of adherent cell cultures. PS-surface with different chemical groups, like e.g. carboxyl and hydroxyl groups, that are freely accessible. Surface is hydrophilic compared with non-treated PS.

cellGrade™ plus
For cultivation of fastidious cell cultures. In addition to carboxyl and hydroxyl chemical groups, free amino groups are present on the surface. The surface has a protein-like composition; cells can directly attach and spread out. Cells adhere faster, better rate of yield. Suited for serum reduced cultivation of cells.

cellGrade™ premium
Poly-D-Lysine-equivalent surface, with analogous results regarding growth performance and cell morphology. Optimal adhesion of cells to the surface reduces cell damage when washing frequently. Surface suited for serum-free and serum-reduced cultivation of cells. Good shelf life at room temperature.

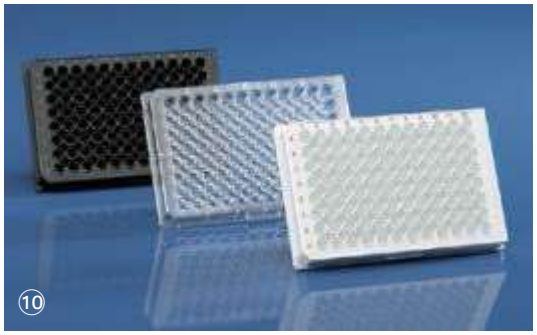
inertGrade™
For cultivation of suspension cells. Especially suited for cell cultures, when adhesion is not desired. Optimized surface characteristics reducing cell adhesion and protein adsorption, enzyme and cellular activation is minimized. Stem cells can be prevented from early differentiation. Sterilization with ethylene oxide.

Colors, wells and shapes:
- 96-, 384- and 1536-well format, transparent, white or black
- Sterile according to Ph.Eur. and USP 29, SAL 10^{-6}
- Standard, transparent bottom, Different bottom shapes: U-, V-, F-, C-bottom for 96-well format
- Clearly distinguishable via color code: orange embossed alphanumeric coding for 96-well standard
- Free from endotoxins (< 0.01 EU/ml), DNase, DNA, RNase, non-cytotoxic (according to ISO 10993)



Continued on next page

Plates, Dishes


⑩

cellGrade™

	Type	Bottom shape/ Well volume	Order No.	PU pc/Pack
⑩	96-well, transparent	U/330 µl	**10 49 81960**	50
⑩	96-well, transparent	V/360 µl	**10 49 81961**	50
⑩	96-well, transparent	F/350 µl	**10 49 81962**	50
⑩	96-well, transparent	C/350 µl	**10 49 81963**	50
⑩	96-well, white	F/350 µl	**10 49 81965**	50
⑩	96-well, black	F/350 µl	**10 49 81968**	50
②	96-well, white/transparent	F/330 µl	**10 49 81970**	50
②	96-well, white/transparent	F/330 µl	**10 49 81974**	5
②	96-well, black/transparent	F/330 µl	**10 49 81971**	50
②	96-well, black/transparent	F/330 µl	**10 49 81975**	5
⑨	384-well, transparent	F/100 µl	**10 49 81980**	50
⑨	384-well, white	F/100 µl	**10 49 81981**	50
⑨	384-well, black	F/100 µl	**10 49 81982**	50
⑤	384-well, white/transparent	F/120 µl	**10 49 81986**	50
⑤	384-well, white/transparent	F/120 µl	**10 49 81988**	5
⑤	384-well, black/transparent	F/120 µl	**10 49 81987**	50
⑤	384-well, black/transparent	F/120 µl	**10 49 81989**	5
⑥	1536-well, transparent	F/10 µl	**10 49 82000**	50
⑥	1536-well, white	F/10 µl	**10 49 82001**	50
⑥	1536-well, black	F/10 µl	**10 49 82002**	50

Available only in original packaging units. No fractions possible.


⑪

cellGrade™ plus

	Type	Bottom shape/Well vol.	Order No.	PU pc/Pack
⑩	96-well, transparent	F/350 µl	**10 49 82022**	50
②	96-well, white/transparent	F/330 µl	**10 49 82030**	50
②	96-well, white/transparent	F/330 µl	**10 49 82034**	5
②	96-well, black/transparent	F/330 µl	**10 49 82031**	50
②	96-well, black/transparent	F/330 µl	**10 49 82035**	5

Available only in original packaging units. No fractions possible.


⑫

cellGrade™ premium

	Type	Bottom shape/Well vol.	Order No.	PU pc/Pack
⑩	96-well, transparent	F/350 µl	**10 49 82082**	50
②	96-well, white/transparent	F/330 µl	**10 49 82090**	50
②	96-well, white/transparent	F/330 µl	**10 49 82094**	5
②	96-well, black/transparent	F/330 µl	**10 49 82091**	50
②	96-well, black/transparent	F/330 µl	**10 49 82095**	5

Available only in original packaging units. No fractions possible.

inertGrade™

	Type	Bottom shape/Well vol.	Order No.	PU pc/Pack
⑩	96-well, transparent	U/330 µl	**10 49 81900**	40
⑩	96-well, transparent	F/350 µl	**10 49 81902**	40
②	96-well, white/transparent	F/330 µl	**10 49 81910**	40
②	96-well, black/transparent	F/330 µl	**10 49 81911**	40
②	96-well, white/transparent	F/330 µl	**10 49 81912**	5
②	96-well, black/transparent	F/330 µl	**10 49 81913**	5

Available only in original packaging units. No fractions possible.


⑬

Lids for BRANDplates® microplates

To protect samples, reaction batches or cell cultures from both contamination and evaporation, compatible lids are available for all BRANDplates® microplates. The lids are made of crystal-clear polystyrene. They are optimally matched to the corresponding BRANDplates® microplates, so that plates with lids can also be stacked. The cut-corner sets the orientation of the lid. For 96-well standard plates, lids with condensation rings are available.

	Type	Condensation Rings	Height mm	Order No.	PU pc/Pack
⑪	Lid for 96-well plates	yes	8	**10 49 82150**	100
⑪	Lid for 96-well plates	no	8	**10 49 82151**	100
⑫	Lid for 96-well plates + all 384-well plates	no	4.5	**10 49 82152**	50
⑬	Lid for 1536-well plates	no	5.5	**10 49 82153**	50

Available only in original packaging units. No fractions possible.

Plates, Dishes

BRANDplates® Insert System, BRAND

webcode WWQED073

For manual and automated cell and tissue cultivation
The BRAND Insert System, co-developed with the Fraunhofer Society, includes the choice of two specialized cell culture plates (24-well standard plate and 6-well special version) and two types of cell culture inserts (with or without Inlet Opening System*) which can also be used in combination.

Typical applications for the standard plates are for example co-culture, secretion studies and chemotaxis assays; the special version plates are designed for automated in-vitro preparation of human tissue (3D tissue culture preparation).



BRANDplates®
Cell culture plates for Insert Strips

24-well Standard Plate
The plate includes 24 individually fillable wells that can be fitted with strips of 4 inserts and/or individual inserts.

6-well Specialized Plate
The plate has 4 wells connected as one large, elongated well. This well is fitted with a strip of 4 inserts so that all 4 of the inserts in the strip can be supplied with medium at the same time.

Features
- Innovative special well design with feeding ports arranged at the sides
- Manufactured in compliance with ANSI/SLAS standards 1 and 4
- Sterile pursuant to ISO 11 137 and AAMI directives, SAL 10-6
- Not cytotoxic pursuant to ISO 10 993-5, free of endotoxins (< 0.01 EU/ml), free of DNA, DNase and RNase

Order information BRANDplates® 24-well Standard Plates or 6-well plates
PS. pureGrade™ S or cellGrade™ plus surface, sterile. Each with lid with condensation rings. Shipping unit = 10 (packed individually, with lid).

Article	Surface	Order No.	PU pc/Pack
24-well standard plate	pureGrade™ S	**10 49 82880**	10
6-well plate	pureGrade™ S	**10 49 82881**	10
24-well standard plate	cellGrade™ plus	**10 49 82890**	10
6-well plate	cellGrade™ plus	**10 49 82891**	10

BRANDplates® insert strips and insert system
Inserts for the cell culture plates, smooth-walled inserts or inserts with Inlet Opening System*

Smooth-walled inserts
With smooth walls, for standard applications such as secretion studies, co-cultivation, migration studies, chemotaxis tests, etc.

Cell culture inserts with special Inlet Opening System*
Inlet Opening System with special inlet channels, for automated in vitro preparation of human tissues. The Inlet Opening System* enables rapid, consistent changing of media, from submersion culture to air-lift culture. The special inlet channels enable adjustment of the medium level without damage to the tissue model.
* Patent pending



Features
- Track-etched PC and PET membranes
- 4 different pore sized
- Hanging inserts
- With guiding ridges for safe positioning in the plates
- Sterile pursuant to ISO 11 137 and AAMI directives, SAL 10^{-6}
- Not cytotoxic pursuant to ISO 10 993-5, free of endotoxins (< 0.01 EU/ml), free of DNA, DNase and RNase

Insert Strips and plates packed individually or in a system (6-well plates filled with 6 Insert Strips).

BRANDplates® Insert Strips smooth-walled or strips with Inlet Opening System*
PS. cellGrade™ plus surface, sterile. Strips of 4 inserts each (separable). Shipping unit = 12 strips, packaged individually.

	Version	Pore size µm	PU pc/ Pack	Membrane PC membrane Order No.	PET membrane Order No.
⑭	smooth-walled	0.4	12	**10 49 82800**	**10 49 82810**
	smooth-walled	1	12	**10 49 82820**	
	smooth-walled	3	12	**10 49 82840**	
	smooth-walled	8	12	**10 49 82860**	**10 49 82870**
⑮	Inlet Opening System	0.4	12	**10 49 82801**	**10 49 82811**
	Inlet Opening System	1	12	**10 49 82821**	
	Inlet Opening System	3	12	**10 49 82841**	
	Inlet Opening System	8	12	**10 49 82861**	**10 49 82871**

* Patent pending



Continued on next page

webcode To see other variants and accessories, please enter the webcode on our website.

Plates, Dishes





BRANDplates® insert system, 6-well plates filled with 6 insert strips
PS. cellGrade™ plus surface, sterile. Insert Strips, smooth-walled or with Inlet Opening System*. Each with lid with condensation rings. Shipping unit = 5 (30 strips).

Version	Pore size µm	PU pc/ Pack	Membrane PC membrane Order No.	PET membrane Order No.
smooth-walled	0.4	5	**10 49 82802**	**10 49 82812**
smooth-walled	1	5	**10 49 82822**	
smooth-walled	3	5	**10 49 82842**	
smooth-walled	8	5	**10 49 82862**	**10 49 82872**
Inlet Opening System	0.4	5	**10 49 82803**	**10 49 82813**
Inlet Opening System	1	5	**10 49 82823**	
Inlet Opening System	3	5	**10 49 82843**	
Inlet Opening System	8	5	**10 49 82863**	**10 49 82873**

* Patent pending

webcode WWQED042

Deep Well Plates, BRAND



The most important application for deep-well plates is sample storage (e.g., in substance libraries). Deep-well plates are also an important component in numerous other applications, e.g., cultivation of microorganisms, extraction of nucleic acids and proteins, screening studies, etc.

Essential features of the 96-well deep-well plates made from PP
- Free from DNA, RNases, and DNases
- High chemical resistance, e.g., against DMSO
- Temperature range -80°C to 121°C
- According to ANSI/SLAS 1 and 4
- Stackable
- Plates can be sealed with adhesive sealing films or self-adhesive mat covers made of PP or aluminium

The 1.2 ml low profile model reduces the space requirements by approx. 30%.

Article	Order No.	PU pc/Pack
96-well Deep well plate, 0.5 ml, PP, non-sterile, standard	**29 49 01346**	48
96-well Deep well plate, 1.1 ml, PP, non-sterile, standard	**29 49 01350**	24
96-well Deep well plate, 1.2 ml, PP, non-sterile, Low Profile[2)]	**10 49 01340**	50
96-well Deep well plate, 2.2 ml, PP, non-sterile, standard	**29 49 01354**	24
96-well Deep well plate, 1.1 ml, PS, non-sterile, standard[1)]	**29 49 01352**	32
96-well Deep well plate, 1.2 ml, elevated skirt	**10 49 01342**	32
384-well Deep well plate, 0.3 ml, PS, non-sterile, standard	**10 49 01355**	48
Sealing mat for 0.5 ml plates, 96-well, non-sterile	**10 49 01358**	50
Sealing mat for 1.1 ml plates, 96-well, non-sterile	**29 49 01360**	24
Sealing mat for 1.2 ml plates, 96-well, non-sterile	**10 49 01368**	50
Sealing mat for 2.2 ml plates, 96-well, non-sterile	**29 49 01362**	24
Sealing mat for 0.3 ml plates, 384-well, non-sterile	**10 49 01357**	50

Available only in original packaging units. No fractions possible.

1) not autoclavable, can be used down to -20°C
2) not tested of free from DNA, RNases, and DNases

webcode WWQED051

Microtitration Plate, PP, BRAND



PP. Non-sterile. Suitable for up to 300 µl. Can be centrifuged in most commercially available centrifuges for microtitration plates.

Features
- High chemical resistance (e.g. to phenol, chloroform, DMSO).
- Optimal sample mixing and recovery using U-bottom.
- Autoclavable at 121°C
- Alphanumeric code and cut-away corner simplify sample identification and orientation.
- Raised rims of the wells to guard against contamination.
- Sealing of plates with self-adhesive, DMSO-resistant covering film. PP or aluminium covering films are also suitable.

Article	Order No.	PU pc/Pack
Microtitration plate, U bottom, volume 300 µl, 10 pcs/bag	**29 49 01330**	100

Available only in original packaging units. No fractions possible.

Plates, Dishes

Reagent Reservoirs with Cover, PP, BRAND

webcode WWQED094

BRAND

Article	Order No.	PU pc/Pack
Reagent reservoir with cover, PP, 40 ml, graduated, non-sterile	**10 49 71460**	24
Reagent reservoir with cover, PP, 40 ml, graduated, sterile	**10 49 71462**	24



Deepwell Plates 96 and 384, Eppendorf

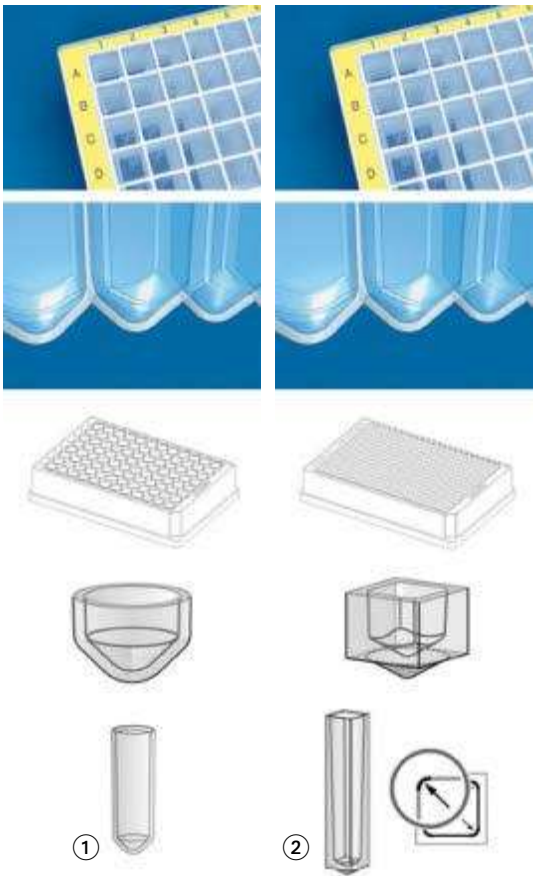
webcode WWQJ3053

eppendorf

Get more with these deepwell plates! Unique efficiency in storage, preparation, transport, and mixing of samples. Eppendorf deepwell plates 96 and 384 are made of ultrapure polypropylene. They are warp-resistant, easy to stack, they close easily and reliably, and are resistant to temperature and chemicals. They comply with the requirements of SBS[1)].

Features:
- RecoverMax®design: New well design for enhanced efficiency and sample recovery/ identification rate
- OptiTrack® matrix: Colours, legibility, and more
- g-Safe®: High centrifugal stability
- Four qualities: Standard, sterile, DNA/RNA LoBind, Protein LoBind
- Automation: Optimum stability, grip, stacking capability, and compliance with SBS standard
- Sealing: Planar plate surface allows for multiple sealing

Dimensions (W×H×D): 127,8 × 85,5 × 27,1 mm



	Article	Order No.	PU pc/Pack
①	Deepwell plate 96/500 µl, standard, white	**10 69 01101**	40
	Deepwell plate 96/500 µl, sterile, white	**10 69 02108**	40
	Deepwell plate 96/500 µl, DNA LoBind, white	**10 69 03104**	40
	Deepwell plate 96/500 µl, protein LoBind, white	**10 69 04100**	40
	Deepwell plate 96/1000 µl, standard, white	**10 69 01209**	20
	Deepwell plate 96/1000 µl, sterile, white	**10 69 02205**	20
	Deepwell plate 96/1000 µl, DNA LoBind, white	**10 69 03201**	20
	Deepwell plate 96/1000 µl, protein LoBind, white	**10 69 04208**	20
	Deepwell plate 96/2000 µl, standard, white	**10 69 01306**	20
	Deepwell plate 96/2000 µl, sterile, white	**10 69 02302**	20
	Deepwell plate 96/2000 µl, protein LoBind, white	**10 69 04305**	20
②	Deepwell plate 384/200 µl, standard, white	**10 69 21102**	40
	Deepwell plate 384/200 µl, sterile, white	**10 69 22109**	40
	Deepwell plate 384/200 µl, DNA LoBind, white	**10 69 23105**	40
	Deepwell plate 384/200 µl, protein LoBind, white	**10 69 24101**	40

❗ Available only in original packaging units. No fractions possible.

[1)] Society for Biomolecular Screening.
Other colors available on request.

We are also glad to help you in person.
Give us a call!

Plates, Dishes

webcode WWQED092

BRAND



①



②



③

Cell Culture Inserts Insert 2in1, BRAND

- Use Inserts in a hanging or standing position
- For 24-, 12- and 6-well plates or culture dishes
- Achieve uniform and controlled cell growth due to surface treatment, without coatings

The BRAND Insert 2in1 is a cell culture insert used for skin model production, 3D epithelium cultures, chemotaxis analyses, transmigration assays, transport and polarity studies, and more.
In many cell culture tasks, or when switching from a standing to a hanging position, you can continue to use your current cell culture plates, saving additional validation steps. Thanks to both supporting feet and hooks, you can position the BRAND Insert 2in1 either way.

Via its protein-like structure, the cellGrade™ plus surface provides optimal conditions for growing primary keratinocytes and many other cell types.
With the practical multipacks, the right number of inserts is always close at hand. They can be opened row by row, so that the remaining inserts stay sterile. Besides the practical benefits, this also reduces waste.

Overview
- Use in a hanging or standing position
- Works with all common 6-, 12-, or 24-well multi-well plates
- Suitable for 2D and 3D cell cultures
- Surface: cellGrade™ plus
- Sterility Assurance Level (SAL) of 10-6
- PC or PET membrane
- Pore size: from 0.4 µm and 8.0 µm
- Packaged individually or in practical multi-packs

① Cell culture inserts BRAND Insert 2in1 for 6-well

Pore size µm	Packing type	PU pc/Pack	Membrane PC Order No.	PET Order No.
0.4	24 × 1	24	**10 49 82740**	**10 49 82750**
0.4	4 × 6	24	**10 49 82741**	**10 49 82751**
8	24 × 1	24	**10 49 82746**	**10 49 82756**
8	4 × 6	24	**10 49 82747**	**10 49 82757**

② Cell culture inserts BRAND Insert 2in1 for 12-well

Pore size µm	Packing type	PU pc/Pack	Membrane PC Order No.	PET Order No.
0.4	48 × 1	48	**10 49 82720**	**10 49 82730**
0.4	4 × 9	36	**10 49 82721**	**10 49 82731**
8	48 × 1	48	**10 49 82726**	**10 49 82736**
8	4 × 9	36	**10 49 82727**	**10 49 82737**

③ Cell culture inserts BRAND Insert 2in1 for 24-well

Pore size µm	Packing type	PU pc/Pack	Membrane PC Order No.	PET Order No.
0.4	48 × 1	48	**10 49 82700**	**10 49 82710**
0.4	4 × 12	48	**10 49 82701**	**10 49 82711**
8	48 × 1	48	**10 49 82706**	**10 49 82716**
8	4 × 12	48	**10 49 82707**	**10 49 82717**

PCR Plates and Sealing Films, BRAND

BRAND has significantly expanded its product range of extra-thin-wall disposable products, which were specially developed to satisfy the demands of PCR applications.

Quality features:
- Suitable for use in common thermal cyclers
- PP, extra-thin uniform wall thicknesses to provide the optimal thermal transfer and short cycle times
- 96-well PCR-plates with alphanumeric coding and marks at the cut corner
- DNase-, DNA- and RNase-free
- Pure, high quality materials - without additives!
- Autoclavable at 121°C (2 bar), acc. DIN EN 285
- qPCR: Suitable for real-time PCR

Continued on next page

Plates, Dishes

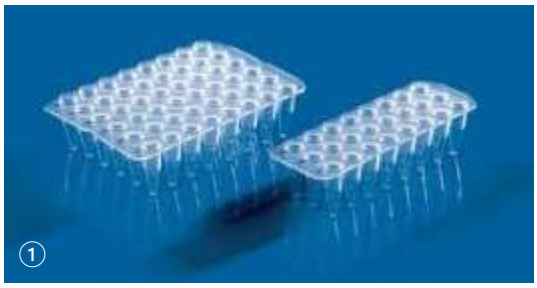
webcode WWQED035

BRAND

① 24- and 48-well PCR plates, no skirt (qPCR)

PP, 0.2 ml wells. This plates reduce material costs and allow work on a compact PCR plate even with small sample throughputs. Suitable for the most customary thermocyclers.

Quantity wells	Version	Colour	Order No.	PU pc/Pack
24	Standard profile, elevated rim	clear	**10 49 81411**	40
24	Standard profile, elevated rim	white	**10 49 81412**	40
48	Standard profile, elevated rim	clear	**10 49 81415**	20
48	Standard profile, elevated rim	white	**10 49 81416**	20



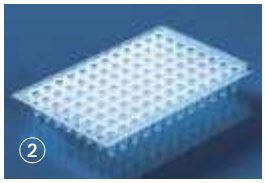
96-well PCR plates (qPCR)

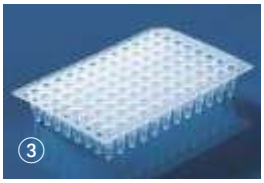
The ultra thin-walled PCR plate design facilitates constant, rapid and precise heat transfer. The smooth vessel interior minimizes the binding of enzymes and nucleic acid to the walls. Raised rims of wells protect against cross-contamination and provide a tight seal in combination with the matching sealing mats.

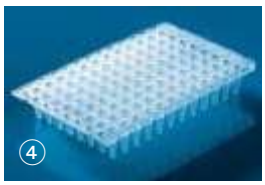
96-well, no skirt

PP. 0.2 ml wells. 96-well PCR plates, without skirt, are suitable for the most customary thermocyclers.

	Version	Colour	Cut corner	Order No.	PU pc/Pack
②	Low Profile	clear	H12	**10 49 81366**	50
	Low Profile	white	H12	**10 49 81367**	50
③	Standard profile	clear	A12	**10 49 81368**	50
	Standard profile	white	A12	**10 49 81369**	50
④	Standard profile, elevated rim	clear	H12	**29 49 81350**	50
	Standard profile, elevated rim	white	H12	**10 49 81354**	50



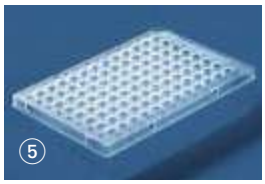


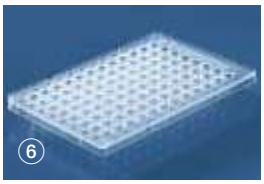


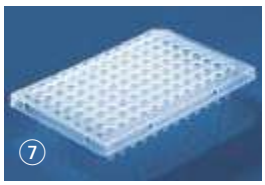
96-well, half skirt

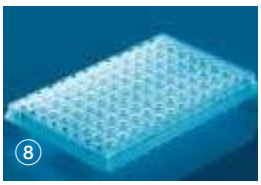
PP. 0.2 ml wells. 96-well PCR plates, with half skirt can easily be labelled or provided with a bar-code.

	Version	Colour	Cut corner	Order No.	PU pc/Pack
⑤	Low Profile	clear	A12	**10 49 81371**	50
	Low Profile	white	A12	**10 49 81372**	50
⑥	Low Profile, elevated skirt	clear	A1	**10 49 81373**	50
	Low Profile, elevated skirt	white	A1	**10 49 81374**	50
⑦	Standard profile	clear	A12	**10 49 81375**	50
	Standard profile	white	A12	**10 49 81376**	50
⑧	Standard profile, elevated rim	clear	H12	**29 49 81400**	50
	Standard profile, elevated rim	white	H12	**10 49 81357**	50









96-well, half skirt

Suitable for Roche®LightCycler®480 and more thermocyclers. PP. 0.15 ml PCR plates. With half skirt. Alphanumeric coding, black. Available with or without self-adhesive sealing films (polyester, highly transparent, for qPCR).

	Version	Colour	Cut corner	Order No.	PU pc/Pack
⑨	Low Profile	white	H12	**10 49 81364**	50
	Low Profile + 50 foils for qPCR	white	H12	**10 49 81365**	50

Black alphanumeric coding, no more additional marks at cut corners.





96-well, full skirt

PP. 0.2 ml wells. 96-well PCR plates with full skirt are very rigid and particularly suitable for working with automatic pipetting systems. These plates can also be provided with a barcode.

	Version	Colour	Cut corner	Order No.	PU pc/Pack
⑩	Low Profile	clear	H1	**10 49 81377**	50
	Low Profile	white	H1	**10 49 81378**	50

384-well PCR plates (qPCR)

384-well, full skirt

PP. The 40 µl wells can hold sample volumes of 2 µl to 30 µl. This helps to reduce reagents costs and shortens cycle times. The plates can be filled using multichannel pipettes or robotic systems.

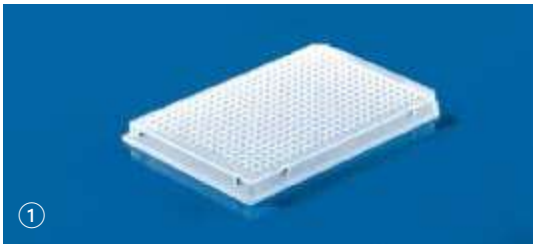
	Version	Colour	Cut corner	Order No.	PU pc/Pack
⑪	with full skirt, PP	clear	A12, H12	**29 49 81345**	50
	with full skirt, PP	clear	A12	**10 49 81347**	50



Continued on next page

webcode To see other variants and accessories, please enter the webcode on our website.

Plates, Dishes



384-well PCR-plates, full skirt

Suitable for Roche®LightCycler®480 and more thermocyclers. PP. For qPCR. 0.03 ml wells. The 40 µl wells can hold sample volumes of 2 µl to 30 µl. This helps to reduce reagents costs and shortens cycle times. The plates can be filled using multichannel pipettes or robotic systems.

	Version	Colour	Cut corner	Order No.	PU pc/Pack
①	full skirt, PP	white	A12, H12	**10 49 81358**	50



Sealing films, self-adhesive

In case the microplates, PCR plates or Deep-well plates need not only to be covered, but also securely sealed, self-adhesive sealing films are available. These film sheets can be easily applied on the plates and removed also without the use of expensive equipment.

	Article	Order No.	PU pc/Pack
②	**Sealing films for ELISA, PCR**	**29 49 81390**	100

Transparent PP film allows the visual inspection of the samples. Temperature range -40°C to +125°C. Single film. Pack of 100 sheets.

Article	Order No.	PU pc/Pack
Sealing films for ELISA, Real-Time-PCR (qPCR)	**10 49 81391**	100

Pressure sensitive and highly transparent film made of polyester allows the visual inspection of the samples. Temperatur range: -40°C to +120°C. Single film. Pack of 100 sheets.



Article	Order No.	PU pc/Pack
Sealing films for storage, ELISA, PCR	**29 49 01366**	100

PP. DMSO resistant. Allows visual inspection. Temperatur range: -80°C to +120°C. Single film. Pack of 100 sheets.

Sealing Paddle for Sealing Films

To securely and easily apply self-adhesive films. The sealing paddle helps to attach the film to the plate with a uniform pressure. Especially suited for plates with raised rim.

	Article	Order No.	PU pc/Pack
③	Sealing paddle for sealing films	**10 49 71381**	2



Accessories for BRAND PCR products

	Article	Order No.	PU pc/Pack
④	**PCR-Box/Rack (yellow, red, green, violet, blue)**	**10 49 81362**	5

PP. Suitable for sample preparation, for keeping and storing 0.2 ml single vessels, 8-strips and 12-strips, and 96-well PCR plates. These racks can also be stacked without lids. Withstands temperatures from -80°C to +12°C. Pack of 5.



	Article	Order No.	PU pc/Pack
⑤	**PCR Mini cooler with transparent lid**	**10 49 81260**	2

PP. For protecting samples from warming. The mini PCR cooler keeps samples at 4°C for approx. 3 hours. The insulating gel changes from violet to pink at 7°C. Suitable for 0.2 ml single vessels, 8-strips, 12-strips as well as 96-well PCR plates. Pack of 2.

webcode WWQED091



PCR Cap Strips, BRAND

Article	Order No.	PU pc/Pack
PCR cap strips of 8, clear, flat	**10 49 81413**	300
PCR cap strips of 8, clear, domed	**10 49 81414**	300

Plates, Dishes

Sealing Films, Self-adhesive, BRAND

webcode WWQED065

All sealing films (with exception of rayon films) are thermostable and pressure resistant and are ideal for use with heated lid thermal cyclers. The sealing films are DNA-, RNase- and DNase-free.



ELISA, PCR: The transparent PP film allows the visual inspection of the samples.
Temperature range -40°C to +125°C

ELISA, Real Time PCR: The highly transparent film made of polyester is highly suitable for real time PCR measurements. Allows the visual inspection.
Temperature range -40°C to +120°C

Cold storage: Aluminum sealing film (roll and single sheets) can be pierced easily with a pipette tip for sample removal.
Temperature range -80°C to +120°C

Storage ELISA, PCR: For samples containing DMSO, only the highly resistant film should be used in this area.
Temperature range -80°C to +120°C

Cell and tissue cuture: Gas-permeable films (sterile and non-sterile) are popular for growing cells and microorganisms. Made of rayon
Temperature range -20°C to +80°C

Automation: Top side PE, underside PP with adhesive. Easy to pierce with pipette tips. Inertly, chemically constant.
Temperature range: -40°C to +90°C.

Fluorescence measurements: Vinyl, black. Light-absorbing.
Temperature range: -40°C to +80°C.

Luminescence measurements: Vinyl, white. Light-reflecting.
Temperature range: -40°C to +80°C.

Application	Version	Material	Order No.	PU pc/Pack
ELISA, PCR	single film	Polypropylene	**29 49 81390**	100
ELISA, Real Time PCR	single film	Polyester	**10 49 81391**	100
Cold storage	single film	Aluminium	**10 49 81381**	100
Storage, ELISA, PCR	single film	Polypropylene	**29 49 01366**	100
Cell and tissue culture	single film	Rayon	**29 49 01364**	100
Cell and tissue culture	single film, sterile	Rayon	**10 49 01365**	50
Automation	single film	PE/PP	**10 49 01370**	50
Fluorescence measurements	single film	Vinyl	**10 49 01371**	50
Luminescence measurements	single film	Vinyl	**10 49 01372**	50

Available only in original packaging units. No fractions possible.

PCR Cap Tool, BRAND

Cap Tool for attaching and detaching caps on PCR plates, PA.

Article	Order No.
PCR Cap Tool	**10 49 81419**



webcode WWQED090

Use the webcode on our website to see a larger selection of products from a specific manufacturer.

webcode

Plates, Dishes

webcode WWQJ3056

eppendorf

PCR Plates and Polypropylene Microplates, Eppendorf









PCR Plates

Eppendorf twin.tec® PCR plates 96 and 384 have the benefits of two different materials: The wells are manufactured from production-clean polypropylene, the most typical and most successful material for PCR vessels; surface and skirts of the plates are made from polycarbonate, a particularly rigid material. The Eppendorf certified standard of cleanliness – "PCR clean" – ensures that the Eppendorf twin.tec PCR plates are free of human DNA, DNase, RNase, and PCR inhibitors.

- Increased co-planarity and excellent rigidity and warp resistance
- Extremely thin walls for optimum heat transfer in the sample
- Diagonalized corner and alphanumerical orientation system
- Raised rims around the individual wells for efficient sealing and reduced cross-contamination risk
- Autoclavable (121°C, 20 min.)
- Certified to be free of human DNA, DNase, RNAse and PCR inhibitor
- Available as skirted, semiskirted and unskirted wells

twin.tec real-time PCR plates

In addition to all the benefits of the regular twin.tec plates, Eppendorf twin.tec real-time PCR plates additionally have the benefits of white wells for your real-time PCR.
The white wells of Eppendorf twin.tec real-time PCR plates reflect fluorescence better than transparent or grey wells.

NEW:
twin.tec PCR plate 96, unskirted, dividable

- Can be divided into 4 segments of 24 wells each
- Match most established thermocyclers
- Available with regular profile (250 µl) or low profile (150 µl) wells

twin.tec microbiology PCR plate

- Sterile, packed individually
- Certified PCR clean
- Additionally free of bacterial DNA[1)]
- For all applications requiring absolute purity or provable absence of bacterial DNA

	Article	Order No.	PU pc/Pack
①	twin.tec PCR plate 96 semi-skirted (wells colorless), colorless	**29 69 28575**	25
	twin.tec PCR plate 96 skirted (wells colorless), colorless	**29 69 28648**	25
	twin.tec PCR plate 96 skirted (wells black), yellow	**29 69 28656**	25
	twin.tec PCR plate 384, (wells colorless), colorless	**29 69 28508**	25
	twin.tec PCR plate 384, (wells black), yellow	**10 69 28818**	25
③	twin.tec PCR plate 96, unskirted, divisible, 250 µl, colorless	**10 69 33374**	20
	twin.tec PCR plate 96, unskirted, 250 µl, colorless	**10 69 33366**	20
	twin.tec PCR plate 96, unskirted, low-profile, divisible, 150 µl, colorless	**10 69 33358**	20
②	twin.tec PCR plate 96, unskirted, low-profile, 150 µl, colorless	**10 69 33307**	20
	twin.tec microbiology PCR plate 384, semi-skirted, colorless	**10 69 29342**	10
②	twin.tec microbiology PCR plate 96, semi-skirted, colorless	**10 69 29326**	10
	twin.tec microbiology PCR plate 96, skirted, colorless	**10 69 29300**	10
	twin.tec real-time PCR plate 96, skirted (wells white), white	**10 69 32513**	25
	twin.tec real-time PCR plate 96, semi-skirted (wells white), white	**10 69 32548**	25

❗ Available only in original packaging units. No fractions possible.

Other colors available on request.

[1)] The term "free of" in connection with the purity levels means that the test proved conformity within the detection limits (see lot-specific certificate).

④ **Microplates polypropylene**

The new Eppendorf polypropylene microplates set standards for transparency, cleanness and stability! All Eppendorf microplates are produced under ISO certified cleanroom conditions. Available quality standards: PCR clean (free of human DNA, DNase, RNase, and PCR inhibitors)[1)] or Sterile. Each batch is tested and certified individually pursuant to the high Eppendorf quality standards.

- Highest transparency for improved sample visiblity
- OptiTrack® matrix for easy and fast well identifcation
- g-safe® for high centrifugation and mixing stability
- RecoverMax® well design for maximum sample recovery
- Flat, planar surface with raised well rims effective sealing
- Black and white microtest plates, optimated for improved sensitivity with fluorescence and luminescence assays
- Highly resistant to chemicals
- Batch testing and certification in PCR clean or Sterile quality

Continued on next page

Plates, Dishes

Designation	Grade	Well color	Border color	Order No.	PU pc/ Pack
Microplate 96/F-PP	PCR clean	clear	white	**10 69 01106**	80
Microplate 96/F-PP	sterile	clear	white	**10 69 02102**	80
Microplate 96/F-PP	PCR clean	white	grey	**10 69 01475**	80
Microplate 96/U-PP	PCR clean	clear	white	**10 69 01203**	80
Microplate 96/U-PP	sterile	clear	white	**10 69 02200**	80
Microplate 96/U-PP	PCR clean	white	grey	**10 69 01572**	80
Microplate 96/U-PP	PCR clean	black	white	**10 69 01807**	80
Microplate 96/V-PP	PCR clean	clear	white	**10 69 01300**	80
Microplate 96/V-PP	sterile	clear	white	**10 69 02307**	80
Microplate 96/V-PP	PCR clean	white	grey	**10 69 01670**	80
Microplate 384/V-PP	PCR clean	black	white	**10 69 01904**	80
Microplate 384/F-PP	PCR clean	clear	white	**10 69 21107**	80
Microplate 384/F-PP	sterile	clear	white	**10 69 22103**	80
Microplate 384/V-PP	PCR clean	clear	white	**10 69 21301**	80
Microplate 384/V-PP	sterile	clear	white	**10 69 22308**	80
Microplate 384/V-PP	DNA LoBind, PCR clean	clear	white	**10 69 23304**	80
Microplate 384/V-PP	Protein LoBind, PCR clean	clear	white	**10 69 24300**	80
Microplate 384/V-PP	PCR clean	white	grey	**10 69 21670**	80
Microplate 384/V-PP	PCR clean	black	white	**10 69 21905**	80

[1] The term “free of” in connection with the purity levels means that the test proved conformity within the detection limits (see lot-specific certificate).



④

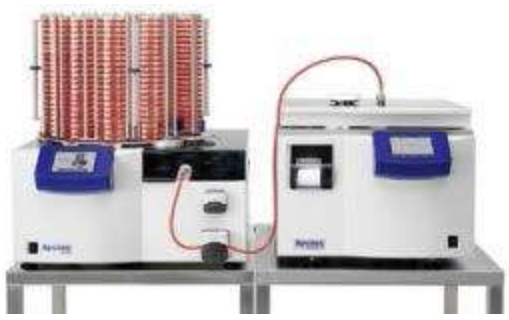
Systec Mediafill, Systec

webcode WWQMA006

Systec the autoclave company

Systec Mediafill is a dispensing and dosing system for automated dosing and filling of microbiological culture media in Petri dishes with a diameter of 35, 60 and 90 mm, and for bi-plates, tri-plates, and automatic dosing of liquid media in test tubes.

- 5.7″ touch-screen – easy and intuitive operation
- One touch dish selection – integrated database for pre-programmed Petri dish sizes
- Unattended, fully automatic process – filling and stacking without user intervention
- Smooth and silent operation – maximal reduced noise emission
- Even aluminum surfaces – easy to clean, no holes or gaps where media can flow into
- Three stacker-carousel heights available – for 220, 440 and 660 Petri dishes
- EasyStack – stacker-carousel can be fully removed from Mediafill
- Integrated peristaltic pump (main pump) – for precise filling of media
- Integrated peristaltic pump (additives pump) – for precise adding of additives (optional)
- Full control of both, the main and the optional additives pump through the Mediafill touch-screen
- Drop-Stop function – prevents spills at the filling nozzle
- Shaker function – optimal distribution of media into Petri dishes
- UV-Lamp with 2.3 W UVC light emission – reduces the risk of contamination
- Manual filling function – either by foot-switch or timed delay
- Peltier Cooling – for re-cooling of Petri dishes (optional)
- Printer function – printing direct on Petri dishes (optional)



Systec Mediafill
Convertible for 90 mm, 60 mm and 35 mm petri-dishes.

Article	Order No.
Mediafill (base unit)	**10 12 91155**

Accessories for Ø 90 mm petri-dishes

Article	Order No.
Stacker carousel Stack 220-90	**10 12 91160**
Stacker carousel Stack 440-90	**10 12 91161**
Stacker carousel Stack 660-90	**10 12 91162**
Rotor for 90 mm petri-dishes	**10 12 91163**

Accessories for Ø 60 mm petri-dishes

Article	Order No.
Stacker carousel Stack 220-60	**10 12 91170**
Stacker carousel Stack 440-60	**10 12 91171**
Stacker carousel Stack 660-60	**10 12 91172**
Rotor for 60 mm petri-dishes	**10 12 91173**

Continued on next page

Plates, Dishes

Accessories for Ø 35 mm petri-dishes

Article	Order No.
Stacker carousel Stack 220-35	**10 12 91180**
Stacker carousel Stack 440-35	**10 12 91181**
Stacker carousel Stack 660-35	**10 12 91182**
Rotor for 35 mm petri-dishes	**10 12 91183**

Further options e.g. for adding additives during the filling process, for filling of Bi-Plates, Tri-Plates, for printing on Petri-Dishes and for filling of Test-Tubes on request.

webcode WWZNZ006

greiner bio-one



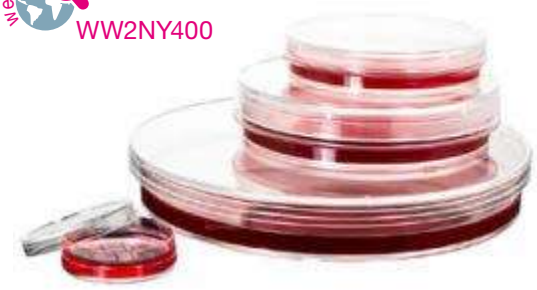
Disposable Petri Dishes, Greiner Bio-One

Petri dishes for bacteriology

Article	Ø mm	Height mm	Order No.	PU pc/Pack
Disposable Petri dishes with edge beads, 10 pcs/bag	35	10	**29 47 62710**	740
Disposable Petri dishes with edge beads, 20 pcs/bag	60	15	**29 47 62810**	600
Disposable Petri dishes without edge beads, 20 pcs/bag	94	16	**29 47 63210**	480
Disposable Petri dishes with edge beads, 20 pcs/bag	94	16	**29 47 63310**	480

Available only in original packaging units. No fractions possible.

webcode WW2NY400



for my lab neoLab

neoCulture Cell Culture Dishes, neoLab®

Cell and Tissue Culture Dishes with treated surface are ideal containers for cell growth of adherent cells and are also useful in sample separation, pre-treatment, storage and so on. The dish surface is smooth and free from striation to maximize usable area for growth. The dishes can be easy stacked. The lids have with several little chimbs to shape vents for very effective gas exchange.

- sterilized by gamma irradiation
- DNase-/Rnase-free
- non-pyrogenic

Article	Material	Ø mm	Order No.	PU pc/Pack
neoCulture cell culture dishes D3.5	PS	35	**10 01 08211**	960
neoCulture cell culture dishes D6.0	PS	55	**10 01 08218**	600
neoCulture cell culture dishes D7.0	PS	70	**10 01 08212**	600
neoCulture cell culture dishes D10.0	PS	100	**10 01 08213**	300
neoCulture cell culture dishes D15.0	PS	150	**10 01 08214**	100

webcode WW2NY401



neoCulture Cell Culture Plates, neoLab®

Cell and Tissue Culture Plates with treated surface are perfect for cell growth of adherent cells on multiple, compare and other analysis.Uniform well volume ensures equal growth surface area. The well surface is smooth and free from striation to maximize usable growth area. To reduce evaporation there are raised rims on each well with the uniform rings on the lid. Single position lid (cut corner) reduces the risks of cross-contamination and the handlingmistakes. Wells are labeled with alphanumeric code for easy identification. The plates are suitable for all common instruments and automation.

- sterilized by gamma irradiation
- DNase-/Rnase-free
- pyrogen-free

Quantity wells	Form	Material	Order No.	PU pc/Pack
96	flat	PS	**10 01 08206**	100
96	U-shape	PS	**10 01 08207**	100
48	flat	PS	**10 01 08219**	100
24	flat	PS	**10 01 08208**	100
12	flat	PS	**10 01 08209**	100
6	flat	PS	**10 01 08210**	100

Plates, Dishes

neoCulture Cell Culture Flasks, neoLab®

webcode WW2NY398

The Cell and Tissue Culture Flasks with treated surface are perfect for cell growth of adherent cells.
The flask surface is flat and free from striation to maximize usable growth area. The cell culture flasks are available with 2 different closures: standard or gas exchange caps. The closed standard caps are used in an open system, the standard caps are loosely screwed onto the bottles to ensure gas exchange. The gas exchange caps with filter allow cell cultivation with closed cell culture flasks.
An innovative angled neck design offers good pipet and cell scraper access in. The flasks can be easy stacked, a special outer area near the neck is for mark writing. On both flask sides there is engraved graduation.

- sterilized by gamma irradiation
- DNase-/RNase-free
- pyrogen-free





neoCulture Cell Culture Flasks with Ventilation Cap

Article	Growth area cm^2	Vol. ml	Order No.	PU pc/Pack
neoCulture cell culture flasks A25	25	50	**10 01 08200**	200
neoCulture cell culture flasks A75	75	250	**10 01 08201**	100
neoCulture cell culture flasks A180	180	600	**10 01 08202**	40

neoCulture Cell Culture Flasks with Gas Exchange Cap

Article	Growth area cm^2	Vol. ml	Order No.	PU pc/Pack
neoCulture cell culture flasks A25	25	50	**10 01 08203**	200
neoCulture cell culture flasks A75	75	250	**10 01 08204**	100
neoCulture cell culture flasks A180	180	600	**10 01 08205**	40

Cryo Articles

Cryo Tubes and Accessories, BRAND

webcode WWQED041

Cryo tubes are designed for storage of biological material, such as microorganisms, human and animal cells, etc. in the gaseous phase of liquid nitrogen.

Features:
- Screw cap with silicone seal or sealing cone ensures safe sealing.
- Temperature stability to -196°C, autoclavable at 121 °C (2 bar), acc. DIN EN 285.
- Gamma-ray sterilized, RNase-, DNase-, DNA- and endotoxin-free.
- Large frosted marking area and colored cap inserts for easy sample identification.
- Cryogenic tubes without ring stands can be centrifuged at up to an RCF of 14000 g.



① **Cryo tubes with external thread, screw-on cap with silicone seal**
PP. Graduated. Packs of 1000 (10 bags of 100).

Vol. ml	Grad. up to ml	Version	O.D. mm	H mm	Order No.	PU pc/Pack
1.2	1.0	with stand ring	12.5	41	**29 49 14830**	1000
2.0	1.8	without stand ring	12.5	47	**29 49 14831**	1000
2.0	1.8	with stand ring	12.5	49	**29 49 14832**	1000
3.0	3.0	with stand ring	12.5	70	**29 49 14833**	1000
4.0	3.6	with stand ring	12.5	76	**29 49 14834**	1000
5.0	4.5	with stand ring	12.5	90	**29 49 14835**	1000

Available only in original packaging units. No fractions possible.



② **Cryo tubes with inner thread, screw-on cap with sealing cone**
PP. Graduated. Packs of 1000 (10 bags of 100).

Vol. ml	Grad. up to ml	Version	O.D. mm	H mm	Order No.	PU pc/Pack
1.2	1.0	with stand ring	12.5	41	**29 49 14840**	1000
2.0	1.8	with stand ring	12.5	49	**29 49 14841**	1000
2.0	1.8	without stand ring	12.5	48	**29 49 14842**	1000
4.0	3.6	without stand ring	12.5	70	**29 49 14843**	1000
4.0	3.6	with stand ring	12.5	71	**29 49 14844**	1000
5.0	4.6	without stand ring	12.5	90	**29 49 14845**	1000

Available only in original packaging units. No fractions possible.

Continued on next page

Cryo Articles



① **Cryo rack, PP**
Blue. For 50 self-standing cryo tubes.

Article	Order No.	PU pc/Pack
Cryo rack, PP	**29 49 14860**	4

Available only in original packaging units. No fractions possible.



② **Storage boxes, PC**
PC. For cryo tubes. Operating range -196°C to +121°C (in the gas phase of liquid nitrogen). Autoclavable at 121°C (2 bar), acc. DIN EN 285.

Volume ml	Places	Order No.	PU pc/Pack
1.2 und 2	81	**29 49 14862**	4
1.2[1] and 2[1]	100	**29 49 14866**	4
3, 4 and 5[2]	81	**29 49 14864**	5

Available only in original packaging units. No fractions possible.

[1]) Inner thread, [2]) external thread



③ **Cap inserts, PP**
PP. To fit all sizes.

Colour	Order No.	PU pc/Bag
white	**29 49 14850**	500
blue	**29 49 14851**	500
red	**29 49 14852**	500
green	**29 49 14853**	500
yellow	**29 49 14854**	500

Available only in original packaging units. No fractions possible.

webcode WW2NY408

for my lab neoLab

Cryomaster® Cryotubes, neoLab®



Cryomaster® cryotubes, 2.0 ml
Cryomaster® cryotubes are made of high quality pure polypropylene. These cryovials are therefore suitable for temperatures from -196°C to +121°C and can be used for freezing samples with liquid nitrogen. They have a stand ring and are available with male or female thread. With a 1D barcode printed on the side of the tube, these cryotubes are suitable for biobanking. The screw cap with external thread does not require an O-ring due to the accuracy of fit, which additionally prevents potential contamination.

The tubes are 20 × 25 pieces sterilely packed in bags and DNase-, RNase-, Endotoxin- and DNA-free.

Colour	PU pc/Pack	external thread **Order No.**	internal thread **Order No.**
white	500	**10 01 46100**	**10 01 46106**
red	500	**10 01 46101**	**10 01 46107**
green	500	**10 01 46102**	**10 01 46108**
blue	500	**10 01 46103**	**10 01 46109**
yellow	500	**10 01 46104**	**10 01 46110**
purple	500	**10 01 46105**	**10 01 46111**



Cryomaster® vial closure
Coloured Cryomaster® lid inserts made of high-quality polypropylene for Cryomaster® cryotubes.The lid inserts can be pressed into the lids from above for colour coding of the tubes. Thus a large selection of different colour combinations can be made. 36 colour combinations with 6 lid colours and 6 insert colours plus the 1D barcode. This enables you to assign samples quickly and unambiguously!

Colour	Order No.	PU pc/Pack
white	**10 01 46112**	500
red	**10 01 46114**	500
green	**10 01 46115**	500
blue	**10 01 46113**	500
yellow	**10 01 46116**	500
purple	**10 01 46117**	500

Cryo Articles

Microtubes with Caps, sterile, ungraduated, neoLab®

webcode WW2NY263

neoScrew microtubes, sterile, ungraduated, cap without hoop
Sterile microtubes with thread, made of natural colored PP. With cap, tight closing by means of high-grade O-ring seal. Ideal for cryo work. Ungraduated.
Packed to be sterilein 10 bags of 50.
Dimensions: 44 mm high, 11 mm dia.
temperature resistant from -196°C to +121°C.
Max relative centrifugal acceleration: 17000 g



Type	Volume ml	Form	Order No.	PU pc/Pack
sterile, non-graduated	0.5	self-standing	**29 01 74575**	500
sterile, non-graduated	1.5	self-standing	**29 01 74576**	500
sterile, non-graduated	1.5	Bottom conical	**29 01 74577**	500
sterile, non-graduated	2.0	self-standing	**29 01 74578**	500
sterile, non-graduated	2.0	Bottom conical	**29 01 74579**	500

Available only in original packaging units. No fractions possible.

Microtubes with Caps, sterile, graduated, neoLab®

webcode WW2NY262

Sterile microtubes with thread, made of natural colored PP. Incl. cap with hoop, tight closing by means of high-grade O-ring seal. Ideal for cryo work. Graduated, with white marking area.
Dimensions: 44 mm high, 11 mm dia.
temperature resistant from -196°C to +121°C
Max relative centrifugal acceleration: 17000 g
Packed to be sterile in 10 Bags of 50.



Type	Volume ml	Form	Order No.	PU pc/Pack
sterile, graduated	0.5	self-standing	**29 01 74706**	500
sterile, graduated	1.5	self-standing	**29 01 74707**	500
sterile, graduated	1.5	Bottom conical	**29 01 74708**	500
sterile, graduated	2.0	self-standing	**29 01 74709**	500
sterile, graduated	2.0	Bottom conical	**29 01 74710**	500

Available only in original packaging units. No fractions possible.

Microtubes with Caps, sterile, graduated, neoLab®

webcode WW2NY264

Sterile microtubes with threads, made of natural color polypropylene.
With cap, high-grade O-ring seal, provides tight fit. Ideal for cryo work. Graduated, with white marking field, sterile packaging in 10 pouches of 50 tubes.
Dimensions: 44 mm high, 11 mm dia.
Temperature-resistant: from -196°C to +121°C
Max relative centrifugal acceleration: 17000 g



Type	Volume ml	Form	Order No.	PU pc/Pack
sterile, graduated	0.5	self-standing	**29 01 74580**	500
sterile, graduated	1.5	self-standing	**29 01 74581**	500
sterile, graduated	1.5	Bottom conical	**29 01 74582**	500
sterile, graduated	2.0	self-standing	**29 01 74583**	500
sterile, graduated	2.0	Bottom conical	**29 01 74584**	500

Available only in original packaging units. No fractions possible.

Everything for your laboratory –
from one source

Cryo Articles



①

webcode WW2NY038

Cellcamper Mini, Freezing Box for Cells, neoLab®

① **Freezing box for cells**
The neoLab-freezing box ensures an even, controlled freeze/thaw rate of 1°C per minute in all ULT freezer **without the use of alcohol** or any fluids. The freezing box can be used with a variety of cell types (primary cells, cell lines, stem cells, yeast, bacteria etc). The technology utilizes a highly-isolative outer material and a thermo-conductive alloy to control the rate of heat removal from the sample. This ensures a standard for reproducible cryopreservation. For vials with a diameter of 12 mm.

- for containers with a volume of max. 2 ml and a diameter of max. 12 mm
- sturdy design
- no pre-cooling is necessary
- no need of alcohol, no downstream costs
- standard for cryopreservation, freeze rate 1°C/min
- excellent cell recovery and viability
- when frozen the cap is easily removable
- no need for gloves
- ready for re-use within 5 minutes

Capacity kg	Ø × H cm	L × W × H cm	Order No.
12	12 × 11		**10 01 23702**
30	16 × 11		**10 01 23703**
60		29 × 16 × 11	**10 01 23704**

webcode WW2NY295

Storage Box for Centrifuge Tubes 15/50 ml, neoLab®

Colored box made from PP for Falcon tubes 15 and 50 ml. Two grids guarantee a safe stand of the tubes in the upper as well as the lower area.
- 5 × 5 spaces for 15 ml tubes with max. 17 mm Ø
- 3 × 3 spaces for 50 ml tubes with max. 30 mm Ø
- With transparent slip lid
- Can be autoclaved up to 121°C, resistant to -80°C

Dimensions: 137 × 137 × 128 mm
Material: PP

Colour	Places	for tubes ml	Order No.
transparent	5 × 5	15	**29 01 21917**
yellow	5 × 5	15	**29 01 21918**
pink	5 × 5	15	**29 01 21919**
green	5 × 5	15	**29 01 21920**
blue	5 × 5	15	**29 01 21921**
orange	5 × 5	15	**29 01 21922**
transparent	3 × 3	50	**29 01 21923**
yellow	3 × 3	50	**29 01 21924**
pink	3 × 3	50	**29 01 21925**
green	3 × 3	50	**29 01 21907**
blue	3 × 3	50	**29 01 21908**
orange	3 × 3	50	**29 01 21909**



webcode WW2NY172

Cryo Storage Boxes, neoLab®

Cryo boxes for grid inserts, 136 × 136 mm
Made of cold-resistant cardboard impregnated against the wet, with lid. Boxes and lids are coated on the inside and outside. Very sturdy design. The lid has a distinctive marking area on one end side for labeling the contents. Base area: 136 × 136 mm
Matching grid inserts made of cardboard.

Article	Colour	Height mm	Order No.
Cryo box with lid	white	50	**23 01 22700**
Cryo box with lid	red	50	**23 01 22695**
Cryo box with lid	blue	50	**23 01 22696**
Cryo box with lid	green	50	**23 01 22697**
Cryo box with lid	yellow	50	**23 01 22698**
Cryo box with lid	white	75	**23 01 22701**
Cryo box with lid	white	100	**23 01 22702**

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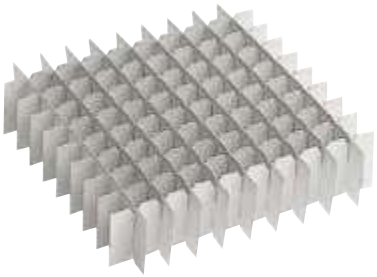
Cryo Articles



Grid inserts for cryo boxes 136 × 136 mm

Article	Quantity compartments	for	for Ø mm	Order No.
Grid insert	16 × 16	PCR-tubes 0.2 ml		**10 01 22892**
Grid insert	13 × 13	Tubes 0.5/0.75 ml		**10 01 22893**
Grid insert	12 × 12		10	**23 01 22708**
Grid insert	10 × 10		12	**23 01 22703**
Grid insert	9 × 9		13	**23 01 22706**
Grid insert	8 × 8		14	**23 01 22704**
Grid insert	7 × 7		16	**23 01 22705**
Grid insert	5 × 5		20	**23 01 22707**

Cryo boxes for grid inserts, 133 × 133 mm
Coloured cryo boxes made of temperature-resistant cardboard with water-repellent standard coating. Complete with pull-over cap. Without labelling field.
Dimensions: 133 × 133 × 50 mm (L×W×H)



Article	Colour	Order No.
Cryo box with lid	white	**10 01 22671**
Cryo box with lid	blue	**10 01 22672**
Cryo box with lid	red	**10 01 22673**
Cryo box with lid	green	**10 01 22674**
Cryo box with lid	yellow	**10 01 22677**

Grid inserts for cryo boxes 133 × 133 mm

Article	Quantity compartments	for Ø mm	Height mm	Order No.	PU pc/Pack
Grid insert	16 × 16	6.0	25	**10 01 22887**	10
Grid insert	13 × 13	8.0	25	**10 01 22886**	10
Grid insert	12 × 12	8.5	30	**10 01 22885**	10
Grid insert	10 × 10	10.5	30	**10 01 22884**	10
Grid insert	9 × 9	11.5	30	**10 01 22883**	10
Grid insert	8 × 8	14.0	30	**10 01 22882**	10
Grid insert	7 × 7	16.0	30	**10 01 22881**	10
Grid insert	5 × 5	23.0	30	**10 01 22880**	10

Cryo Storage Boxes PS, neoLab®



webcode WW2NY297

Boxes for 10 × 10 **cryotubes with 1 to 2 ml content** and 12.5 mm Ø.
Material: Polystyrene, suitable for temperatures from -80° to +80°C, not autoclavable. Transparent lid with numbered compartments for identification of samples.
Dimensions: 133 × 133 × 52 mm high

Article	Colour	Order No.	PU pc/Pack
Cryo storage box, blue	blue	**29 01 78041**	4
Cryo storage box, green	green	**29 01 78042**	4
Cryo storage box, pink	pink	**29 01 78043**	4
Cryo storage box, yellow	yellow	**29 01 78044**	4

Cryo Storage Boxes made of PP, neoLab®



webcode WW2NY296

Cryo storage boxes for grid
Transparent box made of PP with slip lid for loading with plastic-coated cardboard grids for receptacles of 12 to 20 mm Ø.
Temperature-resistant from -90 to +121°C, can be autoclaved.
Dimensions: 135 × 135 × 50 mm (L × W × H)

Article	Order No.
Box empty, for grid	**29 01 21916**

Grid inserts



Article	Grid	for Ø mm	Order No.	PU pc/Pack
Grid inserts PP	6 × 6	20.5	**10 01 22894**	5
Grid inserts PP	7 × 7	17.3	**10 01 22895**	5
Grid inserts PP	8 × 8	15.8	**10 01 22896**	5
Grid inserts PP	9 × 9	12.8	**10 01 22897**	5
Grid inserts PP	10 × 10	11.2	**10 01 22898**	5

Cryo Articles



webcode WW2NY271

Cryo Boxes made of Cardboard, neoLab®

Cryo boxes made of cardboard
With lid for cell cultures 15 and 50 ml, made of cold-resisting cardboard, which is also impregnated against moisture.
A low-price and durable alternative to plastic boxes.
The lid has a prominent marking area on the front side.
Inner dimensions: 122 × 122 mm or 148 × 148 mm
Inner height: 128 mm

Article	Outer L × W × H mm	Order No.
Cell box made of carboard size 1	129 × 129 × 130	**23 01 27094**
Cell box made of carboard size 2	155 × 155 × 130	**23 01 27095**

Grid partitions
For the cryogenic cell storage box - matching grid partitions for various tubes in various versions.

Article	for Ø mm	Places	Order No.
Grid insert for box size 1	20	5 × 5	**23 01 27096**
Grid insert for box size 2	20	6 × 6	**23 01 27097**
Grid insert for box size 1	30	3 × 3	**23 01 27098**
Grid insert for box size 2	30	4 × 4	**23 01 27099**

webcode WW2NY216



neoBox 81 Cryo-Boxes, neoLab®

neoBox 81
Cryo boxes in luminescent colors.
- Compartments in 9 rows of 9 = 81 places for tubes up to 12.5 mm dia.
- with alphanumeric compartments
- Tight-closing, overlapping cover, transparent

Material: Polypropylene
Temperature resistance: -90°C to +121°C, autoclavable
Dimensions (L × W × H): 131 × 131 × 45 mm

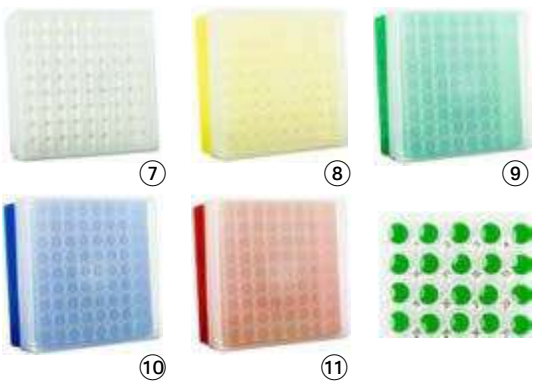
	Colour	Order No.
①	transparent	**23 01 22910**
②	yellow	**23 01 22911**
③	green	**23 01 22912**
④	pink	**23 01 22913**
⑤	blue	**23 01 22914**
⑥	orange	**23 01 22915**

neoBox 81 plus
The neoBox 81 plus is the ideal cryobox for the safe storage and transport of your valuable samples. With its fixed 9×9 grid, the neoBox 81 plus offers space for 81 cryovials with a diameter of up to 12.5 mm and a maximum height of 50 mm.

Comes with the perforated plate (2-2939) which is inserted into the lower part. In this way, each “sample place” is clearly numbered and assigned. Thus, all 81 positions in the box are unique and mix-up of samples is excluded.
Lid and base are designed so that the lid is always placed clearly oriented – Position Lock.

The neoBox 81 plus is made of durable polypropylene and is temperature-resistant and autoclavable from -90°C to + 12 °C.

Dimensions (L×W×H): 133 × 133 × 53 mm
Cryobox including perforated plate



	Article	Order No.
⑦	neoBox 81 plus, transparent	**10 01 22930**
⑧	neoBox 81 plus, yellow	**10 01 22931**
⑨	neoBox 81 plus, green	**10 01 22932**
⑩	neoBox 81 plus, blue	**10 01 22934**
⑪	neoBox 81 plus, red	**10 01 22937**
	neoBox 81 plus, set of 5, transparent, yellow, green, blue, red	**10 01 22938**
	Perforated plate for neoBox 81 plus, transparent, coded, grid 9×9	**10 01 22939**

Cryo Articles

Cryo Tube Boxes, Polycarbonate, ISOLAB

webcode WWMUE010

ISOLAB Laborgeräte GmbH

Manufactured from polycarbonate with high mechanical strength and high temperature resistance between -196°C to +121°C. Uniquely designed to carry 81 pieces micro or cryo tubes in 9 x 9 array. “Hedgehog” designed tube compartments hold the tube in their position firmly.

They fit all steel and polycarbonate freezer racks. Unique design with vent and drainage holes guarantees best, efficient air circulation. Forward slope base ensures quick visual orientation. Easily stackable for reducing storage space. Hinged lid with built-in stop allows very easy access to tubes. Clear box lid enables easy identification of box content and protects the tubes from dust, moisture and other enviromental effects. Vent and drainage holes at the lid and the base guarantee the best air circulation.

Alphanumerical index both on tube rows and the lid enables easy identification of tube positions. Featured with a frosted write on area at the front side of the lid.
Different color options offer visual sorting and organising of different samples.



for tubes ml	Places	L × W × H mm	Colour	Order No.
2.0	9×9	133×133×53	green	**10 66 40900**
2.0	9×9	133×133×53	purple	**10 66 40901**
2.0	9×9	133×133×53	ruby	**10 66 40902**
5.0	9×9	133×133×96	blue	**10 66 40903**

Stainless Steel Racks for Cryoboxes, neoLab®

Cryomaster® offers premium-quality stainless steel storage systems – whether in the freezer or refrigeration room, Cryomaster® adapts to your individual requirements! Give us your specifications, and we will supply a Cryomaster® stainless steel rack tailored to your needs.

To find the right stainless steel rack for you, please give us the following information:
- Which vials do you use?
- What is the size of your cryoboxes?
- Which freezer model or storage system are you currently using, or intend to purchase/ supplement?

See our selection of Cryomaster stainless steel racks for cryoboxes with a base area of 136 × 136 mm. One rack for both base formats: 133 × 133 mm and 136 × 136 mm (① + ②). Other sizes and dimensions are available on request, e.g. a chest rack for vertical storage of blood bags (③).

① 



②



③

Cryomaster® vertical racks for cryoboxes 136×136×53 mm

Quantity compartments	Basic size mm	Height mm	Version	Order No.
7	141×141	391	without locking rod	**10 01 46242**
10	141×141	556	without locking rod	**10 01 46217**
11	141×141	611	without locking rod	**10 01 46221**
12	141×141	666	without locking rod	**10 01 46222**
13	141×141	721	without locking rod	**10 01 46223**
14	141×141	776	without locking rod	**10 01 46236**
10	141×148	556	with locking rod	**10 01 46224**
11	141×148	611	with locking rod	**10 01 46205**
12	141×148	666	with locking rod	**10 01 46206**
13	141×148	721	with locking rod	**10 01 46225**
14	141×148	776	with locking rod	**10 01 46237**

Cryomaster® cabinet racks for cryoboxes 136×136×53 mm

Compartments deep	Compartments high	Basic size mm	Height mm	Order No.
2	5	139×290	279	**10 01 46246**
3	3	139×430	169	**10 01 46230**
3	4	139×430	224	**10 01 46231**
4	3	139×569	169	**10 01 46232**
4	4	139×569	224	**10 01 46203**
4	5	139×565	279	**10 01 46204**
4	6	139×569	334	**10 01 46233**
4	7	139×569	389	**10 01 46218**
4	8	139×569	444	**10 01 46243**
5	4	139×700	224	**10 01 46238**
5	5	139×700	279	**10 01 46213**

for my lab neoLab

webcode WW2NY336

Cryo Articles







webcode WW2NY337

Stainless Steel Drawer Racks for Cryoboxes, neoLab®

Cryomaster® offers premium-quality stainless steel storage systems – whether in the freezer or refrigeration room, Cryomaster® adapts to your individual requirements! Give us your specifications, and we will supply a Cryomaster® stainless steel rack tailored to your needs.

To find the right stainless steel rack for you, please give us the following information:
- Which vials do you use?
- What is the size of your cryoboxes?
- Which freezer model or storage system are you currently using, or intend to purchase/ supplement?

See our selection of Cryomaster stainless steel racks for cryoboxes with a base area of 136 × 136 mm. One rack for both base formats: 133 × 133 mm and 136 × 136 mm (① + ②).

Cryomaster® Drawer racks for cryoboxes 136×136×53 mm

Compart-ments deep	Compart-ments high	Basic size mm	Height mm	Version	Order No.
2	5	140×308	288		**10 01 46245**
3	3	140×450	173		**10 01 46226**
3	4	140×450	231		**10 01 46227**
4	3	140×569	173		**10 01 46228**
4	4	140×569	231	short	**10 01 46220**
4	5	140×569	288	short	**10 01 46247**
4	5	140×577	288		**10 01 46201**
4	6	140×569	337	short	**10 01 46229**
4	7	140×569	404	short	**10 01 46244**
4	8	140×563	449	short, flat	**10 01 46209**
5	4	140×700	249	short, with fold-down handle	**10 01 46219**
5	4	140×700	231	short	**10 01 46202**
5	5	140×700	288	short, with fold-down handle	**10 01 46212**

Other sizes and dimensions on request, e.g. cabinet insert with hoe insert ③.



webcode WW2NY269

neoStapelRack® System for Cryoboxes, Stackable, neoLab®

This is a system of stacking racks for all generally available standard Cryoboxes with heights of 50 to 53 mm, for example:
- **Cardboard Cryoboxes** Order No. 23 01 22700 ff. and 23 01 22900 ff.
- **neoBox-81** (Cryobox made of PP) Order No. 23 01 22910 ff.
- **neoBox-100** (Storage box PP) Order No. 23 01 21935 ff.
- **neoRack® for eppis and Cryo tubes**

Order No. 23 01 21642 and 23 01 21643

Two versions:
1. Vertical
Up to 10 basic elements can be stacked on top of each other to form a tower, with the molded-on hooks lock into each other in the process. The parts can also be disassembled again at any time.
This vertical system comes with a lid with a handle which makes it easy to lower into a freezer box.
2. Horizontal
This system comes with clamps (1 pair for each) for firmly fastening the basic elements at the side and/or the back. 4 basic elements can therefore be fastened next to each other or at the back and 4 stacked on top of each other. Each basic element can be covered with a lid without a handle (Order No. 23 01 23001).

The side panels and floor come with large openings for better transfer of cold or heat.
Each basic element has a half-moon shaped recess at the front for easier and convenient removal of the storage boxes.
Suitable for storage in deep-freeze storage boxes or cabinets, but also suitable as a magazine for the laboratory table.



Technical data:

External dimensions, basic element:	146 × 150 × 58 mm (W × D × H)
Internal dimensions, basic element:	140 × 147 × 55 mm (W × D × H)
Material:	PC, autoclavable
Temperature resistance:	From -130°C to +130°C





Article	Colour	Order No.
neoStapelRack single element	white	**23 01 22999**
Cover with handle	white	**23 01 22998**
Cover without handle	white	**23 01 23001**
neoStapelRack single element	blue	**23 01 23002**
Cover with handle	blue	**23 01 23003**
Cover without handle	blue	**23 01 23004**
Clamp pair for horizontal version	blue	**23 01 23000**

Culture Vessels, Closures

Culture Tubes with Thread and Screw Cap, schuett-biotec

① **Culture tubes with thread and screw cap**
Soda-lime glass. Sterilizable. For growing cultures and for transporting long-term cultures.
Complete with aluminium screw cap (autoclavable/sterilizable) or plastic screw cap (steam-autoclavable at 121°C/sterilizable) and rubber seal.

Screw cap	Size mm	Vol. approx. ml	Order No.	PU pc/Pack
Aluminium	35 × 12	3	**12 31 11004**	100
Aluminium	50 × 14 [1)]	5	**12 31 11002**	100
Aluminium	45 × 27	15	**10 31 81005**	100
Aluminium	50 × 27	20	**10 31 81006**	100
Aluminium	75 × 25	30	**10 31 81007**	100
Plastic	50 × 14 [1)]	5	**12 31 11003**	100
Plastic	45 × 27	15	**12 31 11015**	100
Plastic	50 × 27	20	**12 31 11020**	100
Plastic	75 × 27	30	**12 31 11030**	100

Available only in original packaging units. No fractions possible.

[1)] with frosted labeling space
Spare screw caps on request.


①


②


③

Storage cases for culture tubes

	Article	Material	for	Order No.	PU pc/Pack
②	Storage case P	Polystyrene	50 tubes 35 × 12 mm	**12 31 12001**	1
	Storage case PP[1)]	Polypropylene	50 tubes 35 × 12 mm	**10 31 82003**	1
③	Storage case H	Wood	100 tubes 50 × 14 mm	**12 31 12002**	1
	Storage case "Box"[1)] black, with slip lid, stackable	Polypropylene	49 tubes 50 × 14 mm	**10 31 82004**	2

[1)]autoclavable
Supplied without the illustrated accessories

Culture Tubes, DURAN®, DURAN Group / IDL

Straight rim for Kapsenberg caps, DIN 38411, Part 6.

Vol. ml	O.D. mm	Length mm	Wall thickness mm	Order No.	PU pc/Pack
20	16	160	1.0 – 1.2	**19 26 13221**	100
30	18	180	1.0 – 1.2	**19 26 13223**	100



webcode WWEQ2130

Disposable Culture Tubes, DURAN Group / IDL

Disposable culture tubes made of soda-lime glass, straight rim.

O.D. mm	Length mm	Vol. ml	Wall thickness mm	Order No.	PU pc/Pack
9.75	75	4	0.80	**19 27 72018**	814
10.00	75	4	0.60	**19 27 72036**	250
11.75	75	5	0.80	**19 27 72058**	550
11.75	75	6	0.55	**19 27 72086**	250
12.25	75	7	0.55	**19 27 72096**	500
12.25	75	6	0.80	**19 27 72099**	500
11.75	100	8	0.80	**19 27 72078**	550
12.25	100	9	0.80	**19 27 72119**	500
15.50	100	14	0.80	**19 27 72148**	250
15.75	100	15	0.90	**19 27 72109**	250
12.25	120	18	0.80	**19 27 72128**	250
10.00	150	8	0.80	**19 27 72188**	250
15.50	150	19	0.80	**19 27 72198**	250
15.50	160	22	0.80	**19 27 72219**	250

Available only in original packaging units. No fractions possible.



webcode WWEQ2135

Culture Vessels, Closures

webcode WWEQ2134



Culture Tubes, DURAN®, DURAN Group / IDL

Culture tubes with DIN thread and screw cap made of PBT with PTFE seal (suitable for food use). T_{max} = 180°C. Autoclavable.

O.D. mm	Length mm	Vol. ml	Thread GL	Order No.	PU pc/Pack
12	100	6	14	**19 26 13611**	50
13	100	9	14	**10 21 13612**	50
16	150	20	18	**10 21 13622**	50
16	160	20	18	**19 26 13621**	50
18	180	30	18	**19 26 13623**	50
20	150	34	18	**10 21 13624**	50

Available only in original packaging units. No fractions possible.

webcode WWEQ2136



Disposable Culture Tubes with Thread, DURAN Group / IDL

Disposable culture tubes made of soda-lime glass with DIN thread and PP screw cap. With TPE seal. Autoclavable.

O.D. mm	Length mm	Vol. ml	Thread GL	Wall thickness mm	Order No.	PU pc/Pack
12	100	6	14	1	**19 23 17511**	100
16	100	12	18	1	**19 23 17514**	100
16	160	22	18	1	**19 23 17521**	100
18	180	32	18	1	**19 23 17523**	100

Available only in original packaging units. No fractions possible.



Test Tubes with Thread and Screw Cap, schuett-biotec

Borosilicate glass. Sterilizable. For growing cultures and transporting long-term cultures.
Walls 1.1 mm thick. Wide neck for easy inoculating and leaning.

Complete with aluminium screw cap (autoclavable/sterilizable) or rubber screw cap (steam-autoclavable at 121°C/sterilizable) and rubber seal.

Screw cap	Size mm	Vol. approx. ml	Order No.	PU pc/Pack
aluminium	98 × 16	15	**19 31 15000**	100
aluminium	150 × 16	20	**19 31 15001**	100
plastic	98 × 16	15	**19 31 15010**	100
plastic	150 × 16	20	**19 31 15011**	100
plastic	150 × 25	50	**19 31 53000**	100

Available only in original packaging units. No fractions possible.
Spare screw caps on request.

Culture Vessels, Closures

DURAN® *TILT*, DURAN Group / IDL

webcode WWEQ2219

DURAN®*TILT* was developed specifically for easy and safe working in biosafety benches and clean-air hoods. DURAN®*TILT* makes it much more convenient to handle objects in the limited space available under these conditions.



DURAN® *TILT* – Cell cultur media bottle
DURAN® *TILT* media bottle

- For use in two positions: Upright for filter sterilisation, or in the inclined 45° *TILT* position for more convenient pipetting. The new, innovative design allows for sterile, easy, and uncomplicated working processes.
- For easier pipetting, the surface of the aperture GL 56 is 100% larger than that of the standard aperture GL 45. In this way, you can also use large-volume pipettes (100 ml) without any problems; contaminations are avoided.
- With its ergonomic shape, the optimised white screw cap GL 56, made of non-cytotoxic polypropylene, allows for easy opening and closing.
- Being vacuum-fast, the bottle is perfect for safe filter sterilisation of media.
- Thanks to its small footprint and stackable design, the bottle is perfectly suited for storing the media in the fridge and heating them in the water bath.
- Low bottle height for easy handling in biosafety workbenches and under clean-air hoods.
- Scaling on both sides to allow for easy reading of the volume in the bottle – in upright and in tilted position.
- Made of DURAN® borosilicate glass 3.3, a time- and field-proven material which is certified as non-cytotoxic (pursuant to ISO 10993-5:2009) and reacts neither with solutions nor with solid matters; this means that it will not affect cell culture media. Being reusable, DURAN® borosilicate glass 3.3 reduces the costs in the product lifecycle.
- Not sterile on delivery.



Article	Volume ml	Overall height mm	**Order No.**	PU pc/Pack
DURAN® *TILT* Media bottle, clear glass	500	151	**10 21 14459**	4

DURAN® *TILT* – Accessories and replacement parts

DURAN® *TILT* GL56 Bottle Tags
Made of silicone. For individual coloured marking or for fixing the light protection jacket. Available in four colours.



Article	**Order No.**	PU pc/Pack
DURAN® GL 56 Bottle Tags, orange	**10 21 15626**	20
DURAN® GL 56 Bottle Tags, yellow	**10 21 15634**	20
DURAN® GL 56 Bottle Tags, blue	**10 21 15659**	20
DURAN® GL 56 Bottle Tags, purple	**10 21 15667**	20

Article	**Order No.**	PU pc/Pack
DURAN® *TILT* Light shield Made of white silicone, covers 94% of the bottle surface. Protects from UV radiation, protects the glass surface and provides for a good grip. With four coloured GL56 Bottle Tags (orange, yellow, blue, and purple) for colour coding and fixing the light protection jacket.	**10 21 15600**	4
DURAN® *TILT* GL 56 self-adhesive identification label Practical self-adhesive labels for orderly labelling and unique marking of the individual cell culture media bottles to exclude mix-up, errors, and cross-contamination. Diameter 40 mm.	**10 21 15604**	60
DURAN® *TILT* GL 56 screw cap With its ergonomic shape, the optimised white screw cap GL 56, made of non-cytotoxic polypropylene, allows for easy opening and closing.	**10 21 15602**	10
DURAN® GL45 thread adaptor for bottle top vacuum filtration unit (GL 45 external, GL 56 internal) Connects the DURAN®*TILT* bottle with the DURAN® vacuum filter unit. Made of inert PTFE. Reusable.	**10 21 15601**	1



Continued on next page

Culture Vessels, Closures

DURAN® – Vacuum filtration units
Specifically for the sterilisation or clarification of aqueous cell culture media. The filter can be used for the DURAN® TILT bottle (with GL 45 thread adapter) and for conventional GL 45 cell culture media bottles. It is gamma sterilised, available in three different pore sizes, and is made of non-cytotoxic materials of class VI in a cleanroom of class 100,000 – is sterile on delivery.

Article	Pore size µm	Filter Ø mm	Order No.	PU pc/Pack
DURAN® 500 ml funnel, GL 45	0.1	90	**10 21 12819**	12
DURAN® 500 ml funnel, GL 45	0.2	90	**10 21 12827**	12
DURAN® 500 ml funnel, GL 45	0.45	90	**10 21 12843**	12

webcode WWEQ2203

DURAN® Baffled Flask, DURAN Group / IDL



The baffles in the flask cause strong turbulences when stirring, increasing the gas exchange area and thus the oxygenation capacity (twice the oxygenation capacity of the standard Erlenmeyer flask). Thanks to the fully automated production, DURAN® baffled flasks have a reproducible geometry. Increased wall thickness for excellent mechanical stability and long service life.

Contrary to other seal types, for example sealing with cotton wool, the membrane seal with welded PTFE membrane makes a reproducible gas exchange possible while reducing the risk of contamination. Seal and flask are autoclavable and fit for repeated use. Baffled flask with Retrace Code (Batch Certificate of Performance via Internet). Temperature resistance of membrane seal: +140°C

Equipped with 4 baffles in the bottom. Supplied with membrane seal and polypropylene pouring ring

Article	Order No.	PU pc/Pack
DURAN® baffled flask, GL 45, 250 ml	**10 21 18336**	4
DURAN® baffled flask, GL 45, 500 ml	**10 21 18344**	4
DURAN® baffled flask, GL 45, 1,000 ml	**10 21 15459**	1

Notice: Baffeld flasks also available without membrane screw caps.

webcode WWEQ2163

Matrix Bottles, DURAN®, DURAN Group / IDL



Straight neck for metal caps, uniform O.D. neck 38 mm, autoclavable.

Volume ml	max. O.D. mm	H mm	Order No.	PU pc/Pack
100	50	125	**19 21 77324**	10
300	70	170	**19 21 77339**	10
500	83	208	**19 21 77344**	10
1000	105	240	**19 21 77354**	10

Matching metal caps see order no. 19 29 01224 and 19 29 01324.

webcode WWEQ2164

Culture Flasks, Erlenmeyer Shape, DURAN®, DURAN Group / IDL



Straight neck for metal caps, uniform neck O.D. 38 mm. With retrace code (batch certificate via internet). Autoclavable.

Volume ml	max. O.D. mm	Height mm	Order No.	PU pc/Pack
100	64	114	**19 21 77124**	10
200	79	138	**19 21 77132**	10
250	85	149	**19 21 77136**	10
300	87	161	**19 21 77139**	10
500	105	183	**19 21 77144**	10
1000	131	229	**19 21 77154**	10
2000	166	302	**19 21 77163**	10

For matching metal caps, see Order No. 19 29 01224 and 19 29 01324

Culture Vessels, Closures

Metal Caps, DURAN Group / IDL

webcode WWEQ2166

To fit culture bottles 19 21 773.. and culture flasks 19 21 771.., 19 21 77462 with neck O.D. 38 mm.

	Material	Order No.	PU pc/Pack
①	Stainless steel	**19 29 01224**	10
②	Aluminium, blue anodized	**19 29 01324**	10





Culture Flasks with Baffle, LAT

For strong turbulence when stirring in Erlenmeyer flasks. For Kapsenberg caps.

Volume ml	Baffles	Order No.
100	3	**19 20 10024**
250	3	**19 20 10036**
300	3	**19 20 10039**
500	3	**19 20 10044**
1000	3	**19 20 10054**

webcode WWW4U034



Erlenmeyer Flasks with Baffle, LAT

For high turbulence when stirring in Erlenmeyer flasks. With beaded rim.

Volume ml	Baffles	Order No.
100	3	**11 20 10024**
250	3	**11 20 10036**
300	3	**11 20 10039**
500	3	**11 20 10044**
1000	3	**11 20 10054**

webcode WWW4U036



ERLENMEYER-CAP Caps, schuett-biotec

Aluminium. Anodized in color. Sterilizable. Anodic oxidized. Sterile but non-hermetic closing of vessels. Special caps for culture flasks (without beaded rim) and culture media bottles with straight neck of dia. 38 mm. Springs made of chromium-nickel-steel, with clamp against the outer wall of the vessel.

Advantages: stainless, washable/reusable, heat-resistant, sterilizable, fixed locked, air supply guaranteed, different colors for recognition.

Colour	for jar Ø mm	Order No.	PU pc/Pack
silver	37/39	**19 31 89371**	10
blue	37/39	**19 31 89372**	10
red	37/39	**19 31 89373**	10

❗ Available only in original packaging units. No fractions possible.



webcode To see other variants and accessories, please enter the webcode on our website.

Culture Vessels, Closures



ALU-STECK Caps, schuett-biotec

Pure aluminium. Matt. Sterilizable. Without springs. For the sterile but non-hermetic closing of vessels. For placing loosely on top of glass vessels. Can also be used as open sample containers.

Inner Ø mm	Height mm	Order No.	PU pc/Pack
11	25	**38 31 82511**	100
12	25	**38 31 82512**	100
13	25	**38 31 82513**	100
14	25	**38 31 82514**	100
15	25	**38 31 83015**	100
16	30	**38 31 83016**	100
17	30	**38 31 83017**	100
18	30	**38 31 83018**	100
20	30	**38 31 83020**	100
22	30	**38 31 83022**	100
28	30	**38 31 83028**	100
32	30	**38 31 83032**	100
39	30	**38 31 83039**	10
44	40	**38 31 84044**	10
48	40	**38 31 84048**	10
55	40	**38 31 84055**	10
58	40	**38 31 84060**	10

Available only in original packaging units. No fractions possible.



①

LABOCAP Caps, schuett-biotec

Aluminium. Anodized in color. Anodic oxidized. Sterilizable. For sterile but non-hermetic closing of vessels. With or without handle. Springs made of chromium-nickel-steel for clamping against the outer wall of the vessel.

Advantages: stainless, washable/reusable, heat-resistant, sterilizable, fixed locket, air supply is guaranteed, different colors for recognition.

① **Without handle, silver, blue, red**

for jar Ø mm	PU pc/Pack	silver Order No.	blue Order No.	red Order No.
9/10	100	**19 31 89091**	**10 31 89092**	**10 31 89093**
12/13	100	**19 31 89121**	**19 31 89122**	**19 31 89123**
14/15	100	**19 31 89141**	**19 31 89142**	**19 31 89143**
15/16	100	**19 31 89151**	**19 31 89152**	**19 31 89153**
17/18	100	**19 31 89171**	**19 31 89172**	**19 31 89173**
19/20	100	**19 31 89191**	**19 31 89192**	**19 31 89193**
21/23	100	**19 31 89211**	**10 31 89212**	**10 31 89213**
24/26	100	**19 31 89241**	**10 31 89242**	**10 31 89243**
28/30	100	**19 31 89281**	**10 31 89282**	**10 31 89283**

Available only in original packaging units. No fractions possible.

Without handle, yellow, green, black

for jar Ø mm	PU pc/Pack	yellow Order No.	green Order No.	black Order No.
12/13	100	**19 31 24243**	**19 31 24453**	**10 31 84273**
15/16	100	**19 31 24253**	**19 31 24473**	**19 31 24553**
17/18	100	**19 31 24443**	**19 31 24543**	**10 31 84573**
19/20	100	**10 31 84643**	**10 31 84653**	**10 31 84673**

Available only in original packaging units. No fractions possible.

Without handle, violet, brown

for jar Ø mm	PU pc/Pack	violet Order No.	brown[1)] Order No.
12/13	100	**10 31 84283**	**10 31 84263**
15/16	100	**10 31 84483**	
17/18	100	**10 31 84583**	**10 31 84563**
19/20	100	**10 31 84683**	**10 31 84663**

Available only in original packaging units. No fractions possible.

[1)] After selling off no longer available

Continued on next page

Culture Vessels, Closures

② **With handle, silver, blue, red**

for jar Ø mm	PU pc/Pack	silver **Order No.**	blue **Order No.**	red **Order No.**
12/13[1)]	100	**19 31 88131**		
15/16	100	**19 31 88151**	**19 31 88152**	**19 31 88153**
17/18	100	**19 31 88171**	**19 31 88172**	**19 31 88173**
19/20[1)]	100	**19 31 88191**	**19 31 88192**	**19 31 88193**

Available only in original packaging units. No fractions possible.

[1)] After selling off no longer available

With handle, yellow, green

for jar Ø mm	PU pc/Pack	yellow **Order No.**	green **Order No.**
15/16	100	**10 31 83343**	**10 31 83353**
17/18	100	**10 31 83443**	**10 31 83453**

Available only in original packaging units. No fractions possible.

With handle, black, violet, brown

for jar Ø mm	PU pc/Pack	black **Order No.**	violet **Order No.**	brown[1)] **Order No.**
15/16	100	**10 31 83373**	**10 31 83383**	
17/18	100	**10 31 83473**	**10 31 83483**	**10 31 83463**

Available only in original packaging units. No fractions possible.

[1)] After selling off no longer available


②

SILICOSEN® Sterile Plugs, Hirschmann

webcode WW4ZV073

HIRSCHMANN

SILICOSEN® are specially processed culture plugs in silicone rubber with continuous bubbles for preparation, filling and sterilisation of culture media. Their uniform pore structure and good air permeability make them excellent for the cultivation of aerobic micro-organisms.

SILICOSEN® culture stoppers have low water evaporation which makes them particularly suitable for long term cultures. The lateral surface is covered with an external skin, air exchange can only can only take place vertically. The stoppers are water repellent, chemically resistant and temperature resistant. Dry sterilized (180°C) and high-pressure steam sterilized. Can be hot water or in neutral detergent washed and disinfected. They are reusable.


③


④


⑤

③ **SILICOSEN® type stopper**

Type	d_1 mm	d_2 mm	l_1 mm	l_2 mm	NS	**Order No.**	PU pc/Pack
T10	10	6	13	17	6/9	**10 37 05510**	10
T12	12	9	14	17	9/11	**10 37 05512**	10
T15	15	11	15	20	11/14	**10 37 05515**	10
T17	17	13	10	30	13/16	**10 37 05517**	10
T19	19	15	12	30	15/18	**10 37 05519**	10
T22	22	18	15	30	18/21	**10 37 05522**	10
T24	24	20	21	31	20/23	**10 37 05524**	10
T28	28	20	20	35	20/23	**10 37 05528**	10
T32	32	22	23	32	22/30	**10 37 05532**	10
T38	38	26	30	35	26/35	**10 37 05538**	10
T42	42	32	35	50	30/40	**10 37 05542**	10
T52	52	42	40	60	40/50	**10 37 05552**	10
T66	66	54	40	60	54/63	**10 37 05566**	10
T76	76	64	40	60	64/74	**10 37 05576**	10
L12	12	9	40	10	9/11	**10 37 05612**	10
L17	17	13	30	20	13/16	**10 37 05617**	10
L22	22	18	30	30	18/21	**10 37 05622**	10

④ **SILICOSEN® type cap**

d_1 mm	d_2 mm	d_3 mm	l_1 mm	Neck O.D. mm	**Order No.**	PU pc/Pack
16	12	20	28	15–20	**10 37 05720**	10
26	18	30	28	20–30	**10 37 05730**	10
36	27	40	28	30–40	**10 37 05740**	10
50	34	55	28	40–55	**10 37 05755**	10
57	42	65	29	42–52	**10 37 05765**	10

⑤ **SILICOSEN® type super**

d_1 mm	d_2 mm	l_1 mm	l_2 mm	Neck I.D. mm	**Order No.**	PU pc/Pack
28	17	18	27	17–26	**10 37 05828**	10
35	24	20	30	24–33	**10 37 05835**	10
39	28	20	30	28–38	**10 37 05840**	10

Culture Vessels, Closures

webcode WW4ZV074

HIRSCHMANN



BIO-SILICO® culture stoppers, Hirschmann

BIO-SILICO®are specially processed culture plugs in silicone rubber with continuous bubbles for preparation, filling and sterilisation of culture media. Their uniform pore structure and good air permeability make them excellent for the cultivation of aerobic micro-organisms.

BIO-SILICO® culture stoppers have high air permeability, similar to cotton plugs. The stoppers are water repellent, chemically resistant, temperature resistant and reusable.

Type	d_1 mm	d_2 mm	l_1 mm	l_2 mm	NS	Order No.	PU pc/Pack
N12	13	9	13	17	9/11	**10 37 05912**	10
N15	16	11	14	22	11/14	**10 37 05915**	10
N17	19	13	15	25	13/16	**10 37 05917**	10
N19	21	15	16	28	15/18	**10 37 05919**	10
N22	24	18	18	30	18/21	**10 37 05922**	10
N24	26	20	20	32	20/23	**10 37 05924**	10
N28	30	21	20	34	21/26	**10 37 05928**	10
N32	34	22	24	36	22/30	**10 37 05932**	10
N42	44	30	32	46	30/40	**10 37 05942**	10
N52	54	40	36	50	40/50	**10 37 05952**	10

Bioreactors

webcode WWSU9042

Dinkelberg analytics by ALTMANN ANALYTIK



① ②



③

Anaerobic Containers, Dinkelberg Analytics

Anaerobic Containers
For culturing of micro-organisms under anaerobic (free of oxygen) conditions. Containers made of thick-walled clear PVC, very stable design. Easy-to-remove lid with O-ring seal and center closure, without valves and manometer. The connection of nitrogen makes anaerobe bags redundant.

Technical data:

Models:	**DIAB10001**	**DIAB10003**
Internal dimensions (dia. × H):	148 × 190 mm	148 × 290 mm
External dimensions (dia. × H):	160 × 250 mm	160 × 350 mm
Weight:	1.5 kg	1.9 kg
Features:	incl. removable stand for 10 Petri dishes with 100 mm dia. or 36 with 60 mm dia.	incl. removable stand for 16 Petri dishes with 10 mm dia. or 54 with 60 mm dia.

	Article	Order No.
	Anaerobic container, small model, type DIAB10001 (The picture shows the basic model **without** a gas kit)	**88 32 10001**
①	**Anaerobic container, large model, type DIAB10003** (The picture shows the basic model **with** a gas set, which is available as an **optional accessory**.)	**88 32 10003**
②	**Set: Anaerobic container small + gas kit** Type DIAB10005	**10 32 10005**
	Set: Anaerobic container large + gas kit Type DIAB10006	**10 32 10006**

Accessories

	Article	Order No.
③	**Gas kit, type DIAB10004** For DIAB10001/DIAB10003. Consisting of 1 manometer and 2 shut-off valves (additional height 20 mm) for filling the anaerobic containers with gas from bottles (hydrogen, carbon dioxide, nitrogen etc.)	**88 32 10004**

Webcode

Use the webcode on our website to see a larger selection of products from a specific manufacturer.

Bioreactors

Culturing Units, Aerne Analytic

webcode WW39Q001

For growing bacteria or yeast cultures, for example acidification cultures. Equipped with membrane keypad. Material: white PP

Type	Specification	Voltage V	Order No.
AEA 1-5	suitable for 1 × container of 5 l	230	**10 64 00015**
AEA 2-5	suitable for 2 × containers, 5 l each	400	**10 64 00025**
AEA 4-5	suitable for 4 × containers, 5 l each	400	**10 64 00045**
AEA 6-5	suitable for 6 × containers, 5 l each	400	**10 64 00065**
AEA 1-10	suitable for 1 × container of 10 l	230	**10 64 00110**
AEA 2-10	suitable for 2 × containers, 10 l each	400	**10 64 00210**
AEA 4-10	suitable for 4 × containers, 10 l each	400	**10 64 00410**
AEA 6-10	suitable for 6 × containers, 10 l each	400	**10 64 00610**
AEA 1-20	suitable for 1 × container of 20 l	230	**10 64 00120**
AEA 2-20	suitable for 2 × containers, 20 l each	400	**10 64 00220**
AEA 4-20	suitable for 4 × containers, 20 l each	400	**10 64 00420**
AEA 6-20	suitable for 6 × containers, 20 l each	400	**10 64 00620**

Other numbers of tanks or customised versions available on request.

Options for culturing units (on request):
Addition of 2-6 mother culture flasks, pH-control, touch screen, agitator

Accessories for culturing units (on request):
Culture tank 5/10/20 l, lid for 5/10/20 l culture tank, agitator for 5, 10 and 20 l culture tank, aseptic silicon plug, mother culture flask 500 ml, control thermometer 0 – 100°C, reducer rings from 20 to 10 l, 20 to 5 l and 10 to 5 l, laboratory roller set



Anaerobic Jars, schuett-biotec

Anaerobic Jars
For the cultivation of anaerobic and microaerophilic microorganisms in a defined, rapidly generated and optimum gas atmosphere.
There are two ways to establish the required atmosphere under optimum conditions:
Either by chemical GasPack kits (anaerobic systems) or by manual evacuation of the jars via vacuum pump and subsequent gassing (e.g. with nitrogen). No chemical accessories are required in this case (except anaerobic jars “eco” and “crystal eco”). The jars are made of robust stainless steel or transparent PC. The jar lids are made of UV-stable plastic or transparent polycarbonate, equipped with two corner valves incl. tube clips for vacuum hoses (inner diameter 5 mm) as well as manometer for exact control of the vacuum or overpressure (-1 to +0.2 bar) (except anaerobic jars “eco” and “crystal eco”). The optional stainless steel racks are equipped with holders for comfortable handling of the anaerobic systems.

Anaerobic methods: 3 x evacuation and gassing, uninterrupted gassing for 5 minutes, and chemical gas generation (GasPacks) for anaerobic jars “small”, “standard”, “large” and “crystal”. For anaerobic jars “eco” and “crystal eco”, only uninterrupted gassing for 5 minutes (use of GasPack kits).

Special versions: Other equipment available on request.
Examples: Specifically produced lids, for example made of special or heat-resistant materials, heat-resistant pressure gauge (max. 100°C), anaerobic jar “large” with stainless steel lid, without cocks/pressure gauges, etc.





Technical data:	Anaerobic jar “large”	Anaerobic jar “small”	Anaerobic jar “standard”	Anaerobic jar “eco”	Anaerobic jar “crystal”	Anaerobic jar “crystal eco”
Liters:	6	2	3	3	3	3
Inner Ø mm:	175	120	120	120	120	120
Inner height mm:	260	170	270	270	270	270
Material jar:	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Polycarbonat (transp.)	Polycarbonat (transp.)
Material cover:	Plastic (black)	Plastic (black)	Plastic (black)	Polycarbonat (transp.)	Polycarbonat (transp.)	Plastic (black)
Configuration:	2 valves 1 manometer	2 valves 1 manometer	2 valves 1 manometer	Ventilation screw	2 valves 1 manometer	Ventilation screw

Anaerobic jars for up to 15 Petri dishes Ø 60 – 100 mm (150 mm)

Article	Order No.
③ **Anaerobic jar “large”**	**10 31 83801**
① **Anaerobic jar “small”**	**10 31 83802**
② **Anaerobic jar “standard”**	**10 31 83803**
④ **Anaerobic jar “eco”[1)]**	**10 31 83805**
⑤ **Anaerobic jar “crystal”**	**10 31 83809**
⑥ **Anaerobic jar “crystal eco” (only for GasPack-Kits)**	**10 31 83810**

Continued on next page

webcode To see other variants and accessories, please enter the webcode on our website.

Bioreactors





Racks with holder for anaerobic systems

	Article	Order No.
	Rack “small” for up to 10 Petri dishes Ø 60–100 mm suitable for anaerobic jars large, small, standard, eco, crystal	**10 31 83851**
①	**Rack “standard” for up to 15 Petri dishes Ø 60–100 mm** suitable for anaerobic jars large, standard, eco, crystal	**10 31 83852**
	Rack “150” for up to 15 Petri dishes Ø 150 mm suitable for anaerobic jars large	**10 31 83853**
	Rack “3x60” for up to 45 Petri dishes Ø 60 mm suitable for anaerobic jars large	**10 31 83854**
	Rack “micro” for multiwell plates suitable for anaerobic jars large	**10 31 83855**
②	**Rack “Test Tubes” for 9 test tubes Ø 18 mm** suitable for anaerobic jars large, small, standard, eco, crystal	**10 31 83856**

GasPack-Kits “anaerobic”, “CO_2”, “microaerophil” available on request.

webcode WWQ7T020

ZEFA

Winpact Fermentation Systems, Zefa

Winpact bioreactors offer scaleable solutions for your bioprocesses in volumes from 500 ml to 20 litres. We furthermore provide a scale-up to match your production process for 30, 50 or up to 100 litres. The operator-friendly benchtop systems meet a wide range of applications and application assistants.

- Duo heating system, thermostat and dry heating all integrated in one unit
- True Parallel system, 1 control regulates 2 vessels
- Control of up to 16 systems via a single interface
- Intuitive user interface for quick familiarisation
- Ethernet communication with Winpact SCADA software and IP addressing



③

Technical data:

Heating:	duo heating system
Working volume:	500 ml – 20 litres
Vessels:	changeable glass vessels, autoclavable

Modell:	**FS-05**	**FS-06**	**FS-07**
Number of vessels which can be operated by one controller:			
	2	1	1
Number of vessels which can be operated via remote software:			
	max. 32	max. 16	max. 16
Touch screen:	10.4″	8″	10.4″
Number of pumps:	8	3	4
Number of external pumps:	4 max.	1 max.	2 max.
Gas mixing options:	yes	no	yes
Oxygen enrichment:	yes	no	yes
Mass flow controllers:	yes	no	yes
Exhaust gas analysis:	yes	no	yes
ORP probe:	yes	no	yes
Light module:	yes	no	yes
Solid state program:	yes	no	yes

Please enter the webcode WWQ7T020 to see other configurations and vessel models in our online catalogue

	Article	Order No.
③	**FS-05** Basic unit FS-05-220	**10 83 29174**
	Fermentation kit for FS-05 with double jacketed 1000 ml vessel	**10 83 29175**
	FS-06 Winpact complete fermentation system FS-06 with double jacketed 1000 ml vessel	**10 83 29176**
	FS-07 Winpact complete fermentation system FS-07 with double jacketed 1000 ml vessel	**10 83 29177**

Colony Counters

schuett count Colony Counter, schuett-biotec

Colony Counter count
Designed for reliable and efficient counting of bacterial colonies and bacteriophage plaques growing on nutrient agar or nutrient disks/filter disks in Petri dishes.
- For Petri dishes with Ø 90 mm (optional Ø 60 mm or Ø 150 mm)
- Individual adjustable light, sensitivity of counting plate, volume of buzzer
- Average count calculation, data transfer via USB to customer's PC. Exported to Excel for further editing, saving, printing.

Modern LED lighting technology absolutely glare-free and eye gentle
- Three types of illumination: from below, from the side or from the top (optional)
- A so far unknown transparency and differentiation (on agar or nutrient disk), even with transparent colonies
- Natural colour reproduction and brilliant lighting
- No heating of the samples

Easy counting by marking the colonies with an ordinary felt-tip marker pen on the Petri dish
- Acoustical counting observation (buzzer with adjustable volume)
- 4-digit LED-display (0-9999)
- Clearly arranged foil keypad for all controls

Included in scope of delivery:
For Petri dishes with Ø 90 mm: Adapter (transparent) for illumination from below and adapter (black/white) for illumination from the side, contrast disk (black), USB cable, felt-tip marker pen with pen holder.

For counting approx. 50 Petri dishes per day, the automatic colony counter schuett colonyQuant is recommended (sample chamber, PC/notebook, software licence). Automatic counting and documentation of Petri dishes or nutrient disks, populated with smallest colonies of <0.05 mm diameter, mixed cultures are possible. Can be optionally connected to an existing LIM system. Petrifilm assessment, test assessment of customer-specific plates can be carried out before you decide to purchase. (Further informations on request).

Technichal data:

Dimensions (W × H × D):	260 × 130 × 250 mm
Height with gooseneck magnifying glass/lamp:	approx. 300 mm
Weight:	approx. 1.5 kg



	Article	Order No.
1	**schuett count colony counter, 100 – 240 V**	**10 31 81502**

Accessories, matching for schuett count

	Article	Order No.
1	**Magnifying glass[1] 3-fold magnification**	**10 31 81602**
	Magnifying glass with Ø 100 mm (whole petri dish)	
	Magnifying glass[1] 6 – 8-fold magnification	**10 31 81612**
	Magnifying glass with Ø 60 mm (parts of petri dishes)	
1	**LED top light lamp[1]**	**10 31 81702**
2	**Adapter for Petri dishes with Ø 50-60 mm**	**10 31 81802**
3	**Adapter for Petri dishes with Ø 140-150 mm**	**10 31 81812**
	Adapter for Petrifilm	**10 31 81882**
4	**Spiral Plater disk, black/white**	**10 31 81902**
4	**Wolffhügel disk, black/white**	**10 31 81912**
5	**Counting needle**	**10 31 81922**
5	**Felt-tip marker pen (water-resistant)**	**10 31 81932**
	count Extract!basic software, German language, licence code	**10 31 81900**
	count Extract!basic software, English language, licence code	**10 31 81910**

[1] Gooseneck holder, individually adjustable

Adapter for other petri dish sizes available on request.

More than 20,000 articles in this catalogue –
and still more on our website!

Colony Counters

webcode WW2NY409

Colony Counter, neoLab®



Quantica 500™ is an automatic colony counter designed for a variety of microbiological applications. The high-resolution camera, uniquely compact design, adaptable LED illumination and powerful yet user-friendly software make this colony counter stand out. The measurement is suitable for different types of Petri dishes with agar and chromogenic culture media.

Quantica 500™ automatically counts colonies of microorganisms for quantitative analysis even during microbiological tests. Thanks to an efficient algorithm, even merged colonies are correctly distinguished and counted.

- suitable for Petri dishes up to max. 90 mm diameter
- automatic separation of merged colonies (in terms of sizes and colours)
- adding and removing colonies manually
- pre-programmed settings for different media types
- possibility to create exclusion zones of any shape and size
- ergonomic housing
- user-friendly software
- three lighting modes (eliminates the influence of external lighting)
- image parameters are automatically optimized by the software
- setting the counting stage and counting range
- automatic recording and printing of data, photos and results

In addition, Quantica enables 500+™:
- measurement of inhibition zones (according to EUCAST and CLSI)
- identification of antimicrobial susceptibility wafers
- scanning of barcodes

Technical data:

Camera:	5 Mpx (CMOS, zoom ×64)
Camera resolution:	2592 × 1944 px
Power supply:	100–240 V / 50-60 Hz
Dimensions:	24 × 20 × 25 cm
Weight:	2.5 kg
Minimum size of detected colony:	0.05 mm
Plate size:	55 mm, 90 mm
Counting speed:	< 0.5 sek.
Log formats:	.xls, .jpeg, .png, .pdf (optional integration with the client's internal system)
Software languages:	German, English, French, Polish
Archiving of photos and results:	yes
Barcode reader:	yes
USB connection/cabel:	yes
Minimum System Requirements:	Operating system: Windows 10 CPU: Intel atom CPU clock speed: 1,2 GHz RAM: 4 GB Other requirements: USB 2.0 compatible USB port Display resolution: 1366x768

	Article	Order No.
①	Colony counter Quantica 500	**10 01 50000**
	Colony counter Quantica 500+	**10 01 50001**



Bacteria Counter ColonyStar, Funke - Dr. N. Gerber

Bacteria Counter ColonyStar
with accessories (magnifying lens 8501, fibre refill 8504, clear glass disc 8505)

For the manual counting of colonies, with pressure-sensitive light field 145 mm in diameter, with direct and indirect energy-saving LED illumination, with adjustable brightness and colour, with digital display and acoustic counter feedback, height-adjustable housing, black and white Wolffhügel disc with 1 cm^2 and 1/9 cm^2 graduation. Magnifying lens with flexible arm (Ø 90 mm), 2 x magnification. Petri dishes with a diameter of up to 145 mm can be used; the reducing insert supplied can be used for Petri dishes with a smaller diameter.

Technical data:

Dimensions (W×D×H):	275 × 300 × 80 mm
Weight:	2 kg

Article	Order No.
ColonyStar, complete	**10 42 08500**

Continued on next page

Colony Counters

Accessories

Article	Order No.
Magnifying lens with flexible arm	**88 42 08501**
Wolffhügel disc Disk white, graduation black	**10 42 08502**
Felt-tip marker	**10 42 08504**
Wolffhügel disc Disk black, graduation white	**10 42 08505**

Sample Application

Turntable for Petri Dishes, neoLab®

webcode WW2NY314

Turntable for uniform seeding of Petri dishes. Turntable on compact base with ball bearing, no drive.
For Petri dishes up to 100 mm Ø.

Article	Order No.
Turntable for Petri dishes	**88 01 31720**



schuett petriturn Turntables for Petri Dishes, schuett-biotec

For uniform plating and inoculating of liquids on agar surfaces in petri dishes. Easy to handle, antifatique. Made in Germany.

① **schuett petriturn-M**
Manual operation, constant rotary motion. Powerful and persistent due to high mass (weight) of turntable. Usable on both sides, that means two work spaces in one device by easiest turn-over. For petri dishes with dia. 90 up to 150 mm.

Article	Ø × H mm	Order No.
schuett petriturn-M, manual	160 × 45	**88 31 31001**

② **schuett petriturn-E**
Electrically driven. Constant rotary motion. Simple contactless handling of the turntable, started via IR sensor (operating time adjustable from 3 to 120 sec), permanent running, connection of a foot-switch (optional). Continuously adjustable speed of 10 to 120 rpm. For petri dishes up to dia. 100 mm (dia. 150 mm optional). Compact stainless steel casing.

Article	Ø × H mm	Order No.
schuett petriturn-E, electrical, 230 V	160 × 70	**88 31 31011**
Foot switch for schuett petriturn-E		**88 31 31013**
Turntable-attachment for petri-dishes to Ø 150 mm		**10 31 81015**
Instrument tray, stainless steel		**10 31 88352**

Turntables for petri dishes of other diameters available on request.



Inoculating hooks for plating (Drigalski spatula)

Article	L mm	W mm	Order No.
③ Inoculating hook, glass	145	40	**88 31 31014**
④ Inoculating hook, stainless steel	180	58	**88 31 31012**

webcode To see other variants and accessories, please enter the webcode on our website.

Sample Application

Safety Laboratory Gas Burners, WLD-TEC

Laboratory Gas Burners
Safety enhanced laboratory gas burner series, suitable for all flame related applications in the laboratory. The low profile body facilitates ergonomic operation, the streamlined design reduces air flow disturbances in a clean room workbench. (approved by DIN-DVGW, NG-2211AS0167). Applicable for natural gas or propane / butane gas connection.

Fuego SCS basic / basic RF: Flexible flame operation with button function or foot pedal. The foot pedal regulates the burning time either by continuous foot pressure or by start-stop function.

Fuego SCS basic RF: Wireless due to modern radio foot pedal operation.

Fuego SCS / pro: With IR-Sensor, button function or optional foot pedal. The DoubleClick IR-Sensor ensures that the burner can only be ignited by activating the IR-Sensor twice.

New: Illuminated graphic display: Animated, self-explanatory & language-less. 6 programs with timer 1 s - 2 h, adjustable.
New: Comfort functions: Cooling time reminder for loops, temperature regulation for heating media, gas consumption display for cartridge, selecting user account, acoustic signals as operating aids.
New: Additional safety assistance: Zero-pressure shut off for a pressureless gas hose at the end of work, graphical installation instructions facilitate the initial start-up.

Fuego SCS pro: rechargeable battery operation (9h), fast charge function (3h) and safety tilt sensor. 2 rechargeable batteries, Mignon (AA), 1.2V, NiMH
Measurements Fuego SCS series: 103 × 49 × 130 mm (W × H × D)

Gasprofi 1 SCS micro: The smallest safety laboratory gas burner worldwide with DoubleClick IR-Sensor, button function and foot pedal. Measurements: 85 × 49 × 86 mm (W × H × D)

Common Features / Functions:
- Made of high-class stainless steel with special glass display
- SCS Safety Control System with gas safety cut-off: Ignition and flame control, temperature monitor, automatic unit switch off, residual heat display
- BHC clogging and assembly monitor of removable stainless steel burner head
- Adjustable IR-Sensor reaction distance
- Turbo flame, nozzles for natural gas, propane/butane gas
- Holding device for 3 inoculation loop holders, tilt mechanism right/left
- Push fit and threaded connection, gas filter
- Power supply: 100 - 240 V (worldwide use), 2 years warranty

	Article	Order No.
①	Fuego SCS basic, button, stainless steel foot pedal, 3 programs	**10 30 78001**
	Fuego SCS basic RF, button, radio foot pedal (stainless steel), 3 programs	**10 30 78300**
②	Fuego SCS, graphic display, DoubleClick IR-Sensor, button, 6 programs	**10 30 78000**
	Fuego SCS pro, as Fuego SCS, rechargeable battery operation	**10 30 78002**
③	Gasprofi 1 SCS micro, DoubleClick IR-Sensor, button, 5 programs	**10 30 76400**

Accessories

	Article	Order No.
	Stainless steel foot pedal for Fuego SCS/pro	**32 30 66402**
	for Fuego SCS/pro	
④	**Foot pedal Radio-Upgraded package with stainless steel foot pedal**	**10 30 78404**
⑤	**Adapter for gas cartridges CV 360**	**10 30 78700**
	Adapter for gas cartridges C206, with gas tubing[1)3)]	**32 30 62080**
⑥	**Adapter for gas cartridges CV470/CV300 with gas tubing[1)2)3)]**	**32 30 63085**
	Adapter for gas cartridges CG1750, with gas tubing[1)2)3)]	**32 30 63081**
	Adapter for gas cartridges CP250, with gas tubing[1)2)]	**32 30 63082**
⑦	**Splash guard made of glass**	**32 30 64020**
⑧	**Wind guard made of stainless steel**	**10 30 78600**
⑨	**Tray, for right or left side**	**10 30 78340**
	DVGW safety tubing for push-fit connection, 0.5 m	**32 30 67102**
	DVGW safety tubing for threaded screw connection, 0.5 m	**32 30 67112**
⑩	**Stainless steel burner head, double length**	**10 30 78191**

All adapters include safety pressure reducer.
[1)] DVGW tubing 0.5 m
[2)] Stainless steel stand included
[3)] Shut off valve

Sample Application

Autoloop^{PRO} – Fully Automated Sterilisation for Inoculation Loops, WLD-TEC

Suitable for Fuego Series and Gasprofi micro Series

The carrousel rotates and controls flaming automatically and detects removed and replaced inoculation loop. Continuous working during the flaming and the cooling phases of the inoculation loops saves up to 70% time.

- Fully graphic display & stable housing
- Removal position on both sides for right and left handers
- Adjustable flaming and cooling time exact to the second
- During the flame sterilizing, the display shows the remaining flaming time
- Additional flame sterilisation (e.g. of bottle necks), possible with optional foot pedal
- An intelligent sensor monitors the safe sterilization
- Display protected by heat resistant glass
- 4 inoculation loop holders & pedestal

Laboratory gas burner not included.

Technical data:

Rotation direction:	left/right, depends on removed holder
Inoculation loop holder:	1 – 4, with optical holder detection
Time of flame sterilizing:	1 – 15 s, adjustable
Adjustable sterilization monitor:	3 setting options / off switch
Safety features:	temperature control
	flame activation warning
	indicator of remaining cool-down
	tilt sensor and residual heat display
	Stand by automatic unit switch off: 1 h
Casing:	stainless steel, aluminum, UV and solvent resistant
Measurements:	Height Autoloop Pro 305 mm

	Article	Order No.
①	Autoloop Pro for Fuego series, pedestal 135 × 180 mm	**10 30 78038**
	Autoloop Pro for Gasprofi micro series, pedestal 135 × 135 mm	**10 30 78039**
	Splash guard for Autoloop Pro	**32 30 69021**



①

schuett phoenix II Safety Bunsen Burner, schuett-biotec

② **schuett phoenix II Safety Bunsen Burner**
For sterilising, heating, flame sterilising.
Modern Bunsen burner with state-of-the-art safety features plus outstanding quality characteristics: Operating instructions and safety notes in the form of images and written language (in the colour display) in most international languages. Brilliant colour display. Unique Joy-Stick navigation. Operating modes: by hand or with foot pedal or motion sensor. Designed for use in microbiological safety cabinets.
Housing made of stainless steel and safety glass. UV- and solvent resistant. For case of cleaning and flame-sterilising.
Suitable for use with natural gas (central gas) or butane/propane gas (gas cartridges). "Push-and-Twist" bayonet fixture for burner head, no tools needed for cleaning. Integrated stand for tilting right or left. Controlled burning time 1 sec. to 120 min. (selectable). Automatic safety switch-of (selectable). Overheat protection / burner control via sensors. flame and ignition monitoring. Safety standard acc. to DIN 30665 part 1, DIN-DVGW Reg.



②

3 models available:

schuett phoenix II eco
(with foot-switch and LED indicator light)
Start/stop flame by foot-switch or press button by hand (ON/OFF). Best suited for microbiological safety cabinets.

schuett phoenix II standard
(colour display, language selection, sensor and foot- switch)
Start/Stop flame by activating sensor 1x or 2x, use foot switch or press button by hand. Burn-time displayed.

schuett phoenix II accu
(colour display, language selection, sensor and built-in high-power battery)
Start/stop flame by activating sensor 1x or 2x, use foot-switch or press button by hand (ON/OFF). Burn-time and battery status displayed. Built-in high-power battery for up to 30 hours operating time (high-speed battery charger incl. overcharge protection), ideal for mobile operation.



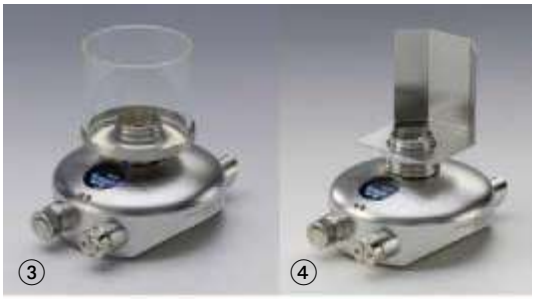
③

Dimensions (W×D×H):	128 × 160 × 85 mm
Power:	100 – 240 V, 50/60 Hz
Weight:	approx. 1000 g

	Article	Order No.
②	**schuett phoenix II eco**	**10 31 83542**
③	**schuett phoenix II standard**	**10 31 83552**
	schuett phoenix II accu	**10 31 83562**

Continued on next page

Sample Application





Accessories

	Article	Order No.
①	Adapter for gas cartridges CV 360[1)]	**10 31 87212**
	Adapter for gas cartridges CV 206[2)]	**10 31 87232**
	Adapter for gas cartridges CV 300/470[2)]	**10 31 87252**
②	Adapter for gas cartridges CP 250[2)]	**10 31 87302**
	Adapter for gas cartridges CG 1750[2)]	**10 31 87322**
	Foot-switch, stainless steel, 3.5 m cable	**10 31 88392**
③	Glass spatter guard	**10 31 88332**
④	Flame shield, stainless steel	**10 31 88342**
	Instrument tray, stainless steel	**10 31 88352**
	Hot-Tray, stainless steel, 160 × 140 × 160 mm	**10 31 88362**
	Pressure reduction valve for 5 or 11 kg propane gas bottles	**10 31 88302**

[1)] incl. pressure reducer
[2)] incl. pressure reducer and gas-safety hose 0.5 m
Suitable cartridges and gas-safety hoses on request.

Flame sterilization carousels semi- and fully automated

For precise and time-controlled flaming of different kinds of inoculating loops. Minimization of gas consumption, the life of the inoculating loops is significantly increased. The inoculating loop is placed into the carousel after use and is sterilized immediately after turning the holder in flaming position. Sterilization time infinitely adjustable. Designed for continuous work-flow with sample series in the Laminar Flow.

Semi-automated: schuett easyloop (for 6 Inoculating loop holders)
Comfortable manual rotation,fully automated flaming process. For use with Safety Bunsen Burners schuett phoenix II standard and accu. Sterilization time: adjustable from 1 s to 120 min

Fully automated: schuett flammy R (for 5 Inoculating loop holders)
Fully automated rotation and inoculating. In combination with a standard gas-safety-burner (e.g. schuett phoenix II). Sterilization time: 2 to 10 s (selectable)

Dimensions (W×H×D): 100 × 160 × 345 mm
Power: 230 V, 50 Hz or 115 V, 60 Hz
Weight: approx. 2000 g



	Article	Order No.
⑤	**schuett easyloop**	**10 31 83202**
	schuett flammy R	**10 31 83531**

⑥ **schuett easyflame flame sterilizer**

Mobile and handy device for scarfing and flame-sterilising.
With piezoelectric-ignition and gas supply control for producing a “soft” or a “sharp” flame. Infinite adjustment of the flame. Highest operational safety. In short-term use, the flame is activated as long as the push button is pressed. For continuous operation with lock key.

schuett easyflame for direct connection to propane/butane gas cartridges
- Connection of cartridges witih 7/16" screw thread, such as CG 1750, Express 444, AT200
- By means of an adapter (available as an option), CV 360 or CP 250 plug-in gas cartridges can be used

schuett easyflame^{plus} for connection of natural gas and propane/butane gas by means of gas safety hoses
- Natural gas hose for central gas supply; simple plug-on connection at the device
- Propane/butane gas hose with screwed connection (¼" left-hand thread) for use of gas cartridge adapters or gas cylinders, see accessories schuett phoenix II

Dimensions (W×H×D): 260 × 90 × 60 mm
Weight: approx 350 g



Article	Order No.
schuett easyflame flame sterilizer to use with propane/butane gas, incl. PVC-holder for cartridges	**10 31 89102**
schuett easyflame^{plus} flame sterilizer to use with natural gas and propane/butane gas	**10 31 89112**
CV 360 adapter for schuett easyflame for the connection of butane gas cartridges CV 360 (only for 10 31 89102)	**10 31 89502**
CP 250 adapter for schuett easyflame for the connection of butane gas cartridges CP 250 (only for 10 31 89102)	**10 31 89602**
Adapter for gas cartridges CV 206[2)]	**10 31 87232**
Adapter for gas cartridges CV 300/470[2)]	**10 31 87252**

2) incl. pressure reducer and gas-safety hose 0.5 m

Sample Application

schuett solaris Loop Sterilizer, schuett-biotec



Sterilization of inoculating loops, tweezers and small instruments within seconds.

It's magic - Sterilization with light!
- Robust and easy to maintain
- No gas, no open flame – uses electrical power
- Self-explanatory, easy to use
- Instant-ready-to-use, no warm-up time, no waiting
- Sterilization temperature 900 to 1,300°C
- With IR-sensor for a touch-free START, with adjustable timer (5 to 7 seconds)
- Suitable for use in safety workbenches

The schuett solaris is the perfect solution if an open flame should be avoided, gas cartridges are difficult to get, or no central gas supply is available.
Used with standard electrical power. Reaches the safe working temperature of 900 – 1,300 °C within the split of a second. No warm-up time, no excess heat, no energy consumption between work cycles. START is generated by an infra-red sensor, which allows for efficient one-handed operation. Pathogenic material is kept inside the sterilization chamber. No spreading, no sooting. 4-level adjustment of the operating angle for optimum alignment in various working positions.

Scope of delivery:
schuett solaris inoculating loop sterilizer incl. 2 x quartz glass tube, 1 inoculation loop holder with inoculation loop (sample)

Dimensions (W × H × D): 152 × 210 × 195 mm
Weight: approx. 2500 g

Article	Order No.
schuett solaris loop sterilizer, 230 V	**10 31 89902**
schuett solaris loop sterilizer, 115 V	**10 31 89912**
Quartz tube with bottom Outer-Ø 17 mm, length 100 mm (qty = 2)	**10 31 89952**

SteriMax smart / basic – Infrared Loop Sterilizer, WLD-TEC



①



②

High-Speed Annealing and Sterilizing without flame.
Ideally suited for use in any type of lab, anaerobic work environment and Laminar Flow Cabinet. Specifically focused infrared light sterilize your inoculation loop at temperatures from 750 to 1000°C after just 5 to 10 seconds.

- Instantly ready to work without any unnecessary warm-up
- Annealing tube made of special quartz glass
- Very simple cleaning of the device and the annealing tube
- Efficient use of power and minimum heat dissipation thanks to the Thermocontol technology
- Cool-Touch housing made of stainless steel and safety glass (no risk of combustion)
- Tested and certified for photobiological safety of lamps and lamp systems according to EN 62471 by BG ETEM - Risk-free for skin and eyes

SteriMax smart
- Auto-Start through touchless IR-Sensor technology
- Adjustable sterilization and cool-down timers for two users by touch operation

SteriMax basic
- Comfortable touch or foot pedal operation. (foot pedal optional)

	Article	Order No.
①	**SteriMax smart**	**10 30 74010**
②	**SteriMax basic**	**10 30 74110**
	Replace annealing tube made of quartz glass	**10 30 74040**
	Stainless steel foot pedal for Fuego SCS/pro For SteriMax basic	**32 30 66402**
	Foot pedal Radio-Upgraded package with stainless steel foot pedal For SteriMax basic	**10 30 78404**

Your specialized laboratory dealer –
fast, competent and economical

Sample Application

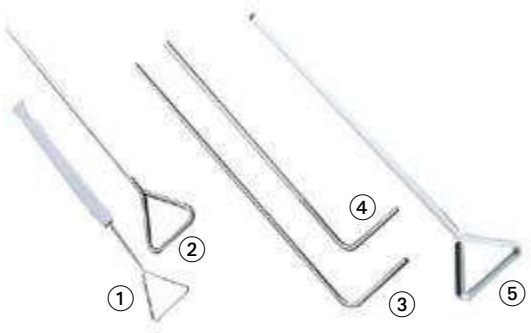


webcode WWW4U043

STERI Sterilizer, LAT

This instant sterilizer enables small instruments to be disinfected and sterilized within seconds directly where they are used. Especially suitable for laminar flow devices. Biological investigations and tests prove that the constant temperature of **250°C in the glass bead container reliably kills all micro-organisms and spores within a few seconds. That part of the instrument which is immersed in the STERI glass beads is sterilized.** The STERI 25, 250 and 350 are three sizes with the same design: a glass bead container made of chrome steel, a powerful heating element for short heating times, a precision thermostat, and a temperature limiter with built-in thermometer.

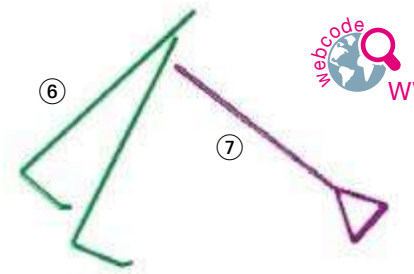
Model		STERI 25	STERI 250	STERI 350
Voltage	V	110/120 or 220/240	110/120 or 220/240	110/120 or 220/240
Power rating	W	50	90	90
Heating time to 250°C	min	approx. 10	approx. 18	approx. 25
Glass bead container		Stahl INOX	Stahl INOX	Stahl INOX
Dimensions inner container Ø × D	mm	3 × 4	4 × 8	4 × 14
STERI glass beads (filling quantity)	g	40	150	300
STERI glass dish		not available	included	not included
STERI unit lid		Stahl INOX	Stahl INOX	Stahl INOX
Insulation		Mineral wool asbestos-free	Mineral wool asbestos-free	Mineral wool asbestos-free
Outer dimensions H × W × D	cm	10 × 8.5 × 9	14.5 × 12.5 × 14	20.5 × 12.5 × 14
Weight	g	650	1400	1850
Order No.		**41 80 50025**	**41 80 50250**	**41 80 50350**



Drigalski Spatula, neoLab®

Drigalski spatula made of high-grade steel and glass
In the commonest shapes for spreading on plates or for better distribution of media.

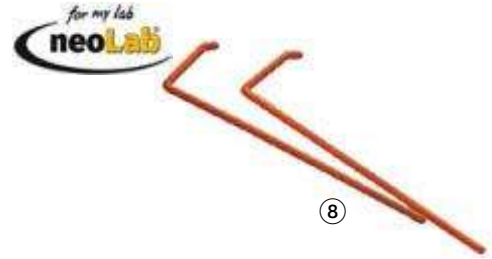
	Length mm	Width mm	Ø mm	Form	Material	Order No.
①	165	30	2	flat handle	Stainless steel	**33 01 31734**
②	195	40	4	Handle with triangle	Stainless steel	**33 01 31732**
③	195	40	4	L-shape	Stainless steel	**33 01 31724**
④	165	40	4	L-shape	Stainless steel	**33 01 31729**
⑤	200	45	4	Handle with triangle	Glas	**33 01 31721**



webcode WW2NY316

Disposalbe Drigalski spatula made of ABS-plastic
For immediate use. The smooth surface does not destroy agar and does not mix media layers.
Delta™ (pict. 8) for especially gentle working. The triangle head distributes the pressure evenly, the handle is flexible and equipped with grip gouges.
Sterile single packed.

	Length mm	Width mm	Ø mm	Form	Order No.	PU pc/Pack
⑥	146	38	4	L-Form	**10 01 31736**	10
⑦	172	37	14	Delta	**10 01 31737**	10



⑧ **Sterile disposable Drigalski spatula, made of PS**
Drigalski spatula made from polystyrene. Disposable. Smooth spreading surface reduces the risk of damaging agar surface.

Packing type	Colour	sterile	Order No.	PU pc/Pack
individually packed	orange	yes	**10 01 40066**	500
10 pc/Pack	orange	yes	**10 01 40067**	10

Sample Application

Platinum/Platinum-Iridium/Silver Wire, neoLab®



Platinum/Platinum-Iridium Wire
99.9% pure platinum wire for bending into inoculation loops or electrode wire. The pure platinum wire is soft and pliable, whereas 90/10 platinum-iridium wire is firm and springy. Please quote length in cm.

Article	Ø mm	Order No.
Platinum wire	0.3	**33 01 23300**
Platinum wire	0.4	**33 01 23301**
Platinum wire	0.5	**33 01 23302**
Platinum wire	1.0	**33 01 23304**
Platinum iridium wire	0.3	**33 01 23305**
Platinum iridium wire	0.4	**33 01 23306**
Platinum iridium wire	0.5	**33 01 23307**

webcode WW2NY105

Silver Wire
Purity >99,9%, sift and easy to bend, ideal for use in electronics and for electrodes. Available by the centimeter.

Article	Ø mm	Order No.
Silver wire	0.3	**33 01 23308**
Silver wire	0.5	**33 01 23309**
Silver wire	1.0	**33 01 23310**

for my lab neoLab®

Inoculating Loops and Needles, neoLab®

webcode WW2NY341

Inoculating loops and needles, sterile, PS
Sterile disposable PS inoculation loops for inoculating culture media in microbiology. The particularly smooth finish ensures gentle application without damaging the surface of the culture media. The end of the inoculation loops can also be used as a needle.



Sterile disposable PS inoculation needles to remove individual colonies.

Packaging unit: 500 pc./pack (individually packed in sterile zip bags of 25 pcs. each)

Article	Size	Colour	sterile	Order No.	PU pc/Pack
Inoculating loop	1 µl	blue	yes	**10 01 40054**	1000
Inoculating loop	10 µl	orange	yes	**10 01 40055**	1000
Inoculating needle		yellow	yes	**10 01 40056**	1000

Inoculating Loops, Stands and Holders, neoLab®

webcode WW2NY205

Inoculating holders
Kolle needle holders for inoculation loops, color-coded.

Article	Colour	Overall length approx. mm	Order No.
Inoculating loop holder	white	245	**33 01 12120**
Inoculating loop holder	blue	245	**33 01 12121**
Inoculating loop holder	black	245	**33 01 12122**
Inoculating loop holder	red	245	**33 01 12123**
Inoculating loop holder	yellow	245	**33 01 12124**



① **Inoculating stands, rectangular**

Article	Material	for qty inoc. loops	L × W × H mm	Order No.
Inoculating loop stand	Aluminium	4	140 × 40 × 60	**33 01 12118**
Inoculating loop stand	Wood	4	140 × 40 × 60	**33 01 12125**

② **Inoculating stands, round**
Including space for inoculating loop storage tube.

Article	Material	for qty inoc. loops	Ø mm	Height mm	Order No.
Inoculating stand	Aluminium	6	100	60	**33 01 12119**
Inoculating stand	PP	6	100	60	**33 01 12129**



Inoculating loops made of special stainless steel
Suitable for repeated annealing.

Article	Material	Ø loop mm	L mm	Order No.
Inoculating loop	Stainless steel	1	50	**33 01 12115**
Inoculating loop	Stainless steel	3	50	**33 01 12116**
Inoculating loop	Stainless steel	5	50	**33 01 12117**

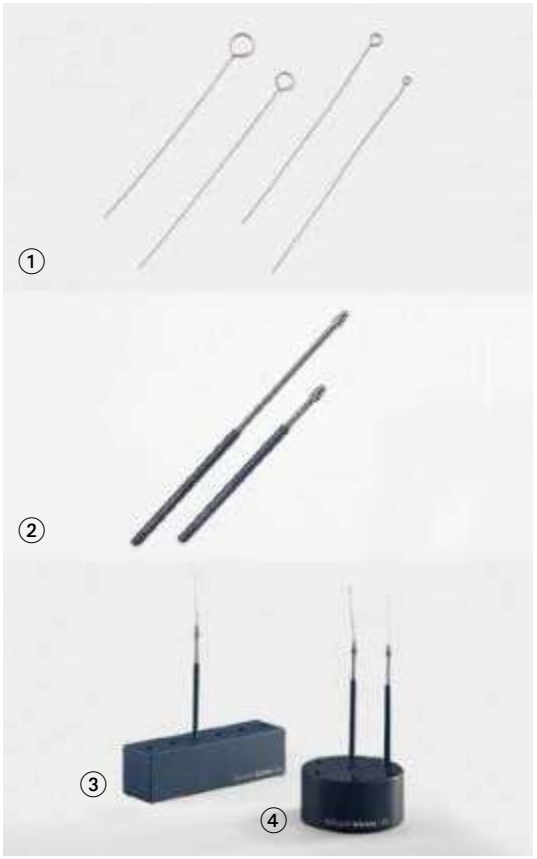
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Sample Application



Inoculating loops made of platinum/iridium wire

Article	Material	Ø wire mm	Ø loop mm	L mm	Order No.
Inoculating loop	Platinum iridium	0.6	1	50	**33 01 12111**
Inoculating loop	Platinum iridium	0.6	3	50	**33 01 12112**
Inoculating loop	Platinum iridium	0.6	5	50	**33 01 12113**
Inoculating loop	Platinum iridium	1.0	3	50	**33 01 12127**
Inoculating loop	Platinum iridium	1.0	5	50	**33 01 12128**



Inoculating Loops and Loop Holders, schuett-biotec

Inoculating loops for repeated annealing. Made of 3 different materials: stainless steel, special stainless steel wire or platinum-iridium wire (90/10). 60 mm long. Wire thickness 0.5 mm.

Best results in long-term tests.

① **Inoculating loops**

Loop Ø mm	Material	Order No.	PU pc/Pack
1.0	Platinum iridium	**33 31 00001**	1
2.0	Platinum iridium	**33 31 00002**	1
3.0	Platinum iridium	**33 31 00003**	1
5.0	Platinum iridium	**33 31 00005**	1
1.5	Stainless steel	**10 31 80015**	10
2.5	Stainless steel	**10 31 80025**	10
4.0	Stainless steel	**10 31 80040**	10
1.0	Special Stainless steel	**33 31 00010**	10
2.0	Special Stainless steel	**33 31 00020**	10
3.0	Special Stainless steel	**33 31 00030**	10
5.0	Special Stainless steel	**33 31 00050**	10

Platinum-iridium wire (90/10), wire-Ø 0.5 mm, available in cm

Article	Order No.
Platinum-iridium wire (90/10), wire-Ø 0.5 mm	**10 31 86050**

② **Inoculating loop holders acc. Kolle, for inoculating loops 0.3 to 0.7 wire-Ø**
Stainless steel, with handle. Permanently fixed with lock nut.

Length mm	Order No.
160	**33 31 86362**
240	**33 31 86442**

Racks for inoculating-loop holders
Solid and stable racks made of plastic material (autoclavable) for 6 inoculating loop holders.

Article	Dimensions mm	Order No.
③ Rack for inoculating loop holders R (round)	80 × 50 (Ø × H)	**33 31 01080**
④ Rack for inoculating loop holders L (long)	180 × 50 × 50 (L × B × H)	**33 31 01180**

webcode WW2NY397



neoCulture Cell Culture Cell Scraper, neoLab®

With these cell scrapers you will have total access to all corners of the tissue flask. The cell scrapers have a free rotating blade to twist to the desired direction. Changes of the blade angle of the cell scraper only require slight pressure on the handle using the forfinger, thus pushing the handle downward towards the floor of the container.

- material blades: PE
- material handle: ABS
- individually wrapped
- sterilized by gamma irradiation
- DNase / RNase-free
- pyrogen-free

Length mm	Blade width mm	Order No.	PU pc/Pack
230	12.5	**10 01 08222**	150
230	19.5	**10 01 08223**	150

Vacuum Systems

Bottle Top Aspirators QuikSip™ BT-Aspirator, BRAND

The bottletop aspirator is designed for safe and fast aspiration of common laboratory liquids. It simplifies removal of supernatants, such as culture media, from dishes, flasks, culture bottles and multiwell plates or from supernatants after precipitation and centrifugation of proteins and nucleic acids. A single channel device for removal of liquids out of reaction vessels, tubes, etc. is supplied as standard. Separately available is a 8-channel manifold for removal of liquids from multiwell plates.

- Safe removal of supernatants (up to max. 25 ml per plunger stroke)
- Works without vacuum pump.
- Fingertip vacuum control using the cell-culture™ unit.
- For use with disposable pipette tips, micropipettes and glass pasteur pipettes.
- Adapter and suction tube of the cell-cultureTM are autoclavable (dispensing cartridge and pump unit are not autoclavable)
- Ideal for use with the BRANDplates® Insert System.



webcode WWQED025

Article	Order No.
① **QuikSip™ BT aspirator**	**14 49 83150**

Items supplied: 1 QuikSip™ BT-Aspirator, 1 cell-culture™ unit incl. suction tube and 3 adapters, 1 spare dispensing cartridge, 2 PP adapters (GL 45/32 and GL 45/S40), operating manual

Article	Order No.
② **8-channel pipette unit**	**14 49 84526**

PP, autoclavable



Vacuum Systems for Cell Culture/Microbiology, neoLab®

webcode WW2NY277

③ **Vacuum system for Cell culture/microbiology**
Complete with base plate and bottle holder!
For extracting and replacing solutions, consisting of:

- Membrane vacuum pump, delivery rate 11 liters/min., vacuum end pressure 133 mbar
- Plastic bottle, vacuum-proof, autoclavable, screw cap with 2 tube connectors for tubes with 6 mm I.D.
- Safety filter, hydrophobic, for retaining bacteria and oil aerosols
- Base plate with handles and bottle holder
- 2 m Silicone tubing, 10 × 6 mm I.D., autoclavable

Efficiency: >99.97%

Article	Order No.
Vacuum pump system with 2 l bottle	**29 01 29335**
Vacuum pump system with 4 l bottle	**29 01 29336**



Accessories

Article	Order No.
Spare bottle, 2 l with screw cap and tube connectors	**29 01 29337**
Spare bottle, 4 l with screw cap and tube connectors	**29 01 29338**
Foot switch for switching on electric equipment	**29 01 22310**
Safety filter	**29 01 31905**
Safety trough 23 × 35 × 13 cm (inside)	**29 01 29342**

④ **Vacuum system with build-in vacuum pump and bottle**
The liquid flow into the 4 ltr bottle via hand piece and vacuum hose. A filter between bottle and pump will avoid damage and contamination of the vacuum pump. The vacuum is adjustable from approx. 150 to max. 600 mb. Can be used for vacuum filtration. Noiseless pump.

Additionally the model ...29330 has an built-in liquid level switch outside of the bottle (no contamination), which will stop the pump when the preset liquid level is reached.

- 1 complete with 4000 ml bottle made of PP (autoclavable)
- 1 Screw cap for the bottle with two 6 mm olives for fitting the hose
- 1 Set of silicon tube for vacuum 2 m
- 1 Safety Filter 0.2 µm Por.

Technical data:

Model ...29330:	suction system 4 l, with capacitive liquid level control
Model ...29331:	suction system 4 l, without liquid level control
Weight:	approx. 2.0 kg
Dimensions (W×D×H):	22 × 21 × 12 cm (without bottle)
Voltage:	220 Volt, 50/60 Hz with plug in power supply

Version	W × D × H cm	Bottle	Order No.
With liquid level switch	22×21×12	4000 ml, PP	**10 01 29330**
Without liquid level switch	22×21×12	4000 ml, PP	**10 01 29331**



Continued on next page

webcode To see other variants and accessories, please enter the webcode on our website.

Vacuum Systems



①

Accessories

Article	Order No.
Spare bottle, 4 l	**29 01 29338**
Safety filter Liqui-Stop PP/PTFE	**29 01 31905**
Connector, LL female / barbed hose connection 1.6-2.6 mm, PP, 10 pcs./pack	**10 01 21886**
Quick-release coupling/PP, male part, for tubing I.D. 6.5 mm	**27 01 21871**
Spare lid with quick-release closure	**83 01 29341**
Liquid level sensor	**10 01 29332**

① **neoVAQ vacuum system Portable**
The **neoVAQ vacuum system Portable** is characterised by its compact design which makes it easy to carry. It is perfectly suited for tasks in cell culture and microbiology, or for extracting liquid wastes in chemistry – any place where small amounts of liquid need to be disposed of (500 ml waste bottle).
Complete with handle, 1-channel and 8-channel tip for pipette tips with ejection function. With stainless steel holder for 50 ml centrifuge tube, with matching slot for the suction cup.

Technical data:

Weight:	1.3 kg
Filter:	0.22 µm pore size (polyester)
Flow rate:	max. 1 l/min
Vacuum:	up to 670 mbar
Dimensions (L×W×H):	26.5 × 13 × 21 cm
I.D. tubing:	5 mm
Material:	POM

Article	Order No.
neoVAQ vacuum system Portable	**10 01 29345**



②

② **neoVAQ-Handoperator set with rack**
The perfect tool for all extraction problems in the cell culture. Ergonomic handle with pressure-sensitive control button.
Handle with quick-coupling for fast and easy adapter change.
When it comes to extracting from tubes, plates, petri dishes or cell culture bottles, there is a dedicated adapter for each type of application to ensure controlled and safe extraction of media. The adapters are safely arranged in the rack. The rack is equipped with a liquid collection tray which is easy to remove and to clean.

Highlights
- Multi-functional
- Adapter for different applications
- Autoclavable except for the rack
- Material: POM and stainless steel (adapter and handle)
- Stand made of ABS
- Vacuum On/Off switch
- Can be connected to different vacuum sources
- Designed to match laboratory vessels and cell culture products (e.g. microtiter plates)

Complete with:
- Handle, light blue
- 1-channel tip for pipette tips or serological pipettes
- 1-channel tip stainless steel tip length 40 mm
- 1-channel tip stainless steel tip length 80 mm
- 8-channel tip stainless steel tip length 40 mm
- 8-channel tip with ejector for pipette tips
- 1-channel tip adapter with ejector
- 1-channel tip adapter (150 mm)
- Stand (ABS), not autoclavable

Article	Order No.
neoVAQ Handoperator set with rack	**10 01 70244**



③

WELCH
by Gardner Denver

webcode WW2MB013



④

Aspiration Systems, Welch Vacuum

Aspiration systems 2511C-75 / Biovac 106
Welch aspiration systems are designed for hazard-free aspiration of liquid residues in all areas of industry and research. Also suitable for aspiration of highly viscous media such as oil. The collection tray is easy to replace.

Pipettes and tips can be exchanged for safe aspiration and removal of different types of liquids.

Scope of delivery: Vacuum pump, autoclavable collection tray made of plastic, adapter, hoses, inline filter and automatic locking valve.
The aspiration system 2511C-75 has a pressure gauge. The Biovac 106 is delivered with hand piece and quick-coupling connectors.
Other accessories such as foot rest, spare tray, and hand pieces with pipette sets are available on request.

	Type	Suction rate ml/s	Collection container	W × D × H mm	Wght kg	Order No.
③	2511C-75	15	2 litres	280×210×255	2.6	**10 92 42511**
④	biovac 106	25	4 litres	355×145×277	8.0	**10 92 43704**

Vacuum Systems

Fluid Aspiration Systems, VACUUBRAND

webcode WWC5C005

vacuubrand
Vakuumtechnik im System

Fluid aspiration systems BVC
The compact BioChem-VacuuCenter offers the perfect solution for safe, sensitive and efficient aspiration of supernatants in all application areas. The BVC basic is intended for connection to an external vacuum source. The BVC control and the BVC professional are equipped with a high performance, chemically resistant diaphragm pump.

BVC basic / BVC basic G
for connection to existing vacuum networks (without integrated pump)

BVC control / BVC control G
The BioChem-VacuuCenter BVC control serves for safe, efficient and convenient aspiration of supernatants. The vacuum level – and thus the suction force – is exactly adjustable by the electronic touch panel and allows a sensitive and reproducible operation. The chemically resistant diaphragm vacuum pump is automatically turned on and off as needed.

BVC professional / BVC professional G
with additional non-contact sensor for liquid level and self-closing quick couplings



①

Technical data:	**BVC control /G BVC professional /G**	**BVC basic**
Vacuum controller:	Touchpanel	Mechanical controller
Number of heads / stages:	1 / 1	
Max. pumping speed at 50/60 Hz:	0.7 / 0.85 m^3/h	
Max. pumping speed at 50/60 Hz:	0.4 / 0.5 cfm	
Ultimate vacuum (abs.):	150 / 112 mbar/torr	
Control range:	150 – 850 mbar (adjustable)	150 – 500 mbar

Article	Collection bottle	**Order No.**
BVC basic	4 l polypropylene	**10 18 77270**
BVC basic G	2 l glass	**10 18 77271**
① BVC control	4 l polypropylene	**10 18 77272**
BVC control G	2 l glass	**10 18 77273**
BVC professional	4 l polypropylene	**10 18 77274**
BVC professional G	2 l glass	**10 18 77275**

G ≙ Glass bottle

Accessories

Article	**Order No.**
VHC^{pro} VacuuHandControl	**10 18 78061**

The VHC^{pro} is an ergonomic light weight suction handset, fully autoclavable at 121°C. The mechanism of the VHC^{pro} handset is not in contact with contaminated fluids and enables reliable, leak free working.


②

Article	**Order No.**
② **VHC^{pro} Table Stand**	**10 18 75680**

The stainless steel stand for the VHC^{pro} enables to place the tipped suction handset conveniently and stable during work with cell cultures.

Article	**Order No.**
VHC^{pro} tip ejector	**10 18 75638**

This adapter is designed for pipette tips 2 – 200 µl and enables to manually remove the used pipette tip.

Article	**Order No.**
BVC shuttle	**10 18 76880**

The BVC shuttle is a mobile underframe for all models BVC control and BVC professional. It serves to pull out the BVC easily from under the safety cabinet for cleaning and removal of bottle for change.

Article	**Order No.**
VHCpro 8-channel tip adapter with ejector	**10 18 75679**

This adapter allows parallel operation of eight pipette tips (size 2 - 200 µl or 5 - 300 µl). It is designed to match the dimensions of standardized 96-well microplates and has got a tip ejector to remove the used pipette tips.
- Suction power is evenly spread across all pipette tips
- Completely autoclavable
- Stand and disinfectant reservoir inclusive
- Low effort for attaching and ejecting the tips

webcode To see other variants and accessories, please enter the webcode on our website.

Vacuum Systems



EcoVac Safety Vacuum Systems, schuett-biotec

For safe and comfortable removal of pathogenic liquid excess in the cell culture. High safety standard, when working with infectious material in a laboratory. Autoclavable. Self-locking fittings in the screw-cap hermetically seal the bottle when the tubing is removed for transport and autoclaving.

Double-chamber-membrane/Vacuum pump (optional)
Low-noise and vibration. With illuminated ON/OFF-switch.
Dimensions (W × H × D): 80 × 60 × 160 mm
Flow rate: 4 l/min, Vacuum: 300 mbar

Foot-switch (optional)
Allows to operate the pump, if EcoVac should be used intermittently.

① **EcoVac system without vacuum pump**

Article	Order No.
EcoVac-System 1, 1 liter volume Scope of delivery: as EcoVac-system 2, but 1 litre.	**10 31 80012**
EcoVac-System 2, 2 liter volume Safety collecting bottle, shatter-proof, chemical resistant (2 litres) with screw cap and 2 quick-action couplings, 2 × 1.5 m silicone tube (autoclavable), safety filter, 2 angled nipples for tube connection, 1 venting insert	**83 31 50022**
EcoVac-System 4, 4 liter volume Scope of delivery: as EcoVac-system 2, but 4 litres.	**83 31 50042**
EcoVac-System 5, 5 liter volume Scope of delivery: as EcoVac-system 2, but 5 litre.	**10 31 80052**

Accessories

Article	Order No.
② **EcoVac vacuum pump, incl. 1 m connecting cable**	**83 31 50102**
EcoVac foot switch	**83 31 50202**
EcoVac safety filter (pack of 2) dia. 62 mm, 0.2 µm cut off, housing made of polypropylene, filter made of polytetrafluorethylene	**83 31 50302**
EcoVac spare bottle 1*	**10 31 80112**
EcoVac spare bottle 2*	**83 31 50122**
EcoVac spare bottle 4*	**83 31 50142**
EcoVac spare bottle 5*	**10 31 80152**
Glass pasteur pipettes, 150 mm long (pack of 1000)	**83 31 03000**
Glass pasteur pipettes, 230 mm long (pack of 1000)	**83 31 03100**

* incl. screw-cap and 2 self-locking fittings (without angled nipples)

Spare lids and other spare parts on request.



webcode WWSB5027

Vacuum Aspiration System VAS-10, Phoenix Instrument

The new vacuum aspiration system VAS-10 is ideal for aspiration of liquids from all kind of vessels. The 4-liter aspiration bottle is autoclavable and can easily be removed from the system by the quick opening device. The integrated fluid level control prevents the overflow of the bottle. The vacuum pressure is free adjustable up to 600 mbar and adapts the system for many application.

Technical data:

Vacuum (adjustable):	0 – 600 mbar
Aspiration volume air:	15 l/min
Aspiration volume fluid	17 ml/s
Dimensions W×D×H:	180 × 240 × 450 mm
Weight:	3 kg
Weight:	100-240 VAC – 50/60 Hz
Bottle volume:	4 liter PE, autoclavable

Article	Order No.
Vacuum aspiration system VAS-10	**10 13 79010**

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Precision and Analytical Balances

CB Compact Balances, AE Adam

webcode WWDX7012

The CB compact balances are our smallest precision scales. They excel by their optimum price-performance ratio. In spite of their small size, they have a removable stainless steel weighing pan, height-adjustable feet and bubble level, backlight display, and overload protection. The one-piece housing protects the electronic system from dirt and is easy to clean. The balance is powered by rechargeable battery or optionally by AC adapter. When not used, an auto shut-off function switches the balances off to save energy.

Features and functions
- Large stainless steel weighing pan, easy to clean
- A powerful overload protection prevents damage to the weighing mechanism
- Sealed keypad protected against dirt and spills
- Low-battery indicator alerts users when batteries need replacement
- Auto switch-off saves energy
- Very light-weight and handy for easy transport
- Backlit LCD, easy to read also in bad lighting conditions
- Colour-coded keys facilitate quick working
- Sturdy ABS housing with overload protection allows for use in demanding environments, from schools to industry
- AC operation possible by means of the optional 6 V DC, 200 mA adapter
- Height-adjustable feet
- 2 years' warranty

Applications
- Weighing

Technical data:

Weighing units:	g, lb, oz
Platform:	Ø 130 mm
Power supply:	6 V DC, 200 mA adapter (opt.) / 2 × AA batteries (incl.)
Display:	LCD, digit height 12 mm
Calibration:	external
Housing:	ABS

Level indicator and adjustable feet



① CB 3000

Model	Capacity g	Increment g	Order No.
CB 501	500	0.1	**10 56 52501**
CB 1001	1000	0.1	**10 56 52101**
① CB 3000	3000	1	**10 56 52300**

webcode To see other variants and accessories, please enter the webcode on our website.

Precision and Analytical Balances





webcode WWDX7004

Dune™ Compact Balances, AE Adam

Low, user-friendly design, enhanced overload protection, keypad sealed against spray water: The Dune offers reliably results in the lab or office, or in the field. Three keys are provided for easy operation: on/off, Unit, and Tare. Select indication of the weighing results in gram, ounce, or pound.

Features and functions
- Colour-coded keys facilitate quick working
- Sturdy ABS housing with overload protection, robust enough for simple applications in industry
- Mains operation with AC adapter (incl.) or battery operation with AA type batteries (not comprised in the delivery)
- Large weighing pan, draught shield (model 302 only)
- Battery indicator, auto power-off to save energy
- Large high-contrast display, easy to read also from a distance
- Sealed keypad protected against dirt and spills
- 2 years' warranty

Applications
- Weighing

Technical data:

Weighing units:	g, lb, oz
Power supply:	12 V AC 50/60 Hz, 150 mA adapter (incl.) / 6 × AA batteries (opt.)
Display:	LCD, digit height 15 mm
Calibration:	external
Housing:	ABS plastics

	Model	Capacity g	Increment g	Platform mm	Order No.
①	DCT 302	300	0.01	Ø 130	**10 56 55302**
②	DCT 201	200	0.1	145×145	**10 56 55201**
	DCT 601	600	0.1	145×145	**10 56 55601**
	DCT 2001	2000	0.1	145×145	**10 56 55202**
	DCT 2000	2000	1	145×145	**10 56 55200**
	DCT 5000	5000	2	145×145	**10 56 55500**



webcode WWDX7003



Highland™ Precision Balances, AE Adam

Highland precision balances are portable balances suitable for laboratories but also for field research and various applications in industry. They are equipped with the patented Adam internal calibration HandiCal® but can also be calibrated at any time with an external weight. ShockProtect® offers overload protection.

Features and functions
- Backlit LCD, easy to read also in bad lighting conditions
- Display with capacity indication
- Stackable for space-saving storage
- RS-232 and USB interface for fast data exchange with printers and computers
- Including a removable draught shield
- Acoustic overload alarm, internal calibration
- Three-point ShockProtect® protects the weighing mechanism from damage even when heavily overloaded
- Dual tare keys facilitate operation with either the left or right hand
- Security slot for optional lock
- Hook for weighing below the balance and AC adapter included
- DAkkS calibration certificate available as an option, 2 years' warranty

Applications
Weighing, piece countingl, percentage weighing, memory accumulation totals results

Technical data:

Weighing units:	g, lb, oz, N, GN, ct, dr, dwt, mm, ozt, T, tl.H, tl.S, tl.T
Interfaces:	1 × RS-232, 1 × USB
Power supply:	12 V DC 50/60 Hz, 800 mA adapter / internal rechargeable battery
Display:	backlit LCD, digit height 18 mm
Calibration:	external calibration + internal manual calibration
Housing:	ABS plastics
Pan size:	Ø 120 mm

Continued on next page

Precision and Analytical Balances



Uncalibrated models

Model	Capacity g	Increment g	Order No.
HCB 123	120	0.001	**10 56 54123**
HCB 153	150	0.005	**10 56 54153**
HCB 302	300	0.01	**10 56 54302**
HCB 602	600	0.02	**10 56 54607**
HCB 602H	600	0.01	**10 56 54606**
HCB 1002	1000	0.01	**10 56 54102**
HCB 1502	1500	0.05	**10 56 54152**
HCB 2202	2200	0.01	**10 56 54222**
HCB 3001	3000	0.1	**10 56 54301**
HCB 6001	6000	0.1	**10 56 54601**

Calibrated models (without internal calibration)

Model	Capacity g	Increment g	Calibrated increment g	Order No.
HCB 602 M	600	0.01	0.1	**10 56 54608**
HCB 1002 M	1000	0.01	0.1	**10 56 54103**
HCB 5001 M	5000	0.1	1	**10 56 54501**

ATP thermal printer and ATP impact printer see page 848

Luna Analytical- and Precision Balances, AE Adam

webcode WWDX7014

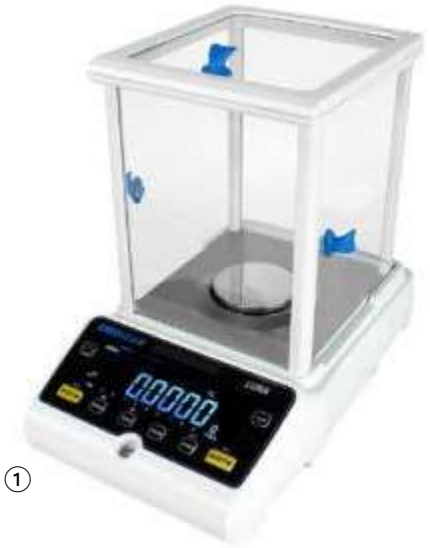
The Luna range offers improved performance for faster, more accurate readings. With stylish, modern backlighting, Luna's impressive display gives an aura of smart sophistication. Developed specifically for demanding laboratory tasks.

Features and functions:
- Vivid, backlit LCD easily visible in any lighting conditions
- Colour-coded keys facilitate faster work
- Level indicator and adjustable feet ensure proper balance setup for optimum weighing results
- Large stainless steel pan allows easy cleaning
- Sealed keypad protects against dirt and spills
- USB I/0 and RS-232 interfaces provide speedy communication with computers and printers
- Multilingual display allows use in many different countries
- Auto power-off to save energy
- AC adapter included
- 3 years warranty

Applications:
Weighing, piece counting, percentage weighing, animal weighing / dynamic weighing, density determination, checkweighing, check counting, net total weighing, display hold, peak hold

Technical data:

Weighing units:	mg, g, ct, GN, N, dr, oz, ozt, dwt, mm, tl.T, tl.H, tl.S, T, user-defined unit (lb avaible 2602e/i to 6002i)
Interface:	RS-232, USB
Power supply:	18 VDC, 50/60 Hz, 830 mA adapter
Display:	Backlit LCD with 24 mm digit height
Housing:	ABS plastic



①



②

External calibration

	Model	Capacity g	Increment g	Platform mm	Order No.
①	LAB 84e	80	0.0001	Ø 80	**10 56 54084**
	LAB 124e	120	0.0001	Ø 80	**10 56 54124**
	LAB 214e	210	0.0001	Ø 80	**10 56 54214**
	LAB 254e	250	0.0001	Ø 80	**10 56 54254**
②	LPB 223e	220	0.001	Ø 125	**10 56 54223**
	LPB 423e	420	0.001	Ø 125	**10 56 54423**
	LPB 623e	620	0.001	Ø 125	**10 56 54623**
	LPB 823e	820	0.001	Ø 125	**10 56 54823**
	LTB 2602e	2600	0.01	185×185	**10 56 54262**
	LTB 3602e	3600	0.01	185×185	**10 56 54362**
	LTB 4602e	4600	0.01	185×185	**10 56 54462**
	LTB 6002e	6000	0.01	185×185	**10 56 54612**
	LBB 6001e	6000	0.1	185×185	**10 56 54611**
	LBB 8001e	8000	0.1	185×185	**10 56 54801**
	LBB 12001e	12000	0.1	185×185	**10 56 54121**
	LBB 15001e	15000	0.1	185×185	**10 56 54151**

Continued on next page

Precision and Analytical Balances



①



②

Internal calibration

	Model	Capacity g	Increment g	Platform mm	Order No.
	LAB 84i	80	0.0001	Ø 80	**10 56 55084**
	LAB 124i	120	0.0001	Ø 80	**10 56 55124**
	LAB 214i	210	0.0001	Ø 80	**10 56 55214**
	LAB 254i	250	0.0001	Ø 80	**10 56 55254**
	LPB 223i	220	0.001	Ø 120	**10 56 55223**
	LPB 423i	420	0.001	Ø 120	**10 56 55423**
	LPB 623i	620	0.001	Ø 120	**10 56 55623**
	LPB 823i	820	0.001	Ø 120	**10 56 55823**
	LTB 2602i	2600	0.01	185×185	**10 56 55262**
	LTB 3602i	3600	0.01	185×185	**10 56 55362**
①	LTB 4602i	4600	0.01	185×185	**10 56 55462**
	LTB 6002i	6000	0.01	185×185	**10 56 55602**

Accessories

	Article	Order No.
②	**ATP thermal printer** Dimensions 114 × 184 × 90 mm, print size 24 × 24 dot, column size 384 dots per line, 57.5 mm paper width, RS-232 interface	**10 56 51156**
	ATP impact printer RS-232 interface and USB connection comprised in the delivery, column size 384 points/line, paper width 57.5 mm, incl. rechargeable battery	**10 56 54641**

Equinox Semimicro-, Analytical- and Precision Balances, AE Adam



③

webcode WWDX7015



④



⑤

Equinox precision balances deliver remarkable precision to labs that perform highly detailed testing. A colour touch screen display provides intuitive operation, with icon-driven menus and readily accessible applications and functions. The five-inch screen is generously sized, offering 800 × 480 pixel resolution for excellent visibility.

Features and functions:
- Large, responsive 5″ 800 × 480 pixel touch-screen display
- Level indicator and adjustable feet ensure proper balance setup for optimum weighing results
- Large stainless steel pan allows easy cleaning; draft shield comprised in the delivery
- RS-232 interface and USB host for use with a thumb drive
- Built-in memory for storing products and settings
- Security password control prevents unauthorised access
- Preset tare function speeds the process of repetitive weighing
- Multilingual display allows use in many different countries
- AC adapter included

Applications:
Weighing, piece counting, percentage weighing, checkweighing, animal weighing / dynamic weighing, density determination, formulating, statistics, textiles, peak hold

Technical data:

Weighing units:	g, mg, lb, oz, ct, GN, dwt, mm, ozt, T, tl.H, tl.S, tl.T, custom unit
Interface:	RS-232, USB host
Power supply:	9 V or 24 V, 50/60 Hz, 500 mA adapter
Display:	Touchscreen with 125 mm high digits
Housing:	ABS plastic

External calibration

	Model	Capacity g	Increment g	Platform mm	Order No.
	EAB 124e	120	0.0001	Ø 80	**10 56 56124**
	EAB 224e	220	0.0001	Ø 80	**10 56 56224**
	EAB 314e	310	0.0001	Ø 80	**10 56 56314**
③	EPB 363e	360	0.001	Ø 110	**10 56 56363**
	EPB 723e	720	0.001	Ø 110	**10 56 56723**
	ETB 3202e	3200	0.01	185×185	**10 56 56322**
④	ETB 6202e	6200	0.01	185×185	**10 56 56622**
	ETB 8202e	8200	0.01	185×185	**10 56 56822**

Continued on next page

Precision and Analytical Balances

Internal calibration

	Model	Capacity g	Increment g	Platform mm	Order No.
⑤	EAB 125i	62/120	0.01/0.1 mg	Ø 80	**10 56 52125**
	EAB 225i	82/120	0.01/0.1 mg	Ø 80	**10 56 52225**
⑥	EAB 124i	120	0.0001	Ø 80	**10 56 52124**
	EAB 224i	120	0.0001	Ø 80	**10 56 52224**
	EAB 314i	310	0.0001	Ø 80	**10 56 52314**
	EAB 414i	410	0.0001	Ø 80	**10 56 52414**
	EAB 514i	510	0.0001	Ø 80	**10 56 52514**
	EPB 363i	360	0.001	Ø 110	**10 56 52363**
	EPB 723i	720	0.001	Ø 110	**10 56 52723**
	EPB 1203i	1200	0.001	Ø 110	**10 56 51203**
	EPB 2103i	2100	0.001	Ø 110	**10 56 52103**
	ETB 3202i	3200	0.01	185×185	**10 56 53202**
	ETB 6202i	6200	0.01	185×185	**10 56 56202**



⑥

Accessories

	Article	Order No.
⑦	**ABI-1 ionizer** Neutralization of static electricity, discharge time: 9s/5cm, 13s/10cm, 100s/40cm (with fan switched on), AC adapter included	**10 56 50410**



⑦

ATP thermal printer and ATP impact printer see page 848

Laboratory Balances HR-A/AZ Series, A&D Instruments

webcode WWEH9002

- Metal housing, robust construction
- Built-in internal calibration at the touch of a button (HR-AZ)
- Shock absorber function
- Auto power ON/OFF function
- B5 size footprint for use in narrow space
- Reverse backlit LCD display for easy to read weighing results
- SCF – Statistical calculation function
- Standard RS-232C
- Fast compact SHS sensor, response time of about 2 seconds
- Quick USB interface – no driver installation required (optional)
- LAN - Ethernet interface with WinCT-Plus software (optional)
- Easily removable large breeze break
- Built-in rechargeable NiMH battery pack (optional)

Analytical Balances with Internal Calibration

	Model	Capacity g	Increment mg	Platform mm	Order No.
	HR-100AZ	102	0.1	Ø 90	**10 45 70102**
	HR-150AZ	152	0.1	Ø 90	**10 45 70150**
	HR-251AZ	62/252	0.1/1	Ø 90	**10 45 70251**
⑧	HR-250AZ	252	0.1	Ø 90	**10 45 70250**

Analytical Balances with Exernal Calibration

Model	Capacity g	Increment mg	Platform mm	Order No.
HR-100A	102	0.1	Ø 90	**10 45 70100**
HR-150A	152	0.1	Ø 90	**10 45 70151**
HR-251A	62/252	0.1/1	Ø 90	**10 45 70253**
HR-250A	252	0.1	Ø 90	**10 45 70252**



⑧

Accessories

Article	Order No.
FXi-OP-02 USB interface no driver installation necessary	**10 45 78001**
FXi-OP-08 LAN Ethernet output	**10 45 78002**
FXi-OP-09 NiMH battery pack installation required at the factory	**10 45 78003**
AX-FX-31i Transparent plastic covers, 5 pcs.	**10 45 78008**
AD-1654 Density measurement kit	**10 45 71654**

Precision and Analytical Balances

Laboratory Balances GX/GF-A Series, A&D Instruments

webcode WWEH9003



① Illustration similar

- Solid metal housing, sturdy design
- Internal compressor-controlled calibration at the push of a button (GX-A)
- Robust overload protection
- Overload detection and indication
- Backlit LCD display
- Adjustable response characteristics
- Automatic calibration in case of temperature change, interval or push of a button
- RS-232 and USB interface Standard, optional Ethernet interface
- Precision test function with determination of the standard deviation via ECL technology (electronic controlled load)
- Minimum weight computation and optical alarm if actual weight is below minimum
- Flow rate display (FRD) and flow rate comparator
- Two-stage access control and button lock
- Up to 10 user profiles
- Memory for 200 weighing results, 50 calibration results, 50 unit masses
- Tare memory
- Several weighing units, g ,oz , lb, lb-oz, zt, ct, mom, dwt, pcs and SG (specific weight)
- Statistics and comparator function
- Density determination
- Animal weighing program
- Underfloor weighing
- Auto Power ON, Auto Power OFF function
- Capacity indication

Models with internal calibration

Model	Capacity g	Increment g	Platform mm	Order No.
GX-203A	220	0.001	128 × 128	**10 45 72030**
GX-303A	320	0.001	128 × 128	**10 45 73030**
GX-403A	420	0.001	128 × 128	**10 45 74030**
GX-603A	620	0.001	128 × 128	**10 45 76030**
GX-1003A	1100	0.001	128 × 128	**10 45 71003**
① GX-1603A	1620	0.001	128 × 128	**10 45 71603**
GX-2002A	2200	0.01	165 × 165	**10 45 72002**
GX-3002A	3200	0.01	165 × 165	**10 45 73003**
GX-4002A	4200	0.01	165 × 165	**10 45 74003**
GX-6002A	6200	0.01	165 × 165	**10 45 76002**
GX-10002A	10200	0.01	165 × 165	**10 45 71002**
GX-6001A	6200	0.1	165 × 165	**10 45 76001**
GX-10001A	10200	0.1	165 × 165	**10 45 71001**

Models with external calibration

Model	Capacity g	Increment g	Platform mm	Order No.
GF-123A	120	0.001	128 × 128	**10 45 70123**
GF-203A	220	0.001	128 × 128	**10 45 70203**
GF-303A	320	0.001	128 × 128	**10 45 70303**
GF-403A	420	0.001	128 × 128	**10 45 70403**
GF-603A	620	0.001	128 × 128	**10 45 70603**
GF-1003A	1100	0.001	128 × 128	**10 45 71013**
GF-1603A	1620	0.001	128 × 128	**10 45 71604**
GF-1202A	1200	0.01	165 × 165	**10 45 71202**
GF-2002A	2200	0.01	165 × 165	**10 45 72003**
GF-3002A	3200	0.01	165 × 165	**10 45 73002**
GF-4002A	4200	0.01	165 × 165	**10 45 74002**
GF-6002A	6200	0.01	165 × 165	**10 45 76012**
GF-10002A	10200	0.001	165 × 165	**10 45 71012**
GF-6001A	6200	0.1	165 × 165	**10 45 76011**
GF-10001A	10200	0.1	165 × 165	**10 45 71011**

Accessories

Article	Order No.
GXA-03 Second RS-232C interface	**10 45 73232**
GXA-04 Comparator output/buzzer/external key entry	**10 45 70004**
GXA-06 Analogue output	**10 45 70006**
FXi-08 Ethernet output	**10 45 70008**

Continued on next page

Precision and Analytical Balances

Article	Order No.
GXA-09 Rechargeable battery pack Installed in the factory/at the dealer's	**10 45 70009**
GXA-10 Large breeze break, made of glass	**10 45 70010**
GXA-12 Animal weighing pan for models with capacity 320 g and up	**10 45 70012**
GXA-13 Density measurement kit only for 1 mg models	**10 45 70013**
GXA-17 Large breeze break with ionizer	**10 45 70017**
GXA-23-PRINT External key entry -PRINT with the AX-SW137-PRINT foot switch	**10 45 72313**
GXA-23-REZERO External key entry with the AX-SW137-REZERO foot switch	**10 45 73127**
GXA-23-PLUG External key entry with AX-T-314A-S plug	**10 45 72314**
GXA-24 USB host interface Installed in the factory/at the dealer's	**10 45 70024**
GXA-25 Fanless ionizer Static Eliminator	**10 45 70025**
GXA-26 External IR button	**10 45 70026**
AX-GXA-31 Display working covers, 5 pcs.	**10 45 73105**
AX-SW137-PRINT Foot swich for printing function	**10 45 70137**
AX-SW137-REZERO Foot swich for RE-ZERO function	**10 45 71137**

Electronic Precision Balances, KERN

The extensive portfolio of KERN laboratory balances comprises a great variety of devices tailored to the scope of requirements of the respective target group:

KERN school balances: entry-level devices covering the basic requirements. Easy to use, optimum price-performance ratio.

KERN Basic laboratory balances: precision balances for the most common laboratory applications, equipped with all necessary laboratory functions, with integrated RS-232 data interface as a standard for connection to printers or local PCs.

KERN Standard laboratory balances: premium measuring technology, e.g. force compensation or tuning fork measuring principle and all important laboratory functions. Fast, highly precise, multiple communication options thanks to various interfaces.

KERN Premium laboratory balances: Top range of the precision balances segment. Enormous variety of functions, high-quality materials, robust and stable design, powerful weighing systems, optimised operating processes, extremely fast.

webcode WW6CF002



①

Electronic school balance KERN EMB-S
- The space miracle – stackable school balance for experiment-based teaching, now also as a high-resolution variant
- Simple and convenient 2-button operation
- Tare function facilitates formulation work
- Particularly flat design
- Secure and non-slip positioning with rubber feet
- Stackable for space-saving storage
- A practical transport safety lock prevents the weighing technology from being overloaded when stored or during transportation

Technical data:

Dimensions (W×D×H):	145 × 205 × 45 mm
Battery operation possible:	2×1.5 V AA, as a standard, operating time up to 35 h, AUTO-OFF function to save battery power
Net weight:	approx. 0.50 kg
Permissible ambient temperature range:	5°C – 35°C

Note: The models with the suffix -S05 are delivered in units of 5, i.e. the price specified in the table is for a scope of delivery of 5 balances. It is not possible to order single units of these types.

	Model	Increment g	Weighing range g	Platform mm	Order No.	PU pc/Pack
	EMB 500-2S	0.01	500	Ø 120	**10 58 35502**	1
①	EMB 200-1SS05	0.1	200	Ø 120	**10 58 35153**	5
	EMB 500-1SS05	0.1	500	Ø 120	**10 58 35504**	5
	EMB 3000-1S	0.1	3000	Ø 120	**10 58 35506**	1
	EMB 2000-0SS05	1	2000	Ø 120	**10 58 35507**	5
	EMB 5000-0SS05	1	5000	Ø 120	**10 58 35508**	5

Continued on next page

Precision and Analytical Balances



Electronic school balance KERN EMB
Entry-level laboratory scales
- Simple and convenient 2-button operation
- Tare function facilitates formulation work
- Particularly flat design
- Ready for use: batteries included, 9 V block or 2×1.5 V AA
- Ring-shaped draft shield provided as a standard for models with weighing plate size Ø 82 mm, weighing space Ø×H 96 × 35 mm
- Hook for underfloor weighing provided as a standard
- Note: Auxiliary set for determining the density of fluids and solids is available for models with weighing plate size Ø 82 mm, ideal for use in schools and universities

Technical data:

Display:	large LCD display, digit height 15 mm
Material Wägeplatte:	Ø 82 mm: plastic, conductive coat Ø ≧ 105 mm: plastic
Net weight:	approx. 0.75 kg
Permissible ambient temperature range:	5°C – 35°C

	Model	Increment g	Weighing range g	Platform mm	Order No.
①	EMB 100-3	0.001	100	Ø 82	**10 58 31013**
	EMB 200-3	0.001	200	Ø 82	**10 58 32013**
②	EMB 200-2	0.01	200	Ø 105	**64 58 42202**
	EMB 600-2	0.01	600	Ø 105	**10 58 36002**
③	EMB 1000-2	0.01	1000	Ø 150	**10 58 31012**
	EMB 2000-2	0.01	2000	Ø 150	**10 58 32012**
	EMB 500-1	0.1	500	Ø 150	**10 58 35001**
④	EMB 500-1BE	0.1	500	Ø 150	**10 58 35011**
	EMB 1200-1	0.1	1200	Ø 150	**10 58 31200**
	EMB 3000-1	0.1	3000	Ø 150	**10 58 33001**
	EMB 6000-1	0.1	6000	Ø 150	**10 58 36011**
	EMB 2200-0	1	2200	Ø 150	**64 58 42200**
	EMB 5.2K1	1	5200	Ø 150	**10 58 30521**
	EMB 5.2K5	5	5200	Ø 150	**64 58 42525**

No USB for printer connection.



Electronic school balance KERN EMB-V
School balances with integrated density determination function
- Density determination made easy! Thanks to the self-explanatory, graphic-assisted control panel, the density of solids and liquids can be determined in seconds, making the balance ideal for use in schools and universities
- Visualised process means that operating errors are avoided
- No learning time = reduces costs
- Ideal for untrained users
- The 4 steps are carried out from left to right:
  1. Tare the balance by pressing the [TARE] key
  2. Select density determination mode (solids/fluid)
  3. Weigh samples/plummets in air
  4. Weigh samples/plummets in fluid. The density will be shown on the display immediately
- Hook for underfloor weighing provided as a standard
- Particularly flat design
- Ready for use: battery 9 V Block standard. AUTO-OFF function to preserve the batteries, can be switched off

Technical data:

Display:	large LCD display, digit height 15 mm
Weighing plate material:	Ø 82 mm: plastic, conductive coat Ø 150 mm: plastic
Dimensions (W×D×H):	175 × 245 × 54 mm
Net weight:	approx. 0.85 kg
Permissible ambient temperature range:	5°C – 35°C
With carat weighing unit:	EMB 200-3V: 1000 ct/0,005 ct EMB 2000-2V: 10000 ct/0,05 ct



	Model	Increment g	Weighing range g	Platform mm	Order No.
⑤	EMB 200-3V	0.001	200	Ø 82	**10 58 36203**
⑥	EMB 2000-2V	0.01	2000	Ø 150	**10 58 36202**
⑦	Density kit YDB-01 for EMB 200-3V				**10 58 36101**
⑧	Density kit YDB-02 for EMB 2000-2V				**10 58 36102**

No USB for printer connection.

Continued on next page

Precision and Analytical Balances

Electronic school balance KERN EHA
The compact all-round model with robust stainless steel weighing plate for use in laboratories, industries and for teaching

- Thanks to its compact, robust design, its bright display and high precision, this range is ideal for use in laboratories, quality control, production as well in schools and universities for teaching biology, chemistry and physics, for example
- Large, shock-proof weighing plate made from stainless steel, can be removed and therefore is hygienic and easy to clean
- Particularly flat design
- Ergonomically optimised key pad
- Simple and convenient 5-key operation
- Large high-contrast display that is easy to read
- Secure and non-slip positioning with height-adjustable rubber feet
- Level indicator and levelling feet for precise levelling of the scale, fitted as standard, to give the most accurate weighing result
- Adjusting program CAL for quick setting of the balance accuracy, external test weights available at a surcharge


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Technical data:

Display:	backlit LCD display, digit height 22 mm
Dimensions (W×D×H):	160 × 225 x 50 mm (without draft shield)
Battery operation possible:	2×1.5 V AA, not comprised in the scope of delivery, operating time up to 400 h
External mains adapter:	as a standard
Net weight:	approx. 0.5 kg
Permissible ambient temperature range:	5°C – 40°C

	Model	Increment g	Weighing range g	Platform mm	Order No.
⑨	EHA 500-2	0.01	500	Ø 105	**10 58 35552**
	EHA 500-1	0.1	500	Ø 105	**10 58 35551**
	EHA 1000-1	0.1	1000	Ø 105	**10 58 35553**
⑩	EHA 3000-1	0.1	3000	120×120	**10 58 35554**
	EHA 3000-0	1	3000	120×120	**10 58 35555**

Electronic basic laboratory balance KERN PCB
The standard in the lab

- PRE-TARE function for manual subtraction of a known container weight, useful for checking fill-levels
- Freely programmable weighing unit, e.g. display direct in special units such as length of thread g/m, paper weight g/m², or similar
- With the recipe function you can weigh the different ingredients of a mixture. As a check, you can also call up the total weight of all the ingredients
- Plus/minus weighing procedures
- Ring-shaped draught shield standard, only for models with weighing plate size Ø 81 mm, weighing space Ø×H 90×40 mm
- Protective working cover included with delivery


⑪


⑫


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Technical data:

Display:	backlit LCD display, digit height 15 mm
Weighing plate material:	Ø 81 mm, plastik, conductive coating Ø 105 mm, ≧ 130×130 mm, stainless steel
Dimensions (W×D×H):	163 × 245 × 79 mm (without draft shield)
Battery operation possible:	9 V block, not comprised in the scope of delivery, operating time up to 20 h, AUTO-OFF function for battery operation
Permissible ambient temperature range:	5°C – 35°C

	Model	Increment g	Weighing range g	Platform mm	Order No.
⑪	PCB 100-3	0.001	100	Ø 81	**10 58 31003**
	PCB 250-3	0.001	250	Ø 81	**10 58 32503**
	PCB 350-3	0.001	350	Ø 81	**10 58 33503**
⑫	PCB 200-2	0.01	200	Ø 105	**10 58 32002**
⑬	PCB 1000-2	0.01	1000	130×130	**10 58 31002**
	PCB 2500-2	0.01	2500	130×130	**10 58 32502**
	PCB 3500-2	0.01	3500	130×130	**10 58 33502**
	PCB 1000-1	0.1	1000	130×130	**10 58 31001**
	PCB 2000-1	0.1	2000	130×130	**10 58 32001**
⑭	PCB 6000-1	0.1	6000	150×170	**10 58 36001**
	PCB 10000-1	0.1	10000	150×170	**10 58 31004**
	PCB 6000-0	1	6000	150×170	**10 58 36000**

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Precision and Analytical Balances



Electronic basic laboratory balance KERN PFB
Quick-display precision balance with user-friendly concept of operation - now with larger housing for more secure footing

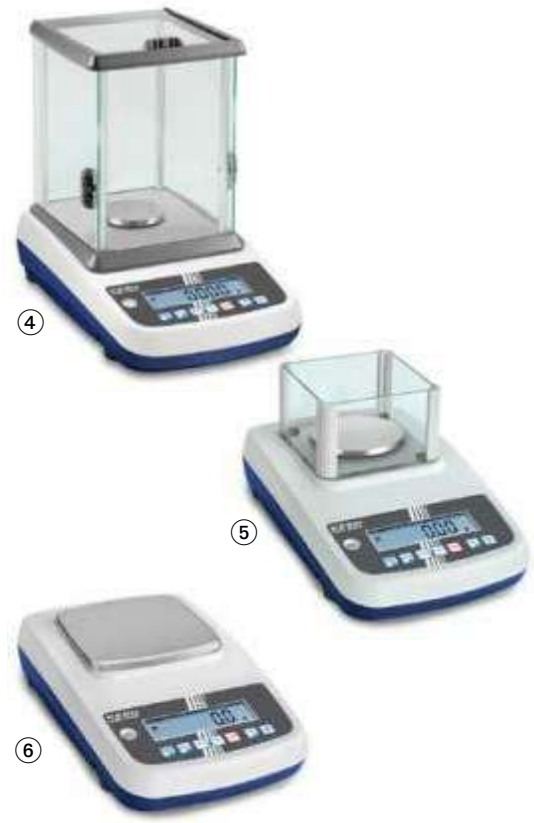
- Concept of easy use: All primary functions have their own key on the keypad
- Compact size, practical for small spaces
- Capacity display: A bar lights up to show how much of the weighing range is still available
- Level indicator and foot screws to level the balance precisely, fitted as standard, to give the most accurate weighing results
- Draft shield provided as a standard (for models with weighing plate sizes Ø 80 mm and 120 mm), weighing space (WxDxH) 158 × 143 × 64 mm

Technical data:

Display:	backlit LCD display, digit height 15 mm
Weighing plate material:	stainless steel
Dimensions (W×D×H):	210 × 315 × 90 mm (without draft shield)
Net weight:	approx. 2.0 kg
Permissible ambient temperature range:	15°C – 30°C

	Model	Increment g	Weighing range g	Platform mm	Order No.
①	PFB 120-3	0.001	120	Ø 80	**10 58 37123**
	PFB 200-3	0.001	200	Ø 80	**10 58 37203**
	PFB 300-3	0.001	300	Ø 80	**10 58 37303**
②	PFB 600-2	0.01	600	Ø 120	**10 58 37304**
	PFB 1200-2	0.01	1200	Ø 120	**10 58 37122**
	PFB 2000-2	0.01	2000	Ø 120	**10 58 37202**
	PFB 3000-2	0.01	3000	Ø 120	**10 58 37302**
	PFB 6000-2	0.01	6000	155×145	**10 58 37305**
③	PFB 6000-1	0.1	6000	155×145	**10 58 37601**

[1] For applications that require verification, please order verification at the same time, initial verification at a later date is not possible. Verification at the factory, we need to know the full address of the location of use.
DAkkS calibration certificate optional available.



Electronic basic laboratory balance KERN EWJ
High-quality precision balance with automatic internal adjustment, also with EC type approval [M]

- Easy to use: All primary functions have their own key on the keypad
- Automatic internal adjustment time-controlled every 2 hours. Guarantees high degree of accuracy and makes the balance independent of its location
- Capacity display: A bar lights up to show how much of the weighing range is still available
- KERN EWJ/EWJ-H/EWJ-J-M: USB data interface to transfer to PC, printer, etc. Only in connection with accessories KERN DBS-A
- Draft shield standard on models KERN EWJ 300-3, EWJ 600-2SM, EWJ 600-2M, weighing space W×D×H 134 × 128 × 80 mm
- KERN EWJ 300-3H: Large glass draft shield with 3 sliding doors for easy access to the items being weighed, weighing space W×D×H 175 × 155 × 217 mm
- Adding up of weigh values
- Protective working cover included with delivery

Technical data:

Display:	large backlit LCD display, digit height 16.5 mm
Weighing plate material:	Edelstahl
Dimensions (W×D×H):	220 × 315 × 90 mm (without draft shield) 220 × 340 × 321 mm (incl. draft shield)
Permissible ambient temperature range:	KERN EWJ: 15°C – 35°C KERN EWJ-M: 15°C – 30°C

	Model	Increment g	Weighing range g	Platform mm	Order No.
	EWJ 300-3	0.001	300	Ø 80	**10 58 39303**
④	EWJ 300-3H	0.001	300	Ø 80	**10 58 39306**
⑤	EWJ 3000-2	0.01	3000	Ø 135	**10 58 39307**
	EWJ 600-2SM	0.01	600	Ø 135	**10 58 39304**
	EWJ 600-2M	0.01	600	Ø 135	**10 58 39602**
	EWJ 6000-1SM	0.1	6000	155×145	**10 58 39305**
⑥	EWJ 6000-1M	0.1	6000	155×145	**10 58 39601**

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Precision and Analytical Balances

Electronic standard laboratory balance KERN 572/573

Allrounder e.g. as precision balance in the laboratory or in harsh industrial applications

- Thanks to the many typical laboratory functions, such as, for example, recipe function, percentage determination, GLP record keeping, combined with the high level of precision, the KERN 572/573 is a reliable partner for day-to-day work in the laboratory.
- The robust design and typical industrial functions, such as piece-counting, vibration-free weighing and the large weighing ranges also make these balances ideal for all industrial applications where a high level of precision is required
- Freely programmable weighing unit, e.g. display direct in special units such as length of thread g/m, grammage g/m², or similar
- The robust die cast aluminium casing provides for secure standing, protects the weighing mechanism, and is resistant in daily use
- Ring-shaped draft shield standard for models with weighing plate size Ø 106 mm. Weighing space Ø×H 157 × 43 mm
- Models with a resolution > 240,000 points: Level indicator to level the balance precisely
- Loop and hook for underfloor weighing standard on all models with readout [d] = 0.001 g
- Protective working cover included with delivery

Technical data:

Display:	large backlit LCD display, digit height 18 mm
Weighing plate material:	stainless steel
Dimensions (W×D×H):	180 × 310 × 85 mm
Net weight:	approx. 2.8 kg
Permissible ambient temperature range:	10°C – 40°C

	Model	Increment g	Weighing range g	Platform mm	Order No.
⑦	572-30	0.001	240	Ø 106	**10 58 37230**
	572-31	0.001	300	Ø 106	**10 58 37231**
	572-32	0.001	420	Ø 106	**10 58 37232**
	573-34	0.001	650	Ø 150	**10 58 37233**
⑧	572-33	0.01	1600	Ø 150	**64 58 57233**
	572-35	0.01	2400	Ø 150	**64 58 57235**
	572-37	0.01	3000	Ø 150	**10 58 37237**
	572-39	0.01	4200	Ø 150	**10 58 37239**
	572-43	0.1	10000	160×200	**10 58 37243**
⑨	572-45	0.05	12000	160×200	**64 58 57245**
	572-49	0.1	16000	160×200	**64 58 57249**
	572-55	0.05	20000	160×200	**10 58 37255**
	573-46	0.001	6500	160×200	**10 58 37256**
	572-57	0.1	24000	160×200	**64 58 57257**


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Electronic standard laboratory balance KERN PNS/PNJ

The new standard in the laboratory with robust tuning fork measuring system

- **KERN PNJ:** Automatic internal adjustment, guarantees high degree of accuracy and makes the balance independent of its location of use. Ideal for mobile applications which require verificati
- **KERN PNS:** Adjusting program CAL for setting of the balance accuracy using an external test weight
- High-quality tuning fork measuring system for quick indication of the weighing result, highly accurate dosing, and high mechanical sturdiness
- Capacity display: A bar lights up to show how much of the weighing range is still available
- Precise counting: The automatic reference weight optimisation of reference weight gradually improves the average piece weight value
- Compact size, practical for small spaces
- Large, shockproof stainless steel weighing plate
- Large glass draft shield with 3 sliding doors for easy access to the items being weighed, for models with weighing plate size Ø 140 mm, weighing space W×D×H 172 × 171 × 160 mm

Technical data:

Display:	large LCD display, digit height 16.5 mm
Weighing plate material:	stainless steel
Dimensions (W×D×H):	models with weighing plate size Ø 140 mm: 196 × 293 × 266 mm models with weighing plate size (W×D) 190 × 190 mm: 196 × 293 × 89 mm
Net weight:	approx. 2.8 kg
Permissible ambient temperature range:	5°C – 40°C

	Model	Increment g	Weighing range g	Platform mm	Order No.
⑩	PNS 600-3	0.001	620	Ø 140	**10 58 37501**
⑪	PNS 3000-2	0.01	3200	190×190	**10 58 37502**
	PNS 12000-1	0.1	12000	190×190	**10 58 37503**
	PNJ 600-3M	0.001	620	Ø 140	**10 58 37504**
	PNJ 3000-2M	0.01	3200	190×190	**10 58 37505**
	PNJ 12000-1M	0.1	12000	190×190	**10 58 37506**


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For applications that require verification, please order verification at the same time, initial verification at a later date is not possible. Verification at the factory, we need to know the full address of the location of use.

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Precision and Analytical Balances


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Electronic standard laboratory balance KERN W-N/EG-N
The classic balance with robust tuning fork measuring system
- Capacity display: A bar lights up to show how much of the weighing range is still available
- Precise counting: The automatic reference weight optimisation of reference weight gradually improves the averag piece weight value
- GLP/ISO record keeping of weight values
- Percentage determination
- Totalising of pieces when counting
- Draft shield standard for models with weighing plate size Ø 118 mm. Removable metal cover with pipette opening, weighing space W×D×H 158 × 130 × 78 mm

Technical data:

Display:	large LCD display, digit height 17 mm
Weighing plate material:	Edelstahl
Dimensions (W×D×H) without draft shield:	models with weighing plate size Ø 118 mm, 170 × 140 mm: 182 × 235 × 75 mm models with weighing plate size 180 × 160 mm: 192 × 275 × 87 mm
Net weight:	approx. 1.4 kg
Permissible ambient temperature range:	10°C – 30°C

	Model	Increment g	Weighing range g	Platform mm	Order No.
①	EW 220-3 NM	0.001	220	Ø 118	**64 58 12203**
	EW 420-3 NM	0.001	420	Ø 118	**64 58 14203**
	EW 620-3 NM	0.001	620	Ø 118	**64 58 16203**
	EW 820-2 NM	0.01	820	170×142	**64 58 18202**
	EW 2200-2 NM	0.01	2200	180×160	**64 58 12202**
	EW 4200-2 NM	0.01	4200	180×160	**64 58 14202**
	EW 6200-2 NM	0.01	6200	180×160	**64 58 16202**
	EW 12000-1 NM	0.1	12000	180×160	**64 58 12000**
②	EG 220-3 NM[1)]	0.001	220	Ø 118	**64 58 22203**
	EG 420-3 NM[1)]	0.001	420	Ø 118	**64 58 24203**
	EG 620-3 NM[1)]	0.001	620	Ø 118	**64 58 26203**
	EG 2200-2 NM[1)]	0.01	2200	180×160	**64 58 22202**
	EG 4200-2 NM[1)]	0.01	4200	180×160	**64 58 24202**

[1)] For applications that require verification, please order verification at the same time, initial verification at a later date is not possible. Verification at the factory, we need to know the full address of the location of use.
DAkkS calibration certificate optional available.


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Accessories

	Article	Order No.
③	**Thermal printer KERN YKB-01N**	**10 58 35005**
④	**Dot matrix printer KERN YKN-01**	**10 58 35501**
⑤	**Statistics printer KERN YKS-01**	**10 58 35004**
	Label printer KERN YKE-01	**10 58 35006**
	Software BalanceConnection SCD-4.0 for direct import of weighing data on the PC	**10 58 39040**
	RS-232 Ethernet adapter KERN YKI-01	**10 58 39501**
	RS-232 Bluetooth adapter KERN YKI-02	**10 58 39502**
	RS-232 WLAN adapter KERN YKI-01	**10 58 39503**

Further details, various accessories and suitable printers are available on request.

webcode WW6CF003

Electronic Analytical Balances, KERN

Electronic analytical balance KERN ADB/ADJ
The price leader in analytical balances with external or internal adjustment
- **KERN ADJ:** Automatic internal adjustment with temperature changes ≧ 2°C and time-controlled every 2 h, ensures high accuracy independent of the location of use
- **KERN ADB:** CAL adjustment program for setting the accuracy by means of an external test weight
- ADB/ADJ 600-C3: Compact, space-saving carat balance with a readout of 0.001 ct and a weighing range of 600 ct. The high level of accuracy saves hard cash wherever you are weighing valuable precious stones
- Level indicator and levelling feet for precise levelling of the scale, fitted as standard, to give the most accurate weighing result
- Large glass draught shield with 3 sliding doors for easy access to the items being weighed
- Compact size, practical for small spaces
- Simple and convenient 6-key operation

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Precision and Analytical Balances

Technical data:

Display:	large, backlit LCD display, digit height 16 mm
Weighing plate:	stainless steel, Ø 90 mm
Dimensions incl. draft shield (W×D×H):	KERN ADB/ADJ: 230 × 310 × 330 mm KERN ADB-C/ADJ-C: 205 × 310 × 210 mm
Weighing space (W×D×H):	KERN ADB/ADJ: 170 × 160 × 205 mm KERN ADB-C/ADJ-C: 170 × 160 × 110 mm
Permissible ambient temperature range:	10°C – 30°C

	Model	Increment g	Weighing range g	Platform mm	Order No.
①	ADB 100-4	0.1	120	Ø 90	**10 58 38104**
	ADB 200-4	0.1	210	Ø 90	**10 58 36301**
②	ADB 600-C3	0.1 mg / 0.001 ct	120 g / 600 ct	Ø 90	**10 58 38633**
	ADJ 100-4	0.1	120	Ø 90	**10 58 37104**
	ADJ 200-4	0.1	210	Ø 90	**10 58 37204**
	ADJ 600-C3	0.1 mg / 0.001 ct	120 g / 600 ct	Ø 90	**10 58 36305**



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Electronic analytical balance KERN ABS-N/ACS/ABJ-NM/ACJ
The bestseller among the analytical balances, with premium single-cell weighing system, also with EC type approval [M]

- **ABJ-NM**: Automatic internal adjustment in the case of a temperature change ≧2°C and time-controlled every 4 hours. Ensures high accuracy independent of the location of use
- **ACJ:** Design identical with ABJ-NM but with integrated data interface RS-232 and USB as a standard
- **ABS-N**: Adjusting program CAL for setting the accuracy by means of an external test weight
- **ACS:** Design identical with ABJ-NM but with integrated data interface RS-232 and USB as a standard
- Dosage aid: High-stability mode and other filter settings can be selected
- Simple recipe weighing and documenting with a combined tare/print function. In addition, the ingredients for the recipe are numbered automatically and printed out with their corresponding number and nominal weight
- Automatic data output to the PC/printer each time the balance has obtained a stable weighing result
- Balance identification number: 4 digits, printed on calibration protocol, freely programmable, is printed out in the adjustment log
- ABJ-NM, ACJ with OIML certificate



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Technical data:

Display:	large LCD display, digit height 14 mm
Weighing plate:	stainless steel, Ø 91 mm
Dimensions incl. draft shield (W×D×H):	210 × 340 × 325 mm
Weighing space (W×D×H):	174 × 162 × 227 mm
Net weight:	approx. 6 kg
Permissible ambient temperature range:	10°C – 30°C

	Model	Increment mg	Weighing range g	Calibration value mg	Minimum load mg	Order No.
③	ABS 80-4N	0.1	82	–	–	**10 58 34080**
	ABS 120-4N	0.1	120	–	–	**10 58 34120**
	ABS 220-4N	0.1	220	–	–	**10 58 34220**
	ABS 320-4N	0.1	320	–	–	**10 58 34321**
	ACS 80-4	0.1	82	–	–	**10 58 34322**
	ACS 100-4	0.1	120	–	–	**10 58 34323**
	ACS 200-4	0.1	220	–	–	**10 58 34324**
	ACS 300-4	0.1	320	–	–	**10 58 34325**
	ABJ 80-4NM[1)]	0.1	82	1	10	**10 58 35080**
	ABJ 120-4NM[1)]	0.1	120	1	10	**10 58 35120**
	ABJ 220-4NM[1)]	0.1	220	1	10	**10 58 35220**
	ABJ 320-4NM[1)]	0.1	320	1	10	**10 58 35320**
	ACJ 80-4M[1)]	0.1	82	1	10	**10 58 35321**
	ACJ 100-4M[1)]	0.1	120	1	10	**10 58 35322**
	ACJ 200-4M[1)]	0.1	220	1	10	**10 58 35323**
	ACJ 300-4M[1)]	0.1	320	1	10	**10 58 35324**

[1)] Can be verified: For applications that require verification, please order verification at the same time, initial verification at a later date is not possible. Verification at the factory, we need to know the full address of the location of use.



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Precision and Analytical Balances



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Electronic analytical balance KERN ABP
Premium analytical balance with the latest single-cell generation for extremely rapid, stable weighing results

- This new generation of analytical balances combines the highest level of precision with large weighing ranges. Thanks to the new single-cell generation, the weighing result is displayed in a fraction of the time required by comparable models. Together with the intuitively structured menu, this means that you can work efficiently and rapidly
- Navigation pad for super quick navigating through the menus
- Automatic internal adjustment in the case of a change in temperature ≧ 1°C and time-controlled every 4 hours, guarantees high degree of accuracy and makes the balance independent of its location of use
- The minimum weight of sample can be manually stored in the device or automatically calculated. For weighings below this value, the balance issues a warning message
- Dosage aid: High-stability mode and other filter settings can be selected
- Simple recipe weighing and documenting with a combined tare/print function. In addition, the mixing ingredients for the recipe are numbered automatically and printed out with their corresponding number and weight value
- Individual user settings for up to 10 users can be saved: user name/user number (can be printed out or added to the record for each process), password, menu language, user profiles, accessing user settings via barcode, additional guest mode for users who are not logged in, authorisations, e.g. balance adjustment, changing, settings or conditioning or modification of a recipe only by the authorized person & performing the formulation by the user
- U.S. FDA 21 Part 11: assists you in data integrity in accordance with U.S. FDA 21 Part 11 (for example weighing result, sample ID, user name, scales ID, ...)
- Menu languages DE, EN
- Automatic data output to the PC/printer each time the balance is steady
- Large glass draught shield with 3 sliding doors for easy access to the items being weighed
- KERN ABP-DM: Multi-function weighing plate included with delivery, minimises the effect of currents of air in the weighing chamber and therefore significantly improves the stabilisation time and repeatability. In addition samples, sample paper, PCR containers, micro centrifuge tubes and many other items which protrude can be easily fixed in place and weighed easily
- Bright OLED display with extremely stable viewing angle for optimum readability from different lines of sight or in bad light
- RS 232 and USB interfaces for the transfer of weighing data to PCs, tablets, printers as well as for the connection of external devices, such as barcode scanners (optional), numeric keypad (optional), etc.
- GLP/ISO record keeping: professional, detailed GLP log, making the balance fully completely compliant with the relevant standard requirements in accordance with ISO, GLP and GMP
- Protective working cover included with delivery
- Note: Optional draught shield rear wall with integrated ioniser for installation in the analytical balance. Extremely fast ionization process, thanks to the latest generation of KERN ionization technology to neutralise electrostatic charge. Particularly convenient handling as you no longer need a separate device. Simply enable the ioniser fan at the push of a button.

Technical data:

Display:	self-luminous OLED display, digit height 14 mm, bright with strong contrast, for convenient reading of the weighing value also in bad light
Weighing plate:	stainless steel, Ø 91 mm
Dimensions incl. draft shield (W×D×H):	213 × 407 × 344 mm
Weighing space (W×D×H):	166 × 156 × 220 mm
Net weight:	approx. 8 kg
Permissible ambient temperature range:	10°C – 30°C

	Model	Increment	Weighing range	Calibration value	Minimum load	Order No.
		mg	g	mg	mg	
	ABP 100-4M[1)]	0.1	120	1	10	**10 58 34410**
	ABP 200-4M[1)]	0.1	200	1	10	**10 58 34420**
	ABP 300-4M[1)]	0.1	320	1	10	**10 58 34430**
①	ABP 100-5DM[1)]	0.01/0.1	52/120	1	1	**10 58 34510**
	ABP 200-5DM[1)]	0.01/0.1	102/220	1	1	**10 58 34520**

[1)] Can be verified: For applications that require verification, please order verification at the same time, initial verification at a later date is not possible. Verification at the factory, we need to know the full address of the location of use.

Precision and Analytical Balances

Laboratory Balances FZ/FX-i Series, A&D Instruments

webcode WWEH9001

- Calibratable (FZ-i & FZ-iWP)
- Built-in internal calibration (FZ-i & FZ-iWP)
- Shock absorber function
- SCF – Statistical Calculation Function
- Auto power ON/OFF function
- Standard RS-232C interface
- Animal weighing program
- Counting mode function
- Percent mode function
- Fast compact SHS sensor, response time only 1 second
- B5 size footprint for use in narrow spaces
- VFD Display for easy to read weighing results
- Quick USB interface – no driver installation required (optional)
- LAN – Ethernet interface with WinCT-Plus software (optional)
- Large breeze break (optional)
- Animal weighing pan (optional)
- Transport case (optional)
- Carat weighing pan (optional)
- Built-in rechargeable NiMH battery pack (optional)

IP65 water / dust proof models can be found in our online catalog by entering the webcode WWEH9001.



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Precision balances with internal calibration

Model	Capacity g	Increment g	Platform mm	Order No.
FZ-120i-EC	122	0.001	Ø 130	**10 45 70120**
FZ-200i-EC	220	0.001	Ø 130	**10 45 70200**
FZ-300i-EC	320	0.001	Ø 130	**10 45 70300**
FZ-500i	520	0.001	Ø 130	**10 45 70500**
FZ-1200i-EC	1220	0.01	Ø 150	**10 45 71200**
FZ-2000i-EC	2200	0.01	Ø 150	**10 45 72000**
FZ-3000i-EC	3200	0.01	Ø 150	**10 45 73000**
FZ-5000i	5200	0.01	Ø 150	**10 45 75000**

Precision balances with external calibration

Model	Capacity g	Increment g	Platform mm	Order No.
FX-120i	122	0.001	Ø 130	**10 45 70121**
FX-200i	220	0.001	Ø 130	**10 45 70201**
① FX-300i	320	0.001	Ø 130	**10 45 70301**
FX-500i	520	0.001	Ø 130	**10 45 70501**
FX-1200i	1220	0.01	Ø 150	**10 45 71201**
FX-2000i	2200	0.01	Ø 150	**10 45 72001**
FX-3000i	3200	0.01	Ø 150	**10 45 73001**
FX-5000i	5200	0.01	Ø 150	**10 45 75001**

Accessories

Article	Order No.
FXi-OP-02 USB interface no driver installation necessary	**10 45 78001**
FXi-OP-08 LAN Ethernet output	**10 45 78002**
FXi-OP-09 NiMH battery pack installation required at the factory	**10 45 78003**
FXi-OP-10 Small breeze break all models – except WP	**10 45 78004**
FXi-WP-10 Small breeze break (WP models) for all capacities	**10 45 78005**
FXi-OP-11 Large breeze break for all capacities – except WP	**10 45 78006**
FXi-WP-11 Large breeze break (WP models) for all capacities	**10 45 78007**
AX-FX-31i Transparent plastic covers, 5 pcs.	**10 45 78008**
AX-CARATPAN-WEX Carat weighing pan – silver	**10 45 78009**
AX-CARATPAN-BEX Carat weighing pan – black	**10 45 78010**
AX-KO2737-500EX Waterproof RS-232C cable (5m)	**10 45 78011**

Precision and Analytical Balances

Laboratory Balances BM Series, A&D Instruments

webcode WWEH9004

- Easy, fanless elimination of static electricity using a built-in ionizer
- Large weighing chamber for improved usability
- Built-in temperature, humidity, and atmospheric pressure sensors
- Interlockable slide doors allowing efficient operation with both hands
- Motorized calibration with an internal mass: automatically triggered based on temperature variation, triggered by operator
- Clearly visible, white-backlit LCD
- Memory: up to 200 data sets
- AD-1688 as standard accessory: dedicated USB key to record weighing data as well as environmental parameters into MS Excel readable files
- 12 weighing units: g, mg, oz, ozt, ct, mom, dwt, GN, tael, tola, pcs (counting), %.
- Interfaces: RS-232C (standard), quick USB (standard), Ethernet (optional)



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BM series microbalances

- Special pans/holders:
  Small pans for sampling minute amounts
  Holders for PM filters
  Holders for microfuge tubes
- Optional pipette accuracy testing kit

	Model	Capacity g	Increment µg	Platform mm	Order No.
①	BM-20	22	1	Ø 25	**10 45 70020**
	BM-22	5.1/22	1/10	50 and 95 mm for filter pans	**10 45 70022**

BM series semi-microbalance

Model	Capacity g	Increment mg	Platform mm	Order No.
BM-252	250	0.01	Ø 90	**10 45 70254**

BM series analytical balances

Model	Capacity g	Increment mg	Platform mm	Order No.
BM-200	220	0.1	Ø 90	**10 45 70202**
BM-300	320	0.1	Ø 90	**10 45 70302**
BM-500	520	0.1	Ø 90	**10 45 70502**

Accessories

Article	Order No.
BM-08 Ethernet interface with WinCT-Plus software	**10 45 70808**
BM-14 Pipette testing kit only BM-20/22	**10 45 70140**
ADI-MWT Weighing table	**10 45 71000**
AD-1653 Density measurement kit BM-252/200/300/500	**10 45 71653**
AD-1671 Tabletop anti-vibration table	**10 45 71671**
AD-1672 Table top breeze break	**10 45 71672**
AD-1672A able top breeze break with sloping front panel	**10 45 71673**
AD-1684 Electrostatic field meter	**10 45 71684**
AD-1689 Tweezers for calibration weight	**10 45 71689**
AX-BM-031 Display working covers, 5 pcs.	**10 45 70031**
AX-BM-032 Centrifuge tube holder	**10 45 70032**
AX-BM-033 Dust cover	**10 45 70033**
AX-BM-034 Centrifuge tube holder BM-200/300/500/252	**10 45 70034**
AX-BM-NEEDLESET Ioniser electrode needles, 4 pcs.	**10 45 74000**
AX-PANS Aluminium analytical pan (0.05 ml, Ø 8 mm), 100 pcs.	**10 45 70058**
AX-PANM Aluminium analytical pan (0.3 ml, Ø 12 mm), 100 pcs.	**10 45 70312**
AX-PANL Aluminium analytical pan (0.8 ml, Ø 15 mm), 100 pcs.	**10 45 70815**
AX-Holder-S Sample vessel holders S, 40×40×32 mm, 2 pcs.	**10 45 74040**
AX-Holder-M Sample vessel holders M, 40×40×32 mm, 2 pcs.	**10 45 74041**
AX-Holder-L Sample vessel holders L, 40×40×32 mm, 2 pcs.	**10 45 74042**
AX-Holder-Set Set with 3 sample vessel holders	**10 45 74100**
AX-SW137-PRINT Foot swich for printing function	**10 45 70137**
AX-SW137-REZERO Foot swich for RE-ZERO function	**10 45 71137**

Precision and Analytical Balances

Analysis Balances Ohaus Explorer®, METTLER TOLEDO



The premium class: efficient, top-quality, can be adjusted to individual requirements!

High-grade modular design:
- Robust high-speed weighing cell precision-machined from a solid metal block, metal housing
- Detachable terminal, can be set up separately at an adjustable angle
- Can be extended with optional communication modules
- Glass draftshield (easily-to-detach panes, free access through frameless and folding cover)

Features:
- High-resolution colour 7″ VGA touchscreen, several languages, intuitive operation
- Contactless operation with 4 multi-functional sensors: quick, safe and clean
- 17 weighing modes/functions, library for personal settings
- Full GxP support (user, data, ID management, and SystemLog records, specification of minimum net weight, free data software,…)
- Interfaces: 2 × USB, 1 × RS 232, 4. optional port (e.g. Ethernet)
- Fully automated internal AutoCal™ adjustment, various adjustment modes
- Contactless opening / closing of the door can be set individually (models EX225../AD)
- Integrated ioniser for elimination of electrostatics (models EX225../AD)
- Optional accessories: density kit, Ethernet connection, protective cover etc.

Model	Weighing range g	Increment mg	(e) mg	Platform mm	Adjustment weight g	**Order No.**
EX125D	5/120	0.01/0.1		Ø 80	100, E2	**10 97 01251**
EX125DM[1)]	5/120	0.01/0.1	1	Ø 80	100, E2	**10 97 01252**
EX125	120	0.01		Ø 80	100, E2	**10 97 01253**
EX125M[1)]	120	0.01	1	Ø 80	100, E2	**10 97 01254**
EX225D	120/220	0.01/0.1		Ø 80	200, E2	**10 97 02251**
EX225DM[1)]	120/220	0.01/0.1	1	Ø 80	200, E2	**10 97 02252**
EX225D/AD[2)3)]	120/220	0.01/0.1		Ø 80	200, E2	**10 97 02253**
EX225DM/AD[1)2)3)]	120/220	0.01/0.1	1	Ø 80	200, E2	**10 97 02254**
EX225/AD[2)3)]	220	0.01		Ø 80	200, E2	**10 97 02255**
EX225M/AD[1)2)3)]	220	0.01	1	Ø 80	200, E2	**10 97 02256**
EX124	120	0,1		Ø 90	100, E2	**10 97 01331**
EX124/AD[3)]	120	0,1		Ø 90	100, E2	**10 97 01242**
EX224	220	0,1		Ø 90	200, E2	**10 97 01332**
EX224/AD[3)]	220	0,1		Ø 90	200, E2	**10 97 02242**
EX224M[1)]	220	0,1	1	Ø 90	200, E2	**10 97 01333**
EX224M/AD[1)3)]	220	0,1	1	Ø 90	200, E2	**10 97 02244**
EX324	320	0,1		Ø 90	300, E2	**10 97 01335**
EX324/AD[3)]	320	0,1		Ø 90	300, E2	**10 97 03242**
EX324M[1)]	320	0,1	1	Ø 90	300, E2	**10 97 01336**
EX324M/AD[1)3)]	320	0,1	1	Ø 90	300, E2	**10 97 03244**

[1)] Factory calibration M
[2)] Ioniser
[3)] Auto-Door

Accessories on request.

Analysis Balances Ohaus PR, METTLER TOLEDO



Easy, safe and low-cost – for smart weighing!
- Display shows overload and stability information
- Internal calibration, factory-calibrated (for some models)
- Easy, intuitive backlit LCD display (adjustable brightness)
- Detachable glass draftshield, integrated weigh-below-hook, calibration lock
- RS232 interface for printer connection or data transmission
- Selectable environment filters, automatic taring function
- Project and user IDs
- Optional accessories (density kit, USB converter, ioniser, second display, …)

Model	Weighing range g	Increment mg	(e) mg	Platform mm	**Order No.**
PR124/E	120	0.1		Ø 90	**10 97 04368**
PR124[1)]	120	0.1		Ø 90	**10 97 04367**
PR124M[1)2)]	120	0.1	1	Ø 90	**10 97 04384**
PR224/E	220	0.1		Ø 90	**10 97 04370**
PR224[1)]	220	0.1		Ø 90	**10 97 04369**
PR224M[1)2)]	220	0.1	1	Ø 90	**10 97 04385**

[1)] Internal calibration
[2)] Factory calibration M

webcode To see other variants and accessories, please enter the webcode on our website.

Precision and Analytical Balances











Precision Balance Ohaus Explorer®, METTLER TOLEDO

The premium class: efficient, individually adjustable, top-quality!

High-grade modular design:
- Robust high-speed weighing cell precision-machined from a solid metal block, metal housing
- Detachable terminal, can be set up separately at an adjustable angle
- Can be extended with optional communication modules
- Glass draftshield (easily-to-detach panes, free access through folding cover)

Features:
- High-resolution colour 7″ VGA touchscreen, several languages, intuitive operation
- Contactless operation with multi-functional sensors: quick, safe and clean
- 17 weighing modes/functions, library for personal settings
- Full GxP support (user, data, ID management, and SystemLog records, specification of minimum net weight, free data software,…)
- Interfaces: 2 × USB, 1 × RS 232, 4. optional port (e.g. Ethernet)
- Fully automated internal AutoCal™ adjustment, various adjustment modes
- Optional accessories: density kit, Ethernet connection, protective cover etc.

Model	Weighing range g	Increment g	(e) mg	Platform mm	Adjustment weight kg	Order No.
EX223[2)]	220	0.001		Ø 130	0.2, F1	**10 97 01341**
EX223/E	220	0.001		Ø 130	0.2, F1	**10 97 01344**
EX423[2)]	420	0.001		Ø 130	0.4, F1	**10 97 01342**
EX423/E	420	0.001		Ø 130	0.4, F1	**10 97 01345**
EX423M[1)2)]	420	0.001	0.01	Ø 130	0.4, F1	**10 97 01343**
EX623[2)]	620	0.001		Ø 130	0.5, F1	**10 97 01348**
EX1103[2)]	1100	0.001		Ø 130	1, F1	**10 97 01350**
EX1103M[1)2)]	1100	0.001	0.01	Ø 130	1, F1	**10 97 01351**
EX2202[2)]	2200	0.01		190×200	2, F1	**10 97 01356**
EX2202/E	2200	0.01		190×200	2, F1	**10 97 01352**
EX4202[2)]	4200	0.01		190×200	4, F1	**10 97 01357**
EX4202/E	4200	0.01		190×200	4, F1	**10 97 01353**
EX4202M[1)2)]	4200	0.01	0.1	190×200	4, F1	**10 97 01358**
EX6202[2)]	6200	0.01		190×200	5, F1	**10 97 01360**
EX6202/E	6200	0.01		190×200	5, F1	**10 97 01364**
EX10202[2)]	10200	0.01		190×200	10, F1	**10 97 01362**
EX10202M[1)2)]	10200	0.01	0.1	190×200	10, F1	**10 97 01363**
EX6201[2)]	6200	0.1		190×200	5, F1	**10 97 01361**
EX6201/E	6200	0.1		190×200	5, F1	**10 97 01368**
EX10201[2)]	10200	0.1		190×200	10, F1	**10 97 01365**
EX10201M[1)2)]	10300	0.1	0.1	190×200	10, F1	**10 97 01366**
EX12001[2)]	12000	0.1		377×311	10, F1	**10 97 01371**
EX12001M[1)2)]	12000	0.1	1	377×311	10, F1	**10 97 01372**
EX24001[2)]	24000	0.1		377×311	20, F1	**10 97 01373**
EX24001M[1)2)]	24000	0.1	1	377×311	20, F1	**10 97 01374**

[1)] Factory calibration M
[2)] Internal calibration

Precision Balances Ohaus PR, METTLER TOLEDO

Easy, safe and low-cost – for smart weighing!
- Display shows overload and stability information
- Internal calibration, factory-calibrated (for some models)
- Easy, intuitive backlit LCD display (adjustable brightness)
- Detachable glass draftshield, integrated weigh-below-hook, calibration lock
- RS232 interface for printer connection or data transmission
- Selectable environment filters, automatic taring function
- Project and user IDs
- Optional accessories (density kit, USB converter, ioniser, second display, …)

Model	Weighing range g	Increment g	(e) mg	Platform mm	Adjustment weight kg	Order No.
PR223/E	220	0.001		Ø 120	0.2, F1	**10 97 02231**
PR223[1)]	220	0.001		Ø 120	0.2, F1	**10 97 02232**
PR223M[1)2)]	220	0.001	0.01	Ø 120	0.2, F1	**10 97 02233**
PR423/E	420	0.001		Ø 120	0.2+0.2, F1	**10 97 04231**
PR423[1)]	420	0.001		Ø 120	0.2+0.2, F1	**10 97 04232**
PR423M[1)2)]	420	0.001	0.01	Ø 120	0.2+0.2, F1	**10 97 04233**
PR523/E	520	0.001		Ø 120	0.5, F1	**10 97 05231**
PR523[1)]	520	0.001		Ø 120	0.5, F1	**10 97 05232**
PR523M[1)2)]	520	0.001	0.01	Ø 120	0.5, F1	**10 97 05233**
PR1602/E	1600	0.01		Ø 180	1+0.5, F1	**10 97 01621**
PR1602[1)]	1600	0.01		Ø 180	1+0.5, F1	**10 97 01622**

Continued on next page

Precision and Analytical Balances

Model	Weighing range g	Increment g	(e) mg	Platform mm	Adjustment weight kg	Order No.
PR1602M[1)2)]	1600	0.01	0.1	Ø 180	1+0.5, F1	**10 97 01623**
PR2202/E	2200	0.01		Ø 180	2, F1	**10 97 02221**
PR2202[1)]	2200	0.01		Ø 180	2, F1	**10 97 02222**
PR2202M[1)2)]	2200	0.01	0.1	Ø 180	2, F1	**10 97 02223**
PR4202/E	4200	0.01		Ø 180	2+2, F1	**10 97 04221**
PR4202[1)]	4200	0.01		Ø 180	2+2, F1	**10 97 04222**
PR4202M[1)2)]	4200	0.01	0.1	Ø 180	2+2, F1	**10 97 04223**
PR4201/E	4200	0.1		Ø 180	2+2, F1	**10 97 04211**
PR4201[1)]	4200	0.1		Ø 180	2+2, F1	**10 97 04212**
PR4201M[1)2)]	4200	0.1	0.1	Ø 180	2+2, F1	**10 97 04213**
PR6201/E	6200	0.1		Ø 180	5+1, F1	**10 97 06211**
PR6201[1)]	6200	0.1		Ø 180	5+1, F1	**10 97 06212**
PR6201M[1)2)]	6200	0.1	1	Ø 180	5+1, F1	**10 97 06213**

[1)] Internal calibration
[2)] Factory calibration M



Precision Balances Ohaus Scout® STX, METTLER TOLEDO

- Perfect for education purposes and straightforward weighing tasks
- 9 weighing modes, incl. parts counting, animal weighing, density determination, ...
- 4.3" colour touchscreen with 9 system languages for fast data input
- Fast stabilisation time, indication of overload, underload, and stability
- Optional interfaces: RS-232, USB host/device with memory function, Bluetooth, Ethernet
- Operation with power pack (comprised in the scope of delivery) or batteries, automatic switch-off
- Stackable housing with weigh-below hook

Model	Weighing range g	Increment g	Platform mm	Adjustment weight g	Order No.
STX123	120	0.001	Ø 93	100,M1	**10 97 03058**
STX223	220	0.001	Ø 93	200,M1	**10 97 03059**
STX222	220	0.01	Ø 120	200,M1	**10 97 03060**
STX422	420	0.01	Ø 120	200,M1	**10 97 03061**
STX622	620	0.01	Ø 120	300,M1	**10 97 03062**
STX1202	1200	0.01	170×140	1000,M1	**10 97 03063**
STX2202	2200	0.01	170×140	2000,M1	**10 97 03064**
STX421	420	0.1	Ø 120	200,M1	**10 97 03065**
STX621	620	0.1	170×140	300,M1	**10 97 03066**
STX2201	2200	0.1	170×140	2000,M1	**10 97 03067**
STX6201	6200	0.1	170×140	5000,M1	**10 97 03068**
STX8200	8200	1	170×140	8000,M1	**10 97 03069**

Accessories on request.







Toploading Balances BTG, Phoenix Instrument

webcode WWSB5024

The balances of the BTG-series convince with easy handling and great user convenience. The balances come not only with an illuminated display but also with a test weight and an integrated rechargeable battery or mobile applications. A protective hood is available to protect the BTG balances from contaminations.

- large, bright display
- large weighing pan
- intuitive and easy operation
- large glass windscreen provided as a standard for mg balances
- counting function, percentage weighing, 21 different units
- internal battery comprised in the scope of delivery
- test weight included
- RS-232 interface
- 3 years warranty

Technical data:	**BTG-303**	**BTG-2002**	**BTG-6001**
Calibration:	external	external	external
Measuring time:	3 sec.	3 sec.	3 sec.
Pan size:	Ø 118 mm	188 × 148 mm	188 × 148 mm
Dimensions:	292 × 218 × 227 mm	292 × 218 × 80 mm	292 × 218 × 80 mm
Weight:	3.1 kg	3.1 kg	5.1 kg

	Type	Weighing range g	Increment g	Reproducibility g	Order No.
①	BTG-303	300	0.001	0.001	**10 13 70303**
②	BTG-2002	2000	0.01	0.01	**10 13 72102**
②	BTG-6001	6000	0.1	0.1	**10 13 76001**

① 

Precision and Analytical Balances

webcode WWEZ6025

SARTORIUS



Entris® II – Essential Line Laboratory Balances, Sartorius Lab Products and Services

No matter what you wish to weigh out: the new Entris® II is always the right choice. It is the only analytical balance in its class featuring isoCAL, LED touch technology and 12 built-in applications.

Benefits:
- Highly accurate results year in, year out – guaranteed via Monolithic weigh cell technology invented by Sartorius
- Fastest stabilization time in its class – using state-of-the-art weighing sensors
- High chemical resistance – ensured using parts made from hard-wearing polybutylene terephthalate (PBT), stainless steel and glass

Type	Weighing range g	Order No.
BCE124i–1S	120	**10 55 50241**
BCE323i – 1S	320	**10 55 50231**
BCE3202i – 1S	3200	**10 55 50021**
BCE2201i – 1S	2200	**10 55 50011**
BCE6200i – 1S	6200	**10 55 50001**

Please enter the webcode WWEZ6025 to see the other variants and accessories in our online catalogue.

webcode WWEZ6026

SARTORIUS



Cubis® II Laboratory Balances, Sartorius Lab Products and Services

The modular weighing system Cubis® II can be configured individually from a series of components. Display unit, weighing module, draft shield, software packages for various applications and functions, and a wide range of accessories ensures that the Cubis® II balance can be individually adapted to all weighing tasks. With a maximum load of 2.1 g to 70 kg and a readability between 0.1 µg and 1 g, the premium laboratory balances of the Cubis® II series offer the perfect match for every application.

Benefits:
- Monolithic weighing system, integrated thermal sensors, individual sample holders
- Error-free operation: individual QApp workflows, motorised automated leveling
- Full gap-free data integrity: compliance with US Directive 21 CFR Part 11, integrated audit trail, state-of-the-art user management
- Customer service: integrated status centre, integrated service functions, preventive maintenance pursuant to recognised standards

Type	Order No.
MCA10.6S-S00-M	**10 55 50600**
MCA224S-S00-I	**10 55 50400**
MCA6202S-S00-0	**10 55 50200**
MCA225S-S00-I	**10 55 50500**
MCA5203S-S00-E	**10 55 50300**
MCA36201S-S00-0	**10 55 50100**

Please enter the webcode WWEZ6026 to see the other variants and accessories in our online catalogue.

Platform Balances



①

Platform Scales, KERN

Platform scale KERN EOC
Robust and high-resolution platform scale with practical Flip/Flop display device for greatest ease of use
- Weighing instead of counting! Because the counting function is so easy to use, you can rapidly record large numbers of small parts – which saves time and money!
- Practical Flip/Flop display device: flexible positioning e.g. free-standing or screwed to the wall (optional). By rotating the upper housing shell you can determine the angle of the display as well as the cable outlet. Factory option against surcharge, delivery time + 2 work days, KERN KIB-M01,
- see Accessories
- High mobility: Thanks to battery operation (optional) and compact, light-weight construction, the balance is suitable for use in several locations (laboratory, production, quality control, commissioning etc.)

Continued on next page

Platform Balances

- Platform: Weighing plate stainless steel, painted steel base, silicone-coated aluminium load cell, protection against dust and water splashes IP65. Level indicator and levelling feet for precise levelling of the balance, fitted as standard, to give the most accurate weighing result
- Weighing with tolerance range (checkweighing): a visual and audible signal helps with portioning, dispensing or grading
- Hold function: When the weighing conditions are unstable, a stable weight is calculated determining an average value
- Benchtop stand incl. wall mount for display device as standard
- Protective working cover included in the delivery
- Searching and remote control of the balance using external control devices or computers with the KERN Communication Protocol (KCP). KCP is a standardised interface command structure for KERN balances and other instruments which allows you to recall and manage all relevant parameters and device functions. You can therefore simply connect KERN devices with KCP to computers, industrial control systems and other digital systems. The KCP is largely compatible with the MT-SICS protocol. Only possible through data interface RS-232, other interfaces on request


②

Technical data:

Display:	large backlit LCD display, digit height 24 mm
Dimensions display device (W×D×H):	268 × 115 × 80 mm
Permissible ambient temperature range:	-10°C – 40°C


③

	Model	Increment g	Weighing range kg	Platform mm	Order No.
	EOC 10K-4	0.2/0.5	6/15	300×300	**10 58 37400**
	EOC 30K-4S	0.5/1	15/35	500×400	**10 58 37401**
	EOC 30K-4	0.5/1	15/35	500×400	**10 58 37402**
	EOC 60K-3	1/2	30/60	300×300	**10 58 37403**
	EOC 60K-3L	1/2	30/60	500×400	**10 58 37404**
	EOC 100K-3	2/5	60/150	300×300	**10 58 37405**
	EOC 100K-3L	2/5	60/150	500×400	**10 58 37406**
	EOC 300K-3	5/10	150/300	500×400	**10 58 37407**
①	EOC 6K-3	1/2	3/6	300×300	**10 58 37408**
	EOC 10K-3	2/5	6/12	300×300	**10 58 37409**
	EOC 30K-3	5/10	15/35	300×300	**10 58 37410**
②	EOC 30K-3L	5/10	15/35	500×400	**10 58 37411**
	EOC 60K-2	10/20	30/60	300×300	**10 58 37412**
	EOC 60K-2L	10/20	30/60	500×400	**10 58 37413**
	EOC 100K-2	20/50	60/150	300×300	**10 58 37414**
	EOC 100K-2L	20/50	60/150	500×400	**10 58 37415**
	EOC 100K-2XL	20/50	60/150	600×500	**10 58 37416**
③	EOC 100K-2XXL	20/50	60/150	950×550	**10 58 37417**
	EOC 300K-2	50/100	150/300	500×400	**10 58 37418**
	EOC 300K-2L	50/100	150/300	950×550	**10 58 37419**
	EOC 6K-4A	0.5	6	300×300	**10 58 37420**
	EOC 10K-3A	1	12	300×300	**10 58 37421**
	EOC 20K-3A	2	24	300×300	**10 58 37422**
	EOC 60K-3A	5	60	300×300	**10 58 37423**
	EOC 100K-2A	10	120	500×400	**10 58 37424**


④

webcode WW6CF005


⑤

Accessories

Article	Order No.
Protective working cover EOC-A01S05, packaging unit 5 pcs.	**10 58 37425**
Rechargeable battery pack internal KFB-A01 Operating time up to 43 h without backlight, charging time approx. 3 h	**10 58 37426**
Stand to elevate display device EOC-A05 height of stand approx. 330 mm	**10 58 37427**
Mount EOC-A03 to fasten the display device to the platform	**10 58 37428**
Table stand incl. wall mount EOC-A04 for the display device	**10 58 37429**
Conversion of the display device KIB-M01 for cable outlet at the front of the display device, ideally suited e.g. for subsequent wall installation of the display device (standard configuration ex works: outlet at the rear), factory option, delivery time +2 working days	**10 58 37430**
④ **Thermal printer KERN YKB-01N**	**10 58 35005**
⑤ **Dot matrix printer KERN YKN-01**	**10 58 35501**
⑥ **Statistics printer KERN YKS-01**	**10 58 35004**
Label printer KERN YKE-01	**10 58 35006**


⑥

webcode To see other variants and accessories, please enter the webcode on our website.

Weights

webcode WW6CF001

KERN









Test Weights, KERN

KERN precision test weights are important tools for controlling your measuring instruments within the scope of ISO 9000ff quality control specifications. The weights also serve to calibrate your balances to the earth's gravitational pull at the respective location.

Test weights

- Individual weights
  (see table below) Additional accuracy classes (E1, M2, M3), alternative materials (stainless steel, precision turned brass, etc.), case made of wood or plastic for safe storage of the individual weights, weight-specific accessories, DAkkS calibration certificate upon request.
- Weight sets
  Available in OIML denominations of 1 mg/1 g up to 10 kg (standard), with individually configurable weight sets available upon request.

Calibration certificates for test weights

DAkkS calibration certificates are evidence of the accuracy of your test weights and serve as a means with which to track your test equipment within the scope of ISO 9000ff quality control specifications. Kern is accredited by the DAkkS accreditation institute as a DAkkS calibration laboratory for balances, test weights, and force gauges. Thus, the seven calibration labs equipped with state-of-the-art technology are able to issue internationally recognized DAkkS calibration certificates. Furthermore, we will be pleased to follow up the periodical intervals for recalibration of your test weight and balances and to timely perform the regular recalibration of your equipment.

E2 class

Wght mg	Order No.	Wght g	Order No.	Wght kg	Order No.
1	**64 58 31801**	1	**64 58 31701**	1	**64 58 31711**
2	**64 58 31802**	2	**64 58 31702**	2	**64 58 31712**
5	**64 58 31803**	5	**64 58 31703**	5	**64 58 31713**
10	**64 58 31804**	10	**64 58 31704**	10	**64 58 31714**
20	**64 58 31805**	20	**64 58 31705**	20	**64 58 31715**
50	**64 58 31806**	50	**64 58 31706**	50	**64 58 31716**
100	**64 58 31807**	100	**64 58 31707**		
200	**64 58 31808**	200	**64 58 31708**		
500	**64 58 31809**	500	**64 58 31709**		

F1 class

Wght g	Order No.	Wght g	Order No.	Wght g	Order No.
1	**64 58 32801**	1	**10 58 32601**	1	**10 58 32611**
2	**64 58 32802**	2	**10 58 32602**	2	**10 58 32612**
5	**64 58 32803**	5	**10 58 32603**	5	**10 58 32613**
10	**64 58 32804**	10	**10 58 32604**	10	**10 58 32614**
20	**64 58 32805**	20	**10 58 32605**	20	**10 58 32615**
50	**64 58 32806**	50	**10 58 32606**	50	**10 58 32616**
100	**64 58 32807**	100	**10 58 32607**		
200	**64 58 32808**	200	**10 58 32608**		
500	**64 58 32809**		**10 58 32609**		

F2 class

Wght mg	Order No.	Wght g	Order No.	Wght kg	Order No.
1	**64 58 33801**	1	**64 58 33761**	1	**64 58 33771**
2	**64 58 33802**	2	**64 58 33762**	2	**64 58 33772**
5	**64 58 33803**	5	**64 58 33763**	5	**64 58 33773**
10	**64 58 33804**	10	**64 58 33764**	10	**64 58 33774**
20	**64 58 33805**	20	**64 58 33765**	20	**64 58 33775**
50	**64 58 33806**	50	**64 58 33766**	50	**64 58 33776**
100	**64 58 33807**	100	**64 58 33767**		
200	**64 58 33808**	200	**64 58 33768**		
500	**64 58 33809**	500	**64 58 33769**		

M1 class

Wght mg	Order No.	Wght g	Order No.	Wght kg	Order No.
1	**64 58 34801**	1	**64 58 34741**	1	**64 58 34751**
2	**64 58 34802**	2	**64 58 34742**	2	**64 58 34752**
50	**64 58 34803**	5	**64 58 34743**	5	**64 58 34753**
10	**64 58 34804**	10	**64 58 34744**	10	**64 58 34754**
20	**64 58 34805**	20	**64 58 34745**		
50	**64 58 34806**	50	**64 58 34746**		
100	**64 58 34807**	100	**64 58 34747**		
200	**64 58 34808**	200	**64 58 34748**		
500	**64 58 34809**	500	**64 58 34749**		

Weighing Dishes and Jars

Weighing Brushes, neoLab®

Weighing brushes, pointed with fine hairs, from removing dust and powder residues from weighing boats.
Total length: approx. 110 mm

Article	Ø mm	Order No.
Weighing brush	5	**37 01 17215**
Weighing brush	10	**37 01 17216**
Weighing brush	15	**37 01 17214**
Weighing brushes in a set	5, 10, 15	**10 01 17212**



webcode WW2NY155

Weighing Cards, neoLab®

Weighing cards in packs of 1000 g. With smooth surface. Not to be missed in the laboratory for weighing powders, scraping together, etc.

Article	Order No.	PU g/Pack
Weighing cards	**22 01 15210**	1000



webcode WW2NY022

Weighing Papers, neoLab®

Top quality, practical format 133 × 100 mm.
Stapled in blocks of 250 sheets.

Article	Order No.
Weighing papers	**37 01 17217**



webcode WW2NY157

Weighing Paper, Hahnemühle

The smooth surface guarantees the quantitative transfer of the material being weighed without any losses. Can be used instead of a weighing boat. For determination of the total protein content in food and of the nitrogen content in soil analysis.

Article	Order No.	PU pc/Pack
Weighing paper, 5 × 5 cm	**10 15 93605**	500
Weighing paper, 10 × 10 cm	**10 15 93610**	500
Weighing paper, 15 × 15 cm	**10 15 93615**	500



webcode WW6PB022

Weighing Boats, Plastic, LAT

Flexible plastic weighing boats, white, for liquids and solids. Can be used for practically all sample materials. Use once only.

W × H × Depth cm	Pcs/pack	Order No.	PU Pack/ Box
40×40×10	100	**22 20 10001**	5
80×80×20	100	**22 20 10002**	5
140×140×20	100	**22 20 10003**	5

webcode WWW4U005



Weighing Dishes and Jars



webcode WW2NY023



for my lab neoLab

Disposable Weighing Dishes, neoLab®

Flexible plastic weighing dishes made of PS
For solids or liquids, temperature resistant up to 93°C, antistatic.
Available in 3 sizes:
Size I: 44 x 44 x 7 mm, ca. 7 ml
Size II: 80 x 80 x 20 mm, ca. 100 ml
Size III: 140 x 140 x 22 mm, ca. 250 ml

Colour	Size	Volume ml	Order No.	PU pc/Pack
white	I	7	**10 01 11124**	500
blue	I	7	**22 01 11130**	100
white	II	100	**10 01 11125**	500
blue	II	100	**22 01 11131**	100
white	III	250	**10 01 11126**	500
blue	III	250	**22 01 11132**	100

Available only in original packaging units. No fractions possible.

webcode WW2NY159



Aluminium Slices, neoLab®

Aluminium Slices
Aluminium foil in ready-cut slices with silk paper inlay. Heavy duty version, 0.03 mm thick.

Article	Ø mm	Order No.	PU pc/Pack
Aluminium slices	80	**38 01 21048**	1000
Aluminium slices	100	**38 01 21050**	1000
Aluminium slices	120	**38 01 21051**	1000
Aluminium slices	130	**38 01 21049**	1000
Aluminium slices	150	**38 01 21052**	1000

Available only in original packaging units. No fractions possible.

Acrylic dispenser with gripping gap

Article	for Ø mm	Order No.
Dispenser	100	**38 01 21053**
Dispenser	120	**38 01 21054**
Dispenser	130	**38 01 21056**

webcode WW2NY160



Aluminium Dishes with Handle, neoLab®

Disposable aluminium dishes, round, with tab for carrying or for numbering samples. Sturdy materials, clean surface, no oil residues. Can also be used as evaporating dishes, weighing dishes, etc.

Size	Ø at bottom mm	Height mm	Weight g	Order No.	PU pc/Pack
I	43	11.0	1.0	**38 01 21600**	100
II	55	14.0	1.5	**38 01 21601**	100
III	70	15.0	2.0	**38 01 21602**	100
IV	13	3.5		**38 01 21603**	100

Available only in original packaging units. No fractions possible.

webcode WWSU9018

Dinkelberg analytics by ALTMANN ANALYTIK



Aluminium Dishes, Dinkelberg Analytics

Disposable aluminium dishes for determining dry matter content, completely flat, thin-walled with reinforced rim, made of bright aluminium.

	Bottom Ø mm	Rim Ø mm	Height mm	Weight g	Volume ml	Order No.	PU pc/Pack
①	78	96	24	3.7	125	**10 32 11210**	100
①	78	96	24	3.7	125	**10 32 12800**	2800
②	51	64	13	1.5	28	**10 32 11211**	100
②	51	64	13	1.5	28	**10 32 16300**	6300

Available only in original packaging units. No fractions possible.

Weighing Dishes and Jars

Weighing Dishes/IR-samples, Aluminium, schuett-biotec



Ideal for moisture determination in infrared ovens. Samples can be well distributed horizontally and reflect the heat evenly over the complete dish area. Can also be used as laboratory dishes.

Ø mm	Height mm	Order No.	PU pc/Pack
100	7	**38 31 10005**	80

Available only in original packaging units. No fractions possible.

Weighing Boats, neoLab®



webcode WW2NY003

① **Weighing boats made of borosilicate glass, pointed front**
with tube-shaped stem

Article	Order No.
Weighing boat, 65 mm long	**11 01 17210**
Weighing boat, 70 mm long	**11 01 17211**
Weighing boat, 80 mm long	**11 01 17213**

② **Weighing boats made of borosilicate glass, round front**
with tube-shaped stem

Article	Order No.
Weighing boat, 82 mm long	**11 01 17150**
Weighing boat, 95 mm long	**11 01 17151**
Weighing boat, 116 mm long	**11 01 17152**

③ **Weighing boats made of borosilicate glass, open spade shape**
with flat, ground bottom

Article	Order No.
Weighing boat, 60 mm long	**11 01 17220**
Weighing boat, 80 mm long	**11 01 17221**
Weighing boat, 100 mm long	**11 01 17222**

④ **Weighing boats made of high-grade steel (4301)**
For weighing out of powdery materials. Without handle, curved, scoop-shaped for easier pouring out.

Article	L × W mm	Weight approx. g	Order No.
Weighing boat	70 × 35	15	**10 01 17146**
Weighing boat	90 × 35	23	**10 01 17147**
Weighing boat	105 × 35	30	**10 01 17148**
Weighing boat	120 × 35	35	**10 01 17149**



Weighing Bottles, Rettberg



rettberg.biz

webcode WWQVD029

Weighing bottles made of SBW borosilicate glass 6.5, with burnt-in reinforcement and replaceable stopper with standard ground joint.

Version	Height mm	Ø mm	Volume approx. ml	Order No.
tall form	40	25	10	**11 42 14025**
tall form	50	30	20	**11 42 15030**
tall form	50	40	40	**11 42 15040**
tall form	65	40	45	**11 42 16540**
tall form	70	35	45	**11 42 17035**
tall form	80	40	70	**11 42 18040**
tall form	80	50	110	**11 42 18050**
low form	25	25	6	**11 42 22525**
low form	30	35	15	**11 42 23035**
low form	30	50	30	**11 42 23050**
low form	30	60	45	**11 42 23060**
low form	30	80	80	**11 42 23080**

Weighing Bottles, Flat Shape, DURAN®, DURAN Group / IDL



webcode WWEQ2042

Weighing bottles with ground lid.

Bottom part O.D. mm	Bottom part height mm	Volume ml	Order No.	PU pc/Pack
38	30	15	**11 24 21023**	10
54	30	30	**11 24 21032**	10
85	30	80	**11 24 21041**	10

Moisture Analyzers

webcode WWEH9005

Moisture Analyzers MS/MX/MF/ML, A&D Instruments



①

Moisture analyzers MS/MX/MF/ML
- Fast and even heating via halogen lamp
- High reproducibility with SHS technology (Super Hybrid Sensor)
- Standard WinCT Moisture software (for MS & MX)
- Method memory
- Five measuring programs (standard, automatic, fast, time, and manual mode)
- Selectable heating mode (standard, fast, step-by-step, or linear increase)
- Bright, easy-to-read large vacuum fluorescence display
- Standard RS232C interface
- Calibration of the heating temperature with option MX/MF-OP-43 (for MS & MX)

	Model	Capacity g	Increment mg	Platform mm	Order No.
	MVGS-70	71	0.1	Ø 85	**10 45 70070**
①	MVGX-50	51	1	Ø 85	**10 45 70050**
	MVGF-50	51	2	Ø 85	**10 45 70051**
	MVGL-50	51	5	Ø 85	**10 45 70052**

Accessories

Article	Order No.
MX/MF-OP-30 Disposable sample pans, 100 pcs.	**10 45 70030**
MX/MF-OP-31 Reusable sample pans, 100 pcs.	**10 45 73100**
MX/MF-OP-32-1 Glass fibre filter Ø 70 mm, 100 pcs.	**10 45 70321**
MX/MF-OP-32-2 Glass fibre filter Ø 78 mm, 100 pcs.	**10 45 70322**
MX/MF-OP-33 Sodium Tartate Dihydrate 30 g, 12 pcs.	**10 45 70330**
MX/MF-OP-34-120V Halogen lamp 120 V	**10 45 73412**
MX/MF-OP-34-240V Halogen lamp 240 V	**10 45 73424**
MX/MF-OP-35 Shell handles, 2 pcs.	**10 45 70035**
MX/MF-OP-36 Forceps, 2 pcs.	**10 45 70036**
MX/MF-OP-37 Sample spatula, 2 pcs.	**10 45 70037**
MX/MF-OP-38 Display covers, 5 pcs.	**10 45 70038**
MX/MF-OP-39 Dust cover	**10 45 70039**
MX/MF-OP-40 RS-232 cable (9-25 pin)	**10 45 74232**
MX/MF-OP-42 WinCT Moisture Software CD	**10 45 70042**
MX/MF-OP-43 Temperature calibrator (only MVGS-70 & MVGX-50)	**10 45 70043**
OP-43-Cal-Cert Calibration certificate for OP-43 (net)	**10 45 74343**



webcode WWDX7016

PMB Moisture Analyzers, AE Adam

PMB moisture analyzers
With simple operation and rapid response time, PMB moisture analyzers offer the top value in their class.

Features and functions:
- Vivid, backlit LCD (digit height: 24 mm) with capacity indication
- Sturdy aluminium casing
- By default, RS-232 and USB interface and USB host
- Temperature range from 50°C to 160°C, in 1° increments
- Three settings for heating the sample: fast ramp-up, stepped temperatures and single temperature
- Seven preset drying modes
- Calibration of temperature and weight
- 3 years warranty

Technical data:

Weighing units:	g, %M, %S, ATRO %M, ATRO %S
Platform:	Ø 100 mm
Heating unit:	400 W halogen bulb 50 – 160°C
Stabilisation time:	4 sec.
Internal memory:	up to 99 test results and 49 programmable user settings

Model	Capacity g	Increment	Order No.
PMB 53	50	0.001 g / 0.01 %	**10 56 55300**
PMB 163	160	0.001 g / 0.01 %	**10 56 51630**
PMB 202	200	0.01 g / 0.05 %	**10 56 54202**

Continued on next page

Moisture Analyzers

Accessories

Article	Order No.	PU pc/Pack
Aluminium sample pans	**10 56 54001**	250
Glass fibre pads	**10 56 53622**	200
Set for temperature calibration	**10 56 50636**	1

Moisture Analyzers, KERN

Moisture analysing is an integral part of the manufacture respectively processing of many finished and raw products and significantly affects the quality of the product.

Moisture analysers are particularly often used in the food industry, water management (sewage plants etc.), plastic industry, agriculture, and energy management (bio-energy plants etc.).

You need experience to analyse moisture properly. Different drying processes are used depending on the type of sample and the respective task.

webcode WW6CF007

KERN focuses on halogen and infrared drying, the most frequently used drying processes which have a number of advantages:
- Even heating of the sample from above without any risk of burning the surface of the sample
- Low purchasing prices ensure a fast payback period of the device
- Temperature ranges from 35 to 200°C
- High measuring accuracy of up to 0.01%
- Sufficient capacity reserves, weighing ranges up to 200 g
- Various drying programs (gentle drying, standard drying, step drying, fast drying/Boost)

A particularly convenient feature is the large number of storage spaces in the KERN moisture analysers to which complete drying processes with drying parameters such as duration and temperature of drying, display settings, switch-off criteria etc. can be saved. This helps you to work faster and to achieve reproducible results.

Go to the KERN website to download a helpful application manual for each KERN moisture analyser with plenty of examples, field reports, settings and tips.

Determination of drying parameters

Send us a sample of your product for individual testing on our premises. This helps you to find the optimum settings for the parameters of your moisture analyser to achieve reproducible results. KERN 965-243, 95 EUR/hour plus VAT

Temperature calibration of KERN moisture analysers (works calibration certificate)

To ensure the comparability of the moisture analysis results, the temperature in the heating chamber and thus the sample temperature must be kept accurately. This requires regular temperature calibration, KERN 964-305, 140 EUR plus VAT.



① **Moisture analyzer KERN DAB**
Moisture analyser which is particularly easy to use - now also as a version with [d] = 10 mg, ideal for recurring rapid tests

KERN DAB 200-2: Version with lower resolution which ensures that the switch-off criterion is reached faster to save time. Ideally suited for rapid testing and random sampling. Backlit graphic display, digit height 14mm

All information visible at a glance from the graphic display:
- Drying process active
- Active heating profile
- Active switch-off criterion
- Previous drying time
- Current temperature
- Current moisture content in %
- Halogen quartz glass heater 400 W
- Observation window above the sample, useful during initial setting
- Internal memory for automatic sequence of 15 complete drying processes and 5 drying processes carried out
- The last value measured remains on the display until overwritten by a new measurement
- 50 sample plates included
- Application handbook: Online you will find a practical application handbook containing many examples, field reports, settings and tips for each KERN moisture analyser

Model	Increment g/%	Weighing range g	Order No.
DAB 100-3	0.001/0.01	110	**10 58 35903**
DAB 200-2	0.01/0.05	200	**10 58 35902**

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Moisture Analyzers

Aceessories for KERN DAB

Article	Order No.
Sample plates aluminium KERN MLB-A01A, Ø 90 mm, packaging unit 80 pcs.	**10 58 37442**
Round fiberglass filter KERN RH-A02, packaging unit 100 pcs. high mechanical stability, with organic binder	**10 58 37443**
Round fiberglass filter KERN YMF-A01, packaging unit 100 pcs. medium mechanical stability, without organic binder	**10 58 37444**
Temperature calibration set KERN DAB-A01 consists of measuring sensor and display device	**10 58 35901**
Infra-red glass emitter KERN DAB-A02 Temperature range 40°C – 160°C, Factory Option	**10 58 37445**
RS-232 Ethernet adapter KERN YKI-01 for connection to an IP-based Ethernet network	**10 58 39501**
RS-232 Bluetooth adapter KERN YKI-02 for connection to Bluetooth-capable devices, such as Bluetooth printers, tablets, laptops, smartphones etc.	**10 58 39502**
RS-232 WLAN adapter KERN YKI-01 for wireless connection to networks and WLAN-capable devices, such as tablets, laptops, smartphones etc.	**10 58 39503**
Software BalanceConnection SCD-4.0 for visualisation of the drying process	**10 58 39040**
Thermal printer KERN YKB-01N	**10 58 35005**
Matrix needle printer KERN 911-013 for printing out weighing values on standard paper for long-term archiving	**10 58 37446**



①

① **Moisture analyzer DBS**
Moisture analyser with premium single-cell weighing system for excellent stability, reliability, and reaction speed

- Tip: Suitable for samples with low moisture content, e.g. plastics
- Backlit LCD graphic display with digit height 15 mm
- All information visible at a glance in the graphic display:
- Drying process active
- Previous drying time
- Current temperature
- Unit of the shown result
- Current moisture content in %
- Active heating profile
- Halogen quartz glass heater 400 W
- Excellent temperature control thanks to halogen technology, suitable for temperature-sensitive samples
- Internal memory for automatic run of 10 drying programs and 100 drying processes already executed
- The last value measured remains on the display until overwritten by a new measurement
- Password protection to prevent the manipulation of stored settings, data etc.
- Sample description for up to 99 samples, 2 digits, freely programmable, printed in the measuring protocol
- Date and time display as standard
- USB data interface for transfer of weighing data to PC or printer (can be used only in connection with accessory KERN DBS-A02)
- 10 sample plates included
- Protective working cover included with delivery
- Application handbook: Online you will find a practical application handbook containing many examples, field reports, settings and tips for each KERN moisture analyser

Model	Increment g/%	Weighing range g	Heater	Order No.
DBS 60-3	0.001/0.01	60	halogen	**10 58 35603**

Accessories for KERN DBS

Article	Order No.
Protective working cover KERN DBS-A03S05, packaging unit 5 pcs.	**10 58 37447**
Sample plates aluminium KERN MLB-A01A, Ø 90 mm, packaging unit 80 pcs.	**10 58 37442**
Round fiberglass filter KERN RH-A02, packaging unit 100 pcs. high mechanical stability, with organic binder	**10 58 37443**
Temperature calibration set KERN DBS-A01 consists of measuring sensor and display device	**10 58 35103**
USB interface kit KERN DBS-A02 for bidirectional data exchange between balance/moisture analyser and computer. USB cable, driver CD, BalanceConnection software comprised in the delivery	**10 58 37448**

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Moisture Analyzers

Article	Order No.
Software BalanceConnection SCD-4.0 for visualisation of the drying process	**10 58 39040**
Thermal printer KERN YKB-01N	**10 58 35005**
Matrix needle printer KERN 911-013 for printing out weighing values on standard paper for long-term archiving	**10 58 37446**
Label printer KERN YKE-01	**10 58 35006**

Moisture Analyzer, Phoenix Instrument

webcode WWSB5008

Standard moisture analyzers for numerous applications.

Moisture analyzer BM60

- New, state of the art moisture analyzer, easy operation
- Powerful 400w halogen heater for quick and accurate measurements
- Compact design, backlit LCD graphic display
- User guidance with pictograms
- Windows direct function for easy data transfer
- RS 232 and USB interface
- Internal memory for 100 data sets and 10 programs incl. sample description
- 4 different Measurement modes
- 3 years warranty



Technical data:

Max. Capacity:	60 g
Readability:	0.001 g / 0.01%
Reproducibility:	0.002 g / 0.05%
Pan size:	95 mm
Weighing units:	gramm, % humitity, % solids
Stabilisation time:	2 – 3 sec
Internal memory:	10 programs, 100 test results
Calibration:	automatic external
Heating source:	400 W halogen heater, 50° – 160°C
Drying programs:	standard, drying in steps, gentle and fast
Display:	huge, backlit LCD-display

Article	Order No.
Moisture analyzer BM-60	**10 13 70060**

Moisture Analyzers, Sartorius Lab Products and Services

webcode WWEZ6004

Sartorius moisture analyzers are intended for fast and reliable determination of the material moisture in liquid, pasty, and solid substances by way the thermogravimetry method.

All Sartorius moisture analyzers are serially equipped with the following performance features:

- big digital display
- integrated RS232 interface with logging in accordance with ISO / GLP

Sartorius Moisture Analyser MA35

The MA35 is the basic model for quick and reliable analysis of the material moisture of liquid, pasty and solid substances using the thermogravimetric method.

Benefits:

- Rugged starter model
- Easy operation
- Quick measuring results
- For uniform measuring tasks



①



①

	Model	For initial sample weight 1g / 5g	Operating voltage V	Order No.
①	MA35M-230N	±0.2 / ±0.05	110	**10 55 51031**
	MA35M-115N	±0.2 / ±0.05	230	**10 55 51032**

Please enter the webcode WWEZ6004 to see the other variants and accessories in our online catalogue.

Thermo Stripes

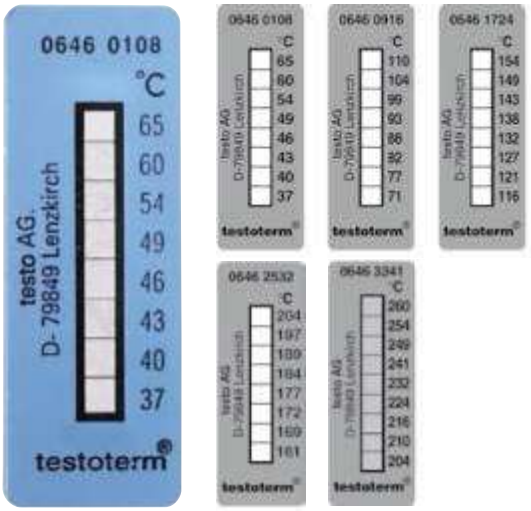
webcode WW2NY319



Temperature Control Strips, neoLab®

Temperature control strips, each with 5 temperature change points on self-adhesive film. Color changes irreversibly from light gray to black if the relevant temperature is reached within 1 second.
Size: 18 × 39 mm high

Temperature range °C	Order No.	PU pc/Pack
+29 to +40	**28 01 31910**	10
+37 to +46	**28 01 31911**	10
+49 to +71	**28 01 31912**	10
+77 to +99	**28 01 31913**	10
+104 to +127	**28 01 31914**	10
+132 to +154	**28 01 31915**	10
+160 to +182	**28 01 31916**	10
+188 to +210	**28 01 31917**	10
+216 to +249	**28 01 31918**	10
+249 to +290	**28 01 31919**	10



Self-adhesive Temperature Foils, Testo / IDL

Accuracy: from +43°C to +154°C: ±1,5°C
from +160°C: ±1% ±1°C of respective temperature reading
Operating temperature: corresponds to the respective measuring ranges
Storage: foils up to +65°C: max. 9 months; other measuring ranges: up to 2 years
Max. storage temperature: +25°C, storage in a refrigerator is recommended

testoterm thermometer strips
testoterm thermometer strips are self-adhesive foils with temperature sensitive elements for temperature control and regulation. Used, for example, for measurements on moving parts, for long-term monitoring and measurements on small objects.
- Irreversible change in colour within 2 seconds
- Practical booklet with 10 thermometer strips
- Thermometer strips available on rolls, from 5000 off

Temperature range °C	Order No.	PU pc/Booklet
+37 to +65	**10 09 40108**	10
+71 to +110	**10 09 40916**	10
+116 to +154	**10 09 41724**	10
+161 to +204	**10 09 42532**	10
+204 to +260	**10 09 43341**	10



webcode WWJ9J053

Single indicators
testoterm single indicators are self-adhesive temperature sensitive foils with elements used for control of a given maximum temperature.
- Measuring range +65°C to +121°C
- Irreversible change in colour within 2 second
- Practical single indicator booklet (50 each)
- Single indicators available on rolls from 5000 off

Temp. °C	Order No.	PU pc/Booklet
+65°C	**10 09 41065**	50
+71°C	**10 09 41071**	50
+77°C	**10 09 41077**	50

Temp. °C	Order No.	PU pc/Booklet
+82°C	**10 09 41082**	50
+110°C	**10 09 41110**	50
+121°C	**10 09 41121**	50



Testo Saveris wireless data logger
Testo Saveris 2-T1 - WiFi data logger with display and integrated NTC temperature probe
The WiFi data logger testo Saveris 2-T1 allows you to monitor the temperatures in refrigerated, work or storage rooms. The temperature values measured with the integrated probe are reliably recorded over long periods, and transmitted directly to the Testo Cloud (online data store) via your wireless LAN. You can access these readings anytime and anywhere, using your web-enabled smartphone, tablet or PC.

Testo Saveris 2-T2 -WiFi data logger with display and 2 connections for NTC temperature probe
The WiFi data logger testo Saveris 2-T2 allows you to monitor the temperatures and door contacts in refrigerated and work or storage rooms. The temperature values and door contacts measured with the connectable probes are reliably recorded over long periods, and transmitted directly to the Testo Cloud (online data store) via your WiFi. You can access these readings anytime and anywhere, using your web-enabled smartphone, tablet or PC.

Continued on next page

Thermo Stripes

Testo Saveris 2-T3 - WiFi data logger with display and 2 connections for TC temperature probe
The WiFi data logger testo Saveris 2-T3 allows you to monitor the temperatures and door contacts in refrigerated and work or storage rooms. The temperature values measured with the connectable thermocouple probes (TC) are reliably recorded over long periods, and transmitted directly to the Testo Cloud (online data storage) via your WiFi. You can access these readings anytime and anywhere, using your web-enabled smartphone, tablet or PC.

	testo Saveris 2-T1	testo Saveris 2-T2	testo Saveris 2-T3		
Temperature measurement					
Sensor type:	NTC intern	NTC	TE Typ K	TE Typ J	TE Typ T
Measuring range:	-30 – +50°C	-50 – +150°C	-195 – +1350°C	-100 – +750°C	-200 – +400°C
Precision ±1 Digit:	±0,5°C	±0,3°C	±(0,5 + 0,5 % v. Mw.)°C		
Resolution:	0,1°C				
Temperature measurement via external sensor					
Connection external probe sensor	–	external probe sensor	external probe sensor		

Article	Order No.
Testo Saveris 2-T1	**10 09 42031**
Testo Saveris 2-T2	**10 09 42032**
Testo Saveris 2-T3	**10 09 42033**

Testo Saveris wireless data logger probe

Article	Measuring range	Accuracy	Order No.
Precise immersion/penetration probe	-35 – +80°C	±0,2°C (-25 – +74,9°C ±0,4°C (remaining range)	**10 09 41725**

Further sensors and calibrations are available on request. The basic software is also available for free download on the testo homepage.

Laboratory Thermometers

Universal Thermometers, Amarell

webcode WWERJ002

① **Enclosed scale type, prismatic capillary, unbacked, special red filling, 7 – 8 mm dia.**

Meas. range °C	Increm. °C	L mm	Order No.
-30 – +50	1	260	**16 10 13003**
-10 – +50	1	200	**16 10 13004**
-10 – +100	1	260	**16 10 13001**
-10 – +150	1	260	**16 10 13002**
-10 – +200	1	300	**16 10 13005**
-10 – +250	1	300	**16 10 13006**

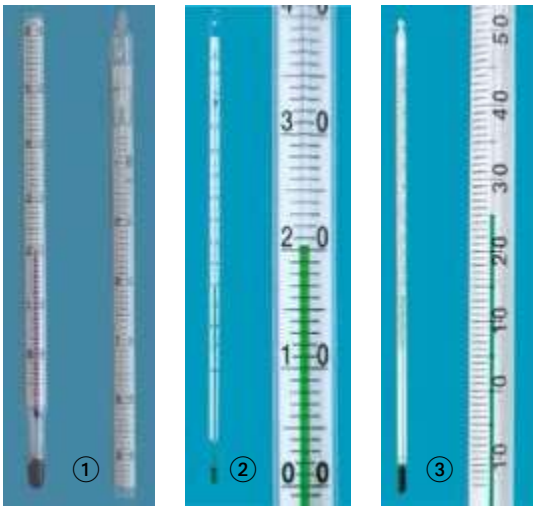
Art. 161013006 with blue filling

② **Enclosed scale type, prismatic capillary, unbacked, 7 – 8 mm dia**
green antitoxic and environment neutral filling, tagged immersion depth at 76 mm

Meas. range °C	Increm. °C	L mm	Order No.
-10/0 – +110	1	300	**10 10 10348**
-10/0 – +110	0.5	300	**10 10 10352**
-10/0 – +150	1	300	**10 10 10356**
-10 – +250	2	300	**10 10 10364**
-10 – +360	2	300	**10 10 10368**

③ **Solid stem type, white backed, 5,5 – 6,5 mm dia**
green antitoxic and environment neutral filling, tagged immersion depth at 76 mm

Meas. range °C	Increm. °C	L mm	Order No.
-10/0 – +110	1	300	**10 10 11388**
-10/0 – +110	0.5	300	**10 10 11392**
-10/0 – +150	1	300	**10 10 11396**
-10 – +250	2	300	**10 10 11404**
-10 – +360	2	300	**10 10 11408**



General Purpose Thermometer, with Safety Coating, Ludwig Schneider

webcode WWZT7002

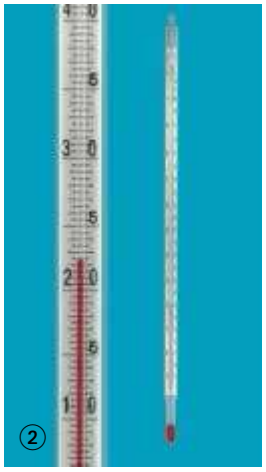
General purpose thermometer “Made in Germany” with environmental safety filling
- Stem type, capillary white back, round
- With FEP/PTFE safety coating
- With individual serial number
- With certificate (conformity and precision)

Measuring range °C	Scale °C	Charge	Overall length mm	Immersion depth	Order No.
-35 – +50	1	blue	305	total	**10 16 54291**
-20 – +110	1	blue	305	total	**10 16 54292**
-20 – +150	1	blue	305	total	**10 16 54293**
-10 – +210	1	blue	405	total	**10 16 54294**
-10 – +110	1	blue	200	total	**10 16 54295**
-10 – +150	1	blue	200	total	**10 16 54296**



Laboratory Thermometers





webcode WWERJ003

Laboratory Thermometers, Amarell

① **Enclosed-scale thermometers**
Unbacked capillary, red filling, Richter top, 8 to 9.5 mm dia., calibratable.

Meas. range °C	Increm. °C	L mm	Order No.
-50 – +50[1]	1	300	**16 10 19005**
-100 – +30[1]	1	300	**16 10 19006**

Meas. range °C	Increm. °C	L mm	Order No.
-200 – +30[2]	1	350	**16 10 19007**
-50 – +50[1]	0.5	300	**16 10 20005**

② **Enclosed-scale thermometers**
Unbacked capillary, special red filling, Richter top, 8 to 9.5 mm dia, calibratable.

Meas. range °C	Increm. °C	L mm	Order No.
-10/0 – +100	1	305	**10 10 16608**
-10/0 – +150	1	305	**10 10 16610**
-10/0 – +200	1	300	**10 10 16612**
-10/0 – +50	0.5	220	**10 10 16618**
-10/0 – +100	0.5	270	**10 10 16620**

Meas. range °C	Increm. °C	L mm	Order No.
-5 – +50[3]	0.2	350	**10 10 16628**
-5/0 – +100[3]	0.2	420	**10 10 16630**
+50[6]	0.1	420	**10 10 16632**
0 – +100[3]	0.2	550	**10 10 16642**

Laboratory thermometers AMA-THERM
Enclosed-scale, capillary prismatic white backed, with **non-wetting blue special liquid filling and inside coated capillary tube**, Richter top finish, calibrated for full immersion, calibratable, diameter 8 – 9.5 mm.

Meas. range °C	Increm. °C	L mm	Order No.
0 – +50	0.2	350	**10 10 16800**
0 – +100	0.2	420	**10 10 16810**
0 – +150	0.2	480	**10 10 16820**
0 – +200	0.2	220	**10 10 16830**

Meas. range °C	Increm. °C	L mm	Order No.
0 – +50	0.1	420	**10 10 16840**
-10 – +50	0.1	420	**10 10 16842**
0 – +100	0.1	550	**10 10 16850**

Other versions available on request.

[1] Filled with toluene
[2] Filled with pentane
[3] Calibratable



webcode WWERJ004

Laboratory Thermometers, Amarell

③ **Enclosed-scale thermometers, calibrated, with official certificate,** unbacked capillary, Richter top, 8 to 9.5 mm dia.

Measuring range °C	Increment °C	Charge	Length mm	Order No.
-50 – +50	1	Tol	300	**16 10 25000**
-100 – +30	1	Tol	300	**10 10 15010**
0 – +100	1	rot	305	**10 10 15301**
0 – +150	1	rot	305	**10 10 15302**
0 – +200	1	rot	300	**10 10 15303**
0 – +50	0.5	rot	220	**10 10 15401**
0 – +100	0.5	rot	270	**10 10 15402**



webcode WWERJ014

Precision Thermometers, Straight Stem, Amarell

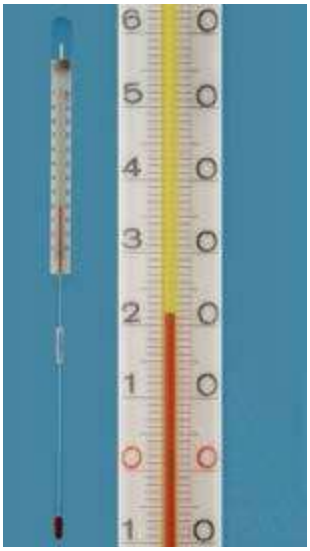
Precision straight stem thermometers, acc. to DIN 12781 and DIN 12770, translucent glass scale, unbacked capillary, upper section 11 mm dia., lower section 7 to 8 mm dia., top closed all round, calibratable.

Measuring range °C	Increm. °C	Charge	Bottom part L mm	Top part L mm	Order No.
-20 – +150	1	red	100	275	**10 10 17012**
-20 – +150	1	red	200	275	**10 10 17013**
-20 – +250	1	blue	100	275	**10 10 17014**
-20 – +250	1	blue	200	275	**10 10 17015**

Further models are available on request.

Laboratory Thermometers

Industrial Thermometers, Amarell



Industrial straight-stem thermometers, translucent glass scale, yellow backed capillary, cork fused all round, upper part 235 × 20 mm, lower part 8 mm dia.

With red special filling

Meas. range °C	In-crem. °C	Bottom part L mm	Order No.
-30 – +50	1	105	**16 10 35001**
-30 – +50	1	213	**16 10 35002**
0 – +100	1	105	**16 10 35004**
0 – +100	1	303	**16 10 35005**

Meas. range °C	In-crem. °C	Bottom part L mm	Order No.
0 – +160	1	105	**16 10 35007**
0 – +160	1	255	**16 10 35008**
0 – +200	1	105	**16 10 35009**
0 – +200	1	213	**16 10 35010**

With green, nontoxic and environment neutral filling

Meas. range °C	In-crem. °C	Bottom part L mm	Order No.
0 – +300	2	105	**10 10 10390**
0 – +300	2	213	**10 10 10394**

Meas. range °C	In-crem. °C	Bottom part L mm	Order No.
0 – +360	2	105	**10 10 10410**
0 – +360	2	213	**10 10 10414**

Further models are available on request.

webcode WWERJ015

Precision Laboratory Thermometers, Ludwig Schneider

webcode WWZT7005

Precision laboratory thermometers “Made in Germany”, calibrateable
- Solid-stem type
- Capillary form: yellow back, round
- Ø 6 ±1 mm, immersion depth: total
- Thermometer with organic, red filling
- With individual serial number
- Standard calibration (WPS & DAkkS) with 3 test points, additional test points available on request

Measuring range °C	Scale °C	Charge	Overall length mm	Immersion depth	calibrateable version Order No.	with factory test certificate Order No.	with DAkkS calibration certificate Order No.
-10 – +100	1	red	305	total	**10 16 52371**	**10 16 57103**	**10 16 57104**
-10 – +150	1	red	305	total	**10 16 52372**	**10 16 57203**	**10 16 57204**
0 – +50	0.1	red	420	total	**10 16 52378**	**10 16 57803**	**10 16 57804**
-10 – +50	0.5	red	220	total	**10 16 52373**	**10 16 57303**	**10 16 57304**
-10 – +100	0.5	red	270	total	**10 16 52374**	**10 16 57403**	**10 16 57404**
-10 – +150	0.5	red	350	total	**10 16 52375**	**10 16 57503**	**10 16 57504**
-10 – +30	0.1	red	300	total	**10 16 52384**	**10 16 58403**	**10 16 58404**
-10 – +50	0.1	red	420	total	**10 16 52379**	**10 16 57903**	**10 16 57904**
-1 – +101	0.1	red	610	total	**10 16 52383**	**10 16 58303**	**10 16 58304**

Precision laboratory thermometers “Made in Germany”, calibrateable
- Enclosed type
- Capillary form: colourless prismatic
- Ø 9 ±1 mm, immersion depth: total
- Thermometer with organic, red filling
- With individual serial number
- Standard calibration (WPS & DAkkS) with 3 test points, additional test points available on request

Measuring range °C	Scale °C	Charge	Overall length mm	Immersion depth	calibrateable version Order No.	with factory test certificate Order No.	with DAkkS calibration certificate Order No.
-10 – +100	1	red	305	total	**10 16 52341**	**10 16 54103**	**10 16 54104**
-10 – +100	0.5	red	270	total	**10 16 52344**	**10 16 54403**	**10 16 54404**
-5 – +100	0.2	red	420	total	**10 16 52347**	**10 16 54703**	**10 16 54704**
-10 – +50	0.1	red	420	total	**10 16 52349**	**10 16 54903**	**10 16 54904**
0 – +50	0.1	red	420	total	**10 16 52348**	**10 16 54803**	**10 16 54804**
-10 – +150	1	red	305	total	**10 16 52342**	**10 16 54203**	**10 16 54204**



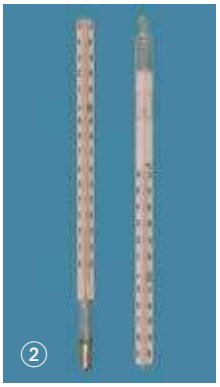
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webcode

Laboratory Thermometers



webcode WWERJ032



Gallium Filled Thermometer, Amarell

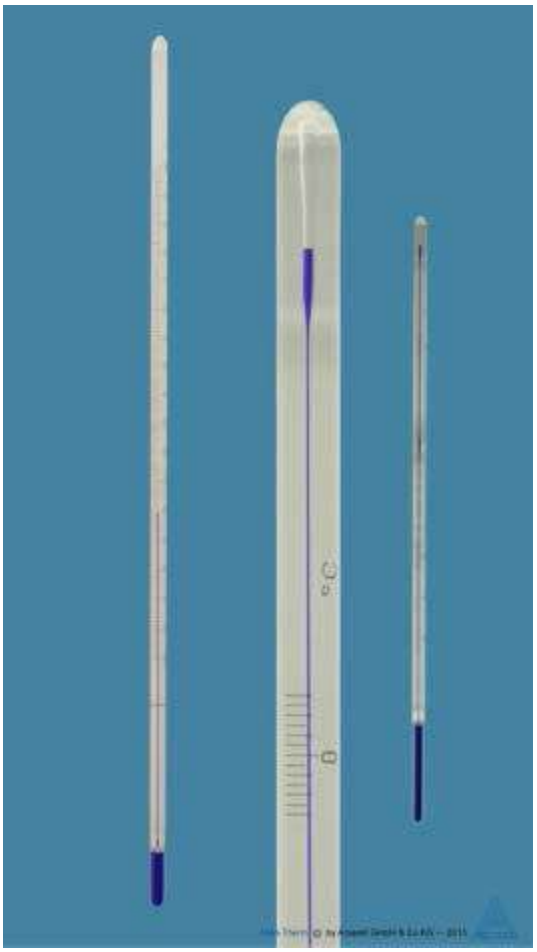
① **Similiar ASTM**
Gllium filled thermometer similiar to ASTM, solid stem, white backed, top finish round, durable pigment, suitable for government verification.

ASTM number	Meas. range °C	Increm. °C	Dimensions	Immersion depth mm	Order No.
2 C	-5 – +300	1	385–395×6–7 mm	76	**10 10 10030**
3 C	-5 – +400	1	410–420×6–7,5 mm	76	**10 10 10050**
7 C	-2 – +300	1	380–390×6–8 mm	total immersion	**10 10 10110**
8 C	-2 – +400	1	380–390×6–8 mm	total immersion	**10 10 10130**
10 C	+90 – +370	2	285–295×6–7 mm	57	**10 10 10170**
11 C	-6 – +400	2	305–315×6–8 mm	25	**10 10 10190**

② **Similiar DIN**

Article	Order No.
Thermometer L25910-GA Precision thermometer, similar DIN, enclosed scale, 0+359:1°C, capillary prismatic colourless, gallium filled, 380 × 8.5 – 9 mm, total immersion, Richter-top finish with button, suitable for government verification	**10 10 15910**

webcode WWERJ030



ASTM Thermometers, Amarell

ASTM precision thermometer, solid stem, white backed, with special inner capillary coating, with blue non-wetting special filling, with factory test certificate (1 test item).

ASTM number	ASTM designation	Measuring range °C/°F	Graduation °C/°F	Order No.
S5C	Cloud and Pour	-38 – +50	1	**10 10 18012**
S5F	Cloud and Pour	-36 – +120	2	**10 10 18014**
S12C	Density-Wide Range	-20 – +102	0.2	**10 10 18040**
S12F	Density-Wide Range	-5 – +215	0.5	**10 10 18042**
S15C	Low Softening Point	-2 – +80	0.2	**10 10 18050**
S15F	Low Softening Point	+30 – +180	0.5	**10 10 18052**
S18C	Reid Vapor Pressure	+34 – +42	0.1	**10 10 18062**
S18F	Reid Vapor Pressure	+94 – +108	0.2	**10 10 18064**
S22C	Oxidation Stability	+95 – +103	0.1	**10 10 10778**
S22F	Oxidation Stability	+204 – +218	0.2	**10 10 18080**
S56C	Bomb Calorimeter	+19 – +35	0.02	**10 10 18164**
S56F	Bomb Calorimeter	+66 – +95	0.05	**10 10 18166**
S58C	Tank	-34 – +49	0.5	**10 10 18172**
S58F	Tank	-30 – +120	1	**10 10 18174**
S59C	Tank	-18 – +82	0.5	**10 10 18176**
S59F	Tank	0 – +180	1	**10 10 18178**
S62C	Precision	-38 – +2	0.1	**10 10 18188**
S62F	Precision	-36 – +35	0.2	**10 10 18190**
S63C	Precision	-8 – +32	0.1	**10 10 18192**
S63F	Precision	+18 – +89	0.2	**10 10 18194**
S64C	Precision	+25 – +55	0.1	**10 10 18196**
S64F	Precision	+77 – +131	0.2	**10 10 18198**
S65C	Precision	+50 – +80	0.1	**10 10 18200**
S65F	Precision	+122 – +176	0.2	**10 10 18202**
S66C	Precision	+75 – +105	0.1	**10 10 18204**
S66F	Precision	+167 – +221	0.2	**10 10 18206**
S67C	Precision	+95 – +155	0.2	**10 10 18208**
S67F	Precision	+203 – +311	0.5	**10 10 18210**
S91C	Solidification Point	+20 – +50	0.1	**10 10 18286**
S116C	Bomb Calorimeter	+18.9 – +25.1	0.01	**10 10 18344**
S117C	Bomb Calorimeter	+23.9 – +30.1	0.01	**10 10 18346**
S120C	Kinematic Viscosity	+38.6 – +41.4	0.05	**10 10 18356**
S130C	Tank	-7 – +105	0.5	**10 10 18382**
S130F	Tank	+20 – +220	1	**10 10 18384**

Laboratory Thermometers

ASTM Thermometers ACCU-SAFE, Ludwig Schneider

- Highly precise lab thermometer “Made in Germany”, solid-stem type, capillary form: white back
- With individual serial number
- Also available in °F
- Standard calibration (WPS and DAkkS) with 3 test points, additional test points available on request

webcode WWZT7004



ASTM-Thermometers – ACCU-SAFE – with blue, environmental safety filling, calibrateable

ASTM number	Measuring range °C	Scale °C	Overall length mm	Immersion depth mm	with certificate of conformity **Order No.**	with factory test certificate **Order No.**	with DAkkS calibration certificate **Order No.**
S5C	-38 – +50	1	260	108	**10 16 54005**	**10 16 53105**	**10 16 53405**
S12C	-20 – +102	0.2	435	total	**10 16 54012**	**10 16 53112**	**10 16 53412**
S15C	-2 – +80	0.2	415	total	**10 16 54015**	**10 16 53115**	**10 16 53415**
S18C	+34 – +42	0.1	300	total	**10 16 54018**	**10 16 53116**	**10 16 53416**
S22C	+95 – +103	0.1	300	total	**10 16 54022**	**10 16 53122**	**10 16 53422**
S56C	+19 – +35	0.02	610	total	**10 16 54056**	**10 16 53156**	**10 16 53456**
S58C	-34 – +49	0.5	300	total	**10 16 54058**	**10 16 53158**	**10 16 53458**
S59C	-18 – +82	0.5	300	total	**10 16 54059**	**10 16 53159**	**10 16 53459**
S62C	-38 – +2	0.1	401	total	**10 16 54062**	**10 16 53162**	**10 16 53462**
S63C	-8 – +32	0.1	401	total	**10 16 54063**	**10 16 53163**	**10 16 53463**
S64C	+25 – +55	0.1	401	total	**10 16 54064**	**10 16 53164**	**10 16 53464**
S65C	+50 – +80	0.1	401	total	**10 16 54065**	**10 16 53165**	**10 16 53465**
S66C	+75 – +105	0.1	401	total	**10 16 54066**	**10 16 53166**	**10 16 53466**
S67C	+95 – +155	0.2	401	total	**10 16 54067**	**10 16 53167**	**10 16 53467**
S91C	+20 – +50	0.1	390	76	**10 16 54091**	**10 16 53191**	**10 16 53491**
S116C	+18.9 – +25.1	0.01	615	total	**10 16 54116**	**10 16 53216**	**10 16 53516**
S117C	+23.9 – +30.1	0.01	615	total	**10 16 54117**	**10 16 53217**	**10 16 53517**
S120C	+38.6 – +41.4	0.05	300	total	**10 16 54120**	**10 16 53220**	**10 16 53520**
S130C	-7 – +105	0.5	300	total	**10 16 54130**	**10 16 53230**	**10 16 53530**

Bottle Thermometers, Ludwig Schneider

Bottle thermometers are precision test instruments for monitoring cooling and temperature control devices.



LUDWIG SCHNEIDER

webcode WWZT7008

Bottle thermometer, suitable for calibration, with safety coating

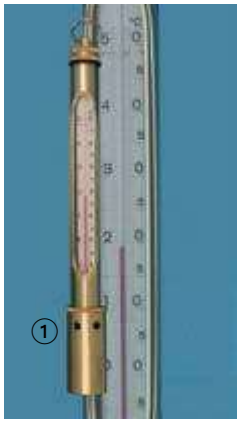
- With FEP/PTFE safety coating
- With individual serial number
- Standard calibration (WPS and DAkkS) with 3 test points, additional test points available on request

Application	Meas. range °C	Scale °C	Charge	L mm	Vol. ml	Mat.	Bottle filling	with certificate of conformity **Order No.**	with factory test certificate **Order No.**	with DAkkS calibration certificate **Order No.**
Freezer	-90 – +20	1	red	180	60	PETG	sand	**10 16 50111**	**10 16 50103**	**10 16 50104**
Freezer	-25 – -5	0.1	blue	235	60	PETG	EGWG[1)]	**10 16 51111**	**10 16 51103**	**10 16 51104**
Freezer	-30 – 0	0.5	red	130	30	PETG	EGWG[1)]	**10 16 50112**	**10 16 50203**	**10 16 50204**
Refrigerator	-2 – +10	0.1	blue	230	60	PETG	EGWG[1)]	**10 16 51112**	**10 16 51203**	**10 16 51204**
Refrigerator	-5 – +15	0.5	red	130	30	PETG	EGWG[1)]	**10 16 50114**	**10 16 50403**	**10 16 50404**
Blood bank freezer	-5 – +20	0.5	red	150	250	PETG	EGWG[1)]	**10 16 50113**	**10 16 50303**	**10 16 50304**
Blood bank freezer	-2 – +10	0.1	blue	230	250	PETG	EGWG[1)]	**10 16 51113**	**10 16 51303**	**10 16 51304**
Incubator	+15 – +30	0.1	blue	180	60	PETG	EGWG[1)]	**10 16 51114**	**10 16 51403**	**10 16 51404**
Incubator	+18 – +50	0.5	red	130	30	PETG	EGWG[1)]	**10 16 50115**	**10 16 50503**	**10 16 50504**
Incubator	+25 – +45	0.1	blue	190	60	PETG	EGWG[1)]	**10 16 51115**	**10 16 51503**	**10 16 51504**
Oven	+20 – +130	1	red	135	30	PC	vermiculite	**10 16 50116**	**10 16 50603**	**10 16 50604**
Oven	+35 – +200	1	red	180	60	PFA	vermiculite	**10 16 50117**	**10 16 50703**	**10 16 50704**
Oven	+50 – +115	0.5	blue	240	60	PC	vermiculite	**10 16 51116**	**10 16 51603**	**10 16 51604**

[1)] EGWG = Ethylene-Glycol-Mixture

Your specialized laboratory dealer –
fast, competent and economical

Laboratory Thermometers



webcode WWERJ011

Well Scoop Thermometers, suitable for Government Verification, Amarell

① **Well Scoop Thermometers, suitable for Government Verification**
in special brass enclosure, unbacked capillary, bucket 32 mm dia., 70 mm high.

Meas. range °C	Increm. °C	Charge	Order No.
0 – +50	0.5	red	**16 10 29002**
-20 – +60	0.5	red	**10 10 16138**

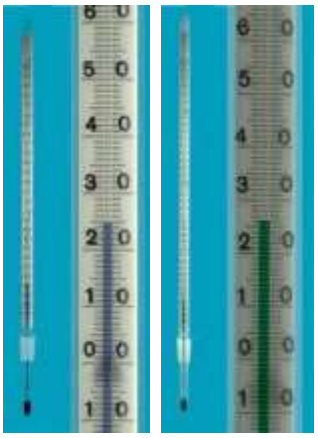
Meas. range °C	Increm. °C	Charge	Order No.
-5 – +20	0.2	red	**16 10 29003**

Spare thermometer acc. to DIN 12770
without brass enclosure, approx. 250 mm long

Meas. range °C	Increm. °C	Charge	Order No.
0 – +50	0.5	red	**16 10 29020**
-20 – +60	0.5	red	**10 10 16268**

Meas. range °C	Increm. °C	Charge	Order No.
-5 – +20	0.2	red	**16 10 29021**

Ground Thermometers



webcode WWERJ008

Thermometers with Ground Joint, Amarell

Thermometers with ground joint, standard ground joint 14,5/23, enclosed scale type, capillary unbacked, filled with red/blue/green filling, upper section 11 mm dia., lower section 7 to 8 mm dia., Richter top, verifiable or calibratable.

Measuring range °C	Increm. °C	Charge	Capillary	Installed L mm	Top part L mm	Order No.
-10 – +150	1	red	unbacked	75	250	**16 10 17000**
-10 – +250	1	blue	unbacked	75	300	**16 10 17001**
-10 – +360[1)]	1	green	unbacked	75	350	**10 10 17031**
-10 – +150	1	red	unbacked	100	250	**16 10 17002**
-10 – +250	1	blue	unbacked	100	300	**16 10 17003**

[1)] calibratable
Installed length = Lower section + Ground joint

Digital Thermometers





webcode WWERJ022



Digital Thermometers, Amarell

Universal thermometers “Maxi-T” and “Maxi-Pen”
Water-protected, -50 +200 : 0.1°C, with °F selection function, hold function, Maximum-Minimum memory, 125 × 3.5 mm stainless steel sensor and insertion tip. Complete with battery in a sheath.
Special features:
water-protected, Maximum-Minimum memory, for general use in the laboratory.

Article	Order No.
① Universal thermometer “Maxi-T”	**68 10 67916**
② Universal thermometer “Maxi-Pen”	**68 10 67918**

Precise max./min. thermometer “Speed Lab”
Water-proof, IP 67, very fast stainless steel sensor with spike end. Hold function for saving the current display indication. With maxima-minima memory; high accuracy.

Technical data:

Sensor (L×Ø):	75 × 2,5 mm
Weight:	approx. 70 g
Measuring range:	-50 to +200°C
Accuracy:	±0,5°C (-10 to +100°C)
Battery life:	approx. 5700 h

Article	Order No.
③ Max./min. thermometer “Speed Lab”	**10 10 17920**

On request, this model is also available for the measuring range of -50 to +300 °C.

Digital Thermometers

Digital Pocket Thermometers, Amarell

Stainless steel sensor with insertion tip, hold function for saving the current readout, On/Off switch, protective sheath for fastening like a ball point pen.

Technical data:

Sensor (L × dia.):	125 × 3.5 mm
Weight:	approx. 42 g
Measurement range:	-50 to +200°C
Accuracy:	better than ±1°C (-20 to 100°C)
Battery life:	approx. 5000 h

Article	Order No.
Digital pocket thermometer MULTI	**68 10 00001**



webcode WWERJ018

PRECISION

Digital Pocket Thermometers VARIO, Amarell

webcode WWERJ019

Digital pocket thermometer

New: with adjustable head, stainless steel sensor with insertion tip and protective sheath for fastening like a ball-point pen, Max/Min memory. Low price.

Technical data:

Sensor (L × dia.):	125 × 3.5 mm
Weight:	approx. 45 g
Measurement range:	-50 to 200°C
Accuracy:	better than ±1°C (-20 to 100°C)
Battery life:	approx. 5000 h

Article	Order No.
① Digital pocket thermometer VARIO	**68 10 43516**

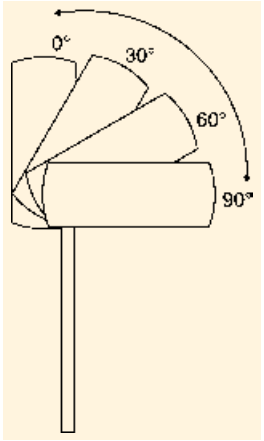




Labo Clip - quick-acting holder for all kinds of laboratory equipment

(e.g. test tubes, thermometers, pH meters etc.)
5 insertion options with various diameters, all metal parts made of V2A, cellular rubber disk for use from -40 to 120°C, sturdy construction.

Article	Order No.
② Labo Clip	**68 10 43520**



Electronic Digital Thermometers, Amarell

ama-digit series of digital thermometers

All models are available at a surcharge in a case (see below).

Article	Order No.
③ **ama-digit ad 14th**	**68 10 41401**

Complete with stainless steel sensor

External dimensions:	90 × 60 × 25 mm
Sensor (L × dia.):	100 × 2.5 mm
Measuring range:	-35 to 500°C
Graduation:	1°C

Article	Order No.
ama-digit ad 13th	**68 10 41410**

Complete with fast-reacting wire sensor
Model same as above, except:

Measuring range:	-35 to 300°C
Graduation:	1°C



webcode WWERJ020

Continued on next page

webcode To see other variants and accessories, please enter the webcode on our website.

Digital Thermometers





① **ama-digit ad 15th**
Complete with stainless steel sensor
External dimensions: 90 × 60 × 25 mm
Sensor (L × dia.): 30 × 2.5 mm
Measuring range: -40 to 120°C
Graduation: 0.1°C

Article	Housing color	Order No.
ama-digit ad 15th	black	**68 10 41501**
ama-digit ad 15th	yellow	**68 10 41502**
ama-digit ad 15th	blue	**68 10 41503**
ama-digit ad 15th	red	**68 10 41504**
ama-digit ad 15th	green	**68 10 41505**

② **ama-digit ad 20th**
Without sensor
External dimensions: 90 × 60 × 25 mm
Measuring range: -50 to 300°C
Resolution: 0.1°C from -50 to 180°C and
1°C above +180°C (automat. selection)

Article	Order No.
ama-digit ad 20th	**68 10 42001**

Pt-100 temperature sensors for ama-digit ad 20th
With handle, PVC connection cable, stainless steel sensor tube.
Cable length: approx. 100 cm
Sensor (L × dia.): approx. 105 × 3.0 mm

Article	Order No.
Immersion sensor	**68 10 42010**
Insertion sensor	**68 10 42011**
Air sensor with exposed sensor element	**68 10 42012**
Surface sensor	**68 10 42013**

webcode WWERJ027

Precision Thermometers, Amarell



Precision Thermometer Precisa - ad 3000 th
Electronic manual thermometer with ultra-fine resolution 0.001°C for highly precise measurement tasks, water-protected according to IP 65. Device complete with probe and stable case, with max/min memory.
- high accuracy
- good long-term stability
- favourable price

Technical data:
Measurement range: -20 – +150ºC
Resolution: 0.001ºC
Protection: IP 65
Temperature sensor: Pt 1000 4-conductor, 150 × 3.0 mm
Reproducibility: ±0.01ºC, from 0 – +100ºC
Cable length: 1200 mm
Battery: 9V 6F22 block battery
Housing (W×H×D): 150 × 80 × 32 mm

Article	Order No.
Precision thermometer Precisa - ad 3000 th	**10 10 11500**

Accessories

Article	Order No.
Serial interface RS 232	**10 10 11510**
Software	**10 10 11520**
9V power supply	**10 10 11530**

Thermo-Timers, LAT



webcode WWW4U055

Easy to use instrument for taking simultaneous temperature and time measurements.
- Alarm sounded when the selected temperature limit is reached
- 1 m of heat-resistant cable with encapsulated probe (stainless steel)
- Measurement range from -10°C to 200°C
- Clock / Timer / Stopwatch
- Stand-up display with battery and fastening magnet

Article	Order No.
Thermotimer	**68 73 10200**

Digital Thermometers

Jacket Thermocouples, LAT

webcode WWW4U052

① **Jacket Thermocouples**
Mineral-insulated jacket thermocouples NiCr-NiAl(K), for use up to 1100°C. Jacket material: Inconel, thermal wires embedded in magnesium oxids. With fixed compensation leads, 1 m long (others on request). Max. temperature of cold soldered joints: 80°C.

Length mm	Ø mm	Order No.	Length mm	Ø mm	Order No.
150	0.5	**68 73 05151**	250	1.5	**68 73 05253**
150	1.0	**68 73 05152**	250	3.0	**68 73 05254**
150	1.5	**68 73 05153**	300	0.5	**68 73 05301**
150	3.0	**68 73 05154**	300	1.0	**68 73 05302**
200	0.5	**68 73 05201**	300	1.5	**68 73 05353**
200	1.0	**68 73 05202**	300	3.0	**68 73 05354**
200	1.5	**68 73 05203**	500	0.5	**68 73 05501**
200	3.0	**68 73 05204**	500	1.0	**68 73 05502**
250	0.5	**68 73 05251**	500	1.5	**68 73 05503**
250	1.0	**68 73 05252**	500	3.0	**68 73 05504**

Accessories

Article	Order No.
② **Thermometer EMT 50**	**68 73 05000**
Measuring ranges:	-100 to 1200°C, 1.0°C -50 to 199.9°C, 0.1°C
Input:	miniature socket



① ②

Digital Thermometers, Ludwig Schneider

Digital temperature measuring units for process and quality control
They are suitable for use in the food industry.


③ ④

webcode WWZT7010

Article	Order No.
③ **Digital push-in thermometer type 12050**	**10 16 55685**

Case 75 × 20 mm black, measuring range -50 to +150°C, accuracy ± 1°C, temp. sensor (downwards) 120 × 3.5 mm made of stainless steel, with push-in tip, with plastic sleeve and clip, max/min memory and automatic deactivation

Article	Order No.
④ **Digital push-in thermometer with 90° turnable casing type 12070**	**10 16 55681**

Measuring range -50 to +300°C, accuracy ±1°C to 150°C, above ±2°C, case 75 × 20 mm black, 90° rotatable, temp. sensor (downwards) 200 × 3.5 mm made of stainless steel, with push-in tip, with plastic sleeve and clip, max/min memory and automatic deactivation

Article	Order No.
⑤ **Waterproof digital pocket thermometer type 12090**	**10 16 55686**

Size 188 × 24 × 20 mm, waterproof IP 67, measuring range -50 to +150°C/-58 to +302°F, accuracy ±1°C, temp. sensor 85 × 3.5 mm with push-in tip made of stainless steel, with plastic sleeve in white, with °C/°F selection, hold function, automatic deactivation

Article	Order No.
⑥ **Digital measuring instrument with temperature probetype 12200**	**10 16 55684**

Case 140 × 75 × 27 mm anthracite, waterproof version IP 67, measuring range -50 to +300°C/-58 to +572°F, accuracy ±1°C until 150°C above ±2°C, with °C/°F selection min/max memory, high/low alarm, hold function, temp. sensor with 1 m cable and handle 140 × 3.5 mm, with push-in tip made of stainless steel

Article	Order No.
⑦ **Data logger type 15010**	**10 16 58260**

Freezer thermometer with min./max. alarm memory, dimensions: 94 × 110 × 25 mm, measuring range external: -50+70°C /-58+158°F, resolution 0.1°, accuracy: ± 0.5°C / 0.9°F, plug-in probe in 5 ml plastic bottle, filled with ethylene glycol mixture, accessories: 1 Mini USB cable 1 m long, 1 power pack 100–240 V, 1 micro SD card / USB adapter, one certificate (conformity & accuracy), °C/°F selection, min/max memory, high/low alarm, date/time display, data logger



⑤ ⑥ ⑦

Continued on next page

webcode To see other variants and accessories, please enter the webcode on our website.

Digital Thermometers



① **Digital min/max-alarm thermometer type 13030**
Digital min/max-alarm thermometer, display of 3 temperatures, with memory andtime, case 75 × 124 × 19 mm, measuring range -50 to +70°C /-58 to +158°F, resolution 0.1°, accuracy ±0.3°C/0.5°F, plug-in probe with 3 m cable in 5 ml plastic bottle, filled with ethylene glycol mixture, with °C/°F selection, min/max memory, high/low alarm, date/time display, one certificate (conformity & accuracy)

Article	Order No.
Digital thermometer type 13030, calibrateable with certificate (conformity & accuracy)	**10 16 55809**

Article	Order No.
Digital thermometer type 13030, with factory test certificate • 2-point calibration	**10 16 59032**

Article	Order No.
Digital thermometer type 13030, with DAkkS calibration certificate • 2-point calibration • Traceable to national standard	**10 16 59042**



② **Digital min/max-alarm thermometer type 13000**
Digital bottle thermometer for monitoring freezers and refrigerators as well as incubators.

- Retraceable to international reference standards
- Comes with Certificate of Conformity and Certificate of Accuracy
- Optionally available with factory test certificate or DAkkS calibration certificate
- °C/°F selection, min/max memory, high/low alarm
- Measuring range -50+70°C & -58+158°F, resolution 0.1°C, accuracy: ± 1°C/2°F
- Complete with PETG bottle 30 ml with ethylene glycol mix

Certif. temp. °C	Application	Order No.
-20	controlling of freezers	**10 16 53891**
0	ice point	**10 16 53892**
+4	refrigerators	**10 16 53893**
+37	incubators/water baths	**10 16 53894**
+21	climate chambers	**10 16 53895**

Data Logger, Ludwig Schneider

webcode WWZT7015



4-Channel datalogger for temperature type 15210, suitable for thermocouples type K, J, E, T, N, R, S

Technical data:

Measuring range:	-200 to +1370°C/-328 to +2498°F (Typ K)
Resolution:	0,1°C/0,1°F; from 600°C 1°C/1°F
Accuracy:	±0,1% of measured value +(+0,7°C/+1,4°F)
Memory:	32000 data logger records each channel
Casing:	187 × 75 × 29 mm, black, plastic
Features::	°C/°F selection, min/max/avg-memory
Display:	4 Channel simultaneous, backlight, hold, battery indications

Data transfer via Bluetooth oder USB

Article	Order No.
③ **4-Channel datalogger for temperature type 15210** Scope of supply: 2 temperature probe type K with blade terminal (1 m cable length), software, bluetooth adapter, micro-USB cabel, carrier bag	**10 16 50538**

Digital measuring device with 2 input channels type 13100, suitable for thermocouples type K

Technical data:

Measuring range:	-200 to +1370°C/-328 to +2498°F
Resolution:	0.1°C/0.1°F
Accuraca:	±0.1% +0.7°C/+1.4°F
Casing:	184 × 64 × 30 mm, anthracite
Features:	°C/°F selection, min/max/avg-memory, hold, automatic deactivation, relative function

PC interface

Article	Order No.
④ **Digital measuring device with 2 input channels type 13100** Scope of supply: bag and 2 temperature sensors type K with blade terminal	**10 16 55625**

Continued on next page

Digital Thermometers

⑤ **Thermocouple type K to immerse**
Mineral-insulated thermocouple 1 × NiCr-Ni type K acc. to DIN EN 60584 Class 1, with miniature plug yellow (THERM 2), sheath made of Inconel, compensating line fix connected through transition casing made of stainless steel, silicon/teflon insulated, cable length 2 m, cable outlet secured by means of heat-shrink tubing.

Article		Order No.
Type K thermocouple to immerse (NiCr-Ni)		**10 16 57499**
Sheat Ø:	3 mm	
Nominal length:	250 mm	
Range of application:	-100°C to +400°C	
Type K thermocouple to immerse (NiCr-Ni)		**10 16 50011**
Sheat Ø:	3 mm	
Nominal length:	400 mm	
Range of application:	-100°C to +800°C	
Type K thermocouple to immerse (NiCr-Ni)		**10 16 50014**
Sheat Ø:	1 mm	
Nominal length:	250 mm	
Range of application:	-100°C to +400°C	

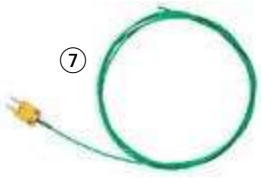


④

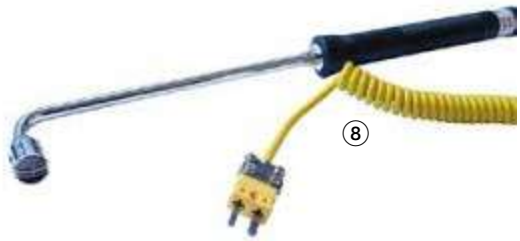
Further thermocouples type K

Article		Order No.
⑥ **Type K thermocouple to insert (NiCr-Ni), with handle**		**10 16 51121**
Mineral-insulated thermocouple 1 × NiCr-Ni type K acc. to DIN EN 60584 Class 2, with miniature plug yellow (THERM 2), made of Inconel, compensating line fix connected through handle made of plastic, silicon/teflon insulated, cable length 2 m, cable outlet secured by means of bend protection.		
Sheat Ø:	3 mm	
Nominal length:	250 mm	
Range of application:	-100°C to +250°C	
⑦ **Type K thermoelectric lead**		**10 16 51125**
Thermocouple type K acc. to DIN EN 60584 Class 2, with miniature plug yellow (THERM 2), thermocouple wire Ø 0.5 mm separately and jointly, insulated with glass silk, thermocouple junctions 2 mm free.		
Length:	2000 mm	
Range of application:	-100°C to +300°C	
⑧ **Type K thermocouple for special applications, with handle**		**10 16 55862**
Surface probe with handle acc. to DIN EN 60584 Class 2, with miniature plug yellow (THERM 2), cable length: 2 m.		
Head Ø:	15 mm	
Range of application:	-50°C to +400°C	
Version:	90° angled	


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⑧

Have any questions?
Just give us a call!

webcode WWZT7014

LUDWIG SCHNEIDER

Digital Thermometers

PHYSICS 100-2 – Digital Measuring Device, Ludwig Schneider



①

PHYSICS 100-2 – Digital measuring device for precise measurements
For highest precision we provide our PHYSICS measuring device for precise measurements in meteorology, chemical, biotechnology, food industries, water analytics, science and research as well as for quality assurance or inspection equipment monitoring in the industrial sector.

General technical data:

Output:	2 output channels
Display:	2 lines, statically 7/16 segments
Display illumination:	2 LEDs, white
Operating elements:	7 silicone keys
Casing:	ABS (max. 70 °C), light grey
Degree of protection:	IP54, dust- and splash-proof
Dimensions (L×B×H):	127 × 83 × 42 mm
Weight:	290 g

Further general features:

Test functions:	segment monitoring, range monitoring, probe error check, battery check
Measuring functions:	measuring value, zero-setting, max./min. value documentation, 2-step adjustment, scaling (optional: multi-point calibration for temperature values)
Function menu:	min/max values, average value of time, individual values or measuring points
Interfaces:	USB, RS232, Ethernet, Bluetooth, analogue
Language selection:	German, English, French

Technical data:

Probes:	thermocouples, resistance thermometers, NTC, humidity, pressure and more
Measuring input:	2 input channels
Galvanic isolation:	semiconductor relais (50 V)
Channels:	4 function channels e.g. for dual probes, 4 internal functions (e.g. difference)
AD converter:	Delta-Sigma 16 bit, 2.5 or 10 M/s
Probe voltage:	battery operation 9 V, max. 150 mA, mains operation 12 V, max. 150 mA
Resolution:	0.01°C
Probe display:	intelligent probe display with probe specific functions (cold-junction compensation etc.)

	Article	Order No.
①	Digital measuring device PHYSICS 100-2	**10 16 53874**



②



③

Probes

Thermocouple to immerse with handle type K (NiCr-Ni)
Thermocouple with handle type K (NiCr-Ni), acc. to DIN EN 60584 Class 2, made of Inconel, compensating line fix connected through handle made of plastic, teflon/silicone insulated, cable length: 2 m, cable outlet secured by means of bend protection, plug PHYSICS resolution 0.1°C

Technical data:

Sheat Ø:	3 mm
Nominal length:	250 mm
Range of application:	-100°C to +400°C

	Article	Order No.
②	Thermocouple with handle type K (NiCr-Ni)	**10 16 59962**

Pt100 resistance thermometer to immerse
Immersion resistance thermometer Pt100, acc. to DIN EN 60751 Class A or AA, 4-wire connection, with sheathed cable made of stainless steel, compensating line fix connected through transition casing made of stainless steel, teflon/silicone insulated, cable length: 2 m, cable outlet secured by means of heat-shrink tubing.
Plug PHYSICS resolution 0.01°C (class A)

Technical data:

Sheat Ø:	3 mm
Nominal length:	300 mm
Range of application:	-90°C to +350°C

	Article	Order No.
③	Immersion resistance thermometer Pt100	**10 16 57136**

Continued on next page

Digital Thermometers

Pt100 resistance thermometer made of glass (N16B)
Labor resistance thermometer of glass Pt100, acc. to DIN EN 60751 Class A, 4-wire connection, with glass shaft Ø 6 mm, narrowed at sensor to Ø 3 mm, compensating line fix connected through transition casing made of stainless steel, teflon/silicone insulated, cable length: 2 m, cable outlet secured by means of heat-shrink tubing.
Plug PHYSICS resolution 0.01°C (class A)

Technische Daten:

Glass shaft Ø:	3/6 mm
Nominal length:	200 mm
Range of application:	-50°C to +250°C

	Article	Order No.
④	Resistance thermometer made of glass Pt100	**10 16 57152**



④

Pt100 resistance thermometer PTFE coated
Cable resistance thermometer Pt100, acc. to DIN EN 60751 Class A, 4-wire connection, compensating line directly connected with protective conduit made of stainless steel, VA-wire netting/teflon insulated, cable length: 2 m, with PTFE coating from measuring tip to +20 mm connection cable.
With plug PHYSICS resolution 0.01°C (class A)

Technical data:

Protective conduit Ø:	6 mm
Nominal length:	150 mm
Range of application:	-50°C to +200°C

	Article	Order No.
⑤	Resistance thermometer Pt100, PTFE coated	**10 16 57178**



⑤

Thermometers, Testo / IDL

webcode WWJ9J004

testo 925 thermometer
The one channel temperature measuring instrument for connection to reliable, fast-action thermocouple probes.
An additional temperature probe can be displayed in testo 925; data is transmitted by radio, i.e. wirelessly.
An audible alarm sounds if limit values are exceeded. Current measurement data such as max/min data can be printed on site on the Testo printer
- 1 channel measuring instrument with optional radio probe.
- Wide range of probes
- Continuous display of max/min values
- Hold button to freeze reading
- TopSafe, indestructible case, protects from dirt and impact (optional)
- Display light

Technical data:

Probe type:	type K (NiCr-Ni)
Meas. range:	-50 to +1000°C
Accuracy:	±(0.5°C +0.3% v.Mw.) (-40 to +900°C) ±(0.7°C +0.5% v.Mw.) (remaining range)
Resolution:	0.1°C (-50 to +199.9°C) 1°C (remaining range)
Case:	ABS
Dimensions:	182 × 64 × 40 mm
Weight:	171 g
Battery type:	alkaline-manganese
Battery life:	200 h (connected probe, light off) 45 h (radio mode, light off) 68 h (connected probe, light always on) 33 h (radio mode, light always on)
Operating temperature:	-20 to +50°C
Storage temperature:	-40 to +70°C
Warranty:	2 years

	Article	Order No.
⑥	**testo 925 instrument** single-Kanal TE thermometer type K, acoustic alarm, connection of one optional radio probe, incl. battery and calibration protocol	**68 09 09250**



⑥

Continued on next page

webcode To see other variants and accessories, please enter the webcode on our website.

Digital Thermometers



Measuring instument probes

	Article	Order No.
1	**Surface probe** Fast-action, with sprung thermocouple strip, also for uneven surfaces, measurement range short-term to +500°C, TC type K, fixed cable Measuring range: -60 to +300°C Accuracy: Class 2 t_{99}: 3 sec	**68 09 20393**
	Precise and fast immersion probe, water-proof, TE type K	**68 09 20593**
2	**Thermocouple with TE connector, flexible, length 800 mm, glass silk, TE type K**	**68 09 20644**
	Thermocouple with TE connector, flexible, length 1500 mm, glass silk, TE type K	**68 09 20645**
	Thermocouple with TE connector, flexible, length 1500 mm, teflon, TE type K	**68 09 20646**
3	**Water-proof immersion/insertion probe, TE type K**	**68 09 21293**
4	**Robust air probe, TE type K**	**68 09 21793**
5	**Waterproof food probe made of stainless steel (IP65), TE type K**	**68 09 22292**
6	**Fast, water-proof immersion/insertion probe, TE type K**	**68 09 22693**
7	**Pipe wrap probe with exchangeable measuring head, TE type K** for tube diameter 5 – 65 mm, measuring range up to +280°C (short-term)	**68 09 24592**
8	**Magnetic probe for higher temperatures on metallic surfaces, TE type K** adhesive force approx. 10 N with magnets	**68 09 24892**
9	**Immersion tip, flexible, TE Typ K**	**68 09 25792**

Radio

Article	Order No.
Radio module for measuring instrument, 869.85 MHz Approval for the countries DE, FR, UK, BE, NL, ES, IT, SE, AT, DK, FI, HU, CZ, PL, GR, CH, PT, SI, MT, CY, SK, LU, EE, LT, IE, LV, NO	**68 09 40188**
10 **Radio handle for plug-on probe heads, incl. TE adapter** Approval for the countries DE, FR, UK, BE, NL, ES, IT, SE, AT, DK, FI, HU, CZ, PL, GR, CH, PT, SI, MT, CY, SK, LU, EE, LT, IE, LV, NO	**68 09 40189**
TE probe head for air/immersion/insertion measurements (TE Typ K) can be plugged on the radio handle	**68 09 20293**
TE probe head for surface measurement (TE Typ K) attachable to radio handle	**68 09 20394**

Accessories

Article	Order No.
Stand-by case for measuring instrument and probe	**68 09 60182**
9 V rechargeable battery for testo measuring instruments	**68 09 50025**
Testo protocol printer with wireless IRDA and infrared interface, 1 roll of thermal paper and 4 round cell batteries	**68 09 40547**
Spare thermal paper for printer (6 rolls) measurement data documentation with reading life of up to 10 years	**68 09 40568**
Transport case for measuring instrument, 3 probes and accessories	**68 09 60200**
TopSafe, protects against impact and dirt	**10 09 46221**
Extension lead 5 m, for thermoelement probe type K	**68 09 40592**

Thermo-hygrometer testo 608

The hygrometer testo 608-H1 is designed for continuous measurement of humidity, temperature, and dew point. The large display is highly readable also from a larger distance. With hanger and stand for flexible use as table-top or wall unit. The testo 608 has a max. and min. indication and a battery status indicator. Thanks to the long-term stability of the sensor, you will reliably get correct measuring results, even after several years.

As a precise alarm hygrometer, the testo 608-H2 reliably raises alarm if the humidity and temperature values are exceeded, for example in plant nurseries, storage rooms, cleanrooms, museums, laboratories etc.

Technical data:

Measuring rate:	18 sec.
Storage temperature:	-40 to +70°C
Battery type:	9V block battery
Battery life:	approx. 1 year
Weight:	168 g
Dimensions:	111 × 90 × 40 mm
Housing:	ABS
Display:	LCD 2 lines
Warranty:	2 years

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Digital Thermometers

Technical data:	testo 608-H1		testo 608-H2	
sensor types:	NTC	Testo humidity sensor capacitive	NTC	Testo humidity sensor capacitive
Measuring range:	0 to +50°C -20 to +50°Ctd	+10 to +95%rH	-10 to +70°C -40 to +70°Ctd	+2 to +98%rH
Accuracy ±1 Digit:	± 0.5°C (at +25°C)	± 3%rH (+10 to +95%rH)	± 0.5°C (at +25°C)	± 2%rH (+2 to +98%rH)
Resolution:	0.1°C	0.1%rH	0.1°C	0.1%rH
Operating temp.:	0 to +50°C		-10 to +70°C	

Article	Order No.
Thermo-hygrometer testo 608-H1 Humidity-/dew point-/temperature measurement, incl. battery	**10 09 46081**
⑪ **Thermo-hygrometer testo 608-H2** Humidity-/dew point-/temperature measurement with LED alarm, incl. calibration protocol and battery	**10 09 46082**
ISO-calibration certificate humidity Calibration points 11.3%rH and 75.3%rH at +25°C/+77°F; each channel/unit	**10 09 46076**



⑫

Penetration thermometer with large measuring range testo 905-T1
The penetration thermometer testo 905-T1 is intended for reliably measuring the temperature in liquid, soft or powdered substances as well as the air temperature. The thermometer excels by its large measuring range and short reaction time. These benefits are attributable to the premium quality of it thermal element sensor of K type.

Technical data:

Measuring range:	from -50 to +350°C (temporarily up to +500°C)
Precision:	±1°C (-50 to +99°C) ±1% v. Mw. (remaining range)
Resolution:	0,1°C
Response time:	t_{99} = 10 s (in water)

Article	Order No.
⑫ **Penetration thermometer with large measuring range testo 905-T1**	**10 09 49055**



⑪

Accessories: Calibration possible on request.

Climate meter, Testo / IDL

Air conditioning instrument incl. differential manometer testo 440 dP
Precise, reliable measurement of all climate parameters with just one measuring instrument: The multi-function measuring instrument features an integrated differential pressure sensor and ensures intuitive operation with clearly structured measurement menus. Adjusting air conditioning and ventilation systems, monitoring air quality or carrying out comfort level measurements – thanks to versatile options for combining with high-quality, digital probes, you are ideally equipped to carry out your measuring task (please order probes separately).

Technical data:

	Temperature - NTC	Temperature - type TC K (NiCr-Ni)	Differential pressure (integrated sensor) - piezo resistive
Measuring range:	from -40 to +150°C	froom -200 to +1370°C	from -150 to +150 hPa
Accuracy:	±0.4°C (-40 to -25.1°C) ±0.3°C (-25 to +74.9°C) ±0.4°C (+75 to +99.9°C) ±0.5% of meas. v. (residual measuring range)	±(0.3°C + 0.3% of meas. v.)	±0.05 hPa (0 to 1.00 hPa) ±0.2 hPa + 1.5% of meas. v. (1.01 to +150 hPa)
Resolution:	0.1°C	0.1°C	0.01 hPa

Article	Order No.
⑬ **Climate meter incl. differential pressure manometer testo 440 dP**	**10 09 44402**



⑬

webcode WWJ9J054

Climate meter testo 440
Precise, reliable measurement of all climate parameters with just one measuring instrument: The multi-function measuring instrument ensures intuitive operation with clearly structured measurement menus. Adjusting air conditioning and ventilation systems, monitoring air quality or carrying out comfort level measurements – thanks to versatile options for combining with high-quality, digital probes, you are ideally equipped to carry out your measuring task (please order probes separately).

Technical data:

	Temperature - NTC	Temperature - TC type K (NiCr-Ni)
Measuring range:	from -40 to +150°C	from -200 to +1370°C
Accuracy:	±0.4°C (-40 to -25.1°C) ±0.3°C (-25 to +74.9°C) ±0.4°C (+75 to +99.9°C) ±0.5% of meas. v. (residual measuring range)	±(0.3°C + 0.3% of meas. v.)
Resolution:	0.1°C	0.1°C

Article	Order No.
⑭ **Climate meter testo 440**	**10 09 44401**



⑭

Continued on next page

webcode To see other variants and accessories, please enter the webcode on our website.

Digital Thermometers

Climate meter probes

Technical data:

	Measuring range	Accuracy	Resolution
Fume cupboard probe, wired	from 0 to 5m/s from 0 to +50°C from 700 to 1100 hPa	±(0.02 m/s + 0.5% of meas. v.) (0 to 5 m/s) ±0.5°C ±3 hPa	0.01m/s 0.1°C 0.1 hPa
Glass-coated laboratory probe (digital) with Pt100 temperature sensor for measurements in corrosive media	from -50 to +400°C	±(0.3°C + 0.3% of meas. v.) (-50 to +300°C) ±(0.4°C + 0.6% of meas. v.) (-3001 to +400°C)	0.01°C
Highly precise digital immersion probe with Pt100 temperature sensor for measurements in liquids and pastes with an accuracy of up to ±0.05°C	from -80 to +300°C	±0.3°C (-80 to 40.001°C) ±(0.1°C + 0.05% of meas. v.) (-40 to 0.001°C) ±0.05°C (0 to +100°C) ±(0.05°C + 0.05% of meas. v.) (+100.001 to +300°C)	0.001°C

Article	Order No.
Laboratory fume probe, cable-bounded	**10 09 41052**
Glasscoated digital Pt100-laboratory probe	**10 09 47272**
High-precision digital Pt100-penetration probe	**10 09 47172**

Other probes for air speed and relative humidity availabe on request.





webcode WW5PT066

WINLAB®

Soil and Compost Thermometer, WINLAB®

Immersion thermometer in sturdy, user-friendly design, suitable for measuring the temperature in the soil, in compost, straw, and bulk goods.

The waterproof immersion sensor has a stable handle with a non-slip rubber surface for powerful plunging into the soil or compost.

Complete with indicator for thermocouple type K (NiCr-Ni).

Technical data:

Measuring range:	depending on application -100 to 800°C for soil and compost von 0 to 120°C
Accuracy:	±1°C in the range of -20 to +180°C
Diameter of probe:	8 mm

Article	Order No.
Soil and compost thermometer, probe length 500 mm	**10 03 00500**
Soil and compost thermometer, probe length 1000 mm	**10 03 01000**
Soil and compost thermometer, probe length 1500 mm	**10 03 01500**

BOLA Temperature Probes, Bohlender

PTFE Resistance thermometer. Ideal for temperature measurement in aggressive liquids. Platinum temperature sensor at the end of a PTFE-encapsulated stainless steel tube (1.4571).

Technical data:
Temperature probe Ø 8 mm, collar ring Ø 12 mm
4-wire system. Specification: DIN EN 60751
Typical response times: T 50: 7 – 12 s / T 90: 14 – 16 s
Temperature range: from -50°C up to +250°C



① **BOLA temperature probes PT 100 Lemo® Compact**
1 × Lemo® socket size 1 (fixed directly at the end of the probe)

Usable length mm	Overall length approx. mm	Order No.
100	170	**10 17 63010**
300	370	**10 17 63020**
400	470	**10 17 63023**
500	570	**10 17 63025**



② **BOLA double temperature probes PT 100 Lemo® Compact**
2 × Lemo® socket size 1 (fixed directly at the end of the probe)
Independent measuring sensors

Usable length mm	Overall length approx. mm	Order No.
300	400	**10 17 64020**
400	500	**10 17 64023**
500	600	**10 17 64030**

Continued on next page

Digital Thermometers

③ **BOLA temperature probes PT 100 Lemo®, cable ends open**
Cable length 1500 mm

Usable length mm	Overall length approx. mm	Order No.
100	135	**10 17 65010**
200	240	**10 17 65015**
300	340	**10 17 65020**
500	560	**10 17 65025**



④ **BOLA temperature probes PT 100 Lemo®, cable with socket size 1**
Cable length 1500 mm

Usable length mm	Overall length approx. mm	Order No.
100	135	**10 17 67610**
200	240	**10 17 67615**
300	340	**10 17 67620**
500	560	**10 17 67625**



⑤ **BOLA temperature probes PT 100 Lemo® with plug size 1**
Cable length 1500 mm

Usable length mm	Overall length approx. mm	Order No.
100	135	**10 17 66010**
200	240	**10 17 66015**
300	340	**10 17 66020**
500	560	**10 17 66025**



BOLA total immersion probes
Technical data:
Total immersion probe Ø 4 mm, collar ring Ø 5 mm
4-wire system. Specification: DIN EN 60751
Typical response times: T 50: 4 – 6 s / T 90: 6 – 8 s
Temperature range: from -50°C up to +250°C

⑥ **BOLA total immersion probe PT 100**
Cable length 4 m

Usable length mm	Order No.
50	**10 17 67820**



⑦ **BOLA total immersion probe PT 100 Lemo®, cable with socket size 1**
Cable length 4 m

Usable length mm	Order No.
50	**10 17 67920**



Infrared Thermometers

Infrared Thermometer Mini-Flash, LAT

The Mini-Flash determines the exact temperature of an object in an instant, without even touching its surface. Based on the most modern infrared technology, which measures the infrared radiation which every object emits.

Functions:
- °C/°F selector
- Maximum/Minimum memory
- Automatic hold function for approx. 15 seconds
- Lock function for continuous operation

Technical data:

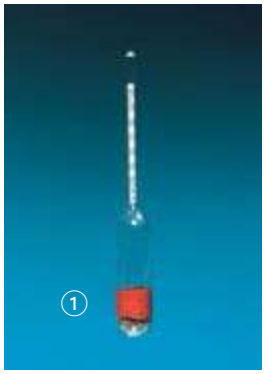
Measuring range:	-33°C to +220°C
Response time:	0.5 sec.
Working temperature:	0 to 50°C
Accuracy:	±1.5°C from 0 to 50°C, otherwise ±2°C or 2%.
Power supply:	1 × button cell CR2032 plastic
Dimensions:	68 × 37 × 18 mm
Weight:	75 g

Article	Order No.
Mini-flash thermometer	**68 73 00220**



webcode WWW4U064

Areometers




②



Areometers without Thermometer, Gering

Overall length approx. 280 mm, scale value 0.002 g/ml (20°C)

Range	Order No.
0.600 – 0.800	**16 60 32001**
0.800 – 1.000	**16 60 32002**
1.000 – 1.200	**16 60 32003**
1.200 – 1.400	**16 60 32004**

Range	Order No.
1.400 – 1.600	**16 60 32005**
1.600 – 1.800	**16 60 32006**
1.800 – 2.000	**16 60 32007**

Overall length approx. 160 mm, scale value 0.001 g/ml (20°C).

Range	Number	Order No.
0.600 – 0.660	00	**16 60 33001**
0.650 – 0.710	0	**16 60 33002**
0.700 – 0.760	1	**16 60 33003**
0.760 – 0.820	2	**16 60 33004**
0.820 – 0.880	3	**16 60 33005**
0.880 – 0.940	4	**16 60 33006**
0.940 – 1.000	5	**16 60 33007**
1.000 – 1.060	6	**16 60 33008**
1.060 – 1.120	7	**16 60 33009**
1.120 – 1.180	8	**16 60 33010**
1.180 – 1.240	9	**16 60 33011**
1.240 – 1.300	10	**16 60 33012**

Range	Number	Order No.
1.300 – 1.360	11	**16 60 33013**
1.360 – 1.420	12	**16 60 33014**
1.420 – 1.480	13	**16 60 33015**
1.480 – 1.540	14	**16 60 33016**
1.540 – 1.600	15	**16 60 33017**
1.600 – 1.660	16	**16 60 33018**
1.660 – 1.720	17	**16 60 33019**
1.720 – 1.780	18	**16 60 33020**
① 1.780 – 1.840	19	**16 60 33021**
1.840 – 1.900	20	**16 60 33022**
1.900 – 1.960	21	**16 60 33023**
1.960 – 2.020	22	**16 60 33024**

Complete set with locator in a case
Overall length approx. 160 mm

Article	Order No.
② 24 areometers, range: 0.600 to 2.020 and locator	**16 60 33500**

Series M 100
Overall length ca. 245 mm, scale value 0.002 g/ml (20°C), calibratable.

Range	Order No.
0.600 – 0.700	**16 60 34001**
0.700 – 0.800	**16 60 34002**
0.800 – 0.900	**16 60 34003**
0.900 – 1.000	**16 60 34004**
③ 1.000 – 1.100	**16 60 34005**
1.100 – 1.200	**16 60 34006**
1.200 – 1.300	**16 60 34007**

Range	Order No.
1.300 – 1.400	**16 60 34008**
1.400 – 1.500	**16 60 34009**
1.500 – 1.600	**16 60 34010**
1.600 – 1.700	**16 60 34011**
1.700 – 1.800	**16 60 34012**
1.800 – 1.900	**16 60 34013**
1.900 – 2.000	**16 60 34014**

Hydrometers, Ludwig Schneider

- Precision hydrometer “Made in Germany” for density measurement of liquids
- Calibratable
- With individual serial number

Density hydrometers, range finder
Ref. temperature: 20°C

Measuring range g/cm³	Scale g/cm³	Overall length mm	Order No.
1.000 – 2.000	0.01	300	**10 16 53011**
1.000 – 1.500	0.005	300	**10 16 53014**

Density hydrometers
- Reference temperature: 20°C
- Available with integrated thermometer (mercury-free)
- Further measuring ranges (up to 4,000 g/cm³) available on request
- Standard calibration (WPS & DAkkS) with 3 test points, additional test points available on request

Measuring range g/cm³	Scale g/cm³	Overall length mm	calibrateable version Order No.	with factory test certificate Order No.	with DAkkS calibration certificate Order No.
0.600 – 0.700	0.001	300	**10 16 53021**	**10 16 55221**	**10 16 55321**
0.700 – 0.800	0.001	300	**10 16 51822**	**10 16 55222**	**10 16 55322**
0.800 – 0.900	0.001	300	**10 16 51823**	**10 16 55223**	**10 16 55323**
0.900 – 1.000	0.001	300	**10 16 51824**	**10 16 55224**	**10 16 55324**
1.000 – 1.100	0.001	300	**10 16 51825**	**10 16 55225**	**10 16 55325**
1.100 – 1.200	0.001	300	**10 16 51826**	**10 16 55226**	**10 16 55326**
1.200 – 1.300	0.001	300	**10 16 51827**	**10 16 55227**	**10 16 55327**
1.300 – 1.400	0.001	300	**10 16 51828**	**10 16 55228**	**10 16 55328**
1.400 – 1.500	0.001	300	**10 16 51829**	**10 16 55229**	**10 16 55329**
1.500 – 1.600	0.001	300	**10 16 51830**	**10 16 55230**	**10 16 55330**

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Areometers

Precision density hydrometers acc. to DIN 12791 – Series L50

- Reference temperature: 20°C
- Available with integrated thermometer (mercury-free)
- Further measuring ranges available on request
- Standard calibration (WPS & DAkkS) with 3 test points, additional test points available on request

Type	Measuring range g/cm³	Scale g/cm³	Overall length mm	calibrateable version **Order No.**	with factory test certificate **Order No.**	with DAkkS calibration certificate **Order No.**
L50-070	0.700 – 0.750	0.0005	335	**10 16 51831**	**10 16 55231**	**10 16 55331**
L50-075	0.750 – 0.800	0.0005	335	**10 16 51832**	**10 16 55232**	**10 16 55332**
L50-080	0.800 – 0.850	0.0005	335	**10 16 51833**	**10 16 55233**	**10 16 55333**
L50-085	0.850 – 0.900	0.0005	335	**10 16 51834**	**10 16 55234**	**10 16 55334**
L50-090	0.900 – 0.950	0.0005	335	**10 16 51835**	**10 16 55235**	**10 16 55335**
L50-095	0.950 – 1.000	0.0005	335	**10 16 51836**	**10 16 55236**	**10 16 55336**
L50-100	1.000 – 1.050	0.0005	335	**10 16 51837**	**10 16 55237**	**10 16 55337**
L50-105	1.050 – 1.100	0.0005	335	**10 16 51838**	**10 16 55238**	**10 16 55338**



Precision alcoholmeters

- Reference temperature: 20°C
- Available with integrated thermometer (mercury-free)
- Further measuring ranges available on request
- Standard calibration (WPS & DAkkS) with 3 test points, additional test points available on request

Measuring range % vol.	Scale % vol.	Overall length mm	calibrateable version **Order No.**	with factory test certificate **Order No.**	with DAkkS calibration certificate **Order No.**
0 – 100	1	250	**10 16 51861**	**10 16 55261**	**10 16 55361**
10 – 20	0.1	320	**10 16 51862**	**10 16 55262**	**10 16 55362**
20 – 30	0.1	320	**10 16 51863**	**10 16 55263**	**10 16 55363**
30 – 40	0.1	320	**10 16 51864**	**10 16 55264**	**10 16 55364**
40 – 50	0.1	320	**10 16 51865**	**10 16 55265**	**10 16 55365**
50 – 60	0.1	320	**10 16 51866**	**10 16 55266**	**10 16 55366**

Special precision hydrometers

- Available with integrated thermometer (mercury-free)
- Further versions (°Oechsle, °Plato etc.) available on request
- Standard calibration (WPS & DAkkS) with 3 test points, additional test points available on request

Measuring range	Scale	Ref. temperature °C	Length mm	Application	calibrateable version **Order No.**	with factory test certificate **Order No.**	with DAkkS calibration certificate **Order No.**
1.015 – 1.040 g/cm³	0.0005 g/cm³	15	260	Lactometer	**10 16 53053**	**10 16 53253**	**10 16 53353**
0.995 – 1.030 g/cm³	0.0005 g/cm³	20	350	soil acc.to Casagrande	**10 16 53052**	**10 16 53252**	**10 16 53352**
1.000 – 1.035 g/cm³	0.001 g/cm³	20	160	seawater	**10 16 53054**	**10 16 53254**	**10 16 53354**
0 – 30% mas	0.5% mas	20	270	potash lye	**10 16 53056**	**10 16 53256**	**10 16 53356**
0 – 27% mas	0.5% mas	15	270	common salt acc. to Bischoff	**10 16 53057**	**10 16 53257**	**10 16 53357**
0 – 40% mas	0.5% mas	20	270	hydrochloric acid	**10 16 53058**	**10 16 53258**	**10 16 53358**
45 – 96% mas	0.5% mas	20	270	natric acid	**10 16 53059**	**10 16 53259**	**10 16 53359**

Plastic-hydrometers “Made in Germany” made of high quality polycarbonate

- Measuring instrument suitable for food (HACCP proof)
- Unbreakable (no glass breakage)
- Same transparency as glass
- Further versions (°Oechsle, °Brix etc.) available on request
- Standard calibration (WPS) with 3 test points, additional test points available on request

Hydrometer for measuring density and specific gravity

Measuring range	Scale	Ref. temperature	Length mm	calibrateable version **Order No.**	with factory test certificate **Order No.**
1.000 – 1.220 g/cm³	0.002 g/cm³	20°C	300	**10 16 51901**	**10 16 55401**
1.200 – 1.420 g/cm³	0.002 g/cm³	20°C	300	**10 16 51902**	**10 16 55402**
1.400 – 1.620 g/cm³	0.002 g/cm³	20°C	300	**10 16 51903**	**10 16 55403**
1.000 – 1.220 sp/gr	0.002 sp/gr	60/60°F	300	**10 16 51904**	**10 16 55404**
1.200 – 1.420 sp/gr	0.002 sp/gr	60/60°F	300	**10 16 51905**	**10 16 55405**
1.400 – 1.620 sp/gr	0.002 sp/gr	60/60°F	300	**10 16 51906**	**10 16 55406**



Hydrometers acc. to Baumé

- Reference temperature: 15°C
- Standard calibration (WPS) with 3 test points, additional test points available on request

Measuring range	Scale	Length mm	calibrateable version **Order No.**	with factory test certificate **Order No.**
0 – 12 Bé	0,2° Bé	250	**10 16 51922**	**10 16 55422**
0 – 25 Bé	0,2° Bé	300	**10 16 51921**	**10 16 55421**
9 – 21 Bé	0,2° Bé	250	**10 16 51923**	**10 16 55423**
19 – 31 Bé	0,2° Bé	250	**10 16 51924**	**10 16 55424**
29 – 41 Bé	0,2° Bé	250	**10 16 51925**	**10 16 55425**
39 – 51 Bé	0,2° Bé	250	**10 16 51926**	**10 16 55426**
49 – 61 Bé	0,2° Bé	250	**10 16 51927**	**10 16 55427**
59 – 71 Bé	0,2° Bé	300	**10 16 51928**	**10 16 55428**

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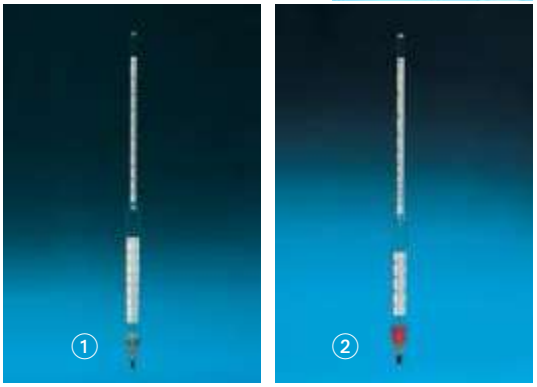
Areometers

Hydrometers for sodium chloride (saline solutions)
- Reference temperature: 20°C
- Standard calibration (WPS) with 3 test points, additional test points available on request

Measuring range	Scale	Length mm	calibrateable version **Order No.**	with factory test certificate **Order No.**
0 – 100	1° saturation	300	**10 16 55431**	**10 16 55441**
0 – 26	0.2% mas	300	**10 16 55432**	**10 16 55442**
1.000 – 1.040	0.001 g/cm³	250	**10 16 55433**	**10 16 55443**

webcode WWE16009

Areometers for Transparent Mineral Oils, Gering



Areometers for Transparent Mineral Oils
Areometers with spirit-thermometer, -10 to +60°C in body, overall length, ca. 400 mm, scale value 0,001 g/ml (15°C), auditable.

Range	Order No.		Range	Order No.
0.610 – 0.700	**16 60 35051**	①	0.820 – 0.910	**16 60 35054**
0.680 – 0.770	**16 60 35052**		0.890 – 0.990	**16 60 35055**
0.750 – 0.840	**16 60 35053**		0.980 – 1.100	**16 60 35056**

Alcoholometers for volumetric concentration

Range	Version	Order No.
0 – 100: 1 Vol.-% 20 °C	without thermometer	**16 60 41071**
② 0 – 100: 1 Vol.-% 20 °C	with spirit-thermometer 0 – +35 °C	**16 60 41072**

webcode WWE16012

Precision Density Areometers, Gering



Reference temperature 20°C

Type	Range g/cm³	Scale unit g/cm³	Length mm	Order No.
③ L50	0.60 – 0.65	0.0005	335	**10 60 33071**
L50	1.95 – 2.00	0.0005	335	**10 60 33072**
④ M50	0.60 – 0.65	0.001	270	**10 60 33075**
M50	1.25 – 1.30	0.001	270	**10 60 33076**

Areometer Cylinders

webcode WWEQ2155



Cylinders, DURAN®, DURAN Group / IDL

Upright cylinder with round foot, folded and plane-ground rim, without graduation.

Volume approx. ml	Height mm	Ø mm	Order No.	PU pc/Pack
130	100	40	**12 21 39907**	10
250	200	40	**12 21 39934**	10
570	200	60	**12 21 39936**	10
700	250	60	**12 21 39946**	10
500	400	40	**12 21 39968**	10

Areometer Cylinders

Hydrometer Cylinders, PP, VITLAB

Highly transparent, with spout and overflow vessel. For density measurements using a hydrometer. Hydrometer can be read through the overflow vessel with a completely filled cylinder. With a raised scale and ring mark at the primary scale points, calibrated “In”. Class B tolerances according to DIN 12681/ISO 6706. Hexagonal base with bottom studs provides high stability. Thermal stress up to 80°C does not cause tolerance limits to be permanently exceeded.

Volume ml	Graduation ml	Height mm	Ø mm	Order No.
500	5	351	73	**23 85 10588**



Pycnometers

Pycnometers, Hofmann

① **Pycnometers, Gay-Lussac type, exactly calibrated**
Duran with ground in capillary stopper.

Volume ml	Order No.
1	**14 39 64109**
2	**14 39 64111**
5	**14 39 64119**
10	**14 39 64129**

Volume ml	Order No.
25	**14 39 64138**
50	**14 39 64150**
100	**14 39 64161**

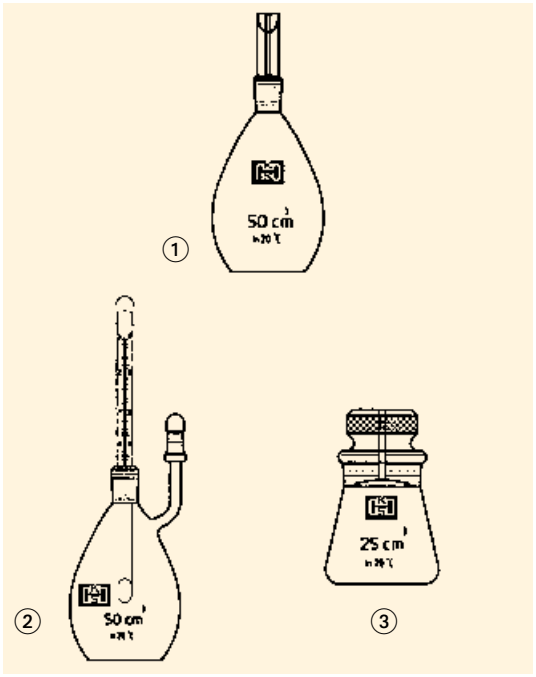
② **Pycnometers, Gay-Lussac type, with thermometer, exactly calibrated**
ground joint 10/19, with side capillary, cap with ground joint 7/16.

Volume ml	Graduation °C	Thermometer °C	Order No.
5	0.2	0 – +35	**14 39 64319**
10	0.2	0 – +35	**14 39 64329**
25	0.2	0 – +35	**14 39 64338**
50	0.2	0 – +35	**14 39 64350**
100	0.2	0 – +35	**14 39 64361**

③ **Pycnometers, Hubbard type, exactly calibrated**

Volume ml	Order No.
25	**14 39 64538**

Volume ml	Order No.
50	**14 39 64550**



Pycnometers, Neubert-Glas

Reischauer-type pycnometer, pear-shaped
Class A, tared to 3 decimal places; DIN 12801

④ **With ground bed and PE stopper**

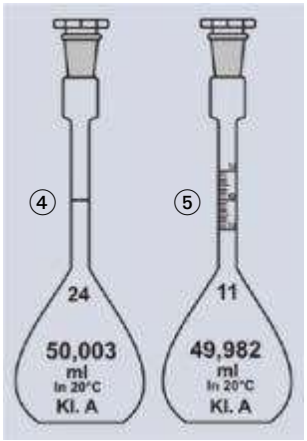
Vol. ml	NS	Order No.
10	10/19	**10 11 52010**
25	10/19	**10 11 52025**

Vol. ml	NS	Order No.
50	10/19	**10 11 52050**
100	10/19	**10 11 52100**

⑤ **DAB type**
With graduation ± 10 mm, class A, balanced to 3 decimal points.

Vol. ml	NS	Order No.
10	10/19	**10 11 56010**
25	10/19	**10 11 56025**

Vol. ml	NS	Order No.
50	10/19	**10 11 56050**



Cylindrical pycnometers are also available.
You can also get Gay-Lussac-type, Lipkin, Hubbard, Boot-type pycnometers, acid cap, etc.

webcode To see other variants and accessories, please enter the webcode on our website.

Digital Density Meters



Handheld Digital Density Meters, METTLER TOLEDO

Densito / DensitoPro

Easy, fast and secure density measurements!
- Fits many application in F&B, Chemistry, Pharma, Cosmetics, Galvanic, Petrochemistry,...
- Significantly faster, more secure and accurate than Hydrometers / Pyknometers
- High robustness with perfect ergonomics: lightweight, one-handed / one-button operation without strains
- Ease of use: sucks sample automatically and shows colour coded value
- Self-explanatory, intuitive menu with 13 languages
- Precise results within seconds, various measurement scales
- Secure data management: GLP consistent storing / transfer, wireless printing
- Integrated barcode / RFID scanner (DensitoPro), sample ID with one click!
- Selectable automatic temperature compensation
- Backlighted, perfect visible measuring cell
- External supply for viscous samples

Article	Order No.
Densito Kit	**10 50 01857**
DensitoPro Kit	**10 50 01858**
like Densito, additional integrated Barcode/RFID-Scanner	
Protective cover	**10 50 01860**
Data-Transfer-Software EasyDirect DE/RE (license)	**10 50 01861**
Density calibration standard (6 ml), 10 pcs.	**10 50 01862**
Charging unit, table or wall mount	**10 50 01863**
even for filling with syringe	
USB-P25 Matrix printer	**10 50 01864**
normal paper	

Density Meters, A. KRÜSS Optronic

webcode WWY3J018



The DS7700 and DS7800 model variants are offered in 5 different complete sets. Each set contains all necessary accessories from tube sets to nozzles and adapters to a splash guard for the manual sample supply. The devices are suitable for almost all liquids, emulsions, pastes, etc. thanks to the chemical-resistant sample-contacting parts made of borosilicate glass and PTFE. Depending on the set, samples are fed manually via syringe, semi-automatically via peristaltic pump or fully automatically via autosampler.

Set 1: Low sample volume, samples of any degree of viscosity, semi-automatic drying, small Tygon tube set

Set 2: Low sample volume, samples of any degree of viscosity, aggressive samples, splash protection for addition of aggressive samples, tube sets suitable for every type of samples, semi-automatic drying, small Tygon and PTFE tube set

Set 3: Moderate to high sample volume, low to slightly viscous samples, semi-automatic sample feeding and cleaning, semi-automatic drying, large Tygon tube set

Set 4: High sample volume, low-viscous to slightly viscous samples, fully automatic sample supply and cleaning, fully automatic drying (no interchange of tubes required), large Tygon tube set

Set 5: High sample volume, low-viscous to slightly viscous samples, tube sets suitable for any kind of sample, fully automatic sample supply and cleaning, fully automatic drying (no interchange of tubes required), large PTFE tube set

Scope of delivery: Density meter with drying unit, waste container, operating instructions, test report, set-dependent tube set, set-dependent peripheral devices

Technical data:

Measurement range:	0 – 3 g/m³
Sample volume with manual injection:	0.9 ml
Temperature control range:	10 – 40°C
Temp. measurement accuracy:	±0.02°C
Measurement period:	typical 1 – 3 minutes inclusive temperature control
Ambiente temperature:	10 – 40°C
Housing:	aluminium casting, powder-coated
Control:	5.7″ TFT touchscreen, 640 × 480 pixels
Interfaces:	1× USB, 1× RS-232, 1× Ethernet
Operating voltage:	100 – 240 V, 47 – 63 Hz
Power consumption (operation):	25 W
Power consumption (max.):	120 W
Methods:	almost unlimited number of methods adjustable
Dimensions (W×H×D):	220 × 220 × 430 mm
Weight:	5.3 kg

Continued on next page

Digital Density Meters

Type	Specification	Measurement accuracy g/cm³	Order No.
DS7700-1	For manual sample supply	±0.001	**10 61 17701**
DS7700-2	For manual sample supply	±0.001	**10 61 17702**
DS7700-3	For semi-automatic sample supply	±0.001	**10 61 17703**
DS7700-4	For fully automatic sample supply	±0.001	**10 61 17704**
DS7700-5	For fully automatic sample supply	±0.001	**10 61 17705**
DS7800-1	For manual sample supply	±0.0001	**10 61 17801**
DS7800-2	For manual sample supply	±0.0001	**10 61 17802**
DS7800-3	For semi-automatic sample supply	±0.0001	**10 61 17803**
DS7800-4	For fully automatic sample supply	±0.0001	**10 61 17804**
DS7800-5	For fully automatic sample supply	±0.0001	**10 61 17805**

Portable, Digital Density Meters DMA 35, Anton Paar

The digital density meter DMA 35 is a portable entry-level device which takes samples directly from the storage tank using the built-in pump, and then measures them directly on site in a matter of seconds. The results are indicated as density or concentration. Developed for incoming goods inspection or quality checks at the production line, the density meter uses only two millilitres of sample. On request, the density meters can be calibrated before delivery to be retraceable pursuant to ISO/IEC 17025.

webcode WWY9G002

Technical data:

Measuring principle:	Oscillator made of borosilicate glass
Sample volume:	2 ml
Measuring range:	Density from 0 to 3 g/cm³, temperature from 0 to 40°C
Accuracy:	Density 0.001 g/cm³, temperature 0.2°C
Repeatability:	Density 0.0005 g/cm³, temperature 0.1°C
Protection class:	IP 54 (dust and splash water protected)
Permitted sample temperature:	0 to 100°C
Data memory:	1024 measured results

DMA 35 Standard

The DMA 35 in Standard version is the follow-up model of the DMA 35 Basic. It has a colour display with capacitive keys, communicates with external devices via Bluetooth and can read RFID labels. It is suitable for right- and left-handers. The new patented connection between measuring cell and instrument provides for fast exchange of the flexural resonator in case of a defect.

Special functions:

- Intelligent connection of the replaceable measuring cell (patents AT516421 (B1), EP3015847 (B1))
- Viscosity correction of the density measuring results
- Gesture control for easy measuring with one hand only
- Comes in a sturdy plastic case

Technical data:

Ambient temperature:	-10 – +50°C
Power supply:	three 1.5 V LR06 AA alkaline batteries
Weight:	660 g
Dimensions (L×W×H):	245 × 103 × 129 mm
Measuring units:	Density, density @ xx°C, specific gravity SG, alkohol % v/v, alkohol % w/w, API digit, API SG, API density, °Baumé, °Brix, °Plato, °Oechsle, °KMW, H_2SO_4 % w/w, H_2SO_4 @ 20°C, concentration formula for calcium chloride, hydrochloric acid, hydrogen peroxide, isopropyl, methanol, nitric acid, sodium hydroxide, ten programmable custom-specific measuring units

Rubber housing for operating panel optionally available



①

Article	Order No.
DMA 35 Standard	**10 63 33504**
ISO 17025 calibration	**10 63 33501**
Rubber housing for operating panel	**10 63 33505**

Factory calibration pursuant to ISO 17025 is available for new instruments before delivery only.

DMA 35 EX

Identical with the standard version, the DMA 35 EX additionally is ATEX approved and thus suitable for measuring combustible chemical agents in potentially explosive environments.

Special functions:

same as DMA 35 Standard

- ATEX approval, EX II 2 G Ex ib IIC T4
- Additional rubber protection for measuring cell

Technical data:

same as DMA 35 Standard
Ambient temperature: -10 – +40°C

Article	Order No.
① DMA 35 EX	**10 63 33506**
ISO 17025 calibration	**10 63 33501**
Rubber housing for operating panel	**10 63 33505**

Factory calibration pursuant to ISO 17025 is available for new instruments before delivery only.

Continued on next page

Digital Density Meters



① DMA 35 EX Petrol

DMA 35 EX Petrol
Identical with the standard version, the DMA 35 EX Petrol additionally is ATEX approved and thus suitable for measuring combustible chemical agents in potentially explosive environments. The chemical resistance of its casing is designed specifically for samples taken in the petrochemical industry.

Special functions:
same as DMA 35 Standard
- ATEX approval, EX II 2 G Ex ib IIC T4
- Casing materials particularly suitable for the petrochemical industry
- Additional rubber protection for measuring cell

Technical data:
same as DMA 35 Standard
Ambient temperature: -10 – +40°C

	Article	Order No.
①	DMA 35 EX Petrol	**10 63 33507**
	ISO 17025 calibration	**10 63 33501**
	Rubber housing for operating panel	**10 63 33505**

Factory calibration pursuant to ISO 17025 is available for new instruments before delivery only.
We grant 3 years' warranty for these devices. All repairs are free during this period of time.

webcode WWY9G003

Anton Paar

Density Meter DMA 501, Anton Paar



② DMA 501 with syringe filling

The simple and robust DMA 501 is a digital laboratory density meter based on the flexural resonator principle. It is accurate to 3 digits and offers a modern, user-friendly interface on a 7″ colour display.
Featuring the U-View (live camera image from the measuring cell), FillingCheck (automatic detection of filling errors) and the full-range viscosity correction, it easily adjusts to any type of sample and to different users.
With its U-shaped borosilicate flexural resonator and the new, patented Pulsed Excitation Method, it is perfectly suited for measuring acids and lyes, paints and varnishes, solvents, pharmaceuticals, food and drinks, flavours, as well as petrochemicals.
It excels particularly for its ability to measure inhomogeneous and complicated samples such as suspensions, emulsions, highly viscous gels and pastes, and aerosols.

Filling options:
The digital density meter is filled either by means of a syringe or optionally via a peristaltic pump integrated at the side of the device (normal[1)] / highly resistant[2)]); after displacement and cleaning, it is dried with the integrated air pump.

Scope of delivery:
The DMA 501 is immediately ready for use. It comes in a protective cover. ON request, it will be traceably calibrated pursuant to ISO/IEC 17025 before delivery.

Special features:
- U-View – live camera picture of the measuring cell which is also saved
- FillingCheck: Assessment of the vibration characteristics for filling error detection

[1)]Hose material: Novoprene
[2)]Hose material: Norprene A-60-G, Norprene Chemical

Technical data:

Accuracy:	Density 0.001 g/cm^3, temperature 0.3°C
Reproducibility:	Density 0.0002 g/cm^3, temperature 0.1°C
Measuring range:	Density 0 – 3 g/cm^3, temperature 15 – 40°C (Peltier)
Output parameters:	Density, specific gravity, alkohol / sugar / extrakt / acid / base tables, API functions, custom-specific functions
Internal storage:	5000 measured results
Dimensions (L×W×H):	375 × 265 × 180 mm
Weight:	13.5 kg

	Article	Order No.
②	DMA 501 with syringe filling	**10 63 35010**
	Peristaltic pump for DMA 501	**10 63 35011**
	Highly resistant peristaltic pump for DMA 501	**10 63 35012**
	ISO 17025 calibration	**10 63 35013**

We grant 3 years' warranty for these devices. All repairs are free during this period of time.

Digital Density Meters

Tap Density Tester, Funke - Dr. N. Gerber



The device makes it possible to determine the tamped volume or density of powdery and granular products. The product enables compliance with the following standards:
- ISO 8967 (milk powder)
- IDF 134 (milk powder)
- USP 616 method I (pharmaceutical powder) ISO 8460 (instant coffee) and others
- ISO 8460 (instant coffee) and others

Technical data:

Supply voltage:	from 230 V AC to 240 V AC (50 Hz) possible
Strokes per minute:	275
Drop height:	3 mm
Quantity of strokes:	adjustable 5 – 9995
Gewicht:	6.4 kg
Dimensions (W×D×H):	245 × 200 × 160 mm without punch

Article	Order No.
Tap Density Tester	**10 42 07700**

pH Electrodes, Buffer Solutions, Accessories

Thermo Scientific™ Orion™ ROSS™ Sure-Flow™ pH electrode, Thermo Scientific



thermo scientific

webcode WW4HV037

Thermo Scientific™ Orion™ 8172BNWP ROSS™ Sure-Flow™ pH electrodes have a free-flow ground-joint diaphragm. They are ideal for measuring the pH value in contaminated and difficult samples such as soil, sludge, colloids, viscous substances, and organic material.
Cleaning the diaphragm between measurements is easy: Just press on the cap to have the filler solution flow through the diaphragm to flush out contaminations which may affect the measured values.
- Glass body
- pH range: 0 to 14 – temperature range: 0 to 100 °C
- Accuracy pH value: 0.01 – filling solution: 3M KCl
- Internal reference system: ROSS
- Diaphragm: Sure-Flow
- Dimensions: 120 × 12 mm – cap diameter: 16 mm

Article	Order No.
Orion™ ROSS Sure-Flow pH electrode rechargeable with glass body, incl. 1 m connecting cable with water-tight BNC plug	**10 79 28172**

Please enter the webcode WW4HV037 to see more electrodes in our online catalogue.

Use the webcode on our website to see a larger selection of products from a specific manufacturer.

webcode

pH Electrodes, Buffer Solutions, Accessories

webcode WW1WS002

SI Analytics a xylem brand



①



②



③



④



⑤

Laboratory Electrodes, SI Analytics

Laboratory electrodes

Article	Order No.
① **SI Analytics BlueLine 11 pH**	**61 27 29114**

pH combination electrode with glass stem and robust conical membrane, reference system: silver/silver chloride, with plug head (please order matching connection cable L1A or L1BNC separately).
Applications: for universal applications.

-5 to 100°C:	0 to 14pH
Temperature sensor:	no
Length/Ø:	120 mm/12 mm
Electrolyte:	liquid, KCl 3 mol/l
Diaphragm:	platinum
Membrane resistance at 25°C:	300 M Ω
Refilling opening closed by:	sliding plug

Article	Order No.
② **SI Analytics BlueLine 13 pH for low-ion media**	**61 27 29139**

pH combination electrode with glass stem, reference system: silver/silver chloride, with plug head (please order matching connection cable L1A or L1BNC separately).
Applications: for superior measurement conditions, e.g. low-ion media or emulsions.

-5 to 100°C:	0 to 14 pH
Temperature sensor:	no
Length/Ø:	170 mm/12 mm
Electrolyte:	liquid, KCl 3 mol/l
Diaphragm:	ground
Membrane resistance at 25°C:	400 M Ω
Refilling opening closed by:	sliding plug

Article	Order No.
③ **SI Analytics BlueLine 14 pH with temperature probe NTC**	**61 27 29147**

pH combination electrode with glass stem and robust conical membrane, reference system: silver/silver chloride, with fixed cable 1 m, Ø=5 mm, DIN plug and 4 mm banana plug
Applications: for universal applications.

-5 to 100°C:	0 to 14 pH
Temperature sensor:	NTC 30 kΩ
Length/Ø:	120 mm/12 mm
Electrolyte:	liquid, KCl 3 mol/l
Diaphragm:	platinum
Membrane resistance at 25°C:	300 M Ω
Refilling opening closed by:	sliding plug

Article	Order No.
④ **SI Analytics BlueLine 16 pH Micro**	**61 27 29163**

Micro pH combination electrode with glass stem, reference system: silver/silver chloride, with plug head (please order matching connection cable L1A or L1BNC separately).
Applications: for universal applications, especially for small sample volumes.

-5 to 100°C:	0 to 14 pH
Temperature sensor:	no
Length/Ø:	40/80 mm//12/5 mm
Electrolyte:	liquid, KCl 3 mol/l
Diaphragm:	platinum
Membrane resistance at 25°C:	450 M Ω
Refilling opening closed by:	sliding plug

Article	Order No.
⑤ **SI Analytics BlueLine 21 pH Insertion**	**61 27 29217**

pH combination electrode with glass stem and robust spear membrane, reference system: silver/silver chloride (please order matching connection cable L1A or L1BNC separately).
Applications: for penetration measurements in semi-hard media.

-5 to 80°C:	2 to 13 pH
Temperature sensor:	no
Length/Ø:	65/25 mm//12/5 mm
Electrolyte:	Referid®
Diaphragm:	double hole
Membrane resistance at 25°C:	400 M Ω
Refilling opening closed by:	no refilling opening

Continued on next page

pH Electrodes, Buffer Solutions, Accessories

Article	Order No.
⑥ **SI Analytics BlueLine 22 pH with plastic shaft**	**61 27 29225**

pH combination electrode with plastic stem, reference system: silver/silver chloride and plug head (please order matching connection cable L1A or L1BNC separately).
Applications: for universal applications.

-5 to 80°C:	0 to 14 pH
Temperature probe:	no
Length/dia.:	120 mm/12 mm
Electrolyte:	gel, KCl saturated
Diaphragm:	fibre
Membrane resistance at 25°C:	400 M Ω

Article	Order No.
SI Analytics BlueLine 24 pH with fixed cable and temperature probe NTC	**61 27 29241**

pH combination electrode with plastic stem, reference system: silver/silver chloride and fixed cable, 1m, Ø=5 mm, DIN-plug and 4 mm banana plug.
Applications: for universal applications.

-5 to 80°C:	0 to 14 pH
Temperature probe:	NTC 30 kΩ
Length/dia.:	120 mm/12 mm
Electrolyte:	gel, KCl saturated
Diaphragm:	fibre
Membrane resistance at 25°C:	400 M Ω

Article	Order No.
⑦ **SI Analytics BlueLine 27 pH**	**61 27 29274**

pH combination electrode with glass stem and flat membrane, reference system: silver/silver chloride, with plug head (please order matching connection cable L1A or L1BNC separately).
Applications: for measurements on surfaces.

-5 to 50°C:	2 to 13 pH
Temperature probe:	no
Length/dia.:	120 mm/12 mm
Electrolyte:	Referid®, KCl saturated
Diaphragm:	annular gap
Membrane resistance at 25°C:	400 M Ω

Article	Order No.
⑧ **SI Analytics BlueLine 31 RX**	**61 27 29311**

Redox combination electrode with glass stem, reference system: silver/silver chloride, with plug head (please order matching connection cable L1A or L1BNC separately).
Applications: for universal applications.
-5 to 100°C

Sensor:	Pt disk
Temperature probe:	no
Length/dia.:	120 mm/12 mm
Electrolyte:	liquid, KCl 3 mol/l
Diaphragm:	ceramic
Refilling opening closed by:	sliding plug



⑥ ⑦ ⑧

Accessories

Electrolyte solutions, test solutions
For topping up or replacing the reference electrolyte. Packed in 250 ml DURAN® bottles. Redox test solutions available on request.

Article	Order No.
2 mol/l KNO_3 + 0,001 mol/l KCl	**61 27 38349**
⑨ 3 mol/l KCl	**61 27 38427**



⑨

Buffer solutions
Sterilized with hot steam. With individual batch number. No conserving additives.

Article	Order No.
pH 4.00 250 ml DURAN® bottle	**61 27 38032**
pH 7.00 250 ml DURAN® bottle	**61 27 38049**
pH 10.01 250 ml DURAN® bottle	**61 27 38057**

Buffer solution set
Calibration set for pH measurements. The set contains 20 ampoules à 20 ml volume (≙ 17 ml content) with pH 4.00, 7.00 and 10.01 (at 25°C).

Article	Order No.
Buffer set L 4698	**61 27 38192**

Socket cable combinations L1 A und L1BNC
For BlueLine pH electrodes. Acc. to DIN 19262. 1 m long, 3 mm in diameter.

Article	Order No.
Cable combination L1A: plug head - DIN	**61 27 22653**
Cable combination L1BNC: plug head - BNC	**10 27 12661**

pH Electrodes, Buffer Solutions, Accessories

webcode WW37Z001



pH/Redox Electrodes, Meinsberg

pH and redox combination electrodes of standard design (120 mm stem length; stem-Ø 12 mm), Ag/AgCl reference system, lab plug head S7-system or 1 m of fixed cable with DIN plug.

Standard pH combination electrodes with glass stem
General purpose laboratory use

	Article	Order No.
①	**EGA151-L: pH 0 – 14; -5 – 80°C** Liquid electrolyte 3 mol/l KCl (refillable), lab plug head S7-system	**61 90 70151**
	EGA151-K010-D: as EGA151-L, but with fixed cable + DIN plug	**61 90 71151**
②	**EGA173-L: pH 0 – 14; -5 – 80°C** Ring-shaped glass sleeve junction, gel electrolyte (low-maintenance), lab plug head S7-system	**61 90 70173**
	EGA173-K010-D: as EGA173-L, but with fixed cable + DIN plug	**61 90 71173**

pH combination electrode with glass sleeve junction
Specially for suspensions, partially aqueous samples and low-ion media

	Article	Order No.
③	**EGA161-L: pH 0 – 14; -5 – 80°C** Liquid electrolyte 3 mol/l KCl (refillable), lab plug head S7-system	**61 90 70161**
	EGA161-K010-D: as EGA161-L, but with fixed cable + DIN plug	**61 90 71161**

pH combination electrode with penetration membrane
Specially for penetration measurements in meat, cheese, etc.

	Article	Order No.
④	**EGA184-L: pH 2 – 11; 0 – 60°C** Penetration Ø 12/6 mm, gel electrolyte (low-maintenance), lab plug head S7-system	**61 90 70184**
	EGA184-K010-D: as EGA184-L, but with fixed cable + DIN plug	**61 90 71184**
	EGA186-L: pH 2 – 11; -5 – 60°C Liquid electrolyte 3 mol/l KCl (refillable), stem Ø 12/6 mm, stem length 170 mm, lab plug head S7-system	**10 90 70186**
	EGA186-K010-D: as EGA186-L, but with fixed cable + DIN plug	**10 90 71186**



pH combination electrode with plastic stem
General purpose use, particularly in the water and waste water sector

	Article	Order No.
⑤	**EGA133-L: pH 0 – 14; -5 – 80°C** Gel electrolyte (low-maintenance), lab plug head S7-system	**10 90 72133**
	EGA 133-K010-D: as EGA 133 L, but with fixed cable + DIN plug	**61 90 70133**

pH combination electrode with temperature probe and glass stem
Specially for temp.-compensated measurements with lab pH meters

	Article	Order No.
⑥	**EGAT151-K010-DH-X with Pt 1000, pH 0 – 14, -5 – 80°C**	**61 90 70141**
	EGAT151-K010-DH-Z30 with NTC 30 kΩ; pH 0 – 14; -5 – 80°C Liquid electrolyte 3 mol/l KCl (refillable), fixed cable + DIN plug and 4 mm banana plug	**61 90 71141**

pH combination electrode with temperature sensor and plastic stem
Specially for temperature-compensated measurements with hand units

	Article	Order No.
⑦	**EGA142-K010-DH-X with Pt 1000: pH 0 – 14; -5 – 80°C**	**61 90 70142**
	EGA142-K010-DH-Z30 with NTC 30 kΩ; pH 0 – 14; -5 – 80°C Gel electrolyte (low-maintenance), fixed cable + DIN plug and 4 mm banana plug	**61 90 71142**

Micro pH combination electrode with conical membrane
Specially for small sample volumes

	Article	Order No.
⑧	**EGA801-K010-D: pH 2 – 11; -5 – 60°C** Liquid electrolyte 3 mol/l KCl (refillable), stem Ø 8/6 mm, stem length 100 mm, fixed cable + DIN plug	**61 90 70801**

Continued on next page

pH Electrodes, Buffer Solutions, Accessories

Standard redox combination electrodes with glass stem
General purpose laboratory use

Article	Order No.
⑨ **EMC30-L: platinum tip Ø 5 mm; -5 – 80°C**	**61 90 70300**
Liquid electrolyte 3 mol/l KCl (refillable), lab plug head S7-system	
EMC30-K010-D: as EMC30-L, but with fixed cable + DIN plug	**61 90 71300**

Redox combination electrode with PSU stem
General purpose use, particularly in the water and waste water sector

Article	Order No.
EMC133-L: platinum tip Ø 5 mm; -5 – 80°C	**10 90 73133**
Gel electrolyte (low-maintenance), lab plug head S7-system	
EMC133-K010-D: as EMC133-L, but with fixed cable + DIN plug	**61 90 71133**

Connection cable for pH and redox combination electrodes
Connection cable (1 m long; Ø 3 mm) for connecting electrodes with a lab plug head S7-system to the measuring instrument

Article	Order No.
Coax3: S7/S8 connector/DIN connector; 1 m	**61 90 70313**
Coax5: S7/S8 connector/BNC connector; 1 m	**61 90 70315**



⑨

⑩ **Electrolyte and buffer solutions**

Article	Order No.
Electrolyte KCL 3 mol/l; 250 ml	**61 90 70147**
Storage solution and liquid electrolyte for refilling	
Maintenance set pH, each 250 ml	**61 90 70148**
Cleaning/Regeneration/KCl solution (3 mol/l)	
pH buffer solution Tripack NBS, 3 × 250 ml	**61 90 70150**
acc. to NBS and DIN 19266, pH 4.01; 6.87; 9.18 (25°C)	
Laboratory buffer solution pH 4,0; 250 ml, red coloured	**10 90 70151**
Laboratory buffer solution pH 7,0; 250 ml, green coloured	**10 90 70152**
Laboratory buffer solution pH 9,0; 250 ml, blue coloured	**10 90 70153**
Laboratory buffer solution pH 10,0; 250 ml	**10 90 70154**
Redox buffer solution U_H = 427 mV; 250 ml	**61 90 70427**
U_H = 427 mV (pH 7), $U_{Pt\text{-}Ag/AgCl}$ = 220 mV	
Redox buffer solution U_H = 675 mV; 250 ml	**61 90 70675**
U_H = 675 mV (pH 1), $U_{Pt\text{-}Ag/AgCl}$ = 468 mV	



⑩

⑪ **Handheld meters**

Article	Order No.
TM40/Set	**10 90 74061**
pH / mV / ISE / temperature measuring instrument pH 0 – 14; -1999 – 1999 mV; -10 – 100°C; ISE: 0 – 30000 ppm Housing IP 65; integrated data memory; complete measuring kit with pH combination electrode EGA142/TM40 and accessories: 1 × 50 ml storage solution KCl 3 mol/l 3 × 50 ml buffer solution pH 4.01; 6.87 und 9.18 (25°C)	
LF40/Set	**10 90 74062**
Conductivity meter; 0 – 20 g/l; 0 – 500 g/l; 2 – 200; 0 – 2000 µS/cm; 0 – 20; 0 – 500 mS/cm; 0 – 100°C; TDS: 0 – 200 mg/l; 0 – 2000 mg/l; 0 – 20 g/l; 0 – 500 g/l; salinity: 0 – 70 g/kg; Housing IP 65; integrated data memory; complete measuring kit with measuring cell LTC0.35/LF40 and accessories: 50 ml calibration solution 0.1 N KCl (12.9 mS/cm at 25°C)	
AM40/Set	**10 90 74063**
Oxygen meter 0 – 20 mg/l; 0 – 200% saturation; -10 – 100°C Housing IP 65; integrated data memory; complete measuring kit with oxygen sensor MF41N/AM40 and accessories: 2 spare membrane heads, 6 vials of electrolyte	



⑪

Failed to find what you are looking for?
Give us a call!

pH Electrodes, Buffer Solutions, Accessories



IDS Sensors, WTW®

	Article	Order No.
①	**IDS sensor SenTix® 940** Low-maintenance gel electrolyte pH electrode with integrated temperature sensor, QSC, memory for 10 calibrations, stored serial number, pH 0.000 to 14.000 (±0.004 pH), temperature range 0.0 to 80.0°C ±0.2°C. Also available as plug head sensor.	**10 81 29400**
②	**IDS senso SenTix® 950** Combined pH electrode with plastic shaft, electrolyte 3 mol/l KCl, integrated temperature sensor, QSC, memory for 10 calibrations, stored serial number, pH 0.000 to 14.000 (±0.004 pH), temperature range 0.0 to 80.0°C ±0.2°C. Also available as plug head sensor.	**10 81 29500**
③	**IDS senso SenTix® 980** Precisely combined pH electrode with glass shaft, electrolyte 3 mol/l KCl, integrated temperature sensor, platinum wire diaphragm, QSC, memory for 10 calibrations, stored serial number, pH 0.000 to 14.000 (±0.004 pH), temperature range 0.0 to 100.0°C ±0.2°C. Also available as plug head sensor.	**10 81 29800**
④	**IDS senso TetraCon® 925** Robust, universal 4-pole graphite conductivity measuring cell with integrated temperature sensor, memory for 10 calibrations, stored serial number, measuring range 10 µS/cm to 2000 mS/cm ±0.5% of measuring value, 0.0 to 100.0°C ±0.2°C, cell constant 0.475 cm^{-1}. Also available as plug head sensor.	**10 81 29250**
⑤	**IDS senso LR 925/01** 2-pole stainless steel conductivity measuring cell for low conductivities, with integrated temperature sensor, flow-through vessel, memory for 10 calibrations, stored serial number, measuring range 0.01 µS/cm to 200 µS/cm ±0.5% of measuring value, 0.0 to 100.0°C ±0.2°C, cell constant 0.1 cm^{-1}. Also available as plug head sensor.	**10 81 29251**
⑥	**IDS senso FDO® 925** Extremely fast (T99<60s) and accurate optical oxygen sensor for field and laboratory use. Light-weight and practical to use, it matches all BSB bottle formats. Watertight for depth measurements of max. 25 m. Beveled, air bubble-repellent membrane. Green light technology for a long useful life. Insensitive to H_2S. O_2 concentration: 0.00 to 20.00 mg/l, O_2 saturation: 0.0 to 200.0%; O_2 partial pressure: 0.0 to 400 hPa all ±0.5% of measuring value. Also available as plug head sensor.	**10 81 29252**

webcode WW5PT054

WINLAB®



Ionselective ISE Combination Electrodes, WinLab®, WINLAB®

Robust ISE combination single-bar electrodes for immediate use in the laboratory or the field. No additional reference electrodes!
These solid electrodes designed for a variety of ion concentration measurements are ideal for use in the field, because no reference electrode is required, no electrolytic solution is needed and the electrode is suitable for dry storage.
The new driTEK Teflon integrated reference system lets you take immersion measurements in any environment. Robust design for long service life.
Can be used in connection with any ion meter or pH meter with mV range.
When ordering, please specify which version you want:
- with S7 head or
- with 1 m cable incl. BNC plug or
- with 1 m cable incl. DIN plug

Type	Measuring range ppm	Temperature range °C	Order No.
Ammonia NH3	0.02 – 17000	0 – 50	**61 03 03302**
Ammonium	0.9 – 9000	0 – 50	**61 03 03051**
Barium	1.4 – 13400	0 – 50	**61 03 03081**
Lead	0.2 – 20800	0 – 50	**61 03 03231**
Bromide	0.4 – 81000	0 – 50	**61 03 03271**
Cadmium	0.1 – 11200	5 – 50	**61 03 03241**
Calcium	0.02 – 4010	0 – 50	**61 03 03041**
Chloride	1 – 35500	5 – 50	**61 03 03261**
Cyanid	0.03 – 260	5 – 50	**61 03 03291**
Iodide	0.06 – 127000	5 – 50	**61 03 03281**
Potassium	0.04 – 39000	0 – 50	**61 03 03031**
Copper	0.006 – 64000	5 – 50	**61 03 03227**
Sodium	0.002 – 69000	0 – 50	**61 03 03301**
Nitrate	0.4 – 62000	0 – 50	**61 03 03021**
Fluoride	0.02 – 1900	5 – 50	**61 03 03221**
Sulfide	0.003 – 32000	5 – 50	**61 03 03225**

pH Electrodes, Buffer Solutions, Accessories

Buffer Solution with Measuring Cap, IDL

webcode WW7R3313

pH-buffer solution, technical according to DIN 19267, traceable to standard reference material from PTB and NIST, in different pH-values, dispensing bottles made of HDPE natural, warranty cap 28 mm, dispensing volume 20 and 25 ml.

Article	Bottle ml	Color code	Order No.
Buffer solution pH 4.01 (25°C)	250	yellow	**10 00 04023**
Buffer solution pH 4.01 (25°C)	500	yellow	**10 00 04024**
Buffer solution pH 4.01 (25°C)	1000	yellow	**10 00 04025**
Buffer solution pH 7.00 (25°C)	250	green	**10 00 07263**
Buffer solution pH 7.00 (25°C)	500	green	**10 00 07264**
Buffer solution pH 7.00 (25°C)	1000	green	**10 00 07265**
Buffer solution pH 10.00 (25°C)	250	blue	**10 00 10383**
Buffer solution pH 10.00 (25°C)	500	blue	**10 00 10384**
Buffer solution pH 10.00 (25°C)	1000	blue	**10 00 10385**



Buffer Solutions and Potassium Chlorid Solution, BOESECKE

webcode WW11M003

Technical buffer solutions to DIN 19267, traceable to standard reference material from PTB and NIST, potassium chlorid solution for storage of pH-electrode.

Article	Order No.
Buffer solution pH-value 4,01 (25°C), PolyCube 10 l	**10 65 14100**
Buffer solution pH-value 7,00 (25°C), 10 l PolyCube	**10 65 16100**
Potassium chlorid solution 3 mol/l, 1000 ml bottle	**10 65 13010**
Potassium chlorid solution 3 mol/l, 10 l PolyCube	**10 65 13100**

All 10 l package with attached drain cock



Buffer Solutions in the Bag, WINLAB®

webcode WW5PT076

For easy, safe and clean calibration of your pH electrodes.

Using these buffer solutions in the bag is the key to successful calibration because the bag will be opened only immediately before you start to calibrate so that the buffer solutions are always fresh and pure.

The respective pH and temperature reference values are printed on each bag. Each batch includes a test certificate. 2 bags of purified water are included in the delivery to allow for intermediate rinsing.

The cardboard stand ensures the safe stand of the bag during calibration.

Article	Order No.
Buffer solutions in the bag	**10 03 04710**
Kit of 20 bags of 25 ml each comprising: 6 × buffer solution pH 7.00 6 × buffer solution pH 4.01 6 × buffer solution pH 10 2 × purified water 1 × cardboard stand, and test certificate for the batch	



webcode To see other variants and accessories, please enter the webcode on our website.

pH Electrodes, Buffer Solutions, Accessories

webcode WW5PT012













Electrode Accessories, WINLAB®

Electrode storage bottle
The proven solution to the problem of properly storing your pH electrodes. Fill the bottle with 3 moles of KCL solution and insert the electrode through the special seal, so that the electrode is well immersed in the KCL solution. This ensures that the electrode membrane is sealed in an airtight environment surrounded by the correct electrolyte.

	Article	Order No.
①	**Electrode storage bottle 250 ml** incl. screw cap, special seal, 250 ml 3 mol KCL solution	**61 03 80136**
	Spare KCl solution, 3 mol, 250 ml	**61 03 80150**

Electrode Storage Rack
For the storage of pH electrodes. Being able to be brought in up to 5 pH laboratory electrodes into the glass vessels provided for it with special seal of PTFE/silicone in this rack. So pH electrodes are always stored correctly uprightly and in the suitable electrolyte.

	Article	Order No.
②	**Electrode storage rack** Steel wire plastic-coated, 5 storage bottles with screw caps and PTFE/silicone seals, 250 ml 3 mol KCl-solution	**10 03 80200**

③ **WinLab® buffer solutions with test certificate acc. to EN 10204-2.3**

Article	pH value at 20°C	Volume ml	Order No.
Buffer solution	4.00	500	**61 03 04044**
Buffer solution	4.00	1000	**61 03 04054**
Buffer solution	7.00	500	**61 03 07044**
Buffer solution	7.00	1000	**61 03 07054**
Buffer solution	9.00	500	**61 03 09044**
Buffer solution	9.00	1000	**61 03 09054**
Buffer solution	10.00	500	**61 03 10044**
Buffer solution	10.00	1000	**61 03 10054**

④ **Technical buffer solutions**
Coloured buffer solutions for simple and better recognition of the different pH-values. In practical work and storage bottle.
With this, you can calibrate directly in the integrated small vessel (s.Foto).

Article	pH value at 25°C	Volume ml	Order No.
Buffer solution	4.01	1000	**10 03 14054**
Buffer solution	7.00	1000	**10 03 17054**
Buffer solution	10.00	1000	**10 03 19054**

⑤ **Cleaning solutions for pH electrodes**

Article	Order No.
For removing protein layers[1], 250 ml	**61 03 98250**
For removing protein layers[1], 500 ml	**61 03 98500**
Diaphragm cleaner 250 ml	**61 03 97250**
Spare KCl solution, 3 mol, 250 ml	**61 03 80150**

[1] contains a pepsin/hydrochloric acid mixture

webcode WW37Z003



Corrosion Measuring Cell, Meinsberg

Thermostable measuring cell for conducting corrosion and general electrochemical tests in the laboratory, consisting of a double-wall cell vessel (max. capacity 500 ml), installation plate, sample holder (working electrode), platinum backplate electrode, current key and intermediate vessel.

Corrosion measuring cell

	Article	Order No.
⑥	**KMZ 5** corrosion measuring cell without reference electrode	**61 90 70015**

Accessories and spare parts

Article	Order No.
KE11NSK7: reference electrode Kalomel	**61 90 70003**
SE11NSK7: reference electrode Ag/AgCl	**61 90 70006**
Backplate electrode: platinum plate 4 cm^2	**61 90 70001**
Haber Lugging capillary for KMZ 3/5; NS 19	**10 90 70002**
Current key: electrolyte bridge for KMZ 3/5 with single way stopcock NS 7	**61 90 70004**
Intermediate vessel for electrolyte bridge	**61 90 70005**
Cell vessel KMZ 5: glass vessel with built-in plate	**61 90 70009**
Thermometer: 0 – 100°C, ground joint NS 14.5	**61 90 70010**
KPG stirrer: Shaft and socket, ground joint NS 29	**61 90 70011**

pH Electrodes, Buffer Solutions, Accessories

Reference Electrodes, Meinsberg



webcode WW37Z004

Reference electrodes
Ideal for measurements in small volumes and for special applications in laboratory analytics

Standard version: 155 mm shaft lenght, Ø 5 mm, ceramic diaphragm, 4 mm banana jack.

Article	Order No.
① **Reference electrode KE11** -5 – 60°C, Hg/Hg_2Cl_2 cartridge, fluid electrolyte (saturated, refillable) with KCl reserve	**10 90 71000**
Reference electrode SE11 -5 – 80°C, Ag/AgCl sintering body, fluid electrolyte (saturated, refillable) with KCl reserve	**10 90 71100**
Reference electrode HgE11 -5 – 60°C, Hg/Hg_2SO_4 cartridge, fluid electrolyte (saturated, refillable) with KCl reserve	**10 90 71110**
Reference electrode HgO11 -5 – 60°C, Hg/HgO cartridge, fluid electrolyte (saturated, refillable) with KCl reserve	**10 90 71111**

①

Connection cables for reference electrodes

Article	Order No.
Koax1 banana plug/stripped end, 1 m	**10 90 71001**
MK1 banana plug/stripped end, 1 m	**10 90 71011**
MK2 banana plug/banana plug, 1 m	**10 90 71021**

pH-Tester Kit multi, Phoenix Instrument

webcode WWSB5033

Tester to measure pH/mVcond/TDS/salinity and temperature, with replacable sensor, kit incl. all buffer solution and conductivity standards, batteries.

EC-15-multi:
- Automatic calibration function with stability indication
- IP 67 waterproofed
- Replaceable sensor
- Battery indicator
- Multi-color backlight for status indication



Technical data:

pH meas. range:	-2 to 16
pH resolution:	0.01
Calibration points:	1 – 3
Buffer recognition:	5 USA buffer
Electrode condition alarm:	yes
mV meas. range:	± 1000
mV resolution:	0.1/1
Cond. meas. range:	0 – 200 µs, 0 – 2000 µS, 0 – 20 mS
Cond. resolution:	Automatic scale
Cal. standard recognition:	84.1413 µS, 12.88 mS
TDS meas. range:	0,1 ppm – 10 ppt
TDS rel. accuracy:	± 1% full scale
Temperature range:	0 to 50°C
Resolution:	0.1°C
Auto off:	after 8 Min.
Warranty instrument/sensor:	2 years/6 months
Dimension (Ø × L):	35 × 175 mm
Weight:	130 g

Article	Order No.
Tester kit EC-15-multi	**10 13 79015**
Replacement electrode EC-15-multi	**10 13 79433**

pH Electrodes, Buffer Solutions, Accessories

webcode WWSB5034

Tester-Kit Conductivity/TDS and Temperature, Phoenix Instrument



①

Tester kit EC-10 cond
Tester Kit to measure conductivity/TDS and temperature, Kit incl. conductivity standards and batteries.

EC-10-cond:
- Large LCD display
- IP 67 waterproof protection
- Buffers used for calibration indication
- Measurement stability indicator
- Automatic temperature compensation
- 4 × 1,5 V AAA batteries for long working time, compatible with rechargeable batteries

Technical data:

Meas. range cond.:	0 – 2000 µS, 0 – 20 mS
Resolution cond.:	Automatic scale
Calibration points:	1 – 2
Cal. standard recognition:	1413 µS, 12.88 mS
Meas. range TDS:	0.1 ppm – 10 ppt
Rel. accuracy TDS:	± 1% full scale
Auto off:	after 8 min.
Electrode condition alarm	yes
Warranty instrument/sensor:	1 year/6 months
Dimension (Ø × L):	35 × 175 mm
Weight:	120 g

	Article	Order No.
①	Tester EC-10-cond	**10 13 72110**



②

Tester EC-15-cond
Tester to measure conductivity/TDS and temperature, with replacable sensor, kit incl. conductivity standards and batteries.

EC-15-cond:
- Automatic calibration function with stability indication
- IP 67 waterproofed
- Replaceable sensor
- Battery indicator
- Multi-color backlight for status indication

Technical data:

Meas. range cond.:	0 – 200 µs, 0 – 2000 µS, 0 – 20 mS
Resolution cond.:	1% value reading
Calibration points:	1 – 3
Cal. standard recognition:	84.1413 µS, 12.88 mS
Meas. range TDS:	0.1 ppm – 10 ppt
Relative accuracy TDS:	± 1% full scale
Temperature range:	0 – 50°C
Resolution:	0.1°C
Auto off:	after 8 Min.
Warranty instrument/sensor:	2 years/6 months
Dimension (Ø × L):	35 × 175 mm
Weight:	130 g

	Article	Order No.
②	Tester kit EC-15 cond	**10 13 72115**
	Replacement conductivity cell	**10 13 72119**

pH Multi-Parameter Measuring Instruments

Multi-Parameter Hand-held Meter SD 335 Multi, Lovibond®

The high-quality multi-parameter instrument is ideally suited for the precise determination of pH, redox, temperature, conductivity/TDS/salt as well as saturation and concentration of dissolved oxygen (O2). Due to galvanic isolation, up to three parameters can be determined and displayed simultaneously. The combination of user-friendly operation and graphic LCD display makes this portable measuring instrument the ideal companion for the daily use in water analysis. Measurement data including time stamp and measuring point ID can be recorded with the data logger at a fixed time interval or manually at the push of a button. Via the micro-USB interface, the data can be easily transferred to a computer and processed without the need of additional software. The setting of alarm limits for parameter monitoring completes the range of functions.
- Intuitive user interface thanks to graphical display
- Simultaneous determination of up to three parameters
- Selection between multi-parameter display or single value display
- Micro-USB port for software-free data transfer and power supply
- Robust protective armouring with two electrode holders

Continued on next page

pH Multi-Parameter Measuring Instruments

- Automatic recognition of standard solutions
- Evaluation of the sensor quality after calibration

Rechargeable NiMH batteries

Scope of delivery in carrying case: instrument in protective armouring incl. electrode holder, pH/temp.-electrode type 231, pH buffer: 4.01 / 7.00 / 10.01, storage solution for pH/ORP electrodes, 3 × AAA-NiMH rechargeable batteries, user manual, additional accessories depending on the set

Lovibond

webcode WWSE2016

Technical data:

Measuring range:	pH: -2.00 – 16.00 pH Redox: ± 2000 mV Conductivity: 0.000 – 500 mS/cm TDS: 0.000 – 500 g/l Salinity: 0.0 – 70.0 PSU (g/kg) O_2-concentration: 0.00 – 50.00 mg/l O_2-saturation: 0:0 – 500.0% Temperature: -10.0 – 110.0°C
Display:	Backlit LCD with graphical display
Power supply:	3 × AAA NiMH rechargeable batteries, Micro-USB
Data logger (8 GB storage):	Manual logger by keystroke Automatic logger, cyclic, time interval adjustable
Auto-off:	yes
Auto. temperature compensation:	yes
Languages:	German, English, French, Spanish, Portuguese, Italian, Dutch, Chinese
Dimensions:	164 × 100 × 37 mm
Weight:	310 g (incl. batteries and protective armouring)
Protection class:	IP 67
Conformity:	CE, RoHS, WEEE



Article	Order No.
SD 335 Multi (set 1): pH / Con / Temp. Additional accessories: • Conductivity electrode LC 12 (< 200 mS/cm) • Conductivity solution 1413 µS/cm (NIST)	**10 77 13351**
SD 335 Multi (set 2): pH / O2 / Temp. Additional accessories: • Galvanic oxygen sensor, 2 m cable • Refill electrolyte and replaceable membrane heads • Calibration bottle with sponge	**10 77 13352**
SD 335 Multi (set 3): pH / Con / O2 / Temp. Additional accessories: • Conductivity electrode LC 12 (< 200 mS/cm) • Conductivity solution 1413 µS/cm (NIST) • Galvanic oxygen sensor, 2 m cable • Refill electrolyte and replaceable membrane heads • Calibration bottle with sponge	**10 77 13353**

Portable Multiparameter Meters, METTLER TOLEDO

Portable pH/conductivity meter SevenGo Duo™– SG23

- 2-channel meter for measuring pH, mV, conductivity, TDS, salinity, and specific resistance
- Intelligent sensor management (ISM®) for easy and safe operation
- Water- and dust-proof (IP67)
- Data memory for 99 GLP data records



Article	Order No.
SG23-B Meter	**10 50 02600**
SG23-ELK Electrode kit with InLab® Expert Pro-ISM and InLab® 738-ISM, 1.8 m cable	**10 50 02601**
SG23-FK2 Field kit with InLab® Expert Pro-ISM and InLab® 738-ISM, 1.8 m cable	**10 50 02602**
SG23-FK5 Field kit with InLab® Expert Pro-ISM and InLab® 738-ISM, 5 m cable	**10 50 02603**

More 2-channel-device combinations, accessories, electrodes, calibration solutions etc. on request!

webcode To see other variants and accessories, please enter the webcode on our website.

pH Multi-Parameter Measuring Instruments

webcode WWSB5031

PHOENIX Instrument

Multiparameter (pH, Conductivity) Measuring Instruments, Phoenix Instrument

Innovative measurement technology “Made in Europe” – this is what the new pocket and laboratory measuring instruments of the Phoenix Instrument EC series offer.
During the development, the main focus was put on user-friendliness and the technical features of the instruments. The pH electrodes and conductivity cells are produced in Switzerland by experienced specialists.

Portable multimeter EC-21-multi/EC-26-multi
During the new development of the EC-21/EC-26 series, particular emphasis was placed on easy handling during daily routine. The high-resolution color display guides the user intuitively through the measurement and calibration process.

EC-21 multi
- High-resolution color display, adjustable brightness
- DHS-function, pH electrodes with internal chip
- Digital or normal analog pH-electrodes can be used
- Display of pH/mV, conductivity/TDS and temperature values
- Automatic pH calibration up to 3 points
- Automatic LF-calibration up to 5 points
- Automatic ORP 1-point calibration
- Selectable stability parameter (low-medium-high)
- Automatic and manual temperature compensation
- Protection class IP 57
- Supplied in a robust carrying case with all accessories

... additionally for the EC-26 multi
- GLP-function
- Data logger (automatic or manual) 1000 data strings
- Connection to PC via micro-USB
- Free DATA LINK +
- Automatic brightness regulation



①



②

Technische Daten:	**EC-21 multi**	**EC-26-multi**
pH measuring range:	0.00 – 14.00 pH	-2.00 – 16.00 pH
Resolution:	0.1/0.01 pH	0.1/0.01 pH
Calibration points:	1 – 3	1 – 3
Buffer recognized:	USA, NIST and user defined	USA, NIST and user defined
mV measuring range:	±1000 mV	1000 – 1900 mV
Resolution:	1 mV	0.1/1 mV
Conductivity measuring range:	0.00 – 200 mS	0.00 – 200 mS
Resolution:	0.1/1 µS 0.01/0.1 mS	0.01/0.1/1 µS 0.01/0.1 mS
Calibration points:	1 – 5	1 – 5
Cell constant selectable:	0.1 – 1 – 10 cm^{-1}	0.1 – 1 – 10 cm^{-1}
Temperature range:	0.0 – 100°C	-10 – 110°C
Resolution:	0.1 / ± 0,5°C	0.1 / ± 0,5°C
TDS measuring range:	0.1 mg/l – 200 g/l	0.1 mg/l – 200 g/l
GLP:	–	yes
CALDUE:	no	yes
Memory:	–	1000 data
Output:	–	Micro USB
IP-class:	IP 57	IP 57
Dimensions (D×W×H):	185 × 85 × 45 mm / 400 g	185 × 85 × 45 mm / 400 g
Warranty instrument:	3 years	3 years

	Article	Order No.
①	**EC-21-multi-0** Kit without pH electrode, included cond. cell 2301 T, temperature probe, cable S7/BNC, calibration standards, carrying case and accessories	**10 13 70210**
	EC-21-multi-1 Kit include pH electrode 201T and cond. Cell 2301T, calibration standards, carrying case and accessories	**10 13 70213**
	EC-21-multi-5 Kit include pH electrode 201T DHS and cond. Cell 2301T, calibration standards, carrying case and accessories	**10 13 70215**
②	**EC-26 multi-0** Kit without pH electrode, included cond. cell 2301 T, temperature probe, cabel S7/BNC calibration standards, carrying case, power supply and accessories, software PC-Link, USB cable	**10 13 70260**
	EC-26 multi-1 Kit include pH-electrode 201T and cell 2301T, calibration standards, carrying case, power supply and accessories, software PC-Link, USB cable	**10 13 70261**
	EC-26 multi-5 Kit include pH-electrode 201T DHS and cell 2301T, calibration standards, carrying case, power supply and accessories, software PC-Link, USB cable	**10 13 70265**

Continued on next page

pH Multi-Parameter Measuring Instruments

③ **Basic Bench top multiparameter EC-31-multi/EC-36-multi**
During the new development of the EC-21/EC-26 series, particular emphasis was placed on easy handling during daily routine. The high-resolution color display guides the user intuitively through the measurement and calibration process.

EC-31 multi
- High-resolution color display, adjustable brightness
- DHS-function, pH electrodes with internal chip
- Digital or normal analog pH-electrodes can be used
- Display of pH/mV, conductivity/TDS and temperature values
- Automatic pH calibration up to 3 points
- Automatic LF-calibration up to 5 points
- Automatic ORP 1-point calibration
- Selectable stability parameter (low-medium-high)
- Automatic and manual temperature compensation
- Protection class IP 54

... additionally for the EC-36 multi
- GLP-function
- Data logger (automatic or manual) 1000 data strings
- Connection to PC via micro-USB
- Free DATA LINK +

Technical data:	**EC-31-multi**	**EC-36-multi**
pH measuring range:	0.00 – 14.00 pH	-2.00 – 16.00 pH
Resolution:	0.1/0.01 pH	0.1/0.01 pH
Calibration points:	1 – 3	1 – 3
Buffer recognized:	USA, NIST and user defined	USA, NIST and user defined
mV measuring range:	±1.000 mV	1000 – 1900 mV
Resolution:	1 mV	0.1/1 mV
Conduction measuring range:	0.00 – 200 mS	0.00 – 200 mS
Resolution:	0.1/1 µS 0.01/0.1 mS	0.01/0.1/1 µS 0.01/0.1 mS
Calibration points:	1 – 5	1 – 5
Cell constant selectable:	0.1 – 1 – 10 cm^{-1}	0.1 – 1 – 10 cm^{-1}
Temperature range:	0.0 – 100°C	-10 – 110°C
Resolution:	0.1 / ± 0.5°C	0.1 / ± 0.5°C
TDS measuring range:	0.1 mg/l – 200 g/l	0.1 mg/l – 200 g/l
GLP:	–	yes
CALDUE:	no	yes
Memory:	–	1000 data
Output:	–	Micro USB
IP-class:	IP 54	IP 54
Dimensions:	170 × 145 × 60 mm / 530 g	170 × 145 × 60 mm / 530 g
Warranty instrument:	3 years	3 years



③

Article	Order No.
EC-31 multi 0 Kit without pH electrode, included cond. cell 2301 T with ATC, with temperatureprobe NT 55, BNC/S7 1 m cable, pH buffer and conductivity standard, electrode holder.	**10 13 70310**
EC-31 multi 1 Kit include pH electrode 201T and cond. Cell 2301T with ATC, pH buffer and conductivity standard, electrode holder. pH buffer and conductivity standard, electrode holder.	**10 13 70331**
EC-31 multi 5 Kit include pH electrode 201T DHS and cond. Cell 2301T with ATC, pH buffer and conductivity standard, electrode holder.	**10 13 70315**
EC-36 multi 0 Kit without pH electrode, included cond. cell 2301 T with ATC, with temperatureprobe NT 55, BNC/S7 1mt cable, power supply, software PC-Link, pH buffer and conductivity standard, carrying case and accessories.	**10 13 70360**
EC-36 multi-1 Kit include pH electrode 201T and cond. Cell 2301T with ATC, pH buffer and conductivity standard, electrode holder, power supply, software PC-Link, USB- cable.	**10 13 70361**
EC-36 multi-5 Kit include pH electrode 201T DHS and cond. Cell 2301T with ATC, pH buffer and conductivity standard, electrode holder, power supply, software PC-Link, USB- cable.	**10 13 70365**

Continued on next page

pH Multi-Parameter Measuring Instruments



①

① **Professional bench top multiparameter EC-45 multi**
The large color display easy on to read shows all information necessary information about measurement, calibration,standards, cell condition, GLP. Anyone can use this meter easily with its intuitive menu available in up to 8 languages in the EC-45-Multi. Easy to learn. Up to 5-point pH-calibration and up to 4-point Conductivty calibration with automatic recognition of all standards. Icon support for all calibration functions and advanced electrode diagnostics. Easy to calibrate. All functions can be controlled in an intuitive and easy way. Instrument will be delivered with a stirrer.

EC-45 multi
- Large color display with indication of Calibration Buffers and measurement's stability
- DHS-function, pH electrodes with internal chip
- Indication stability of the measurement with icon
- IP54 protection
- 3 years instrument warranty
- Display pH/mV and Temperature, COND/TDS/Salinity/Resistivity and Temperature simultaneously
- Selectable Resolution: 0,1/0,01/0,001 pH; Auto range for COND
- GLP and IQ-OQ manual available
- Selectable cell constant allows for use with 2 or 4 plate cell
- Memory with re-call of last calibration date and time and information of electrode's life
- CAL DUE: set of calibration frequency for high quality of measurements
- Stability Parameter (Low-Med-High) for high accuracy measurement
- Non-volatile memory holds up to 1000 data points with date and time in automatic (Data logger) or manual
- 2 × USB ports to transfer data at PC or printer and for external keyboard
- Software PC-Link to download data (included)

Technical data:

pH meas. range:	-2 – 20 pH
Resolution:	0.1 / 0.01 / 0.001 pH
Calibration points:	1 – 5
Buffer recognized:	USA, NIST, user defined
mV meas. range/resolution:	±2000/ 0.1/1 mV
Cond. measuring range:	0.00 – 20.00/200.0/2000 µS / 2.00/20.00/200.0/1000 mS
Accuracy:	±1% full scale
Temperature compensation:	manual or automatic
Calibration points cond.:	1 to 4
Calibration standards recognized:	84, 1413 µS / 12.88, 111.8 mS, user defined
Cell constant selectable:	0.1 – 1 – 10 cm^{-1}
TDS measuring range:	0.1 mg/l – 500 g/l
TDS factor:	0.40 – 1.00
Accuracy TDS:	±1% full scale
Temperature range:	-20 – 120°C
Accuracy/resolution temp.:	0.1/±0.2°C
Temperature calibration:	yes
GLP:	yes, with date and time
CALDUE:	yes
Memory:	yes, 1000 data
Interputs:	2 × USB, RS-232
Protection class:	IP 54
Power supply:	AC/DC adptor 12 V / 1000 mA
Dimensions:	165 × 195 × 68 mm, 1050 g without stirrer

Article	Order No.
EC-45 multi 2 Kit without electrode and cell, with cable S7/BNC, temp. probe NT55, buffer solutions pH 7 and 4, cond. standards 1413 µS and 12,88 mS, electrode holder, power supply and accessories, incl. magnetic stirrer	**10 13 71452**
EC-45 multi 3 Kit with pH-electrode XS STANDARD S7, cell glass VPT 80/1 with ATC, cable S7/BNC 1 m, buffer solutions pH 7 and pH 4, cond. standards 1413 µS and 12,88 mS, power supply and accessories, incl. magnetic stirrer	**10 13 71453**
EC-45-multi-5 Kit with pH-electrode STANDARD T - BNC DHS, cond.-cell glass VPT 80/1 with ATC, pH puffer pH 7 and pH 4, cond.-standards 1413 µS and 12,88 mS, accessories, with magnetic stirrer, DHS-function	**10 13 70455**

Continued on next page

pH Multi-Parameter Measuring Instruments

pH electrodes for general applications

	Article	Order No.
②	**pH electrode Gel** pH electrode, gel-filled with ceramic diaphragm	**10 13 71204**
③	**pH electrode Polymer** pH electrode, polymer-filled with open pore diaphragm	**10 13 71223**
④	**pH electrode Polymer Tip** pH electrode, polymer-filled with double open pore diaphragm	**10 13 71443**
⑤	**pH electrode Standard** pH standard electrode with ceramic diaphragm	**10 13 71363**
	pH electrode Standard HA like Standard, minimal Alkali error	**10 13 71423**
	pH electrode Standard HF like Standard, for samples with HF	**10 13 71433**
	pH electrode Standard BNC like Standard, with fix cable BNC	**10 13 71263**
	pH electrode Standard DIN like Standard, with fix cable DIN	**10 13 71273**
	pH electrode Standard T-BNC like Standard, with fix cable BNC and temperature sensor	**10 13 71473**
	pH electrode Standard T DIN like Standard, with fix cable DIN and temperature sensor	**10 13 71463**
	pH electrode Polymer Plast pH electrode, polymer-filled with 1 open pore diaphragm and 1 ceramic diaphragm	**10 13 71493**
	pH electrode Polymer Plast BNC like Polymer Plast, with fix cable BNC	**10 13 71503**
	pH electrode Polymer Plast DIN like Polymer Plast, with fix cable DIN	**10 13 71513**
⑥	**pH electrode 201 T** pH electrode with epoxy body, temperature sensor and fix cable BNC	**10 13 71022**
	pH electrode 201 T DIN pH electrode with epoxy body, temperature sensor and fix cable DIN	**10 13 71249**
	pH electrode Flat pH electrode for surface measurements, 3-hole diaphragm with Teflon	**10 13 71413**
⑦	**pH electrode Flow** pH electrode for viscous samples and low ion media	**10 13 71373**
⑧	**pH electrode Semi-Micro** pH electrode for small volume samples	**10 13 71383**
	pH electrode Micro pH electrode for small volume samples	**10 13 71213**
	pH electrode Micro P pH electrode for small volume samples with mit protein, electrolyte glycerin	**10 13 71253**
	pH electrode Gel Plast BNC pH electrode with epoxy body, fix BNC-cable and double ceramic diaphragm	**10 13 75223**



Everything for your laboratory –
from one source

pH Multi-Parameter Measuring Instruments

Multi-Parameter Portable Meters MultiLine®, WTW®

WTW a xylem brand

webcode WWP1J016



①



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MultiLine® IDS – wireless ready: Multi 3620 IDS and Multi 3630 IDS
The new wireless ready MultiLine® IDS handheld devices for intelligent digital IDS sensors are state-of-the-art systems for mobile multi-parameter measurement. They stand out among their competitors by the fact that the signal processing is completely located in the sensor. The sensor independently logs on with the unit and transmits clearly identifiable data and the current calibration. This prevents data mix-up. The digital signal transmission allows for long cables for all parameters. The unique QSC function for IDS pH sensors makes it possible to evaluate the current sensor status. CMC function for checking the optimum pH measuring range. Large portfolio of IDS-pH, conductivity, oxygen and turbidity sensors for almost all types of applications. Watertight, universal Quick-Lock connectors at the unit protect the sensors from loss.

The sturdy, watertight (IP 67) MultiLine® handheld instruments have a high-resolution graphic color display for optimum operation and information. With special silicone membrane keypad for excellent operation comfort, and USB interface for data transfer to USB memory sticks or printers. Economical operation thanks to NIMH rechargeable batteries. When IDS plug head sensors and IDS remote modules are used, wireless measuring of up to three parameters is possible, depending on the number of channels. In addition, these devices are able to program and read the OxiTop-IDS heads. Available as portable set complete with sensors and accessories for operation in the field.

Multi 3620 IDS: Two measurement channels for simultaneous parallel measurement with two similar or different sensors and parameters.

Multi 3630 IDS: Three measurement channels for simultaneous parallel measurement with up to three similar or different sensors and parameters. Also appropriate for MPP IDS depth probes.

Specifications MultiLine® IDS multi-parameter instruments

Display:	TFT colour graphics
Measuring range:	depending on the respective IDS sensor
Data storage:	manually or automatical logger, 10,000 records (measuring values, temperature, date, time, ID)
Interface:	USB-A (Stick, selected printer), Mini USB (PC)
Power supply:	Power supply with charging function or 4 × 1.2 V NiMH batteries

	Article	Order No.
①	**Multi 3620 IDS SET C** including SenTix® 940, TetraCon®	**10 81 23620**
	Multi 3620 IDS SET G including SenTix® 940-3, FDO® 925-3, TetraCon® 925-3	**10 81 23621**
②	**Multi 3630 IDS SET F** including SenTix® 940, FDO® 925, TetraCon® 925	**10 81 23622**

Matching IDS sensors see page 904.

webcode

Use the webcode on our website to see a larger selection of products from a specific manufacturer.

pH Multi-Parameter Measuring Instruments

Multi-Parameter Portable Meter MultiLine® Multi 3510 IDS, WTW®

webcode WWP1J027

Multi-parameter portable meter Multi 3510 IDS
Using intelligent digital sensors, the new Multi 3510 IDS is a perfect entry-level meter for state-of-the-art measurement of the standard parameters pH, conductivity, dissolved oxygen, and turbidity. It has one universal measuring channel for all parameters. The robust, water-tight design makes it a perfect instrument for all portable applications. With comfortable menu control via a backlit graphic display, it makes working easy also in adverse lighting conditions. Using the keyboard with gloves is no problem. Furthermore, the meter is ready for the application with IDS remote modules.

- Automatic log-in of the sensor at the meter for non-interchangeable transmission of characteristics and the current calibration
- Confusion-proof thanks to digital signal transmission; long cables possible for all parameters
- With QSC function for IDS pH sensors to allow for assessment of the current sensor status
- Optimum monitoring of the pH measuring range thanks to CMC function
- Ready for remote application for wireless measuring
- Available as field case sets with sensors and accessories



Technical data:

Display:	LCD graphic, backlit
Measuring channels:	1 (universal) for IDS pH-electrodes, conductivity cells, optical D.O. sensor FDO® 925, turbidity sensor VisoTurb 900-P
Memory:	manual 200/4500 automatic
Logger:	manual/time-controlled
Interface:	Mini USB-B
Power supply:	4 × 1,5 V AA (supplied) or 4 × 1,2 V NiMH-Akku, via USB
Protection class:	IP 67

Article	Order No.
Multi 3510 Single meter in a case including accessories	**10 81 22350**
Multi 3510 SET 1 SenTix® 940	**10 81 22351**
Multi 3510 SET 3 TetraCon® 925	**10 81 22353**
Multi 3510 SET 4 FDO® 925-1.5	**10 81 22354**
Multi 3510 SET KS1 Set including accessories and armor SM Pro	**10 81 22355**

IDS-WLM – Wireless modules for IDS sensors
Wireless measurement of pH, redox, conductivity and turbidity with IDS plug head sensors and remote modules.
Plug the remote module on the IDS plug head sensor, actuate the remote connection at the device – and you're ready to go! Change the sensor whenever you like, or use a specific module for every sensor. No cable, no hassle, full freedom of movement in areas where cable or meter are inconvenient, even under fume cupboards or safety workbenches.
Depending on the number of channels available, the module at the IDS instrument can process one, two, or three parameters simultaneously. The following instruments are wireless-ready: the new MultiLine 3510 IDS, 3620 IDS, 3630 IDS and the inoLab® Multi 9310 IDS, 9620 IDS and 9630 IDS.



Technical data:

Radio transmission:	Bluetooth LE
Range:	approx. 10 m
Power supply:	Re-chargeable LiPo Akku 230mAh
Continuous operating times:	IDS pH electrodes: 60 h IDS ORP electrodes: 60 h IDS Conductivity cells: 30 h (conductivity up to 1S) IDS FDO sensor: 9 h IDS Turbidity sensor: 5 h
Signal:	RGB LED
Protection class:	IP43
Usable sensores:	All WTW® IDS-sensors with plug head

Article	Order No.
IDS WLM-S wireless module for plug head sensor	**10 81 28141**
IDS WLM-S wireless module for IDS meter	**10 81 28142**
WLM-Charger USB charger for wireless modules	**10 81 28143**
DS WLM Kit Kit consisting of wireless module for sensor and meter (one of each), USB charger and universal USB power supply	**10 81 28144**

pH Multi-Parameter Measuring Instruments

inoLab® Series, WTW®

WTW a xylem brand

webcode WWP1J022

inoLab® laboratory instruments are perfectly adapted for use in modern laboratories. They have clearly arranged, user-friendly keypads, smooth surfaces that are easy to clean, and self-explanatory user menus. Depending on the model series, they are available with segment (7110) or backlit black-and-white graphic display (7310) and USB interface. All units come with power pack with an all-purpose connector and practical stand with sensor holder. For units with integrated interface, data transmission cable and software are comprised in the delivery.

On request, inoLab® units are available in application-specific sets with sensors and accessories. All units can be operated either with power pack or with battery. The inoLab® 7310 has an integrated memory and interface as a standard; optionally, it is available with integrated 58 mm thermotransfer printer for direct documentation of results in compliance with GLP.



①

① inoLab® pH 7110

A simple pH/mV laboratory measuring instrument for all tasks where the focus is on getting reliable measured values fast and without hassle. A large, clearly legible LCD segment display makes it easy to read to data, the clearly arranged keypad ensures smooth operation. The automatic AutoRead function provides for correct, reproducible measuring results. An integrated timer reminds the user when the next calibration is due.

Technische Data:	all values ±1 digit
pH:	-2.0 to 20.0 ±0.1 pH
	-2.00 to 20.00 ±0.01 pH
	-2.000 to 19.999 ±0.005 pH
mV:	± (1200.0 ± 0.3) mV
	± (2000 ±1) mV
Calibration:	1-, 2- or 3-point WTW technical buffersr or DIN/NIST
Temperature:	-5.0 to 105.0°C ±0.1°C

Article	Version	Order No.
inoLab® pH 7110	Single device incl. accessories	**10 81 27110**
inoLab® pH 7110 set 2	Device incl. SenTix® 41 and accessories	**10 81 27112**
inoLab® pH 7110 set 4	Device incl. SenTix® 81 and accessories	**10 81 27114**



②

② inoLab® pH 7310

pH measurement with documentation in compliance with GLP, on request also with integrated printer: This is the inoLab® pH 7310 or inoLab® pH 7310P. With state-of-the-art backlit graphic display with user menus for easy, intuitive operation. The mini USB-B interface ensures fast data transfer and is used for firmware updates. The integrated memory can store up to 5000 data records with time of day, date, and ID in compliance with GLP. Housing and keypad surfaces are easy to clean.

Technical data:	all values ±1 digit
pH:	-2.0 to 20.0 ±0.1 pH
	-2.00 to 20.00 ±0.01 pH
	-2.000 to 19.999 ±0.005 pH
mV:	±(1200.0 ±0.3) mV
	±(2500 ±1) mV
Temperature:	-5.0 to 105.0°C ±0,1°C
Calibration:	1-, 2-, 3-, 4-, 5-point WTW technical buffer
Calibration storage:	up to 10 calibrations
Display:	backlit LCD display
Data storage:	manual 500/5000 automatic
Interface:	mini USB-B

Article	Version	Order No.
inoLab® pH 7310	Single device incl. accessories	**10 81 27310**
inoLab® pH 7310 set 2	Device incl. SenTix® 41 and accessories	**10 81 27312**
inoLab® pH 7310 Set 4	Device incl. SenTix® 41 and accessories	**10 81 27314**
inoLab® pH 7310P	Device with integrated printer incl. accessories	**10 81 27316**

③ inoLab® Cond 7110

The inoLab® Cond 7110 has all key functions for conductivity measurement, such as adjustable reference temperature and various methods for temperature compensation. A large, clearly legible LCD segment display makes it easy to read to data, the clearly arranged keypad ensures smooth operation. The automatic AutoRead function provides for correct, reproducible measuring results.

Technical data:	all values ±1 digit
Conductivity:	0.00 to 1000 mS/cm ±0.5 % of value
	0.00 to 19.99 µS/cm for k= 0,1 cm^{-1}
Salinity:	0.0 to 70.0 (acc. to IOT)
Temperature:	-25.0 to 125.0°C ±0.1°C

Continued on next page

pH Multi-Parameter Measuring Instruments

Cell constants:	0.450 to 0.500 cm^{-1} 0.09 to 0.110 cm^{-1} 0.800 to 0.880 cm^{-1}
AutoRead:	automatic
Tref:	20°C/25°C
Temperature compensation:	nLF, lin 0.000 to 3.000 %, can be switched off
Power supply:	universal power supply 100 to 240 V, 50/60 Hz, 4 × 1,5 V AA or 4 × 1,2 V NiMH rechargeable batteries

Article	Version	Order No.
inoLab® Cond 7110	Single device incl. accessories	**10 81 27111**
inoLab® Cond 7110 set 1	Device incl. TetraCon® 325 and accessories	**10 81 27113**



③

④ **inoLab® Cond 7310**

Conductivity measurement with documentation in compliance with GLP, on request also with integrated printer: This is the inoLab® Cond 7310 and the inoLab® Cond 7310P. The inoLab® Cond 7310 can optionally be connected to a wide range of different standard and special conductivity measurement cells and has an automatic and manual temperature compensation function (can also be switched off for measurement pursuant to pharmacopeia) with linear and non-linear function for ultra-pure water and natural water pursuant to EN 27 888.

Technical data:	all values ±1 digit
Conductivity:	0.00 to 1000 mS/cm ±0,5 % from value
additional:	0.000 to 1.999 µS/cm, K= 0.01 cm^{-1} 0.00 to 19.99 µS/cm, K= 0.1 cm^{-1}
Spezific resistance:	0.00 to 20 MOhm cm
Salinity:	0.0 to 70.0 (acc. to IOT)
TDS:	0 to 1999 mg/l, 20 to 199.9 g/l
Temperature:	5.0 to 105.0°C ±0.1°C
Cell constants:	fix 0,01 cm^{-1}, calibratable 0.450 to 0.500 cm^{-1} 0.800 to 0.880 cm^{-1}, adjustable 0.09 to 0.110 cm^{-1} 0.250 to 25.0 cm^{-1}
Calibration:	1-point
Tref:	20°C/25°C
Temperature compensation:	none, nlF, 0.000 to 10.00 %/K
Calibration storage:	up to 10 calibrations
Data storage:	manual 500/5000 automatic
Logger:	manual/time-controlled

Article	Version	Order No.
inoLab® Cond 7310	Single device incl. accessories	**10 81 27311**
inoLab® Cond 7310 set 2	Device incl. TetraCon® 325 and accessories	**10 81 27313**
inoLab® Cond 7310P	Device with integrated printer and accessories	**10 81 27317**



④

inoLab® Oxi 7310

Dissolved-oxygen measurement with documentation in compliance with GLP, on request also with integrated printer: This is the inoLab® Oxi 7310 and the inoLab® Oxi 7310P. The inoLab® Oxi 7310 works with the time-proven electroplated dissolved-oxygen sensors by WTW, CellOx® 325 and StirrOx® G. A calibration history of up to 10 stored calibration logs provides information on changes in the sensor behavior. Calibration against external standard is possible comprising an automatic compensation of temperature, air pressure, and salinity.

Technical data:	all values ±1 digit
Dissolved oxygen	
Concentration:	0.00 to 19.99 mg/l ±0.5 % value 0 to 90 mg/l ±0.5 %
Saturation:	0.0 to 199.9 % ±0.5 % from value 0 to 600 % ±0.5 from value
Partial pressure:	0 to 199.9 hPa, 0 to 1250 hPa
Temperature:	-5.0 to 105.0°C ±0.1°C
Calibration:	1-point air calibration or against external standard
Calibration storage:	up to 10 calibrations
Display:	back-lit LCD
Datenspeicher:	manual 500/5000 automatic
Logger:	manual/time-controlled

Article	Version	Order No.
inoLab® Oxi 7310	Single device incl. accessories	**10 81 27320**
inoLab® Oxi 7310 set 1	Device incl. CellOx® 325 and accessories	**10 81 27321**
inoLab® Oxi 7310 set 4	Device incl. StirrOx® G and accessories	**10 81 27324**
inoLab® Oxi 7310P	Device with integrated printer and accessories	**10 81 27325**

pH Multi-Parameter Measuring Instruments

webcode WWP1J025

inoLab® Multi IDS Series, WTW®

The inoLab® Multi IDS series is based on a new concept: The parameter to be measured is not defined by the unit but solely by the respective sensor. Intelligent digital IDS sensors make the inoLab® Multi IDS series perfect all-rounders for every laboratory. With - depending on the unit - one to three universal digital inputs, all available WTW® IDS sensors can be linked via a sequential or parallel connection. Whether pH, conductivity, or dissolved oxygen: Just attach the appropriate sensor to turn your inoLab® Multi into the unit of choice for the respective application.



①

inoLab® Multi 9310 IDS
Intelligent digital IDS sensors make the inoLab® Multi 9310 IDS a perfect all-rounder for every laboratory. The universal digital input works with all common laboratory IDS sensors. Simply attach the appropriate sensor to turn the inoLab® Multi 9310 into a pH, conductivity, or oxygen measuring instrument. With state-of-the-art backlit graphic display with user menus for easy, intuitive operation. The mini USB-B interface ensures fast data transfer and is used for firmware updates. The integrated memory can store up to 5000 data records with time of day, date, and ID in compliance with GLP. Housing and keypad surfaces are easy to clean.
The integrated 58 mm thermotransfer printer available as an option generates durable printouts for direct documentation of the measured data. Use the new wireless modules together with the new IDS plug head sensors.

Unit, power pack, data transmission cable, and main connector are comprised in the delivery scope.
For technical data and measuring ranges, see the respective IDS sensor.



②

Technical data:

Display:	back-lit LCD
Data storage:	manual 500/5000 automatic
Logger:	manual/time-controlled
Interface:	mini USB-B
Power supply:	Universal power supply 100 to 240 V, 50/60 Hz, 4 × 1.5 V AA or 4 × 1.2 V NiMH rechargeable batteries

	Article	Version	Order No.
①	inoLab® Multi 9310	Single device incl. accessories	**10 81 29310**
	inoLab® Multi 9310P	Single device with integrated printer incl. accessories	**10 81 29311**
	inoLab® Multi 9310 set 2	Device incl. SenTix® 980 and accessories	**10 81 29312**
	inoLab® Multi 9310 set 3	Device incl. TetraCon® 925 and accessories	**10 81 29313**
	inoLab® Multi 9310 set 4	Device incl. FDO® 925 and accessories	**10 81 29314**

Seperate IDS sensors see page 904.

inoLab® Multi 9620 IDS and inoLab® Multi 9630 IDS
Wireless-ready multi-channel meter:
- Fail-safe measuring accuracy
- Digital sensor identification
- Full documentation

High-performance technology by WTW® for complex laboratory applications. Two digital inoLab® multi-parameter instruments for IDS sensors for parallel measurement of identical and different parameters. Two (inoLab® Multi 9620 IDS) respectively three sensors (inoLab Multi 9630 IDS) can be connected. A bright colour display protected by a glass plate makes it easy to see the information. The keyboard has an antibacterial coating to help prevent microbial contamination. The instruments stand safely in a zinc die-cast lower housing, optimally shielded against interference. The stop of the high-quality stand can be at the left- or right-hand side, depending on the situation at the individual workplace.

Measuring reliability
- Wireless-ready for safe data transmission with IDS remote modules
- Digital signal transmission eliminates electromagnetic interferences, allocates correct calibration data and provides sensor data
- The intelligent sensor rating QSC signals the actual condition of an IDS pH electrode to increase operational reliability
- The CMC function for pH visualizes the optimum measuring range and supports correct measurement
- Visualization of channels for secure allocation of the sensors and parameters

Documentation in compliance with GLP/AQS
- Automatic digital recording of sensor data for definite traceability of all values
- Optional user administration for access control and documentation
- Transfer of all data as .csv format via USB interface to a PC, Excel add-in for formatted pasting into spread sheet (MultiLab Importer, included in delivery or as download)

Continued on next page

pH Multi-Parameter Measuring Instruments

- Additionally, output of the stored data in ASCII and *.csv format to USB thumb drive or selected printers

Compatible with conventional pH/ORP/ISE measurement

- With integratable pH module (accessory) compatible for pH, ISE and redox electrodes with DIN or BNC plug and 4 mm temperature probe

Technical data:

Unit:	inoLab® Multi 9620/9630 IDS 2- or 3-channel
Parameters:	pH/ORP/ISE/conductivity/dissolved oxygen/turbidity
Measuring ranges:	Defined by the respective IDS electrode
Display:	Color graphic display with glass shield
Keypad:	Antibacterial membrane keypad
Interface:	USB-A (flashdrive, printer), Mini USB-B (PC)
Storage slots:	Manual 500/automatic 10,000
Optional pH module:	Yes/yes (in place of a digital input)
User administration:	MultiLab User
Stand:	Stand with left or right-hand side attachment
Power supply:	Universal power pack, 100 to 240 V, 50/60 Hz



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	Article	Vers.	Order No.
②	inoLab® Multi 9620 IDS	Single device	**10 81 29620**
	inoLab® Multi 9620 IDS set C	with pH SenTix® 980, conductivity TetraCon® 925	**10 81 29621**
③	inoLab® Multi 9630 IDS	Single device	**10 81 29630**
	inoLab® Multi 9620 IDS, with sensors	with pH SenTix® 980, conductivity TetraCon® 925 FDO® 925	**10 81 29622**

Seperate IDS sensors see page 904.

Adapter

Article	for	Order No.
ADA 94pH/IDS DIN	conv. pH/Redox/ISE electrodes with DIN and banana plug	**10 81 28131**
ADA 94pH/IDS BNC	conv. pH/Redox/ISE electrodes with BNC and banana plug	**10 81 28132**

Matching sensors see page 904.

i Link-1-wire BT, ORI

Mobile Bluetooth measuring head with rechargeable battery for measuring and calibrating the ISM/easySense pH and oxygen electrodes. Connect the iLink either wireless via Bluetooth or with the iLink cable with a computer or a smartphone. Use the “iSense” or “iSense mobil” software (installed on your computer beforehand) to carry out measurements, calibration or maintenance tasks. With “iSense mobil”, sensor diagnoses can be sent via email at the push of a button. The software is available free of charge for iOS and Android operating systems.
Application in the field: When the electrode in its protective tubular is fastened to the ORI sampling stick (see page 1013) and connected via the ISM connection cable to the iLink-1-wire BT, you can for example use your smartphone to read the pH value and temperature of the riverbank from a distance, and to save or send it.



webcode WWBPE013

Article	Order No.
i Link-1-wire BT	**10 22 55211**
InPro4260/120/Pt100 pH combination electrode (ExII 1/2G EEx ia IIc T6/T5/T4/T3)	**10 22 55212**
InPro 6850i/12/120 ISM oxygen sensor	**10 22 55213**
EasySense pH 31 pH electrode	**10 22 55214**
EasySense O2 21-Sensor	**10 22 55215**
EasySense ORP 41 Redox-Elektrode	**10 22 55216**



pH Multi-Parameter Measuring Instruments

webcode WW2VA022

Multi-parameter Handheld Meter, Labor-Pilz/Endress+Hauser



① **Liquiline Mobile**
Reliable measurement control with Liquiline Mobile CML18 – wherever and whenever you want

The Memosens multi-parameter handheld measuring device from Endress + Hauser enables simple and safe control of pH, redox, conductivity and dissolved oxygen, including temperature measurement. Thanks to Memosens technology, switching between different sensors is quick and easy. The device immediately recognizes which sensor is connected, automatically loads all saved sensor data and directly displays the correct measured value. Sensor adjustment on site is no longer necessary and instead can be carried out conveniently in the laboratory or in the workshop. Do you want to control your process over a longer period of time? Use Liquiline Mobile as a data logger and save over 10,000 measurements with time and date stamps.

Liquiline Mobile CML18 can be easily operated via the intuitive SmartBlue app. In addition, Liquiline Mobile CML18 has an integrated wireless charging function that enables inductive charging with a Qi-certified charger. Just as easy as with your smartphone

Technical data:

Display:	1,5″ OLED
Measurement:	dependent on Memosens electrode
Data logger:	manuel or time logger for more than 10,000 measurements with date and time stamp
Output:	Bluetooth with Endress+Hauser SmartBlue App (free of charge)

Article	Order No.
Memosens multi-parameter handheld meter Liquiline Mobile	**10 47 41801**
Memosens multi-parameter handheld meter Liquiline Mobile with wireless charger (induction charging pad)	**10 47 41802**





Accessories

Article	Order No.
② **Memosens pH electrode CPL51E with plastic shaft**	**10 47 40051**
Technical data: Application: universal, water, waste water; Sensor type: Memosens; Measuring range pH: 0 up to 14 pH; Measuring range temp.: -5 up to 80°C; Length: 120 mm 120 mm; Electrolyte: gel, KCl saturated; Diaphragm: annular gap diaphragm	
SenSensor cable for CPL51E, 1.5 m	**10 47 42015**
③ **Sensor cable for CPL51E, 3 m**	**10 47 42030**



Buffer solutions
The high-quality CPY20 buffers guarantee pH calibration to ultimate precision. They are produced and bottled in the permanent calibration laboratory that has successfully passed the tough DAkkS accreditation (German accreditation authority). The buffers are specified with an accuracy rating of +/-0.02 pH. They are traceable to NIST and PTB standard reference material and contain only FDA-listed preservatives. Using CPY20 you will achieve correct values that you can rely on.

Article	Order No.
Buffer solution 4, 250 ml	**10 47 42004**
Buffer solution 7, 250 ml	**10 47 42007**
④ Buffer solution 9, 250 ml	**10 47 42009**
⑤ Buffer solution 4, 1000 ml	**10 47 42014**
⑥ Buffer solution 7, 1000 ml	**10 47 42017**
Buffer solution 9, 1000 ml	**10 47 42019**

pH Multi-Parameter Measuring Instruments

Memosens Analog Converter, Labor-Pilz/Endress+Hauser

webcode WW2VA023

Memosens analog converter
Reliable monitoring of fermentation processes in laboratories

The Memosens Analog Converter CYM17 enables the use of digital pH and oxygen sensors in laboratory fermenters without any modifications to the hardware or SOP. The sensors offer you the most reliable data transmission, highest measured value availability and greatest ease of use. Digital Memosens sensors with inductive coupling are resistant to moisture which guarantees maximum accuracy.
With the CYM17 Memosens Analog Converter you can now benefit from tried and tested Memosens technology on laboratories too. Simply install the Memosens sensors CPS171D (pH) and COS81D (oxygen) in your existing fermenter and connect them to the converter. Different adapter cables are available for easy and fast conversion. The output signal of the converter corresponds to that of a conventional analog pH or oxygen sensor.

Technical data:

Output pH:	mV signal according to the Nernst equation with 0 mV at pH 7 and -59 mV/pH
Temperature pH:	simulated PT1000
Output oxygen:	0 to 60 nA with 60 nA at 100% oxygen saturation
Temperature oxygen:	simulates 22 kOhm NTC

	Article	Order No.
①	Converter for Memosens sensors	**10 47 41700**
	pH adapter cable M12 to K8S	**10 47 49094**
	pH adapter cable M12 to VP	**10 47 49202**
	DO adapter cable T82 to VP	**10 47 49206**



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Accessories converter / Memosens digital oxygen sensor
Hygienic, optical sensor for stable oxygen measurement over multiple sterilization cycles.

Technical data:

Sensor type:	Memosens digital oxygen sensor
Measuring range DO:	0.004 – 26 mg/l 0.05 – 285% SAT 0.1 – 600 hPa
Measuring range temp.:	-10 – + 140°C (general), 0 – 60°C measurement
Autoclavability:	yes, max. 140°C (284°F)
Length:	120 mm
Sensor shaft:	stainless steel 1.4435
Process seal:	FKM (USP <87>,<88> class VI and FDA)
Seal/O-rings:	EPDM, FFKM (USP <87>, <88> class VI and FDA

	Article	Order No.
②	**Optical oxygen sensor COS81D, 120 mm**	**10 47 48101**
	Optical oxygen sensor COS81D, 160 mm	**10 47 48102**
	Optical oxygen sensor COS81D, 220 mm	**10 47 48103**
	Optical oxygen sensor COS81D, 320 mm	**10 47 48104**
	Maintenance kit Memosens COV81	**10 47 48110**
	Number of optical caps: 1 piece	
	Typ Optische Kappe: C shape	
	Sensor cap material: stainless steel 1.4435, 316L	
	O-ring material: EPDM	
	Process sealing material: FKM	
③	**Zero-point gel COY8** Ready-to-use gel for validation, calibration, and adjustment of oxygen and disinfection sensors. The COY8 zero-point gel is available in different bottle sizes. This version is ideally suited for oxygen sensors with a diameter of 12 mm.	**10 47 48120**


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④ Accessories converter / Memosens digital ph sensor
Digital pH electrodes for bioreactors and biotechnology production processes
Technical data:

Sensor type:	Memosens Digitaler pH
Measurement range pH:	0 – 14 pH
Measurement range temp.:	0 – 100°C, 0 – 14 pH (autoclaving resistant up to 140°C)
Length:	120 mm
Electrolyte:	ion trap, gel electrolyte 3M KCl, pressurized
Diaphragm:	1 hygienic diaphragm

Article	Order No.
Digital pH-glass sensor CPS171D, 120 mm	**10 47 41711**
Digital pH-glass sensor CPS171D, 225 mm	**10 47 41712**
Digital pH-glass sensor CPS171D, 360 mm	**10 47 41713**


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pH Multi-Parameter Measuring Instruments

Mlog – Multitool Logger, ORI

webcode WWBPE016

Mlog – Multitool Logger
The Mlog is an economic and robust multi-parameter measuring system for use in ATEX zone 1 (IP67). All measured parameters are logged at freely definable intervals and transmitted wirelessly on request. The Mlog is designed for long-term applications in Ex zone 1 and is powered by a type L1X2-2.4V battery. The connected sensors can be placed in the Ex zone 1.

The Mlog is the ideal partner for a wide range of applications from long-term monitoring (e.g. indirect dischargers, storm water tank with overflow, ground water wells) to mobile field measurements. Ideal use for decentralized measuring points - even without an on-site power supply – can also be used as portable measurement system in hazardous environments.

The Mlog uses time-proven Mettler-Toledo ISM® sensors which are easy to use, reliable and low-maintenance due to the intelligent status code (pH, redox, conductivity, O_2, temperature).

An analog measuring device, e.g. radar, ultrasound, pressure, or flow, can be connected via the 4-20 mA input.



Technical data:

ATEX class:	Mlog II 2G Ex d ib IIB T4 Gb
Overall protection class:	IP 67
Dimensions (Ø×H); weight:	45 × 390 mm (1.8 in × 15.4″); 2.1 kg (without sensors)
Temperature range:	Battery operation range: -10°C to +40°C Storage temperature: -20°C to +40°C (without battery)
Humidity:	5 – 95%
Electrical specification:	Battery pack 2.4 V DC, 9 Ah
Operating voltage range:	2.3 V DC – 2.8 V DC
Wireless communication:	Bluetooth specification 2.0 VF-Power 7 dBm GSM/GPRS (with M-GSM as an option)
Internal data memory:	8 MB

Article	Order No.
MLog Set 1 Data logger incl. 9 Ah battery pack, pen, ring key, manager software (for data parameterization and assessment) in a sturdy case	**10 22 51060**

Please order sensors, connection cable and charger separately!

Accessories

Article	Order No.
Battery, 2.4 V / 9 Ah (type L1X2-2.4V)	**10 22 55030**
Charger ECH1	**10 22 55029**
Connection cable, Y cable 1.2 m	**10 22 55078**
ISM extension cable 3.0 m	**10 22 55037**
ISM extension cable 7.0 m	**10 22 55036**
Protective guard for 2 ISM sensors	**10 22 51081**
Protective cover for MLog	**10 22 51102**
MGSM modem	**10 22 51029**
MLog modem cable 30 cm	**10 22 55075**
GSM cable antenna	**10 22 50102**

ISM electrodes

Article	Order No.
InPro4260/120/Pt100 pH combination electrode (ExII 1/2G EEx ia IIc T6/T5/T4/T3)	**10 22 55212**
INPro 700i/12/120/4435 LF combination electrode	**10 22 53791**
InPro 6850i/12/120 ISM oxygen sensor	**10 22 55213**
EasySense pH 31 pH electrode	**10 22 55214**
LF sensor easySense Cond 77	**10 22 53810**
EasySense O2 21-Sensor	**10 22 55215**
i Link-1-wire BT Mobile Bluetooth measuring head with battery for measuring and calibrating the ISM electrodes	**10 22 55211**

pH Multi-Parameter Measuring Instruments

pH-Tester Kit, Phoenix Instrument

webcode WWSB5029

Tester kit series to measure pH/mV and temperature.

① **Tester kit EC-10 pH**
Tester kit to measure pH/mV and temperature. Kit incl. pH-calibration buffer and batteries.

EC-10-pH:
- Large LCD display
- IP 67 waterproof protection
- Buffers used for calibration indication
- Measurement stability indicator
- Automatic temperature compensation
- 4 × 1,5 V AAA batteries for long working time, compatible with rechargeable batteries

Technical data:

pH meas. range:	0 bis 14
pH resolution:	0,1
Calibration points:	1 – 3
Buffer recognition:	5 USA buffer
Electrode condition alarm:	yes
Auto off:	after 8 Min.
Warranty instrument/sensor:	1 year/6 months
Dimension (Ø × L):	35 × 175 mm
Weight:	120 g

Article	Order No.
Tester EC-10-pH	**10 13 72010**



①

② **Tester EC-15-pH**
Tester to measure pH/mV and temperature, with replacable sensor, kit incl. pH calibration buffer and batteries.

EC-15-pH:
- Automatic calibration function with stability indication
- Insertion probe (suitable for food application)
- IP 67 waterproofed
- Replaceable sensor
- Battery indicator
- Multi-color backlight for status indication

Technical data:	**EC-15-pH / Food**
pH meas. range:	-2 to 16
pH resolution:	0.01
Calibration points:	1 – 3
Buffer recognition:	5 USA buffer
Electrode condition alarm:	yes
mV meas. range:	± 1000
mV resolution:	0.1/1
Temperature range:	0 to 50°C
Resolution:	0.1°C
Auto off:	after 8 Min.
Warranty instrument/sensor:	2 years/6 months
Dimension (Ø × L):	35 × 175 mm / 35 × 210 mm
Weight:	130 / 140 g

Article	Order No.
Tester EC-15-pH/food	**10 13 72015**
Replacement pH-electrode	**10 13 72017**
Tester EC-15-Food	**10 13 72016**
Replacement spear electrode with ATC	**10 13 72018**



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pH Meters

Pocket pH Meter, Amarell

webcode WWERJ021

Budgetprice model with interchangeable electrode, complete with calibration set.

Measuring range:	0.0 to 14.0 pH
Resolution:	0.1 pH
Operating temp.:	-5 to +40°C
Accuracy:	±0.3 pH

Article	Order No.
Pocket pH meter ad 110 pH	**61 10 43520**
Spare electrode	**61 10 43521**
With substances for standard solutions pH 4.0/pH 6.86/pH 9.18.	



pH Meters

webcode WWJ9J015



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pH Measuring Instruments, Testo / IDL

pH tester testo 206-pH
Automatic detection of a stable measured value simplifies the measuring routine. Supplied with “TopSafe” wallet for outdoor duty or use in tough industrial environments.

Advantages:
- Insensitive to dirt thanks to TopSafe wallet
- 2-line display
- Automatic full-scale value detection
- 1, 2 or 3 point calibration possible

testo 206-pH1, compact pH measuring instrument for liquids
Compact, universal and precise pH instrument for measuring liquids. Built-in temperature probe for precise temperature compensation. With maintenance-free gel electrode.

testo 206-pH2, compact pH measuring instrument for semi-solid substances
With penetration tip for taking measurements in semi-solid substances such as jelly, creame, meat, cheese, marmelade and fruit. Unique combination of pH penetration tip and temperature probe for precise temperature compensation. With maintenance-free gel electrode.

testo 206-pH3, pH measuring instrument for connecting external probes
Equipped with a BNC socket for connecting all pH probes. When using testo pH probes with built-in temperature sensor, the supplied temperature value is evaluated immediately. In the case of probes without a temperature sensor, the temperature can be set by hand.

Technical data:

Operating temperature:	0°C to +60°C
Storage temperature:	-20°C to +70°C
Battery type:	1 × CR2032 (3 V button cell)
Battery life:	80 h (Auto Off 10 min.)
Case:	ABS with TopSafe, IP 68 protection
Dimensions:	197 × 33 × 20 mm
Weight:	69 g or 62 g (206-pH2)

testo 206-pH1 and pH2[1]):

Measured variables:	pH / °C
Measurement transducer:	pH electrode / NTC
Channels:	2
Measurement range pH:	0 to 14 pH
Resolution for pH:	0.01 pH
Resolution for temperature:	0.1°C
Accuracy for pH:	± 0.02 pH
Accuracy for temperature:	± 0.4°C
Temperature compensation:	automatic
Display:	LCD, 2-line, 0 to 70°C
Probe:	screw-type pH / °C probe modules 2 measurements per second

[1]) For pH3 please see the data sheet of the corresponding probe.

	Article	Order No.
	testo 206-pH1 instrument set pH measuring instrument with universal probe, gel storage cap, TopSafe, wall holder	**61 09 32061**
①	**testo 206-pH2 starter set** pH measuring instrument with penetration probe, gel storage cap, TopSafe, wall holder, pH 4 buffer (250 ml), pH 7 buffer (250 ml), in an aluminium case	**61 09 32066**
	testo 206-pH2 instrument set pH measuring instrument with penetration probe, gel storage cap, TopSafe, wall holder	**61 09 32062**
②	**testo 206-pH3 instrument set** pH measuring instrument with BNC connecting socket, TopSafe and wall holder	**61 09 32063**

Accessories

Article	Order No.
Spare pH probe pH1 for testo 206, incl. gel storage cap	**61 09 02061**
Spare pH probe pH2 for testo 206, incl. gel storage cap	**61 09 02062**
pH universal plastic electrode without temperature sensor	**61 09 02063**
Spare probe type 14 for testo 206-pH3, incl. gel storage cap	**61 09 02064**
Storage cap for testo 206, with KCl gel filling	**61 09 42067**
pH buffer solution 4.01, dosing bottle 250 ml	**61 09 42061**
pH buffer solution 7.00, dosing bottle 250 ml	**61 09 42063**

pH Meters

Hand-held Meter SD 305 pH/ORP, Lovibond®

webcode WWSE2015

The portable SD 305 pH/ORP hand-held meter is the ideal companion for on-site determination of pH or redox in aqueous media. Whether pH electrodes with an integrated temperature probe or the use of an external temperature probe, the automatic temperature compensation always ensures precise measuring results. Functions such as the automatic buffer recognition of standard solutions and DIN buffers greatly simplify measurement and calibration procedures. The internal memory allows the recording of 1000 (manual looger) to 10000 data records (auto logger). The alarm function additionally allows the monitoring of safety-relevant limits, e.g. for the correct dosing of the pH in swimming pools or to control the redox value as a quality parameter in various processes. The intelligent sensor diagnosis after calibration and the smart calibration reminder complete the range of functions.

- Buffer recognition of Lovibond® standards (pH 4.01 / 7.00 / 10.01) and buffers according to DIN 19266
- Choice between 1-, 2- or 3-point calibration
- Evaluation of the sensor quality after each calibration
- Alarm function with adjustable limits
- Automatic temperature compensation
- Auto hold function
- Battery status indicator
- Redox measurement in mV or mVH according to DIN 38404-6
- Data transfer and evaluation via software possible

Scope of delivery in carrying case: instrument in protective armouring incl. electrode holder, pH buffer: 4.01 / 7.00 / 10.01 (set 1 / set 2), 470 mV ORP control solution (set 3), storage solution for pH/ORP electrodes, 2 × AAA batteries and user manual



Technical data:

Measuring principle:	Poteniometry
Measuring range:	pH: -2.000 – 16.000 pH Redox: ± 2000 mV Temperature: -5.0 – 150.0°C
Display:	Backlit LCD-Display
Power supply:	2 × AAA-batteries, Interface cable with USB connection
Data logger:	Manual logger: 1000 data sets (single value by keystroke) Auto. logger: 10000 data sets (cyclic, time interval: 1 – 3600 s)
Auto-Off:	yes
Dimensions:	164 × 100 × 37 mm
Weight:	302 g (incl. batteries and protective armouring)
Protection class:	IP 67
Conformity:	CE, RoHS, WEEE

Article	Order No.
SD 305 pH/ORP (set 1) pH/Temp.-electrode type 231	**10 77 13051**
SD 305 pH/ORP (set 2) pH-electrode type 226 & temperature probe Pt1000	**10 77 13052**
SD 305 pH/ORP (set 3) Redox electrode type 242 & temperature probe Pt1000	**10 77 13053**

pH-meter, pH4440, Funke - Dr. N. Gerber

pH4440

The pH4440 is intended for measuring pH value, conductivity, and redox potential. During measuring and calibrating, the colour display indicates all key information (measured value, temperature, temperature sensor, electrode status, etc.). The intuitive menu with the time-proven 5-button operation provides for easy handling of the device. Electrodes are available as an option.



Technical data:

	pH	Conductivity	Redox potential	Temperature
Measurement range:	-2 – 16	0.01 µS/cm – 1000 mS/cm (sensor dependent)	± 2000 mV	-40°C – 100°C Pt1000/NTC30K
Resolution:	0.01 pH	automatic	0.1 mV	0.1°C
Precision:	0.01 pH	± 0.5%	0.1 mV	± 0.3°C
Calibration:	1 – 5 point	1 point	1 point	
Input:	DIN	DIN 8 way	DIN	4 mm

Power supply:	230 V / 115 V (50/60 Hz) 120 VA
Size (W × D × H):	210 × 150 × 80 mm
Weight:	1.1 kg

Article	Order No.
pH-meter pH4440	**10 42 04440**

Continued on next page

pH Meters

Accessories

Article	Order No.
Buffer solution pH 4.01, 250 ml	**10 42 04460**
Buffer solution pH 7.00, 250 ml	**10 42 04461**
Buffer solution pH 9.21, 250 ml	**10 42 04462**
Single rod electrode with integrated temperature sensor	**10 42 04457**
Conductivity electrode 1/cm with Pt 1000	**10 42 04465**
Conductivity electrode 0.1/cm with Pt 1000	**10 42 04466**



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pH Meters, METTLER TOLEDO

FiveGo™, portable pH meter
Compact Entry-Level handheld meter with outstanding price/performance ratio; for standard pH and mV/redox measurements. Suitable for a wide range of applications.

Technical data:

pH-range:	0.00 – 14.00, resolution: 0.01 pH
mV-range:	-1999 – 1999, resolution 1 mV
Temperature range °C:	0.0 – 100.0, resolution: 0.1°C
Calibration:	max. 3 points, 4 pre-defined buffer groups
Data storage:	200 data records
Power supply:	4 AAA-batteries 1.5 V/ 4 AAA-Accus 1.2 V

	Article	Order No.
	pH meter FiveGo™ F2-Meter pH-device incl. electrode clip, user manual, 4× batteries	**10 50 06946**
①	**pH meter FiveGo™ F2-Standard Kit** as F2-Meter, plus 3-in-1 electrode LE438 and buffer bag	**10 50 06889**
	pH meter FiveGo™ F2-Field Kit as F2-Standard-Kit, plus field bag, 4 sample bottles and buffer bag	**10 50 06882**
	pH meter FiveGo™ Food-Kit as F2-Field Kit, plus pH-spearhead electrode LE427	**10 50 06881**

More accessories, electrodes, buffer solutions available on request!

② **Portable pH/mV and ion meter Seven2Go Pro S8**
Professional portable pH/ion meter (IP67) for highest demands in laboratory, production, and out-of-door measurements.
- High-resolution multi-functional display with bright backlighting
- Selectable acoustic and optical status indication/alarms
- Extensive GxP support with ISM®, expert and user mode
- Water-tight micro USB connection for easy data transfer
- User menu with a selection of 12 languages
- Data logger for 2,000 data records
- 5-point calibration, automatic buffer detection/8 pre-defined, 1 freely definable buffer group

Also refer to Seven2G S2 for more details

Technical data:

pH-range:	-2.000 – 20.000 / resolution: 0.001 pH
mV-range:	-2000 – 2000 mV / resolution: 0.1
Ion range:	in %, ppm, mg/l, mm/l 1.00 × 10-9 to 9.99 × 10+9
Temperature range °C:	-5 – 130°C, resolution: 0.1°C

Article	Order No.
Seven2Go Pro S8 Measuring device, electrode clip, hand strap, battery, certificate	**10 50 02941**
Seven2Go Pro S8 Standard Kit as S8 meter, plus electrode Expert Pro-ISM-IP67, set of calibration buffers (bags), sample bottles	**10 50 02942**
Seven2Go Pro S8 Field Kit as S8-Standard Kit, plus field bag	**10 50 02943**
Seven2Go Pro S8 Biotech Kit as S8-Field Kit, plus electrode InLab Solids Pro-IP67	**10 50 02944**
Seven2Go Pro S8 Fluorid Kit as S8-Field Kit, plus electrode perfectION Fluoride	**10 50 02945**

③ **Portable pH/mV meter Seven2Go S2**
Routine instrument (IP67) with intuitive operation for mobile pH measurement in laboratory, production and in the field, with a wide range of functions.
- Extra-simple, intuitive operation, robust and ergonomic design
- Large multi-function display: all data at a glance
- ISM® (Intelligent Sensor Management)
- Data logger for 200 data records
- 5-point calibration, autom. buffer detection/4 pre-defined buffer groups
- Water- and dust-proof (IP67)
- Operated with AA or rechargeable batteries

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pH Meters

Technical data:

pH-range:	0.00 – 14.00 / 0.01
mV-range:	-1999 – 1999 mV / 1
Temperature range °C:	-5 – 105°C, resolution 0.1°C

Article	Order No.
Seven2Go S2 Measuring device, electrode clip, hand strap, battery, certificate	**10 50 02951**
Seven2Go S2 Standard Kit as S2 meter, plus electrode Expert Pro-ISM-IP67, set of calibration buffers (bags), sample bottles	**10 50 02952**
Seven2Go S2 Field Kit as S2-Standard Kit, plus field bag	**10 50 02953**
Seven2Go S2 Food Kit as S2-Field Kit, plus electrode InLab Solids Pro-IP67	**10 50 02954**

pH-Measuring Instruments, Phoenix Instrument

webcode WWSB5035

Innovative measurement technology “Made in Europe” – this is what the new pocket and laboratory measuring instruments of the Phoenix Instrument EC series offer.
During the development, the main focus was put on user-friendliness and the technical features of the instruments. The pH electrodes and conductivity cells are produced in Switzerland by experienced specialists.

Portable pH-meter EC-21-pH/EC-26-pH
During the new development of the EC-21/EC-26 series, particular emphasis was placed on easy handling during daily routine. The high-resolution color display guides the user intuitively through the measurement and calibration process.

EC-21 pH
- High-resolution color display, adjustable brightness
- DHS-function, automatic detection of DHS and analog sensors
- Display of pH/mV and temperature values
- Automatic pH calibration up to 3 points
- Automatic ORP 1-point calibration
- Selectable stability parameter (low-medium-high)
- Automatic and manual temperature compensation
- Protection class IP 57
- Supplied in a robust carrying case with all accessories

... additionally for the EC-26 pH
- GLP-function
- Data logger (automatic or manual) 1000 data strings
- Connection to PC via micro-USB
- Free DATA LINK +
- Automatic brightness regulation

Technical data:	**EC-21-pH**	**EC-26-pH**
pH meas. range:	0.00 – 14.00 pH	-2.00 – 16.00 pH
Resolution:	0.1/0.01 pH	0.1/0.01 pH
Calibration points:	1 – 3	1 – 3
Buffer recognized:	USA, NIST and user defined	USA, NIST and user defined
mV meas. range:	±1000 mV	1000 – 1900 mV
Resolution:	1 mV	0.1/1 mV
Temperature range:	0.0 – 100°C	-10 – 110°C
Resolution:	0.1 / ± 0.5°C	0.1 / ± 0.5°C
GLP:	–	yes
CALDUE:	–	yes
Memory:	–	1000 data
Output:	–	Micro USB
IP-class:	IP 57	IP 57
Dimensions:	185 × 85 × 45 mm / 400 g	185 × 85 × 45 mm / 400 g
Warranty instrument:	3 years	3 years



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Article	Order No.
① **EC-21-pH-0** Kit without pH electrode, with temeprature sensor NT 55, BNC/S7 1mt cable, pH buffer, carrying case and accessories	**10 13 72100**
EC-21-pH-1 Complete kit include pH electrode 201T, pH buffer, carrying case and accessories	**10 13 72210**
EC-21-pH-5 Complete kit include pH electrode 201T DHS, pH buffer, carrying case and accessories	**10 13 72150**
② **EC-26 pH-0** Kit without pH electrode, with temeprature sensor NT 55, BNC/S7 1mt cable, power supply, software PC-Link, pH buffer carrying case and accessories	**10 13 72600**
EC-26 pH-1 Complete Kit include pH-electrode 201T, pH buffer, power supply, software PC-Link, USB- cable, carrying case	**10 13 72610**
EC-26 pH-5 Complete Kit include pH-electrode 201T DHS, pH buffer, power supply, software PC-Link, USB- cable, carrying case	**10 13 72650**

Continued on next page

pH Meters



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Basic laboratory pH-meter EC-31-pH/EC-36-pH
During the new development of the EC-31/EC-36 series, particular emphasis was placed on easy handling during daily routine. The high-resolution color display guides the user intuitively through the measurement and calibration process.

EC-31 pH
- High-resolution color display, adjustable brightness
- DHS-function, pH electrodes with internal chip
- Display of pH/mV and temperature values
- Automatic pH calibration up to 3 points
- Automatic ORP 1-point calibration
- Selectable stability parameter (low-medium-high)
- Automatic and manual temperature compensation
- Protection class IP 54

... additionally for the EC-36 pH
- GLP-function
- Data logger (automatic or manual) 1000 data strings
- Connection to PC via micro-USB
- Free DATA LINK +

Technical data:	**EC-31-pH**	**EC-36-pH**
pH meas. range:	0.00 – 14.00 pH	-2.00 – 16.00 pH
Resolution:	0.1/0.01 pH	0.1/0.01 pH
Calibration points:	1 – 3	1 – 3
Buffer recognized:	USA, NIST and user defined	USA, NIST and user defined
mV meas. range:	±1000 mV	1000 – 1900 mV
Resolution:	1 mV	0.1/1 mV
Temperature range:	0.0 – 100°C	-10 – 110°C
Resolution:	0.1 / ± 0.5°C	0.1 / ± 0.5°C
GLP:	–	yes
CALDUE:	no	yes
Memory:	–	1000 data
Output:	–	Micro USB
IP-class:	IP 54	IP 54
Dimensions:	170 × 145 × 60 mm / 530 g	170 × 145 × 60 mm / 530 g
Warranty instrument:	3 years	3 years

	Article	Order No.
①	**EC-31 pH 0** Kit without pH electrode, with temeprature sensor NT 55, BNC/ S7 1mt cable, pH buffer, electrode holder and accessories	**10 13 73100**
	EC-31 pH 1 Complete kit include pH electrode 201T, pH buffer, electrode holder and accessories	**10 13 73110**
	EC-31 pH 5 Complete kit include pH electrode 201T DHS, pH buffer, electrode holder and accessories	**10 13 73150**
	EC-36 pH 0 Kit without pH electrode, with temeprature sensor NT 55, BNC/ S7 1mt cable, power supply, software PC-Link, pH buffer electrode holder and accessories	**10 13 73600**
	EC-36 pH-1 Complete Kit include pH-electrode 201T, pH buffer, power supply, software PC-Link, USB- cable, electrode holder	**10 13 73610**
	EC-36 pH-5 Complete Kit include pH-electrode 201T DHS, pH buffer, power supply, software PC-Link, USB- cable.	**10 13 73650**



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② **Professional bench top pH-meter EC-45-pH**
The large color display easy on to read shows all information necessary information about measurement, calibration,standards, cell condition, GLP. Anyone can use this meter easily with its intuitive menu available in up to 8 languages in the EC-45-Multi. Easy to learn.

Up to 5-point pH-calibration and up to 4-point Conductivty calibration with automatic recognition of all standards. Icon support for all calibration functions and advanced electrode diagnostics. Easy to calibrate. All functions can be controlled in an intuitive and easy way. Instrument will be delivered with a stirrer.

EC-45 pH
- Large color display with indication of Calibration Buffers and measurement's stability
- DHS-function, pH electrodes with internal chip
- Indication stability of the measurement with icon
- IP54 protection
- Display pH/mV and Temperature, COND/TDS/Salinity/Resistivity and Temperature simultaneously
- Selectable Resolution: 0.1/0.01/0.001 pH; Auto range for COND
- GLP and IQ-OQ manual available
- Memory with re-call of last calibration date and time and information of electrode's life

Continued on next page

pH Meters

- CAL DUE: set of calibration frequency for high quality of measurements
- Stability Parameter (Low-Med-High) for high accuracy measurement
- Non-volatile memory holds up to 1000 data points with date and time in automatic (Data logger) or manual
- 2 × USB ports to transfer data at PC or printer and for external keyboard
- Software PC-Link to download data (included)

Technical data:

pH meas. range:	-2 – 20 pH
Resolution:	0.1 / 0.01 / 0.001 pH
Calibration points:	1 – 5
Buffer recognized:	USA, NIST, user defined
mV meas. range/resolution:	±2000/ 0.1/1 mV
Temperature range:	-20 – 120°C
Accuracy/resolution temp.:	0.1/±0.2°C
Temperature calibration:	yes
GLP:	yes, with date and time
CALDUE:	yes
Memory:	yes, 1000 data
Interputs:	2 × USB, RS-232
Protection class:	IP 54
Power supply:	AC/DC adptor 12 V / 1000 mA
Dimensions:	165 × 195 × 68 mm, 1050 g without stirrer

Article	Order No.
EC-45 pH 2 Kit without pH-electrode, with temeprature sensor NT 55, BNC/ S7 1m cable, pH puffer pH 7 and pH 4, tripod, power supply and accessories, with magnetic stirrer, DHS-function	**10 13 74520**
EC-45 pH 3 Kit with pH-electrode XS STANDARD S7, 1 m cable S7/BNC, pH puffer pH 7 and pH 4, power supply and accessories, with magnetic stirrer, DHS-function	**10 13 74530**
EC-45-pH-5 Kit with pH-electrode STANDARD T - BNC DHS, pH puffer pH 7 and pH 4, with magnetic stirrer, DHS-function	**10 13 74550**



pH electrodes for general applications

	Article	Order No.
③	**Gel** pH electrode, gel-filled with ceramic diaphragm	**10 13 71204**
④	**Polymer** pH electrode, polymer-filled with open pore diaphragm	**10 13 71223**
⑤	**Polymer Tip** pH electrode, polymer-filled with double open pore diaphragm	**10 13 71443**
⑥	**Standard** pH standard electrode with ceramic diaphragm	**10 13 71363**
	Standard HA like Standard, minimal Alkali error	**10 13 71423**
	Standard HF like Standard, for samples with HF	**10 13 71433**
	Standard BNC like Standard, with fix cable BNC	**10 13 71263**
	Standard DIN like Standard, with fix cable DIN	**10 13 71273**
	Standard T-BNC like Standard, with fix cable BNC and temperature sensor	**10 13 71473**
	Standard T DIN like Standard, with fix cable DIN and temperature sensor	**10 13 71463**
	Polymer Plast pH electrode, polymer-filled with 1 open pore diaphragm and 1 ceramic diaphragm	**10 13 71493**
	Polymer Plast BNC like Polymer Plast, with fix cable BNC	**10 13 71503**
	Polymer Plast DIN like Polymer Plast, with fix cable DIN	**10 13 71513**
⑦	**201 T** pH electrode with epoxy body, temperature sensor and fix cable BNC	**10 13 71022**
	201 T DIN pH electrode with epoxy body, temperature sensor and fix cable DIN	**10 13 71249**
	Flat pH electrode for surface measurements, 3-hole diaphragm with Teflon	**10 13 71413**
⑧	**Flow** pH electrode for viscous samples and low ion media	**10 13 71373**
⑨	**Semi-Micro** pH electrode for small volume samples	**10 13 71383**
	Micro pH electrode for small volume samples	**10 13 71213**
	Micro P pH electrode for small volume samples with mit protein, electrolyte glycerin	**10 13 71253**
	Gel Plast BNC pH electrode with epoxy body, fix BNC-cable and double ceramic diaphragm	**10 13 75223**





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pH Meters

pH electrodes for food measurement applications

Article	Order No.
Food pH electrode with glycerin KCl electrolyte and 3 ceramic diaphragm	**10 13 71393**
2 PORE pH electrode with 2 open pore diaphragm	**10 13 71333**
2 PORE Slim like 2 PORE, with small surface Ø 4,5 mm	**10 13 71283**
2 PORE F like 2 PORE, shaft POM/glass	**10 13 71293**
2 PORE T like 2 PORE, with temperature sensor and fix cable BNC	**10 13 71323**
2 PORE Steel T like 2 PORE, shaft steel/glass, with temperature sensor and fix cable BNC	**10 13 71313**
2 PORE K complete like 2 PORE T, with knife	**10 13 71303**
2 PORE K 2 PORE K without knife	**10 13 71343**
Knife Replacement knife for 2 PORE K	**10 13 71353**
Food Slim pH electrode with glycerin KCl electrolyte and 2 ceramic diaphragm	**10 13 71248**

WINLAB®

webcode WW5PT046



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WinLab® Excellent Line pH-mV Temperature Measuring Instruments, WINLAB®

Portable pH meter for laboratory and field use
Robust design in water-tight IP 67 casing. The Excellent Line measuring instrument is fit for connecting conventional pH electrodes and digital electrodes.

Technical features:
- Connection of conventional or digital pH electrodes
- Data transmission via USB interface or Bluetooth
- Secure thanks to user code
- Multi-colour display with clearly understandable, detailed information
- Simultaneous indication of measured values, adjustable display brightness
- Automatic calibration possible for DIN, NBS or other buffer solutions
- 1-point / 2-point / 3-point calibration option
- Calibration date with date / validity of calibration / zero-point information / steepness information and status information regarding the pH-electrode
- Data logger with up to 5000 data sets with information on date / measurement site / user code / name, measured values pH / redox and/or temperature

Technical data:

Measuring range:	-1.00 to 15.00 pH	0.01 pH
	±399.9 mV	0.4 mV + 0.1%
Temperature:	-5.0 to +105°C	0.2°C
Display:	LCD Type TFT/RGB 240 × 320 pixel / brightness adjustable	
Calibration:	1, 2, or 3 point calibration acc. DIN or NBS or other buffer solutions, automatic buffer recognition	
Calibration data:	date / validity of the calibration / zero point information ±30 mV / electrode slope 85 to 105%, electrode condition OK or ERROR	
Data logger:	The latest 250 measuring series will be displayed via “History View” with information about the date, time, user and measuring location (this 250 data records cannot be deleted) Up to 5 users can store 1000 data records each (total 5000 data records)	
Automatic measurement:	max. 1000 data records / input start and finish-time / measuring frequency, adjustable from 1 minute up to 24 h	
Automatic switch-off:	after 5 minutes inactivity be switched off, after switching on the mode is immediately the same before switched off	
Settings:	Date and time / pH elektrodes, analogue or digital Automatic measurements / user code and location / autom. switch-off ON or OFF Buzzer can be switched on and off LCD Display adjustable (minimum/economic/normal/high) Data output adjustable from USB to Bluetooth Laguages adjustable	
Power supply:	4 × 1,5 V batteries type AA / Ni-MH Accus, 2500 mA h or via USB interface	
Outputs:	USB and Bluetooth	
Dimension (W×H×D):	170 × 79 × 39 mm	

Continued on next page

pH Meters

	Article	Order No.
①	**WinLab® excellent line, measuring device**	**10 03 10001**
	WinLab® excellent line in PROFI BOX case with pH/T 30 pH electrode (analogue), 3 buffers and 3mol KCL solution, case with electrode stand	**10 03 10021**
②	**WINLAB desk box** for all portable WinLab Data Line measuring instruments in the laboratory, complete with electrode stand, KCL solution and storage aids for temperature sensors and electrodes.	**61 03 00065**


②

Accessories

	Article	Order No.
③	**WinLab® pH/T30 combination electrode** With integrated temperature sensor and WinLab connector seal with 1 m cable and BNC plug	**61 03 00030**
	WinLab® standard combination electrode with plastic body, refillable with 3 mol KCl-solution, with 1 m cable and BNC plug	**10 03 00029**
	WinLab® combination electrode pH/temperature, glass electrode with integrated temperature sensor, refillable with 3 mol KCl-solution, with 1 m cable and BNC plug with WINLAB connector seal	**10 03 00038**
	WinLab® pH combination electrode Glass electrode with S7 plug head, adapter cable is also required, refillable with 3 mol KCl-solution	**10 03 00039**
	WinLab® redox combination electrode Glass electrode, refillable with electrolyt, with S7 plug head (adapter cable Nr. 61 03 00041 is necessary)	**10 03 00040**
	WinLab® pH combination electrode Glass electrode with S7 plug head, adapter cable is also required, refillable with 3 mol KCl-solution, with ground-joint diaphragm for ion-weak media (drinking and pure water)	**10 03 00060**
	WinLab® pH combination electrode Glass electrode with S7 plug head, adapter cable is also required, gel filling for insertion measurements (e.g. meat, cheese or pasty materials), length 120 mm, diameter 6 mm in insertion area	**10 03 00062**
	WinLab® Digital pH electrode with integrated transmitter for longer transmission distances (up to 100 meters), provides stable measuring signals, with identification code, records the calibration data	**10 03 00095**
	WinLab® adapter cable From BNC to S7 screw-and-plug head electrodes, with WinLab connector seal	**61 03 00041**
④	**WinLab® Pt-100 temperature probe with handle** 160 mm long, 3 mm Ø, with WinLab connector seal	**61 03 00034**


③


④

Pocket pH Meters, WTW®

Pocket pH meters ProfiLine
Field-tested, adapted to the respective applications and the user's requirements: The ProfiLine single parameter devices and sets by WTW®. The Special silicone keypad with tactile feedback is particularly operator-friendly and can be cleaned easily under running water. Can be used with disposable or rechargeable battery for more flexible and economical operation. With backlit graphic display (model 3310 and up) for easy navigation.

Simple and functional: pH 3110
pH 3110: a simple, rugged and waterproof device for portable pH measurement. With built-in calibration timer and 3-point calibration. Large LCD display. Automatic AutoRead function for reproducible measured values.

Technical data pH 3110:

	all values ±1 digit
pH:	-2.0 to 20.0 ±0.1 pH
	-2.00 to 20.00 ±0.01 pH
	-2.000 to 19.999 ±0.005 pH
mV:	±(1200.0 ±0.3) mV
	±(2000 ±1) mV
Temperature:	-5.0 to 105.0°C ±0,1°C

	Article	Order No.
⑤	**pH 3110 single device**	**10 81 23110**
	pH 3110 SET 2 in a case with pH electrode SenTix® 41 and accessories	**10 81 23112**



⑤

webcode WWP1J001

Continued on next page

pH Meters



① **pH meter with data logger qualities: pH 3310**
Intended for demanding field data collection tasks and recording of extensive arrays. The units have a large memory for 5000 GLP compliant data and an interval-controlled data logger. The plain text menu in four languages provides configuration, operation and calibration (1 to 5 points). Up to 10 calibration logs can be called up to follow up the stability of the connected sensor. With state-of-the-art mini USB interface for communication with the PC.
One of the highlights is CMC, the continuous measurement control: A graphic scale in the display shows whether you are in the confidence range of the calibration points.

Technical data pH 3310:

	all values ±1 digit
pH:	-2.0 to 20.0 ±0.1 pH
	-2.00 to 20.00 ±0.01 pH
	-2.000 to 19.999 ±0.005 pH
mV:	±(1200.0 ±0.3) mV
	±(2500 ±1) mV
Temperature:	-5.0 to 105.0°C ±0,1°C

Article	Order No.
① **pH 3310 single device**	**10 81 23310**
pH 3310 SET 2 in a case with pH electrode SenTix® 41 and accessories	**10 81 23312**

Accessories

Article	Order No.
Protective casing SM Pro Shock-absorbent, elastic rubber	**10 81 22780**

Laboratory pH Meters, METTLER TOLEDO



② **FiveEasy™ pH Meter**
The Entry-Level-device can be used for different applications in many areas, such as in food and beverage industry, in water or environment analysis.

The price-performance ratio and a compact design with need for little space characterise these devices.

Technical data:

pH-range:	0.00 to 14.00, resolution: 0.01 pH
mV-range:	-2000 to 2000, resolution: 1 mV
Temperature range °C:	0.0 to 100.0, resolution: 0.1°C
Calibration:	max. 3 points, 4 pre-defined buffer groups
Display:	LCD
Power supply:	ext. universal power adapter (standard)

Article	Order No.
FiveEasy pH F20-Meter Measurement device, electrode holder, user manual, short guide, universal power supply	**10 50 06658**
FiveEasy F20-Standard Kit same as FE20 meter plus pH electrode LE438, pH calibration buffer bags pH 4.01, 7.00, 9.21, 10.01	**10 50 06626**

Further accessories, electrodes, calibration solutions, etc. available on request.



③ **pH/ion meter SevenCompact™**
Powerful device for measuring the pH/mV (S210), pH/mV/ion concentration (S220). New: S213 Duo. 2-channel-device for measuring the pH/mV/conductivity! Technical data for conductivity see S230, page 943.
- 4.3" color display with u-Focus™: switchover of the information on the display
- PIN-protected routine or expert mode, full GxP support
- Full text menu navigation in 10 languages
- ID management: user/specimen/sensor ID, intellig. Sensor Managem. (ISM)
- Calibration with pre-and user-defined buffer groups, calibration timer
- Automatic, manual, or time-controlled limit point detection; limit point criteria are separately
- Measurement of the ion concentration with pre-defined ions (S220)
- Internal memory for measured values for 2,000 data records, data export via USB flash drive
- 2 USB interfaces for PC, connection of a USB scanners or keyboard
- U-Place™: unique electrode holder with absolutely vertical movement
- Control function for a stirrer available as an option

Technical data:

pH-range:	-2.0 to 20.00, resolution 0.001 / 0.01 / 0.1
mV-range:	-2000 to 2000 mV, resolution 0.1 / 1
Ion concentration:	0 to 1000% / 0 to 10000 ppm / 1.0 E-9 to 9.99 E+9 mg/l
Temperature range °C:	-30.0 to 130.0°C, resolution 0.1

Continued on next page

pH Meters

Article	Order No.
S210-Basic Device, U-Place™ electrode holder, mains adapter, certificate	**10 50 09025**
S210-Kit same as S210-Basic plus electrode LE438, calibration buffer	**10 50 09026**
S220-Basic Device, U-Place™ electrode holder, mains adapter, certificate	**10 50 09028**
S220-Kit same as S220-Basic plus electrode InLab Expert Pro-ISM, cable, calibration buffer	**10 50 09029**
S220-Bio same as S220-Basic plus electrode InLab Routine Pro-ISM, cable, calibration buffer	**10 50 09031**
S213 meter pH/conductivity Device SevenCompact Duo pH/conductivity, electrode holder, protective cover, operating instructions, user manual, declaration of conformity and test certificate	**10 50 09958**
S213 standard as 213 meter, but also with InLab Expert Pro-ISM pH sensor and InLab 731 conductivity sensor, guides to pH and conductivity measurements, 2 buffer sachets for pH 4.01, 7.00, 9.21, 10.00, 2 standard sachets for 1433 µS/cm and 12.88 mS/cm	**10 50 09959**
S213 water as S213-Standard-Kit but with InLab Pure Pro-ISM for pH and InLab 741-ISM for conductivity	**10 50 09980**









Modular multi parameter measuring device SevenExcellence™
Professional modular instrument for pH/redox potential, conductivity/salinity/TDS and ion concentration/dissolved oxygen (DO) measurements. For equipment or subsequent extension with 1, 2, or 3 measuring modules of any type.

Properties of the SevenExcellence™ basic unit:
- Huge 7 high-resolution display and touch screen with clear buttons for easy operation
- Modularity and flexibility: expandable up to 3 channels
- Universal communication via USB, Ethernet (LAN) and RS-232
- Full text menu guide in 10 languages with Help menu
- Unique OneClick™ operation concept (individually configurable functions/processes)
- Creation and saving of methods
- Utmost safety and GxP support (ID protection, sophisticated user management, limits/alarms, integrated radio timer)
- Intelligent Sensor Management (ISM™)
- Connection of stirrer, automatic sample changer, PC, barcode scanner, keyboard, printer
- Can be completely integrated in LAN networks (for example data storage, printing)
- Memory for up to 20,000 data records (measured values, calibrations, methods)
- U-Place™ electrode holder with absolute vertical movement

Technical data:

pH-measuring range:	-2.000 to 19.999
Resolution:	0.001/0.01/0.1
mV:	-1999 to +1999 /0.1
Temperature:	-5.0 to 130.0°C, resolution 0.1
Conductivity:	0.01 µS/cm to 1000 mS/cm
TDS:	0.1 mg/l to 2000 g/l
Special inhibitors:	0.00 to 2000 MOhm × cm
Salinity:	0.00 to 80.00 ppt
Ion concentration:	9×10^{-9} to $9.99 \times 10^{+7}$, resolution ±1 Digit
DO/BOD (O_2):	0,000 to 50 mg/l or ppm
Saturation:	0 to 500%
Air pressure.	500 to 1100 mbar
Temperature:	0 to 50°C

Measuring module pH:
- 1- to 9-point calibration with automatic buffer recognition
- 8 predefined buffer buffer records, 1 buffer record freely definable
- Automatic temperature compensation with Pt1000 sensors or NTC 30 kOhm

Measuring module conductivity:
- Automatic recognition of calibration status
- Description of calculated cell constants/entering of known cell constants
- Selectable reference temperature (20 or 25°C)
- Linear, non-linear temperature compensation or USP/EP mode

Measuring module concentration/pH:
- Like pH measuring module plus:
- 2- to 9-point calibration for determination of concentration
- Storage of calibration data for up to 10 ISE-sensors
- Direct measurement, standard or sample addition/subtraction

Continued on next page

pH Meters



Measuring module DO/BOD (dissolved O_2/biol. O_2 demand):
- 2-point calibration, 2 predefined, 1 user-defined standard
- Automatic temperature and air pressure compensation
- Optical (InLab OptiOx) or polarographic sensors (InLab 605)
- Biol. O_2 demand: predefined methods according DIN 38409 and EPA

Article	Order No.
S400-Basic incl. pH module, 2 × blank modules, electrode arm, EasyDirect software, certificate	**10 50 06240**
S400-Kit same as S400 plus electrode InLab Expert Pro ISM, cable, 3 × 2 buffer bags	**10 50 06241**
S400-Bio same as S400-Kit, but with glass electrode InLab Routine Pro ISM and cable	**10 50 06242**
S700-Kit incl. conductivity module, 2 × blank modules, electrode holder, EasyDirect software, certificate, electrode InLab 731 ISM, 4 bags of calibration standard	**10 50 06245**
S470-Kit same as S470 plus pH electrode InLab Expert Pro ISM, Lf electrode InLab 731 ISM, 12 × calibration buffer/standard	**10 50 06253**
S470-USP/EP same as S470 plus pH glass electrode InLab Pure Pro ISM, cable, Lf electrode InLab741 ISM, 2 × calibration buffer/standard	**10 50 06254**
S500-Basic incl. pH/ion module, 2 × blank modules, electrode arm, LabX direct software, certificate	**10 50 06248**
S475-Basic 1 × pH-, 1 × conductivity module, 1 × pH/ion module, electrode arm, LabX direct software, certificate	**10 50 06255**
S900-Kit same as S900-Basic plus O_2 electrode InLab OptiOx	**10 50 02986**
S479-Kit same as S470-Kit plus DO/BOD module and O_2 electrode InLab OptiOx	**10 50 02988**

More versions, electrodes and accessories available on request.



webcode WW4HV027

thermoscientific

Thermo Scientific™ Orion™ Star Series A210 Benchtop Meters, Thermo Scientific



①

The reliable, user-friendly benchtop meters of the Thermo Scientific™ Orion™ Star A210 series are the perfect choice for fast, easy routing measuring jobs in the lab.
- Intuitive, convenient operation with user interface in several languages and speed buttons
- Easy-to-read graphic display with background lighting
- Extended functions such as stability and mean value calculations
- Fast and reliable measurements with stability indication on the screen and selectable measuring modes – Auto-Read, time-controlled, and continuous with hold function
- Data log comprises up to 2000 measurements with time and date stamp which remain saved to the memory even in case of power failure
- Easy data transfer via USB and RS232 interface
- With electrode arm and holder for convenient positioning of the measuring probe in the sample
- Easy mixing of the sample with the directly controlled Orion Star stirring probe (not comprised in the scope of delivery)
- Up to 5 pH calibration points with automatic detection of USA/NIST or DIN buffers
- pH fault correction without complete recalibration with calibration editing option
- Operated via supplied power pack or 4 AA batteries (not comprised in the scope of delivery)
- IP54-rated housing resists splashes and can be wall-mounted
- 3 years replacement warranty
- CE/TÜV/FCC certified

Comprised in the scope for delivery of all models: universal power pack, documentation CD, printed brief instructions, computer interface cable, and test certificate for the meter

Continued on next page

pH Meters

Article	Order No.
① **Orion Star A211 pH meter kit**	**10 79 22115**

incl. electrode stand, ROSS Ultra Triode refill pH/ATC electrode with glass shaft and ROSS pH buffer and storage solution kit
For measuring pH value, mV, relative mV or ORP with temperature

Article	Order No.
② **Orion Star A214 pH/ISE meter kit**	**10 79 22145**

incl. electrode stand, ROSS Ultra refill pH electrode with glass shaft, Orion ATC temperature probe with stainless steel shafts, Orion Star stirring probe and ROSS pH buffer and bearing solution kit
For measuring ion concentration with an ion-selective electrode (ISE), as well as pH value, mV, relative mV or ORP with temperature

Article	Order No.
Orion Star A212 conductivity meter kit	**10 79 22125**

incl. electrode stand, DuraProbe conductivity probe with 4 cells (K = 0.475) and epoxy resin shaft and Orion 1413 µS conductivty standard, 5 × 60 ml
For measuring conductivity, TDS, salinity or specific resistance with temperature

Article	Order No.
③ **Orion Star A213 RDO/DO meter kit**	**10 79 22135**

incl. electrode stand, polarographic probe for dissolved oxygen with calibration sleeve and maintenance kit, BSB adapter, hopper and stirrer
For measuring dissolved oxygen as a percent saturation or concentration with temperature by means of optical or polarographic probes for dissolved oxygen

Article	Order No.
Orion Star A215 pH/conductivity meter kit	**10 79 22155**

incl. electrode stand, ROSS Ultra Triode refill pH/ATC electrode with epoxy resin shaft, DuraProbe conductivity probe with 4 cells (K = 0.475) and epoxy resin shaft, ROSS pH buffer and storage solution kit and Orion 1413 µS conductivity standard, 5 × 60 ml
For measuring pH value, mV, relative mV or ORP with temperature on channel one and conductivity, TDS, salinity or specific resistance with temperature on channel two

Article	Order No.
Orion Star A216 pH/RDO/DO meter kit	**10 79 22165**

incl. electrode stand, ROSS Ultra Triode refill pH/ATC electrode with epoxy resin shaft, polarographic probe for dissolved oxygen with calibration sleeve and maintenance kit, ROSS pH buffer and storage solution kit, BSB adapter, hopper and stirrer
For measuring pH value, mV, relative mV or ORP with temperature on channel one and dissolved oxygen as a percent saturation or concentration with temperature on channel two

To see other meters and electrodes, please enter webcode WW4HV027 to access our online catalogue.



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③

Thermo Scientific™ Orion™ Versa Star™ pH Bench Meter, Thermo Scientific

webcode WW4HV028

thermoscientific

Combining high measuring accuracy, excellent performance and maximum flexibility, the Thermo Scientific™ Orion™ Versa Star™ benchtop meter with pH module is up to the most challenging pH value, mV, REDOX and temperature measuring tasks. Exchangeable modules allow for individual adjustment of the four measuring channels.

- Bright, easy-to-read LCD colour display
- Up to six-point pH calibration
- Saves up to 2,000 measured values with date and time
- Easy data transfer to computer or printer via USB or RS232 interface
- Convenient placement of the electrode in the sample by means of the electrode stand comprised in the delivery

Article	Order No.
Orion Versa Star pH benchtop meter kit for difficult samples	**10 79 20013**

- ROSS Sure-Flow pH electrode with glass shaft
  - Sure-Flow diaphragm prevents clogging in case of viscous samples
  - Double reference system for a wide range of applications
  - Glass shaft for high resistance to chemicals
- Orion ATC temperature probe with stainless steel shaft
- Orion Star stirrer probe for easy stirring
- Orion ROSS All-in-One pH buffer kit
- Electrode stand, universal power pack (50-60 Hz, 100-240 V), PC connection cable and test certificates

To see other meters and electrodes, please enter webcode WW4HV028 to access our online catalogue.



webcode To see other variants and accessories, please enter the webcode on our website.

Conductivity Meters

Conductivity Meter SD 325 Con, Lovibond®

webcode WWSE2014



The portable instrument with data logger is ideal for determining electrical conductivity in aqueous media. With a simple keystroke, further parameters such as TDS, salinity or resistance can be selected and conveniently read off. With the SD 325 Con, both low (< 200 µS/cm) and very high conductivities (< 1000 mS/cm) can be detected with highest precision, but the choice of the right measuring cell is decisive. The simplified operator guidance with all relevant configuration options facilitates the use of the measuring instrument in all areas of water analysis. Measurement data including time stamp and measuring location ID can be recorded conveniently with the data logger function either automatically at a fixed time interval (10000 data sets) or manually at the push of a button (1000 data sets).

- Automatic recognition of conductivity standards
- Alarm function with adjustable limit values
- Auto hold function
- Selectable reference temperature (20°C / 25°C)
- Automatic temperature compensation
- Battery status indicator
- Low power consumption = long battery life
- Data transfer and evaluation via software possible

Scope of delivery in carrying case: instrument in protective armouring, conductivity measuring cell, conductivity standards (set 1 / set 2), electrode holder (set 1/ set 3), flow cell for ultrapure water (set 3), 2 × AAA batteries and user manual

Technical data:

Measuring principle:	Conductometry
Measuring range (depending on conductivity cell):	Conductivity: 0.000 – 1000 mS/cm Resistance: 0.000 – 50.0 MΩ*cm TDS: 0.000 – 5000 mg/l Salinity: 0.0 – 70.0 PSU Temperature: -5.0 – 100.0°C
Display:	Backlit LCD display
Power supply:	2 × AAA-batteries, interface cable with USB connection
Data logger:	Manual logger: 1000 data sets (single value by keystroke) Auto. logger: 10000 data sets (cyclic, time interval: 1 – 3600 s)
Auto – OFF:	yes
Dimensions:	164 × 100 × 37 mm
Weight:	302 g (incl. batteries and protective armouring)
Protection class:	IP 67
Conformity:	CE, RoHS, WEEE

Article	Order No.
SD 325 Con (set 1) Conductivity electrode LC 12 (4-pole graphite, < 200 mS/cm) multipurpose operation	**10 77 13251**
SD 325 Con (set 2) Conductivity electrode LC 16 (4-pole graphite, < 1000 mS/cm) high conductivities	**10 77 13252**
SD 325 Con (set 3) Conductivity electrode LC 10 (2-pole stainless steel, < 200 µS/cm) ultrapure water	**10 77 13253**

Portable Hand-held Meter SensoDirect 150, Lovibond®

The SD 150 Multi-Parameter handheld instrument is ideal for the sequential determination of pH, Redox/ORP, conductivity, TDS and dissolved oxygen (O_2) and combines the applications of several instruments in one portable device. The protective armouring with built-in holder not only provides a secure grip, but also protects both the sensor and the meter from damage caused by falling. Functions such as automatic temperature compensation or automatic recognition of standard solutions greatly simplify measurement and calibration procedures. The large, clearly arranged LCD display shows the measurement parameter and the temperature simultaneously, thus facilitating temperature-dependent documentation.

- All in one
- Automatic recognition of standard solutions
- Protective armouring with in-built electrode holder
- Large LCD-Display
- Automatic temperature compensation

Scope of delivery in carrying case: instrument in protective armouring incl. electrode holder, pH electrode type 226, temperature sensor Pt1000, pH buffer, operating manual, further sensors according to set

Continued on next page

Conductivity Meters

Technical data:

Display:	Large LCD-Display with contrast adjustment
Power supply:	4 × AA-batteries DC 9V adaptor
Auto-off:	yes
Hold-function:	yes
Auto. temperature compensation:	yes
Protection class:	IP 51
Dimensions:	203 × 76 × 38 mm
Weight:	620 g (incl. batteries and protective armouring)
Conformity:	CE

webcode WWSE2018



Article		Order No.
SensoDirect 150 (set 1) pH / Con / TDS / Oxi / Temp.		**10 77 11501**
TParameter	**Measuring range**	
pH:	0 – 14 pH	
Conductivity:	0 – 200 mS/cm	
TDS:	0 – 132000 ppm	
Dissolved O_2:	0 – 20 mg/l	
Temperature:	0 – 60°C	
SSensoDirect 150 (set 2) pH / Con / TDS /Temp..		**10 77 11502**
Parameter	**Measuring range**	
pH:	0 – 14 pH	
Conductivity:	0 – 200 mS/cm	
TDS:	0 – 132000 ppm	
Temperature:	0 – 60°C	
SensoDirect 150 (set 3) pH / Oxi / Temp.		**10 77 11503**
Parameter	**Measuring range**	
pH:	0 – 14 pH	
Dissolved O_2:	0 – 20 mg/l	
Temperature:	0 – 60°C	
SensoDirect 150 (set 4) pH / Redox / Temp.		**10 77 11504**
Parameter	**Measuring range**	
pH:	0 – 14 pH	
Redox:	± 1999 mV	
Temperature:	0 – 60°C	

Portable Conductivity Meters, METTLER TOLEDO

FiveGo™ portable conductivity meter

Practical laboratory device for measuring conductivity, salinity and TDS at an extremely favorable price/performance ratio.

Suitable for a wide range of applications (e.g. training, water and environmental analyses etc.).

Technical data:

Conductivity range:	0.1 µS/cm - 199.9 mS/cm, +/- 0.5%
Temperature range °C:	0.0 – 100.0, resolution: 0.1°C
TDS:	0.1 mg/L - 199.9 g/L
Salinity:	0.00 - 19.99 psu
Calibration:	1-point
Data storage:	200 data sets
Display:	LCD
Power supply:	4 AAA-batteries 1.5 V or 1.2 V accus



①

Article	Order No.
FiveGo™ F3-Meter	**10 50 06883**
Measurement device incl. electrode clip, hand belt user manual, short guide, 4× batteries	
① **FiveGo™ F3-Standard Kit**	**10 50 06888**
as F3, plus conductivity electrode LE703, calibration standards	
FiveGo™ F3-Field Kit	**10 50 06887**
as F3-Kit, plus field case, 4 sample bottles	

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Conductivity Meters



①

① Portable conductivity meter Seven2Go Pro™ S7
Powerful professional portable meter (IP67) for precise conductivty measurement in laboratory, production, and in the field.

- High-resolution multi-functional display with bright backlighting
- Selectable acoustic and optical status indication/alarms
- Extensive GxP support with ISM®, expert and user mode
- Water-tight micro USB connection for easy data transfer
- User menu with a selection of 12 languages
- Data logger for 2,000 data records
- 1-point calibration, automatic standard detection/3 pre-defined, 1 freely definable standards
- Automatic, time interval or manual capture of measured values

Also refer to Seven2G S3 for more details

Technical data:

Conductivity range:	0.01 µS/cm to 1000 mS/cm
TDS:	0.01 mg/l to 600 g/l
Specific resistance:	0.00 to 100 MOhm × cm
Salinity:	0.00 to 42.00 psu
Temperature range °C:	-5 to 105°C/ resolution: 0.1

Article	Order No.
Seven2Go Pro™ S7 meter Measurement device, electrode clip, battery, certificate	**10 50 02921**
Seven2Go Pro™ S7 Standard Kit as S7 meter, plus sensor InLab738-ISM, Lf-standards (bags), sample bottles	**10 50 02922**
Seven2Go Pro™ S7 Field Kit as S7-Standard Kit, plus field bag	**10 50 02923**
Seven2Go Pro™ S7 USP/EP Kit as S7 Standard Kit, plus sensor InLab742-ISM	**10 50 02924**

Replacement electrodes and more accessories available on request!



②

② Portable conductivity meter Seven2Go™ S3
Routine instrument (IP67) with intuitive operation for mobile conductivity measurement in laboratory, production and in the field, with a wide range of functions.

- Extra-simple, intuitive operation, robust and ergonomic design
- Large multi-function display: all data at a glance
- ISM® (Intelligent Sensor Management)
- Data logger for 200 data records
- 1-point calibration, autom. standard detection/3 pre-defined, 1 freely definable standard
- Automatic, time-controlled or manual capture of measured values
- Water- and dust-proof (IP67)
- Operated with AA or rechargeable batteries

Technical data:

Conductivity range:	0.01 µS/cm to 500 mS/cm
Temperature range °C:	-5 to 105°C/ 0.1°C
TDS:	0.01 mg/l bis 300 g/l
Specific resistance:	0.0 – 100 MOhm × cm
Salinity:	0.00 to 42.00 psu

Article	Order No.
Seven2Go™ S3 meter Measurement device, electrode clip, battery, certificate	**10 50 02931**
Seven2Go™ S3 Standard Kit as S3 meter, plus sensor InLab738-ISM, Lf-standards (bags), sample bottles	**10 50 02932**
Seven2Go™ S3 Field Kit as S3-Standard Kit, plus field bag	**10 50 02933**

Replacement electrodes and more accessories available on request!

Webcode

Use the webcode on our website to see a larger selection of products from a specific manufacturer.

Conductivity Meters

Conductivity and Temperature Measuring Instrument WINLAB® Excellent Line, WINLAB®

With integrated data logger. With USB and WiFi data output.
Easy, intuitive operation thanks to clearly structured menu navigation.
Robust, water-tight housing (IP 66, IP 67), perfect for measurements on the shop floor and in the field.

Technology:
- High-resolution colour display (240 × 320 pixel) with adjustable brightness and scratch-proof mineral glass pane
- Simultaneous indication of temperature and the parameters conductivity, TDS, salinity.
- Automatic sensor detection for temperature sensor Pt 100 (-100°C – 399.9°C), PTC (-50°C – 125°C) and NTC (-2.5°C – 100°C) at a separate temperature sensor input
- Reference temperatures 20°C or 25°C
- Cell constant adjustable from 0.050 cm-1 to 4.000 cm-1
- Temperature coefficient adjustable, linear (0.000 to 9.999 % / °C) and non-linear acc. to EN 27888
- 6-button keyboard for navigation in measuring and menu mode
- Automatic measurements with start and end point and time interval
- USB / WiFi connection to the software
- Software for measurement data management is comprised in the scope of delivery

Data logger:
- Specification of 5 users and 5 sites including user codes (PIN)
- Indication of date, time, site, user, measured value and temperature for each data record
- Review of the last 200 data records, and 1000 data records per user

Technical data:

Measuring range µs/cm -mS/cm-1	Resolution µs/cm-1	Accuracy % ± µ/m S/cm-1
0.10 – 39.9 µS	0.01 µs/cm	0.5% ± 0.05
20 – 399.9 µS	0.1	0.5% ± 0.1
200 – 3999 µS	1	0.5% ± 1
2 – 39.9 mS	0.01	0.5% ± 0.01 (2 – 20 mS/cm)
	0.01	1% ± 0.01 (20 – 39.99 mS/cm)
20 – 100 mS	0.1	2% ± 0.1
100 – 399.9 mS	0.1	6%



① webcode WW5PT050





Article	Order No.
① **WINLAB Excellent Line conductivity meter**	**10 03 20001**

Without electrode and accessories, incl. USB cable and measurement data management software



②

Article	Order No.
② **WINLAB Excellent Line Profi Box**	**10 03 20020**

In this product version, the instrument comes with practical box for use in the lab or in the field, with integrated stand and folding intermediate lid which can also be used as a tabletop. Made of sturdy, easy-to-clean polypropylene.
Comprises: WINLAB Excellent Line conductivity meter, standard LF electrode, set with conductivity test solutions 1413 µS and 12.88 mS, 100 ml each, Profi Box case, and measurement data management software

Article	Order No.
WINLAB Excellent Line device set	**10 03 20016**

Comprises the conductivity meter, USB cable, standard LF electrode, and measurement data management software



③

Article	Order No.
③ **WINLAB desk box**	**61 03 00065**

for all portable WinLab Data Line measuring instruments in the laboratory, complete with electrode stand, KCL solution and storage aids for temperature sensors and electrodes.

Article	Order No.
④ **WINLAB Standard conductivity electrode**	**10 03 20030**

with integrated temperature sensor. Four-ring graphite electrode, length 120 mm, diameter 12 mm with 1 m cable and connector



④

⑤ **WinLab® LF test solutions**
With test work certificate acc. to EN 10204-2.3. Reference temperature 25°C

Article	Volume ml	Order No.
Conductivity testing solution 1413 µS	250	**61 03 11413**
Conductivity testing solution 1413 µS	500	**61 03 21413**
Conductivity testing solution 12.88 mS	250	**61 03 11288**
Conductivity testing solution 12.88 mS	500	**61 03 21288**
Conductivity testing solution 111.8 mS	250	**61 03 11118**
Conductivity testing solution 111.8 mS	500	**61 03 21118**



⑤

Conductivity Meters

webcode WWP1J008

Handheld Conductivity Meter, WTW®

The ProfiLine Cond pocket meters by WTW®
Field-tested, adapted to the respective applications and the user's requirements: The ProfiLine single parameter devices and sets by WTW®. The special silicone keypad with tactile feedback is particularly operator-friendly and can be cleaned easily under running water. Can be used with disposable or rechargeable battery for more flexible and economical operation. With backlit graphic display (model 3310 and up) for easy navigation.

Simple and functional: Cond 3110
Intended for users who need to measure conductivity fast, safely, and accurately. Easy operation for reliable results. Clearly understandable display for quick overview. Reference temperature can be selected. Suitable for TetraCon® 325 and KLE 325.

Technical data Cond 3110:

	all values ±1 digit
Conductivity:	0.00 to 1000 mS/cm ±0.5% of value
Salinity:	0.0 to 70.0 (according to IOT)
Temperature:	-5.0 to 105.0°C ±0,1°C
AutoRead:	automatically
Reference temperature:	20°C / 25°C
Temperature compensation:	nlF



Article	Order No.
① **Cond 3110 single device**	**10 81 23120**
Cond 3110 SET 1 in a case with 4-electrode graphite measuring cell TetraCon® 325 and accessories	**10 81 23123**

Conductometer with data logger qualities: Cond 3310
Intended for demanding field data collection tasks and recording of extensive arrays. The plain text menu in four languages provides configuration, operation and parametrisation. The units have a large memory for 5000 GLP compliant data and an interval-controlled data logger. Up to 10 calibration logs can be called up to follow up the stability of the connected sensor. With state-of-the-art mini USB interface for communication with the PC.

Technical data Cond 3310:

	all values ±1 digit
Conductivity:	0.00 to 1000 mS/cm ±0.5% of value
zusätzlich:	0.000 to 1.999 µS/cm, K = 0.01 cm^{-1} 0.00 to 19.99 µS/cm, K = 0.1 cm^{-1}
Resistivity:	0.00 to 20 MOhm cm
Salinity:	0.0 to 70.0 (according to IOT)
TDS:	0 to 1999 mg/l, 0 to 199.9 g/l
Temperature:	-5.0 to 105.0°C ±0,1°C
Reference temperature:	20°C / 25°C
Temperature compensation:	none, nlF, 0.000 to 10.00 %/K



Article	Order No.
② **Cond 3310 single device**	**10 81 23320**
Cond 3310 SET 2 in a case with 4-electrode graphite measuring cell TetraCon® 325 and accessories	**10 81 23324**

Accessories

Article	Order No.
Protective casing SM Pro Shock-absorbent, elastic rubber	**10 81 22780**

Conductivity Meter, Phoenix Instrument

Innovative measurement technology "Made in Europe" – this is what the new pocket and laboratory measuring instruments of the Phoenix Instrument EC series offer.
During the development, the main focus was put on user-friendliness and the technical features of the instruments. The pH electrodes and conductivity cells are produced in Switzerland by experienced specialists.

Portable conductivity meter EC-21-cond/EC-26-cond
During the new development of the EC-21/EC-26 series, particular emphasis was placed on easy handling during daily routine. The high-resolution color display guides the user intuitively through the measurement and calibration process.

EC-21 cond
- High-resolution color display, adjustable brightness
- Display of conductivity/TDS and temperature values
- Automatic LF-calibration up to 5 points
- Selectable stability parameter (low-medium-high)
- Automatic and manual temperature compensation
- Protection class IP 57
- Supplied in a robust carrying case with all accessories

Continued on next page

Conductivity Meters

webcode WWSB5036

PHOENIX Instrument

... additionally for the EC-26 cond
- GLP-function
- Data logger (automatic or manual) 1000 data strings
- Connection to PC via micro-USB
- Free DATA LINK +
- Automatic brightness regulation

Technical data:	**EC-21-cond**	**EC-26-cond**
Cond meas. range:	0.00 – 200 mS	0.00 – 200 mS
Resolution:	0.1/1 µS 0.01/0.1 mS	0.01/0.1/1 µS 0.01/0.1 mS
Calibration points:	1 – 5	1 – 5
Cell constant selectable:	0.1 – 1 – 10 cm^{-1}	0.1 – 1 – 10 cm^{-1}
Temperature range:	0.0 – 100°C	-10 – 110°C
Resolution:	0.1 / ± 0.5°C	0.1 / ± 0.5°C
TDS measuring range:	0.1 mg/l – 200 g/l	0.1 mg/l – 200 g/l
GLP:	–	yes
CALDUE:	no	yes
Memory:	–	1000 data
Output:	–	Micro USB
IP-class:	IP 57	IP 57
Dimensions:	185 × 85 × 45 mm / 400 g	185 × 85 × 45 mm / 400 g
Warranty instrument:	3 years	3 years

	Article	Order No.
①	**EC-21-cond-0** Kit without cond. cell, with conductivity standard, carrying case and accessories	**10 13 71210**
	EC-21-cond-1 Complete kit include cond. cell 2301T with conductivity standard, carrying case and accessories	**10 13 71211**
②	**EC-26 cond-0** Kit without cond. cell, with conductivity standard, power supply, carrying case and accessories, software PC-Link, USB- cable	**10 13 71260**
	EC-26 cond-1 Complete kit include cond. cell 2301T with conductivity standard, power supply, carrying case and accessories, software PC-Link, USB- cable	**10 13 71261**



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Basic bench conductivity meter EC-31-cond/EC-36-cond
During the new development of the EC-31/EC-36 series, particular emphasis was placed on easy handling during daily routine. The high-resolution color display guides the user intuitively through the measurement and calibration process.

EC-31 cond
- High-resolution color display, adjustable brightness
- Display conductivity/TDS and temperature values
- Automatic LF-calibration up to 5 points
- Selectable stability parameter (low-medium-high)
- Automatic and manual temperature compensation
- Protection class IP 54

... additionally for the EC-36 multi
- GLP-function
- Data logger (automatic or manual) 1000 data strings
- Connection to PC via micro-USB
- Free DATA LINK +

Technical data:	**EC-31-cond**	**EC-36-cond**
Cond meas. range:	0.00 – 200 mS	0.00 – 200 mS
Resolution:	0.1/1 µS 0.01/0.1 mS	0.01/0.1/1 µS 0.01/0.1 mS
Calibration points:	1 – 5	1 – 5
Cell constant selectable:	0.1 – 1 – 10 cm^{-1}	0.1 – 1 – 10 cm^{-1}
Temperature range:	0.0 – 100°C	-10 – 110°C
Resolution:	0.1 / ± 0.5°C	0.1 / ± 0.5°C
TDS measuring range:	0.1 mg/l – 200 g/l	0.1 mg/l – 200 g/l
GLP:	–	yes
CALDUE:	no	yes
Memory:	–	1000 data
Output:	–	Micro USB
IP-class:	IP 54	IP 54
Dimensions:	170 × 145 × 60 mm / 530 g	170 × 145 × 60 mm / 530 g
Warranty instrument:	3 years	3 years

	Article	Order No.
③	**EC-31 cond 0** Kit without cond. cell, with conductivity standard, electrode holder.	**10 13 71310**
	EC-31 cond 1 Kit include cond. cell 2301T with conductivity standard, electrode holder.	**10 13 71311**
	EC-36 cond 0 Kit without cond. cell, with conductivity standard, electrode holder, software PC-Link, USB- cable.	**10 13 71360**
	EC-36 cond-1 Kit include cond. Cell 2301T with conductivity standard, electrode holder, software PC-Link, USB- cable.	**10 13 71361**



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Continued on next page

Conductivity Meters



①

① **Professional bench top conductivity EC-45 cond**
The large color display easy on to read shows all information necessary information about measurement, calibration,standards, cell condition, GLP. Anyone can use this meter easily with its intuitive menu available in up to 8 languages in the EC-45-cond Easy to learn.

Up to 4-point Conductivty calibration with automatic recognition of all standards. Icon support for all calibration functions and advanced electrode diagnostics. Easy to calibrate. All functions can be controlled in an intuitive and easy way. Instrument will be delivered with a stirrer.

EC-45 cond
- Large color display with indication of Calibration Buffers and measurement's stability
- Indication stability of the measurement with icon
- IP54 protection
- 3 years instrument warranty
- Display COND/TDS/Salinity/Resistivity and Temperature simultaneously
- Selectable Resolution: 0,1/0,01/0,001 pH; Auto range for COND
- GLP and IQ-OQ manual available
- Selectable cell constant
- Memory with re-call of last calibration date and time and information of electrode's life
- CAL DUE: set of calibration frequency for high quality of measurements
- Stability Parameter (Low-Med-High) for high accuracy measurement
- Non-volatile memory holds up to 1000 data points with date and time in automatic (Data logger) or manual
- 2 × USB ports to transfer data at PC or printer and for external keyboard
- Software PC-Link to download data (included)

Technical data:

Cond. Measuring range:	0.00 – 20.00 / 200.0 / 2000 µS 2.00 / 20.00 / 200.0 / 1000 mS
Accuracy:	±1% full scale
Temperature compensation:	manual oder automatic
Calibration points cond.:	1 to 4
Calibration standards recognized:	84, 1413 µS / 12.88, 111.8 mS, custom
Cell constant selectable:	0.1 – 1 – 10 cm^{-1}
TDS measuring range:	0.1 mg/l – 500 g/l
TDS factor:	0.40 – 1.00
Accuracy TDS:	±1% full scale
Temperature range:	-20 – 120°C
Accuracy/resolution temp.:	0.1/±0.2°C
Temperature calibration:	yes
GLP:	yes, with date and time
CALDUE:	yes
Memory:	yes, 1000 data
Interputs:	2 × USB, RS-232
Protection class:	IP 54
Power supply:	AC/DC adptor 12 V / 1000 mA
Dimensions:	165 × 195 × 68 mm, 1050 g without stirrer

Article	Order No.
EC-45 cond 2 Kit without cond.-cell, with cond.-standards 1413 µS and 12.88 mS, asseccories, with magnetic stirrer,	**10 13 70452**
EC-45 cond 3 Kit with cond.-cell VPT 80/1, cond.-standards 1413 µS and 12.88 mS, asseccories, with magnetic stirrer	**10 13 70453**

Your specialized laboratory dealer –
fast, competent and economical

Conductivity Meters

Laboratory Conductivity Meters, METTLER TOLEDO

FiveEasy™ conductivity, laboratory conductivity meter
Compact laboratory device for measuring conductivity, salinity and TDS at an extremely favorable price/performance ratio. Suitable as starter unit for a wide range of applications.

Technical data:

Conductivity range:	0.1 µS/cm - 199.9 mS/cm, accuracy ±0.5%
Temperature range °C:	0.0 – 100.0, resolution: 0.1
TDS:	0,1 mg/L - 199,9 g/L
Salinity:	0.00 – 19.99 psu
Display:	LCD
Power supply:	ext. universal power adapter (standard)

Article	Order No.
FiveEasy™ F30-Meter	**10 50 06942**
Conductivity meter, electrode holder, user manual, universal power adapter	

Article	Order No.
① **FiveEasy™ F30-Standard Kit**	**10 50 06943**
as F30-Meter, plus electrode LE703 and calibration standards 1413 µS/cm and 12.88 mS/cm	



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② **SevenCompact™ conductivity**
Powerful measuring instrument for routine measurements of conductivity, salinity, TDS, spec. resistance and conductivity ash.
Also available the 2-channel-device for measuring pH/mV/conductivity: S213, page 932.
- 4.3″ color display with u-Focus™ for changing the information shown on the display
- PIN-protected routine or expert mode, full GxP support
- Plain text menu navigation in 10 languages
- ID management: user/sample/sensor ID, Intelligent Sensor Management (ISM)
- Calibration with pre- and user-defined buffer groups, input of cell constant, calibration timer
- Settings for ultra-pure water, conductivity ash, bio-ethanol, USP/EP available
- Automatic, manual or time-controlled limit point detection
- Internal measured values memory for 2,000 data records, data export via USB-Stick
- 2 USB interfaces for PC, connection of a USB scanner or keyboard
- U-Place™: unique electrode holder with absolute vertical movement
- Stirrer control available as an option, and many more



②

Technical data:

Conductivity:	0.001 µS/cm to 1000 mS/cm
TDS:	0.00 mg/l to 1000 g/l
Resistivity:	0.00 to 100 MOhm × cm
Salinity:	0 to 80 psu
Temperature:	-30.0 to 130.0°C
Resolution:	0,1°C

Article	Order No.
SevenCompact™ S230-Basic	**10 50 01933**
Device, U-Place™ electrode holder, mains adapter, certificate	
SevenCompact™ S230-Kit	**10 50 01934**
same as S230-Basic plus InLab® 731-ISM, cable, Lf-standards	
SevenCompact™ S230-USP/EP	**10 50 01935**
same as S230-Basic plus InLab® 741-ISM, cable, Lf-standards	

More accessories for SevenCompact see SevenCompact pH, page 932.

SevenExcellence conductivity, laboratory conductivity meter
Modular conductivity meter - professional performance with the possibility to enhance 1 to 2 measuring channels any time (e.g. pH, ion concentration, O_2).

For detailed description see page 932

Oxygen Meters



Hand-held Meter SD 315 Oxi, Lovibond®

The portable hand-held measuring instrument SD 315 Oxi meets the daily requirements for a robust and reliable instrument for the determination of dissolved oxygen in aqueous media. The well-known Clark oxygen sensor with integrated temperature probe enables immediate measurements without time-consuming run-in time (polarization time). The direct and comfortable operator guidance with all relevant configuration options facilitates the use of the measuring instrument in environment and laboratory. The hold function "freezes" stable measuring values on the display which simplifies data reading. The internal memory allows the storage of 1000 (manual logger) to 10000 data sets (auto logger). The data logger allows continuous monitoring of the measured values. In combination with the alarm function data monitoring becomes even more comfortable. The automatic switch-off is individually selectable from 1 to 120 min and increases the operating time of the devices. The waterproof housing according to IP67 and IP 65 with the protective armouring guarantees a safe operation in extreme ambient conditions. The flexible stand at the rear allows the unit to be set up or fastened to a belt.

- Auto-hold function
- Simple calibration against air or according to DIN EN ISO 5814
- Alarm function with adjustable limits
- Automatic pressure and temperature compensation
- Sensor status display in % after each calibration
- Salinity correction
- Battery status indicator
- Data transfer and evaluation via software possible

Scope of delivery in carrying case: device in protective armouring incl. electrode holder, galvanic oxygen sensor, refill electrolyte, spare membrane, calibration bottle with sponge, 2 × AAA batteries and user manual

Technical data:

Measuring principle:	Galvanic oxygen sensor
Measuring range:	O_2-concentration: 0.0 – 70.0 mg/l O_2-saturation: 0.0 – 600.0% Temperature: 0.0 – 50.0°C
Display:	Backlit LCD display
Power supply:	2 × AAA-batteries, Interface cable with USB connection
Data logger:	Manual logger: 1000 data sets (single value by keystroke) Auto. logger: 10000 data sets (cyclic, time interval: 1 – 3600 s)
Auto-Off:	yes
Auto. temperature compensation:	yes
Dimensions:	164 × 100 × 37 mm
Weight:	302 g (incl. batteries and protective armouring)
Protection class:	IP 67
Conformity:	CE, RoHS, WEEE

Article	Order No.
SD 315 Oxi (set 1) Galvanic oxygen sensor, 2 m cable length	**10 77 13151**
SD 315 Oxi (set 2) Galvanic oxygen sensor, 10 m cable length	**10 77 13152**
SD 315 Oxi (set 3) Galvanic oxygen sensor, 30 m cable length	**10 77 13153**



Portable Hand-held Meter SD 400 Oxi L with Datalogger, Lovibond®

The portable SD 400 Oxi L handheld meter enables the determination of dissolved oxygen based on the highly precise optical luminescence technology. As a true all-rounder, the SD 400 Oxi L is capable of determining oxygen in various types of water. This is possible thanks to functions such as automatic temperature and pressure compensation and salinity correction, which allows each measurement to be adjusted to the water sample. The integrated SD card contains the calibration data specific to each sensor as well as software for monitoring, storage and evaluation of measurement data.

The advantages of optical oxygen determination compared to conventional methods are manifold and can be summarized at a glance:
- Low-wear and low-maintenance due to the long-life membrane cap
- Compliant for the BOD dilution method
- Long-stability after the first calibration
- Low calibration drift
- No warm-up or polarization times necessary and therefore immediately ready for use
- No electrolyte required, no additional effort and no hidden costs
- No stirring required

Continued on next page

Oxygen Meters

- No oxygen consumption
- No interference from other gases like H_2S
- No influence by the mounting orientation of the sensor
- No influence by electrostatic and mechanical loads

Scope of delivery in carrying case: device incl. SD-Card (contains calibration data, software, user manual), optical oxygen sensor, storage/calibration bottle with sponge, 4 × AAA batteries, quick start guide, lanyard

webcode WWSE2013



Technical data:

Measuring principle:	Optical oxygen sensor
Measuring range:	O_2-concentration: 0.01 – 50.00 mg/l O_2-saturation: 0.1 – 500.0% Temperature: -5.0 – 50.0°C
Display:	Large LCD with graphical display
Interface:	Micro-USB
External memory:	4 × AA-Batteries, Micro-USB
Power supply:	Micro-USB, 4 batteries (AA)
Data logger:	Software for monitoring and storage of data
Auto – OFF:	yes
Languages:	German, English, Italian, French, Spanish, Portuguese, Dutch, Chinese (simplified)
Dimensions:	162 × 98 × 54 mm
Weight:	330 g (incl. batteries)
Protection class:	IP 67
Conformity:	CE, RoHS, WEEE
Special feature:	Compatible with Karlsruher BOD bottles NS 19/26

Article	Order No.
SD 400 Oxi L (set 1) Optical oxygen sensor: 1.5 m cable length	**10 77 14001**
SD 400 Oxi L (set 2) Optical oxygen sensor: 3 m cable length	**10 77 14002**
SD 400 Oxi L (set 3) Optical oxygen sensor: 10 m cable length	**10 77 14003**

Handheld DO-Meter, WTW®

webcode WWP1J012

The ProfiLine Handheld Dissolved Oxygen meters by WTW®
Field-tested, adapted to the respective applications and the user's requirements: The ProfiLine single parameter devices and sets by WTW®. Special silicone keypad with tactile feedback is particularly operator-friendly and can be cleaned easily under running water. Can be used with disposable or rechargeable battery for more flexible and economical operation. For optical oxygen measurement see WTW® MultiLine® IDS

Simple and functional: Oxi 3205
Oxi 3205: Easy, robust, and watertight (IP67) handheld instrument for measuring dissolved oxygen in the field. With integrated calibration timer for regular calibration. Large, backlit graphic display. Automatic AutoRead function for reproducible measuring results. Available as a ready-to-use portable set complet with electrodes and accessories.



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Technical data Oxi 3205:

Dissolved oxygen:	
Concentration[1]:	0.00 to 19.99 mg/l ±0.5% of measured value 0 to 90 mg/l ±0.5%
Saturation[1]:	0.0 to 199.9% ±0.5% of measured value 0 to 600% ±0.5% of measured value
Partial pressure[1]:	0 to 199.9 hPa, 0 to 1250 hPa
Temperature:	-5.0 to +105.0°C ±0.1°C
all values ±1 digit	

[1] depending on sensor

Article	Order No.
① **Oxi 3205 single device**	**10 81 23205**
Oxi 3205 SET 1 in a case with galvanic oxygen sensor CellOx® 325 and accessories	**10 81 23206**

Continued on next page

Oxygen Meters



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Oxygen meter with data logger qualities: Oxi 3310
Intended for demanding field data collection tasks and recording of extensive arrays. The plain text menu in four languages provides configuration, operation and parametrisation. The units have a large memory for 5000 GLP compliant data and an interval-controlled data logger. Up to 10 calibration logs can be called up to follow up the stability of the connected sensor. With state-of-the-art mini USB interface for communication with the PC. The Oxi 3310 allows calibration against external standards.

Technical data Oxi 3310:
Dissolved oxygen:

Concentration[1]:	0.00 to 19.99 mg/l ±0.5% of measured value
	0 to 90 mg/l ±0.5%
Saturation[1]:	0.0 to 199.9% ±0.5% of measured value
	0 to 600% ±0.5% of measured value
Partial pressure[1]:	0 to 199.9 hPa, 0 to 1250 hPa
all values ±1 digit	

	Article	Order No.
①	**Oxi 3310 single device**	**10 81 23330**
	Oxi 3310 SET 1	**10 81 23331**
	in a case with galvanic oxygen sensor CellOx® 325 and accessories	

Accessories

Article	Order No.
Protective casing SM Pro	**10 81 22780**
Shock-absorbent, elastic rubber	

Viscosimeters

webcode WWY9G004

Anton Paar

Rotational Viscometers ViscoQC 100 and 300, Anton Paar



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③

Rotational Viscometers ViscoQC 100 and 300
The viscosimeters ViscoQC™ 100 and ViscoQC™ 300 are the perfect tools for ensuring the quality of fluid to semi-solid products and guarantee easy, fast and reproducible viscosity measurements. Both units are immediately ready for use after unboxing.

The benefits:
- The ViscoQC 100 is optimised for one-point measurement.
- The ViscoQC 300 has a large display which clearly indicates your measurement data, even with different speeds.
- Toolmaster™: Automatic detection of the spindle and transmission of the measuring system factors – to ensure correct measurement at all times!
- Magnetic spindle coupling: For easy and fast exchange of measuring systems with one hand only
- Peltier temperature control: Optional accessory for precise control of sample temperature with air counter-cooling from 15°C to 80°C
- Digital levelling function: Alignment of the device is checked before the measurement
- Intuitive user interface: 7" touchscreen (ViscoQC™ 300) with large user interface and pre-defined measuring modes
- TruMode: The unique automatc mode TruMode automatically finds the speed required for reaching the optimum torque. This is a great help above all for measuring an unknown sample or an unknown combination of spindle/speed.
- Spindles made of chemically resistant stainless steel AISI 316L
- Data read-out software V-Collect comprised in the delivery
- The optional adaptable measuring cup holder ensures that your sample cup is always properly aligned in the centre
- Optional Pharma Qualification Package. Meets the requirements of GMP, GAMP 5.

	Type	Viscosity mPa/s	Speed rpm	Order No.
②	ViscoQC 100 - L	1 – 6,000,000	0.1 – 200	**10 63 31000**
	ViscoQC 100 - R	10 – 40,000,000	0.1 – 200	**10 63 31001**
	ViscoQC 100 - H	60 – 320,000,000	0.1 – 200	**10 63 31002**
③	ViscoQC 300 - L	1 – 6,000,000	0.01 – 250	**10 63 30300**
	ViscoQC 300 - R	10 – 40,000,000	0.01 – 250	**10 63 30301**
	ViscoQC 300 - H	60 – 320,000,000	0.01 – 250	**10 63 30302**

Continued on next page

Viscosimeters

Accessories

Article	Order No.
Adaptable beaker holder	**10 63 30304**
PTD peltier temperature chamber	**10 63 30305**
CC 12 measuring cylinder for beaker holder/peltier temperature chamber	**10 63 30306**
CC 18 measuring cylinder for beaker holder/peltier temperature chamber	**10 63 30307**
CC 26 measuring cylinder for beaker holder/peltier temperature chamber	**10 63 30308**
DG 26 double gap measuring system for beaker holder/peltier temperature chamber	**10 63 30309**

Ubbelohde Viscometers, SI Analytics

webcode WW1WS008

ISO/DIS 3105, DIN 51562, BS 188, NF T 60-100

① **Capillary viscosimeter, calibrated, for manual measurements**
Manufacturer's certificate with constant.

Type	Capillary No.	Capillary inner Ø mm	Constant guide value K	Measuring range (guide value) mm^2/s	Order No.
50100	0	0.36	0.001	0.3 – 1	**69 27 10001**
50103	0c	0.47	0.003	0.5 – 3	**69 27 10002**
50101	0a	0.53	0.005	0.8 – 5	**69 27 10003**
50110	I	0.63	0.01	1.2 – 10	**69 27 10004**
50113	Ic	0.84	0.03	3 – 30	**69 27 10005**
50111	Ia	0.95	0.05	5 – 50	**69 27 10006**
50120	II	1.13	0.1	10 – 100	**69 27 10007**
50123	IIc	1.50	0.3	30 – 300	**69 27 10008**
50121	IIa	1.69	0.5	50 – 500	**69 27 10009**
50130	III	2.01	1	100 – 1000	**69 27 10010**
50133	IIIc	2.65	3	300 – 3000	**69 27 10011**
50131	IIIa	3.00	5	500 – 5000	**69 27 10012**
50140	IV	3.60	10	1000 -10000	**69 27 10013**
50243	IVc	4.70	30	3000 -30000	**69 27 00131**
50241	IVa	5.34	50	6000 -30000	**69 27 00148**
50250	V	6.30	100	over 10000	**69 27 00156**

Capillary viscosimeter, non-calibrated
For relative measurements.

Type	Capillary No.	Capillary inner Ø mm	Constant guide value K	Measuring range (guide value) mm^2/s	Order No.
53003	0c	0.47	0.003	0.5 – 3	**69 27 10026**
53001	0a	0.53	0.005	0.8 – 5	**69 27 10027**
53010	I	0.63	0.01	1.2 – 10	**69 27 10028**
53013	Ic	0.84	0.03	3 – 30	**69 27 10029**
53020	II	1.13	0.1	10 – 100	**69 27 10030**
53023	IIc	1.50	0.3	30 – 300	**69 27 10031**
53030	III	2.01	1	100 – 1000	**69 27 10032**
53033	IIIc	2.65	3	300 – 3000	**69 27 10033**
53040	IV	3.60	10	1000 -10000	**69 27 10034**

② **Capillary viscosimeter, calibrated, for automatic measurements**
Manufacturer's certificate with constant.

Type	Capillary No.	Capillary inner Ø mm	Constant guide value K	Measuring range (guide value) mm^2/s	Order No.
53200	0	0.36	0.001	0.3 – 1	**69 27 53200**
53203	0c	0.47	0.003	0.5 – 3	**69 27 53203**
53201	0a	0.53	0.005	0.8 – 5	**69 27 53201**
53210	I	0.63	0.01	1.2 – 10	**69 27 53210**
53213	Ic	0.84	0.03	3 – 30	**69 27 53213**
53211	Ia	0.95	0.05	5 – 50	**69 27 53211**
53220	II	1.13	0.1	10 – 100	**69 27 53220**
53223	IIc	1.50	0.3	30 – 300	**69 27 53223**
53221	IIa	1.69	0.5	50 – 500	**69 27 53221**
53230	III	2.01	1	100 – 1000	**69 27 53230**
53233	IIIc	2.65	3	300 – 3000	**69 27 53233**
53231	IIIa	3.00	5	500 – 5000	**69 27 53231**
53240	IV	3.60	10	1000 -10000	**69 27 53240**

SI Analytics
a xylem brand



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webcode To see other variants and accessories, please enter the webcode on our website.

Viscosimeters





Stand

VA steel. Suitable for all Ubbelohde viscosimeters without TC sensors. For manual and automatic measurements. Ensures that the viscosimeter hangs perpendicular. Deviation <1°. Also helps to protect the viscosimeter from breakage.

Article	Order No.
① Stand type 05392	**69 27 05043**

② **ViscoClock *plus***

The ViscoClock *plus* is an electronic timing unit for glass capillary viscometers used to determine kinematic and relative viscosity. Succeeding the well-proven ViscoClock, the new instrument features data storage and simpler handling.

The ViscoClock *plus* is suitable for the following SI Analytics® viscosimeters: Ubbelohde (DIN; ISO; ASTM; Mikro) and Mikro-Ostwald.
To determine absolute kinematic viscosities, calibrated viscometers have to be used, such as type no. 532 xx.

The ViscoClock *plus* automatically measures the flow time in the viscometers by means of infrared light barriers: manual flow time measurement with a stopwatch becomes obsolete. The viscometer including a sample is inserted into the ViscoClock *plus* and immersed into a thermostatic bath for temperature stabilization. After thermostating, the sample is pumped into the measuring bulb, and the flow time is detected automatically. The large display enables easy read-off of flow times and additional information: date, time, sample ID and viscometer ID.

The ViscoClock *plus* can be used in all SI Analytics® transparent thermostats.

Technical data:

Measuring range:	up to 999.99 s / resolution 0.01 s
Accuracy of time measurement:	±0,01 s/±1 digit
Measuring range viscosity:	0.35 – 10000 mm²/s (cSt)
USB host:	to connect USB flash drive or printer (TZ 3863)
Operating temperature:	stand: -40 to +150°C electronic measuring unit: +10 to +40°C
Dimensions (W×D×H):	approx. 90 × 30 × 515 mm
Weight:	approx. 450 g (without viscosimeter), power supply unit approx. 220 g
Viscometer types:	Ubbelohde (DIN, ISO, ASTM, Mikro), Mikro-Ostwald

Article	Order No.
ViscoClock *plus* Timing unit for capillary viscometer. Including power supply 100–230 V and hand pump.	**10 27 17900**
ViscoClock *plus* M1, 230 V ViscoClock *plus* and acrylic glass thermostatic bath CT72/P (230 V) for temperatures +10°C – +60°C.	**10 27 17910**
ViscoClock *plus* M1, 115 V ViscoClock *plus* and acrylic glass thermostatic bath CT72/P (115 V) for temperatures +10°C – +60°C.	**10 27 17920**
ViscoClock *plus* M2, 230 V ViscoClock *plus* and glass panelled thermostatic bath CT72/2 (230 V) for temperatures -40°C – +150°C.	**10 27 17930**
ViscoClock *plus* M2, 115 V ViscoClock *plus* and glass panelled thermostatic bath CT72/2 (115 V) for temperatures -40°C – +150°C.	**10 27 17940**

Viscosimeters, Irmeco



③ **Cannon-Fenske Routine Viscometers**

supplied with works certificate

Standards:
ASTM D445-446, ASTM D2515, ISO 3104-3105 Constant K at 40°C and 100°C

Type	Constant guide value K	Measuring range (guide value) mm²/s	Order No.
25	0.002	0.5 – 2	**10 15 81025**
50	0.004	0.8 – 4	**10 15 81050**
75	0.008	1.6 – 8	**10 15 81075**
100	0.015	3 – 15	**10 15 81100**
150	0.035	7 – 35	**10 15 81150**
200	0.1	20 – 100	**10 15 81200**
300	0.25	50 – 250	**10 15 81300**
350	0.5	100 – 500	**10 15 81350**
400	1.2	240 – 1200	**10 15 81400**
450	2.5	500 – 2500	**10 15 81450**
500	8	1600 – 8000	**10 15 81500**
600	20	4000 – 20000	**10 15 81600**

Continued on next page

Viscosimeters

④ **Cannon-Fenske Opaque Viscometers**
supplied with works certificate

Standards:
ASTM D445-446, ASTM D2515, ISO 3104-3105 Constant K at 40°C and 100°C

Type	Constant guide value K	Measuring range (guide value) mm²/s	Order No.
25	0.002	0.5 – 2	**10 15 82025**
50	0.004	0.8 – 4	**10 15 82050**
75	0.008	1.6 – 8	**10 15 82075**
100	0.015	3 – 15	**10 15 82100**
150	0.035	7 – 35	**10 15 82150**
200	0.1	20 – 100	**10 15 82200**
300	0.25	50 – 250	**10 15 82300**
350	0.5	100 – 500	**10 15 82350**
400	1.2	240 – 1200	**10 15 82400**
450	2.5	500 – 2500	**10 15 82450**
500	8	1600 – 8000	**10 15 82500**
600	20	4000 – 20000	**10 15 82600**



③

webcode WWR5C003



④

⑤ **Ubbelohde Viscometer**
supplied with works certificate

Standards:
ASTM D445-446, ASTM D2515, ISO 3104-3105

Type	Constant guide value K	Measuring range (guide value) mm²/s	Order No.
0	0.001	0.3 – 1	**10 15 83100**
0C	0.003	0.6 – 3	**10 15 83101**
0B	0.005	1 – 5	**10 15 83102**
1	0.01	2 – 10	**10 15 83110**
1C	0.03	6 – 30	**10 15 83111**
1B	0.05	10 – 50	**10 15 83112**
2	0.1	20 – 100	**10 15 83120**
2C	0.3	60 – 300	**10 15 83121**
2B	0.5	100 – 500	**10 15 83122**
3	1.0	200 – 1000	**10 15 83130**
3C	3.0	600 – 3000	**10 15 83131**
3B	5.0	1000 – 5000	**10 15 83132**
4	10.0	2000 – 10000	**10 15 83140**
4C	30.0	6000 – 30000	**10 15 83141**
4B	50.0	10000 – 50000	**10 15 83142**
5	100.0	20000 – 100000	**10 15 83150**



⑤

⑥ **BS/IP/RF U-tube reverse flow Viscometer**
supplied with works certificate

Standards:
BS/IP/RF and ASTM D445-446, ISO 3104-3105 Constant K at 40°C and 100°C

Type	Constant guide value K	Measuring range (guide value) mm²/s	Order No.
1	0.003	0.6 – 3	**10 15 84201**
2	0.01	2 – 10	**10 15 84202**
3	0.03	6 – 30	**10 15 84203**
4	0.1	20 – 100	**10 15 84204**
5	0.3	60 – 300	**10 15 84205**
6	1.0	200 – 1000	**10 15 84206**
7	3.0	600 – 3000	**10 15 84207**
8	10	2000 – 10000	**10 15 84208**
9	30	6000 – 30000	**10 15 84209**
10	100	20000 – 100000	**10 15 84210**
11	300	60000 – 300000	**10 15 84211**



⑥

Continued on next page

webcode To see other variants and accessories, please enter the webcode on our website.

Viscosimeters





① **BS/U-tube reverse flow viskosimeters**
supplied with works certificate

Standards:
BS und ASTM D445-446, ISO 3104-3105 Constant (K) at 40°C and 100°C

Type	Constant guide value K	Measuring range (guide value) mm^2/s	Order No.
A	0.003	0.9 – 3 cSt	**10 15 86110**
B	0.01	2 – 10 cSt	**10 15 86120**
C	0.03	6 – 30 cSt	**10 15 86130**
D	0.1	20 – 100 cSt	**10 15 86140**
E	0.3	60 – 300 cSt	**10 15 86150**
F	1.0	200 – 1000 cSt	**10 15 86160**
G	3.0	600 – 3000 cSt	**10 15 86170**
H	10.0	2000 – 10000 cSt	**10 15 86180**

② **UBBELOHDE viskosimeters**
supplied with works certificate

Standards:
DIN 51562 part 1, ISO 3105

Type	Constant guide value K	Measuring range (guide value) mm^2/s	Order No.
0	0.001	0.35 – 1 cSt	**10 15 85110**
0c	0.003	0.7 – 3 cSt	**10 15 85111**
0a	0.005	1 – 5 cSt	**10 15 85112**
I	0.01	2 – 10 cSt	**10 15 85210**
Ic	0.03	6 – 30 cSt	**10 15 85211**
Ia	0.05	10 – 50 cSt	**10 15 85212**
II	0.1	20 – 100 cSt	**10 15 85310**
IIc	0.3	60 – 300 cSt	**10 15 85311**
IIa	0.5	100 – 500 cSt	**10 15 85312**
III	1	200 – 1000 cSt	**10 15 85410**
IIIc	3	600 – 3000 cSt	**10 15 85411**
IIIa	5	1000 – 5000 cSt	**10 15 85412**
IV	10	2000 – 10000 cSt	**10 15 85510**
IVc	30	6000 – 30000 cSt	**10 15 85511**
IVa	50	10000 – 50000 cSt	**10 15 85512**

webcode WWSU9049

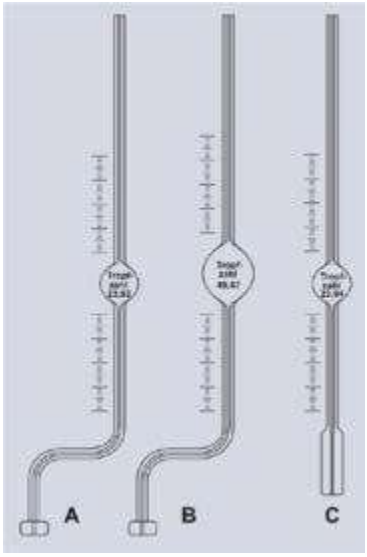


Bostwick Consistometer, Dinkelberg Analytics

Flow viscosity meter for checking the consistency, viscosity or flow rate of fluid or viscous products such as sauces, soups, dressings, marmalade, cosmetics, lacquers, etc. with good reproducibility.
Made of stainless steel with level and leveling feet. Trigger mechanism with spring loaded sample chamber latch, engraved gradations on the flow path in 5 mm steps.

Technical data:
External dimensions (L × W × H): 356 × 76 × 140 mm
Sample volume: 75 ml

Article	Order No.
Bostwick Consistometer, type BA24-925-000	**69 32 24925**
Replacement level for Bostwick Consistometer	**10 32 10025**



Stalagmometer, Neubert-Glas

Traube-type stalagmometer for determination of surface tension

Article	Order No.
Stalagmometer, tube A, angled For small quantities of thin liquid, approx. 2.5 ml, 15 – 20 drops	**15 11 33010**
Stalagmometer, tube B, angled For large quantities of thin liquid, approx. 6.3 ml, 45 – 55 drops	**15 11 33020**
Stalagmometer, tube C, straight For small quantities of viscous liquids, approx. 2.5 ml, 15 – 25 drops	**15 11 33030**

More sizes on request.

Melting Point Determination Instruments and Accessories

Melting Point Meters, A. KRÜSS Optronic

webcode WWY3J013

Melting point meter M5000
The M5000 provides fast, easy and automatic examination of powdery substances with a melting point up to 400°C. Due to the automatic determination of the melting point, an objective measurement result is always guaranteed. The high preheating rate and the integrated fan cooling allow fast and reliable measurements in any temperature range. The display provides a well-arranged readout of all important measuring data.

Technical data:

Measuring range:	25 – 400°C
Resolution:	0.1°C
Accuracy:	±0.3°C (25 – 220°C) ±0.5°C (200 – 400°C)
IP Code:	IP20
Preheating rate:	to 300°C approx. 4.0 min to 400°C approx. 7.5 min
Heating rate:	1°C min^{-1}
Capillary Ø:	1.4 mm
Nr. of capillaries:	1
Power supply:	90 – 264 V
Dimensions (W×H×D):	220 × 150 × 340 mm
Weight:	4.1 kg

Article	Order No.
① Melting point analyzer M5000	**10 61 15001**



①

Melting Point Meter M3000
The M3000 provides fast and easy examination of powdery substances with a melting point up to 360°C. Due to the triple capillary intake, it is possible to analyse three samples within one measurement run. Thanks to the preheating rate and the integrated fan cooling, fast measurements are possible in any temperature range. The display provides a well-arranged readout of all important measuring data.
The measurement is carried out semi-automatic my means of 10× magnification optics, the device offers an RS-232 interface for printer CBM910.

Technical data:

Measuring range:	30 – 360°C
Resolution:	0.1°C
Accuracy:	±0.3°C (30 – 200°C) ±0.5°C (200 – 360°C)
Preheating rate:	to 300°C approx. 4.0 min to 360°C approx. 7.5 min
Heating rate:	1°C min^{-1}
Capillary Ø:	1.4 mm
Nr. of capillaries:	3
Power supply:	90 – 264 V
Dimensions (W×H×D):	210 × 360 × 230 mm
Weight:	4.3 kg

Article	Order No.
② Melting point meter M3000	**10 61 13001**



②

Kofler Hotbench, Wagner & Munz

webcode WWZ71003

Incl. set of calibration and test substances, for the determination of melting points and the fast identification of organic substances. Very easy to use. For many different applications in quality assurance and research.

Technical data:

Temperature range:	+ 50°C to + 260°C
Connected load:	100 W, 230 V, 50-60 Hz

Article	Order No.
Kofler hotbench	**69 62 50400**



Melting Point Determination Instruments and Accessories



webcode WW4ZV045

Melting Point Determination Tubs, Hirschmann

Melting point determination tubes, pack of 10 lots of 100. Further sizes on request.

① **One end closed**

Outer Ø mm	Inner Ø mm	Length approx. mm	Order No.	PU pc/Pack
1.0	0.8	80	**15 37 81002**	1000
1.0	0.8	100	**15 37 81003**	1000
1.35	0.95	80	**15 37 81005**	1000
1.35	0.95	100	**15 37 81006**	1000
1.55	1.15	80	**15 37 81007**	1000
1.55	1.15	100	**15 37 81008**	1000



② **Capillary tube, two ends open**

Outer Ø mm	Inner Ø mm	Length approx. mm	Order No.	PU pc/Pack
1.0	0.8	80	**15 37 81102**	1000
1.0	0.8	100	**15 37 81103**	1000
1.35	0.95	80	**15 37 81105**	1000
1.35	0.95	100	**15 37 81106**	1000
1.55	1.15	80	**15 37 81107**	1000
1.55	1.15	100	**15 37 81108**	1000

Room Thermometers



webcode WWERJ016

Six Thermometers, Amarell

Minimum/maximum thermometers

With pushbutton magnet, plastic housing with roof, with red filling.

Range: -30 to +50°C
Size: 230 × 90 mm

Article	Order No.
③ Minimum/maximum thermometer, with red filling	**16 10 32011**



webcode WWERJ024

In/Out Thermometer, Amarell

Article	Order No.
④ **Dual Thermo Max/Min**	**10 10 11680**

Electronical thermometer max./min. with temperature alarm, for indoor and outdoor, temperature sensor with 3 meters PVC outdoor cable.

Technical data:

Measuring range:	-50 to +70°C
Resolution:	0.1°C
Accuracy:	±1°C, -20 to +70°C
Battery:	button cell, 1.5 V LR44/A76
Live:	approx. 8000 h
Measurement:	65 × 67 × 23 mm
Operating temperature:	0 to +50°C



Article	Order No.
⑤ **Indoor/outdoor thermometer**	**10 10 17936**

Accurate max./min. thermometer saves extreme values with date and time; optionally, delayed temperature indication. With maximum and minimum temperature, alarm and warning light. Ideal for monitoring fridge and freezer temperatures.
External sensor with 3 m cable in a screw-connection plastic housing for temperature delay. Measuring range -50 to 70°C, resolution 0.1°C, accuracy ±0.5°C

Room Thermometers

Desktop Thermometer, ISOLAB

This desk top electronic thermometer can be also used as wall hanged. With the help of two probes can be used for indoor and out-door temperature measurement simultaneously.

The folding stand at the back housing offers a convenient angle for easy reading of the results. Water resistant sturdy plastic housing with 135 × 75 × 19 mm dimensions offers long life cycle.

Offers dual display for humidity and temperature on a large and clear 51 × 41 mm LCD display. Featured with maximum & minimum temperature reading memory with an alarm function and date / time display.
Temperature measurement range is -4°F to +122°F (+/- 0,2°F) or -20°C to +50°C (+/- 0,1°C) selectively. °F & °C values are exchangeable by a switch control at the front panel.

Article	Order No.
Desktop thermometer	**10 66 40700**



webcode WWMUE007

ISOLAB Laborgeräte GmbH

Desktop Thermohygrometer, ISOLAB

This desk top thermohygrometer can be also used as wall hanged. The folding stand at the back housing offers a convenient angle for easy reading of the results. Water resistant sturdy plastic housing with 109 × 70 × 19 mm dimensions offers long life cycle.

Offers dual display for humidity and temperature on a large and clear 40 × 30 mm LCD display. Featured with maximum & minimum temperature reading memory with an alarm function.

Humidity measurement range is 10% RH – 99 %RH with ± 1%RH accuracy. Temperature measurement range is -58°F to +158°F (± 0,2°F) or -50°C to +70°C (± 0,1°C) selectively. °F & °C values are exchangeable by a switch control at the front panel.

Article	Order No.
Desktop thermohygrometer	**10 66 40850**



webcode WWMUE009

Electronic Thermometer, LAT

Electronic maximum/minimum thermometer with alarm
for indoor (-10 to +60°C) and outdoor temperature (-50 to +70°C)
selectable °C/°F
cable approx. 2 m
for hanging or standing
incl. battery
Dimensions: 110 × 70 × 20 mm
Weight: 130g

Article	Order No.
Maximum-Minimum thermometer	**68 20 10060**

LAT Scientific Instruments

webcode WWW4U040



Use the webcode on our website to see a larger selection of products from a specific manufacturer.

webcode

Room Thermometers

testo Mini Data Logger, Testo / IDL

webcode WWJ9J045



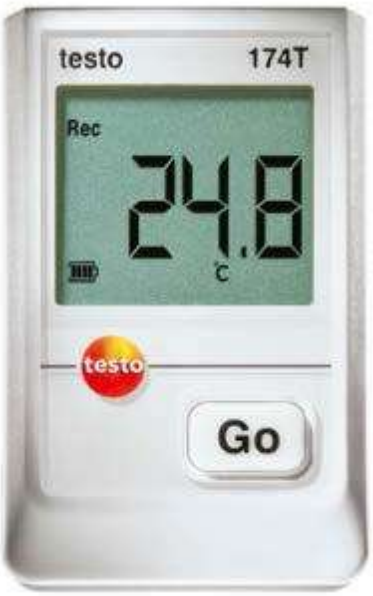
① **testo 174H mini data logger,** 2-channel, incl. wall bracket, battery (2 × CR 2032 lithium) and calibration protocol. The mini data logger for temperature and humidity testo 174H is ideal for monitoring temperature and humidity sensitive goods in storage. The testo 174H also monitors building climate, continuously, securely and unobtrusively. The free software ComSoft testo 174 allows fast programming of the data logger and easy analysis.

- Humidity sensor with long-term stability
- High data integrity, even with empty battery
- Large measurement data memory
- Display of the current temperature or humidity value
- Large measuring range
- Compact and robust
- Issue of alarms via display
- Data transfer to the PC via USB interface

Technical data:

Sensor technology:	NTC/capacitive humidity sensor
Channels:	2 × internal
Measurement unit:	°C, °F, %RH
Measuring range:	-20 to +70°C internal / 0 to 100% RH
Accuracy ± 1 Digit:	± 0.5°C (-20 to +70°C) ± 3% RH (2% to 98% RH) ±0.03% RH/K
Resolution:	0.1°C / 0.1% RH
Dimensions:	60 × 38 × 18.5 mm
Battery life:	1 year (15 min meas. cycle, +25°C)
Operating temperature:	-20 to +70°C
Storage temperature:	-40 to +70°C
Battery type:	2 × CR 2032 Lithium
Protection class:	IP 20
Measuring cycle:	1 min to 24 h
Memory capacity:	16,000 readings

	Article	Order No.
①	**testo 174H mini data logger**	**10 09 41741**
	USB-Interface for programming and reading out the logger	**10 09 41745**
	Set testo 174H mini data logger incl. USB interface for programming and reading out the logger	**10 09 41742**



② **testo 174T mini data logger**, 1-channel, incl. wall bracket, battery (2 × CR 2032 lithium) and calibration protocol. The mini data logger for temperature testo 174T is ideal for accompanying transports. Simply positioned close to the goods, e.g. in containers and refrigerated rooms, the data logger monitors temperature continuously, securely and unobtrusively. The free software ComSoft Basic allows fast programming of the data logger and easy analysis.

- High data integrity, even with empty battery
- Large measurement data memory
- Watertight in accordance with IP65
- Compact and robust
- Conforms to EN12830
- Issue of alarms via display
- Data transfer to the PC via USB interface

Technical data:

Sensor technology:	NTC
Channels:	1 × internal
Measurement unit:	°C
Measuring range:	-30 to +70°C internal
Accuracy ± 1 Digit:	± 0.5°C (-30 to +70°C)
Resolution:	0.1°C
Dimensions:	60 × 38 × 18.5 mm
Battery life:	500 days (15 min meas. cycle, +25°C)
Operating temperature:	-30 to +70°C
Storage temperature:	-40 to +70°C
Battery type:	2 × CR 2032 Lithium
Protection class:	IP 65
Measuring cycle:	1 min to 24 h
Memory capacity:	16,000 readings

	Article	Order No.
②	**testo 174T mini data logger**	**10 09 41746**
	USB-Interface for programming and reading out the logger	**10 09 41745**
	Set testo 174T mini data logger incl. USB interface for programming and reading out the logger	**10 09 41747**

Continued on next page

Room Thermometers

testo 175 T3 Temperature Logger
With its two connectors for external thermocouple sensors, the temperature logger testo 175 T3 is the perfect choice if you want to record temperatures in two different places simultaneously, for example to measure the flow and return temperature at radiators. The measured values are safely stored in the temperature logger for subsequent evaluation and documentation of measured data.

Temperature - TE Typ K (NiCr-Ni)
Measuring range: from -50 to +1000°C
Accuracy: ± 0.5°C (-50 to +70°C) ± 1 digit
± 0.7% v. Mw. (+70.1 to 1000°C) ± 1 digit
Resolution: 0.1°C
Temperature - TE Typ T (Cu-CuNi)
Measuring range: from -50 to +400°C
Accuracy: ± 0.5°C (-50 to +70°C) ± 1 digit
± 0.7% v. Mw. (+70.1 to 400°C) ± 1 digit
Resolution: 0.1°C

Article	Order No.
③ **testo 175 T3 Temperature Logger**	**10 09 41753**

testo 175 T3 Temperature Logger Sensors

Article	Order No.
Water-proof immersion/insertion probe Robust immersion/penetration thermometer, tube with metal protection, Tmax +230°C, e.g. for checking the temperature of boiling oil, TE of K type; fixed cable, straight	**10 09 41292**
Flexible immersion tip, low-mass Ideal for measurements in a small volume, e.g. in a petri dish	**10 09 40493**

Other sensors available on request.



③

Other thermometers see page 880

Flow Meters

Flowmeter, LAT

webcode WWW4U105

Float-type flowmeter
Measuring instrument for direct reading of the current flow of gases and low-viscosity fluids. Typical fields of application: laboratories, machine engineering, chemistry, glass industry, furnace construction, pharmacy, and medical engineering.
Quality made in Germany!

Flowmeter Uni
Possible Media
Air, Ar, N2, CO2, CO, H2, O2, He, CH4, C3H8, N:3H, C4H10, Water, low-viscosity liquids

Optional accessories
Laboratory stand, integrated control valve, limit value alarms, special scales for any media, dual scales, oxygen cleaning

Technical data:
Material: Borosilicate glass measuring tube with burnt scale, nickel-plated brass, stainless steel
Temperature: -15°C to +120°C
Pressure levels: up to 16 bar (bumpless)
Connections: ¼″ internal thread connctions

Model	Flow water	Flow air	Order No.
Compact	15 cm^3/min – 1 l/min	20 cm^3/min – 25 l/min	**10 20 19000**
Standard	1 cm^3/min – 4.4 l/min	5 cm^3/min – 100 l/min	**10 20 19001**
Long	2 cm^3/min – 4.8 l/min	0.05 l/min – 115 l/min	**10 20 19002**



Flowmeter Flux

Technical data:
Material SH Series: 316SS stainless steel, borosilicate glass measuring tube with fired scale
Material OF Series: 316SS stainless steel, acrylic plastic

Model	Flow water ml	Flow air ml	Temperature °C	Order No.
SH ½″	0.5 – 12	10 – 230	-15 – +120	**10 20 19003**
SH 1″	2 – 40	40 – 600	-15 – +120	**10 20 19004**
OF ½″	0.6 – 10	10 – 200	0 – +60	**10 20 19005**
OF 1″	2 – 40	40 – 600	0 – +60	**10 20 19006**

For other media on request

webcode To see other variants and accessories, please enter the webcode on our website.

Gas Analysis



Rubber Ballons, Deutsch & Neumann

Rubber ballons (football bladders) with tube extension made of natural rubber/latex, red, for rotary evaporators. Hose length 14 cm, hose inner dia. 7 mm.

Size	Contents l	Order No.
5	1,5 to 2	**27 34 05002**
8	3,5 to 4	**10 34 15003**



webcode WW7R3268

Rubber Ballons, IDL

Article	Order No.
Rubber ballon, transparent	**27 00 04001**

Timers



Timer Clock, Amarell

Electronic timer clocks
With loud alarm signal, 3 functions: Timer up to 24 hours, with memory function, clock, stopclock up to bis 24 hours. With magnet, clip and foot. Dimensions 68 × 53 × 20 mm.

webcode WWERJ025

Article	Order No.
Electronic Timer Clock stopwatch	**30 10 67950**



Electronic Multifunction Watches, neoLab®

webcode WW2NY073

	Article	Order No.
①	**Timer**	**30 01 22002**

An electronic multifunctional timer: clock, timer, and stopwatch in one
- Timer counts from 0 to 24 hrs with a 1-second resolution.
  An acoustic alarm sounds for 60 seconds at the end of the pre-set time.
- Quartz watch features a 24 hr display and an accuracy of 0.5 seconds/day.
- Stopwatch counts up to 24 hrs; also suitable as additioning stopwatch.

Housing made of ABS-plastic, impact-resistant, complete with magnet, spring-clip and stand bar.
Dimensions: 65 × 60 × 15 mm

	Article	Order No.
②	**Up-Down-Timer**	**10 01 21730**

- Dual function: count down + stop watch
- Running time easily adjustable, for max. 99 minutes 59 seconds
- Loud signal
- Large LCD display (approx. 20 mm)
- Magnet attachment (flexible employment)
- Tiltable condition foot
- Supply inclusive battery button 1.5 V

Dimensions: 70 x 45 x 10 mm



Stopwatches, IDL

webcode WW7R3300

Crown and addition stoppers
0 to 30 minutes counter, pin lever movement, 7 jewels, shock protected. Round metal case, 51 mm Ø

	Article	Order No.
③	Crown stopper, 1/5 seconds timer	**30 00 10003**
	Addition stopper, 1/5 seconds timer	**30 00 10004**
	Crown stopper, 1/10 seconds timer	**30 00 10001**
④	Addition stopper, 1/10 seconds timer	**30 00 10002**

Timers

Double Timer with Stopwatch, IDL

Memory function, LED warning lamp (changes from green to red after expiry of the set time), magnet, foot and suspension, count down/count up 99 h, 59 min, 59 sec
Housing size: 91 × 21 (30) × 76 mm
Weight: 86 g

Article	Order No.
Double timer with stopwatch	**10 00 05080**



webcode WW7R3358

Timer Digital, IDL

Count down/count up, 99 h, 59 min, 59 sec, 4-timer, clip to mount and hang, magnet. Time specifications in 12/24, alarm function with snooze button.
Housing dimensions: 72 × 67 × 14 mm

Article	Order No.
2-channel-timer digital	**10 00 30044**



webcode WW7R3312

Counters

Tally Counters, Hand-Held, neoLab®

webcode WW2NY191

① **Tally Counters, Hand-Held**
4 figure manual counter for counting pieces from 0-9999. Housing made of chrome-plated metal or yellow plastic. With finger strap for ergonomical operating. Resetting to zero through turning knob.
Housing diameter: 45 mm
Weight: 66 g

Article	Order No.
Hand-held tally counter economy, metal	**88 01 17510**
Hand-held tally counter economy, yellow plastic	**10 01 17511**
Hand-held tally counter economy, metal with screw plat	**10 01 17512**

② **Manual Tally Counter**
Hand-held counter with retaining ring, for counting up 0 to 9999. Mechanical, very reliable counter. White 4-digits numbers on black background. Reset through knurled knob. Housing made of zinc die-cast alloy. Quality made in Germany
Temperature: 0 bis +60°C
Housing diameter: 47 mm
Weight: ca. 115 g

Article	Order No.
Hand-held tally counter	**88 01 17509**



① ②

Length

Calipers, BOCHEM

③ **Vernier caliper**

Material	Length mm	Order No.
Stainless steel, rust-proof	150	**33 05 12110**



③

④ **Caliper DIGITAL**
5-digit LCD
Accuracy ± 0.03 mm
Reading 0.01, mm/inch selection

Material	Length mm	Order No.
Stainless steel, rust-proof	150	**33 05 12116**



④

webcode WWQ7J067

Torque

webcode WW6CF019

Torque Measurement Device SAUTER, KERN







Torque measurement device SAUTER DA
Ideal for torque testing of bottles and other packaging with screw tops

- Quick pin system: The four bottle mounts (holders) are pushed in, instead of being screwed in, to save time. This allows you to reconfigure quickly for other bottle sizes
- Metal housing for durable usage in harsh environmental conditions
- Capacity display: A bar lights up to show how much of the measuring range is still available
- Back-lit LCD graphic display
- Rubber feet with anti-slip feature
- Scope of supply: four bottle mounts with rubber coat, sturdy carry case
- Internal data memory saves up to 500 measurements. The content of the memory can be transferred to the PC using optional software
- USB and RS 232 data interfaces to the PC included
- Peak Hold Mode to capture peaks
- Can be used in both directions of rotation
- Function to set limits: Input of an upper/lower limit value. A visual and acoustic signal supports the measuring operation
- AUTO-OFF function

Technical data:

Selectable units:	Nm, lbf-in, kgf-cm, kgf-m, ft-lbf
Measurement accuracy	± 0.5% of [Max]
Internal measuring frequency:	1000 Hz
Usable measuring range:	5 – 100% of [Max]
Overload protection:	150% of [Max]
Battery operation:	internal, standard, operating time up to 18 h without backlighting, charging time approx. 14 h
Dimensions (W×D×H):	250 × 160 × 100 mm
Net weight:	approx. 3 kg

Model	Measuring range Nm	Increment Nm	Ø testing object mm	Order No.
DA 1-4	1	0.0002	10–165	**10 58 39210**
DA 5-3	5	0.001	10–165	**10 58 39211**
DA 10-3	10	0.002	10–165	**10 58 39212**

Accessories

Article	Order No.
Plug-In AFI-1.0 for transferring measuring data from the internal data memory of the measuring instrument to a PC, e.g. in Microsoft Excel®	**10 58 39213**
Software AFH FAST High speed data transfer software for force-time-measurements	**10 58 39214**
USB/PC cable FL-A01	**10 58 39215**
RS-232/PC cable FL-A04	**10 58 39216**

Acoustics

webcode WW6CF018

Sound Level Meter SAUTER, KERN



① **Sound level meter SAUTER SU**
Professional sound level meter

- Professional sound level meter for measuring noise in areas such as, for example, the environment, mechanical applications, car industry and much more
- Measures the sound intensity in the workplace
- Helps in differentiating between normal noise influences, and excessive noise, e. g. in a production hall
- Data interface RS-232
- Delivered in a hard carrying case

Multi measuring functions:

- Lp: Standard sound level measuring function
- Leq: Energy equivalent sound level measuring mode (type A)
- Ln: Shows the deviation from a pre-defined limit in %

Selectable methods of evaluation:

- A: As sensitive as the human ear
- C: Sensitive for noisier environmental conditions, where there are machines, plant, motors etc.
- F: For areas where sound intensity does not vary

Continued on next page

Acoustics

Functions:
- Function to set limits: Programmable target value for go/no-go test values
- TRACK function for continuous recording of variable environmental conditions
- Peak Hold Mode to capture peaks
- Internal memory for measured values, for 30 measurements. Can be displayed on the PC

Technical data:

Measurement accuracy:	3% of [Max]
Dimensions (W×D×H):	236 × 63 × 26 mm
Battery operation:	batteries as standard 4× 1.5 V AAA
Net weight:	approx. 170 g

Model	Type	Increment dB	Order No.
SU 130.	Lp A Lp C Lp F	0.1	**10 58 39200**



Accessories

Article	Order No.
Data transfer software ATC-01, interface cable incl.	**10 58 39203**
Adjustment device ASU-01 for regular adjustment of the sound level meter	**10 58 39204**
Foam draft shield ASU-02	**10 58 39205**

Sound level meter SAUTER SW
Professional sound level meters of class I and class II in premium quality
- Data logging function with date and time in the device and data transfer using MicroSD (4 GB) memory card (included with delivery), RS-232 or USB
- Different sound pressure levels can be selected, such as, for example, Laeq, LcPeak, LaF, LaFMax, LaFMin, SD, SEL, E
- Ideal for measurements for workplaces which are outdoors, e.g. at airports, on building sites, in road construction etc. with broad access to spectrum thanks to the highly-accurate 24-Bit A/D converter
- Floating point evaluation for higher level of accuracy and better stability
- The optimised analogue frontend switch reduces the ambient noise and increases the linear measuring range
- A specially-developed algorithm permits a compliant dynamic range of more than 120 dB! (SW 1000: > 123 dB; SW 2000: > 122 dB)
- Three profiles and 14 user-defined measurements can be calculated in parallel with different frequency and time weighting
- LN statistics and display of the graph showing the progression of time
- User-defined integral interval measurement up to a maximum of 24 hours is possible
- Frequency weighting (filter) A, B, C, Z
- Time interval during measurement: F (fast), S (slow), I (pulse)
- Freely-definable limits for the output of an optical alarm signal
- Peak Hold Mode to capture peaks
- Octavo function for targeted sound analysis
- TRACK function with graphic display of a measurement
- Calibration mode (with optional calibrator)
- Trigger mode: Analogue signal to switch the device on or off with 3.5 mm plug
- Automatic measurement for timer function is possible
- Measurement value frequency selectable: 10, 5, 2 Hz
- Operating languages: german, English, french, Spanish, Portuguese
- Delivered in a hard carrying case
- Option of fitting a column on the rear of the housing, ¼″ thread



①

Technical data:

Applicable standards:	IEC61672-1:2014-07, GB/T3785.1–2010, 1/1 octave according to IEC 61260:2014
Microphone:	½″
Permissible ambient temperature range:	-10°C – 50°C
Output (DC or AC voltage):	AC (max. 5 VRMS), DC (10 mV/DB)
Mains operation:	standard
Battery operation:	4× 1.5 V AA, not provided as a standard, operating time up to 10 h
Dimensions (W×D×H):	80 × 36 × 300 mm
Net weight:	approx. 400 g

Model	Measuring range dB	Frequency range kHz	Sensitivity V/Pa	Order No.
SW 1000	20–134	0.003–20	50 m	**10 58 39201**
SW 2000	25–136	0.02–12.5	40 m	**10 58 39202**

CHAPTER OVERVIEW

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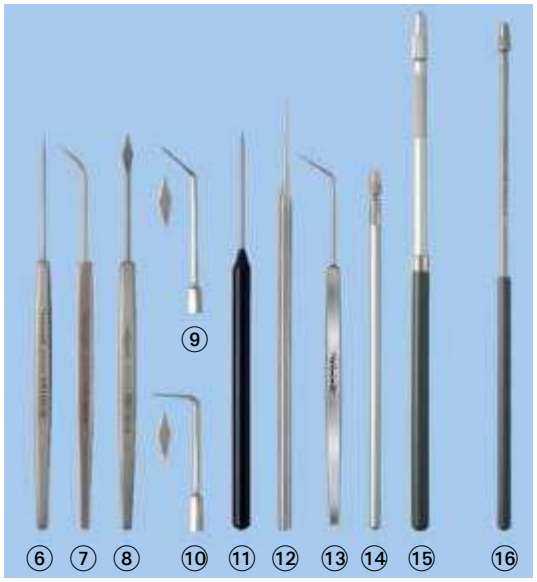
KNOWLEDGE Photometers 986

Dissecting Sets



Student/Chemist/Biologist Sets, Hammacher / IDL

	Article	Order No.
①	**Small chemist set, 5-piece** 1 micro powder spatula, flexible, 150 mm 1 twin spatula, flexible, 150 mm 1 scissors, sharp/sharp, straight, 145 mm 1 spoon spatula, 32×22 mm (SL×SW), 150 mm; 1 anatomy forceps, simple design, 130 mm	**33 51 28010**
②	**Chemists' set, 13 pieces, in a plastic case**	**10 51 13100**
③	**Biologist set, 5-piece** 1 delicate dissecting forceps, straight, 130 mm 1 dissecting needle with plastic haft, straight, 140 mm 1 vaccinating eyelet with plastic haft, 200 mm 1 scalpel with wooden handle, blade 30 mm 1 microscope scissors, straight, 105 mm	**33 51 28030**
④	**Set for students, 7 pieces, in a plastic case**	**10 51 13000**
⑤	**Spoon and spatula set, 14 pieces, in a plastic case**	**10 51 13200**



Dissecting Needles, Vaccinating Eyelets and Probes, Hammacher / IDL

Dissecting needles

	Material	Form	Length mm	Order No.
⑥	Wironit with metal haft	pointed, straight	140	**33 51 19010**
	rust-proof steel	pointed, straight	140	**33 51 19013**
	chromium-plated, with plastic haft	pointed, straight	140	**33 51 19019**
⑦	rust-proof steel with metal haft	pointed, curved	140	**33 51 19025**
	chromium-plated, with plastic haft	pointed, curved	140	**33 51 19031**
⑧	Wironit with metal haft	Lancet form	140	**33 51 19034**
	rust-proof steel	Lancet form	140	**33 51 19037**
	rust-proof steel with plastic haft	Lancet form	140	**33 51 19043**
⑨	Wironit with metal haft	Lancet form, offset		**33 51 19049**
⑩	Wironit with metal haft	Lancet form, offset		**33 51 19052**
⑪	Wironit with plastic handle	pointed, straight	140	**33 51 19055**
⑫	Wironit with metal haft	pointed, straight	160	**33 51 19058**
⑬	Wironit with metal haft	pointed, offset	140	**33 51 19059**

Continued on next page

Dissecting Sets

Dissecting needle holders

	Material	Length mm	Order No.
⑭	Aluminium haft, acc. to Kolle	170	**33 51 19061**
⑮	Aluminium top and plastic handle	240	**33 51 19064**
⑯	Wironit top and plastic handle	240	**33 51 19067**

Inserts to fit the dissecting needle holders 33 51 19061, 19064 and 19067
Vaccinating eyelets

	Material	Length mm	Ø mm	Order No.	PU pc/Pack
⑰	Wironit	50	1.5	**33 51 19069**	10
⑱	Wironit	50	2.5	**33 51 19070**	10
⑲	Wironit	50	4.0	**33 51 19071**	10
	Wironit	60	1.5	**33 51 19072**	10
	Wironit	60	2.5	**33 51 19073**	10
	Wironit	60	4.0	**33 51 19074**	10

Dissecting needles

	Material	Form	Length mm	Order No.	PU pc/Pack
⑳	Wironit	Lancet form	50	**33 51 19079**	10
㉑	Wironit	straight	50	**33 51 19082**	10
㉒	Wironit	curved	50	**33 51 19085**	10
㉓	Wironit	half lancet	50	**33 51 19088**	10
㉔	Wironit	spatula form	50	**33 51 19091**	10

Vaccinating eyelets

	Material	Length mm	Order No.
㉕	Metal with plastic handle	200	**33 51 19097**

Probes

	Material	Button Ø mm	Length mm	Order No.
㉖	Wironit	1.0	130	**33 51 19100**
	Wironit	1.0	145	**33 51 19103**



Microscope Slides, Cover Glasses

Microscope Slides, IDL

Microscope slides made of 3/4 white glass, 26 × 76 × 1,0 mm (acc. to ISO 8037), cleanly washed and polished, in fiber-free collapsible boxes of 50.

Version	Pcs/pack	Order No.	PU Pack/ Box
Edges cut	50	**19 00 00001**	100
Edges cut, matte	50	**19 00 00004**	100



webcode WW7R3202

Cover Glasses, IDL

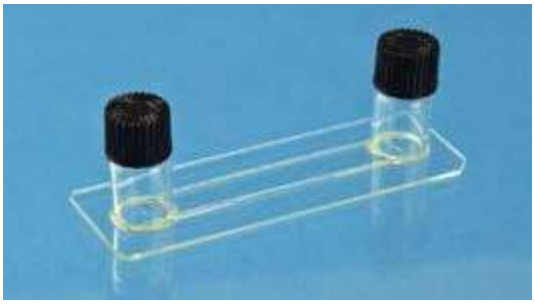
Cover glasses made of pure white glass of hydrolytic class 1, cleanly cut, no bubbles and no streaks, ready for use, plastic boxes of 100 in cartons of 1000.

Dimensions mm	Pcs/pack	Order No.	PU Pack/ Box
18 × 18	100	**19 00 01818**	10
20 × 20	100	**19 00 02020**	10
22 × 22	100	**19 00 02222**	10
24 × 24	100	**19 00 02424**	10
22 × 32	100	**19 00 02232**	10
22 × 40	100	**19 00 02240**	10
24 × 32	100	**19 00 02432**	10
24 × 36	100	**19 00 02436**	10
24 × 40	100	**19 00 02440**	10
24 × 50	100	**19 00 02450**	10
24 × 60	100	**19 00 02460**	10

webcode WW7R3206



Microscope Slides, Cover Glasses



Microscope Slides, Micro Life®, Hecht-ASSISTENT

Slides for microscopic observation of long-term cultures of microorganisms. Supplied with a special pipette for flooding particles into the field of observation as well as for filling liquids into the vessel. Reusable after cleaning.

Pack contents: 1 Micro Life®, 1 special pipette, 1 operating instructions. Minimum order quantity: 5.

Article	Order No.
Microscope slides Micro Life®	**19 18 02426**

webcode WW2NY363



TOMO Adhesive Microscope Slides, neoLab®

These advanced hydrophilic adhesive microscope slides perform excellent even under high temperature and high pH conditions. The hydrophilic surface of the slides, allows to reposition the tissue sections easily in the waterbath, if needed.

Fields of Application:
- Histology
- Pathology
- Cell research
- Immunostaining

Additional Information:
- Unilateral marking spot (white)
- Size (L×W×H): 75 × 25 × 1 mm
- Corners: 45°
- ISO 13485 Certified

Article	Length × Width × Height mm	Order No.	PU pc/Pack
Adhesive microscope slides, white	75 × 25 × 1	**10 01 16305**	100



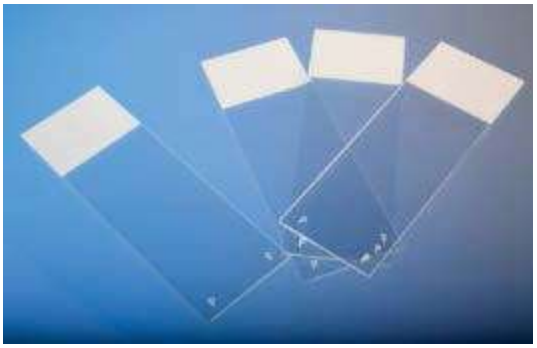
SuperFrost® Plus Adhesion Microscope Slides, IDL

Extra white glass, approx. 25 × 75 × 1.0 mm, edges ground 90°, white marking area, in packs of 72.

SuperFrost® microscope slides are manufactured using a new process technology, which positively charges the standard microscope slides permanently. The microscopic slides bind fresh frozen cuts and cytologic preparations by means of electrostatic attractive force.

Article	Order No.
SuperFrost/Plus adhesion microscope slides	**19 35 15000**

Available only in original packaging units. No fractions possible.



Polysine Adhesion Microscope Slides, IDL

Extra white glass, approx. 25 × 75 × 1.0 mm, edges ground 90°, white marking area, in packs of 72.

The Polysine™ microscope slides are a glass product with permanent adhesive. This gives the microscope slides an excellent cell and tissue adhesion.

Article	Order No.
Polysine adhesion microscope slides	**19 35 20000**

Available only in original packaging units. No fractions possible.

Microscope Slides, Cover Glasses

Micro Slide Dispenser, Hecht-ASSISTENT



Micro slide dispenser, plastic accomodates 72 micro slides of the standard size 76 × 26 mm, dust-free storage. Without slides.

Article	Order No.
Micro slide dispenser	**29 18 07440**

Erythrocytometers, Hecht-ASSISTENT



Erythrocytometer with grid for counting blood corpuscles, CE-version.

	Article	Order No.
①	Erythrocytometer, Thoma type, double	**19 18 44072**
	Erythrocytometer, Thoma new type, double	**19 18 44772**
	Erythrocytometer, Neubauer type, double	**19 18 44172**
	Erythrocytometer, Neubauer impr. type, double	**19 18 44272**
	Erythrocytometer, Fuchs-Rosenthal type, double	**19 18 44972**

Embedding, Coloring

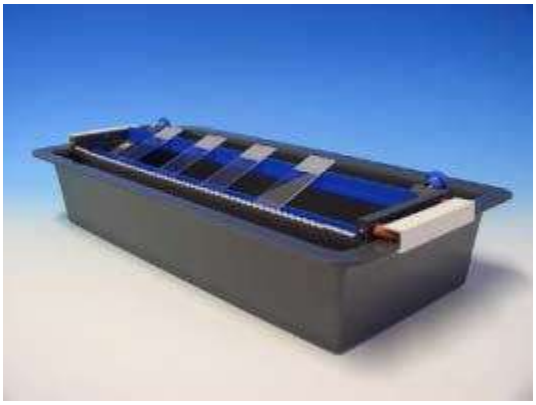
Staining Inserts, Hecht-ASSISTENT



Staining inserts made of stainless steel, round, for microscope slides 26 mm wide, complete with glass jar with ground-in cover with knob.
The ground-in cover prevents the staining solution from evaporating. Suitable for series staining, and particularly for Papanicolaou staining.

for	Outer Ø glass cylinder approx. mm	Order No.
14 microscope slides	100	**19 18 83014**
24 microscope slides	120	**19 18 83024**
42 microscope slides	160	**19 18 83042**
98 microscope slides	220	**19 18 83098**

Staining Racks, Hecht-ASSISTENT



PVC staining rack with staining tray
Pull-out rack for trays and jars from 38 to 62 cm, can be fixed in tilted position and horizontal position, complete with matching PVC staining rack and 2 Plexi clamps.

Technical data:

Heat resistance:	+72°C / +161.6°F
Temperature resistance:	-15 – +60°C / +5 – 140°F
Moisture absorption:	0.2%
Density:	1.45 g/cm³
Dielectric strength:	20 – 40 kV/mm
Tensile strength:	30 N/mm²
E-Modul:	3000 N/mm²
Elongation at break:	33%
Spec. Volume resistance:	> 1015
Dimensions:	ca. 38 × 17 × 8 cm

Article	Order No.
Staining rack made of PVC	**29 18 21185**

Organization Systems

webcode WW2NY066

Microscope Slide Containers, neoLab®

For microsope slides 76 × 26 mm. Stackable.
Material: Polystyrol



① **For 25 microsope slides**
- cork inlay on bottom prevents damage to the slides
- with hinged lid
- index card inside of lid

Dimensions (L × W × H): 141 × 88 × 35 mm

Colour	Order No.
green	**29 01 22335**
red	**29 01 22336**
blue	**29 01 22338**



② **For 50 microscope slides**
With tight-closing overlap lid, for storing or mailing, with numbers on the bottom to identify the slides.
Fitting at LaboBox®-Magazine
Dimensions (L × W × H): 177 × 83 × 32 mm

Colour	Order No.
white	**29 01 22315**
yellow	**29 01 22345**
blue	**29 01 22346**
green	**29 01 22347**
red	**29 01 22348**

② **For 50 microscope slides, for freezing**
Same as above but made of PC, -130 to +130°C autoclavable.

Colour	Order No.
yellow	**10 01 22200**

LaboBox®-Magazine
Slide-in magazine for 50er neoLab microscope slide containers, 2 × 4 slots.

Article	Order No.
LaboBox® magazine	**24 01 22318**



③ **For 100 microsope slides**
- cork padding on the bottom prevents damage to slides
- with snap closure
- index card inside of lid

Dimensions (L × W × H): 210 × 179 × 35 mm

Colour	Order No.
green	**29 01 22435**
red	**29 01 22436**
yellow	**29 01 22437**
blue	**29 01 22438**

for my lab neoLab

webcode WW2NY250

Microscope Slide Magazines, neoLab®



Stackable magazine with 50 – 100 slots for vertical storage of standard slides 76 × 26 mm, consisting of a **box with a transparent hinged lid and removable colored inserts with 50 – 100 numbered slots.** The slots are wide enough to hold two slides, to double the capacity (100 – 200 slides per magazine). Without the insert, the magazine can hold 200 – 400 slides.

Not suitable for autoclave. Each magazine supplied with 2 index cards.

Dimensions of magazine for 50 – 100 slides: 140 × 82 × 86 (L × W × H)
Dimensions of magazine for 100 – 200 slides: 245 × 82 × 86 (L × W × H)

Colour	Places	Order No.
blue	50-100	**29 01 77580**
green	50-100	**29 01 77581**
pink	50-100	**29 01 77582**
white	50-100	**29 01 77583**
yellow	50-100	**29 01 77584**

Colour	Places	Order No.
blue	100-200	**29 01 74570**
green	100-200	**29 01 74571**
pink	100-200	**29 01 74572**
white	100-200	**29 01 74573**
yellow	100-200	**29 01 74574**

Optical Cleaning

Lens Cleaning Paper, Hahnemühle



Soft and fiber-free paper, recommended for cleaning sensitive optical surfaces
- Thin and soft paper
- No separation of fibers

Dimensions mm	Packing type	Order No.	PU pc/Pack
10 × 15	6 × 100	**10 15 91015**	600

webcode WW6PB021

Dry block, Hahnemühle

webcode WW6PB026

The strips remove excessive liquid on the specimen slides. They are used for fast, clean and easy drying of dyed samples for microscopy. 1 block = 50 strips

Width mm	Length mm	Order No.	PU pc/Pack
37	100	**10 15 92750**	100



Lens-Cleaning Wipes, neoLab®



webcode WW2NY156

For cleaning optical and sensitive surfaces. Ideal for all types of lenses, microscopic slides, cells, cover glasses, etc. Surfaces are not scratched and remain free of dust and fibers. Format 10 × 13 cm. Stapled in **blocks of 250 sheets.**

Article	Order No.
Lens cleaning wipes	**37 01 17218**

Cleaning Set for Microscopes, neoLab®

webcode WW2NY332



Everything you need to gently clean the microscope optic in a practical set!

In accordance with the recommendations of leading microscope producers, the set consists of:
- Lens cleaning paper, non-fuzzing
- Cotton, non-fuzzing + bamboo stick
- Pull-off stick
- Cleaning concentrate, 5 ml
- Optic cleaning mix, 100 ml
- Dist. water, 100 ml
- Brush with bellow

Article	Order No.
Cleaning set for microscopes	**10 01 74620**

Cold Light Sources

Cold Light Sources, A. KRÜSS Optronic



A cold light source is external illumination for microscopes or spectroscopes. Due to the greatly reduced infrared content of the light, the sample is hardly heated. This is important for living biological samples that would be killed by the heat of the halogen lighting. In the gemmological field cold light sources are used, because complex shaped objects can be illuminated precisely and without shadows with a twin-arm light conductor.

Cold light sources

Article	Order No.
① **Cold light source KL5110**	**65 61 15110**

Colour temperature:	3050 K
Illumination:	halogen lamp 8 V, 20 W
Power supply:	100 – 240 V
Dimensions:	170 × 100 × 55 mm
Weight:	500 g
Equipment:	without light conductor

webcode WWY3J017

Continued on next page

Cold Light Sources





	Article	Order No.
①	**Cold light source KL5120**	**65 61 19010**

Colour temperature:	3050 K
Illumination:	halogen lamp 8 V, 20 W, adjustable
Power supply:	100 – 240 V
Dimensions:	200 × 118 × 186 mm
Weight:	2000 g
Equipment:	built-in adapter for spectroscope illumination, without fiber optic light conductor

	Article	Order No.
②	**Cold light source KL5125**	**65 61 19020**

Colour temperature:	3350 K
Illumination:	halogen lamp 15 V, 150 W
Power supply:	230 V
Dimensions:	245 × 200 × 150 mm
Weight:	4000 g
Equipment:	without fiber optic light conducto

Microscopes



webcode WWY3J014

Microscopes, A. KRÜSS Optronic

Transmitted light microscopes MBL2000, binocular
High-performance microscope for a wide range of applications. Extensively expandable: e.g. with phase-contrast setting, dark field condenser, micrometre setup, planachromatic lenses and additional eyepieces.

Technical data:
- 45° angled view, 360° rotatable (with phototube: MBL2000-T and MBL2000-T-LED)
- 10× plane eyepieces, focal length 25 mm, field number: 18
- symmetrical eye distance adjustment 51–75 mm
- diopter adjustment on both sides with scale
- 4-fold revolving nosepiece
- lenses: achromatic: 4×/NA 0.10 and 10×/NA 0.25 and 40×/NA 0.65 and 100×/NA 1.25
- double lens Abbe condenser, NA 1.25, with centring, height adjustment and filter holder
- illumination with brightness control: Halogen bulb or LED (MBL2000-LED, MBL2000-T-LED)
- cross table with memory scale 0.1 mm pitch, movement range left-right 74 mm, forwards-backwards 30 mm
- coaxial coarse/fine knob with a range of 30 mm each with mobility adjustment and quick focusing adjustment
- iris diaphragm, pivoting filter holder, height adjustment, glass filters in blue, yellow and green
- with external mains adapter 100 – 240 V
- dust cover

	Article	Order No.
③	MBL2000 transmitted light microscope	**65 61 10107**
	MBL2000-LED transmitted light microscope with LED	**10 61 10108**
	MBL2000-T trinocular	**10 61 10109**
	MBL2000-T-LED trinocular with LED	**10 61 10110**



Incident light microscope MBL3300, metallurgical with phototube
Particularly suitable for metal structure and surface analysis, for quality assessment, raw material analysis and for expertise after heat treatment.

Technical data:
- 45° angled view, 360° rotatable with phototube
- 10× plane eyepieces incl. eyecups, focal length 25 mm, field number: 18
- symmetrical eye distance adjustment 51–75 mm
- diopter adjustment on both sides with scale
- 3-fold revolving nosepiece
- lenses: planachromatic 5×/NA 0.13 and 10×/NA 0.25 and 50×/NA 0.6
- double lens Abbe condenser, NA 1.25, with centring and height adjustment
- cross table: XY-stage, movement range 120x80 mm
- illumination: 6 V 30 W, adjustable
- iris diaphragm, filter holder, blue filter, green filter (optional)
- mains voltage: 90 – 240 V, removable mains cable
- dust cover

	Article	Order No.
④	MBL3300 metallurgical microscope	**10 61 13300**

Continued on next page

Microscopes

Transmitted light inverted microscope MBL3200 with phototube
Suitable for the identification and analysis of biological substances and cultures as well as for micromanipulation due to a large distance between preparation and condenser. The lenses have a large working distance, e.g. to allow samples to be seen through the base of Petri dishes and cell culture dishes.

Technical data:
- angled view with phototube
- 10× plane eyepieces, field number: 22
- symmetrical eye distance adjustment 51–75 mm
- diopter adjustment with scale
- 4-fold revolving nosepiece
- lenses: planachromatic 4×/NA 0.10 and 10×/NA 0.25 and 40×/NA 0.65 and PH20×/NA 0.40
- double lens condenser
- cross table: XY-stage, movement range 118x80 mm
- illumination: 6 V 30 W, adjustable
- iris diaphragm, filter holder, blue filter, green filter
- mains voltage: 90 – 240 V, removable mains cable
- dust cover

	Article	Order No.
⑤	MBL3200 transmitted light inverted microscope	**10 61 13200**


⑤

Transmitted light microscope MML1200 for laboratories, teaching and production
Student microscope, laboratory microscope for medical practices, production and quality control.
- Technical data:
- monocular tube, 45° angled view, 360° rotatable
- 10× wide-field plane eyepieces
- 3-fold revolving nosepiece
- lenses: 4×/NA 0.10, 10×/NA 0.25, 40×/NA 0.65
- object plate with preparation clamps
- double lens Abbe condenser NA 1.25, with iris diaphragm and filter holder
- illumination: 12 V 10 W halogen with reflector
- with external mains adapter 100 – 240 V
- dust cover

	Article	Order No.
⑥	MML1200 transmitted light microscope	**65 61 11200**
	MML 1002 15x micrometre eyepieces	**10 61 11201**
	MML 1003 stage micrometre	**10 61 11202**


⑥

Stereomicroscopes MSL4000-10/30-IL-TL for hobby and education
This microscope allows you to decide freely where you want to work, since the rechargeable battery means it can be used anywhere. A wide range of accessories available.

Technical data:
- 45° angled view
- 10× wide field eyepieces incl. eyecups
- symmetrical eye distance adjustment
- diopter adjustment
- 2-fold revolving nosepiece 1× and 3×, optional 2× and 4×
- magnification 10× and 30×, optional 20× and 40×
- incident and transmitted light: Halogen bulb or LED
- contrast plate glass and black/white, interchangeable
- with external mains adapter 100 – 240 V, rechargeable battery
- dust cover

	Article	Order No.
⑦	MSL4000-10/30- IL-TL incident and transmitted light microscope	**10 61 14130**
	MSL4332 20× wide field eyepieces	**10 61 14132**


⑦

Stereomicroscopes MSZ5000-IL-TL for professional applications
A high performance stereomicroscope with a large zoom range, perfectly suited for laboratory investigations, quality control or assembly work due to its large working distance and high depth of focus. Various eyepieces and auxiliary lenses for adjusting magnification and working distance are available as accessories.

Technical data:
- 45° angled view, 360° rotatable (with phototube: MSZ5000-T-IL-TL and MSZ5000-T-IL-T-LED)
- 10× wide field eyepieces incl. eyecups, field number: 20
- symmetrical eye distance adjustment 51 – 75 mm
- diopter adjustment on both sides
- infinitely variable zoom with 7 – 45× magnification, expandable to 14-90×
- high depth of focus

Continued on next page

Microscopes



- infinitely variable incident and transmitted light: halogen bulb or LED
- object field 28.6 – 4.44 mm
- working distance: approx. 90 mm
- contrast plate glass and black/white, interchangeable
- mains adaptor: 230 V, optionally available with 115 V, removable mains cable
- dust cover

	Article	Order No.
①	MSZ5000-IL-TL-LED incident and transmitted light microscope	**10 61 15000**
	MSZ5000-T-IL-TL incident and transmitted light microscope with phototube	**10 61 15003**
	MSZ5000-T-IL-TL-LED incident and transmitted light microscope with phototube and LED	**10 61 15004**
	MSZ5420-N 20× wide field eyepieces	**10 61 15005**
	MSZ5418-N auxiliary lens 2×	**10 61 15006**
	MSZ5405-N auxiliary lens 0.5×	**10 61 15007**

webcode WW6CF016

KERN

Microscopes, KERN

Transmitted light microscopes KERN OBE-12/13

- The OBE-12/13 range stands out through its exclusive, dynamic device. The storage compartment on the back will enables quick practical storage for your power cable. Thanks to the USB connection technology, it is also possible to supply power using an external powerbank
- The infinitely dimmable 3 W LED guarantees bright illumination of your sample
- A further highlight is the butterfly lens barrel which is integrated as standard and which enables you to achieve the ideal viewing angle. The height-adjustable and thereby focusable 1.25 Abbe condenser with aperture diaphragm is a further quality feature of the OBE range and guarantees the very best concentration of light
- Height adjustment of the fully-equipped mechnical stage is carried out using a coarse and fine focusing knob on both sides. The ergonomically designed coaxial drive enables you to work with the samples and move them rapidly
- A large selection of different eyepieces and objectives is also available
- A protective dust cover, eye cups, as well as multi-lingual user instructions are included in the scope of the delivery
- A C-mount adapter is required to connect a camera to the trinocular version

Scope of application
Training, haematology, sediment investigation, doctor's surgeries

Applications/Samples
Translucent, thin, high-contrast, less complex samples (e.g. plant tissue, coloured cells/parasites)

- Finite optical system (DIN)
- 4-fold lens revolving unit
- Butterfly 30°
- Dioptre compensation (one-sided) (for binocular and trinocular models)
- Overall dimensions (W×D×H) 360 × 150 × 320 mm
- Net weight approx. 4.488 kg







	Model	Equipment	Order No.
②	OBE 121	Monocular, ocular HWF 10×/Ø 18 mm, achromatic objective, 4×/10×/40×, 3 W LED (transmitting)	**10 58 38021**
③	OBE 122	Binocular, ocular HWF 10×/Ø 18 mm, achromatic objective, 4×/10×/40×, 3 W LED (transmitting)	**10 58 38022**
④	OBE 124	Trinocular, ocular HWF 10×/Ø 18 mm, achromatic objective, 4×/10×/40×, 3 W LED (transmitting)	**10 58 38024**
	OBE 131	Monocular, ocular HWF 10×/Ø 18 mm, achromatic objective, 4×/10×/40×/100×, 3 W LED (transmitting)	**10 58 38031**
	OBE 132	Binocular, ocular HWF 10×/Ø 18 mm, achromatic objective, 4×/10×/40×/100×, 3 W LED (transmitting)	**10 58 38033**
	OBE 134	Trinocular, ocular HWF 10×/Ø 18 mm, achromatic objective, 4×/10×/40×/100×, 3 W LED (transmitting)	**10 58 38034**

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Microscopes

Transmitted light microscopes KERN OBL-12/13

- The OBL-1 series stands out through its infinity optical unit and is therefore ideally suited for all transmitted illumination applications for the most demanding users. The robust and ergonomic stand base guarantees safe and comfortable working
- Depending on the application, there is a choice of models with strong, continuously dimmable 3 W LED or 20 W halogen illumination (Philips)
- The fixed, pre-centred and focusable 1.25 ABBE condenser with aperture diaphragm and field diaphragm gives you a simplified Koehler illumination, without having to move the centre
- The large mechanical stage table and its specimen holder holds up to two samples at the same time and is quick and easy to focus using a coaxial coarse and fine focusing knob on both sides
- A large selection of eyepieces, objectives and colour filters as well as a darkfield condenser, a simple polarising unit, different phase contrast kits through to HBO and LED fluorescence units are available to you as accessories
- A protective dust cover, eye cups, as well as multi-lingual user instructions are included in the scope of the delivery
- A C-mount adapter is required to connect a camera to the trinocular version

Scope of application

Haematology, urology, gynaecology, dermatology, pathology, microbiology and parasitology, immunology, oncology, entomology, vets, sewage treatment plants, water analysis, breweries

Applications/Samples

Translucent, thin, low-contrast, challenging samples (e.g. living mammal cells, bacteria, tissue)



⑤

- Infinity optical system
- 4-fold lens revolving unit
- Siedentopf 30° inclined, 360° rotatable
- Dioptre compensation one-sided
- Overall dimensions (W×D×H) 395 × 200 × 380 mm
- Net weight approx. 6.688 kg

	Model	Equipment	Order No.
	OBL 125	Binocular, eyepiece WF 10×/Ø 20 mm, objective Infinity E-Plan, 4×/10×/40×/100×, 6 V/20 W Halogen (transmitting)	**10 58 34125**
	OBL 127	Binocular, eyepiece WF 10×/Ø 20 mm, objective Infinity E-Plan, 4×/10×/40×/100×, 3 W LED (transmitting)	**10 58 34127**
	OBL 135	Trinocular, eyepiece WF 10×/Ø 20 mm, objective Infinity E-Plan, 4×/10×/40×/100×, 6 V/20 W Halogen (transmitting)	**10 58 34135**
	OBL 137	Trinocular, eyepiece WF 10×/Ø 20 mm, objective Infinity E-Plan, 4×/10×/40×/100×, 3 W LED (transmitting)	**10 58 34137**
	OBL 145	Binocular, eyepiece WF 10×/Ø 20 mm, objective Infinity Plan, 4×/PH10×/PH40×/100×, 6 V/20 W Halogen (transmitting)	**10 58 34145**
⑤	OBL 155	Trinocular, eyepiece WF 10×/Ø 20 mm, objective Infinity Plan, 4×/PH10×/PH40×/100×, 6 V/20 W Halogen (transmitting)	**10 58 34155**

Accessories

Article	Order No.
C-Mount adapter 0.5x OBB-A1515	**10 58 34156**



Transmitted light microscope KERN OBT-1

- The OBT-1 range is a high-quality school microscope, which will impress you with its intuitive control elements, sturdy construction and modern design
- The continuous dimmable 1W LED guarantees optimum illumination of the samples and also ensures long service life. Mobile use is also no problem through optional battery operation
- The simple 0.65 condenser lens with rotating aperture diaphragm on the OBT 101 ensures the very best concentration of light and illumination of the sample. The OBT 102 - OBT 106 models have a 1.25 Abbe condenser which is height-adjustable and can therefore be focussed and has an aperture diaphragm, which ensures the very best concentration of light
- To focus the object, all models have a coarse and fine focusing knob on both sides. The mechanical angle table enables you to work with the samples and move them rapidly (with model OBT 103 - OBT 106)
- A large selection of different eyepieces and objectives is also available
- A dust cover as well as user instructions are included with the delivery

Continued on next page

Microscopes



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Scope of application:
Primary school, secondary school, training, hobby use

Applications/Samples:
Translucent, thin, high-contrast, less complex samples (e.g. plant tissue, coloured cells/ parasites)

- Finite optical system (DIN)
- OBT 101: 3-fold lens revolving unit
- OBT 102 - OBT 106: 4-fold lens revolving unit
- Lens barrel 45° tilt/360° rotatable
- Dioptre compensation one-sided (for binocular models)
- Overall dimensions (W×D×H 195 × 147 × 325 mm
- Net weight approx. 2,2 kg

	Model	Equipment	Order No.
	OBT 101	Monokular, ocular HWF 10×/Ø 18 mm, achromatic objective, 4×/10×/40×, 1 W LED (transmitted), table fix	**10 58 39101**
①	OBT 102	Monokular, ocular HWF 10×/Ø 18 mm, achromatic objective, 4×/10×/40×, 1 W LED (transmitted), table fix	**10 58 39102**
	OBT 103	Monokular, ocular HWF 10×/Ø 18 mm, achromatic objective, 4×/10×/40×, 1 W LED (transmitted), mechanical table	**10 58 39113**
②	OBT 104	Monokular, ocular HWF 10×/Ø 18 mm, achromatic objective, 4×/10×/40×, 1 W LED (transmitted), mechanical table	**10 58 39104**
	OBT 105	Monokular, ocular HWF 10×/Ø 18 mm, achromatic objective, 4×/10×/40×/100×, 1 W LED (transmitted), mechanical table	**10 58 39105**
	OBT 106	Monokular, ocular HWF 10×/Ø 18 mm, achromatic objective, 4×/10×/40×/100×, 1 W LED (transmitted), mechanical table	**10 58 39106**

C-mount Microscope Cameras, KERN

webcode WW6CF010



③



④

The specialists in microscopy for measurement, counting, documentation, archiving and image processing

- A large selection of microscope cameras is available for your individual applications.
- The universal microscope cameras can be used anywhere and can be connected to the microscope as well as to a laptop or PC using the USB cable (USB 2.0 or USB 3.0, see table)
- The power supply is through the USB cable, which means that no additional power supply is required.
- Your daily work is made significantly easier with the very best synchronisation, a high frame rate as well as stable image performance together with our Microscope VIS software which we deliver with the product.
- For details about our software please refer to the “Software” section in the catalogue (page 97) or see www.kern-sohn.com.
- These universal cameras can also be connected to all microscopes available on the market offering the appropriate C-mount adapter for the particular microscope

USB eyepiece cameras KERN ODC-87/88

- With the KERN eyepiece cameras, you can convert your standard microscope to a digital microscope by replacing one eyepiece of your non-digital microscope with an eyepiece camera and connect this to your computer via USB.
- The universal eyepiece can be connected to the microscope as well as to a laptop or PC using the USB cable (2.0 or 3.0, see table).
- The power supply is through the USB cable, which means that no additional power supply is required.
- Your daily work is made significantly easier with the very best synchronisation, a high frame rate as well as stable image performance together with our Microscope VIS software which we deliver with the product.
- As well as the camera, the delivery includes a simplified version of our multi-lingual KERN Microscope VIS software, a USB cable (length: 1.5 m) and an object micrometer to calibrate the software

	Model	Resolution	Interface	FPS	Sensor	Sensor size	Order No.
③	ODC 874	3 MP	USB 2.0	3 – 7.5	CMOS	1/2.7″	**10 58 30874**
④	ODC 881	5 MP	USB 3.0	15 – 30	CMOS	1/2.5″	**10 58 30881**

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Microscopes

⑤ **C-mount microscope cameras KERN ODC-82/83**

- Through the proven CMOS technology in connection with the USB 2.0 or USB 3.0, the images are shown quickly and clearly.
- These cameras are also ideal for more demanding applications, such as, for example, darkfield, phase contrast and for fluorescence applications.
- As well as the camera, the delivery includes our multi-lingual KERN Microscope Basic KERN OXM 901 software, a USB cable (length 2 m), various eyepiece adapters and an object micrometer to calibrate the software.
- Please order the appropriate C-mount adapter to fit your KERN microscope now

Model	Resolution	Interface	FPS	Sensor	Sensor size	Order No.
ODC 824	3.1 MP	USB 2.0	11.5 – 45	CMOS	1/2″	**10 58 30824**
ODC 825	5.1 MP	USB 2.0	6.8 – 55	CMOS	1/2.5″	**10 58 30825**
ODC 831	3.1 MP	USB 3.0	27.3 – 53.3	CMOS	1/3″	**10 58 30831**
ODC 832	5.1 MP	USB 3.0	14.2 – 101.2	CMOS	1/2.5″	**10 58 30832**



⑤

⑥ **C-Mount HDMI mikroscope camera KERN ODC-85**

- The ODC 851 HDMI microscope camera has been specially developed for direct HDMI connection to your HDMI compatible display device. The images can be stored directly onto the SD card delivered with the device. As an alternative, a USB 2.0 connection is also still available to connect a laptop or PC
- The ODC 852 HDMI autofocus camera offers a perfect and efficient solution for modern microscopy. The autofocus function automatically detects and adjusts the focus level so that you have a perfectly sharp image at any time. Ideal for all applications using a KERN stereo microscope
- The HDMI connection can be used to transfer the real-time images from the ODC 852 directly to an HDMI capable rendering device or to save them to the SD card comprised in the delivery. As an alternative, the data can be transmitted via WLAN module (ODC 852) or USB 2.0 cable to a PC or laptop computer in combination with the KERN OXM 902 software comprised in the delivery
- Power supply is from an external 12 V power unit
- Scope of delivery ODC 851: camera, USB mouse, USB 2.0 cable, HDMI cable, SD card (16 GB) and Microscope VIS Basic KERN OXM 901 camera software
- Scope of delivery ODC 852: camera, USB mouse, USB 2.0 cable, HDMI cable, SD card (16 GB), WLAN adapter and Microscope VIS Basic KERN OXM 901 camera software
- Please order the appropriate C-mount adapter to fit your KERN microscope now

Model	Resolution	Interface	FPS	Sensor	Sensor size	Order No.
ODC 851	2 MP	HDMI, USB 2.0, SD	30 – 60	CMOS	1/2.8″	**10 58 30851**



⑥



Refractometers

Handheld Refractometers, A. KRÜSS Optronic

webcode WWY3J009

Precision instruments for quick daily use. Various scales and functions ensure there is a suitable refractometer for every field of application.

	Type	Measuring range	Measurement accuracy	Order No.
⑦	HRB32-T[1)]	0–32% Brix	±0.2% Brix	**10 61 11000**
	HRB90	0–90% Brix	±0.2% Brix (with thermometer 6–36°C)	**63 61 11001**
⑧	HRND	nD 1.3330–1.5170	nD ±0.0005 (with thermometer 6–36°C)	**63 61 11002**
⑨	HRB92-T	58–92% Brix 38–43° Bé 12–27% water content in honey	0.5% Brix ±0.5° Bé ±0.5% water content in honey	**10 61 11003**
⑩	HRB18-T	0–18% Brix	±0.1% Brix	**10 61 11004**
	HRB82-T	45–82% Brix	±0.2% Brix	**10 61 11005**
	HRKFZ-T	-50–0°C 1.10–1.30 g/cm³	±5°C ±0,01 g/cm³	**10 61 11006**
	HRS10-T	0–10% 1.000–1.070	±0.1% ±0.001	**10 61 11007**
	HRH30-T	12–30% water content in honey	±0.1% water content in honey	**10 61 11008**

[1)] with automatic temperature compensation



webcode To see other variants and accessories, please enter the webcode on our website.

Refractometers

webcode WW6CF014

Analogue refractometers ORA, KERN





Refraction index measurement for laboratories and industry

- The models in the KERN ORA-S range are universal, maintenance-free analogue manual refractometers
- The practical and robust design means that it can be used simply, efficiently and on a permanent basis, day in day out
- The manual effort to convert the value is avoided by the use of several selectable scales and thereby eliminates user error
- These scales have been specially developed, calculated precisely and checked. Another key feature is the very thin, clear lines
- The optical system and the prism cover are made from special materials, which enable you to measure with low tolerances
- All models are fitted with an eyepiece which can be adjusted easily and smoothly to different visual capacities
- The models which are marked “ATC” have automatic temperature compensation, which makes it possible to obtain precise measurements at different environmental temperatures (10°C to 30°C)
- Included in the scope of supply: storage box, calibration solution, calibration block, pipette, screw driver, cleaning cloth

Technical data:

Material:	Chrome-plated pressure die casting made of aluminum-copper alloy
Measuring temperature without ATC:	20°C
Measuring temperature with ATC:	10° to 30°C
Dimensions box (W×D×H):	205 × 75 × 55 mm
Length:	ca. 130 to 200 mm (depending on the model)
Net weight:	ca. 135 to 600 g (depending on the model)

Model	Measuring range % Brix	Increment % Brix	with	Order No.
ORA 20BA	0 – 20	0.1	ATC	**10 58 38020**
ORA 32BA	0 – 32	0.2	ATC	**10 58 38032**
ORA 62BA	28 – 62	0.2	ATC	**10 58 38062**
ORA 80BB	0 – 80	0.5	—	**10 58 38080**
ORA 1RE	1.333 – 1.405 nD 1.405 – 1.468 nD 1.468 – 1.517 nD	0.005 nD 0.005 nD 0.005 nD	—	**10 58 38010**

Accessories

Article	Order No.
Prism coverplate with integrated LED-Diode	**10 58 38131**
Leather bag	**10 58 38132**
Calibration solution distilled water, volume 2.5 ml	**10 58 38137**
Calibration solution saturated salt solution, volume 2.5 ml	**10 58 38134**
Calibration solution Alpha-Bromonaphthalene, volume 2.5 ml	**10 58 37814**
Prism coverplate (spare)	**10 58 38136**

webcode WWY3J007

Abbe-Refractometers, A. KRÜSS Optronic



①



②

Abbe refractometer AR4 and AR2008

The models AR4 and AR2008 are two classic Abbe refractometers. With the AR2008 the evaluation of the measurement takes place digitally and with the AR4 the measured value is then read via an eyepiece.

AR4:

The AR4 determines the refractive index and the sugar content of liquid samples. The scales can be adjusted manually using the drive knob. The measured value is then read via an eyepiece. The refractometer can be connected to a thermostat, e.g. the circulation thermostat PT31 in order to maintain the temperature at 20°C or 25°C. The temperature will be measured with the integrated digital thermometer and shown on the LCD display. The measurement of solid samples is also possible.

AR2008:

The AR2008 measures the refractive index or the sugar content of liquid samples. The output of the measurement results including temperature is performed digitally. A serial interface allows you to directly send the measured values together with the date and time of day to a PC or printed out. The refractometer can be coupled with a thermostat, e.g. the circulation thermostat PT80. In this combination, the device measures the refractive index within the temperature range of 5 – 80°C. An automatic temperature compensation for the Brix scale can be optionally connected. The measurement of solid samples is also possible.

	Type	Scales	Measurement accuracy nD/% Brix	Measuring range nD/% Brix	Resolution nD/% Brix	Temperature range °C	Order No.
①	AR 4	Refractive index (nD), concentration of sucrose [%Brix]	±0.0002/±0.1	1.3000–1.7200/0–95	0.0005/0.25	0 – 99	**63 61 94004**
②	AR2008	Refractive index (nD), concentration of sucrose [%Brix]	±0.0002/±0.1	1.3000–1.7200/0–95	0.0001/0.1	0 – 99	**63 61 92008**

Refractometers

Digital Refractometers ORF-E, KERN

webcode WW6CF015

Digital refractometers ORF-E
Digital refractive index measurement for universal applications

- The models in the KERN ORF-E range are accurate, universal and maintenance-free digital manual refractometer
- Other key features are the easy handling and sturdiness
- The handy and robust design allows the easy, efficient and sustainable use in everyday life
- The large, easy-to-read TFT colour display with integrated temperature display supports the user to reliably determine the measurement.
- The integrated automatic temperature compensation (ATC) means that you can work easily and quickly, as you do not have to manually convert the measurement
- Due to the fact that the refractometer has been calibrated at the factory, this guarantees that it can be used immediately for accurately measuring your sample



Included in the scope of supply:

- Calibration solution
- Pipette
- Storage case
- 2 × AAA batteries
- Leather case
- Screwdriver
- Cleaning cloth



Technical data:

Measuring temperature:	10° to 40°C
Dimensions tot. (W×D×H):	145 × 67 × 40 mm
Net weight:	ca. 200 g
Power supply:	2 × AAA (1,5 V)
Battery lifetime:	approx. 5,000 measurements
ATC:	automatic temperature compensation, does not apply to the refractive index scale
Sample volumes:	2 to 3 drops
Automatic energy management:	AUTO-OFF after 90 seconds

Model	Measuring range nD/% Brix	Accuracy nD/% Brix	Increment nD/% Brix	**Order No.**
ORF 45BE	0 – 45%	± 0.2 %	0.10%	**10 58 34501**
ORF 45RE	1.3330 – 1.4098 nD	± 0.0003 nD	0.0001 nD	**10 58 34502**

Accessories

Article	**Order No.**
Calibration solution distilled water, volume 2.5 ml	**10 58 38137**
Calibration solution triethyl citrate, volume 2.5 ml	**10 58 38138**
Leather case for digital refractometer (spare part)	**10 58 38139**

Digital Handheld Refractometers, A. KRÜSS Optronic

webcode WWY3J008

DR101-60 / DR201-95 / DR-301-95
Digital handheld refractometer with two different scales, Brix, RI. Handling is fast and very easy, distilled water is used for calibration. The waterproof case allows the refractometer DR101-60 to be rinsed under running water. With automatic temperature compensation.

DR301-95 offers 2 additional user-defined scales and can be connected to a computer. Specialities: optional temperature compensation feature and upper and lower tolerance alarm.



Technical data:	**DR101-60**	**DR201-95**	**DR301-95**
Temp. measurement range:	10 – 40°C	10 – 40°C	10 – 40°C
Temperature accuracy:	±0,5°C	±0,5°C	±0,5°C
Temperature compensation:	10 – 40°C	10 – 40°C	10 – 40°C
IP Code:	IP65	IP64	IP50
Dimension (W×H×D):	110×62×32 mm	130×80×40 mm	180×100×60 mm
Weight:	160 g	200 g	500 g
Operating voltage:	1.5 V battery	1.5 V battery	9 V battery (power supply incl.)

	Type	Measuring range nD/% Brix	Measurement accuracy nD/% Brix	Resolution nD/% Brix	**Order No.**
①	DR101-60	1.3330–1.4419/0–60	0.0005/±0.35	0.0001/0.1	**10 61 11010**
②	DR201-95	1.3330–1.5318/0–95	0.0003/±0.2	0.0001/0.1	**10 61 12195**
③	DR301-95	1.3330–1.5318/0–95	0.00015/±0.1	0.0001/0.1	**63 61 30195**

webcode To see other variants and accessories, please enter the webcode on our website.

Refractometers

webcode WWY3J003

Digital Refractometers Series 6000, A. KRÜSS Optronic

The DR6000 refractometers work with hardly any service and are very quiet, good for long-term work in the lab. Very easy to operate due to an intuitive touch screen. Optional connections to printer, PC or network provide highest flexibility. High precision through integrated peltier thermostat (T-model). Flow measurement cells enable continuous measuring (TF-model). The devices are used wherever a ubstance in watery solutions has to be measured. Areas of usage: beverage, chemistry, pharma, food, paper, sewerage, textile, petrochemistry, cosmetics.



①

Type	Measuring range nD/% Brix	Measurement acc. nD/% Brix	Resolution nD/% Brix	Temperature °C	Order No.
DR6000	1.3200-1.5800/0-95	±0.0001/±0.1	0.0001/0.1	10-80	**63 61 16000**
DR6000-T	1.3200-1.5800/0-95	±0.0001/±0.1	0.0001/0.1	10-80	**63 61 26000**
DR6000-TF	1.3200-1.5800/0-95	±0.0001/±0.1	0.0001/0.1	10-80	**10 61 16002**
DR6100	1.3200-1.7000/0-95	±0.0001/±0.1	0.0001/0.1	10-80	**63 61 36100**
DR6100-T	1.3200-1.7000/0-95	±0.0001/±0.1	0.0001/0.1	10-80	**63 61 46100**
DR6100-TF	1.3200-1.7000/0-95	±0.0001/±0.1	0.0001/0.1	10-80	**10 61 16102**
DR6200	1.32000-1.58000/0-95	±0.00002/±0.02	0.00001/0.01	10-80	**63 61 56200**
① DR6200-T	1.32000-1.58000/0-95	±0.00002/±0.02	0.00001/0.01	10-80	**63 61 66200**
DR6200-TF	1.32000-1.58000/0-95	±0.00002/±0.02	0.00001/0.01	10-80	**10 61 16202**
DR6300	1.32000-1.70000/0-95	±0.00002/±0.02	0.00001/0.01	10-80	**63 61 76300**
DR6300-T	1.32000-1.70000/0-95	±0.00002/±0.02	0.00001/0.01	10-80	**63 61 86300**
DR6300-TF	1.32000-1.70000/0-95	±0.00002/±0.02	0.00001/0.01	10-80	**10 61 16302**

T versions are equipped in addition with Peltier element.
TF versions with integrated Peltier temperature control and flow measuring cell.

webcode WWY9G001

Digital Laboratory Refractometers – Abbemat 3X00, Anton Paar

The compact Abbemat 3X00 refractometers are characterised by reliability, precision, and convenience: Abbemat refractometers offer a unique combination of technical expertise and user-friendly operation for measuring the refractive index and concentration. Thanks to premium technology and the compact design of the Abbemats 3X00, time-consuming measurements are replaced by highly efficient quality assurance processes. Optionally, a concentration can be output directly simultaneously with measuring the refractive index. In addition to the pre-installed concentration scales (refractive index, Brix, fructose, invert sugar, sucrose), more than 100 additional scales are available on request.
Choose from three refractometers developed to match any type of application and any budget.

The Abbemat 3000 measures the sample temperature to an accuracy of ±0.05°C and is equipped with an automatic temperature compensation. The Abbemat 3100 and the Abbemat 3200 additionally have an integrated Peltier element for accurate control of the sample temperature.



Technical data:

Resolution nD:	±0.0001 / 0.01 % Brix
Accuracy nD[1]:	±0.0001 / 0.05 % Brix
Temperature probe accuarcy[1]:	±0.05°C
Wetted parts:	Sapphire, FFKM, stainless steel
Light source:	LED light source
Wavelength:	589 nm
Minimum sample volume:	approx. 0.2 ml
Measuring time:	approx. 5 seconds per sample (after temp. equilibration)
Default methods:	Refractive Index, Brix, glucose, fructose, invert sugar, sucrose
Additional methods:	More than 100 scales available on request (e.g. syrup, honey, alcohol, urine, serum, acides, bases)
Data interface:	RS-232, 2 USB ports, 1 USB serial, Ethernet
User interface:	5.8 inch touchscreen
Dimensions (W×H×D):	228 × 94 × 300 mm
Weight:	< 4.7 kg

[1] valid at refractometric standard conditions (T = 20°C, λ = 589 nm, ambient temperature = 23°C)

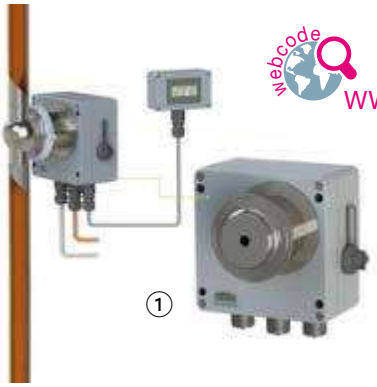
Type	Measuring range nD	Temperature	Order No.
Abbemat 3000	1.30 – 1.66	Temperature adjustment	**10 63 33000**
Abbemat 3100	1.30 – 1.66	20°C and 25°C	**10 63 33100**
Abbemat 3200	1.30 – 1.72	15°C to 60°C	**10 63 33200**

We grant 3 years' warranty for these devices. All repairs are free during this period of time.

Refractometers

Process Refractometers, A. KRÜSS Optronic

webcode WWY3J012



① **Process refractometers PR21S and PR21S-T**
The inline process refractometers PR21S and PR21S-T are installed in pipelines of production facilities in order to control and regulate the concentration, mixing and fermentation processes.

Technical data:
Scales: refractive index (nD)
concentration of sucrose, glucose, fructose and invert sugar [%Brix]
user-defined

Type	Measuring range nD/% Brix	Measurement accuracy nD/% Brix	Resolution nD/% Brix	Process temp. °C	Order No.
PR21S	1.3200–1.5200/0–95	±0.0002/±0.2	0.0001/0.1	≦ 60°C	**10 61 12100**
PR21S-T	1.3200–1.5200/0–95	±0.0002/±0.2	0.0001/0.1	≦ 120°C via water cooling	**10 61 12110**



② **Process refractometer PRB21S**
The atline process refractometer PRB21S are installed in tanks or boilers using tube connections for the continuous monitoring and control of the concentration of liquids. The sample flows via the bypass into the measurement chamber made of stainless steel.

Technical data:
Scales: refractive index (nD)
concentration of sucrose, glucose, fructose and invert sugar [%Brix]
user-defined

Type	Measuring range nD/% Brix	Measurement accuracy nD/% Brix	Resolution nD/% Brix	Process temp. °C	Order No.
PRB21S	1.3200–1.5600/0–95	±0.0002/±0.2	0.0001/0.1	≦ 60°C	**10 61 12101**

Polarimeters

Polarimeters, A. KRÜSS Optronic

webcode WWY3J005



Polarimeter P1000-LED
Our polarimeter P1000-LED is used by numerous companies and institutes for basic lab applications and training, for example the experiment on saccharose inversion. The tube chamber is designed for measurement tubes up to 220 mm in length, the high-performance LED has a service life of up to 100,000 hours.

Technical data:

Scale:	Optical rotation (°)
Measurement range:	2 graduated circels (0 – 180°)
Scale division:	1°
Reading accuracy:	0.05° (with nonius)
Light source:	1 LED with filter
Wavelength:	589 nm

Article	Order No.
③ Polarimeter P1000-LED	**63 61 40000**

Continued on next page

Polarimeters



①

Polarimeter P3000
The polarimeter P3000 is based on the technology of the P8000 series but built for standard applications for which a measurement accuracy of ±0.01° is sufficient and a temperature control can be omitted. Typically, the P3000 is used in the quality control of food industry. Like the P8000 models this model performs the record measuring time of approx. 1 second. The P3000 measures up to an optical density of 3.0 OD.

Technical data:

Scales:	Optical rotation [°] Int. sugar scale [°Z]
Measurement range:	±90° ±259°Z
Measurement accuracy:	±0.01° ±0.01°Z
Resolution:	0.01° 0.01°Z
Measurement period ±90°:	Approx. 1 s
Light source:	1 LED with filter
Wavelength:	589 nm
Temperature measurement:	0 – 99.9°C

	Article	Order No.
①	Polarimeter P3000	**10 61 13000**



②

Digital polarimeter P8000 series
The polarimeters of the P8000 series are the fastest polarimeters in the world – thanks to the patented measuring method, which reduces the measuring time to approx. 1 s regardless of the sample's angle of rotation. The P8000 instruments measure up to an optical density of 3.0 OD. They are used when particularly high demands are placed on measurement accuracy and on continuous data recording and data backup. The instruments have all the functions required in FDA-regulated areas and meet all requirements of GMP/GLP and international standards.

Technical data:

Scales:	Optical rotation [°] Int. sugar scale [°Z] Concentration [g/100 ml] Spec. rotation User-defined
Measurement range:	±90° ±259°Z
Measurement accuracy:	0.001° 0.01°Z ml
Measurement period ± 90°:	approx. 1 s
Light source:	1 LED with filter
Wavelength:	589 nm
Temperature measurement range:	0 – 99.9°C
Temperature measurement resolution:	0.1°C
Temperature measurement accuracy:	±0.2°C

	Type	Measurement accuracy	Equipment	Order No.
	P8000	±0.003° ±0.01°Z	Without temperature control	**63 61 80000**
	P8100	±0.002° ±0.01°Z	Without temperature control	**10 61 18102**
②	P8000-T	±0.003° ±0.01°Z	With circulation thermostat temperature control	**10 61 18002**
	P8100-T	±0.002° ±0.01°Z	With circulation thermostat temperature control	**10 61 18103**
	P8000-TF	±0.003° ±0.01°Z	With circulation thermostat temperature control	**10 61 18003**
	P8100-TF	±0.002° ±0.01°Z	With circulation thermostat temperature control	**10 61 18104**
	P8000-P	±0.003° ±0.01°Z	With Peltier temperature control	**10 61 18004**
	P8100-P	±0.002° ±0.01°Z	With Peltier temperature control	**10 61 18105**

T-versions in addition with water specimen temperature control
TF-versions in addition with water specimen temperature control and flow function

Cuvettes, NMR Tubes, Accessories

Disposable Cuvettes, UV, BRAND



Disposable UV cuvettes
The disposable UV cuvettes from BRAND enable UV measurements from a wave length from 230 nm to 900 nm. Due to its very high chemical resistance it can be used with most polar solvents, acids and bases (e.g. acetone, butanone, DMF, and concentrated hydrochloric acid etc.). Unlike conventional quartz cuvettes, there is no cleaning and hence a far lower contamination risk.

The micro UV cuvette can be used from sample volume as small as 70 µl and fits - without an adapter - in practically all commercially available photometers/spectral photometers for standard cuvettes. Two different center heights (8.5 and 15 mm) are available. Round caps provide a tight seal and allow storage of samples down to -20°C.

The UV disposable cuvettes are ideal for determination of proteins, DNA and RNA. They are supplied assorted by cavity in order to minimize extinction deviations between the individual cuvettes.

Technical data:
Range of application: 230 to 900 nm
Light path: 10 mm

	Type	Filling volume µl	Window W mm	Window H mm	Order No.	PU pc/Pack
	semi-micro	1.5 – 3.0 ml	4.5	23	**29 49 59150**	100
	macro	2.5 – 4.5 ml	10	35	**29 49 59170**	100
①	micro 8.5 mm	70 – 850	2	3.5	**29 49 59200**	100
①	micro 8.5 mm	70 – 850	2	3.5	**29 49 59210**	500
①	mikro 8.5 mm[1)]	70 – 850	2	3.5	**10 49 59215**	100
①	micro 15 mm	70 – 550	2	3.5	**29 49 59220**	100
①	micro 15 mm	70 – 550	2	3.5	**29 49 59230**	500
①	micro 15 mm[1)]	70 – 550	2	3.5	**10 49 59235**	100

❗ Available only in original packaging units. No fractions possible.

[1)] single wrapped, free of DNase, DNA and Rnase

webcode WWQED027

Lids for micro UV cuvettes

Colour	Order No.	PU pc/Pack
Blue	**29 49 59240**	100
Yellow	**29 49 59241**	100
Green	**29 49 59242**	100
Orange	**29 49 59243**	100

❗ Available only in original packaging units. No fractions possible.

Macro Cuvettes, four clear sided, BRAND

webcode WWQED075



Macro cuvettes, four clear sided, PS / UV-transparent
The new macro cuvettes, four clear sided, are suitable for fluorescence spectroscopy. The UV-transparent cuvette can be used from a wavelength of 230 nm and shows minimal autofluorescence.

Quality features
- Significantly lower costs for use when compared to quartz glass cuvettes
- Clear, clean optical path
- Manufactured under controlled room conditions and packaged fully automatically, without human contact
- Packed grouped by mold cavity number to ensure lowest variation of extinction coefficient
- Frosted end for labelling

Cuvettes of Polystyrene (PS):
Typical range of application: 340 – 900 nm
Standard deviation: 360 nm ≦ ± 0.005 extinction units
Light path: 10 nm

Cuvettes UV-transparent:
Typical range of application: 230 – 900 nm
Standard deviation: 240 nm ≦ ± 0.007 extinction units
300 nm ≦ ± 0.005 extinction units
Light path: 10 nm

Filling volume ml	Window W×H mm	Order No.	PU pc/Pack
2.5 – 4.5	10 × 35	**10 49 75030**	100
2.5 – 4.5	10 × 35	**10 49 75035**	500
2.5 – 4.5	10 × 35	**10 49 75125**	100
2.5 – 4.5	10 × 35	**10 49 75128**	500

webcode To see other variants and accessories, please enter the webcode on our website.

Cuvettes, NMR Tubes, Accessories



webcode WWQED084

Cuvettes, Macro and Semi-micro, BRAND

Quality features:
- Clear, clean optical path with indication of optical path orientation
- Manufactured under controlled room conditions and packaged fully automatically, without human contact
- Packed grouped by mold cavity number to ensure lowest variation of extinction coefficient

Article	Material	Minimum filling quantity ml	Order No.	PU pc/Pack
Cuvettes, macro	PS	2.5	**10 49 59005**	1000
Cuvettes, semi-micro	PS	1.5	**10 49 59015**	1000
Cuvettes, macro	PMMA	2.5	**10 49 59105**	1000
Cuvettes, semi-micro	PMMA	1.5	**10 49 59115**	1000

webcode WW7R3011



MBT Cuvettes, IDL

Light path 10 mm, 12.5 × 12.5 × 45 mm
In expanded polystyrene boxes of 100.

Product	Material	for applications from	Order No.	PU Box/Box
Disposable macro cuvettes	Polystyrene	340 nm	**29 78 72705**	10
Disposable semimicro cuvettes	Polystyrene	340 nm	**29 78 72710**	10
Disposable macro cuvettes	Polymethyl methacrylate	300 nm	**29 78 72805**	10
Disposable semimicro cuvettes	Polymethyl methacrylate	300 nm	**29 78 72810**	10

webcode WW4ZG003

Cuvets, ratiolab®

ratiolab® Q-VETTES
The new generation of cuvets with clearly improved photometric properties. The optimized form and the small wall thickness of the cuvets provides increased heat transfer resulting in more constant sample temperatures during photometric measurements.

- glass-clear polystyrene (PS)
- applicable wavelength range 340 to 900 nm
- very low variation of extinction values
- excellent optical transmission range
- cavity-sorted production
- path length 10 mm
- outer dimensions 12.5 × 12.5 × 45 mm
- supplied in practical styrofoam racks: 10 × 100 netidentical cuvets in a styrofoam box with closable lid



①

②

Article	Volume ml	Order No.	PU pc/Pack
① ratiolab® Q-VETTES semi-micro	1.6	**10 23 02712**	1000
② ratiolab® Q-VETTES macro	4.0	**10 23 02711**	1000

ratiolab® CUVETTES
For photometric measurements even in the UV range 220 nm.
Due to the special plastic material and the excellent manufacturing process the cuvets can also be used in photometric ranges reserved for UV glass cuvets in the past.

- applicable wavelength range 220 to 900 nm
- very low variation of extinction values
- excellent optical transmission range
- cavity-sorted production
- path length 10 mm
- outer dimensions 12.5 × 12.5 × 45 mm
- supplied in practical styrofoam racks: 100 netidentical cuvets in a styrofoam box with a resealable cover



③



④

Article	Version	Volume ml	Order No.	PU pc/Pack
③ ratiolab® CUVETTES semi-micro	UV	1.6	**10 23 02722**	100
④ ratiolab® CUVETTES macro	UV	4.0	**10 23 02721**	100

Continued on next page

Cuvettes, NMR Tubes, Accessories

ratiolab® cuvets of PMMA
- cuvets of polymethylmethacrylate (PMMA)
- applicable wavelength range 300 to 900 nm
- very low variation of extinction values
- excellent optical transmission range
- path length 10 mm
- outer dimensions 12.5 × 12.5 × 45 mm
- supplied in practical styrofoam racks: 10 × 100 netidentical cuvets in a styrofoam box with a resealable cover

	Article	Volume ml	Order No.	PU pc/Pack
⑤	ratiolab® semi-micro cuvets	1.6	**10 23 02810**	1000
⑥	ratiolab® macro cuvets	4.0	**10 23 02811**	1000

ratiolab® cuvets, solvent resistant
- resistant against polar solvents
- applicable wavelength range 220 to 900 nm
- very low variation of extinction values
- excellent optical transmission range
- cavity-sorted production
- embossed areas aside the measuring fields reduces the risks of damaging the cuvette by the cuvette holder
- path length 10 mm
- outer dimensions 12.5 × 12.5 × 45 mm
- supplied in practical styrofoam racks: 100 netidentical cuvets in a styrofoam box with a resealable cover

	Article	Volume ml	Order No.	PU pc/Pack
⑦	ratiolab® semi-micro cuvets	1.6	**10 23 02725**	100
⑧	ratiolab® macro cuvets	4.0	**10 23 02726**	100

Stopper for cuvets
Polypropylene (PP).
- for all ratiolab® cuvets
- packed in 1 plastic bag of 1000 pieces
- solvent resistant

	Article	Packing type	Order No.	PU pc/Pack
⑨	Stoppers for cuvets	bag 1 × 1000	**10 23 02812**	1000



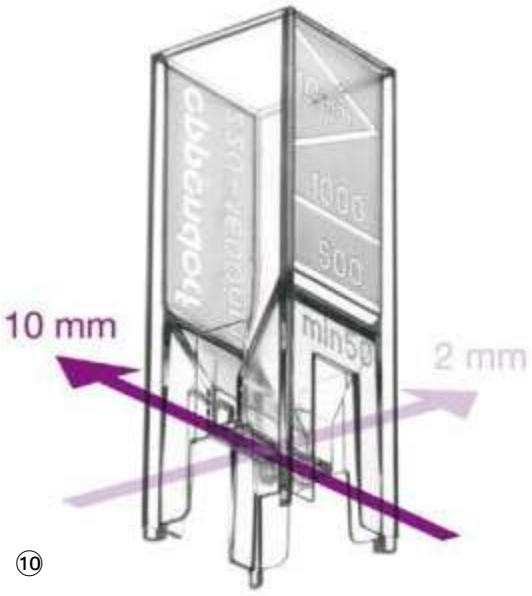
Disposable Cuvette, Eppendorf

webcode WWQJ3058

eppendorf

The **UVette®** fulfills the highest specifications of modern spectrophotometric analysis in the UV range and can be optimally used for sensitive samples and small volumes.
- Suitable for measuring small volumes, > 50 µl
- Individually blister-packed for contamination-free work
- DNA, RNase and protein-free
- Two optical path lengths: 2 mm and 10 mm
- UV and VIS transparent between 220 and 1,600 nm
- Volume markings for 500 and 1,000 µl
- Fully transparent material with outstanding surface properties
- Optimal filling guaranteed by tapered cuvette base
- Deep-lying optical window prevents scratches
- Stable design
- Marking possible on frosted grip
- Can be used without adapter in the Eppendorf BioPhotometer

Eppendorf Vis-Cuvettes are disposable cuvettes made of clear plastic with a light transmission of 300 nm to 900 nm. The Vis cuvettes are the perfect tool for applications outside of the UV range, for example, colorimetric protein assays (Bradford, Lowry, etc.), determining of the optical density of bacterial cultures (OD600 methods), and kinetic and fluorescence measurements. Available in two cuvette sizes (semi-micro and macro) for different volumes.



Disposable cuvettes and accessories

	Article	Order No.
⑩	**UVette®, original Eppendorf disposables** individually packaged single cuvettes, certified RNase-, DNA -and protein-free, 80 pcs.	**29 69 96300**
	UVette® routine pack, Eppendorf quality purity level reclosable box, 200 pcs.	**10 69 16318**
	Starter set 80 UVettes, 1 universal adapter for 15 mm light center height (including GeneQuant), convertible to 8.5 mm	**29 69 91007**
	Cuvette stand, 2 pieces	**10 69 19851**

Continued on next page

Cuvettes, NMR Tubes, Accessories



① **Vis-Cuvettes**

Article	Order No.
Makro Vis cuvettes 300 nm – 900 nm Plastic cuvettes for measurements in the Vis range, max. filling volume 4500 µl, 10 × 100 pieces	**10 69 79345**
Semi micro Vis cuvettes 300 nm – 900 nm Plastic cuvettes for measurements in the Vis range, max. filling volume 3000 µl, 10 × 100 pieces	**10 69 79353**

Eppendorf µCuvette® G1.0

Article	Order No.
Eppendorf µCuvette® G1.0 Microvolume measuring cell for Eppendorf BioPhotometer® and BioSpectrometer®	**10 69 80018**

Standard Cells, Hellma®



②



④



③



⑤

Table of material code

OG Optical glass (360 nm - 2500 nm)
OS Optical glass (320 nm - 2500 nm)
UV HOQ 310H (260 nm - 2500 nm)
QS Quartz High Performance (200 nm - 2500 nm)
QX Quartz Extended Range (200 nm - 3500 nm)

Absorption cells
Inside width 9.5 mm, base thickness 1.5 mm

	Type/material	Vol. µl	Cover	Optical path length mm	Outer dimensions H × W × D mm	Order No.
	100-OS	350	glass lid	1	45×12.5×3.5	**19 55 11011**
	100-OS	700	glass lid	2	45×12.5×4.5	**19 55 11021**
	100-OS	1750	seamed lid	5	45×12.5×7.5	**19 55 11051**
	100-OS	3500	seamed lid	10	45×12.5×12.5	**19 55 11101**
	100-OS	7000	seamed lid	20	45×12.5×22.5	**19 55 11201**
	100-OS	14000	seamed lid	40	45×12.5×42.5	**19 55 11401**
	100-OS	17500	seamed lid	50	45×12.5×52.5	**19 55 11501**
	100-OS	35000	seamed lid	100	45×12.5×102.5	**19 55 11601**
	100-QS	350	glass lid	1	45×12.5×3.5	**19 55 11012**
	100-QS	700	glass lid	2	45×12.5×4.5	**19 55 11022**
	100-QS	1750	seamed lid	5	45×12.5×7.5	**19 55 11052**
②	100-QS	3500	seamed lid	10	45×12.5×12.5	**19 55 11102**
	100-QS	7000	seamed lid	20	45×12.5×22.5	**19 55 11202**
	100-QS	14000	seamed lid	40	45×12.5×42.5	**19 55 11402**
	100-QS	17500	seamed lid	50	45×12.5×52.5	**19 55 11502**
	100-QS	35000	seamed lid	100	45×12.5×102.5	**19 55 11602**
	100-QX	3500	seamed lid	10	45×12.5×12.5	**19 55 11104**
	110-OS	3500	PTFE stopper	10	45×12.5×12.5	**19 55 12101**
	110-QS	350	PTFE stopper	1	45×12.5×3.5	**19 55 12012**
	110-QS	700	PTFE stopper	2	45×12.5×4.5	**19 55 12022**
	110-QS	1750	PTFE stopper	5	45×12.5×7.5	**19 55 12052**
③	110-QS	3500	PTFE stopper	10	45×12.5×12.5	**19 55 12102**
	110-QS	17500	PTFE stopper	50	45×12.5×52.5	**19 55 12502**
	110-QX	3500	PTFE stopper	10	45×12.5×12.5	**19 55 12104**
	6030-OG	7000	seamed lid	20	45×12.5×22.5	**19 55 10021**
	6030-OG	14000	seamed lid	40	45×12.5×42.5	**19 55 10031**
	6030-OG	17500	seamed lid	50	45×12.5×52.5	**19 55 10041**
	6030-UV	3500	seamed lid	10	45×12.5×12.5	**19 55 10002**
④	117.100-QS[1)]	3500	screw cap	10	45×12.5×12.5	**10 55 11172**

[1)] For anaerobic applications, with ISO thread GL 14 and screw cap with silicone rubber seal

Continued on next page

Cuvettes, NMR Tubes, Accessories

Semi-micro absorption cells

Inside width 4 mm

	Type/material	Vol. µl	Cover	Optical path length mm	Outer dimensions H × W × D mm	Base thickn. mm	Order No.
⑤	6040-UV	1400	without lid	10	45×12.5×12.5	3.2	**19 55 10010**
	104-OS	1400	seamed lid	10	45×12.5×12.5	3.2	**19 55 13101**
	104-OS	7000	seamed lid	50	45×12.5×52.5	3.2	**19 55 13501**
	104-QS	1400	seamed lid	10	45×12.5×12.5	3.2	**19 55 13102**
	104-QS	7000	seamed lid	50	45×12.5×52.5	3.2	**19 55 13502**
⑥	104B-QS[2)]	1400	seamed lid	10	45×12.5×12.5	3.2	**19 55 13602**
	108-QS	1000	seamed lid	10	45×12.5×12.5	9	**10 55 13702**
⑦	114-QS	1400	PTFE stopper	10	45×12.5×12.5	3.2	**19 55 14122**
	114B-QS[2)]	1400	PTFE stopper	10	45×12.5×12.5	3.2	**19 55 14132**
	117.104-QS[1)]	1400	screw cap	10	45×12.5×12.5	1.25	**10 55 14142**

[1)] For anaerobic applications, with ISO thread GL 14 and screw cap with silicone rubber seal
[2)] Black side walls and base



⑥



⑦

Table of material code

OG Optical glass (360 nm - 2500 nm)
OS Optical glass (320 nm - 2500 nm)
UV HOQ 310H (260 nm - 2500 nm)
QS Quartz High Performance (200 nm - 2500 nm)
QX Quartz Extended Range (200 nm - 3500 nm)

Micro absorption cells

Optical path length 10 mm, inside width 2 mm

	Type/material	Vol. µl	Cover	Outer dimensions H × W × D mm	Base thickness mm	Order No.
	104.002-OS	700	seamed lid	45×12.5×12.5	3.2	**19 55 14161**
⑧	104.002-QS	700	seamed lid	45×12.5×12.5	3.2	**19 55 14162**
	104.002B-QS	700	seamed lid	45×12.5×12.5	3.2	**19 55 14172**
⑨	105-QS	300	seamed lid	25×12.5×12.5	1.5	**10 55 14182**
	108.002-QS	500	seamed lid	45×12.5×12.5	9	**10 55 14192**
	108.002B-QS	500	seamed lid	45×12.5×12.5	9	**10 55 14193**
	115-QS	400	PTFE stopper	40×12.5×12.5	1.25	**19 55 14192**
	115B-QS[2)]	400	PTFE stopper	40×12.5×12.5	1.25	**10 55 14195**

[2)] Black side walls and base



⑧



⑨



⑩



⑪

Ultra-micro absorption cells

with PE stopper

Material: quartz glass High Performance
Optical path length: 10 mm
Outer dimensions (H×W×D): 45 × 12.5 × 12.5 mm

	Type/material	Vol. µl	Center height mm	Aperture H × W mm	Order No.
	105.200-QS	160	15	8 × 2	**10 55 12001**
	105.200-QS	160	8.5	8 × 2	**10 55 12002**
⑩	105.201-QS	100	15	5 × 2	**10 55 12011**
	105.201-QS	100	8.5	5 × 2	**19 55 10521**
	105.202-QS	50	15	2.5 × 2	**10 55 12021**
	105.202-QS	50	8.5	2.5 × 2	**10 55 12022**

Semi-micro cells for flow-trough measurements

with in/outlet tubes for absorbtion measurements

Window material: quartz glass High Performance
Aperture (H×W): 11 × 4 mm

	Type/ material	Vol. µl	Optical path length mm	Center height mm	Outer dimensions H × W × D mm	Order No.
	176.000-QS	450	10	15	45×12.5×12.5	**19 55 30102**
⑪	176.000-QS	2250	50	15	45×12.5×52.5	**19 55 30502**
	176.000-QS	2250	50	8,5	38.5×12.5×52.5	**19 55 30501**

Continued on next page

Cuvettes, NMR Tubes, Accessories



① ② ③ ④ ⑤ ⑥ ⑦ ⑧

Compact cells for flow-through measurements

with 2 screw connectors M 6 × 1 and FEP tubes (outside Ø 1.9 mm, inside Ø 1.1 mm, 500 mm long)

Window material: quartz glass High Performance
Outside dim. (H×W×D): 35 × 12.5 × 12.5 mm

	Type/material	Vol. µl	Optical path length mm	Center height mm	Aperture H × W mm	Order No.
	170.700-QS[3]	6.2	0.1	all dim.	17.5×3.5	**19 55 22202**
	170.700-QS[3]	12.4	0.2	all dim.	17.5×3.5	**19 55 22212**
	170.700-QS[3]	31	0.5	all dim.	17.5×3.5	**19 55 22222**
①	170.700-QS	62	1	all dim.	17.5×3.5	**19 55 22252**
	170.700-QS	124	2	all dim.	17.5×3.5	**19 55 22322**
	176.700-QS	195	5	15	11×3.5	**10 55 15051**
	176.700-QS	195	5	8.5	11×3.5	**10 55 15052**
②	176.700-QS	390	10	15	11×3.5	**19 55 15102**
	176.700-QS	390	10	8.5	11×3.5	**19 55 15832**

[3] with bypass

Table of material code

OG Optical glass (360 nm - 2500 nm)
OS Optical glass (320 nm - 2500 nm)
UV HOQ 310H (260 nm - 2500 nm)
QS Quartz High Performance (200 nm - 2500 nm)
QX Quartz Extended Range (200 nm - 3500 nm)

Macro fluorescence cells

with PTFE lid or stopper, triangular cell

Volume: 3500 µl
No. of windows: 4
Optical path length: 10 × 10 mm
Inside width: 10 mm
Base thickness: 1.25 mm

	Type	Window material	Outer H × W × D mm	Order No.
③	101-OS	Special optical glass	45×12.5×12.5	**19 55 11511**
	101-QS	Quartz High Performance	45×12.5×12.5	**19 55 11512**
	111-OS	Special optical glass	46×12.5×12.5	**19 55 12511**
	111-QS	Quartz High Performance	46×12.5×12.5	**19 55 12512**
④	117.100F-QS[1]	Quartz High Performance	56×12.5×12.5	**10 55 13512**

[1] For anaerobic applications, with ISO thread GL 14 and screw cap with silicone rubber seal

Semi-micro fluorescence cells

Window material: Quartz High Performance
No. of windows: 4
Optical path length: 10 × 4 mm
Inside width: 4 mm

	Type	Vol. µl	Cover	Outer dimensions H × W × D mm	Base thickness mm	Order No.
	104F-QS	1400	seamed lid	45×12.5×12.5	1.25	**19 55 14112**
⑤	114F-QS	1400	PTFE stopper	46×12.5×12.5	1.25	**10 55 15112**
⑥	119.004F-QS	1500	PTFE stopper	49,5×12.5×12.5	5	**10 55 11194**
	117.104F-QS[1]	1400	screw cap	56×12.5×12.5	1.25	**10 55 11174**

[1] For anaerobic applications, with ISO thread GL 14 and screw cap with silicone rubber seal

Micro fluorescence cells

Window material: Quartz High Performance
Optical path length: 10 × 2 mm
Inside width: 2 mm

	Type	Vol. µl	Cover	Outer dimensions H × W × D mm	Base thickness mm	Order No.
	104.002F-QS	700	seamed lid	45×12.5×12.5	1.25	**19 55 14182**
⑦	108.002F-QS	500	seamed lid	45×12.5×12.5	9	**10 55 14183**
	115F-QS	400	PTFE stopper	40×12.5×12.5	1.25	**10 55 14184**

Continued on next page

Cuvettes, NMR Tubes, Accessories

Ultra-mikro fluorescence cells
with PTFE stopper
Window material: Quarzglas High Performance
No. of windows: 3
Outside dim. (H×B×T): 45 × 12.5 × 12.5 mm

	Type	Vol. µl	Optical path length mm	Inner dimensions mm	Center height mm	Order No.
⑧	105.250-QS	100	10 × 2	5 × 2	15	**10 55 12501**
	105.250-QS	100	10 × 2	5 × 2	8.5	**10 55 12502**
	105.251-QS	45	3 × 3	5 × 3	15	**10 55 12511**
	105.251-QS	45	3 × 3	5 × 3	8.5	**10 55 12512**

Cells for light-scattering measurements
with PTFE stoppers, window material quartz High Performance

	Type	Vol. µl	Outside dim. H × Ø mm	Inner dimensions mm	Order No.
	540.110-QS	2800	75 × 10	75 × 8	**10 55 15400**
	540.111-QS[4)]	2800	75 × 10	75 × 8	**10 55 15401**
⑨	540.135-QS	14000	75 × 20	75 × 18	**10 55 15405**

[4)] polished outer cylinder

Demountable cells

	Type	Vol. µl	Optical path length mm	Order No.
⑩	106-QS	2.6	0.01 ± 0.003	**10 55 11061**
	106-QS	26	0.1 ± 0.005	**10 55 11062**
	106-QS	52	0.2 ± 0.005	**10 55 11063**
⑪	013.000, holder for cell type 106-QS			**10 55 11069**


⑨



⑩


⑪

3in1 Allquartz Flowthrough Cell, Hellma®

webcode WWPEV018

The all-quartz flow-through cuvette with two optical path lengths is used as a high-precision cuvette in spectroscopic analysis. The innovative internal thread in the quartz glass allows for simple and safe attachment of the tubes. The cuvette is suitable for absorption and fluorescence measurement.
No leaking of liquid possible because the cell is manufactured from monolithic quartz glass. The cuvette can be used with high and low temperatures, and is autoclavable.



Type	Optical path length mm	Outer dimensions mm	Aperture H × W mm	Volume µl	Center height mm 8.5 Order No.	15 Order No.
176.760-QS	5 and 10	35×12.5×12.5	11×6 / 11×5	550	**10 55 17601**	**10 55 17602**
176.761-QS	2.5 and 5	35×12.5×12.5	11×4 / 11×2.5	140	**10 55 17611**	**10 55 17612**
176.762-QS	1.5 and 3	35×12.5×12.5	11×2.5 / 11×1.5	50	**10 55 17621**	**10 55 17622**
176.765-QS	1 and 10	35×12.5×12.5	11×6 / 11×1	110	**10 55 17651**	**10 55 17652**
176.766-QS	2 and 10	35×12.5×12.5	11×6 / 11×2	220	**10 55 17661**	**10 55 17662**

Cleaning Concentrate Hellmanex® III, Hellma®

Highly effective alkaline concentrate for cleaning glass and quartz glass cuvettes and other sensitive optical parts.
- Significant reduction of surface tension
- Excellent rinsing properties
- Use of specific tensides without absorption above 288 nm.
- Excellent material compatibility, reduces glass corrosion.

Comes in a 1.3 kg PE bottle (1.0 l).
When applying the recommended concentration of 0.5 to 2 vol %, you will get approx. 50 to 200 l cleaning fluid.



webcode WWPEV011

Article	Order No.
Hellmanex® III, type 320.003	**10 55 13203**

webcode To see other variants and accessories, please enter the webcode on our website.

Cuvettes, NMR Tubes, Accessories

webcode WWQED019



Cuvette Racks, BRAND

Cuvette stands, PP
Gray, holds 16 cuvettes, numbered positions. L×W×H: 210 × 70 × 38 mm.
Autoclavable (121°C)

Article	Order No.
Cuvette rack, PP	**29 49 75950**

webcode WWPEV016



Quartz Microplates, Hellma®

Quartz glass microplates with 96 wells

Outside dimensions 14.5 × 127 × 85.5 mm, bottom synthetic quartz glass 2 mm, well diameter 6.6 mm, well depth 12.5 mm, well volume 300 µl

Type	Material	Order No.
730.009-QG	Quartz glass	**19 55 22730**

Calibration Standards

webcode WWPEV008



① DIN EN ISO 17025

Secondary Calibration Standards for Spectrophotometers, Hellma®

Certified UV/Vis calibration standards for spectrophotometers
To supply accurate results over the long run, spectrophotometers need to be calibrated in regular intervals. To this end, the Hellma Analytics calibration lab certified pursuant to DIN EN ISO 17025 offers ready-to-use, DAkkS certified calibration standards. Using UV/Vis calibration standards from the accredited Hellma calibration lab guarantees that the calibration operations performed are traceable to the NIST (National Institute of Standards and Technology) primary standards and the standards of the major pharmacopoeias (EP, DAB, USP).
The certified Hellma Analytics reference materials provide the user with a clean, easy, and efficient solution for checking the spectrophotometer.
Outside dimensions (H×W×D): 48 mm × 12.5 mm × 12.5 mm

① **Glass filters sets**
for inspection of the spectrophotometers in respect of wavelength accuracy and photometrical accuracy

Type	Complete filter set consisting of	Wavelength nm	Order No.
666-S000	Holmium oxide glass filter 666-F1 Neutral density filter 666-F2, 0.25 abs. Neutral density filter 666-F3, 0.5 abs. Neutral density filter 666-F4, 1.0 abs. Filter holder F0, empty as reference	279, 361, 453, 536, 638 440; 465; 546,1; 590; 635 440; 465; 546,1; 590; 635 440; 465; 546,1; 590; 635	**10 55 16660**
666-S001	Neutral density filter 666-F3, 0.5 abs. Neutral density filter 666-F4, 1.0 abs. Didymium glass fliter 666-F7, 0.5–1.0 abs.	440; 465; 546,1; 590; 635 440; 465; 546,1; 590; 635 Wavelength accuracy: 329, 472, 512, 681, 875 Photometrical accuracy: 270, 280, 297, 320, 340	**10 55 16663**
666-S002	Neutral density filters 666-F2/-F3/-F4	440; 465; 546,1; 590; 635	**10 55 16662**

Continued on next page

Calibration Standards

② **Liquid filters sets**
for inspection of the spectrophotometers in respect of stray light behavior, resolution power, photometrical accuracy and wavelength accuracy pursuant to the European Pharmacopoeia EP 10

Type	Use	Contents	Wavelength nm	**Order No.**
667S501	Checking photometric accuracy in the UV range	Filter set contains 4 various niacin filters	213, 261	**10 55 17501**
667400	Checking the wavelength accuracy	Filter set UV5 holmium in perchloric acid and UV14 perchloric acid	241, 287, 361, 451, 485, 536, 640	**10 55 17400**
667107	Checking for stray light	Filter set UV 23 potassium iodide in pure water with UV12 reference filter	259 Cut-off	**10 55 17107**
667200	Checking the photometric accuracy	Filter set UV6 toluene in hexane with UV9 reference filter	Scan from 265–270	**10 55 16672**
667EP1002	Checking the spectrophotometer in the UV/Vis range acc. to Ph. Eur. EP 10	Containing the sets: 667S501, 667400, 667107, 667200		**10 55 11002**

② 

Calibration Standard for Microplate Readers, Hellma®

webcode WWPEV015

With calibration standards from Hellma Analytics, the photometric and wavelength accuracy of microplate readers can be checked. They have the same dimensions as a microplate with 96 wells and a diameter of 6.6 mm per window (height 14.5 x width 125 x length 85.5 mm).

Type	Use	Material	Wavelength nm	**Order No.**
666-R013	Testing the photometric accuracy	Neutral density glass filter NG11/NG5/NG4 (absorbtion 0.25/0.5/1.0)	405, 450, 490, 650	**10 55 16013**
666-R113	Testing the photometric and the wavelength accuracy	Neutral density glass filter NG5/NG4/NG3 (absorbtion 0.5/1.0/1.5) Holmium oxide glass filter	405, 450, 490, 650 279, 361, 453, 536, 638	**10 55 16113**



Use the webcode on our website to see a larger selection of products from a specific manufacturer.

PHOTOMETERS

Type of equipment

Filter Units

With a filter photometer, the required wavelength is selected by inserting filters. The filters are activated by a mechanical drive in the beam path. Its use is mostly limited to visible wavelengths, and for those filters which are available the band width is relatively large. However these units are adequate for many routine quantitative measuring tasks.

Spectrophotometers

Spectrophotometers select a defined section of the spectrum using a grating. Measurements can be obtained at any wavelength within the measuring range of the instrument. These units are typically used for analysis work.

Diode Array Units

Diode Array Units use a converse optical system to obtain simultaneous measurement over the whole of the unit's spectral range. The advantage of very fast non-mechanical spectral measurements has to be weighed against the generally more limited sensitivity.

Wavelength Range

There are Vis units which measure in visual range only (approx. 330-1000 nm), as opposed to UV-VIS units, which typically cover a wavelength range of 200-1000 nm. When used in the UV range, special lamps (Deuterium or Xenon) are required, making these units significantly more expensive to purchase and operate.

Spectral Wavelength

The wavelength of the units is an important factor for scanning equipment. The smaller the wavelength, the more precise is the selection of small maxima.

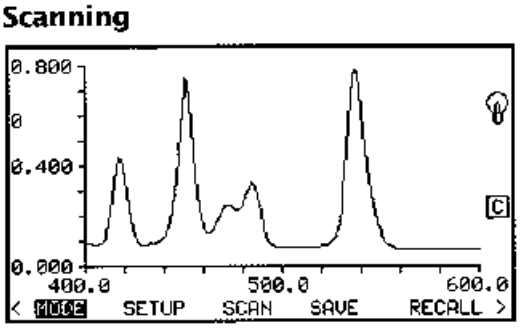
Size of beam path

The normal cuvette with an optical path length of 10 mm and a width of 10 mm should only be used with large sample quantities. With only very small sample quantities and tiny sample concentrations, it is important to focus the beam path onto a small point in the cuvette. Thus samples of less than

50 µl can be analyzed, even with layers of 10 mm thickness.

Software

As well as with the optical features of the units, the data processing options differ significantly from product to product. Special units have been developed for various special operations such as quantification in environmental analysis or in life sciences. These include special programs which facilitate the use of test kits or incorporate special analytical methods. Very little introduction is needed before essential analysis can be carried out.



Accessories

Typical accessories are: tempered sample holder (enzyme kinetics), and automatic sample exchanger or sipper pumps with flow-through cuvettes to draw the sample into the unit. Adding a printer, recorder or pc connection for data processing is also possible.

Cuvettes

The sample cuvette is an important part of the analysis system. As well as a wide range of hard-wearing cuvettes made from optical glass or quartz glass ①, single-use cuvettes are available which can also be used for UV purposes ②. Devices which can operate without a cuvette of classic design have been developed for use in biotechnology. These devices such as the Nano-Genova only require the user to pipette the sample (2 µl) on a surface ③. Besides the quicker sample change, the otherwise necessary thinning process can be omitted.

Guidelines for calibration

A regular check on the unit's calibration will maintain the accuracy of your measurements. It is necessary to use spectrophotometers to check whether the selected wavelength is set correctly. For this, filters are inserted with characteristic peak maxima. Some units are able to carry out automatic wavelength calibration using lamp peaks, when powering on.

Author: Dr. Axel Landgraf



①


②


③

Photometric workplaces see page 1025

Photometers

Micro Volume Analysis, Hellma®

webcode WWPEV012



Fibre-optical ultra micro measuring cell for sample volumes of 0.7 µl to 10 µl.
Flexible and user-friendly solution for the analysis of very small sample volumes as an accessory for almost all standard photometers.

Typical applications:
- DNA/RNA nucleic acid analysis
- Determination of the incorporation frequency of fluorescent dye labels (FOI)
- Protein analysis (A280, BCA, Lowry etc.)
- All UV/Vis analysis utilizing the wavelength range of 190 to 1100 nm
- Optical material: High Performance quartz glass

The TrayCell is supplied as standard with caps for both 0.2 mm (factor 50) and 1 mm (factor 10) light path. Additional caps for light path 0.1 mm (factor 100) and 2 mm (factor 5) are available on request.

Type	Filling volume µl	Optical path length mm	Center height mm	Outer dimensions mm	Order No.
105.800-UVS	0.7–5	0.2/0.1	8.5/15/20[1)]	68.5/75/80×12.5×12.5	**10 55 11058**
105.810-UVS	0.7–5	0.2/0.1	8.5/15/20[1)]	53/59.5/64.5×12.5×12.5	**10 55 11059**

[1)] As a standard, the TrayCell is set to a centre height of 8.5 mm. By means of the 2 adapters comprised in the delivery, the centre height can be adjusted to 15 mm and 20 mm.

Spectrophotometer, Irmeco

webcode WWR5C004

① **Spectrophotometer version HACH, model DR 3900**
Powerful, microprocessor-controlled VIS spectrophotometer for reliable measurement results in routine analysis and for your own applications.

Applications:
- Pre-programmed with all HACH LANGE analysis methods, e.g. for wastewater, potable water and cooling/boiler water analysis
- Extinctioni and transmission
- Concentration for linear and non-linear calibration curves



Technical data:

Display mode:	Transmission (%), extinction and concentration, scan
Light source:	Halogen lamp
Optical path:	Reference beam technology, spectral
Wave length range:	320 to 1100 nm
Wave length accuracy:	± 1.5 nm (wavelength range 340 to 900 nm)
Wavelength reproducibility:	± 0.1 nm
Wavelength resolution:	1 nm
Wavelength calibration and selection:	Automatic
Spectral bandwidth:	5 nm
Photometric measuring range:	± 3.0 E (wavelength range 340 to 900 nm)
Photometric accuracy:	5 mAbs at 0.0 to 0.5 Abs, 1% at 0.5 to 2.0 Abs
Photometric linearity:	< 0.5% to 2 Abs, 1% at > 2 Abs with neutral glass at 546 nm
Stray light:	0.1% at 340 nm with $NaNO_2$
Display:	7″ TFT WVGA colour touch screen (800 × 480 Pixel)
Data storage:	2000 measured values (Result, Date, Time, Sample ID, Operator ID)
Preprogrammed methods:	> 220
User programs:	100
Cuvette compatibility:	13 mm round cuvette, 1 cm and 5 cm rectangular cuvette, 1 inch round cuvette, 1 inch rectangular cuvette

Courtesy of HACH LANGE

Article	Order No.
Spectrophotometer version HACH DR 3900 (with RFID technology)	**10 15 89901**
Spectrophotometer version HACH DR 3900 (without RFID technology)	**10 15 89801**

Continued on next page

Photometers



①



②

Cuvette tests LCK series
In total, more than 200 different test methods are available.
Ready-to-use cuvette tests with pre-dosed reagents for photometric evaluation. Maximum safety and easy handling. Environmentally friendly thanks to minimized volumes of reagent quantities. Approved for self-monitoring.

	Article	Test	Order No.
①	LCK514	CSB 100–2000 mg/l O_2	**10 15 80514**
	LCK1414	CSB 5–60 mg/l O_2	**10 15 81414**
	LCK303	ammonium 2.0–47.0 mg/l NH_4-N	**10 15 80303**
②	LCK341	nitrite 0.015–0.6 mg/l NO_2-N	**10 15 80341**
	LCK339	nitrate 0.23–13.5 mg/l NO_3-N	**10 15 80339**
	LCK138	Laton total nitrogen 1–16 mg/l TNb	**10 15 80138**
	LCK386	TOC (expulsion method) 30–300 mg/l C	**10 15 80386**
	LCK349	phosphate (ortho/total) 0.05–1.5 mg/l PO_4-P	**10 15 80349**
	LCK521	iron, trace 0.01–1.0 mg/l Fe	**10 15 80521**
	LCK329	copper 0.1–8.0 mg/l Cu	**10 15 80329**
	LCK313	chromium (III and VI) 0.03–1.0 mg/l Cr	**10 15 80313**
	LCK360	zinc 0.2–6.0 mg/l Zn	**10 15 80360**

Accessories

Article	Order No.
Rectangular cell, 1 × 1 inch, 10 ml, glass (2 pcs.)	**10 15 85402**
Sample cell, 10 ml (1 inch), round, polystyrene, 2 pcs.	**10 15 84302**
Addista - AQA Multi-Standard	**10 15 80701**
Cell stand for 16 round or rectangle cells 10 mm	**10 15 80915**

webcode WWW4U110

Spectrophotometer V-11, LAT



V-11 Scan is the scan-visible-spectrophotometer customised for superior-level colorimetric analyses, quantity detection, and quality assurance in the visible range.
- Photometric quantification, spectrum scan
- Autocalibration system, calibrates each time the device is switched on
- Countdown for preheating
- USB flash drive to restore data and methods

Technical data:

Display:	touch screen colour display
Measuring range:	320 – 1100 nm
Bandwidth:	4 nm, single beam
Interface:	flash memory USB port
Operating system:	multilingual
Functions:	photometric, quantification, spectrum scan

Including 4 optical glass cells, 10 mm 4-cell holder, power cord, dust cover, USB flash drive and calibration report

Article	Order No.
Spectrophotometer V-11	**10 20 10511**

webcode WW4HV025

Thermo Scientific™ Orion™ AquaMate 7100 and 8100 Vis and UV-Vis Spectrophotometers, Thermo Scientific



③

Thermo Scientific™ Orion™ AquaMate Vis and UV-Vis spectrophotometers offer more than 260 pre-programmed methods for all requirements of water and waste water analysis; thanks to numerous sophisticated features and functions, they guarantee maximum flexibility.

- More than 260 pre-programmed methods for easy and convenient measuring with Orion AQUAfast™, Merck™ or CHEMetrics™ chemicals
- Pre-programmed methods can be adjusted to new chemicals, or users can generate their own methods and calibration curves
- The devices allow for one-point adjustment of any pre-programmed method for correcting fluctuations in batch reagents
- 7″ touchscreen can be operated when wearing gloves
- Wide variety of vials sizes can be used, including 10mm square vials, 20 and 50mm rectangular vials and an adjustable round vial holder that accommodates vials and test tube from 12 to 25 mm diameter
- Performance verification tests ensure wavelength accuracy and instrument functionality - each verification report gives the time, date and instrument serial number in accordance with GLP and GMP
- Built-in test methods for stray light, noise and resolution

Continued on next page

Photometers

Technische Daten:	AquaMate 7100	AquaMate 8100
Optical system:	double beam	double beam
Wavelength measuring range:	325 to 1100 nm	190 to 1100 nm
Spectral bandwidth:	5.0 nm	2.0 nm
Accuracy:	0.5 nm	0.5 nm
Light source:	Tungsten halogen lamp	xenon lamp
Interface:	3 × USB	3 × USB
Dimension (W×D×H):	385 × 355 × 195 mm	385 × 355 × 195 mm
Weight:	7.5 kg	7.5 kg
Power supply:	100 – 240 V, 50/60 Hz	100 – 240 V, 50/60 Hz

	Article	Order No.
③	Orion AquaMate 7100 Vis spectrophotometer	**10 79 27100**
④	Orion AquaMate 8100 UV-Vis spectrophotometer	**10 79 28100**



④

Photometers MD 200, Lovibond®



- Scroll memory
- Automatic switch-off
- Real-Time-Clock and date
- Calibration mode indicator

Versatile, compact and: The benchtop photometer MD 200 combines high-quality interference filters with long-term stable LEDs as light sources in a high-precision optic. The result: precise measurement results at all times – no matter where you use it.

The listed photometers represent a selection. Other variants are available.

Technical data:

Optics: LEDs and photo sensor in transparent sample chamber. Depending on the version, up to 3 different interference filters are used. Wavelength specifications of interference filters:
430 nm Δ λ = 5 nm
530 nm Δ λ = 5 nm
560 nm Δ λ = 5 nm
610 nm Δ λ = 6 nm

Wavelength accuracy: ± 1 nm
Photometric range: -2600 – 2600 mAbs

Article	Order No.
MD 200 COD, tube tests	**10 77 12503**
MD 200 hydrogen peroxide, pH, liquid reagents	**10 77 18102**
MD 200 chlorine, pH, cyanuric acid, tablet reagents (OTZ)	**10 77 10102**
MD 200 chlorine, pH, cyanuric acid, liquid reagents for chlorine and pH (OTZ)	**10 77 12002**
MD 200 chlorine, pH, acid capacity, tablet reagents (OTZ)	**10 77 19012**
MD 200 chlorine, pH, cyanuric acid, acid capacity, tablet reagents (OTZ)	**10 77 10512**
MD 200 chlorine, chlorine dioxide, pH, acid capacity, tablet reagents (OTZ)	**10 77 13802**
MD 200 chlorine, pH, cyanuric acid, alkalinity-m, calcium hardness, tablet reagents (OTZ)	**10 77 11202**
MD 200 chlorine, bromine, pH, cyanuric acid, alkalinity-m, calcium hardness, tablet reagents (OTZ)	**10 77 11902**
MD 200 ozone, tablet reagents	**10 77 19802**

webcode WWSE2019

Lovibond

Photometers MD 110, Lovibond®

webcode WWSE2020



- Bluetooth®-Interface
- Scroll Memory
- Automatic switch-off
- Calibration mode indicator

The MD 110 has several key features that make it a favorite among users.

Waterproof Design

The IP 68 design of this instrument ensures that the MD 110 remains water tight for up to 1 hour at 0.1 meter. Don't worry about dropping the instrument into a body of water - it floats!

- Accurate, Reproducible Results
- The optical system of the MD 110 utilizes LEDs and interference filters which quickly gives you results that you can be confident in.
- User Calibration Mode
- A one-point calibration is possible. Additionally, all MD 110 instruments have the ability to display readings directly in ABS or %T units.
- One-time-Zero Function

Continued on next page

Photometers



- Don't waste time waiting for your instrument to Zero after each test. When testing a new sample, zero the instrument once and all subsequent tests of that sample do not require you to re-zero the instrument.
- Automatic Data Storage with Transfer Capabilities
- The MD 110 automatically stores the last 16 readings with time and date stamp. These results can be transferred to a spreadsheet using the IRiM accessory.
- Ergonomic Design

Whether you're using the MD 110 out in the field or in the lab, the design of the instrument makes it easy to handle and view the display. If you're using the instrument in the lab, the rubber feet on the bottom of the housing eliminates the need for two hand operation or to chase your instrument around the workbench.

The listed photometers represent a selection. Other variants are available.

Technical data:

Optics: LEDs and photo sensor in transparent sample chamber. Depending on the version, up to 3 different interference filters are used. Wavelength specifications of interference filters:
430 nm Δ λ = 5 nm
530 nm Δ λ = 5 nm
560 nm Δ λ = 5 nm
580 nm Δ λ = 5 nm
610 nm Δ λ = 6 nm
660 nm Δ λ = 5 nm

Article	Order No.
MD 110 chlorine, pH, cyanuric acid, tablet reagents	**10 77 10112**
MD 110 chlorine, pH, cyanuric acid, liquid reagents	**10 77 10152**
MD 110 chlorine, pH cyanuric acid, alkalinity-m, tablet reagents	**10 77 10702**
MD 110 chlorine, pH, cyanuric acid, alkalinity-m, liquid reagents	**10 77 10752**
MD 110 chlorine, bromine, pH, cyanuric acid, alkalinity-m, calcium hardness	**10 77 10902**
MD 110 COD	**10 77 11302**

Flame Photometers

webcode WWY3J019



Flame Photometer, A. KRÜSS Optronic

Flame Photometer FP8000 Series

With the flame photometers of the FP8000 series, even the lowest concentrations (Measuring range: 10 – 2 to 103 ppm) of alkali and alkaline earth elements in aqueous solutions can be determined particularly cost-effectively and user-friendly. The models of the FP8000 series are worldwide unique for the simultaneous measurement of the elements Na, K, Ca and Li in the laboratory and process analysis[1]. Thanks to proven measuring methods and modern instrument electronics, the flame photometers achieve precise and reproducible measurement results in a matter of seconds with maximum operational reliability. The FP8000 series offers suitable models for individual measurements, fully automatic measuring operation, continuous operation and use as a process instrument.

[1]Other alkali and alkaline earth elements on request if required

Technical data:

Calibration:	Linear with 2 standards Non-linear with 6-8 standards, cubic approximation
Drift:	1% in 60 min
Reference:	Lithium guideline with 5 mmol/l Caesium guideline on request
Combustion gas:	Propane: recommended for alkaline elements Butane: possible substitute for propane
Display:	with integrated 8.4″ TFT touchscreen, 800 × 600 pixels
Accessories:	24-character plain paper printer Calibration standards and cleaning solutions Spare parts and accessories directly from the manufacturer
Upgradeability:	Retrofit kits to other models available

	FP8400	FP8500	FP8600	FP8700
Measurement range:		0.01 – 4500 ppm für Na/K/Li 0.50 – 4500 ppm für Ca		0,1-45000 ppm für Na/K/Li 5,0-45000 ppm für Ca
Sample volume:	2.5 ml	2.5 ml	2.5 ml	0.25 ml
Interfaces:	2 × USB 1 × Ethernet 1 × RS-232 for printer	2 × USB 1 × Ethernet 1 × RS-232 for printer Upgrade 4-20 mA analogue, passive current interface	2 × USB 1 × Ethernet 1 × RS-232 for printer	2 × USB 1 × Ethernet 1 × RS-232 for printer

Article	Order No.
FP8400 Flame photometer	**10 61 18400**
FP8500 Flame photometer	**10 61 18500**
FP8600 Flame photometer	**10 61 18600**
FP8700 Flame photometer	**10 61 18700**

CHAPTER OVERVIEW

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Electronic Controllers

Timers, messner

TEMPORA AV timer

Ready-to-use timer, can be used as a **count up or count down timer**. 5 operator buttons and plain text user interface on LCD dot matrix display with backlighting. When set to count up mode, the timer switches the attached load on after the pre-set time has expired. When used in count down mode, the timer switches the connected load off after the pre-set time has expired. Times can be set between 1 s and 99h, 59 min and 59 s. A 2-pole relay is used to switch the load. An acoustic signal can be turned on when the program has finished.

Outer dimensions (L × W × H): 190 × 110 × 70 mm
Switching power: max. 1880 W, 8 A
Voltage: 220 to 240 V~, 50 Hz

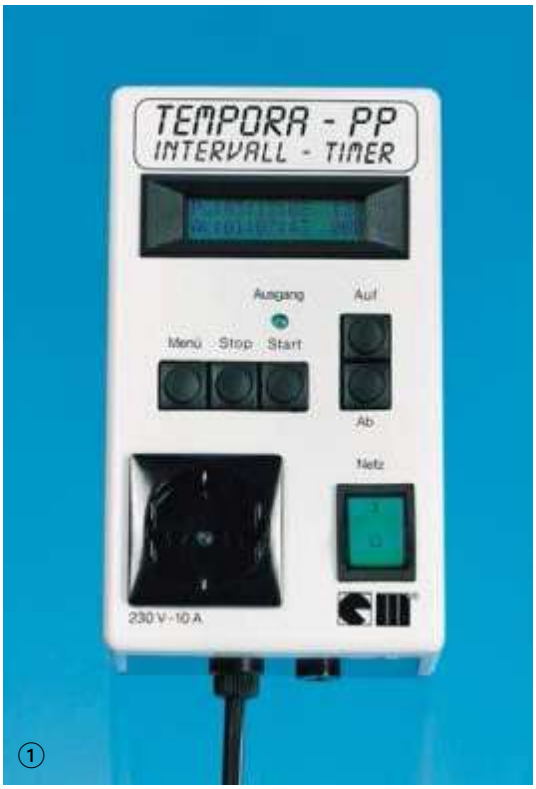
Article	Order No.
TEMPORA AV timer	**30 65 13510**

① **Microprocessor controlled pulse / interval timer TEMPORA PP**

Ready-to-use pulse / interval timer featuring a dot matrix LCD display with backlighting. Very simple operation using 5 buttons and plain text user interface on the LCD display. A 2-pole relay is used to switch the load.
On and off times can be set independently of each another between 1 s and 99h, 59 min, 59 s. The number of repetitions can be set to 1 to 999 or infinity. An acoustic signal sounds when the program has finished.

Outer dimensions (L × W × H): 190 × 110 × 70 mm
Switching power: max. 1880 W, 8 A
Voltage: 220 to 240 V~, 50 Hz
Options: Floating changeover contact, input for external Start/Stop signal

Article	Order No.
TEMPORA PP pulse/interval timer	**30 65 13610**



①

Triac Main Voltage Controllers MES, messner

Series MES 1000 and 2000 triac-voltage controllers

Electronic AC controller for easy regulation of ohmic and inductive loads such as hot plates, heater bands, soldering irons, incandescent lamps, infrared radiators and transformers as well as for speed control of universal motors.

Technical data:

Standard equipment: 2-pole On/Off illuminated rocker switch, overvoltage suppressor, insulated fuse holder, rotary potentiometer, earthed socket, power cable
Case: polycarbonate plastic
Power supply: 220 to 240, 50/60 Hz
Electronics: phase control
Interference suppression: acc. to EN standard

Article	Order No.
② **Triac main voltage controller MES 1000**	**71 65 52101**

for ohmic loads, transformers and universal motors.
External W × H × D: 80 × 55 × 150 mm
Weight: 0.7 kg
Rating: 1300 W (6 A)

Article	Order No.
Triac main voltage controller MES 2000	**71 65 52102**

for ohmic and inductive loads
External W × H × D: 110 × 70 × 188 mm
Weight: 1.2 kg
rating: 2300 W (10 A)

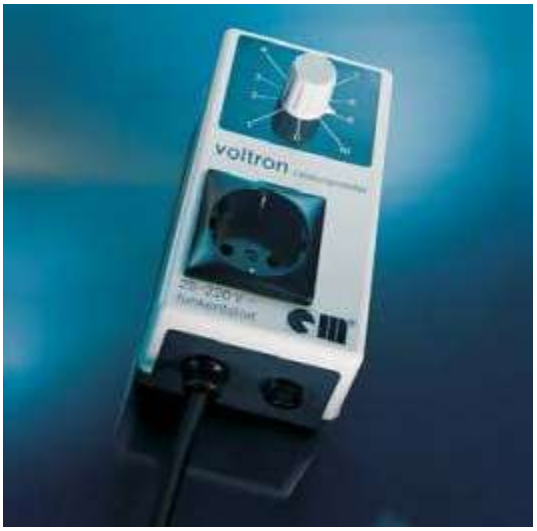
Article	Order No.
③ **Triac main voltage controller MES 2000 PSI**	**71 65 52125**

Same as Type MES 2000 except with additional potentiometer scale lock, electronic triac monitoring, load cut-out if triac defective, alarm light and signal, and reset button.


②


③

Electronic Controllers



Voltron Power Controllers, messner

Power controller with on/off switching using 1-pole potentiometer, standard configuration with insulated fuse holder for fuse replacement from the outside. Use and application as for MES series.

Technical data:

External W × H × D:	80 × 55 × 150 mm
Weight:	0,7 kg
Case:	polycarbonate plastic
Electronics:	phase control
Power supply:	220 to 240 V~, 50/60 Hz
Operating range:	25 to 215/240 V~
Interference suppression:	acc. to EN standard

Voltron Power Controllers

Article	Order No.
Voltron power controller 10 for ohmic and inductive load Rating: 1000 W (5 A), minimum load 40 W	**71 65 52302**
Voltron power controller 20 for ohmic and inductive load Rating: 2000 W (10 A), minimum load 60 W	**71 65 52322**



***VOLTRON-PLUS AC power controllers**

For the infinitely variable and loss-free control of ohmic and inductive consumers. **Special features:**

- Illuminated ON/OFF rocker switch, 2-pole type, 10 A (4)
- IC-controlled, hysteresis-free
- Smooth starting
- Interference suppression acc. to EN standard
- Overvoltage suppressor
- Fuse holder with touch guard

Switching capacity: max. 2000 W
Switching current: max. 10 A
Operating range: 0 to 235 V~

Article	Order No.
*VOLTRON-PLUS AC power controller	**71 65 52325**
*VOLTRON-PLUS with additional function pilot lamp	**71 65 52330**



①

Temperature Controllers, messner

① **TEMPAT® temperature controller**

Electronic 2-point controller with fiberglass reinforced plastic housing for controlling heating coils, hot plates, ovens, infrared radiators, water baths, etc. The device has built-in sensor breakdown protection and a switching interval display. The sensor is connected via a tip jack.

Technical data:

External W × H × D:	110 × 70 × 188 mm
Weight:	1 kg
Power supply:	220 to 240 V~, 50/60 Hz
Rating:	2300 W (10 A)

Sensor type	Temperature range °C	Order No.
Pt 100	0 – 100	**71 65 50250**
Pt 100	0 – 400	**71 65 50251**
Fe-CuNi	0 – 600	**71 65 50252**
NiCr-Ni	0 – 1200	**71 65 50253**

② **TEMPAT®-D temperature controller**

Same as TEMPAT® except with additional built-in digital display for the actual value and encoder switch for selecting the nominal temperature.

Sensor type	Temperature range °C	Order No.
Pt 100	0 – 400	**71 65 50260**
Fe-CuNi	0 – 600	**71 65 50261**
NiCr-Ni	0 – 1200	**71 65 50262**

Continued on next page

Electronic Controllers

③ **TEMPAT®-DSI temperature controller**

Configuration same as TEMPAT®-D, except with additional integrated 2-pole irreversible excess temperature or probe breakdown safety shutoff. Fault lamp and warning signal, re-start button, second sensor input jack, potentiometer for setting the threshold temperature and monitoring on LED display.
Rating: 1800 W 8 A.
Option for all 3 TEMPAT® controllers: recorder output available for 0 – 20 mA, 0 – 1 V or 0 – 10 V.
The scope of delivery of TEMPAT® controllers does not include feelers. For temperature feelers that match and are ready for connection, see accessories. If no temperature feeler was ordered, the connection plug suitable for the device is loosely attached.

Sensor type	Temperature range °C	Order No.
Pt 100	0 – 400	**71 65 50280**
Fe-CuNi	0 – 600	**71 65 50281**
NiCr-Ni	0 – 1200	**71 65 50282**



②

④ **TEMPAT®-DSI temperature controller**

Safety temperature switch for monitoring all kinds of temperature control tasks. Ideal for complementing simple temperature controllers. Very suitable for monitoring the temperature of heating tapes, heating mantles, water baths and other heaters which are prone to failure of a switch element and to temperature increases to prohibited high ranges.

Simple operation: plug heater which is to be monitored in the output plug of TEMPAT®-Control, place feeler in the spot which is to be monitored. Set desired temperature limit on the scale. The device now monitors the connected heater. If the set temperature limit is exceeded, the device turns off the connected heater. An optical and acoustic alarm is triggered, which continues even if the temperature falls below the set temperature limit. For reconnection, press reset key.
Rating: 1800 W 8 A.

Sensor type	Temperature range °C	Order No.
Pt 100	0 – 600	**10 65 50290**
Fe-CuNi	0 – 700	**10 65 50291**
NiCr-Ni	0 – 1300	**10 65 50292**



③



④

⑤ **Accessories**
Sensors for TEMPAT®, TEMPAT®-D, TEMPAT®-DSI controllers and TEMPAT®-Control

Article	Order No.
Resistance probe Pt 100 4301 stainless steel sensor tube, 3.0 mm dia., 250 mm long, with 2 m cable and connector, 3-wire	**71 65 50121**
Resistance probe Pt 100 as above, except 2.0 mm dia., 2-wire	**71 65 50100**
Resistance probe Pt 100 as above, except 1.6 mm dia., 2-wire	**71 65 50101**
Resistance probe double PT 100 as above, except 3.0 mm dia., 2-wire	**10 65 50161**
Glass probe Pt 100 4.3 mm dia., 35 mm long, with 2 m cable and connector, 2-wire	**71 65 50131**
Glass probe Pt 100 as above, except 3.0 mm dia., 250 mm long, 2-wire for all temperature controllers TEMPAT/TEMPAT-D/TEMPAT-DSI/TEMPAT-Control	**10 65 50171**
Thermocouple Fe-CuNi austenitic stainless steel jacket, 1.5 mm Ø, 250 mm long, with 2 m compensation line and connector	**71 65 50141**
Thermal sensor NiCr-Ni, Ø 1.5 mm Inconel jacket, otherwise as above	**71 65 50151**
Thermal sensor NiCr-Ni, Ø 1.5 mm 100 mm long, otherwise as above	**10 65 50181**

Other diameters and lengths on request.

Other self-optimizing temperature controllers with digital display of nominal and actual values: **TEMPAT®3000 MCS** and **MCSI** series, and **TEMPAT®3000 MPR** series program controllers with various options on request.


⑤

Electronic Controllers



Temperature Controllers and Indicators, Juchheim

Laboratory Temperature Controllers LTR 4200 and LTR 4200-B

Optimized temperature controller for direct connection of laboratory heaters and resistance thermometer or thermocouples. Extremely easy to operate yet offering premium precision with safety switch-off function pursuant to VDE. Actual and nominal values permanently visible, nominal value set via pushbutton. Sturdy aluminium housing with small footprint. Safety line monitoring. Continuous setting of heating output. PID control response. Analog and digital interface available as an option.

Technical data:

- Microprocessor controller with 2×4-digit, 7-segment display, H=13 mm
- Fully parameterisable
- PID control response: Xp = 0-9999 symm. to nominal value
- Heating power continuously adustable from 1 – 99%
- Display and control accuracy: max. ±0.1°C
- Self-optimizing temperature control
- Measuring and control range: Pt100 -200°C to max. +850.0°C
  Fe-CuNi (L) -200+900°C, NiCr-Ni (K) -200 + 1200°C, PtRh-Pt (S) 0+1768°C
- Overtemperature switch-off function, nominal value + >10K
- Non-wearing internal power control valve
- 2-pole on-off switch, green, illuminated
- Sturdy aluminium housing, powder-coated, front and rear anodized aluminium
- Sensor breakage protection
- Back-up fuse at Pt100
- Housing dimensions (W×H×D): 125 × 215 × 135 mm
- Power supply: 230 V / 50 Hz
- Breaking capacity: 10 A/230 V for ohm resistive loads
- Sensor connection 2×Pt100 or 2 pc. 1×Pt100, Tuchel 7-pole

Article	Order No.
Laboratory temperature controller LTR 4200	**10 57 04200**
Laboratory temperature controller LTR 4200-B Equipment identical with LTR 4200, plus an additional measuring point and sensor connection 2×Pt100 or 1×Pt100. The additional measuring point does not have to be occupied. All units also available for thermocouples!	**10 57 04201**

Options

Article	Order No.
Acoustic transmitter with automatic unlocking	**10 57 04301**
Higher breaking capacity 16A	**10 57 04302**
Analog output 0–20 (4–20) mA	**10 57 04303**
Analog input external setting: 0–20 (4–20) mA	**10 57 04304**



Accessories

For laboratory temperature controllers LTR, with cable 2m long and connector.

Article	Order No.
Resistance thermometer 1 × Pt 100 (1/3 DIN), 200 × 8 mm made of V4A, lemo plug	**71 57 04103**
Resistance thermometer 2 × Pt 100 (1/3 DIN), 200 × 8 mm made of V4A, tuchel plug	**71 57 04101**
Resistance thermometer 1 × Pt 100 (1/3 DIN), 200 × 8 mm made of teflon, lemo plug	**10 57 04104**
Resistance thermometer 2 × Pt 100 (1/3 DIN), 200 × 8 mm made of teflon, tuchel plug	**10 57 04102**

Other models and sizes are available on request.

Webcode

Use the webcode on our website to see a larger selection of products from a specific manufacturer.

Electronic Controllers

Temperature Controller and Indicator, Juchheim



Laboratory temperature controller LTR 3500
Optimized temperature controller for direct connection of laboratory heaters and resistance thermometer or thermocouples. Actual and nominal values permanently visible, nominal value set via pushbutton. Sturdy aluminium housing with stand clamp. Measuring line monitoring.

Technical data:
- Microprocessor controller with 2×4-digit, 7-segment display, H=13 mm
- Fully parameterisable
- PID control response: Xp = 0-9999 symm. to nominal value
- Measuring and control range: Pt100 -200°C bis +850,0°C
  Fe-CuNi (L) -200+900°C, NiCr-Ni (K) -200 + 1200°C, PtRh-Pt (S) 0+1768°C
- Overtemperature switch-off function, nominal value +>10K
- Non-wearing internal power control valve
- 2-pole on-off switch, green, illuminated
- Sturdy aluminium housing, powder-coated, front and rear anodized aluminium
- Sensor breakage protection
- Back-up fuse at Pt100
- Housing dimensions (W×H×D): 125 × 177 × 135 mm
- Power supply: 230 V / 50 Hz
- Breaking capacity: 10 A/230 V for ohm resistive loads
- Sensor connection PT100, Lemo 4pol size1 (acc. to laboratory automation)

Article	Order No.
LTR 3500	**71 57 03500**
LTR 3500-S	**71 57 03511**
Equipment identical with LTR 3500, plus safety temperature delimiter via a separate microprocessor controller and an additional temperature sensor connection. All-pole cutoff upon when the safety temperature is reached. The overtemperature switch-off function, nominal value +>10K is not provided. Breaking capacity: 10 A/230 V for ohm resistive loads.	

All units optionally available for thermocouples! For accessories, refer to measuring device and controller temperature, resistance thermometer for Juchheim LTR.



Options

Article	Order No.
Higher breaking capacity 16A	**10 57 04302**
Interface RS 485	**71 57 03512**

Temperature Controllers, Juchheim



Laboratory Temperature Controllers LTR 2500
Optimized temperature controller for direct connection of laboratory heaters and resistance thermometers and thermocouples. Actual value permanently visible, nominal value set via pushbutton.

Technical data:
- Microprocessor controller with 4-digit, 7-segment display, H=10 mm, green
- Freely parameterisable
- Self-optimizing temperature control
- Measuring and control range -200°C to +850.0°C
- Non-wearing internal power control valve
- 2-pole on-off switch, green, illut
- Plastic housing, front and rear anodized aluminium
- Sensor breakage protection
- Fuse back-up at Pt100
- Housing size (W×H×E): 160 × 82 × 130 mm
- Power supply: 230 V / 50 Hz
- Breaking capacity: 10 A/230 V for ohm resistive loads
- Sensor connection PT100, Lemo 4-pole size 1 (acc. to laboratory automation)
- Stand clamp

Article	Order No.
Laboratory temperature controller LTR 2500	**71 57 12500**
Laboratory temperature controller LTR 2500-S	**71 57 22500**
Same features as the LTR 2500, plus safety temperature delimiter via a separate microprocessor controller and an additional temperature sensor connection. All-pole cutoff upon when the safety temperature is reached.	

For accessories, refer to measuring device and controller temperature, resistance thermometers for Juchheim LTR.

Monitoring Instruments



Water Detectors, Rettberg

Water Detector LWW 20 monitors the cooling water supply (e.g. for a distilling cooler) via a platinum relay switch at the outlet (tube connector 10mm) of the appliance. The switch is connected to a relay via a switchboard cable (5 meters in length). This relay controls the electrical connection for the heater, e.g. for distilling apparatus.

When a shortage of cooling water is registered, the relay closes down the heater. At the same time, an acoustic and visual warning signal is emitted. After the cooling water supply has been restored, the Water Detector is reactivated via a disconnection switch. The relay then switches the heater on again.

N.B. Only electrically conductive coolant can be used with the Water Detector.

Article	Order No.
Water detector LWW 20 with switching relay 230 V, 60 Hz, 16 A, 3200 W (max.) and cooling water sensor made of borosilicate glass 3.3 with platinum double electrode	**13 40 65000**



Cooling Water Controller, Juchheim

Cooling Water Controller LKR 3000
For monitoring cooling water circuits. Very easy to operate. High switching capacity up to 16A (also suitable for thermostats), reliable sensor. Manual reset after malfunction, with simultaneous acoustic warning signal.

Technical data:

Plastic case (W×H×D):	160 × 82 × 130 mm
LED display:	10 mm high, green
Can be set for:	10 l/h to max. 250 l/h
Power supply	230 V / 50 Hz
Switching capacity:	16 A/230 V for consumers, 1 A/230 V for solenoid valve
Double-pole switch off	

Article	Order No.
Cooling water controller LKR 3000	**71 57 33000**

Accessories

Article	Order No.
Flow sensor with 1.5 m connecting cable and plug	**71 57 33010**
Water stop valve with 1.5 m connecting cable and plug	**71 57 33020**

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Microbiology

Dip Slides, Behr

webcode WWXKS058

behr Labor-Technik

Dip slides are immersion sample carriers used for microbial counts of bacteria and fungi. They are intended for internal monitoring of your hygiene status by testing surfaces, liquid media, and powders in foods, liquids, cosmetics etc. One paddle has two separate cultivation areas.

Sampling with two different culture media on one slide allows for double sampling in one single work step.

See page 626 for a matching refrigerator.

Article	Order No.	PU pc/Pack
TTC/Rose For detection of yeasts, mold, fungal contamination, and total viable count	**10 48 27802**	20

! Available only in original packaging units. No fractions possible.



Determining of Sulphurous Acid

Determination of sulphurous acid (total SO_2), Behr

behr Labor-Technik

webcode WWXKS045

Devices for determining sulfurous acid.
Devices for releasing and distilling sulfurous acid. 1 or 6 sample places, with magnetic stirrer. Systems available with one or two absorption vessels. Reaction flasks 500 ml. Other sizes available upon request.

	Article	Order No.
①	**Type KSO 2 N compact system** for determining sulfurous acid. For 1 sample, 2 absorption vessels, magnetic stirrer, 230 V	**10 48 80020**
	Type SO 2-6 system for determining sulfurous acid in up to 6 sample spaces at the same time. 2 absorption vessels, magnetic stirrer	**10 48 80027**



① Type KSO 2 N compact system



Photo: behr Labor-Technik

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We as your laboratory expert are the right partner to contact for tailor-made, special solutions for your special application.

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According to your own analysis requirements?

According to special device descriptions from directives such as

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Contact your laboratory expert. For you and together with you, we will find the right devices or combination of devices, which are perfect for your requirements: made of glass, metal, plastic, with our without controller. Of course, all these solutions will meet the requirements of the CE-safety guidelines.

Alcohol Determination

Determination of Alcohol and Volatile Acids, Behr

webcode WWXKS048

Steam distillers D 1 and D 2
- Alcohol
- Organic acids
- Fermentation processes in beer
- Ammonium chloride in licorice products

Units for the determination of alcohol content and the determination of volatile acids in wine and other alcoholic beverages. Complete with glassware, including volumetric flask and pycnometer. The behr D 1 and D 2, based on their speed of operation, are especially suited for applications involving a high sample workload.

Technical data:

Dimensions (W × H × D):	410 × 675 × 410 mm
Weight:	32 kg
Nominal voltage:	230 VAC/115 VAC, 50 Hz/60 Hz
Power input:	1700 W, 9 A/18 A
Cooling water consumption:	ca. 5 l/min
Storage container:	variably big, recommendation behrotest® canister set
Display:	LCD
Programs:	1

Article	Order No.
D 1 distilling system for determination of alcohol, distillation in a pyknometer	**10 48 49010**
D 2 distilling system for determination of organic acids, distillation in an erlenmeyer flask 500 ml	**10 48 49011**



Beer Analyzer FermentoFlash, Funke - Dr. N. Gerber

For the automatic analysis of beer. Measurement of alcohol content and extract as well as the values derived from them: density, apparent extract, original wort and osmotic pressure.
Dimensions (W×D×H): 300 × 330 × 240 mm, weight: 5 kg

Article	Order No.
FermentoFlash incl. protocol printer	**10 42 03572**



Everything for your laboratory –
from one source

NITROGEN DITERMINATION ACC. TO KJELDAHL

behr Labor-Technik

For more than 120 years, nitrogen determination according to Kjeldahl has been an internationally accepted standard. In 1883, the Danish chemist Johan Kjeldahl developed this method for quantitative determination of the nitrogen content. This method is still widely used. It can be used for determining the nitrogen content in many substances, which shows in the wide range of use of the method:

- Food industry
- Environmental analysis
- Pharmaceutical or chemical industry

In the food industry, nitrogen determination according to Kjeldahl is used to determine the protein content.

The procedure of a Kjeldahl determination is divided into three phases:

Digestion of sample

By digestion, the nitrogen compounds (proteins, amines and organic compounds) are converted into ammonium sulphate with boiling concentrated sulfuric acid with the addition of suitable catalysts (e.g. selenium reaction mixture).
At the end of the digestion, the samples are light-green or clear.

Distillation

In a second step, the ammonium ions are converted into gaseous ammonia (NH_3) by adding caustic soda (NaOH) until the reaction becomes basic (colour indicator). By means of steam distillation, the released ammonia is collected in a cooler in the receiver of aqueous boric acid solution (concentration 2 – 4%). Absorbing the ammonia results in ammonium borate.

Titration

By means of titration with sulfuric acid 0.05 mol/l and the expulsion of the weaker boric acid by the stronger sulphuric acid, ammonium borate becomes ammonium sulphate. After the ammonium borate has been completely converted into ammonium sulphate, the excessive acid leads to a change of the colour indicator from apple-green to magenta.

From the exhausted sulphuric acid, the user calculates the nitrogen content of the sample.



Infrared quick digestion system (InKjel 1225 TCP)



Steam distiller (S 4)



Manual titration station (STI)

Nitrogen Determination acc. to Kjedahl

Nitrogen determination acc. to Kjedahl, Behr

webcode WWXKS049



①

Behrotest® InKjel infrared quick digestion units
InKjel quick digestion systems with direct heating of the samples by means of infrared radiators (1500 W).

Configurations:
- 6 digestion vessels at 250 ml each
- 12 digestion vessels at 100 ml each
- 12 digestion vessels at 250 ml each
- 4 digestion vessels at 500 ml each
- 4 digestion vessels at 750 ml each

With digestion vessels of 500 ml or 750 ml, the behrotest® InKjel M meets requirements of water and sewage water analytics.
The basic unit of the INKjel can take in different application racks and suction systems. Thus, the user nimself can convert the device to different vessel sizes by simply exchanging the application rack and the suction system.

	Article	Order No.
	InKjel 635 M manually controllable infrared digestion system for 6 glasses at 250 ml each	**10 48 49998**
	InKjel 1210 M manually controllable infrared digestion system for 12 glasses at 100 ml each	**10 48 49500**
	InKjel 1225 M manually controllable infrared digestion system for 12 glasses at 250 ml each	**10 48 49999**
	InKjel 450 M manually controllable infrared digestion system for 4 glasses at 500 ml each	**10 48 49450**
	InKjel 475 M manually controllable infrared digestion system for 6 glasses at 250 ml each	**10 48 49475**
	InKjel 625 P programmable infrared digestion system for 6 glasses at 250 ml each	**10 48 50001**
	InKjel 1210 P programmable infrared digestion system for 12 glasses at 100 ml each	**10 48 49501**
①	**InKjel 1225 P programmable infrared digestion system** for 12 glasses at 250 ml each	**10 48 50002**
	InKjel 450 P programmable infrared digestion system for 4 glasses at 500 ml each	**10 48 50003**
	InKjel 475 P programmable infrared digestion system for 4 glasses at 750 ml each	**10 48 50004**

behr Labor-Technik



②

Standard Kjeldahl block digestion systems behr K 8, K 12 and K 20
Block digestion systems with high-quality corrosion-resistant block housing made of stainless steel. With 8, 12 or 20 sample spaces for standard Kjeldahl digestion vessels with a volume of 250 ml. High-capacity heating and suction hood with exhaust collector
- behr one-button operation for especially simple and quick programming
- Menu structure in national language
- 25 freely assignable programmes for block temperature and digestion time
- Applications can be saved

Complete systems with digestion vessels, rack and suction hood.

	Article	Order No.
	K 8 Standard Kjeldahl block digestion system 8 sample spaces, for digestion vessels with a volume of 250 ml	**10 48 49100**
	K 12 Standard Kjeldahl block digestion system 12 sample spaces, for digestion vessels with a volume of 250 ml	**10 48 49101**
②	**K 20 Standard Kjeldahl block digestion system** 20 sample spaces, for digestion vessels with a volume of 250 ml	**10 48 49102**



③

Micro Kjeldahl block digestion systems behr K 16, K 24 and K 40
Block digestion systems with high-quality block housing made of stainless steel. With 16, 24 or 40 sample spaces for Mikro Kjeldahl digestion vessels with a volume of 100 ml. High-performance heating and suction hood with exhaust collector.
- behr one-button operation for especially simple and quick programming
- Menu structure in national language
- 25 freely assignable programmes for block temperature and digestion time
- Applications can be saved

Complete systems with digestions vessels, rack and suction hood.

	Article	Order No.
	K 16 Micro Kjeldahl block digestion system 16 sample spaces, for digestion vessels with a volume of 100 ml	**10 48 49150**
	K 24 Micro Kjeldahl block digestion system 24 sample spaces, for digestion vessels with a volume of 100 ml	**10 48 49151**
③	**K 40 Micro Kjeldahl block digestion system** 40 sample spaces, for digestion vessels with a volume of 100 ml	**10 48 49152**

Continued on next page

Nitrogen Determination acc. to Kjedahl



①

Macro Kjeldahl block digestion system behr K 8 B

Block digestion system with high-quality block housing made of stainless steel. With 8 sample spaces for Macro Kjeldahl digestion vessels with a volume of 500 ml. High-performance heating and suction hood with exhaust collector.

- behr one-button operation for especially simple and quick programming
- Menu structure in national language
- 25 freely assignable programmes for block temperature and digestion time
- Applications can be saved

Complete systems with digestions vessels, rack and suction hood.

Article	Order No.
K 8 B Macro Kjeldahl block digestion system 8 sample spaces, for digestion vessels with a volume of 500 ml	**10 48 49110**

Accessories for the Kjeldahl digestion

Article	Order No.
KT 1 catalyser tablets (5.0 g K_2SO_4; 0.5 g $CuSO_4$), container with 1000 pieces	**10 48 40100**
① **KT 2 catalyser tablets** (5.0 g K_2SO_4; 0.15 g $CuSO_4$; 0.15 g TiO_2), container with 1000 pieces	**10 48 40101**
KT 3 catalyser tablets (3.5 g K_2SO_4; 0.4 g $CuSO_4$), container with 1000 pieces	**10 48 40103**
KT 4 catalyser tablets (3.5 g K_2SO_4; 3.5 g Se), container with 1000 pieces	**10 48 49920**
AFS anti-foam tablets	**10 48 40102**
Boiling stones, content 100 g To prevent boiling retardation.	**80 48 30700**
Weighing paper, 100 sheets/Pad	**10 48 41136**



②

behr distilling unit

The behr steam distilling devices offer an automatic steam generator, pressure monitoring, automatic monitoring of filling level of storage tank, visibly mounted glass parts for distilling behind safe door made of acrylic glass with safety switch (no distilling possible when door is open), automatic time-controlled programme run, error diagnostics with optical and acoustic display, “standby” function for lower consumption of power and cooling water, RS323-interface for data recording and control, user-friendly construction, behr one-button operation, user surface in many languages.

behr steam distilling device S 1
Automatic adding of NaOH. The steam capacity is variable between 10% and 100%.

behr steam distilling device S 2
Convenient distilling device. Programme control for adding of H_2O and NaOH. The steam capacity is variable between 10% and 100%. Information on programme run and error messages by means of LED-display.

behr steam distilling device S 3
Convenient distilling device for medium sample volume. Programme control for adding H_2O and NaOH as well as extracting distilled sample residue. The steam capacity is variable between 10% and 100%. Information on programme run and error messages by means of LED-display.

behr steam distilling device S 4
99 programs. Automatic adding of NaOH, H_2O and $H3BO_3$. Automatic extraction of distilled sample residue. The steam capacity is variable between 10% and 100%.

behr steam distilling device S 5
Steam distilling device for applications involving a high sample workload, with option to connect an external titration unit. The steam capacity is variable between 10% and 100%



③

Article	Order No.
S 1 distilling system, semi-automated	**10 48 49001**
S 2 distilling system, semi-automated	**10 48 49002**
② **S 3 distilling system, semi-automated**	**10 48 49003**
S 4 distilling system, fully automatic	**10 48 49004**
S 5 distilling system, fully automatic prepared for external titrator (such as TB 2)	**10 48 49005**
KAS 20 canister set for S 1 and S 2 consists of 2 canisters at 20 l each, incl. float switch	**10 48 49020**
KAS 30 canister set for S 3 consists of 3 canisters at 20 l each, incl. float switch	**10 48 49030**
KAS 40 canister for S 4 and S 5 consists of 4 canisters at 20 l each, incl. float switch	**10 48 49040**
Titration modul TB 2 for connection to distilling unit S 5	**10 48 49050**

Continued on next page

Nitrogen Determination acc. to Kjedahl

Process suction system behrosog 3

Features:
- Infinitely adjustable extraction performance
- Transparent safety screen for more user safety
- External, easy to access operating elements prevent the user from touching the hot glass elements
- Acid-proof diaphragm pump

Article	Order No.
③ **behrosog 3 process suction system** Scrubber with suction pump (40 l/h), condensation level and neutralisation level	**10 48 40008**
ACS additional cooling system for behrosog 3	**10 48 40009**
TS mixed indicator according to Tashiro, 1 l	**10 48 49148**

Manual Titration Station STI

The manual titration station STI consists of:
- a burette with digital display, and
- a magnetic stirrer with accurately fitting holder for one Erlenmeyer flask.

A screen is used as a neutral background, allowing the user an accurate identification of the color change at the end of titration. Thus, the user carries out all titrations under similar optical conditions, increasing the accuracy and reproducibility of the results.

The exact positioning of the sample vessel in the rack on the top of the magnetic stirrer also contributes to this result. The inclined side panels of the screen provide an additional protection from lateral glare.

Article	Order No.
④ **Manual titration station STI** for nitrogen determination with Kjeldahl method	**10 48 42020**

Delivery does not include the illustrated accessories



④

Kjeldahl Distillation System, LAT

webcode WWW4U111

⑤ **Kjeldahl distillation system VELP UDK 159**

Fully automated steam distilling device with integrated titration system.
- Housing made of corrosion-resistant polymer
- 6 inch color touch screen
- Storage capacity: up to 100,000 measurements
- Standard burette volume: 25 ml (50 ml optional)
- Minimum burette volume 2 µl/step
- Programmable timer 0 – 99 min.
- Various customizable languages available (GE, UK, ESP, IT, RUS)
- Reproducibility ±1%
- Recovery ±99.5% between 1 and 200 mg N
- Detection limit ±0.1 mg
- Interfaces: USB 2, Ethernet, and RS232
- Conformity with all the usual standards (AOAC, EPA, DIN, ISO, GLP)
- Power: 2300 Watt
- Power supply: 230V 50/60 Hz
- Weight 31 Kg
- Dimensions: 385 × 780 × 416 mm

Features:
- Duration of analysis (including titration): 4 min.
- Automatic addition of sodium hydroxide, volume 0 – 150 ml
- Automatic addition of diluted water, volume 0 – 200 ml
- Automatic addition of boric acid, volume 0 – 159ml
- Automatic cleaning of titration vessel
- Steam flow regulation 10% – 100%
- Water consumption 0.5 l/min. at 15 °C to 1 l/min. at 30 °C

Contact us for other available systems.

Article	Order No.
Kjeldahl distillation system VELP UDK 159	**10 83 20159**



⑤

Continued on next page

Nitrogen Determination acc. to Kjedahl



② ①

① **Fully automatic digestion system VELP DKL**
With lift for 8, 12 or 20 samples of 250 ml (diameter 42 mm).

Features:
- Automatic lift
- Stainless steel structure with corrosion-resistant coating
- Stainless steel sample rack with suction cap
- Library of 54 programs with up to 4 ramps each
- Temperature range up to 450°C ±0.5°C
- Time range: 1 to 999 minutes
- Microprocessor with LCD graphic display
- Various customizable languages available (GE, UK, ESP, IT, RUS)
- Power 1150 – 2300 Watt (DKL 8-20)
- Dimensions:
  DKL8 210 × 690 × 540 mm, DKL12 266 × 690 × 540 mm, DKL20 322 × 690 × 584 mm
- Weight: DKL8 20 kg, DKL12 24 kg, DKL20 31 kg
- Very low power consumption (up to 35% less than traditional systems)
- USB interface

Contact us for other available systems and accessories.

Article	Order No.
DKL8 digestion system supplied	**10 83 22008**
DKL12 digestion system supplied	**10 83 22012**
DKL20 digestion system supplied	**10 83 22020**

Kjedahl UDK-169
Fully automated steam distillation with autosampler for 24 × 25 ml or 21 × 400 ml. For high sample throughput in unsupervised operation.

Technical data identical with those of UDK 159, but with additional functions:
- Library with 55 programs (31 pre-defined, 24 user-specific)
- Program for automated removal of residues from test tubes and titration vessel
- Fully automated operation

Article	Order No.
② Kjedahl UDK-169	**10 83 22016**

Milk Investigation, Fat Determination



③

Milk Analyzers LactoStar and LactoFlash, Funke - Dr. N. Gerber

③ **Milk analyzer LactoStar**
(printer included)

For the routine analysis of milk:
Fat: 0.00 % to 40.00 %
Protein: 0.00 % to 10.00 %
Lactose: 0.00 % to 10.00 %
SNF: 0.00 % to 15.00 %
The density and freezing point are calculated.

Technical data:
Dimensions (W×D×H): 440 × 440 × 200 mm
Weight: 15.5 kg

Article	Order No.
Milk analyzer LactoStar	**88 42 03510**



④

④ **Milk analyzer LactoFlash**
(printer included)

Analyser for the rapid and accurate determination of:
Fat: 0.00 % to 15,00 %
SNF: 0.00 % to 15.00 %
The density, protein, lactose and freezing point are calculated.

Technical data:
Dimensions (W×D×H): 300 × 330 × 240 mm
Weight: 5 kg

Article	Order No.
Milk analyzer LactoFlash	**10 42 03530**

Accessories for LactoStar and LactoFlash

Article	Order No.
Thermal printer	**87 42 57151**
Thermal paper	**88 42 07157**
Cleaning agent 500 ml, PE bottle	**10 42 03563**
Intensiv cleaning agent 500 ml, PE bottle	**10 42 03564**
Funke-Gerber Zero-Diluent	**10 42 03565**
5,000 ml, for daily zero calibration, PE container, sufficient for more than 100 calibrations	

Continued on next page

Milk Investigation, Fat Determination

Reference materials
The exact values depend on the batch. These are included in the delivery.

Article	Order No.
Reference milk 1.5% fat	**10 42 03517**
Reference milk 3.5% fat	**10 42 03518**

Freezing Point Determination Apparatus, Funke - Dr. N. Gerber

CryoStar I and CryoStar automatic freezing point determination apparatus
With the CryoStar I and the CryoStar automatic, you can quickly and reliably determine the extraneous water content in milk.

You can choose between fixed time measurement, plateau search or maximum search. All key parameters are programmable and are of course logged, so that the units can be set up for all national and international standards (even future requirements).
The operation is menu-driven in the language of your choice. Currently, many are available. Additional languages are continually added.

The reliable cooling system quickly brings the unit to operating temperature.
Depending on the setting, up to 40 samples per hour can be measured. These can be logged with the printer comprised in the delivery (CryoStar automatic), or with a printer (CryoStar I) which is available as an accessory. Data can also be stored on a PC or USB thumbdrive (CryoStar I).

The CryoStar is small, light and easy to use. They give you a direct readout of extraneous water content, and a printout. Calibration is performed automatically. All settings and calibration values are permanently stored in the memory.



Technical data:

Power supply:	230 V / 115 V AC (50 – 60 Hz), 180 VA
Resolution:	0.0001°C (0.1 m°C)
Reproducibility:	±0.0020°C (±2.0 m°C)
Measuring range:	0.0000°C to -1.500°C
Sample throughput:	up to 40/h (average 30/h)
Sample volume:	2.0 ml to 2.5 ml (average 2.2 ml)
Interfaces:	CryoStar – serial, USB, Ethernet CryoStar automatic – parallel, serial Both devices have a socket for the thermal printer.



	Article	Order No.
①	**Freezing point determination apparatus CryoStar I, without printer** Dimensions (W × D × H): 340 × 330 × 240 mm Weight: 8.7 kg	**87 42 07150**
②	**Freezing point determination apparatus CryoStar automatic, with printer** Round magazine for twelve samples. Which makes it possible to measure twelve samples fully automatically. Dimensions (W × H × D): 430 × 435 × 185 mm, with measurement head 240 mm Weight: 14.6 kg, with measurement head 15.2 kg	**87 42 07160**

Accessories

Article	Order No.
Thermal printer dimensions (W×D×H): 170 × 170 × 65 mm	**87 42 57151**
Thermistor, long version for CryoAutomatic	**87 42 17152**
Thermal paper	**88 42 07157**
Thermistor, short version for CryoStar I	**10 42 07172**
Calibration standard A (0.000°C) 250 ml in PE bottle	**87 42 37165**
Calibration standard B (-0.557 °C) 250 ml in PE bottle	**87 42 37166**
Sample tube with marking at 2.0 ml, 50 pieces internal diameter: 13.7 mm, external diameter: 15.8 mm	**87 42 47167**
Sample stand made of PPH, for 27 sample tubes (art. no. 87 42 47167) dimensions (W×D×H): 224 × 70 × 40 mm	**87 42 67168**
Cooling bath liquid 500 ml in PE bottle, for refilling	**87 42 27169**
Sampling pipette adjustable from 1.0 ml to 5.0 ml	**87 42 57174**
Pipette tips for 87 42 57174, pack of 200 pieces	**87 42 57175**
Calibration standard A (-0.408°C) 250 ml in PE bottle	**87 42 37186**
Calibration standard B (-0.600°C) 250 ml in PE bottle	**87 42 37187**
Test standard C (-0,512°C) 250 ml in PE bottle	**87 42 37188**

Milk Investigation, Fat Determination

webcode WWSU9004

Dinkelberg analytics by ALTMANN ANALYTIK





Butyrometers for Determination of Fat, Dinkelberg Analytics

The following butyrometers for the determination of fat are all delivered with conformity certificate for:

	Article	Order No.
	Milk 0 – 5% : 0.1	**16 32 51011**
	Milk 0 – 6% : 0.1	**16 32 51012**
	Milk 0 – 7% : 0.1	**16 32 51013**
①	Milk 0 – 4% : 0.05	**16 32 51015**
	Skimmed milk 0 – 1% : 0.01	**16 32 51020**
	Dried milk according to Teichert 0 – 35% : 0.5	**16 32 51030**
	Dried milk according to Teichert 0 – 70 : 1,0 %	**10 32 11034**
	Milk according to Gerber 0 – 12 : 0,1 %	**10 32 11032**
	Cream according to Schulz 0 – 5 – 40 : 0,5 %	**10 32 11033**
	Cream according to Köhler 0 – 40% : 0.5	**16 32 51041**
	Cream according to Köhler 0 – 50% : 1.0	**16 32 51042**
	Cream according to Roeder 0 – 5 – 40% : 0.5	**16 32 51051**
	Cream according to Roeder 0 – 30 – 55% : 0.5	**16 32 51052**
②	Cheese according to van Gulik 0 – 40% : 0.5	**16 32 51061**

Butyrometer accessories

	Article	Order No.
③	Small stopper for 51051 – 51062	**16 32 52005**
	Cartridge for 1 Butyrometer	**10 32 12008**

Special glass equipment for examining milk

	Article	Order No.
	Durham tube 40 × 8 mm, 100 pieces	**16 32 53001**
	Serum collecting tube, Friese type Complete with 2 stoppers	**16 32 53005**
	Weighing scoop for milk powder, with 4 feet	**16 32 53006**
	Glass pestle, 90 mm long	**16 32 53012**
	Glass pestle, 130 mm long	**16 32 53013**
	Milk pipette, conformity certified, 10.75 ml	**16 32 53014**
	Milk pipette 5.05 ml, conformity certified, 5.375 ml	**10 32 13016**
④	**Bulb pipette, short form, 25 ml**	**16 32 53015**
	Demeterpipette 1.0 – 2.2 ml, wide outlet	**10 32 13017**
	Cream pipette, conformity certified, 5.05 ml	**16 32 53020**
	Bulb pipette for 5 ml water	**16 32 53021**
⑤	**Homogenizing pipette with mark at 5 and 25 ml**	**16 32 53022**
⑥	**Demeter dilution pipette** With 2 ring marks at 1.0 and 1.1 ml	**16 32 53023**
	Demeter dilution pipette With 4 ring marks at 1.0, 2.0, 2.1 and 2.2 ml	**16 32 53024**
	Mojonnier tipping tube For fat determination according to Röse Gottlieb	**16 32 53028**



Butyrometers, Funke - Dr. N. Gerber

All butyrometers come in standard packs of 10.

Butyrometers made of glass, weighing method

Article	Order No.	PU pc/Pack
Precision butyrometer 0-4%: 0.05 for drinking milk and vat milk, frosted rear scale wall, fault tolerance: 0.025%	**10 42 01500**	10
Butyrometer for milk 0-5%: 0.1	**10 42 01510**	10
Butyrometer for milk 0-6%: 0.1	**10 42 01520**	10
Butyrometer for milk 0-7%: 0.1	**10 42 01530**	10
Butyrometer for milk 0-8%: 0.1	**10 42 01540**	10
Butyrometer for milk 0-9%: 0.1	**10 42 01550**	10
Butyrometer for milk 0-10%: 0.1	**10 42 01560**	10
Butyrometer for milk 0-12%: 0.1	**10 42 01570**	10
Butyrometer for milk 0-16%: 0.2	**10 42 01580**	10
Skimmed milk butyrometer acc. to Sichler 0-1%: 0.01 with open bulb	**10 42 01600**	10
Skimmed milk butyrometer acc. to Sichler 0-1%: 0.01 with closed bulb	**10 42 01601**	10
Skimmed milk butyrometer acc. to Kehe 0-4%: 0.05	**10 42 01610**	10

Continued on next page

Milk Investigation, Fat Determination

Article	Order No.	PU pc/Pack
Skimmed milk butyrometer acc. to Kehe 0-5%: 0.05	**10 42 01620**	10
Skimmed milk butyrometer acc. to Siegfeld 0-0.5%: 0.02	**10 42 01640**	10
Powdered milk butyrometer acc. to Teichert 0-35%: 0.5	**10 42 01700**	10
Powdered milk butyrometer acc. to Teichert 0-70%: 1.0	**10 42 01710**	10
Ice cream and condensed milk butyrometer acc. to Roeder 0-6-12%: 0.1	**10 42 01800**	10
Ice cream and condensed milk butyrometer acc. to Roeder 0-15%: 0.2	**10 42 01810**	10
Cream butyrometer acc. to Roeder 0-5-40%: 0.5	**10 42 02000**	10
Cream butyrometer acc. to Roeder 0-30-55%: 0.5	**10 42 02010**	10
Cream butyrometer acc. to Roeder 0-50-75%: 0.5	**10 42 02020**	10
Cream butyrometer acc. to Roeder 0-5-70%: 1.0	**10 42 02030**	10
Cream butyrometer acc. to Roeder 0-5-50%: 0.5	**10 42 02040**	10
Cream butyrometer acc. to Roeder 0-5-60%: 1.0	**10 42 02050**	10
Cream butyrometer acc. to Schulz-Kley 0-5-40%: 0.5	**10 42 02080**	10
Butter butyrometer acc. to Roeder 0-70-90%: 0.5	**10 42 02200**	10
Cheese butyrometer acc. to Van Gulik 0-40%: 0.5	**10 42 02300**	10
Curd butyrometer, weighing method 0-20%: 0.2	**10 42 02400**	10
Food butyrometer acc. to Roeder 0-100%: 1.0	**10 42 02500**	10
Free fat butyrometer For determing free fat content in milk and cream, complete with screw cap, scale 0.002 g.	**10 42 03252**	10

Butyrometers made of glass, measuring method

Article	Order No.	PU pc/Pack
Cream butyrometer for ice cream, measuring method 0-15%: 0.2	**10 42 01890**	10
Cream butyrometer for ice cream, measuring method 0-20%: 0.2	**10 42 01900**	10
Cream butyrometer acc. to Koehler 0-30%: 0.5	**10 42 02090**	10
Cream butyrometer acc. to Koehler 0-40%: 0.5	**10 42 02100**	10
Cream butyrometer acc. to Koehler 0-50%: 1.0	**10 42 02110**	10
Cream butyrometer acc. to Koehler 0-60%: 1.0	**10 42 02120**	10
Cream butyrometer acc. to Koehler 0-70%: 1.0	**10 42 02130**	10
Cream butyrometer acc. to Koehler 0-80%: 1.0	**10 42 02140**	10

Accsessories

Article	Order No.
FIBU patent closure For all measuring method butyrometers, FIBU without adjustment key.	**10 42 03260**
GERBAL patent closure For all measuring method butyrometers.	**10 42 03261**
Adjustment key for FIBU patent closure	**10 42 03270**
Adjustment key for GERBAL patent closure	**10 42 03271**
Rubber stopper, conical For all measuring method butyrometers, 11 × 16 × 43 mm.	**10 42 03280**
Rubber stopper For all weighing method butyrometers for sealing the bulb.	**10 42 03290**
Rubber stopper with hole For all weighing method butyrometers, 17 × 22 × 30 mm.	**10 42 03300**
Rubber stopper without hole For powdered milk butyrometers, also suitable for extraction tube according to Mojonnier (art. no. 3870, 3871). Natural rubber, 17 × 22 × 30 mm.	**10 42 03310**
Glass nail For rubber stopper with hole, length: 41.5 mm.	**10 42 03315**
Cream beaker without holes For ice cream, condensed milk and cream butyrometers according to Roeder. 3 = 75 mm l2 = 49 mm l1 = 26 mm d2 = 15 mm d1 = 5 mm	**10 42 03320**
Cheese beaker with holes For butyrometers according to Van Gulik's method. l3 = 75 mm l2 = 49 mm l1 = 26 mm d2 = 15 mm d1 = 5 mm	**10 42 03321**
Cheese beaker with holes, short form	**10 42 03311**

Continued on next page

Milk Investigation, Fat Determination



Article	Order No.
For butyrometers according to Van Gulik's method. l3 = 66 mm l2 = 38 mm l1 = 27,8 mm d2 = 15 mm d1 = 5 mm	
Weighing boats for butter For butyrometer according to Roeder's method. l3 = 75 mm l2 = 45 mm l1 = 30 mm d2 = 15 mm d1 = 5 mm	**10 42 03322**
Butter beaker with 2 holes l3 = 75 mm l2 = 48 mm l1 = 27 mm d2 = 15 mm d1 = 5 mm	**10 42 03323**
Babcock bottle, 0-8% for milk, without stopper Stopper on request. 163 mm length, outer-Ø 35.8 mm.	**10 42 03254**
Babcock bottle, 0-20% for cream, without stopper 163 mm length, outer-Ø 36.2 mm	**10 42 03256**
Babcock bottle, 0-60% for cream and cheese, without stopper 164 mm length, outer-Ø 35.9 mm	**10 42 03258**
Extraction tube with rounded bulb according to Mojonnier, ISO 3889, with cork stopper	**10 42 03870**
Extraction tube with flattened bulb according to Mojonnier, with cork stopper	**10 42 03871**
Cork stopper for extraction tube according to Mojonnier, ISO 3889	**10 42 03872**
Solubility index tube (ADPI tube) 50 ml, graduated from 0–20 ml and mark at 50 ml. For the centrifuge SuperVario-N.	**10 42 03634**
Special solubility index tube For determining the solubility of milk powder. For the bench centrifuge NovaSafety.	**10 42 03637**

Mojonnier Agitator, Aerne Analytic



webcode WW39Q002

Used for determining the fat content of milk. Material white PVC, digital display, operated by an induction motor

Customised versions (also for other contents / vessels) available on request.

Type	Specification	Power rating W	Order No.
MSM 4	Mojonnier agitator for 4 Mojonnier tubes	60	**10 64 01040**
MSM 6	Mojonnier agitator for 6 Mojonnier tubes	60	**10 64 01060**
MSM 8	Mojonnier agitator for 8 Mojonnier tubes	60	**10 64 01080**

Centrifuges for Determination of Fat, Funke - Dr. N. Gerber



Nova Safety Centrifuge

Bench centrifuge with angular rotor for butyrometric fat determination according to Dr. N. Gerber, as well as for the determination of the solubility of milk powder with special solubility index tubes (art. no.: 3637).

Properties:
- Automatic interlocking lid
- Automatic brake (braking time < 8 s)
- Centrifugation timer (digital)
- Heater: temperature adjustable in 1°C steps from room temperature up to 65°C (can be switched off)
- Capacity: max. 8 butyrometers or max. 8 special solubility index tubes

Technical data:

RCF:	350 g ±50 g
Speed:	1350 rpm
Effective radius:	170 mm
Weight:	13 kg
Dimensions (W×D×H):	470 × 380 × 230 mm
Power supply:	230 V / 50 – 60 Hz

Article	Order No.
Table centrifuge Nova Safety	**55 42 03670**
Replacement tube for butyrometer	**10 42 03641**

Milk Investigation, Fat Determination

Multi-purpose centrifuge SuperVario-N, Funke - Dr. N. Gerber



SuperVario-N multipurpose centrifuge
Centrifuge for fat content determination according to Gerber, Roese-Gottlieb, Babcock and for the determination of the solubility of milk powder (ADPI).

Properties:
- stainless steel housing
- programmable rotor speed from 600 rpm to 1130 rpm in increments of 10 rpm (corresponding to a g value of 77 to 372 g, depending on the rotor)
- programmable heater up to 68°C in 1°C increments
- programmable centrifugation time from 1 to 99 minutes
- automatic interlocking safety lid
- automatic shut-down in case of unbalance
- automatic brake

Technical data:

Connection values:	230 V / 50 – 60 Hz / 1200 VA
Weight (empty):	26 kg
Total height with lid:	460 mm
External diameter:	670 mm
Filling height:	370 mm
Speed range:	600 to 1130 rpm
Temperature range:	ambient temperature up to 68°C

Article	Order No.
Multi-purpose centrifuge SuperVario-N	**55 42 03680**

Accessories for the determination of fat content according to Gerber

Article	Order No.
Head A for a maximum of 36 butyrometer effective radius of the attachment: 260 mm	**55 42 03685**
Butyrometer bucket made of aluminium	**55 42 13631**

Accessories for the determination of fat content according to Babcock

Article	Order No.
Head A for a maximum of 18 Babcock buckets effective radius of the attachment: 260 mm	**55 42 03685**
Babcock bucket	**55 42 13632**

Accessories for the determination of fat content according to Roese-Gottlieb

Article	Order No.
Head B for a maximum of 8 Mojonnier tubes effective radius of the attachment: 190 mm (operation only possible in accordance with the respective safety regulations)	**55 42 13686**

Accessories for solubility determination

Article	Order No.
Head C for a maximum of 6 buckets for solubility index tubes effective radius of the attachment: 190 mm	**55 42 13687**
Solubility index tube (ADPI tube)	**10 42 03634**
Bucket for solubility index tubes (ADPI tubes)	**55 42 23633**

Water Content Determination

Compact system for determining water content, Behr

Complete, compact system for determination of the water contents my means of azeotropic distillation (xylene method). Suitable for inhomogeneous bulky foods as e.g. dried fruit, sauerkraut, etc. With stand, heating module, mount, and glassware.

Article	Order No.
behrotest® KWA 500 Complete with stand, glassware, heating block and hose connections	**10 48 00500**



behr Labor-Technik

webcode WWXKS047

Water Content Determination

webcode WWFNK006



Apparatus for Determination of Water Content, Starke

Article	Order No.
① **Apparatus for determination of water content**	**14 59 40020**

Xylene method DIN 51582, zero point on stopcock, burette with stopcock, 10 ml 1/10, Liebig condenser 400 mm, with 2 ground joints 29, round flask 500 ml

Article	Order No.
Apparatus for determination of water content	**14 59 40021**

Same as above but calibratable, zero point in cyl. part, same accessories as above

Article	Order No.
Middle part	**14 59 40022**

Burette with stopcock 10 ml 1/10, zero point on stopcock

Article	Order No.
Middle part	**14 59 40023**

Same as art. 145940022 but calibratable, zero point in cyl. part

Article	Order No.
Middle part	**10 59 40024**

Same as art. 145940022 but without stopcock, zero point in the tip

Ethereal Oils

webcode WWFNK005



Apparatus for Determination of Essential Oils in Drugs, Starke

Article	Order No.
Apparatus for determining ethereal oils	**14 59 50129**

In accordance with DAB, distillation head with ground joint-cone size 29/32, Allihn condenser, vent plug with ground joint size 7/16, measuring tube 1 ml: 0.01 with 3 ml ball, Czako stopcock, Teflon plug, without piston

Article	Order No.
Apparatus for determining ethereal oils	**14 59 50229**

Same as above but Czako stop with glass plug

On request, measuring pipes are also available with different contents, ball, or measuring pipe.

Packing Testers

webcode WWSU9037



Packing Tester, Dinkelberg Analytics

Instrument for testing the tightness of closures and seals on packages, e.g. in the pharmaceutical or food industry.

As standard test method the test chamber is filled with water and the package placed under a height-adjustable perforated disk. When vacuum is applied, air bubbles indicate a leaky package.

Packing Tester, Standard Model

Basic model, for applying a vacuum using an external diaphragm pump (not included). Comprising a PMMA test chamber, incl. push-rod with submersible plate, analog vacuum gauge 0 to 1200 mbar and fine control valve.

		②	
Type		**DIVT-200/210**	**DIVT-200/310**
Outer Ø	mm	210	210
Outer height	mm	370	470
Useful Ø	mm	190	190
Useable height max.	mm	210	310
Weight	kg	2.6	3.0
Order No.		**57 32 40021**	**57 32 40031**

Continued on next page

Packing Testers

Digital Packing Tester

Extended basic model, easy to use, suitable for routine work as well as for research and development laboratories. Compact design and small space requirement thanks to the integration of the electronic control unit, test chamber (made of PMMA) and a high-performance pump in a single unit. Vacuum control system with vacuum sensor and electronic program controller, setpoint selection in 1 mbar increments. Setting range from 0 to -500/-750 mbar (rel.). Test procedure pre-set in 4 vacuum steps with 20 sec. stop time per step. Automatic test start upon reaching the predefined vacuum. The system is then vented automatically.
Safety through electronically limited maximum vacuum, plus an additional mechanical pressure limiter. Vacuum pump included.
Test chambers are available in customized sizes on request.



③

		③	
Type		**DIDVTT-200/310**	**DIDVTT-300/310**
Outer dimensions L × W × H	mm	440×230×450	515×350×450
Useful Ø	mm	190	290
Useful height	mm	310	310
Useable height max.	mm	310	310
Adjusting range	mbar	0 up to -750	0 up to -500
Weight	kg	9.7	13.0
Mains connection		230 V~/50 Hz	230 V~/50 Hz
Order No.		**57 32 20031**	**57 32 30031**

Digital Packing Tester, Special Model

Large model of the digital packing tester. Differs in having a square test chamber (recommended size L 500 × W 400 × H 300 mm, final size according to customer's specifications). Test chamber with hinged lid and additional vent valve. Submersible grid made of rustproof wire mesh. Separate controller in PP housing with reinforced vacuum pump. Vacuum included in delivery.



④

		④
Type		**DIDVTT-Q**
Outer dimensions container L × W × H	mm	540 × 440 × 375
Useful dimensions container L × W × H	mm	500 × 400 × 300
Useable height max.	mm	250
Adjusting range	mbar	0 up to -500
Weight	kg	23
Mains connection		230 V~/50 Hz
Order No.		**57 32 50031**

Packing Tester, Aerne Analytic

For leakage testing of all types of packaging. The test vessel is filled with water and the packaging to be tested is placed under the height-adjustable immersion plate.

Once a vacuum is applied, any leakage is indicated by raising air bubbles.

Type	Specification	Useful dimensions Ø × H cm	Order No.
VT150	Packing tester, analogue	19 × 15	**10 64 03150**
VT250	Packing tester, analogue	19 × 25	**10 64 04250**
VT350	Packing tester, analogue	29 × 25	**10 64 04350**
VT250D	Packing tester, digital	19 × 25	**10 64 03250**
VT350D	Packing tester, digital	29 × 25	**10 64 03350**
VT QD	Packing tester, digital	L50 × B40 × H25	**10 64 04500**

Customised versions (also analog) available on request.

Accessories for packing tester (available on request):
Spare tanks for VT250D, VT350D and VT QD



webcode WW39Q004

Your specialized laboratory dealer –
fast, competent and economical

Malt Testing Apparatus

webcode WW11M001



TURBOE 4/2 Stirrer, Multi-Point, with Temperature-Controlled Bath, BOESECKE

Multi-point stirrer with 4 individual stirring points of 105 W each, incl. 4 paddle stirrers, digital adjustment of speed from 50 to 2.000 rpm, microprocessor control for constant speed

- Digital indication of setpoint and actual speed
- Continuous adjustment of speed without gear shifting
- Slim design
- Very quiet operation
- Electronic safety circuit
- Lockup-protected, overload-proof
- Push-through agitator shafts

Enhanced safety as a result of smooth start, fastened to the double stand, comprises a bath heat thermostat, working temperature range 30°C to 300°C, 3.5 kW, with solenoid valve and cooling coil, with external temperature sensor, program encoder with 150 temperature/time segments, dividable into 5 programs, bath cover with 4 apertures of 100 mm, with covers and height-adjustable raising bottom.

TURBOE 4/2 stirrer

W × D × H mm	Wght kg	Connec.	Speed rpm	P output W	Order No.
580×590×800	60	230 V, 50/60 Hz	50 – 2000	105	**10 65 10084**

Dry Matter

webcode WWSU9060



Sea Sand for Dry Matter Determination, Dinkelberg Analytics

This sea sand is washed and meets the requirements of regulation 3.7 of the VDLUFA testing association (Verband Deutscher Landwirtschaftlicher Untersuchungs- und Forschungsanstalten). Grain size 0.1 – 0.3 mm.

Article	Order No.	PU kg/Pack
Sea sand for dry matter determination	**10 32 16405**	5
Sea sand for dry matter determination	**10 32 16425**	25

webcode

Use the webcode on our website to see a larger selection of products from a specific manufacturer.

Samplers

Sampling Scoops, Behr

webcode WWXKS008

behrotest® sampling scoops for collecting surface samples.
Clamping device and rod end are made of stainless steel. These scoops come with vessels made of borosilicate glass and are in accordance with the high standards of DIN EN 1485/AOX procedure.

All scoops have the following features:
- Rugged, telescoping rod in three pieces
- Length adjustable between 1 m and 3.75 m
- Ideal for taking samples from bodies of water that are difficult to reach
- Continuously adjustable scoop angle
- Vessel holder made of stainless steel

	Article	Rod length cm	Sample jar	Volume l	Order No.
①	PB 1000	300. 3-piece	Special glass	1	**39 48 65012**
	PF 1000	300. 3-piece	Conical shoulder bottle	1	**39 48 65014**
	PP 1000	300. 3-piece	PP beaker	1	**39 48 65015**
	PT 1000	300. 3-piece	PTFE beaker	1	**39 48 65016**
	PV 1000	300. 3-piece	Stainless steel scoop	1	**39 48 65017**



Sampling Sticks, ORI

webcode WWBPE002

Sampling sticks for taking samples by hand
Made of very light-weight, stable fibre glass, in signal-yellow colour. Resistant to aggressive waste waters.

Thanks to the practical hinged lock, the multi-part telescopic stick is infinitely adjustable. Maximum length available: 3.20 m.

With screws for easy removal of one sampling system from the telescopic stick for replacement with another. This means that the sampling stick is fit for universal use. For full functionality, you need at least one stick and one sampling system.

	Article	Order No.
	Sampling stick, 2-piece, 2.30 m	**10 22 50728**
	Sampling stick, 3-piece, 3.20 m	**10 22 50729**
②	**Sampling beaker, PE, 600 ml** PE beaker with embossed blue scale and spout. With clamp for exchange of beakers, and joint for universal angle adjustment of 0 – 180°.	**10 22 51002**
	Sampling beaker, PE, 1000 ml	**10 22 51005**
③	**Sampling beaker, stainless steel, 600 ml** Same as ② but stainless steel beaker with spout, intended specifically for taking microplastic and nanoparticle samples	**10 22 51008**
	Sampling beaker, stainless steel, 1000 ml	**10 22 51009**
④	**Sampling beaker, borosilicate glass, 1000 ml** Held by a PVC collar, the beaker glass is perfectly protected against glass breakage.	**10 22 51003**
	Sampling beaker, borosilicate glass, 2000 ml	**10 22 51004**
⑤	**Pendulum beaker, PE, 600 ml** The beaker swivels in all directions and is suitable for sampling from deep gulleys and pits.	**10 22 50730**
	Pendulum beaker, PE, 1000 ml	**10 22 50731**
⑥	**Pendulum beaker, stainless steel, 500 ml** Same as ③, beaker made of stainless steel (suitable for flame treatment)	**10 22 50732**
	Pendulum beaker, stainless steel, 1000 ml	**10 22 50733**
⑦	**Measuring quiver** For holding an ISM sensor. By means of the appurtenant electrode in connection with des-Link[1)] it is possible to measure for example the pH value in larger distances or depth (up to 2.50 m) via smartphone. The stainless steel sieve basket protects the electrode.	**10 22 51007**

[1)] see page 919













Samplers

webcode WWR4Q047



TeleScoop, BÜRKLE

TeleScoop for industry and water treatment
Ideal for samples from pools, tanks, pits, open water.
The telescope pole can be equipped for different applications by means of the practical snap-connection with different tools.

Telescope poles made of aluminum, heavy model, with snap-connection for all scoops. Continuously adjustable from 0.65 m to 6.00 m (see table).

Metal cup made of stainless steel, with scraping edge. Ideal for powder, granulates, pastes, sludge.

Angular beakers. The inclination of the beaker can be adjusted by 90°. Thus, it can be adjusted to different applications.

Pendulum beaker. This beaker automatically swings horizontally independent of the inclination of the telescope pole. Nothing can be spilled. Thus, it is very suitable for deep and narrow pits (Ø 150 mm).

Bottle holder for all bottles up to 88 mm Ø. Plastic, glass or metal bottles can safely be filled. Angle can be adjusted by 90°.

Surface catch net for taking solid and organic samples from water courses, PVC/PA blue, L 310 × B 280 mm, mesh width 2 – 5 mm.

Depth catch net for taking solid and organic samples from water courses, PP/PA blue, L 190 x B 430 mm, net depth 250 mm, mesh width 2 – 5 mm.

















	Article	Vers.	Order No.
①	Telescopic rod	from 0.65 m to 1.20 m	**10 04 55120**
	Telescopic rod	from 0.70 m to 1.80 m	**10 04 55180**
	Telescopic rod	from 0.95 m to 2.80 m	**10 04 55280**
	Telescopic rod	from 1.25 m to 2.50 m	**10 04 55250**
	Telescopic rod	from 1.15 m to 3.00 m	**10 04 55300**
	Telescopic rod	from 1.65 m to 4.50 m	**10 04 55450**
	Telescopic rod	from 1.75 m to 6.00 m	**10 04 55600**
②	Metal beaker stainless steel	1000 ml capacity	**10 04 52000**
③	Angular beaker 90°	600 ml capacity	**10 04 56050**
	Angular beaker 90°	1000 ml capacity	**10 04 56100**
	Angular beaker 90°	2000 ml capacity	**10 04 56200**
④	Pendulum beaker	600 ml capacity	**10 04 57050**
	Pendulum beaker	1000 ml capacity	**10 04 57100**
	Pendulum beaker	2000 ml capacity	**10 04 57200**
⑤	Pendulum beaker stainl. steel	1000 ml capacity	**10 04 54300**
⑥	Surface catch net		**10 04 54520**
⑦	Depth catch net		**10 04 54510**
⑧	Bottle holder	up to 88 mm Ø	**10 04 54100**

Samplers

DispoDipper, BÜRKLE

Sampling tube manufactured in a clean room specially designed for disposable use. Due to the blue colour, it is also perfect for use in the food, animal feed and pharmaceutical industries. The scaled sample container can be used for an exact measurement. After sampling, the container can be closed and is leakproof. The closed handle structure ensures secure handling.
The sample container is available with 50 ml, 100 ml or 250 ml content. Depending on the design, container openings can be sampled from a diameter of 52 mm (2″ barrel opening), 65 mm or 85 mm. This makes DispoDipper ideal for extracting samples from barrels, canisters and other containers.
DispoDipper is completely manufactured in one piece and can be used for sampling and subsequent transport of the sample in one device. In this way, cross-contamination or sample impurities are impossible.
- PP, blue transparent
- Individually packaged and optionally sterilised by gamma rays
- Production and packaging according to clean room class 7
- Complies with EU food requirements and FDA regulations
- Scaled sampling tube volume in ml and oz.
- Immersion depth 270 mm

Volume ml	PU pc/Pack	sterile no Order No.	yes Order No.
50	20	**10 04 53937**	**10 04 53938**
100	20	**10 04 57010**	**10 04 57011**
250	20	**10 04 57020**	**10 04 57021**



webcode WWR4Q080

webcode WWR4Q051

Chemistry Scoop, BÜRKLE

For aggressive liquids, with stable grab pole, made completely of polypropylene.
- Three sizes
- Pole length100 cm
- Without metal parts

The ChemoScoop made of PP can be immersed into aggressive liquids up to 100 cm.

Contents ml	Stem length mm	Stem Ø mm	Order No.
250	1000	20	**10 04 53250**
600	1000	20	**10 04 53500**
1000	1000	20	**10 04 51000**



webcode WWR4Q027

AquaSampler, BÜRKLE

For collecting ground water samples from wells, pits and other sources. Designed to fit all standard well shafts down to 2″ diameter, without tilting or getting stuck.
Ultra-pure material for greatest possible purity of samples. Easy to clean thanks to rounded edges and thread.
- FEP/PTFE - ultra-pure. anti-adhesive surface
- transparent

AquaSampler complete without rope

Volume ml	Overall length approx. mm	Outer Ø mm	Order No.
350	400	46	**39 04 53835**
700	760	46	**39 04 53870**
1050	1070	46	**39 04 53831**

Accessories

Article	Order No.
Hand rope reel, without rope	**39 04 53830**
10 m lowering rope, made of V4A braid, PTFE-coated	**39 04 53810**
25 m lowering rope, made of V4A braid, PTFE-coated	**39 04 53811**
50 m lowering rope, made of V4A braid, PTFE-coated	**39 04 53812**



webcode To see other variants and accessories, please enter the webcode on our website.

Samplers

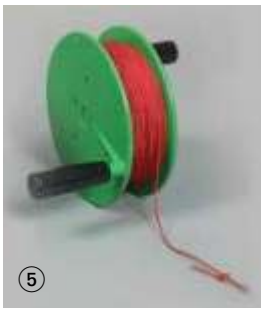


webcode WWR4Q021













Sampler, BÜRKLE

Dipping bottle, glass
Dipping bottle with glass container for sampling in sewage treatment plants, for taking sludge and water samples. For testing substances to explosion groups IIA and IIB. Nickel-plated brass stand, bottle made of glass. 1000 ml capacity, 148 mm dia., 330 mm high. Without lowering cable.

Operation
1. Lower bottle into liquid
2. Pull cable when target depth is reached and open stopper
3. Sample flows in
4. Pull bottle back up and remove sample

	Article	Volume ml	Order No.
①	Immersion bottle, glass	1000	**39 04 73654**

Dipping bottle Ex
Dipping bottle for testing mineral oil products group A, explosion groups IIA, IIB and IIC, raw oils, liquid mineral oil products, fuels, special and test gasolene, heating oils, petrolium, and liquid lubricants. Made of non-spark-producing brass, nickel-plated. 89 mm dia., 443 mm high. Without lowering cable.

Operation
1. Lower bottle into liquid
2. Pull the cable when the target sot has been reached and the stopper opens
3. Sample flows in
4. Pull up dipping bottle and remove sample

	Article	Volume ml	Order No.
②	Immersion bottle Ex	1000	**39 04 73653**

Sampler
For target spot and bottom samples of mineral oil products, insulation oils, special and test gasoline, petroleum, heating oils, etc. of explosion groups IIA, IIB and IIC
The immersion cylinder is lowered in the tank using the manually operated reel. To fill the sample in the cylinder a valve is opened at the target spot using a separate traction cable.

- Nickel-plate brass
- Heavy, sturdy design
- Without lowering cable
- 75 mm dia.

	Article	Material	Volume ml	Order No.
③	Immersion cylinder sampler	Brass, nickel-plated	1000	**39 04 70500**

Dipping vessel
Dipping vessel for withdrawing liquids from tanks, tanker lorries, etc. Made of chrome-plated brass or stainless steel 304. 1 l capacity, 82 mm dia., 427 mm high. Without lowering cable.

Operation
Lower dipping vessel into liquid. Bottom and cap valves open automatically. Liquid follows through the vessel. The valves close when the vessel is pulled back, and the desired sample can be collected.

	Article	Material	Order No.
④	Dipping vessel	Brass, chromium-plated	**39 04 73651**
	Dipping vessel	Stainless steel V2A	**39 04 73652**

Accessories

	Article	Ø mm	Length m	Order No.
⑤	Manually-operated reel PP			**39 04 53830**
⑥	Manually-operated reel PA electrically-conductive			**39 04 53820**
⑦	Manually-operated reel Ex with grounding cable			**10 04 53840**
	Stainless steel lowering cable	1.25	10	**39 04 76910**
	Stainless steel lowering cable	1.25	25	**10 04 50302**
	Stainless steel lowering cable	1.25	50	**10 04 50305**
	Lowering cable made of PP cord	2	10	**10 04 50201**
	Lowering cable made of PP cord	2	25	**10 04 50202**
	Lowering cable made of PP cord	2	50	**10 04 50205**
	Copper lowering cable EX with loops	4.5	10	**10 04 50410**
	Copper lowering cable EX with loops	4.5	25	**10 04 50425**
	Copper lowering cable EX with loops	4.5	50	**10 04 50450**

Samplers

Sampling Module, ORI

Small, handy hose pump for taking aqueous samples (also available as a version for use in a potentially explosive environment). The module is started up either via a potential-free contact (such as a pushbutton), an RS485 interface or the multiparameter data logger Mlog which is connected to the device.

When started via pushbutton, you can select either a random sample or a sample sequence (e.g. the qualified sample). With start-up via data logger, the duration of filling is determined by the Mlog.

Technical data:

ATEX motor:	II 2G Ex db [ib] IIB T4 Gb
Standards:	EN IEC 60079-0:2018
Protection class:	Overall, IP 65
Electrical specification:	Li-ions, 14.8 V DC / 3.4 Ah / 50.32 non-Ex
Dimensions:	(Ø L x H) 270 x 550 mm with 15 litres HDPE barrel
Weight:	4.9 kg without battery and glass bottle 5.2 kg with Li-ion battery non-Ex
Sample vessels:	15 litres HDPE barrel, 2 litres borosilicate glass
Sampling, module “random sample”	Pump runs while the Start button is pressed
Sampling, module “qualified sampling”	Pump starts qualified sampling at the push of the button (5 random samples every 2 minutes)
Sampling, module “Start via multi-parameter data logger Mlog”:	Pump starts up when limit value is exceeded

Article	Order No.
Sampling module, with ATEX marking	**10 22 52365**
Sampling module, non ATEX	**10 22 59365**
Rechargeable battery Li-ion battery 14.4 V, 3400 mA in compact casing	**10 22 57354**
Battery charger for Li-ion battery 14.4 V – 14.8 V	**10 22 53541**

Each sampling module comes with 6 m suction hose incl. V2A weight element and 15 litre collecting barrel. Please order battery and charger separately!



webcode WWBPE015

Stationary Sampling Device, ORI

webcode WWBPE014

Time-proven automatic sampling device with cooling and heating function. Provides time, volume, flow and event proportional sampling of individual and pooled samples of waste water and water-based media.
A special ventilation system provides for uniform cooling to 4°C. By default, sampling is done using a pressure/vacuum pump (optionally with hose pump dosing slider or water scoop). The sampling device is equipped with a direct distribution system with clogging protection. On request, explosion-protected devices for Ex zone 1 and Ex zone 2 are available.

Article	Order No.
BASIC V solid, stationary sampling device (vacuum pump) with direct distribution system	**10 22 58221**
BASIC V solid, stationary sampling device (peristaltic pump) with direct distribution system	**10 22 58222**
Stainless steel insert and transport basket for 12 × 1.8 l PE bottles	**10 22 58225**
Stainless steel insert and transport basket for 12 × 2.5 l PE bottles	**10 22 58226**
Stainless steel insert and transport basket for 12 × 1.0 l glass bottles	**10 22 58227**
Sample bottles 12 × 1.8 l, PE	**10 22 58231**
Sample bottles 12 × 2.5 l, PE	**10 22 58232**
Sample bottles 12 × 1.0 l, glass	**10 22 58233**
Water identification for BASIC solid	**10 22 58235**
Stainless steel extraction for bottle insert	**10 22 58236**



Samplers

webcode WWXKS037

behr Labor-Technik

Flow-Through Units, AQUABOX, Behr



The flow-through AQUABOX enables the determination of on-site parameters (temp., pH, conductivity, O_2) under conditions of homogeneous representative sampling of groundwater and waster water. The unit permits the simultaneous determination of electrical, chemical and physical parameters under optimal and reproducible flow conditions.
The AQUABOX is constructed of transparent shock-resistant PETG, a thermoplastic copolyester. Transparency enables visual identification of problems at all times during operation (e.g. sand or sediment contamination). All components which come in contact with water are constructed either of PETG (lid and flow chamber) or PP (in-flow and out-flow pipes), without use of adhesives. Therefore the water being sampled is not affected by any release of contaminants from the materials constituting the AQUABOX. The lid of the AQUABOX shields against spray/splashes and is easily opened and closed by means of quick-release fasteners. The lid has six variable-diameter splash-resistant ports for inserting sensors/electrodes of up to 25 mm diameter. Ports of larger diameter are available on special order.

- Inside the inner container, the water spirals upward around the circularly positioned measurement sensors and exits via a splash-protective outer annular housing.
- The water flow rate can be controlled by a valve.
- Withdrawal of water for sample collection is performed by opening a bypass valve installed in the water inflow line.
- Dismantling for cleaning is performed easily and quickly by hand with the central threaded fastener.

Advantages:

- For laboratory and on-site use
- For permanent installation or transportable use

Article	Order No.
Flow-through unit AQUABOX	**80 48 65056**

webcode WW5PT004

WINLAB®

WinLab® Testing System, WINLAB®



Easy-to-handle sample taking system for manual sample taking.
General purpose thanks to

- easy exchange of the sample taking equipment – simple spring mechanism
- four different fibre glass telescopic poles of up to 6.00 m in length
- extremely strong fibre glass telescopic poles, corrosion-free
- for up to 20 different sample taking devices

The basic version is comprised of a telescopic pole and a sample taker.

① **Telescopic rods INGENIOUS**
made of fiber glass, for heavy-duty application, corrosion-free, agreeable to the touch also at lower temperatures, simple to extend and to ajust.
With easy to operate spring mechanism for fast and simple replacement of sample takers.

Article	Order No.
INGENIOUS, type standard Length adjustable from 1.50 to 2.80 m, adjustable by quarter-rotation with Quick Lock function	**39 43 02005**
INGENIOUS, type XL Length adjustable from 1.50 to 3.85 m, adjustable by folding mechanism	**39 43 02055**
INGENIOUS, type XXL Length adjustable from 1.60 to 5.00 m, adjustable by folding mechanism	**10 03 02015**
INGENIOUS, type super long Length adjustable from 1.70 to 6.00 m, adjustable by folding mechanism	**10 03 02025**



②



③



④



⑤



⑥



⑧

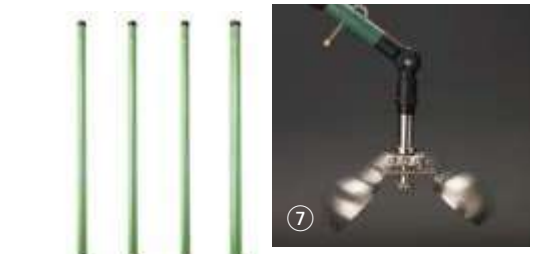
Sampler for use with telescopic rods INGENIOUS

Article	Order No.
② **Sample scoop** For taking scoop samples from the water surface. Graduated PE cup with spout holds 1000 ml (cup is exchangeable). The cup holder (stainless steel spring strip) is designed to let you twist the cup in order adjust the pouring direction and fix the scoop angle from 0 to 180°.	**39 43 02027**
③ **Sample scoop made of stainless steel** Specially designed for taking mud samples. Stainless steel sampling vessel shaped like a cup with flanged edge. With locking mechanism for setting the cup angle from 0 to 180°. Dimensions of the stainless steel cup: 100 mm Ø, 130 mm height, approx. 1000 ml capacity.	**39 43 02004**

Continued on next page

Samplers

Article	Order No.
④ **Universal clamp made of stainless steel** Accepts all sample bottles with neck sizes from 10 to 80 mm. Also gives you great flexibility when you want to use bottles of different sizes up to 1000 ml. With locking mechanism for setting your sampling vessel to different immersion angles from 0 to 180°. New-type stainless steel clamp.	**39 43 02028**
⑤ **Swiveling cup** Swiveling cup with very robust, stainless steel clip holder for 1000 ml polypropylene cups. Specially for taking samples from canals (rain water canals) in horizontal direction with the current. Practical for taking samples in rain water canals and narrow shafts.	**39 43 02029**
⑥ **Swiveling cup with beaker made of stainless steel** Extremely sturdy design, like 3943 02029, cup made of thick-walled stainless steel, capacity 1000 ml, Ø 100 ml, height 130 mm	**10 03 02030**
⑦ **WinLab®- Gripper for sediments** Use it in combination with the very practical WinLab telescopic rod to take sediment samples. It is extremely user-friendly. Open the gripper and move it to the position where you wish to take the sample. To take the sample, bring the gripper down onto the soil; the sediment sample is caught in the two half-shells. Ideal for sampling sediments: Used together with the long telescopic rod, you can also take samples from a greater depth. The sediment gripper is made of stainless steel. Volume of the sample shells: approx. 260 ml.	**10 03 02066**





Sampler for taking biological samples - for telescopic rods INGENIOUS

Article	Order No.
⑧ **Water insect net** Robust non-rotting nylon net, 0.8 mm mesh width. Ideal for catching flies, bugs, wazer insects and floating particles. Strong galvanized ring with Ø 200 mm. Double sewn seam.	**39 43 02002**
⑨ **Wire mesh net** Extremely robust, practical design with additional metal ring for greater reinforcement around the rim. This even lets you „trawl“ the river or stream bed. Small organisms are better collected directly from the river bed and river bank. Ø 200 mm, mesh width 1.5 mm.	**10 03 02013**
⑩ **Rectangle net** For sampling and collection of solid matter and organism from water bodies. Net depth 250 mm, size of net opening W 400 mm × L 200 mm, mesh width approx. 3 mm	**10 03 02023**
⑪ **Surface net** For sampling and collection of solid matter and organism from water bodies. Net convex when tightened. Size of net opening 320 mm × 200 mm, mesh width approx. 3 mm	**10 03 02022**
⑫ **Post scraper** Sturdy, sharpened edge of stainless steel for scraping and collecting small organisms and vegetation underwater from posts, jetties, boat hulls etc. The collection net has a mesh width of 0.8 mm and is made of non-rotting nylon. Width of scraping edge 140 mm, length 150 mm, height of net approx. 250 mm.	**39 43 02010**











⑬ Plankton nets for telescopic rods INGENIOUS

Rugged version with strong galvanised ring with a diameter of 200 mm. The ring is covered with green linen fabric with a double seam to protect the silk gauze, the fine plankton net material, from ripping. Supplied with a 100 ml PE sampling flask (100 ml Kautex flask).

Article	Order No.
Plankton net with mesh width 65 µm	**39 43 02006**
Plankton net with mesh width 105 µm	**39 43 02007**

⑭ Plankton casting net in professional design

For professional applications. Rugged version. In this model, for example, the silk gauze is covered by a linen cover to protect it from damage. The top ring comes with an extra-strong aluminium part. This version is used mainly as a casting or drag net and therefore comes with a tear-proof 10 m corded nylon line and a spring hook.

Diameter of the top ring: 250 mm. Height of the plankton net: Approx. 480 mm.

Article	Order No.
Plankton net with 25 µm gauze	**39 43 28019**
Plankton net with 65 µm gauze	**39 43 28020**



Samplers



webcode WW5PT005

webcode WW5PT006

Water Sampler, WINLAB®

Professional model for taking exact water samples from a desired depth.
Functional principle:
Lower the specimen sampler to the desired depth. Water flows through both spherical valves. When the correct depth is reached, jerk he sampler upwards two or three times to let in the water you want and then pull the sampler up. Spherical valve technology ensures that no foreign water can enter the sampler. To fill Winkler oxygen bottles, a ball value is mounted on the unit which enables you to fill the water into the bottles using he tube (included) without intrusion of foreign oxygen.

Outer dimensions (Ø × H): 115 × 370 mm
Sample quantity: approx. 1200 ml
Length of lowering line: 20 m

Article	Order No.
Water sampler	**39 43 28022**

Water Samplers, Ruttner Type, WINLAB®

For taking water samples at the desired depth
With precision sealing technology. Operation as follows: lower the open sampler to the desired depth (fig.1). Use the rope to lower the weight (fig.3). When the weight contacts the sprint-loaded part, the locking mechanism is activated and the container is sealed (fig.2).This allows you to take an accurate sample at the depth you want. Very sturdy, long service life, three models.



Article	Order No.
1000 ml water sampler (not illustrated)	**10 03 28080**

With acrylic glass sampling tube, outer Ø 85 mm, height 260 mm, height of total sampler 560 mm, thermometer 0 to +50°C, deadweight 1.35 kg, weight of the weight element (for triggering the locking mechanism) 200 g.

Article	Order No.
1.7 l water sampler	**39 43 28100**

Very sturdy design with stainless steel rod and metal/plastic cap. Acrylic glass tube outer Ø 135 mm and height 150 mm. Height of the total sampler 630 mm. Thermometer -10 to +60°C. Deadweight 5 kg.

Article	Order No.
3 l water sampler	**39 43 28135**

Very sturdy design same as the 1.7 l water sampler. Acrylic glass tube outer Ø 135 mm and height 250 mm. Height of the total sampler 720 mm. Thermometer -10 to +60°C. Deadweight 6 kg.

Accessories

Article	Order No.
Small lowering line	**39 43 28150**

On cable reel for 1000 ml water sampler, 20 m long, 2 mm Ø, with metric scale.

Article	Order No.
Large lowering line	**39 43 28160**

On winch 25 m long, with meter markings, polyester rope of 5 mm Ø for EKMAN and van VEEN sampler.

Secchi Disk, WINLAB®

webcode WW5PT044

For determining the depth of visibility and light permeability of water. This new sturdy design is made of strong, hard-wearing plastic and has a lead weight for better lowering.
The approx. 15 cm high rod is fitted with an eyelet for fastening the lowering engine.
The lowering line is marked at intervals of 50 cm for better reading of the depth of visibility while the disk is being lowered.







Article	Order No.
④ **Secchi disk** With eyelet, without towing line. 250 mm Ø.	**39 43 28009**
⑤ **Secchi disk, divided** Secchi disk, divided in four segments, two of those black, diam. 250 mm	**10 03 28010**
⑥ **Lowering line made of nylon** 10 m long with markings in intervals of 50 cm, full meters marked with numbers.	**39 43 28001**

Indicator Cards, Test Kits

Universal Indicator Paper, IDL

webcode WW7R3310

Universal indicator paper with color scale and rotating plastic box. Length 5 m, width 10 mm.

Article	Order No.
Universal indicator paper, pH 1 – 11	**24 00 40010**
Refill pack of universal indicator paper with 3 rolls of 5 m	**24 00 40011**



pH Indicator Strips Universal pH 0 to pH 14, WINLAB®

webcode WW5PT071

Non-bleeding indicator strips for reliable determination of pH value in the range of pH 0 to 14. Ideal for aqueous solutions. No pollution of the sample by the indicator substance.
Size of pH strip 85 × 6 mm, with comparison scale printed on both sides of the plastic box for reliable pH determination.

Article	Order No.	PU pc/Pack
pH indicator strips universal	**10 03 21101**	100



pH Indicator Cards, Sticks and Solutions, MACHEREY-NAGEL

① Universal and special indicator papers with color scale

Article	PU	Order No.
Universal pH 1 – 11	Reel 5 m long and 7 mm wide	**24 46 90201**
Universal pH 1 – 11	Pad of 100 strips 10 × 70 mm	**24 46 90203**
Universal pH 1 – 14	Reel 5 m long and 7 mm wide	**24 46 90204**
Special pH 0.5 – 5.5	Reel 5 m long and 7 mm wide	**24 46 90205**
Special pH 3.8 – 5.8	Reel 5 m long and 7 mm wide	**24 46 90206**
Special pH 4.0 – 7.0	Reel 5 m long and 7 mm wide	**24 46 90207**
Special pH 5.4 – 7.0	Reel 5 m long and 7 mm wide	**24 46 90208**
Special pH 5.5 – 9.0	Reel 5 m long and 7 mm wide	**24 46 90209**
Special pH 6.4 – 8.0	Reel 5 m long and 7 mm wide	**24 46 90210**
Special pH 7.2 – 9.7	Reel 5 m long and 7 mm wide	**24 46 90211**
Special pH 8.0 – 10.0	Reel 5 m long and 7 mm wide	**24 46 90212**
Special pH 9.0 – 13.0	Reel 5 m long and 7 mm wide	**24 46 90213**
Special pH 12.0 – 14.0	Reel 5 m long and 7 mm wide	**24 46 90214**



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② DUOTEST indicator papers

Article	PU	Order No.
pH 1 – 12	Reel 5 m long and 10 mm wide	**24 46 90301**
pH 1.0 – 4.3	Reel 5 m long and 10 mm wide	**24 46 90302**
pH 3.5 – 6.8	Reel 5 m long and 10 mm wide	**24 46 90303**
pH 5.0 – 8.0	Reel 5 m long and 10 mm wide	**24 46 90304**
pH 7.0 – 10.0	Reel 5 m long and 10 mm wide	**24 46 90305**
pH 9.5 – 14.0	Reel 5 m long and 10 mm wide	**24 46 90306**



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③ TRITEST® indicator papers

Article	PU	Order No.
pH 1 – 11	Reel 5 m long and 10 mm wide	**24 46 90501**
TRITEST pH 1 – 11 with 2 hydrophobic zones	Reel 6 m long and 14 mm wide	**24 46 90510**



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webcode To see other variants and accessories, please enter the webcode on our website.

Indicator Cards, Test Kits



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① PEHANON® zones indicator papers

Article	PU	Order No.
pH 1 – 12	Bpx of 200 strips 11 × 100	**24 46 90401**
pH 0 – 1.8	Bpx of 200 strips 11 × 100	**24 46 90411**
pH 1.0 – 2.8	Bpx of 200 strips 11 × 100	**24 46 90412**
pH 1.8 – 3.8	Bpx of 200 strips 11 × 100	**24 46 90413**
pH 2.8 – 4.6	Bpx of 200 strips 11 × 100	**24 46 90414**
pH 3.8 – 5.5	Bpx of 200 strips 11 × 100	**24 46 90415**
pH 4.0 – 9.0	Bpx of 200 strips 11 × 100	**24 46 90424**
pH 5.2 – 6.8	Bpx of 200 strips 11 × 100	**24 46 90416**
pH 6.0 – 8.1	Bpx of 200 strips 11 × 100	**24 46 90417**
pH 7.2 – 8.8	Bpx of 200 strips 11 × 100	**24 46 90419**
pH 8.0 – 9.7	Bpx of 200 strips 11 × 100	**24 46 90420**
pH 9.5 – 12.0	Bpx of 200 strips 11 × 100	**24 46 90421**
pH 10.5 – 13.0	Bpx of 200 strips 11 × 100	**24 46 90422**
pH 12.0 – 14.0	Bpx of 200 strips 11 × 100	**24 46 90423**

Minimum order quantity 2 boxes!

② UNISOL indicator solutions

Article	PU	Order No.
pH 4 – 10	1 bottle of 100 ml, color scale + cuvette	**24 46 91002**
pH 1 – 13	1 bottle of 100 ml, color scale + cuvette	**24 46 91031**
Plastic cuvettes MN 13/72	Pack of 5 rectangular cuvettes	**24 46 91039**

③ pH-Fix indicator sticks, non-bleeding

Article	PU	Order No.
pH 0 – 14	Pack of 100 sticks 6 × 85 mm	**24 46 92110**
pH 0.0 – 6.0	Pack of 100 sticks 6 × 85 mm	**24 46 92115**
pH 2.0 – 9.0 CE	Pack of 100 sticks 6 × 85 mm	**24 46 92118**
pH 4.0 – 7.0	Pack of 100 sticks 6 × 85 mm	**10 46 92137**
pH 4.5 – 10.0 CE	Pack of 100 sticks 6 × 85 mm	**24 46 92120**
pH 6.0 – 10.0	Pack of 100 sticks 6 × 85 mm	**24 46 92122**
pH 7.0 – 14.0	Pack of 100 sticks 6 × 85 mm	**24 46 92125**
pH 0.3 – 2.3	Pack of 100 sticks 6 × 85 mm	**24 46 92180**
pH 1.7 – 3.8	Pack of 100 sticks 6 × 85 mm	**24 46 92190**
pH 3.1 – 8.3 CE	Pack of 100 sticks 6 × 85 mm	**10 46 92135**
pH 3.6 – 6.1 CE	Pack of 100 sticks 6 × 85 mm	**24 46 92130**
pH 5.1 – 7.2	Pack of 100 sticks 6 × 85 mm	**24 46 92140**
pH 6.0 – 7.7	Pack of 100 sticks 6 × 85 mm	**24 46 92150**
pH 7.5 – 9.5	Pack of 100 sticks 6 × 85 mm	**24 46 92160**
pH 7.9 – 9.8	Pack of 100 sticks 6 × 85 mm	**24 46 92170**

Qualitative and Semi-quantitative Testing Cards/Sticks, MACHEREY-NAGEL

④ QUANTOFIX® testing sticks for semi-quantitative determinations

Form of delivery: tube of 100 testing sticks 6 × 95 mm.

Article	Determination of	Scale graduation mg/l	Order No.
Active oxygen[1)]	KMPS	0– 4– 8– 15– 25	**10 46 91349**
Aluminium[1)]	Al^{3+}	0– 5– 20– 50– 200– 500	**24 46 91307**
Ammonium[1)]	NH_4^+	0– 10– 25– 50– 100– 200– 400	**24 46 91315**
Arsenic 10[1)]	$As^{3+/5+}$	0– 0.01– 0.025– 0.05– 0.1– 0.5	**24 46 91334**
Arsenic 50[1)]	$As^{3+/5+}$	0– 0.05– 0.1– 0.5– 1.0– 1.7– 3.0	**10 46 91332**
Arsenic Sensitive[1)]	$As^{3+/5+}$	0- 0.005- 0.01- 0.025- 0.05- 0.1- 0.25- 0.5	**10 46 91345**
Ascorbic acid	Vitamin C	0– 50– 100– 200– 300– 500– 1000– 2000	**24 46 91314**
Calcium[1)2)]	Ca^{2+}	0– 10– 25– 50– 100	**24 46 91324**
Carbonate hardness	HCO_3^-, CO_3^{2-}	0– 3– 6– 10– 15– 20 °d	**24 46 91323**
Chlorine[1)]	Cl_2	0– 1– 3– 10– 30– 100	**24 46 91317**
Chlorine Sensitive CE	Cl_2	0– 0.1– 0.5– 1– 3– 10	**10 46 91339**
Chloride	Cl^-	0– 500– 1000– 1500– 2000– ≧3000	**24 46 91321**
Chromate[1)]	CrO_4^{2-}	0– 3– 10– 30– 100	**24 46 91301**
Cyanide[1)]	CN^-	0– 1– 3– 10– 30	**24 46 91318**
EDTA	EDTA	0– 100– 200– 300– 400	**24 46 91335**
Formaldehyde[1)]	HCHO	0– 10– 20– 40– 60– 100– 200	**24 46 91328**
Total iron 1000	Fe^{2+}/Fe^{3+}	0– 5– 20– 50– 100– 250– 500– 1000	**10 46 91330**
Total iron 100	Fe^{2+}/Fe^{3+}	0– 2– 5– 10– 25– 50– 100	**10 46 91344**
total acid	citric acid	0– 2– 2.5– 3.0– 4.0– 5.0 g/l	**10 46 91353**
total sugar	fructose/glucose	0– 55– 100– 250– 400– 600– 800	**10 46 91352**
Glucose	Glucose	0- 50- 100- 250- 500- 1000- 2000	**10 46 91348**

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Indicator Cards, Test Kits

	Article	Determination of	Scale graduation mg/l	Order No.
	Glutaraldehyde	% Glutaraldehyde	0– 0.5– 1– 1.5– 2– 2.5	**10 46 91343**
	Potassium[1)]	K^+	0– 200– 400– 700– 1000– 1500	**24 46 91316**
	Cobalt	Co^{2+}	0– 10– 25– 50– 100– 250– 500– 1000	**24 46 91303**
	Copper	Cu^+, Cu^{2+}	0– 10– 30– 100– 300	**24 46 91304**
	LubriCheck	KOH	0– 15– 50– 75– 130– 200	**10 46 91336**
	Molybdenum[1)]	Mo^{6+}	0– 5– 20– 50– 100– 250	**24 46 91325**
	Nickel	Ni^{2+}	0– 10– 25– 50– 100– 250– 500– 1000	**24 46 91305**
	nitrate 100	NO_3^-/ NO_2^-	Nitrat: 0– 5– 10– 25– 50– 75– 100 Nitrit: 0– 0.5– 2– 5– 10– 25– 50	**10 46 91351**
⑤	Nitrate/Nitrite	NO_3^- NO_2^-	0– 10– 25– 50– 100– 250– 500 0– 1– 5– 10– 20– 40– 80	**24 46 91313**
	Nitrite	NO_2^-	0– 1– 5– 10– 20– 40– 80	**24 46 91311**
	Nitrite 3000	NO_2^-	0– 0.1– 0.3– 0.6– 1– 2– 3 g/l	**24 46 91322**
	Nitrite / pH	NO_2^-	Nitrite: 0– 1– 5– 10– 20– 40– 80 pH: 6.0– 6.4– 6.7– 7.0– 7.3– 7.6– 7.9– 8.2– 8.4– 8.6– 8.8– 9.0– 9.3– 9.5	**10 46 91338**
	Peracetic acid 50 CE		0– 5– 10– 20– 30– 50	**10 46 91340**
	Peracetic acid 500 CE		0– 50– 100– 200– 300– 400– 500	**10 46 91341**
	Peracetic acid 2000 CE		0– 500– 1000– 1500– 2000	**10 46 91342**
	Peroxide 1000	H_2O_2	0– 50– 150– 300– 500– 800– 1000	**24 46 91333**
	Peroxide 100 CE	H_2O_2	0– 1– 3– 10– 30– 100	**24 46 91312**
	Peroxide 25	H_2O_2	0– 0,5– 2– 5– 10– 25	**24 46 91319**
	Phosphate[1)]	PO_4^{3-}	0– 3– 10– 25– 50– 100	**24 46 91320**
	silver	Ag^+	0– 1– 2– 3– 5– 7– 10	**10 46 91350**
	Sulfate	SO_4^{2-}	<200–>400–>800–>800–>1200–>1600	**24 46 91329**
	Sulfite	SO_3^{2-}	0– 10– 25– 50– 100– 250– 500– 1000	**24 46 91306**
	Zinc[1)]	Zn^{2+}	0– 2– 5– 10– 25– 50– 100	**24 46 91310**
	Tin	Sn^{2+}	0– 10– 25– 50– 100– 250– 500	**24 46 91309**
	QUAT	mg/l Benzalkonium chloride	0– 10– 25– 50– 100– 250– 500– 1000	**10 46 91337**

[1)] These tests are supplied complete with all the reagents needed for the determination.
[2)] Form of delivery: tube of 60 testing sticks and reagents



⑤

⑥ AQUADUR® testing sticks for determination of water hardness

Graduation °dH	PU	Order No.
<3>4>8.4>14	Box of 100 testing sticks 6 × 95 mm	**10 46 91239**
<3>5>10>15>20>25	Box of 100 testing sticks 6 × 95 mm	**24 46 91201**
<3>4>7>14>21	Box of 100 testing sticks 6 × 95 mm	**24 46 91220**
<3>5>10>15>20>25	Pack of 5000 testing sticks	**24 46 91221**
<3>4>7>14>21	Pack of 5000 testing sticks	**24 46 91222**
<3>5>10>15>20>25	1000 testng sticks, individually sealed	**24 46 91223**
<3>4>7>14>21	1000 testng sticks, individually sealed	**24 46 91224**
<3>5>10>15>20>25	Envelope of 3 individually sealed AQUADUR® testing sticks, pack of 50 envelopes	**24 46 91290**



⑥

Test Kits, MACHEREY-NAGEL

VISOCOLOR® test kits quick analytical testing. Enables the non-specialist to conduct fast, uncomplicated, reliable water analysis. Each *VISOCOLOR*® test kit is a handy mini-laboratory in a sturdy plastic box, which contains all the items (reagents and equipment) required to conduct analyses. No additional lab equipment and no connections are required.


⑦

⑦ *VISOCOLOR®HE, high-sensitivity test kits*

Test	Measuring range	Order No.
Ammonium	0.02 – 0,50 mg/l NH_4^+	**80 46 20006**
Chlorine, free and total	0.02 – 0.60 mg/l Cl_2	**80 46 20015**
Cyanid	0.002 – 0,040 mg/l CN^-	**80 46 20028**
Iron	0.01 – 0.20 mg/l Fe	**80 46 20040**
Copper	0.04 – 0.50 mg/l Cu	**80 46 20050**
Manganese	0.03 – 0.50 mg/l Mn	**80 46 20055**
Nitrite	0.005 – 0.10 mg/l NO_2^-	**80 46 20063**
pH 4.0 – 10.0	pH 4.0 – 10.0	**80 46 20074**
Phosphate (DEV)	0.01 – 0.25 mg/l P	**80 46 20080**
Phosphate	0.05 – 1.0 mg/l P	**80 46 20082**
Silica	0.01 – 0.30 mg/l Si	**80 46 20087**

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Indicator Cards, Test Kits



①

① *VISOCOLOR® alpha test kits*

Very easy to use, no hazardous materials

Test	Kits qty	Measuring range	Order No.
Ammonium	50	0.2 – 3 mg/l NH_4^+	**80 46 35012**
Carbonate hardness	100	1 drop ≙ 1°d	**80 46 35016**
Chlorine free	150	0.25 – 2.0 mg/l Cl_2	**80 46 35019**
Total hardness	100	1 drop ≙ 1°d	**80 46 35042**
Nitrate	100	2 – 50 mg/l NO_3^-	**80 46 35065**
Nitrite	200	0.05 – 1.0 mg/l NO_2^-	**80 46 35066**
pH 5 – 9	200	pH 5.0 – 9.0	**80 46 35075**
Phosphate	70	2 – 20 mg/l $PO4_4^{3-}$	**80 46 35079**
Residual hardness	200	0.04 – 0.30 °d	**80 46 35080**



②

② *VISOCOLOR®ECO test kits*

High-performance test kits, easy to use, with exact measurement levels

Test	Kits qty	Measuring range	Order No.
Alkalinity TA[2)]	100	5 – 250 mg/l $CaCO_3$	**10 46 91204**
Aluminium	50	0,10 – 0,50 mg/l Al^{3+}	**10 46 91006**
Ammonium 3	50	0.2 – 3 mg/l NH_4^+	**80 46 31008**
Ammonium 15	50	0.5 – 15 mg/l NH_4^+	**80 46 31010**
Calcium	100	1 drop ≙ 5 mg/l Ca^{2+}	**80 46 31012**
Carbonate hardness	100	1 drop ≙ 1°d	**80 46 31014**
Chlorine 1, free and total	150	0.1 – 2.0 mg/l Cl_2	**10 46 91035**
Chlorine 2 free and total[1)]	150	0.1 – 2.0 mg/l Cl_2	**10 46 91015**
Free chlorine 2	150	0.1 – 2.0 mg/l Cl_2	**10 46 91016**
Chloride	90	1 – 60 mg/l Cl^-	**80 46 31018**
Chrome (VI)	140	0.02 – 0.50 mg/l Cr(VI)	**80 46 31020**
Cyanid	100	0.01 – 0.20 mg/l CN^-	**80 46 31022**
Cyanuric acid	100	10 – 100 mg/l Cya	**80 46 31023**
DEHA	125	0.01 – 0.30 mg/l DEHA	**80 46 31024**
Iron	100	0.04 – 1.0 mg/l Fe	**80 46 31026**
Fluoride	150	0.1 – 2.0 mg/l F^-	**80 46 31227**
Total hardness	110	1 drop ≙ 1°d	**80 46 31029**
Potassium	60	2 – 15 mg/l K^+	**80 46 31032**
Silicic acid	80	0.2 – 3.0 mg/l SiO_2	**80 46 31033**
Silica HR 200[3)]	100	10 – 200 mg/l SiO_2	**10 46 91234**
Copper	100	0.1 – 1.5 mg/l Cu^{2+}	**80 46 31037**
Manganese	70	0.1 – 1.5 mg/l Mn	**80 46 31038**
Nickel	150	0.1 – 1.5 mg/l Ni^{2+}	**80 46 31040**
Nitrate	110	1 – 120 mg/l NO_3^-	**80 46 31041**
Nitrite	120	0.02 – 0.5 mg/l NO_2^-	**80 46 31044**
pH 4.0 – 9.0	450	pH 4.0 – 9.0	**80 46 31066**
Phosphate	80	0.2 – 5 mg/l PO_4-P	**80 46 31084**
Oxygen	50	1 – 10 mg/l O_2	**80 46 31088**
swimming-pool	150	0.1 – 2.0 mg/l Cl_2	**80 46 31090**
	150	pH 6.9 – 8.2	
Sulfate	100	25 – 200 mg/l SO_4^{2-}	**10 46 94235**
Sulfide	90	0.1 – 0.8 mg/l S^{2-}	**80 46 31094**
Sulfite	60	1 drop ≙ 1 mg/l SO_3^{2-}	**80 46 31095**
Zinc	120	0.5 – 3 mg/l Zn^{2+}	**10 46 91098**

[1)] Chlorine + pH quod vide swimming-pool
[2)] Photometric evaluation only
[3)] Photometric evaluation only. A special filter (450 nm) is required for evaluation on the PF-12Plus



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Test Kits, MACHEREY-NAGEL

Photometric test tools that combine extra-easy reagent dosing with photometric precision.

Test	Measuring range	Order No.	PU pc/Pack
Free Chlorine	0.03 – 6.00 mg/l Cl_2	**10 46 96220**	100
Free Chlorine	0.03 – 6.00 mg/l Cl_2	**10 46 96230**	1000
Total Chlorine	0.03 – 6.00 mg/l Cl_2	**10 46 96221**	100
Total Chlorine	0.03 – 6.00 mg/l Cl_2	**10 46 96231**	1000
Silica LR[1)]	0.02 – 2.10 mg/l SiO_2	**10 46 96224**	100
Silica HR[1)]	2 – 210 mg/l SiO_2	**10 46 96225**	100
③ Nitrate[1)]	1.0 – 50.0 mg/l NO_3-N	**10 46 96226**	100
pH	6.2 – 8.2	**10 46 96222**	100
Sulphate[1)]	15 – 200 mg/l SO_4^{2-}	**10 46 96223**	100

[1)] Photometric evaluation possible only with the PF-12Plus and PF-3.

Photometric Workplaces, Field Investigations

UV-VIS and VIS Spectral Photometer, Lovibond®

webcode WWSE2009

UV-VIS spectral photometer XD 7500 and VIS spectral photometer XD 7000

- Premium optical system with reference beam
- Automatic test recognition with internal barcode reader
- Automatic cuvette type detection
- Support of analytical quality assurance
- More than 140 analytical methods implemented
- Additional multi step and single or multi wavelength measuring procedures programmable
- Spectra and kinetic measurements possible - brilliant colour display
- Ethernet, USB A und USB B Port

Technical data:	**XD 7000**	**XD 7500**
Wavelength range:	320 – 1100 nm (scan range)	190 – 1100 nm (scan range)
Light source:	Tungsten-halogen-lamp	Xenon flash lamp (500 millionen flashes possible)
Optical system:	Grid monochromator with reference beam and beam splitter after exit slit	
Measurement:	Concentration, single and multi-wavelength measurement of absorbance and % transmission, kinetics, spectra	
Supported cuvette types:	Round: 13, 16 und 24 mm Rectangular: 10, 20 und 50 mm	
Automatic cuvette recognition:	Round cuvettes, 10, 20, 50 mm rectangular cuvettes are detected	
Test recognition:	via internal barcode reader	
Dimensions (W × H × D):	422 × 195 × 323 mm	
Weight:	4.5 kg	
Power supply:	100 – 240V, 50/60 Hz	
Display:	7″ high contrast colour graphic-dislay	
Protection class:	IP30	
Keyboard:	Membrane keyboard	
Interfaces:	Ethernet, USB B, USB A for external memory, keyboard, mouse, barcode-scanner and PCL compatible printer	
Spectral bandwidth:	4 nm	
Wavelength accuracy:	±1 nm on all Holmium peaks	
Wavelength reproducability:	better than 0.5 nm	
Photometrical range:	-3.3 to +3.3 Abs	
Photometrical resolution:	Absorption: 0.001 Transmission: 0.1%	
Photometrical accuracy:	0.003 Abs below 0.6 Abs 0.5% from 0.6 to 2.0 Abs	
Photometrical reproducability:	0.003 Abs below 0.6 Abs 0.5% from 0.6 to 2.0 Abs	
Photometrical linearity:	<1% up to 2.0 Abs between 340 to 900 nm	
Drift:	<0.005 Abs per hour after 15 minutes heat up time	
Subject to change		

Article	**Order No.**
VIS spectral photometer XD 7000	**10 77 17000**
UV-VIS spectral photometer XD 7500	**10 77 17500**





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webcode

Photometric Workplaces, Field Investigations

Photometers MD 600 and MD 610, Lovibond®

webcode WWSE2010



Photometers MD 600 and MD 610
The MD 600 and MD 610 give you mobile devices in a modern design with the analytical features of laboratory photometers.
All important water analysis parameters from A(luminium) to Z(inc) are covered by these two devices. Reagent tablets, powder reagents, liquid reagents, or cuvette tests (16 mm/13 mm) are used depending on the method.
The AquaLX® app, available free of charge, offers the possibility of transferring measurements to smart phones or tablets via Bluetooth® (MD 610). The proven MD 600 photometer uses the classic infrared interface with which data can be transferred by means of the IRiM module to the PC or laptop.

- Highest reproducible precision with interference filter
- Display with background lighting
- More than 120 pre-programmed methods
- Automatic selection of wavelength
- User guidance in German, English, French, Spanish, Italian, Portuguese (BR), Polish, and Indonesian
- Buffer for 1000 (MD 600) or 500 data records (MD 610)
- More than 35 user-specific methods possible
- Bluetooth® interface for connection to smart phones and tablets (only with MD 610)
- iOS® and AndroidTM app for data management and email delivery (only with MD 610)
- Infrared interface (only with MD 600)
- Waterproof housing (as defined in IP 68, 1 hour at 0.1 meter)
- Handheld format, portable

Delivery Content:
The instrument is supplied complete and ready-to-use incl. 4 batteries, 3 vials Ø 24 mm, 3 vials Ø 16 mm, 1 adapter each for 16 mm and 13 mm vials, stirring rod 13 cm, brush 11 cm, screw driver, guarantee sheet, certificate of compliance, instruction manual, carrying case with water resistance foam, but without reagents.

Technical data:

Display:	Graphic-display
Interfaces:	Infrared[1] (MD 600), Bluetooth® 4.0 (MD 610) RJ45 socket for Internet updates[2]
Optics:	LEDs, interference filters (IF) and photo sensor in transparent sample chamber Wavelength range: 1 = 530 nm IF Δλ = 5 nm 2 = 560 nm IF Δλ = 5 nm 3 = 610 nm IF Δλ = 6 nm 4 = 430 nm IF Δλ = 5 nm 5 = 580 nm IF Δλ = 5 nm 6 = 660 nm IF Δλ = 5 nm IF = interference filter
Wavelength accuracy:	± 1 nm
Photometric accuracy:	2% FS (T = 20°C – 25°C) tested with standard solutions
Photometric resolution:	0.005 A
Operation:	Acid and solvent resistant, touch-sensitive keypad with audible feedback via integrated beeper
Power supply:	4 batteries (Mignon AA/LR6); Operation time approx. 26 h continuous operation or 3500 tests
Auto-Off:	approx. 20 minutes after last keypress with audible signal
Dimensions:	approx. 210 × 95 × 45 mm (unit) approx. 395 × 295 × 106 mm (case)
Weight (unit):	approx. 450 g
Ambient conditions:	5 to 40°C at max. 30 to 90% rel. humidity (non condensing)
Language selection:	German, English, French, Spanish, Italian, Portuguese, Polish,Indonesian; additional languages via Internet update
Memory capacity:	approx. 1000 data sets (MD 600) / 500 data sets (MD 610)
Approval:	CE

[1] optional available: IRiM (Infrarot Interface Modul)
[2] optional available: connection cable with integrated electronics (RS 232/RJ-45-socket)

Article	Order No.
Photometer MD 600	**10 77 10600**
Photometer MD 610	**10 77 10610**

Accessories

Article	Order No.
Set of 12 round vials with lid, Height 48 mm, Ø 24 mm	**10 77 17620**
Set of 10 round vials with lid, Height 90 mm, Ø 16 mm	**10 77 17665**
Verification Standard Kit	**10 77 15640**
Cable for update for connection to a PC	**10 77 14030**
Manufacturer certificate 11	**10 77 19770**

Photometric Workplaces, Field Investigations

Spectrophotometric Colorimeters PFXi Series, Lovibond®

webcode WWSE2012

The PFXi series of spectrophotometric colorimeters features the unique RCMSi technology (Remote Calibration & Maintenance Service via Internet). The user benefits from remote calibration and remote maintenance via Internet, which keeps the time and costs for maintenance and for ensuring compliance with the standards to a minimum. The portfolio of the PFXi series comprises a wide range of colour scales for specific markets, e.g. for mineral oil, food oils, pharmaceutical products, brewery products, and honey. The units can be equipped with additional scales at any time via remote service.

Each PFXi comes with a colour control software for data analysis (incl. LAN and USB cable), cuvettes made of optical glass, a certified glass calibration filter, a spare lamp, and an operating manual.

Note: When handling materials such as greases and waxes whose temperatures must be kept constantly at +10°C above the turbidity point, series PFXi-880, -950 and -995 are particularly advisable. For these, an integrated heating is available as an option.
For compliance testing, glass reference standards and liquid reference standards are available for the major colour scales.





Technical data:	**PFXi 195**	**PFXi 880/950/995**
Measuring principle:	9 interference filters	16 interference filters
Spectral response:	420 to 710 nm	
Bandwidth:	10 nm	
Repeatability:	on measurements of de-ionised water	
Chromaticity:	±0.0004	±0.0002
ΔE:	0.04	0.02
Measurement time:	less than 20 seconds	
Light source:	5 Volt, 10 Watt Tungsten Halogen	
Illuminants:	CIE Illuminant, A, B, C, D65	
Observer:	2°, 10°	
Path length:	0.1 to 50 mm	0.1 to 153 mm (.004″ to 6″)
Interfaces:	USB, LAN, RS232	
Data storage:	100,000+ measurements	
Input voltage:	Universal (90 – 240 Vac), via external power supply	
Compliance:	CE, RoHs, WEEE	
Languages:	en, fr, de, it, pt, ru, es, ja, zh	
Heating:	—	optionally, environment up to 95°C

Type	Application	Standard Colour Scales	Order No.
PFXi-195/1	Liquid chemicals and industrial oils	Pt-Co/Hazen/APHA; Gardner; Iod; CIE values; Spectral data	**10 77 11951**
PFXi-195/2	Petroleum oils and fuels	Saybolt; ASTM color; Pt-Co/Hazen/APHA; CIE values; Spectral data	**10 77 11952**
PFXi-195/3	Dark oils and fats	FAC; Gardner; CIE values; Spectral data	**10 77 11953**
PFXi-195/4	Beers, malts and caramels	EBC (CIE and 430 nm); ASBC (CIE and 430 nm); Series 52 (Brown); CIE values; Spectral data	**10 77 11954**
PFXi-195/5	Pharmaceutical solutions	European/US-Pharmacopoeia; Pt-Co/Hazen/ APHA; CIE values; Spectral data	**10 77 11955**
PFXi-195/6	Industrial oils and surfactants	Klett Colour (blue filter KS-42); Pt-Co/Hazen/APHA; Hess-Ives-Colour units; CIE values, Spectral data	**10 77 11956**
PFXi-195/7	Sugar solutions, syrups and honey	ICUMSA Colour (420, 560, 710 nm); Honey Colour (Pfund Equivalents); Series 52 (Brown); CIE values; Spectral data	**10 77 11957**
PFXi-195/8	Water and waste waters	ADMI (Spectral & Tristimulus filter methods); Pt-Co/Hazen/APHA; CIE values; Spectral data	**10 77 11958**
PFXi-195/9	Transparent samples	CIE values (Standard); L*C*h Colour Space; Hunter Lab Colour Space; Spectral data	**10 77 11959**
PFXi-880/L	Oils, fats, waxes a. transparent liquids	Lovibond®RYBN; CIE values; Spectral data	**10 77 18801**
PFXi-880/AT	Oils, fats, waxes a. transparent liquids	AOCS-Tintometer®; CIE values; Spectral data	**10 77 18802**
PFXi-880/IP17	Petroleum oils and fuels	IP units; Lovibond®RYBN; CIE values; Spectral data	**10 77 18804**
PFXi-880/P	Mineral oils, waxes and petrochemicals	Saybolt; ASTM color; CIE values; Spectral data	**10 77 18803**
PFXi-880/S	Sugar solutions, syrups and honey	ICUMSA Colour Index; Lovibond®RYBN; CIE values; Spectral data	**10 77 18805**
PFXi-880/CIE	Transparent samples (basic unit)	Acid Wash Test; CIE values; Spectral data	**10 77 18806**
PFXi-950	Oils, chemicals and derivatives	AOCS-Tintometer®; Gardner; Lovibond®RYBN; CIE values, Spectral data	**10 77 19501**
PFXi-950/P	Mineral oils, waxes and petrochemicals	Saybolt; ASTM Color; Pt-Co/Hazen/APHA; CIE values; Spectral data	**10 77 19502**
PFXi-995	Oils, chemicals and derivatives	AOCS-Tintometer®; Gardner; Kreis; Hunter Lab; Iodine Colour; Pt-Co/Hazen/APHA; Lovibond®RYBN; Chlorophyll A; FAC; beta-Carotin; CIE values; Spectral data	**10 77 19951**
PFXi-995/P	Mineral oils, waxes and petrochemicals	Saybolt; IP units; ASTM Color; Pt-Co/Hazen/APHA; CIE values; Lovibond®RYBN; Gardner; Spectral data	**10 77 19952**

Photometric Workplaces, Field Investigations

Test Kits for Rapid Analysis, VISOCOLOR®, MACHEREY-NAGEL



① ***VISOCOLOR®* enviroment case with photometer PF-12*Plus***
With photometer PF-12*Plus* for the determination of ammonium, carbonate hardness, iron, total hardness, nitrate, nitrite, pH 4.0 – 9.0 and phosphate.

Article	Order No.
VISOCOLOR® environment case with photometer PF-12*Plus*	**10 46 94353**



② ***VISOCOLOR® ECO* analysis case**
For the colorimetric determination of ammonium, carbonate hardness, total hardness, nitrate, nitrite, pH 4.0 – 9.0 and phosphate.

Article	Order No.
VISOCOLOR® ECO analysis case	**80 46 31001**



③ ***VISOCOLOR®* analysis case**
The *VISOCOLOR®* reagent case contains the following test kits:

Alkalinity AL 7 (total):	accuracy 0.2 mmol/l or 0.5 °d
Ammonium 3:	0.2 – 3 mg/l NH_4^+
Total hardness H 20 F:	accuracy 0.1 mmol/l or 0.5 °d
Nitrite:	0.02 – 0.50 mg/l NO_2^-
pH 4.0 – 9.0:	pH 4.0 – 9.0
Phosphate:	0.2 – 5 mg/l P
Oxygen SA 10:	accuracy 0.2 mg/l O_2 (oxygen deficit)
Temperature:	-10 to +60 °C

Additionally the case can hold additional *VISOCOLOR®* test kits.
Shelf life of reagents at least 18 months.

Article	Order No.
VISOCOLOR® analysis case	**80 46 31302**

As refills for this *VISOCOLOR®* reagent case you can use the following test kits:
Alkalinity AL 7, ammonium 3, total hardness H 20 F, nitrite, pH 4.0 to 9.0, phosphate, oxygen SA 10



④ ***VISOCOLOR®* analysis case without test kits**
The *VISOCOLOR®* reagent case without test kits allows the individual combination of test kits from the complete range of *VISOCOLOR®* programme and pH indicator papers, pH-Fix test strips, qualitative test papers and semi-quantitative QUANTOFIX® test strips, e.g. for applications in:
boiler water conditioning, cooling water conditioning, water treatment, irrigation, beverage industries, breweries, printing industries, education, corrosion prevention, surface finishing, construction industry, aquaculture and others.

Article	Order No.
VISOCOLOR® analysis case without test kits	**80 46 31307**



Soil case
The reagent case for soil analysis comes complete with a comprehensive handbook for the determination of: soil structure, pH, nitrate, ammonium, phosphate and potassium. Disposables and replacement parts can be purchased separately. *VISOCOLOR®* soil cases are perfect tools for economical, fast and low-cost soil analysis in the lab and also directly in the field. Choose between a version with and without the compact photometer PF-3 Soil which was developed specifically for soil analysis. Both case versions comprise analysis instruments such as scales, sieve etc., as well as pre-dosed solutions for manufacturing the required soil extracts.

Article	Order No.
⑤ *VISOCOLOR®* soil case	**10 46 91601**
⑥ *VISOCOLOR®* soil case with PF-3 Soil	**10 46 94220**



⑦ **Compact photometer PF-12*Plus***
- Easy handling for accurate results
- Sturdy and water-tight
- Nephelometric turbidity measurement and NTU check

The compact photometer PF-12*Plus* is tailored to the requirements of mobile water analysis. The icon-based menu navigation and clearly structured task bar make the PF-12*Plus* an easy-to-use photometer for all applications water and waste water testing – no time-consuming training required. Supplied in a sturdy case filled with practical accessories, this compact photometer is a particularly well suited for water testing directly at the sampling site.

Continued on next page

Photometric Workplaces, Field Investigations

Type:	Filter photometer with microprocessor control, self-test and auto-calibration
Optics:	Automatic filter wheel with 7 interference filters, insensitive to external light – no light shield required
Wavelengths:	345 nm / 436 nm / 470 nm / 540 nm / 585 nm / 620 nm / 690 nm plus one compartment for storing one additional filter; 860 n m LED for NTU measurement
Measuring modes:	Over 100 pre-programmed tests and special methods, extinction, transmission, factor, standard, nephelometric turbidity measurement; 50 freely programmable methods
Data memory:	1000 results, GLP conform
Display:	Backlit graphic display, 128 × 64 pixels, all key data at a glance Result in respective unit, date, time, sample number, sample location, dilution, measuring range bar
Power supply:	Via USB power supply, standard or rechargeable batteries or rechargeable power pack
Dimensions:	215 × 100 × 65 mm
Weight:	0.7 kg

Article	Order No.
Compact photometer PF-12*Plus* incl. software DVD, Quick Start Guide, magazine of test instructions "*VISOCOLOR® ECO* Testanleitungen für Kompaktphotometer PF-12*Plus*", 4 batteries, 4 empty test tubes, funnel, beak, syringe, USB cabel, calibration cuvette, certificate and cleaning cloth in rugged case	**10 46 99250**
USB power supply	**10 46 99220**
Charger	**10 46 99221**
Accu pack	**10 46 99201**



⑦



⑧

⑧ **Reagent case *VISOCOLOR*® School**
The *VISOCOLOR*® School reagent case is especially designed for schools and caters to the needs of both students and teachers. All reagents are approved to be used in schools in Germany (GUV-SR 2004 directive) and can be disposed of easily just down the drain without any harm to the environment.

Article	Order No.
Reagent case *VISOCOLOR*® School	**10 46 93100**

⑨ **Reagent case *VISOCOLOR*® Fish**
The *VISOCOLOR*® Fish reagent case was designed specifically for the requirements in connection with testing fishing waters. The practical, sturdy case is particularly well suited for mobile analysis directly on the water sampling site. In addition to the accessories needed for analysis, the reagent case *VISOCOLOR*® Fish holds 6 tests for colorimetric and titrimetric determination of the major water parameters ammonium, nitrate, nitrite, phosphate, pH, and total hardness.

Article	Order No.
Reagent case *VISOCOLOR*® Fish	**10 46 93101**



⑨

Photometers, WTW®

webcode WWP1J019

WTW a xylem brand

photoLab® series
Precise thanks to the high-quality lens system and fast thanks to barcode test recognition with automatic cuvette detection system. These instruments require little maintenance thanks to their exceptional photometric stability and wear-free design.

Extensive on-board AQS/IQK guarantees reliable results during measurement and documentation. Values can be read off as concentration, extinction or transmission.

More than 200 programmed methods with all essential settings for test sets are available for downloading and updating at any time from the Internet. The methods include all common parameters for analysis of sewage and drinking water, also for sea water and for pisciculture and fish farming, for food and beverage industries. Users are thus provided with both a high-quality and economical solution for everything from routine measurements to laboratory analysis. All photometers feature date and time and come with an RS 232 interface. 2 years warranty.

	photoLab® S6	**photoLab® S12**
Applications	Routine measurements in waste and drinking water, battery version optional	Routine measurements in waste and drinking water, comprehensive laboratory tests, battery version optional
Wavelengths	6 wavelengths: 340, 445, 525, 550, 605, 690 nm	12 wavelengths: 340, 410, 445, 500, 525, 550, 565, 605, 620, 665, 690, 820 nm
Own methods	no	50
Cuvettes	Round 16 mm	Round 16 mm; rectangular 10, 20, 50 mm
Extinction range	0.3 to 3.2	0.3 to 3.2
Measured value memory	500	500



Continued on next page



①

Photometric Workplaces, Field Investigations

	Article	Order No.
①	**Photometer photoLab S 6**	**80 81 32013**

for routine measurements with the convenient cuvette tests

	Article	Order No.
②	**Photometer photoLab S12**	**80 81 32024**

- round and rectangular cuvettes for measuring also low concentrations and for using the more economical reagent tests with automatic cuvette and measuring range switchover
- 50 own method places for convenient measuring of own analyses
- kinetics function
- economical allround photometer in each laboratory through 12 wavelengths



②

Spectrophotometers photoLab® 7000 series
photoLab® 7100 VIS und photoLab® 7600 UV-VIS for combined routine and spectral analysis including pioneering reagent-free optical COD, nitrate and nitrite measurement (UV):

- Proven and fast: Routine analysis like waste and drinking water, aquaculture, food & beverage, environmental monitoring and production
- Pioneering + cost saving: reagent-free OptRF measurement for COD, nitrate and nitrite in sewage plant outlets and some surface waters
- Universal for industrial, research and educational use
- User-friendly structured menus and clear guidance on brilliant display
- Lab quality in the field: 4.5 kg light weight, with car battery and field case option

Routine Analysis

- More than 250 programs for commercial test kits, standard parameters, direct readings of coloration, SAK, etc.
- Barcode recognition for tests in vials and rectangular cells
- Automatic cell recognition for 16, 10, 20 und 50 mm without adapter, automatic measurement range selection
- User-defined programs being easy to program and fast selected
- Up to three parallel timers

Spectral and universal analysis from 190 to 1100 nm

- Scans in various nm-steps, 700 – 2000 nm/min
- Kinetics and multi-wavelength readings including special methods and ADMI color measurement
- User profiles and calculation programs storable
- Extensive programming tools for multistep functions with user guidance, e.g. enzymatic testing
- photoLab® color: Optional PC-Software for color measurement from CIE to Yellowness



③

AQA

- Multi-level user-friendly AQA functions with administration tools and comprehensive checking aids for meter and reagents.

Data Management

- Measurement data, PDF documents, spectra and kinetics data, with data filter for pre-selected data management
- photoLab® Data spectral: PC-Software for data management
- External barcode reading option for uncoded test kits and sample ID

	photoLab® 7100 VIS	photoLab® 7600 UV-VIS
Wavelength range:	320 – 1100 nm	190 – 1100 nm
Optics:	Monochromator with grating and step motor / reference beam	
Lamp:	Wolfram-Halogen	Xenon flashlamp
Bandwidth:	4 nm	
Wavelength accuracy/ reproduceability:	± 1 nm / < 0.5 nm	
Photometric accuracy/ reproduceability:	- 0.003 E for E < 0.600; 0.5% of values for 0.600 < E < 2.000	
Interface/Update:	1 USB-A, 1 USB-B, 1 Ethernet / Update via Internet and USB-Stick	
Temperature range:	operation: +10°C to +35°C, storage: -25°C to +65°C	
Weight:	approx. 4.5 kg	
Dimensions W×H×D:	404 × 197 × 314	



④

	Article	Order No.
	photoLab® 7100 VIS, 320 – 1100 nm	**10 81 22523**
③	**photoLab® 7600 UV-VIS, 190 – 1100 nm**	**10 81 22524**
④	**photoLab® color + Data spectral**	**10 81 22563**

PC-Software for photoLab® 7000 series

Photometric Workplaces, Field Investigations

Mobile Colorimeters, WTW®

WTW a xylem brand

webcode WWP1J028

① **Mobile colorimeters: the pHotoFlex® series**
The photometers / colorimeters of this series convince by their sophisticated technology for use on site, comprising an optional LabStation for easy evaluation and execution of laboratory tasks. A large illuminated graphic display guides the user through all functions. A laboratory station with battery and charging function is available as an accessory for the the basic battery-operated model (4 AA batteries). Routine data measurement and evaluation can then be performed even more conveniently with an external scanner and evaulation software.

pHotoflex®STD
For all those who only need photometry functions: more than 150 methods.

pHotoflex®pH
Photometers / colorimeter with electrochemical pH and redox measurement. Additional methods for ammonia and carbon dioxide.

pHotoFlex®Turb
Same as pHotoFlex pH, plus turbidity measurement from 0 to 1100 NTU / FNU.

Photometer functions
- 6 wavelengths: 436, 517, 557, 594, 610, 690 nm, LEDs with filter, accuracy < 2 nm
- Extinction range: 0 – 2 E
- 2 cuvette sizes for a large range of concentration: 28 mm, 16 mm; variable cuvette height from 91 to 104 mm for the 16 mm cuvette
- Up to 200 method-related data for a large number of test sets, update over the Internet possible
- Data memory for 1000 measurements
- 100 own methods
- Coloring measurement according to EN ISO 7887 (exactly 436 nm, 517 nm, 610 nm)

pH functions
- pH meter with temperature compensation and 3-point calibration
- pH -2.00 to 16.00 (+/- 0.01), temperature: -5.0 to 100.0 °C
- Automatic buffer recognition: TEC / NIST

Turbidity functions
- IR LED according to DIN 27027/ISO 7027
- Measuring range: 0-1100 NTU / FNU
- Resolution: 0-9.99 NTU: 0.01; 10-99 NTU: 0.1; 100-1100 NT: 1.0
- 3-point calibration with standards (0.02 – 10 – 1000 NTU)



①

Article	Order No.
pHotoFlex STD, incl. batteries (4 AA)	**10 81 21105**
pHotoFlex pH pocket photometer, incl. batteries (4 AA)	**80 81 51100**
pHotoFlex Turb pocket photometer, incl. batteries (4 AA)	**80 81 51110**

Accessories

Article	Order No.
pHotoFlex rechargeable battery Rechargeable battery + mains plug for all pHotoFlex models	**80 81 51300**
LabStation Laboratory station with pHotoFlex software for all pHotoFlex models, incl. rechargeable battery and mains cable, laboratory interface cable (9-pole) • simplified operation for routine measurements • more functionality (barcode support) • easy input and output of data through pHotoFlex software	**80 81 51301**
Interface cable AK540/B Unit/PC (6-pole) via RS232	**80 81 52842**

Accessories pH

Article	Order No.
pH combination electrode SenTix 41	**61 81 21635**
pH combination electrode SenTix 41-3	**61 81 21636**
pH buffer TPL4	**61 81 21800**
pH buffer TPL7	**61 81 28802**

Failed to find what you are looking for?
Give us a call!

Continued on next page

Photometric Workplaces, Field Investigations



①

① **Reagents for photoLab® and photoflex® series**

Article	Model	Measuring range	Order No.	PU pc/Pack
Al aluminium RT[1)]	14825	0.020-1.20 mg/l Al	**80 81 25425**	300
NH^4 ammonium RT[1)]	14752	0.010-3.00 mg/l NH^4-N	**80 81 25426**	500
NH^4 ammonium KT	A6/25	0.20-8.00 mg/l NH^4-N	**10 81 25072**	25
Pb lead RT[1)]	09717	0.010-5.00 mg/l Pb	**80 81 25034**	50
Cadmium RT[1)]	01745	0.002-0.500 mg/l Cd	**80 81 25051**	55
Cadmium KT	14834	0.025-1.000 mg/l Cd	**80 81 25314**	25
Chlorine KT free	00595	0.03-6.00 mg/l Cl_2	**80 81 25419**	200
Chlorine KT free + total	00597	0.03-6.00 mg/l Cl_2	**80 81 25420**	200
Chlorine dioxide RT[1)]	00608	0.020-10.00 mg/l ClO_2	**80 81 25017**	200
Chromate KT	14552	0.05-2.00 mg/l Cr	**80 81 25341**	25
Cyanide KT	14561	0.010-0.500 mg/l CN	**80 81 25344**	25
Cyanide RT[1)2)]	09701	0.002-0.500 mg/l CN	**80 81 25492**	100
COD KT	C3/25	10-150 mg/l CSB	**10 81 25070**	25
COD KT	C4/25	25-1500 mg/l CSB	**10 81 25071**	25
Iron RT[1)]	14761/1	0.005-5.00 mg/l Fe	**80 81 25435**	1000
Iron RT[1)]	14761/2	0.005-5.00 mg/l Fe	**80 81 25439**	250
Fluoride RT[1)2)]	14598	0.10-20.0 mg/l F	**80 81 25048**	100
Total hardness KT	00961	0.7-30.1 °d	**80 81 25039**	25
Copper RT[1)]	14767	0.02-6.00 mg/l Cu	**80 81 25441**	250
Magnesium KT	00815	5.0-75.0 mg/l Mg	**80 81 25043**	25
Manganese KT	00816	0.01-5.0 mg/l Mn	**80 81 25035**	25
Manganese RT[1)]	14770/1	0.10-10.00 mg/l Mn	**80 81 25442**	500
N total KT	14537	0.5-15.0 mg/l N_{total}	**80 81 25358**	25
Nitrate KT	14542	0.5-18.0 mg/l NO_3-N	**80 81 25410**	25
Nitrate KT[2)]	N2/25	0,5-25 mg/l NO_2-N	**10 81 25073**	25
Nitrate RT[1)2)]	14773	0.2-20.0 mg/l NO_3-N	**80 81 25444**	100
Nitrite RT[1)]	14776/1	0.005-1.000 mg/l NO_2-N	**80 81 25445**	1000
Nitrite RT[1)]	14776/2	0.005-1.000 mg/l NO_2-N	**80 81 25440**	335
Nitrite KT	N5/25	0,01-0,7 mg/l NO_2-N	**10 81 25074**	25
Ozone RT[1)]	00607/1	0.010-4.00 mg/l O_3	**80 81 25016**	200
Ozone RT[1)]	00607/2	0.010-4.00 mg/l O_3	**80 81 25054**	1200
Phosphate RT[1)]	14842/1	0.5-30,0 mg/l PO_4-P	**80 81 25447**	400
Phosphate KT (Ptotal)	P6/25	0,05-5,00 mg/l PO_4-P 0,05-1,50 mg/l Pges	**10 81 25075**	25
Phosphate KT	P7/25	0.3-15.0 mg/l PO_4-P 0.3-15.0 mg/l Pges	**10 81 25076**	25
Sulfate KT	14548	5,0-250 mg/l SO_4	**80 81 25414**	25
Zinc RT[1)2)]	14832	0.05-2.50 mg/l Zn	**80 81 25451**	90

Other tests on request, method data can be updated from the Internet.
[1)] not for photoLab S6
[2)] not for photoFlex®

Turbidity Measurement





Turbidity Meter TB 211-IR, Lovibond®

The compact Lovibond® infrared turbidity meter TB 211-IR is designed to allow fast, precise on-site testing. The unit measures the scattered light at an angle of 90°, as stipulated in EN ISO 7027.
The wide measuring range from 0.01-1100 NTU (=TE/F; = FNU) makes the instrument suitable for various applications, ranging from drinking water to waste water. As infrared light is used for measurement, the instrument can be used to test both coloured and colourless liquids. Calibration standards are also supplied. An alternative adjustment mode allows entry of user-defined turbidity standards.
Delivery content: TB 211-IR turbidity meter as described above, complete with 4 turbidity standards (<0,1, 20, 200 und 800 NTU), battery and test vials, in case.

Technical data:

Display:	Backlit LCD (on keypress)
Optics:	Temperature-compensated LED (λ=860nm)
Keypad:	Conditional acid and solvent resistant polycarbonate membrane
Power supply:	9 V power pack battery
Auto-OFF:	automatic switch off after 10 min.
Interface:	Micro USB
Storage:	Internal ring memory for 16 data sets
Measuring range:	0.01 – 1100 NTU (Auto-range)
Accuracy:	±2,5% of reading or ±0.01 NTU (0-500 NTU) ±5% (500–1100 NTU)
Test fluid appropriateness:	Software based user calibration using the T-CAL standards

Article	Order No.
Lovibond® Turbidity Meter TB 211-IR	**10 77 10211**

Turbidity Measurement

Turb® 750 Series, WTW®

WTW a xylem brand

webcode WWP1J029

Turbidimeter up to 1100 FNU/NTU for lab and industrial applications to detect turbidity as indicator parameter for quality control of drinking and waste water, beverages, pharmaceutical, R&D, chemicals, fuels, ...

The **I**ntelligent **R**eproducibility and **P**lausibility **C**heck (**IRPC**) result in reliable findings also in the lowest range. IRPC computes a multiple measurement by evaluation and elimination of outliners. The alignment of marked vials (free of silicon oil) avoid disturbing glass inhomogenities. IRPC supports the measurement of rapid settling samples.

The supplied PC software Turb® Data allows GLP-compliant data management with AQA, calibration protocol and filtered or complete data sets: transfer in CSV format, import in Excel, export to LIMS.

- Proven WTW® optics with light trap
- Determination in drinking water acc. to DIN EN / US EPA
- Menu-guided 3-point standard calibration, 2-5 point user-defined calibration
- QuickCAL: 1-point-calibration at 10 NTU
- Bench-saving despite comprehensive functionality
- AQA, calibration interval and records with PC-documentation



①

Technical data:

Measurement mode:	Nephelometric (scattering 90°)
Measurement range:	0 – 1100 FNU/NTU
Display:	Backlit graphics display 160 × 104
Resolution:	0.01 for 0.00 – 9.99, 0.1 for 10 – 99.90, 1 for 100 – 1100
Repeatability:	< 0.5% of finding
AQA-Support:	Calibration protocol and interval setting, AQA flag, Cal flag
Data storage:	2500 data records with calibration protocol, AQA identification
PC Software:	GLP-compliant data management with LIMS connection
Sample Identification:	Alphanumeric (…999)
Interface:	RS 232, USB, printer via PC or RS232
Power supply:	Wide range power supply
Certificate:	CE

Turb® 750 IR

The Turb® 750 IR fulfills the guidelines for drinking water analysis according to DIN EN ISO 7027-1.

Technical data:

Model:	Turb 750 IR LED 0-1100 (ISO)
Light source:	LED 830-890 nm fulfills DIN EN ISO 7027-1
Units:	FNU/NTU
Accuracy:	0.01 NTU/FNU or ± 2% of finding

Article	Order No.
Turb® 750 IR	**14 89 63**

Turb® 750 T

The Turb® 750 T fulfills the guidelines for drinking water analysis according to US EPA 180.1.

Technical data:

Model:	Turb 750 T (EPA)
Light source:	Tungsten White Light acc. US EPA 180.1
Units:	NTU
Accuracy:	0.01 NTU or ± 2% of finding

	Article	Order No.
①	Turb® 750 T	**14 89 64**

Use the webcode on our website to see a larger selection of products from a specific manufacturer.

Webcode

Sedimenting Vessels

webcode WWFNK004









Water Analysis Apparatuses, Starke

Water Analysis Apparatuses

Article	Order No.
Oxygen bottle according to Winkler	**14 59 40010**

To determine the oxygen dissolved in water, complete with stopper and matte-finish marking area, capacity exactly calibrated. Capacity: 100 to 150 ml

Article	Order No.
① **Oxygen bottle according to Winkle**	**14 59 40011**

Same as above. Capacity: 250 to 300 ml

Article	Order No.
② **Sedimenting vessel, Imhoff type**	**14 59 40013**

Without stopcock, cap. 1000 ml, graduated: 0 to 2 ml in 0.1 ml; 2 to 10 ml in 0.5 ml; 10 to 40 ml in 1 ml; 40 to 100 ml in 2 ml, with mark at 1000 ml

Article	Order No.
Sedimenting vessel, Imhoff type	**14 59 40014**

With stopcock with ground joint and solid glass plug, with threaded stopcock lock, cap. 1000 ml, graduated: 0 to 2 ml in 0.1 ml; 2 to 10 ml in 0.5 ml; 10 to 40 ml in 1 ml; 40 to 100 ml in 2 ml, with mark at 1000 ml

Article	Order No.
③ **Sedimenting vessel, Imhoff type**	**14 59 40015**

Without stopcock, cap. 1000 ml, graduated: 0 to 2 ml in 0.1 ml; 2 to 10 ml in 0.5 ml; 10 to 40 ml in 1 ml; 40 to 100 ml in 2 ml; 100 to 1000 ml in 100 ml

Article	Order No.
Sedimenting vessel, Imhoff type	**14 59 40016**

With stopcock with ground joint and solid glass plug, with threaded stopcock lock, cap. 1000 ml, graduated: 0 to 2 ml in 0.1 ml; 2 to 10 ml in 0.5 ml; 10 to 40 ml in 1 ml; 40 to 100 ml in 2 ml; 100 to 1000 ml in 50 ml

Article	Order No.
④ **BOD flask**	**14 59 40018**

Stopper with ground joint 18.8, capacity with stopper inserted: 100 ml

⑤ **Overflow graduated flask**
cut off a capacity mark, plane-ground.

Volume ml	Order No.
21.7	**10 59 40025**
22.7	**14 59 40027**
43.5	**10 59 40043**
56	**14 59 40056**
94	**14 59 40094**
97	**14 59 40097**
100	**14 59 40100**
150	**14 59 40150**
157	**14 59 40157**

Volume ml	Order No.
164	**14 59 40164**
200	**14 59 40200**
250	**14 59 40250**
300	**14 59 40300**
360	**14 59 40360**
365	**14 59 40365**
428	**14 59 40428**
432	**14 59 40432**



webcode WWQED018



Imhoff Sedimentation Cones, BRAND

SAN, transparent
DIN 12 672. Transparent. Graduated up to 1000 ml. Screw cap allows drainage. Withstands temperatures up to 85°C.

Article	Order No.
⑥ Imhoff sedimentation cone, SAN	**23 49 38800**

Graduation in ml	Increments in ml	Error limit ± ml
0 – 2	0,1	0.1
>2 – 10	0,5	0.5
>10 – 40	1	1
>40 – 100	2	2
>100 – 1000	50	10

Rack for plastic sedimentation cones
Holds 2 Imhoff sedimentation cones. Made of PMMA/PP. Compact design and easy to carry, even with cones filled. L × W × H in mm: 300 × 130 × 315.

Article	Order No.
⑦ Rack for plastic sedimentation cones, Imhoff type	**23 49 38805**

Sedimenting Vessels

behroplast® Racks for Sedimentation Vessels, Behr

behroplast® racks for Imhoff sedimentation vessels, made of solid PVC, gray, sturdy design.

Article	Order No.
Rack for 2 Imhoff funnel without stopcock	**23 48 17002**
Rack for 2 Imhoff funnel with stopcock	**23 48 17012**
Rack for 4 Imhoff funnel without stopcock	**23 48 17004**
Rack for 4 Imhoff funnel with stopcock	**23 48 17014**

Supplied without the illustrated accessories



webcode WWXKS004

BOD Determination

BOD Accessories, Behr

webcode WWXKS012

behrotest® BOD sample dilution units

behrotest® BOD sample dilution units are reliable and easy to use. Use the matching accessories - from the dilution water tank with cooling coil over thermostat-circulation pump to the allylthiourea fine dosing function - to design entire workstations. Define BOD5 pursuant to ISO 5815-1, DIN EN 1899-1 (=DEV H 51) to achieve a significant reduction of personnel expenditure and costs.

Article	Order No.
BOD sample dilution unit behrotest® BOD 2-N	**10 48 01002**

1 graduated mixing cylinder of 1 liter volume, built-in continuously adjustable magnetic stirrer, self-priming peristaltic pump with pressures shut-off, 3-way PTFE stopcock, which permits delivery of dilution water from lower-lying container without air bubbles.

Article	Order No.
BOD sample dilution unit behrotest® BOD 4A	**80 48 01003**

Same as BSB 2 except semiautomatic, with fill-level sensor for dilution water and rinse capability.

Article	Order No.
① **BOD sample dilution unit behrotest® BOD 31-2**	**10 48 01004**

Similar to BSB 4A, but with 3 graduated mixing cylinders of 1 l volume, each with magnetic stirrer. Permanently mounted peristaltic pump for increased flow rate.



①

behrotest® BOD bottles (Karlsruhe type) with stoppers

The special extension of the bottle-neck retains the water displaced by the insertion of the stopper or the oxygen electrode. This design guarantees neat working processes and ensures that no oxygen can get into the samples and corrupt the measurement results.

Finger grip length mm	Volume ml	Order No.
② 30	250	**80 48 02030**
60	250	**80 48 02060**
30	100	**80 48 02130**
60	100	**80 48 02160**



②

BOD bottle with stopper

Article	Order No.
BOD bottle, 100 ml, NS 19, with glass and plastic stopper	**80 48 02200**

Continued on next page

BOD Determination



①

behrotest® BOD dilution water containers
With aeration system, level indicator and outlet spigot. Colored opaque container for protection against light. Wide lid for easy cleaning.

Without cooling/warming coil

Volume l	Ø cm	Height cm	Order No.
30	35	50	**80 48 03030**
60	40	60	**80 48 03060**
120	50	79	**80 48 03120**

① **With cooling/warming coil (stainless steel) and connection socket for one cooling thermostat**

Volume l	Ø cm	Height cm	Order No.
30	39	50	**80 48 04030**
60	40	65	**80 48 04060**
120	50	80	**80 48 04120**

behrotest® thermostat-circulation pumps for controlling the temperature of the BOD dilution water
Thermostat-circulation pump with both heating and cooling function for maintaining the BOD dilution water at 20°C. May be also used with an external temperature sensor.

Article	Order No.
behrotest® thermostat-circulation pump	**80 48 40202**

webcode WWSE2001

Lovibond

Thermostatically Controlled Incubators, Lovibond®



The thermostatically controlled incubators from Lovibond® are designed to ensure continuous temperature control in a temperature range of 2 to 40°C. These cabinets are suitable for a large variety of different applications in industrial and research laboratories. Ideal for the temperature-controlled storage of samples and BOD determination for waste water analysis. All temperatures can be selected in steps of 0.1°C. A digital LCD simultaneously indicates the target and actual value in the incubator.

Advantages
- Control range from 2°C to 40°C
- BOD determination
- Temperature-controlled storage of samples
- Double protection against overheating

Technical Data:

Design:	Fully insulated cabinet with universal temperature control unit.
Models with glass door:	Insulating glass door in an aluminium frame.
Operation:	Water-proof film front, 2 buttons with tactile feedback
Control range:	+2°C to +40°C, steps of 0,1°C
Temperature tolerance:	± 0.5°C, specified for BOD sample temperature, volume: 500 ml, 20°C, otherwise ±1°C
Display:	set-point value: 2 digits, actual value: 3 digits, resolution: 0.1°C
Fan:	axial, output 320 m³/h
Approval:	CE

Type	Mains connection V/Hz	Useful capacity l	Version	Outer dimensions H × W × D mm	Order No.
TC135 S	230 / 50	135	Standard door	850×600×600	**80 77 28200**
TC255 S	230 / 50	255	Standard door	1640×600×610	**80 77 28230**
TC445 S	230 / 50	445	Standard door	1640×750×730	**80 77 28240**
TC140 G	230 / 50	140	Glass door	850×600×600	**80 77 28210**
TC256 G	230 / 50	255	Glass door	1640×600×610	**80 77 28235**

Webcode
Use the webcode on our website to see a larger selection of products from a specific manufacturer.

BOD Determination

BOD Thermostatic Chambers with microprocessor control, ORI

webcode WWBPE011

Technical data:	Small model	Large model
Power consumption:	Controller 80 W Refrigeration 120 W Heating 40 W	Controller 80 W Refrigeration 150 W Heating 40 W
Ambient temperature:	10 – 32°C adjustable	10 – 32°C adjustable
Capacity:	180 l	352 l
Temperature regulation:	20°C, ±0.5°C	20°C, ±0.5°C
Sockets inside:	4	4
Cooling liquid:	R 600a	R 600a
Outer dimensions (H×W×D):	850 × 600 × 600 mm	1800 × 600 × 610 mm
Inner dimensions (H×W×D):	702 × 513 × 441 mm	1612 × 470 × 440 mm
Connected load:	230 V / 50 Hz	230 V / 50 Hz
Weight:	38 kg	74 kg

	Article	Order No.
	Thermostatically controlled cabinet, small model	**80 22 14185**
①	Thermostatically controlled cabinet, large model	**80 22 14370**



①

BOD Thermostatic Cabinets TS, WTW®

The cabinets for operation at 230 V/ 50 Hz are freely adjustable from 10°C to 40°C in order to incubate samples at constant temperatures. Depending on the model, 2 or 4 connectors are available inside for stirring systems from all Oxitop® systems, and 2 to 4 systems can be loaded depending on the model. The ambient temperature should lie between 10°C and 32°C. Typical applications: BOD (20°C), biogas (35°C to 37°C). CE. 1 year warranty.

Technical data:

Temperature control range:	+10°C to +40°C ±1 K
Setting interval:	1 K
Temperature stability:	±0.5 K
Ambient temperature for operation:	+10°C to +32°C (climate class SN)
Coolant:	R600a
Storage:	-25°C to +65°C



②

②

Model		TS 608/2i	TS 608-G/2i	TS 608/4i	TS 608-G/4i	TS 1008i
Volume	l	180	180	360	360	500
Outer dimensions H×W×D	mm	850×600×600	850×600×600	1640×600×610	1640×600×610	1640×750×730
Inner dimensions H×W×D	mm	702×513×441	702×513×441	1452×513×441	1452×513×441	1452×600×560
Net weight	kg	34	43	53	69	69
Max. power consumption	W	160	320	380	380	380
Internal sockets		2	2	4	4	4
Coolant	g	35	35	52	52	58
Order No.		**10 81 28450**	**10 81 28452**	**10 81 28454**	**10 81 28456**	**10 81 28458**

webcode WWP1J024

WTW a xylem brand

BOD Determination

webcode WWQ34001



①

STL Thermostatic Boxes and Chambers, SHL

Due to your isolated production, all equipment variants can be produced individually.

Our thermostatic devices are completely operated from the outside, so that the door does not have to be opened during operation in order to change the programmes if necessary. This ensures great accuracy regarding the results.
The micro-processor control permits 3 different user programmes with 6 segments of temperature-time profiles with or without start delay. Each STL-thermostatic chamber has an RS232 and USB interface, which displays and processes the temperature values during operation by means of optionally available software on every MS-WINDOWS computer. The average, minimum and maximum temperature are recorded per segment.
Our devices can be ordered with normal, closed door, glass door or double door.

- CE certified, EN ISO 9001 and N 18001 certified
- LED-interior illumination
- Temperature range +3°C to +40°C
- Lockable front door
- Access Port for external temperature monitoring
- Test certificate at 37°C
- 24 months warranty

Further optional equipment features:
- Door alarm when door is open
- Mobile version
- Internal illumination in different colours
- Connecting cable for PC/Printer
- Software programmes
- Thermal printer for direct memory print-outs
- Internal power sockets
- 9-point certificate available for additional charge

Areas of application:
- Storing samples
- BSB-determination at +20°C
- Micro-biological tests
- Enzyme activity at +25°C
- Bacterial count determination at +37°C
- Plant growth and much more

Available as desk-top model with content of 63 l up to double chamber with content of 1143 l

STL thermostatic boxes and chambers

	Type	Vol. l	Vers.	Temp. range °C	W × H × D mm	Temp. range adj. in 0.1°C	Order No.
①	ST1 A 40	68	Glass door	+3 – +40	570×600×670	yes	**10 14 81040**
	ST1 A 70	68	Glass door	+3 – +40	570×600×670	yes	**10 14 81070**
	ST1 B 40	68	Standard door	+3 – +40	570×600×670	yes	**10 14 81140**
	ST1 B 70	68	Standard door	+3 – +40	570×600×670	yes	**10 14 81170**
	ST2 A 40	150	Glass door	+3 – +40	620×860×640	yes	**10 14 82040**
	ST2 A 70	150	Glass door	+3 – +40	620×860×640	yes	**10 14 82070**
	ST2 B 40	150	Standard door	+3 – +40	620×860×640	yes	**10 14 82140**
	ST2 B 70	150	Standard door	+3 – +40	620×860×640	yes	**10 14 82170**
	ST3 A 40	200	Glass door	+3 – +40	620×1060×640	yes	**10 14 83040**
	ST3 A 70	200	Glass door	+3 – +40	620×1060×640	yes	**10 14 83070**
	ST3 B 40	200	Standard door	+3 – +40	620×1060×640	yes	**10 14 83140**
	ST3 B 70	200	Standard door	+3 – +40	620×1060×640	yes	**10 14 83170**
	ST3 C 60	250	Glass door	+3 – +40	620×1260×640	yes	**10 14 84040**
	ST4 A 70	250	Glass door	+3 – +40	620×1260×640	yes	**10 14 84070**
	ST4 B 40	250	Standard door	+3 – +40	620×1260×640	yes	**10 14 84140**
	ST4 B 70	250	Standard door	+3 – +40	620×1260×640	yes	**10 14 84170**
	ST5 A 40	250	Glass door	+3 – +40	620×1460×640	yes	**10 14 85040**
	ST5 A 70	250	Glass door	+3 – +40	620×1460×640	yes	**10 14 85070**
	ST5 B 40	250	Standard door	+3 – +40	620×1460×640	yes	**10 14 85140**
	ST5 B 70	250	Standard door	+3 – +40	620×1460×640	yes	**10 14 85170**

Optional accessories

Article	Order No.
Sockets, max. 3 pcs.	**10 14 88011**
Inside light (2016 series)	**10 14 88012**
Door lock (not with model A) (2016 series)	**10 14 88013**
Shelf ST2, ST2/2	**10 14 88014**
Shelf ST3, ST3/3	**10 14 88015**
Access port (2016 series)	**10 14 88016**
Door alert	**10 14 88017**
Connection cable for PC	**10 14 88018**
Thermal printer “Kafka”	**10 14 88019**
EasyLab® T-Software (currently only available in English)	**10 14 88020**

BOD Determination

BOD Measurement, WTW®

webcode WWP1J020

OxiTop®

OxiTop® packages are manometric measuring systems for respirometric biological degradation tests. The principle is very easy: By measuring differential pressure in a closed sample system with electronic measuring heads parameters like BOD (Biochemical Oxygen Demand), soil respiration, anaerobic digestion (biogas) and much more can be determined.

OxiTop® exists in two new lines:
OxiTop®-i for BOD measurement in waste water with direct display of the BOD value in mg/l available in ready to measure sets for immediate use.
OxiTop®-IDS for BOD measurement and demanding respirometric applications including data transfer to PC and laptop.

Technical data OxiTop®-i / OxiTop®-IDS / OxiTop®-IDS/B:

Pressure range:	500 to 1250 hPa bzw. 500 to1500 hPa
BOD measuring range:	0 to 4000 mg/l (with Multi 36x0 to 400,000 mg/l)
Selectable measuring period:	1 to 7 days (with Multi 36x0: 0.5 h to 180 days)
Selectable sample volume:	22.7 ; 43.5 ; 97.0 ; 164 ; 250 ; 365 ; 432 ml (freely selectable with Multi 36x0 IDS)
Display:	LCD, backlit, menu controlled
Signal LED:	RGB
Battery:	1 × CR 2450



① **OxiTop®-i**
New: OxiTop®-i for “BOD Self Check” according to DIN EN 1899-2 (H55)

It is suited for BOD routine measurement from 1 to 7 days including automatic storing of measured values, selection of sample volume, measuring period, and output in mg/l and curve display. Manual recall intermediate values possible. All measurement parameters will be maintained, no new programming for the next measurement. Easy allocation of inlet and outlet measurement by grey and blue heads and programmable ID number.

Standard accessories:
Brown sample bottles, stirring bars, stirring bar remover, NaOH plate, rubber tube, 1 overflow graduated flask each 164 ml and 432 ml, nitrification inhibitor, stirring platform

Article	Order No.
BOD self-check measurement system OxiTop®-i IS 6 Inductive stirring system with 6 OxiTop®-i measurement systems including standard accessories	**10 81 28260**
BOD self-check measurement system OxiTop®-i IS 12 Inductive stirring system with 12 OxiTop®-i measurement systems including standard accessories	**10 81 28262**



② **OxiTop®-IDS**
OxiTop®-IDS with Bluetooth® Data Transfer for “BOD-Self Check Method” acc. DIN EN 1899-2 (H55) and for Special Applications
OxiTop®-IDS Measurement Systems for measuring 100 heads in up to 12 measurement sets with up to 12 samples including up to 12 measuring heads.

OxiTop®-IDS is a new member of WTW IDS family, supporting up to now electrochemical and optical parameters. Using a Multi 3620 or 3630 IDS in combination with IDS WLM-M module allows programming and data transfer from the OxiTop®-IDS heads. The meters are not a part of the delivery, please order separately. Support of automatic set and sample ID, also user-definable. Data and curves can be displayed, measured data can be transferred via a USB on a memory stick in a csv format into Excel®. The CO_2 absorber NHP 600 must be ordered separately for all complete sets including bottles and stirring platform.

These routines are available with Multi 3620 IDS/Multi 3630 IDS:
- BOD-Standard: including sample averaging up to 4000 mg/l
- BSB-Special including freely selectable sample volume, vessel volume, temperature and dilution factors up to 400.000 mg/l
- Pressure mode 500 to 1250 hPa (1500 hPa with OxiTop®-IDS/B heads) for soil respiration, anaerobic digestion (biogas) and more
- The measuring period can be adjusted between 0.5 h to 180 days

Article	Order No.
OxiTop®-IDS Set 6 Set incl. 6 measuring units, stirring platform IS 6, accessories	**10 81 29710**
OxiTop®-IDS Set 12 Set incl. 12 measuring units, stirring platform IS 12, accessories	**10 81 29712**
Multi 3620 IDS Set WL meter set including IDS WLM-M module	**10 81 22560**
Multi 3630 IDS Set WL meter set including IDS WLM-M module	**10 81 22570**
OxiTop®-IDS standard measuring head	**10 81 29700**
OxiTop®-IDS/B measuring head for biogas application	**10 81 29701**

BOD Determination

webcode WWSE2003



BOD-Measurement System, Lovibond®

Respirometric BOD measurement with BD 600/BD 606
The sensor system BD 600/BD 606 allows precise measurements of BOD based on the manometric principle. Manometric respirometers relate oxygen uptake to the change in pressure caused by oxygen consumption while maintaining a constant volume. Due to the modern integral pressure sensors, it is not necessary to use mercury for the measurements.

Benefits:
- User friendly
- Large, illuminated and brilliant graphic display
- Graphical representation of measured values
- USB and SD Card data transfer
- Mercury-free, environmentally-friendly
- Remote control
- User-selectable time span from 1 to 28 days
- Free individual programming of each of the six samples
- Inductive stirring system, 100–240 V / 50–60 Hz

Scope of delivery:
- BD 600, complete unit with 6 sensor heads and control unit with batteries
  BD 606, complete unit with 12 sensor heads and 2 control units with batteries
- Power supply unit incl. Y-cable for common power supply of BD 600 and stirring unit
- 1 USB-cable (BD 600), 2 USB-cables (BD 606)
- 1 remote control
- Inductive stirring unit
- BD 600: 6 sample bottles, 6 rubber gaskets, 6 stirring rods
  BD 606: 12 sample bottles, 12 rubber gaskets, 12 stirring rods
- 1 overflow flask, 157 ml
- 1 overflow flask, 428 ml
- 1 bottle, 50 ml potassium hydroxide solution
- 1 bottle, 50 ml nitrification inhibitor solution
- 1 instruction

Technical data:

Meas. principle:	Manometric; mercury-free; electronic pressure sensor
Ranges (mg/l O_2):	0 – 40, 0 – 80, 0 – 200, 0 – 400, 0 – 800, 0 – 2000, 0 – 4000 mg/l
Applications:	BOD_5, BOD_7, OECD 301F
Display:	128 × 240 pixel, 45 × 84 mm backlit
Measurement period:	User-selectable, between 1 and 28 days
Auto result storage:	up to 372 (BD 600) or 744 (BD 606) results
Storage interval:	hourly on the first day every 2 hours on the second day once a day from the third day following
Automatic start funciton:	After temperature equalisation of samples; Can be switched off
Power supply:	3 alkaline-manganese batteries (“Baby” cells/size “C”) or via power supply unit using y-cable togehter with stirring unit
Interface:	USB host port (USB stick) USB device port (computer) SD card
Clock:	Real-time clock
Protection class:	IP 54 (sensor head)
Dimensions L×W×H:	375 × 181 × 230 mm including stirring unit
Weight:	4100 g, unit with bottles and batteries 5775 g, complete with stirring unit
Housing:	ABS
Approval:	CE

Article	Order No.
BOD-measurement system BD 600	**10 77 14460**
BOD-measurement system BD 606	**10 77 14465**

Accessories

Article	Order No.
BOD sample bottle, brown glass, 500 ml	**10 77 18644**
BOD sample bottle, brown glass, 500 ml, set of 6 bottles	**10 77 18645**
Stirring rod	**10 77 18637**
Stirring rod remover	**10 77 18638**
Rubber gasket	**10 77 18636**
Potassium hydroxide solution 45%, 50 ml	**10 77 18634**
Nitrification inhibitor, 50 ml	**10 77 18642**
Complete set Overflow flasks	**10 77 18654**
System check	**10 77 18328**
System check set, BOD CM test tablets, box with 10 tablets	

BOD Determination

BOD measuring device BD 600 GLP, Lovibond®

webcode WWSE2021

- Good Laboratory Practice compliant
- For OECD 301F and BOD testing
- Protected life time data memory (1 GB)
- Extended measurement duration up to 90 days possible

The BD 600 is a respirometric system for the determination of Biochemical Oxygen Demand (BOD). Save time, reduce the potential for errors and easily interpret data to help make process control decisions for your plant.



Technical data:

Display:	large, backlit graphic display
Interface:	USB
External memory:	USB
Internal memory:	1 GB or up to 50,000 measuring/adjustment data
Power supply:	100 – 240 V / 50 – 60 Hz 3 alkali-manganese batteries (Baby cells/ size C)
Auto – OFF:	no
Measuring principle:	manometric; mercury-free; electronic pressure sensor
Measuring range:	0–40, 0–80, 0–200, 0–400, 0-800, 0–2000, 0–4000 mg/l
Clock:	real time clock and date
Measurement time:	user-selectable, between 1 and 28 days
Portability:	benchtop
Autostart:	false
Compliance:	CE EMC according to DIN EN 61326
Protection class:	IP 53
Dimensions:	181 × 230 × 375 mm
Weight:	approx. 4100 g (unit with bottles & batteries 5775 g, complete with stirring unit)

Article	Order No.
BOD measuring device BD 600 GLP	**10 77 14461**

COD Determination

COD Workstations, Behr

webcode WWXKS013

Model PA-CSB COD sample digestor systems

Equipment configuration for simultaneous digestion of up to 6 or 12 COD samples according to EN/DEV and ISO 6060. Systems consist of the following components:

- Microprocessor-controlled TRS 300 time/temperature regulator with COD program
- Precision heating block CSB/E for RG2 vessels
- Holding frame E/B for RG2 sample vessels
- Cooling bath KW/N with mounting for E/B frame
- Sample vessels RG 2
- Air-cooled condensers LK 1
- Condenser stand LS for LK condensers

	Article	Order No.
	PA-CSB 6 COD digestor system for up to 6 simultaneous samples	**80 48 80000**
①	**PA-CSB 12** COD digestor system for up to 12 simultaneous samples	**80 48 80001**



①

Model PB-CSB/M for complete COD analysis

Complete workstations for simultaneous determination of up to 6 or 12 COD samples according to EN/DEV and ISO 6060. Manual reagent addition and titration.
A workstation consists of the following:

- Microprocessor-controlled TRS 300 time/temperature regulator with COD program
- Precision heating block CSB/E for RG 2 vessels
- Holding frame E/B for RG 2 sample vessels
- Cooling bath KW/N with mounting for E/B frame
- Multi-position magnetic stirrer SM 12/N to fit vessel frame E 12/B (only with PB-CSB 12/M)
- Sample vessels RG 2
- Set of 12 magnetic stirrer bars MRST 2
- Boiling chips SIST 100, 100 g
- COD air-cooled condenser LK 1
- Condenser stand LS for LK condensers
- Set of 12 PTFE std. taper joint sleeves PTFE 29
- Transport carrier TS CSB for vessel frame E/B
- Manual titration station HT 1

	Article	Order No.
	PB-CSB 6/M Complete COD workstation for up to 6 simultaneous samples	**80 48 80002**
②	**PB-CSB 12/M** Complete COD workstation for up to 12 simultaneous samples	**80 48 80003**



②

COD Determination



①

COD heating blocks only in conjunction with controller TRS 300

Precision heating blocks for 6, 12, or 24 samples. Surface heating for particularly even temperature distribution over all sample positions. Enclosure made of powder-coated steel and stainless steel. Non-hazardous temperatures of the enclosure surface thanks to the sophisticated insulation of the heating block.
Continuous grooves in the floors of the bores simplify sample handling and increase user safety:

- The grooves provide pressure compensation when the sample vessels are inserted. Thus, even precisely fitting vessels are easy to insert in the bores for user-friendly handling of the vessel frame.
- Traces of fluids on the outer walls of the sample vessels evaporate instantly when the samples are inserted into the heated block. The grooves discharge the steam and prevent glass breakage as a consequence of cracked vessels.
- In case of vessel overflow, the sample will flow off through the grooves, reducing the risk of acid damaging the heating block.

Technical data:

	CSB 6/E	CSB 12/E	CSB 24/E
Sample positions:	6	12	24
Maximum temperature:	299°C	299°C	299°C
Power consumption:	800 W	1500 W	2000 W

	Article	Order No.
	CSB 6/E COD acc. to ISO Precision heating block thermostat for 6 test tubes RG, 20 – 300°C	**10 48 21006**
①	**CSB 12/E** COD acc. to ISO Precision heating block thermostat for 12 test tubes RG, 20 – 300°C	**10 48 21012**
	CSB 24/E COD acc. to ISO Precision heating block thermostat for 24 test tubes RG, 20 – 300°C	**10 48 21024**



②

Programmable Temperature and Time Controller TRS 300

Programmable controller for behrotest® digestion blocks

behr single-button operation for particularly fast and easy programming. Menu in local language. 10 freely configurable programs for block temperature and digestion time. The TRS 300 has a special, factory preset CSB program (chemical oxygen demand of water/COD). In CSB/COD mode, it heats to a temperature 20°C above the specified setpoint temperature. After sample insertion, the setpoint temperate increased by 20°C is retained for another 6 minutes. This procedure ensures compliance with the ISO specification of heating to 148°C within 10 minutes, and simultaneously provides for an extremely constant temperature during the subsequent reaction process. With the Windows software comprised in the delivery, the user can transmit application-specific time/temperature profiles through the RS232 interface bi-directionally between one or several units (TRS 300) and one PC. Furthermore, the RS232 interface allows for transmission of temperature data from the unit to the PC while the unit is operating. If required, the data may be saved and printed out in form of a diagram.

In case of short-circuits or temperature sensor failure, the connected units will be switched off by means of the integrated safety functions.

	Article	Order No.
②	**TRS 300** Temperature and time controller, microprocessor-controlled unit, up to 10 temperature-and-time combinations can be programmed	**10 48 20300**



③

behrotest® Manual Titration Station HTI 1

The manual titration station HT1 consists of

- a burette with digital display, and
- a magnetic stirrer with accurately frame for COD sample vessels.

A screen is used as a neutral background, allowing the user an accurate identification of the color change at the end of titration. Thus, the user carries out all titrations under similar optical conditions, increasing the accuracy and reproducibility of the results. The exact positioning of the sample vessel in the rack on the top of the magnetic stirrer also contributes to this result. The inclined side panels of the screen provide an additional protection from lateral glare. COD pursuant to ISO, EN, and DEV.

Technical data:

Voltage:	230 V AC/115 V AC
Frequency:	50/60 Hz
Weight:	approx. 3.5 kg
Dimensions in cm (W × D × H):	approx. 33 × 20 × 60

	Article	Order No.
③	**HTI 1** Manual titration station, with digital burette and magnetic stirrer	**10 48 30300**

Continued on next page

COD Determination

Boiling Stones

behrotest® boiling stones are made from a ceramic material. Compared to conventional boiling stones made of glass, they provide optimum protection against defervescence due to their porosity and their shape, even with badly blended samples.

behrotest® boiling stones are chemically pure and guarantee unadulterated results when determining the COD.

Article	Order No.
④ **Boiling stones, content 100 g**	**80 48 30700**



④

Automatic COD Metering Unit DS 20

Metering unit to automate and accelerate the metering of potassium chromate solution and sulphuric acid when preparing COD samples. Metering in a maximum of 12 samples simultaneously. Integrated series magnetic stirrer with 12 sample places.

- Metering in optimal time intervals: The metering of sulphuric acid is carried out in several processes, the samples are thus constantly cooled and stirred. This method accelerates the preparation of samples and at the same time prevents non-standard overheating of the samples during addition
- Safety for the user: Due to the automatic addition of reagent there is no risk at any time of coming into contact with chemicals
- Practice-oriented and user friendly software: The complete programming of the behr DS 20 is very easy to use and user-friendly with the Windows user interface

Article	Order No.
⑤ **DS 20** for up to 12 samples simultaneously, incl. burettes and cooling trough	**10 48 24402**


⑤

Fully automatic metering unit/titrator DT 20

Dosing:

Time-optimized COD interval dosing. The metering of sulphuric acid is carried out in several processes, the samples are thus constantly cooled and stirred. This method provides for faster sample preparation while preventing a non-standard overheating of samples during addition.

Titration:

Freely programmable “methods”, f.e. end point titrations, equivalence point titrations, linear, dynamic, and quasi-dynamic titrations. Different, password-protected user levels. Graphic printout with 1st and 2nd derivative. Freely selectable printout of sample data. Compliance with all national COD standards is possible with the “methods”. Instead of the commonly known over-titration, the behr-specific dynamic titration guarantees the exact end-point recognition, even in the case of the typical COD edge steepness, and thus particularly accurate test results.

Safety for the user: Due to the automatic addition of reagent there is no risk at any time of coming into contact with chemicals.

- Practice-oriented and user friendly software: The complete programming of the behr DS 20 is very easy to use and user-friendly with the Windows user interface.

Article	Order No.
⑥ **DT 20** Fully automated dispensing and titration for COD specification pursuant to ISO. Simultaneous dispensing and titration in maximum 12 samples. Automatic extraction of the titrated samples. Particularly easy and user-friendly operation with Microsoft Windows user interface with Access database for further processing of sample data.	**10 48 24420**


⑥

COD cooling trough

The cooling trough prevents the overheating of the COD samples during the critical addition of sulphuric acid. In addition, it is used to cool the samples after the heating phase. COD acc. to ISO, EN and DEV.

Article	Order No.
Cooling trough for E 6/B insert frame	**10 48 30042**
Cooling trough for E 12/B insert frame	**10 48 30043**
Cooling trough for 2 E 12/BV insert frames	**10 48 30044**
Insert frame for 6 vessels E 6/B	**10 48 30001**
Insert frame for 6 vessels E 12/B	**10 48 30002**
Insert frame for COD 24/E and autom. COD dosing/titrator unit E 12/BV	**10 48 30003**
Stands for 6 COD air coolers LS 6	**10 48 30051**
Stands for 12 COD air coolers LS 12	**10 48 30052**

Series magnetic stirrer for COD cooling trough

The continuously adjustable COD series magnetic stirrer with 12 stirring points is used to mix the samples during the metering process. Due to its watertight casing and also its external power supply and control, it is suitable for use under water.

Article	Order No.
Series magnetic stirrer for E 12/B insert frame	**80 48 30048**

Continued on next page

COD Determination



COD metering funnel
The COD dosing funnel is placed on top of the COD reaction vessels. It simplifies the simultaneous addition of sulphuric acid to several samples. Combined with a cooling trough and a serial magnetic stirrer, it greatly improves safety and reliability and significantly eases the user's workload.

	Article	Order No.
①	**Metering funnel, 30 ml, for sulphuric acid**	**80 48 30200**

HCl-absorber
To expel chloride, e.g. when determining the COD of sea water.

	Article	Order No.
②	**HCL absorber** to expel chloride above 1000 mg/ltr. (without stopper)	**80 48 30071**

webcode WWSE2004

MD 200 COD Vario Setup, Lovibond®













Lovibond® MD 200 COD Vario Setup
With the COD setup by Lovibond®, the meaningful waste water parameter COD (chemical oxygen demand) can be accurately and quickly determined in compliance with ISO 15705. Because the setup is so easy to operate, also new users will be able to carry out the low-cost analysis of the COD value. The setup comprises the photometer, 25 cuvette tests each of the two lower measuring ranges (0 to 150 mg/l and 0 to 1,500 mg/l), the thermoreactor RD 125, and a cuvette rack.

Technical data of MD 200:

Meas. cycle:	approx. 3 seconds
Display:	LCD display
Optics:	Highly precise interference filter
Power supply:	4 AA batteries, up to 53 hrs. operation or 15,000 measurements in continuous operation with display illumination off
Memory:	16 data records
Interface:	IR interface for transmission of measured data

	Article	Order No.
	COD measuring station AMD 200 COD Vario	**10 77 12603**
③	MD 200 COD, tube tests	**10 77 12503**

Cell Tests
- Performing highly sensitive tests
- Optimized test safety
- Fast and easy
- Special optical glass

Lovibond® tube tests enable the user to easily perform highly sensitive and precise water testing.
When using tube tests measurement is considerably faster and easier, particularly in the case of standard and serial tests.
The tube tests contain a precisely measured amount of reagent, thereby avoiding the presence of superfluous chemicals and optimising test safety.

	Article	Order No.	PU pc/Pack
④	COD cuvette test 0 to 150mg/l O2	**80 77 20720**	25
⑤	COD cuvette test 0 to 1500mg/l O2	**80 77 20721**	25
⑥	COD cuvette test 0 to 15000mg/l O2	**80 77 20722**	25
⑦	CSB cuvette test VARIO LMR 15 to 300 mg/l	**10 77 13120**	25

Pack of 25 vials

Lovibond® Thermoreactor RD 125
Thermoreactor for the chemical digestion of cuvette samples (COD, total chromium, total phosphate, total nitrogen, and TOC). Temperature settings and selection of reaction time via membrane keyboard. The reactor has three temperature ranges (100 / 120 / 150°C) and three pre-programmed reaction times (30 / 60 / 120 min). After completion of the digestion, the reactor switches off automatically, indicated by an LED plus an acoustic signal.

The thermoreactor RD 125 is fitted with 24 holes for 16 mm diameter vials.

Article	Order No.
Thermo reactor RD 125	**10 77 10125**

Residue Analysis

Dipslides, Lovibond®



- Determine aerobic and anaerobic bacteria levels
- Early indication of bacteria proliferation
- Results in 48 hours
- Inexpensive

Guidelines to advise on the correct practices to control legionella bacteria in water systems exist worldwide. Suppressing bacteria levels does substantially reduce the possibility of an outbreak of this often fatal disease. Guidelines recommend introducing a monitoring and control program. This program includes the testing of cooling tower waters with dipslides on a regular basis.

A full range of dipslides is available for semiquantitative determination of aerobic and anaerobic bacteria populations in industrial and recreational waters. Dipslide accuracy is limited due to the small sample size, but if used correctly and incubated at a constant temperature using the Lovibond® dipslide incubator, they are excellent for trend analysis and can give an early indication of bacteria proliferation.

Article	Order No.	PU pc/Pack
D001 TTC/TTC Dipslides	**10 77 10110**	10
D002 TTC/MALT Dipslides	**10 77 10210**	10
D003 TTC/RBS Dipslides (Rose Bengal)	**10 77 10310**	10
D004 TTC/MAC Dipslides (Macconkey)	**10 77 10410**	10
D005 TTC/Chromogenic Dipslides	**10 77 10510**	10
D006 Pseudomonas (PDM)/MAC Dipslides	**10 77 10611**	10
D007 Pseudomonas (PDM)/TTC Dipslides	**10 77 10710**	10
D008 SRB Tube Test	**10 77 10810**	10
D009 NRB Tube Test	**10 77 10910**	10
D011 R2A/R2A Dipslides	**10 77 11110**	10



webcode WWSE2023

DI 10 Dipslide Incubator, Lovibond®

webcode WWSE2024

- Robust design
- Holds up to 12 dipslides or 10 quanti-discs
- Excellent temperature stability
- In-car operation

The Lovibond® DI 10 Incubator is designed for the reliable incubation of bacteriological slides, on-site, in a laboratory or even while mobile in a car or van.
National and European guidelines give practical advice on how to monitor, clean, test and ultimately control harmful legionella bacteria in water systems.
Dipslides provide a crucial part in the testing program, but must be used correctly and regularly as part of a planned regime, week on week to be of any meaningful value.
The incubation period and the incubation temperature should be the same each time the test is performed so that bacteria growth is controlled and consistent each time the test is performed. This allows for week by week comparisons to be made and high counts easier to identify. Dipslides are usually incubated at 30°C for 48 hours, but this can vary depending upon the specific application.
The Lovibond® DI 10 Incubator, when used in conjunction with dipslides, enables effective microbiological monitoring of cooling water in accordance with the many European guidelines. The DI 10 Incubator is also part of the Lovibond® Marine Test Kit for the monitoring of other potable water contaminants, such as pseudomonas, streptococci coliforms & E.coli, see page 24 for more information.

Technical data:

Display:	1 × 16 bit backlit LCD
Power supply:	12 V / 110 V / 240 V
Dimensions:	246 × 215 × 162 mm
Weight:	1.7 kg

Article	Order No.
DI 10 Dipslide incubator	**10 77 10701**



Residue Analysis

webcode WWSE2025



ValidChecks, Lovibond®

- Ready-to-use solutions
- Exactly adjusted concentrations
- Adapted to special applications
- Multistandards with top-up solution

The quality assurance of analytical procedures is a prerequisite for reliable water analysis. With the new ValidCheck Standard solutions, the user has ready-to-use solutions for this task. The exactly adjusted concentrations are adapted to the respective application. The dilution is omitted.

With the ValidCheck Multistandards, the user can immediately check all the important analytical methods of an application with one product: anions and metals in the drinking water analysis or the analysis of the wastewater treatment and process. In addition, the multistandards contain a top-up solution with which the influences of the sample matrix on the analysis result can be reliably determined.

Article	Order No.
ValidCheck ammonium 0.1 mg/l, 250 ml	**10 77 11125**
ValidCheck ammonium 0.5 mg/l, 250 ml	**10 77 11225**
ValidCheck ammonium 2 mg/l, 250 ml	**10 77 11425**
ValidCheck ammonium 20 mg/l, 250 ml	**10 77 11725**
ValidCheck aluminium 0.05 mg/l, 250 ml	**10 77 13125**
ValidCheck aluminium 0.2 mg/l, 250 ml	**10 77 13325**
ValidCheck boron 0.5 mg/l, 250 ml	**10 77 16325**
ValidCheck boron 1.5 mg/l, 250 ml	**10 77 16425**



①

Column Elution Units, Behr

behrotest® column elution unit for the elution of soil samples
Column elution unit in acc. with the LUA recommendation with 4-channel hose pump with controllable speed. The unit consists of :

- Assembly stand for the system
- Controllable 4-channel hose pump with adjustable speed
- Storage vessel, 20 l
- 4 elution columns, internal diameter 6 cm, 32 cm long, with 2 screwed joints (GL 45, with Teflon inserts) for simple filling of the columns
- 4 collection bottles for the column eluate, 2 l, with screwed joint (GL 45) and deaeration
- Supply tube made of TYGON and PVC, with non-return valve in the supply to the column
- Teflon tubes between columns and collection vessels
- Flow rate 0.003 to 35 ml/min
- Range of speed 2 to 100 min^{-1}
- Simultaneous control of all 4 channels

	Article	Order No.
①	**Column elution unit SEB 32 R**	**80 48 86100**

behrotest® compact equipment for elution of solid matters
Percolation equipment to jointly examine the elution behaviour of inorganic and organic substances in solid matters. Including hose pump with 2 channels and 2 different pump tubes for a flow rate of 0.25 – 12 ml/min. and 0.66 – 33 ml/min. (Other pump tubes upon request).

Complete equipment, consisting of

- Percolation column with pre-filters on sturdy stands
- Storage bottle with cap and tube
- Tube
- Eluate lead made of PTFE
- Storage vessel made of glass, cap with ventilation tube

	Article	Order No.
	Complete equipment type KEB for elution of solid matters for one sample with GS 950 glass column, incl. two-channel hose pump and 2 tubes for different flow rates	**10 48 86020**
	Add-on unit type KEBE for elution of solid matters for one sample with GS 950 glass column, without hose pump, incl. 2 pump tubes for different flow rates	**10 48 86016**
②	**Complete equipment type KEB 101** for elution of solid matters for one sample with GS 101 large glass column, incl. hose pump and 2 tubes for different flow rates	**10 48 86021**
	Add-on unit type KEBE 101 for elution of solid matters for one sample with GS 101 large glass column, without hose pump, incl. 2 tubes for different flow rates	**10 48 86022**
	Glass column GS 950, 60 × 320 mm	**10 48 86002**

webcode WWXKS034



②

Continued on next page

Residue Analysis

Article	Order No.
Glass column GS 101, 90 × 500 × 5 mm, thread GL 100	**10 48 86019**
Tube set SRR, 4 pump tubes made of Tygon Flow rate of 0.25 – 12 ml/min	**10 48 86017**
Tube set SVV, 4 pump tubes made of Tygon Flow rate of 0,66 – 33 ml/min	**10 48 86018**

Waste Water Analysis

Distilling Systems, behrotest®, Behr



webcode WWXKS023

behrotest® distilling apparatuses for determination of the phenol index by the DIN/DEV 38409-H16-2 method

DIN/DEV requires the distillation of a large amount of liquid within a short time for the determination of the phenol index.

The behrotest® WE 5 five-output steam generator can supply a maximum of 5 samples simultaneous for fast and gentle distillation. Steam input into the samples guarantees uniform distillation and high reproducibility of retrieval rates over the entire range.

The five-output linear steam generator with central water supply and level control was specially developed for this application.

Article	Order No.
Complete distilling apparatus for the determination of phenols 5 place	**10 48 91229**

Supplied without the illustrated accessories

Mud Analyzers, Behr



①

webcode WWXKS019

Laboratory treatment systems to the determination of biodegradability, Behr
for example for the coupled units test acc. to OECD 303 A, complete

Optional:
De-nitrification stage with pumps and stirrers
Oxygen regulator, consisting of
- oxygen measurement unit for pre-treatment with voltage output to turn the supply of air on and off
- behrotest GWS 200 limit switch. Operating range 0 – 200%, corresponds to 0 – 19.9 mg/l.

Article	Order No.
KA 1	**80 48 62001**

Laboratory treatment system made of 3.3 borosilicate glass, complete apparatus

Article	Order No.
KLD 4	**80 48 62003**

Laboratory treatment system with de-nitrification stage, vessels made of 3.3 borosilicate glass, complete apparatus

Article	Order No.
① **KA 1/SR**	**80 48 62005**

Laboratory treatment system vessels made of 3.3 borosilicate glass, with oxygen supply regulation, vessels made of 3.3 borosilicate glass, complete apparatus

Article	Order No.
② **KLD 4/SR**	**80 48 62006**

Laboratory treatment system with de-nitrification stage and oxygen supply regulation, vessels made of 3.3 borosilicate glass, complete apparatus

Article	Order No.
KLD 4N	**80 48 62007**

Laboratory treatment system with de-nitrification stage and continuous mud return as defined in DIN 38412-L 41 (proposal), vessels made of 3.3 borosilicate glass, complete apparatus

Article	Order No.
KLD 4N/SR	**80 48 62008**

Laboratory treatment system with de-nitrification stage, continuous mud return as defined in DIN 38412-L 41 (proposal) and oxygen supply regulation as defined in DIN 38412-L 41 (proposal), vessels made of 3.3 borosilicate glass, complete apparatus

Other versions upon request.



②

webcode To see other variants and accessories, please enter the webcode on our website.

Waste Water Analysis



① webcode WWXKS011

Waste Water Mixer, Behr

behrotest® homogenizers
Homogenizers behrotest®
With transportable sample vessels.
Homogenizers for pretreatment, sample splitting and homogenization of heterogeneous water samples in accordance with German waste-water quality control standards.

The sample vessels are protected against damage by the homogenizer frame, which has two handles for easy carrying. A flattened inlet facilitates on-site filling. Sample vessel volumes from 5 to 25 l permit multiple sample collection (mixed samples). A graduated scale is provided for easy measurement of sample volume.

Later in the laboratory or sampling vehicle the transport frame is simply placed on the magnetic stirrer for the homogenizer to be ready for instant use. The speed of the magnetic stirrer is adjustable.

This ensures that the user complies with the specified speed at all times. Oxygen input into the samples is thus prevented. Withdrawal of the desired volume of homogenized sample is assured by a PTFE stopcock.

	Article	Capacity l	Voltage V	Order No.
	QMR 5	5	12*	**80 48 65000**
①	QMR 15	15	12*	**80 48 65001**
	QMR 20	20	12*	**80 48 65002**
	QMR 25	25	12*	**80 48 65010**

* with adapter for mains connection

webcode WWXKS020

behr Labor-Technik

Apparatus for Waste Water Analysis, Behr

Tenside blowoff device for determination of methylene blue and bismuth active substances
A complete device consists of stand, transverse supports, mountings, gas washing bottles, volumetric flow meters and tenside blowoff columns.

Article	Order No.
Complete apparatus with 3 tenside blow-out columns Holding 1 liter, plus accessories	**80 48 00103**
Tenside blowoff column, 1 l	**80 48 00111**



② 

③ 

④

behrotest® distillation apparatus for determination of inorganic total combined flouride
As defined in DIN 38405-D4-2. The complete apparatus is mounted on a stable laboratory stand. A contact thermometer and relay heating control makes the unit suitable for large analysis series. The apparatus is made up of the following:
- distillation device made of borosilicate glass for water vapor - acid
- NS 14/23 standard ground contact thermometer
- heating hood for distilling flask
- round flask, nominal volume 1000 ml
- volumetric flask, nominal volume 500 ml

	Article	Order No.
②	behrotest® distillation apparatus	**10 48 00320**

Compact distillation apparatus for cyanide determination
Complete compact systems for cyanide determination. With base frame, heater, flow meter(s), tubing and glass apparatus.

	Article	Order No.
③	**Distillation apparatus KCM 1** Complete decomposition and separation apparatus with magnetic stirrer for cyanide determination	**10 48 00525**

behrotest® CN 6 complete decomposition and separation apparatus for determining total cyanide
Decomposition and separation apparatus for determining total cyanide in a maximum of 6 rounded or flat bottom vessels simultaneously. Simultaneous heating and stirring using an integrated magnetic stirrer with adjustable 4-speed RPM setting.

	Article	Order No.
	Infrared rapid digression system CN4-IR	**10 48 40000**
④	behrotest® CN 6	**80 48 50000**

Apparatus for determination of organic content water

Article	Order No.
Separator for separating organic extract according to DIN 38406	**80 48 00201**

Continued on next page

Waste Water Analysis

Microseparators for determining Polycyclic Aromatic Hydrocarbon in drinking water

Article	Order No.
According to DIN 38409 H 13-2, standard joint NS 14	**80 48 00220**
According to DIN 38409 H 13-3, standard joint NS 29	**80 48 00225**
Reducing flask, 100 ml With cylindrical neck, for determination of Polycyclic Aromatic Hydrocarbons	**10 48 00221**

Microseparator for determining slightly volatile halogen hydrocarbons

Article	Order No.
According to DIN 38407 F 4, standard joint NS 19	**80 48 00230**

Article	Order No.
⑤ **behrotest® funnel separator MSE 29**	**80 48 00380**

For isolation of lipophilic substances from water using liquid phase extraction. Combines the advantages of a microseparator and a separating funnel.
The design of the behrotest® funnel separator facilitates simple, clean separation of the phases or the emulsion. The entire organic phase can easily be transferred in the removable separator funnel top for further processing.



⑤



⑥

behrotest® sample preparation devices used during determination of the hydrocarbon index

According to ISO 9377-4 (also DEV H 53 in Germany).
behrotest® PFL sampling bottles are ideal for direct extraction as defined in the standard. The bottles with glass stoppers offer advantages in terms of handling and safety.

The **behrotest® funnel separator** facilitates separation of the organic phase. The various functional groups of the system can be separated. This allows the user to simply and quickly transfer the organic phase in one step to a clean-up column. It also makes it easy to clean the individual functional groups.

Article	Order No.
⑥ **EX 1000**	**80 48 00202**

Extraction units including a 1000 ml sampling bottle, solid glass topper, 60 ml funnel separator.
The **behrotest® clean-up column** with glass frit fully conforms to the requirements of the new ISO 9377-4 standard.
The practical **dual stand** provides firm support for two complete clean-up units with dropping funnel, clean-up column and Kuderna-Danish flask. The unit lets you perform the complete clean-up step on two samples simultaneously without interruption caused by time-consuming maniupulation of equipment or samples.

Article	Order No.
⑦ **CUS 2**	**80 48 00203**

Station for simultaneous clean-up of 2 samples, consisting of a stand, 2 graduated 100 ml evaporation flasks, 2 clean-up columns, pore diameter 2.
On the **behrotest® nitrogen station,** a manifold guides the nitrogen stream via two individually adjustable flow regulators into the Kuderna-Danish flask. Thus, two samples can be evaporated simultaneously using the ISO 9377-4 method.



⑦



⑧

Article	Order No.
⑧ **KOSTA**	**80 48 00204**

Determination of the hydrocarbon index as defined in ISO 9377-4 or DIN/DEV 38409 - H 53: Nitrogen station for simultaneous evaporative concentration of 2 samples. The nitrogen flow can be individually adjusted for each sample.

Use the webcode on our website to see a larger selection of products from a specific manufacturer.

Webcode

Waste Water Analysis

webcode WWSE2026



Waste Water Set-Up MD 610, Lovibond®

- Mobile photometer MD 610
- Memory space for 500 measuring results
- Data transfer via Bluetooth® and App AquaLX®
- Thermal reactor RD 125 with holes for 24 cuvettes

Your daily routine monitoring requires you to be able to react fast 24/7, no matter where you are? With the mobile photometer MD 610, you can call up, evaluate and share with your team the results of your waste water measurements on your smartphone or tablet. The interference filters ensure better reproducibility of the results. 120 pre-programmed methods and memory space for approx. 500 measured values give you added flexibility for your routine tasks. As a one-top complete waste water setup, the thermal reactor RD 125 with 24 holes for 16-mm cuvettes complete with suitable reagents for CSB measurement and matching accessories helps you to save time and money.

Technical data:

Auto – OFF	Yes
Portability	Benchtop
Compliance	CE

Article	Order No.
Waste water set-up MD 610	**10 77 14110**



webcode WWQVD156

Eudiometer, Rettberg

Eudiometer for monitoring of the fermentation process of slurries, DIN 38414, and of biodegradability at constant temperatures under anaerobic conditions.

Article	Order No.
Eudiometer, complete unit	**13 70 11006**

Complete unit with 6 measuring units made of borosilicate glass 3.3. High gas impermeability. With septa for taking gas samples. Stainless steel rack for accommodating the measuring units and the maintenance-free stirring drive. Telemodule control for the stirring points. Immersion thermostat for temperature control of the water bath, with digital temperature display. Bath made of plexiglas.

Technical data:

Measuring points:	6
Eudiometer tube:	0 to 150 ml in 1 ml increments
Storage vessel:	250 ml
Level vessel:	approx. 350 ml
Power supply:	230 V, 50-60 Hz
Dimensions (L × W × H):	approx. 650×340×600 mm
Weight:	approx. 24 kg
Temperature range:	up to +50°C (up to +95°C on request)



Article	Order No.
Eudiometer unit according to DIN 38414 - Part 8	**13 70 11008**

made of borosilicate glass 3.3, without stirring unit, temperature control, rack and bath

Technical data:

1 × eudiometer tube:	0 to 400 ml in 5 ml increments
1 × storage vessel:	500 ml
1 × level vessel:	1000 ml

Without the pictured accessories.

Waste Water Analysis

Calcimeter according to Scheibler Method, Behr

webcode WWXKS052

For the determination of the calcium carbonate content according to ISO 10963, e.g. in farmland. in viniculture, in pomiculture, etc.

Article	Order No.
Calcimeter, 1 sample place	**10 48 07682**
Calcimeter, 5 sample places	**10 48 06545**
Series magnetic stirrer, for calcimeter with 5 sample places	**10 48 06546**



Flocculators, LAT

Flocculation tests have been developed for a series of applications, such as testing the efficiency of flocculation or precipitation agents. The portable unit is intended for mobile operation with battery or 12 V power supply. The units of the JLT and FC series offer reproducible results for four or six parallel samples over a wide speed range.



①

webcode WWW4U080

① **Portable flocculator FP4**

Technical data:

No. of stirring places:	4
Speed:	20-40-50-100-200 rpm
Lighting:	central
Dimensions:	250 × 320 × 250 mm
Weight:	4.8 kg
Power consumption:	6 W

Article	Order No.
Portable flocculator FP4	**10 20 16004**

Flocculators JLT series

Technical data:	**JLT 4**	**JLT 6**
No. of stirring places:	4	6
Speed:	10–300 rpm	10–300 rpm
Timer:	0–999 min/0–99 h	0–999 min/0–99 h
Lighting:	background	background
Dimensions:	645 × 347 × 260 mm	935 × 347 × 260 mm
Weight:	13 kg	17 kg
Power consumption:	11 W	19 W

Article	Order No.
Flocculator JLT4	**10 20 16104**
Flocculator JLT6	**10 20 16106**

② **Flocculators with independent positions – FCS series**

Technical data:	**FC4S**	**FC6S**
No. of stirring places:	4 independent positions	6 independent positions
Speed:	10-15-30-45-60-90-120-150-200 rpm	10-15-30-45-60-90-120-150-200 rpm
Timer:	continuously	continuously
Lighting:	background	background
Dimensions:	645 × 347 × 260 mm	935 × 347 × 260 mm
Weight:	12.5 kg	18 kg
Power consumption:	18 W	23 W

Article	Order No.
Flocculator FC4S	**10 20 16204**
Flocculator FC6S	**10 20 16206**



②

Blood Investigation, Capillary Pipettes



Devices for Blood Sedimentation Tests, Hecht-ASSISTENT

Blood sedimentation devices made of stainless steel, MAKRO
With tilting device for rapid sedimentation

Complete with:
- blood sedimentation pipettes
- pipette protection caps
- blood mixing vessels with rubber plugs
- special rubber caps
- operating instructions in the individual box

Pipettes with fused graduation “ASSISTENT-PERMANENT”.

Article	Order No.
Blood sedimentation device with 3 pipettes	**19 18 34703**
Blood sedimentation device with 5 pipettes	**19 18 34705**
Blood sedimentation device with 10 pipettes	**19 18 34710**



Hemoglobin pipette, Hecht-ASSISTENT CE

Hemoglobin pipettes, Sahli type, 20 µl
Conformity certified, CE

White back, fused amber graduation ASSISTENT-PERMANENT, calibrated to contain = In, (hemoglobin pipettes). Available with individual certificate on request.

Tolerance: 0.4 µl
Packaging: 10 pieces/box
Length: approx. 12.5 cm

Volume µl	calibrated to	Length mm	Order No.
20	IN	125	**19 18 38412**



Blood Diluting Pipettes, Hecht-ASSISTENT

Blood diluting pipettes, Thoma type, CE version.

	Graduation	Increments	List of contents	for	Order No.
①	0.5 : 1 : 11	3	1 : 10	Leukocytes	**19 18 35870**
②	0.5 : 1 : 101	3	1 : 100	Erythrocytes	**19 18 35670**



HIRSCHMANN®

webcode WW4ZV052

minicaps - Disposable Micro Pipettes DURAN, Hirschmann

Minicaps are disposable capillary pipettes with the end-to-end system. They fill up automatically end-to-end by capillary action. This generally rules out individual setting errors. Minicaps are made in Germany from calibrated precision tubes using perfected cutting technology.

Major advantages:
- Correct filling
- User-friendly, color-coded vial cap
- With declaration of conformity acc. to DIN 12600, ISO 7550, CE acc. IVD 98/79 EG
- Not heparinized

100 minicaps are packed in one dispenser, 10 dispensers plus one pipetting aid are packed in a stable carton box.

Vol. µl	Variation coeff. %	Accuracy %	Dispenser in color code	Length mm	Order No.	PU pc/Pack
0.5	1.0	0.5	black	30 – 32	**19 37 10100**	1000
1	1.0	0.5	blue	30 – 32	**19 37 10101**	1000
2	1.0	0.5	red	30 – 32	**19 37 10102**	1000
3	1.0	0.5	yellow	30 – 32	**19 37 10103**	1000
3.33	1.0	0.5	yellow	36	**19 37 10133**	1000
4	1.0	0.5	green	30 – 32	**19 37 10104**	1000
5	1.0	0.5	white	30 – 32	**19 37 10105**	1000
6.66	1.0	0.5	transparent	72	**19 37 10166**	1000
10	1.0	0.5	orange	30 – 32	**19 37 10110**	1000
20	1.0	0.5	black	30 ±0.5	**19 37 10120**	1000
25	1.0	0.5	white	30 – 32	**19 37 10125**	1000
30	1.0	0.5	yellow	30 – 32	**19 37 10130**	1000
40	1.0	0.5	red	30 ±0.5	**19 37 10140**	1000
50	1.0	0.5	green	30 ±0.5	**19 37 10150**	1000
100	1.0	0.5	transparent	100	**19 37 10199**	1000



Blood Investigation, Capillary Pipettes

ringcaps® - Disposable Micro-Pipettes, Hirschmann

ringcaps® disposable capillary pipettes with an exact ring mark
For the precise determination of volume. A broad color code enables fast, error free use even when things get hectic. At a glance.

Major advantages:
- No risk of cross-contamination
- No cleaning costs
- DURAN ® glass
- Handy length of 125 mm
- With declaration of conformity acc. to DIN 12600, with batch number on packaging, acc. to IVD regulations and ISO 7550.

250 ringcaps in a practical round box with optimized removal arrangement.

Ring mark at µl	Accuracy %	Variation coeff. %	Order No.	PU pc/Box
1 + 2 + 3 + 4 + 5	0.30	0.6	**19 37 00101**	250
5 + 10	0.25	0.5	**19 37 00102**	250
① 10	0.25	0.5	**19 37 00103**	250
20	0.25	0.5	**19 37 00104**	250
25	0.25	0.5	**19 37 00105**	250
20 + 40	0.25	0.5	**19 37 00106**	250
40	0.25	0.5	**19 37 00107**	250
44.7	0.25	0.5	**19 37 00108**	250
50	0.25	0.5	**19 37 00109**	250
50 + 100	0.25	0.5	**19 37 00110**	250
100	0.25	0.5	**19 37 00111**	250
100 + 200	0.25	0.5	**19 37 00112**	100
Na-hep 44.7	0.25	0.5	**19 37 00113**	250



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Accessories
Useful accessories for efficient working with ringcaps®:

Article	Order No.
② **micropipetter** Pipetting aid for ringcaps®, complete with 2 adapters, for holding and emptying the ringcaps®, CE acc. to IVD 98/79 EC.	**19 37 00121**
Holder Simple bench-top holder for the micropipetter	**19 37 00123**


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webcode WW4ZV053

HIRSCHMANN®

Delbrück Capillaries end-to-end DURAN, Hirschmann

End-to-end capillaries according to the Prof. Delbrück method, Na-heparinized, with declaration of conformity acc. to DIN 12600, with batch number on packaging, with CE mark, acc. to IVD regulations and ISO 7550. Unit pack 10 × 100 pieces.

Volume µl	Variation coefficient %	Accuracy %	Length mm	Order No.	PU pc/Pack
20	1.0	0.5	30	**19 37 20301**	1000
40	1.0	0.5	30	**19 37 20302**	1000
50	1.0	0.5	30	**19 37 20303**	1000

webcode WW4ZV051



Disposable Hematocrit Tubes, Hirschmann

Disposable hematocrit tubes for centrifuges, length 75 mm, wall thickness approx. 0.2 mm, with CE mark, acc. to IVD regulations and DIN EN ISO 12772, 100 packed in a clear-glass vial.

③ **Hematocrit tubes**
for single use, not heparinized, color-code blue, DIN EN ISO 12772, CE acc. IVD 98/79 EG

Outer Ø mm	Inner Ø mm	Nominal volume approx. µl	Order No.	PU pc/Pack
1.3 – 1.4	0.9 – 1.0	60	**19 37 30160**	1000
1.42 – 1.68	1.07 – 1.23	75	**19 37 30175**	1000

Hematocrit tubes
for single use, NA-heparinized, color-code red, DIN EN ISO 12772, CE acc. IVD 98/79 EG

Outer Ø mm	Inner Ø mm	Nominal volume approx. µl	Order No.	PU pc/Pack
1.3 – 1.4	0.9 – 1.0	60	**19 37 30260**	1000
1.42 – 1.68	1.07 – 1.23	75	**19 37 30275**	1000



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webcode WW4ZV049

webcode To see other variants and accessories, please enter the webcode on our website.

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Carts

webcode WW5PT070

WINLAB®


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Laboratory Cart, WINLAB®

Extremely sturdy, versatile laboratory carts made of aluminum profile.
High carrying capacity and sturdy design thanks to the highly stable aluminum profile with 40 mm high edges. The castor sets - two castors per cart can be locked - are likewise dimensioned for heavy loads (max. 125 kg per castor). The universal cart and the cart with PP top have a handle on the side for easy guiding.
Custom-made carts with the dimensions of your choice are available!

Select from the following variants:
- Equipment and laboratory carts with polypropylene tops (PP)
- Equipment and laboratory carts with melamine tops
- Universal carts (replaceable baskets and/or transport tubs)

① Equipment and laboratory transport carts with shelves made of polypropylene (PP)
As PP is highly resistant to chemicals, this tabletop variant is particularly well suited for transporting laboratory materials. The tabletops are recessed in the frame so that an all-round border prevents the transported material from falling off.
Carrying capacity of the cart: approx. 250 to 300 kg

Overall height cm	Useful area width cm	Useful area depth cm	Order No.
75	65	45	**10 03 10201**
75	75	55	**10 03 10202**
90	95	60	**10 03 10203**

② Equipment and laboratory transport carts with shelves made of melamine
This variant can be used in many laboratories for transporting equipment and lab materials as the tops are highly resistant to chemicals, comparable to the tops of laboratory furniture.
Carrying capacity of the cart: approx. 250 to 300 kg

Overall height cm	Useful area width cm	Useful area depth cm	Order No.
75	90 (1. shelf) 75 (2. shelf)	75 (1. shelf) 60 (2. shelf)	**10 03 10221**
90	120 (1. shelf) 100 (2. shelf)	75 (1. shelf) 60 (2. shelf)	**10 03 10222**

③ Universal cart
For transport baskets made of coated wire and/or synthetic transport tubs (60 × 40 cm).

Overall height cm	Useful area width cm	Useful area depth cm	Order No.
85	70 (outer)	50 (outer)	**10 03 10231**

Continued on next page →

Carts

Baskets and tubs for universal cart
Wire baskets with white synthetic coating, mesh width 8 mm, wire thickness 1 mm, basket size 60 × 40 cm, ideal for transporting laboratory glassware.
Synthetic transport tubs (PP) with integrated handles, 60 x 40 cm.

Article	Height cm	Volume approx. l	Order No.
Wire basket	26		**10 03 10241**
Wire basket	11		**10 03 10242**
Tub	20	38	**10 03 10238**
Tub	25	48	**10 03 10248**
Tub	40	80	**10 03 10280**





Wire Basket Cart, neoLab®

Sturdy trolley made of plastic-coated steel tube, with two baskets.
4 casters with 10 cm Ø.

Volume: Upper basket 65 l
Lower basket 24 l
Basket sizes (L × W): 60 × 40 cm
Load capacity per basket: 30 kg

Article	Length × Width × Height cm	Weight kg	Order No.
Wire basket cart	73 × 41 × 85 (without handle)	13.5	**38 01 27083**



for my lab neoLab

webcode WW2NY323

Laboratory carts, BOCHEM

① **Laboratory carts made of chromium-nickel steel**
Material No. 4301, fine ground surface, with 4 steering wheels, incl. 2 with locks, 40 kg max./plate

Article	Qty shelves	Dimensions mm	Load cap. max. kg	Order No.
Cart	2	800 × 500 × 950	80	**38 05 11410**
Cart	3	800 × 500 × 950	120	**38 05 11411**



① BOCHEM LABORBEDARF LAB SUPPLY

webcode WWQ7J061

Laboratory carts 3, demountable
2 steering wheels, with lock, Plate 800 × 500 mm, workload max. 25 kg per plate
- Type 1: 2 plates
- Type 2: 3plates

	Material	Length mm	Width mm	Height mm	Workload max. per plate kg	Type	Order No.
②	18/10 stainless steel	900	600	940	25	1	**10 05 11430**
③	18/10 stainless steel	900	600	940	25	2	**10 05 11431**



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Laboratory carts 4
- Surface matt finish
- Robust pushing handle
- 2 guide and 2 fixed rolls
- Type 1: collapsible
- Type 2: fix

	Material	Length mm	Width mm	Height mm	Load capacity max. kg	Type	Order No.
④	18/10 stainless steel	785	450	850	300	1	**10 05 11417**
⑤	18/10 stainless steel	1000	650	850	300	2	**10 05 11418**



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Customized versions:
The height of the various shelves can be manufactured to the customer's instructions.

webcode To see other variants and accessories, please enter the webcode on our website.

Carts



webcode WW2NY163

① Stainless steel transport cart, 2 shelves

Transport Carts, Stainless Steel, neoLab®

Stainless steel transport carts with 2 to 4 shelves, easy to move on 4 rollers. Easy to clean. Also available on request in sterilizable version, including the rollers.

Shelf dimensions (W × D): 800 × 500 mm
Load capacity: 130 kg

Article	Order No.
① Stainless steel transport cart, 2 shelves	**38 01 27075**
Stainless steel transport cart, 3 shelves	**38 01 27074**
Stainless steel transport cart, 4 shelves	**38 01 27073**

for my lab neoLab



webcode WW2NY251

Folding Carts, neoLab®

The cart can quickly be opened or folded up be pressing a button on the handle. The two support shelves will hold quite a lot of weight. Hinged boxes can be transported on the top level. Integrated securing belts hold down the hinged boxes. The upper hinged shelf can be removed to transport large devices or glassware. Convenient rubber wheels and moveable rollers make the cart easy to push. Amazing maneuverability. The handle can be placed in the vertical position so that the cart will fit into very small elevators. Parking rake on the rear wheels. Sturdy construction featuring aluminum braces and high-grade plastics for long service life.

Supplied with a hinged box.

Technical data:
Maximal load capacity
Upper shelf: 20 kg
Lower shelf: 40 kg
Weight: 6,9 kg

Article	Width × Depth × Height cm	Order No.
Folding cart		**38 01 27050**
Folding box 46 l	53 × 37 × 27	**38 01 27051**

webcode WWXKS057

behr Labor-Technik



Laboratory Cart made from Stainless Steel, Behr

behrotest® stainless steel laboratory cart with integrated transport and collection tray and 2 additional shelves.

Article	Order No.
LW 3 behrotest® laboratory cart	**10 48 13445**



LAT Scientific Instruments

webcode WWW4U038

Laboratory Carts, LAT

Strong frame made of stove-enameled profiled tube (95 cm total height, approx. 60 × 100 cm shelf area); robust, lockable castors; 2 or 3 shelves with raised edges. Optionally available with electrical connection, 3 socket-outlets with earthing contacts and 5 m cable.
On request also available without raised edges - please specify in your order. Color: light gray, RAL 4035.

Article	Order No.
Laboratory cart VWL 30 with 2 shelves	**38 20 14030**
Laboratory cart VWL 40 with 3 shelves	**38 20 14040**

Steps, Ladders

Safety Stepladder, neoLab®

Safety stepladder made of aluminium, TÜV-certified. Extra wide steps (36 x 23 cm) with rounded edges. A nonslip synthetic material coating guarantees a safe standing. The plastic feets have a large seating. Model with 4 and 5 steps have a folding safety gripper. The stepladders getting extremely small when folded. Measures in the list referring to the stowing away measurements.

Version	stand height m	H × W × D cm	Order No.
2 steps	0.46	54,5 × 48,5 × 8	**36 01 26622**
3 steps	0.69	112 × 55 × 7	**36 01 26620**
4 steps, safety strap	0.92	143 × 57 × 12	**36 01 26621**
5 steps, safety strap	1.15	174 × 57 × 12	**36 01 26623**



webcode WW2NY150

Work Benches, Cabinets

Laboratory Benches/Tables, Köttermann

Tables with rollers
- Width 900 mm to 1800 mm
- Depth 600 mm and 750 mm
- Work heights of 750 mm (sitting workstation) and 900 mm (standing workstation)
- Carrying capacity 100 kg per table
- Tabletop: TopResist® and laboratory-grade HPL
- 1 shelf

	W mm	D mm	H mm	Order No.
①	900	600	750	**10 12 00141**
	1200	600	750	**10 12 00142**
	1500	600	750	**10 12 00143**
	900	600	900	**10 12 00144**
	1200	600	900	**10 12 00145**
	1500	600	900	**10 12 00146**

	W mm	D mm	H mm	Order No.
②	900	750	750	**10 12 00147**
	1200	750	750	**10 12 00148**
	1500	750	750	**10 12 00149**
	900	750	900	**10 12 00150**
	1200	750	900	**10 12 00151**
	1500	750	900	**10 12 00152**



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Laboratory Benches, Köttermann

Heavy duty tables with TopResist® table top
With 1 shelf, rollable
Maximum load 400 kg each table

Article	W × H × D mm	Order No.
Heavy duty table	1200×750×600[1)]	**10 12 05709**
Heavy duty table	1500×750×600[1)]	**10 12 05710**
Heavy duty table	1200×750×750[1)]	**10 12 05711**
Heavy duty table	1500×750×750[1)]	**10 12 05712**
Heavy duty table	1800×750×750[1)]	**10 12 05713**
Heavy duty table	1200×900×600[2)]	**10 12 05719**
Heavy duty table	1500×900×600[2)]	**10 12 05720**
Heavy duty table	1200×900×750[2)]	**10 12 05721**
Heavy duty table	1500×900×750[2)]	**10 12 05722**
Heavy duty table	1800×900×750[2)]	**10 12 05723**

[1)] Working height, seating position 750 mm
[2)] Working height, standing position 900 mm



Use the webcode on our website to see a larger selection of products from a specific manufacturer.

webcode

Work Benches, Cabinets

webcode WWGZA025



FLEX-Tower Shelving System, Dewert Labortechnik

FLEX-Tower
Small-footprint shelving system for installation of HPLC, GC, and other analysis systems. Our FLEX-Tower also accommodates the peripheral equipment of modern analysis systems, using up only a small area of the benchtop.
- Solid-core material
- Material: HPL 13 mm white
- Large reach-through openings for maintenance and operation
- Heavy-load castors with locking brakes
- Highly resistant to chemicals
- 2 fixed shelves, 2 shelves adjustable to heights of 50 mm or more above the fixed shelf
- Shelves with 40x250mm reach-through openings at the side and rear
- Rear wall only for bottom shelf
- Collection tray for reagents
- Optional integrated gas supply (zero-air, N2, H2) via gas generators

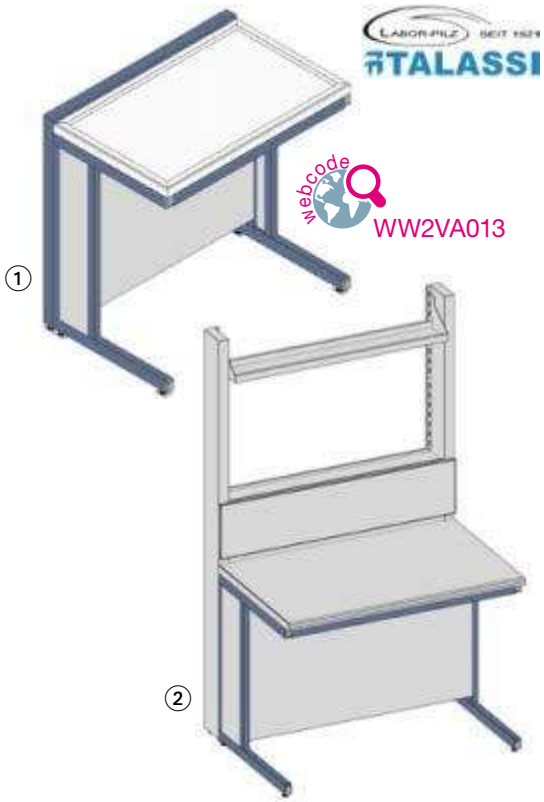
Other versions available on request, fig. contains special equipment.

Article	Width × Depth × Height mm	Order No.
HPLC-Rack Typ 626	626 × 800 × 1950	**10 08 80626**
HPLC-Rack Typ 826	826 × 800 × 1950	**10 08 80826**

Optional accessories

Article	Order No.
Insert element type 400/2 Dimensions (W×D×H): 400 × 550 × 426 mm 2 drawers H200 with full pull-out rail and soft-close pull-in mechanism Material: HPL 13 mm white	**10 08 84002**
PC holder type PC200 Dimensions (W×D×H): 226 × 463 × 300 mm	**10 08 80200**
Folder holder type OR126 Dimensions (W×D×H): 126 × 303 × 320 mm	**10 08 80126**
PP tub for B600 with slide-in element Dimensions (W×D×H): 220 × 787 × 100 mm	**10 08 80600**
PP tub for B800 with slide-in element Dimensions (W×D×H): 420 × 787 × 100 mm	**10 08 80800**
Electrical terminal block with 8 Schuko sockets (4 each white/black), 2 inputs 230V (1 each white/black), 2 Netline connection cables with Schuko angle plugs (1 each white/black), 2 RJ45, 3.5 m connecting cable	**10 08 81002**

webcode WW2VA013



Laboratory Standing Work Tables with a C-Leg Frame, Labor-Pilz/Talassi

① **Laboratory standing work tables**
Dimension: 900 × 900 mm (D×H)

Supporting metal structure:
- Made of steel profile section, C-shape painted with epoxy powders
- Colour: blue (similar to RAL 5014)
- Designated installation area for implementation of untertop cabling and services
- Furniture delivered with adjustable feet
- Worktop without raised edges

Length mm	Worktop HPL coated	solid core	stoneware
	Order No.	**Order No.**	**Order No.**
600	**10 47 46400**	**10 47 46401**	**10 47 46405**
900	**10 47 49400**	**10 47 49401**	**10 47 49405**
1200	**10 47 42400**	**10 47 42401**	**10 47 41245**
1500	**10 47 41540**	**10 47 41541**	**10 47 41545**
1800	**10 47 41840**	**10 47 41841**	**10 47 41845**

② **Laboratory standing work tables incl. wall panel**
Dimension: 900 × 2020 mm (D×H)

Supporting metal structure:
- Made of steel profile section, C-shape painted with epoxy powders
- Colour: blue (similar to RAL 5014)
- Designated installation area for implementation of untertop cabling and services
- Furniture delivered with adjustable feet
- Worktop without raised edges

Wall panel:
- Closed up to 1500 mm height
- 1× adjustable shelf with upstand
- Colour: light grey (similar to RAL 7035)

Continued on next page

Work Benches, Cabinets

Length mm	Worktop HPL coated Order No.	solid core Order No.	stoneware Order No.
600	**10 47 46300**	**10 47 46301**	**10 47 46305**
900	**10 47 49300**	**10 47 49301**	**10 47 49305**
1200	**10 47 41230**	**10 47 41231**	**10 47 41235**
1500	**10 47 41530**	**10 47 45301**	**10 47 41535**
1800	**10 47 41830**	**10 47 41831**	**10 47 41835**

③ **Laboratory standing work tables incl. wall panel with wall cupboard**
Dimension: 900 × 2020 mm (D×H)

Supporting metal structure:
- Made of steel profile section, C-shape painted with epoxy powders
- Colour: blue (similar to RAL 5014)
- Designated installation area for implementation of untertop cabling and services
- Furniture delivered with adjustable feet
- Worktop without raised edges

Wall panel:
- Closed up to 1500 mm height
- 1 wall cupboard with two sliding glass doors and 1 adjustable shelf
- Colour: light grey (similar to RAL 7035)

Length mm	Worktop HPL coated Order No.	solid core Order No.	stoneware Order No.
600	**10 47 46500**	**10 47 46501**	**10 47 46505**
900	**10 47 49500**	**10 47 49501**	**10 47 49505**
1200	**10 47 41250**	**10 47 41251**	**10 47 41255**
1500	**10 47 41550**	**10 47 41551**	**10 47 45505**
1800	**10 47 41850**	**10 47 41851**	**10 47 41855**



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Laboratory Standing Work Tables, Labor-Pilz

Laboratory standing working tables 600 × 900 mm (D×H)
Worktops also available on request with 750 mm or 900 mm depth, and without raised edges
- Body melamine/stainless steel, worktop with raised edges
- Furniture delivered with skirting and adjustable feet
- Colour: light grey (similar to RAL 7035) / stainless steel 1.430

	Length mm	Model	Corpus	Worktop	Order No.
④	640	door hinge left	melamine	HPL coated	**10 47 45012**
④	640	door hinge left	melamine	polypropylene	**10 47 45013**
④	640	door hinge left	melamine	solid core	**10 47 45014**
④	640	door hinge left	melamine	ceramic composites	**10 47 45015**
④	640	door hinge left	melamine	stainless steel	**10 47 45016**
④	640	door hinge left	melamine	stoneware	**10 47 45017**
④	640	door hinge left	stainless steel	stainless steel	**10 47 45001**
④	640	door hinge right	melamine	HPL coated	**10 47 45022**
④	640	door hinge right	melamine	polypropylene	**10 47 45023**
④	640	door hinge right	melamine	solid core	**10 47 45024**
④	640	door hinge right	melamine	ceramic composites	**10 47 45025**
④	640	door hinge right	melamine	stainless steel	**10 47 45026**
④	640	door hinge right	melamine	stoneware	**10 47 45027**
④	640	door hinge right	stainless steel	stainless steel	**10 47 45002**
⑤	1200	2 doors	melamine	HPL coated	**10 47 45062**
⑤	1200	2 doors	melamine	polypropylene	**10 47 45063**
⑤	1200	2 doors	melamine	solid core	**10 47 45064**
⑤	1200	2 doors	melamine	ceramic composites	**10 47 45065**
⑤	1200	2 doors	melamine	stainless steel	**10 47 45066**
⑤	1200	2 doors	melamine	stoneware	**10 47 45067**
⑤	1200	2 doors	stainless steel	stainless steel	**10 47 45006**
⑥	1800	3 doors	melamine	HPL coated	**10 47 41121**
⑥	1800	3 doors	melamine	polypropylene	**10 47 45113**
⑥	1800	3 doors	melamine	solid core	**10 47 45114**
⑥	1800	3 doors	melamine	ceramic composites	**10 47 45115**
⑥	1800	3 doors	melamine	stainless steel	**10 47 45116**
⑥	1800	3 doors	melamine	stoneware	**10 47 45117**
⑥	1800	3 doors	stainless steel	stainless steel	**10 47 45211**

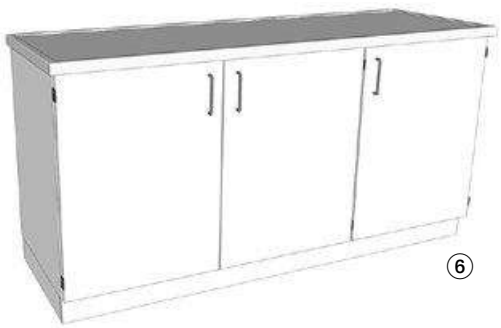


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Work Benches, Cabinets


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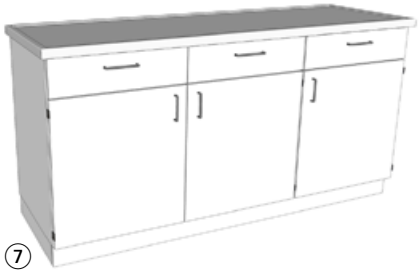

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Laboratory standing work tables with drawer 600 × 900 mm (D×H)
As an alternative, also available with benchtop depth 750 and 900 mm and without raised edge
- Cabinet melamine/stainless steel, benchtop with raised edge
- Drawers: dampened, drawer heights 300 mm with rails, carrying capacity max. 30 kg
- Height-adjustable bases – to compensate for slightly uneven floors
- Colour: light grey (similar to RAL 7035), or stainless steel 1.430

	Length mm	Model	Corpus	Worktop	Order No.
①	640	4 full extensions	melamine	HPL coated	**10 47 45032**
①	640	4 full extensions	melamine	polypropylene	**10 47 45033**
①	640	4 full extensions	melamine	solid core	**10 47 45034**
①	640	4 full extensions	melamine	ceramic composites	**10 47 45035**
①	640	4 full extensions	melamine	stainless steel	**10 47 45036**
①	640	4 full extensions	melamine	stoneware	**10 47 45037**
①	640	4 full extensions	stainless steel	stainless steel	**10 47 45003**
②	1200	2×4 full extensions	melamine	HPL coated	**10 47 45072**
②	1200	2×4 full extensions	melamine	polypropylene	**10 47 45073**
②	1200	2×4 full extensions	melamine	solid core	**10 47 45074**
②	1200	2×4 full extensions	melamine	ceramic composites	**10 47 45075**
②	1200	2×4 full extensions	melamine	stainless steel	**10 47 45076**
②	1200	2×4 full extensions	melamine	stoneware	**10 47 45077**
②	1200	2×4 full extensions	stainless steel	stainless steel	**10 47 45007**
③	1800	3×4 full extensions	melamine	HPL coated	**10 47 45122**
③	1800	3×4 full extensions	melamine	polypropylene	**10 47 45123**
③	1800	3×4 full extensions	melamine	solid core	**10 47 45124**
③	1800	3×4 full extensions	melamine	ceramic composites	**10 47 45125**
③	1800	3×4 full extensions	melamine	stainless steel	**10 47 45126**
③	1800	3×4 full extensions	melamine	stoneware	**10 47 45127**
③	1800	3×4 full extensions	stainless steel	stainless steel	**10 47 45212**

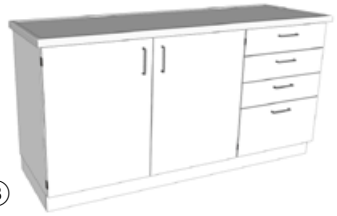
Laboratory standing work tables with door & drawer 600 × 900 mm (D×H)
Worktops also available on request with 750 mm or 900 mm depth, and without raised edge
- Cabinet melamine/stainless steel, benchtop with raised edges
- Drawers: dampened, drawer heights 300 mm with rails, carrying capacity max. 30 kg
- Furniture delivered with skirting and adjustable feet
- Colour: light grey (similar to RAL 7035) / stainless steel 1.430

	Length mm	Model	Corpus	Worktop	Order No.
④	640	door hinge left, 1 full extension	melamine	HPL coated	**10 47 45042**
④	640	door hinge left, 1 full extension	melamine	polypropylene	**10 47 45043**
④	640	door hinge left, 1 full extension	melamine	solid core	**10 47 45044**
④	640	door hinge left, 1 full extension	melamine	ceramic composites	**10 47 40454**
④	640	door hinge left, 1 full extension	melamine	stainless steel	**10 47 45046**
④	640	door hinge left, 1 full extension	melamine	stoneware	**10 47 45047**
④	640	door hinge left, 1 full extension	stainless steel	stainless steel	**10 47 45004**
④	640	door hinge right, 1 full extension	melamine	HPL coated	**10 47 45052**
④	640	door hinge right, 1 full extension	melamine	polypropylene	**10 47 45053**
④	640	door hinge right, 1 full extension	melamine	solid core	**10 47 45054**
④	640	door hinge right, 1 full extension	melamine	ceramic composites	**10 47 45055**
④	640	door hinge right, 1 full extension	melamine	stainless steel	**10 47 45056**
④	640	door hinge right, 1 full extension	melamine	stoneware	**10 47 45057**
④	640	door hinge right, 1 full extension	stainless steel	stainless steel	**10 47 45005**
⑤	1200	2 doors, 2 full extensions	melamine	HPL coated	**10 47 45082**
⑤	1200	2 doors, 2 full extensions	melamine	polypropylene	**10 47 45083**
⑤	1200	2 doors, 2 full extensions	melamine	solid core	**10 47 45084**
⑤	1200	2 doors, 2 full extensions	melamine	ceramic composites	**10 47 45085**
⑤	1200	2 doors, 2 full extensions	melamine	stainless steel	**10 47 45086**
⑤	1200	2 doors, 2 full extensions	melamine	stoneware	**10 47 45087**
⑤	1200	2 doors, 2 full extensions	stainless steel	stainless steel	**10 47 45008**
⑥	1200	door left, 4 full extensions	melamine	HPL coated	**10 47 45092**
⑥	1200	door left, 4 full extensions	melamine	polypropylene	**10 47 45093**
⑥	1200	door left, 4 full extensions	melamine	solid core	**10 47 45094**
⑥	1200	door left, 4 full extensions	melamine	ceramic composites	**10 47 45095**
⑥	1200	door left, 4 full extensions	melamine	stainless steel	**10 47 45096**
⑥	1200	door left, 4 full extensions	melamine	stoneware	**10 47 45097**
⑥	1200	door left, 4 full extensions	stainless steel	stainless steel	**10 47 45009**
⑥	1200	door right, 4 full extensions	melamine	HPL coated	**10 47 45102**
⑥	1200	door right, 4 full extensions	melamine	polypropylene	**10 47 45103**
⑥	1200	door right, 4 full extensions	melamine	solid core	**10 47 45104**
⑥	1200	door right, 4 full extensions	melamine	ceramic composites	**10 47 45105**
⑥	1200	door right, 4 full extensions	melamine	stainless steel	**10 47 45106**
⑥	1200	door right, 4 full extensions	melamine	stoneware	**10 47 45107**
⑥	1200	door right, 4 full extensions	stainless steel	stainless steel	**10 47 45010**
⑦	1800	3 doors, 3 full extensions	melamine	HPL coated	**10 47 45142**
⑦	1800	3 doors, 3 full extensions	melamine	polypropylene	**10 47 45143**
⑦	1800	3 doors, 3 full extensions	melamine	solid core	**10 47 45144**
⑦	1800	3 doors, 3 full extensions	melamine	ceramic composites	**10 47 45145**
⑦	1800	3 doors, 3 full extensions	melamine	stainless steel	**10 47 45146**
⑦	1800	3 doors, 3 full extensions	melamine	stoneware	**10 47 45147**
⑦	1800	3 doors, 3 full extensions	stainless steel	stainless steel	**10 47 45214**

Continued on next page

Work Benches, Cabinets

	Length mm	Model	Corpus	Worktop	Order No.
⑧	1800	2 doors, 4 full extensions right	melamine	HPL coated	**10 47 45132**
⑧	1800	2 doors, 4 full extensions right	melamine	polypropylene	**10 47 45133**
⑧	1800	2 doors, 4 full extensions right	melamine	solid core	**10 47 45134**
⑧	1800	2 doors, 4 full extensions right	melamine	ceramic composites	**10 47 45135**
⑧	1800	2 doors, 4 full extensions right	melamine	stainless steel	**10 47 45136**
⑧	1800	2 doors, 4 full extensions right	melamine	stoneware	**10 47 45137**
⑧	1800	2 doors, 4 full extensions right	stainless steel	stainless steel	**10 47 45213**



⑧

Laboratory Sitting Benches, Labor-Pilz

Dimension: 1500 × 600 × 750 mm (W×T×H)
- Powder-coated C-frame, firmly welded, laboratory bench for sitting
- Furniture delivered with skirting and adjustable feet
- Colour: worktopg light grey (similar to RAL 7035) / frame stainless steel 1.430
- Max. load 150 kg (evenly loaded)

Available on request:
- Laboratory bench 900 mm height
- Worktop depth 750 mm or 900 mm
- Worktop length 1000/1200/1500/1800 mm
- With raised edges



webcode WW2VA017

Worktop	Order No.
melamine	**10 47 48031**
HPL coated	**10 47 48032**
polypropylene	**10 47 48033**
solid core	**10 47 48034**

Worktop	Order No.
composite ceramics	**10 47 48035**
stainless steel	**10 47 48036**
stoneware	**10 47 48037**

LABOR-PILZ SEIT 1921

Laboratory Sink, Labor-Pilz

webcode WW2VA003

Dimensions: 1200 × 600 × 900 mm (W×D×H)
worktops also available on request with 750 mm or 900 mm depth
- Body melamine/stainless steel, worktop with raised edge
- Cabinet with partition panel, two doors (left- and right-hinged)
- 1 adjustable shelf, installation area without back panel,
- 1× mixer tab, 1× eye shower with shower head, surface drain board next to sink
- Furniture delivered with skirting and adjustable feet
- Colour: light grey (similar to RAL 7035) / stainless steel 1.430



Sink	Corpus	Worktop	Order No.
left	melamine	polypropylene	**10 47 45511**
left	melamine	solid core	**10 47 45512**
left	melamine	ceramic composites	**10 47 45513**
left	melamine	stainless steel	**10 47 45514**
left	melamine	stoneware	**10 47 45535**
left	stainless steel	stainless steel	**10 47 45501**
right	melamine	polypropylene	**10 47 45521**
right	melamine	solid core	**10 47 45522**
right	melamine	ceramic composites	**10 47 45523**
right	melamine	stainless steel	**10 47 45524**
right	melamine	stoneware	**10 47 45545**
right	stainless steel	stainless steel	**10 47 45502**

Laboratory Sink with Wall Panel, Labor-Pilz/Talassi

LABOR-PILZ TALASSI

webcode WW2VA021

Dimension: 1200 × 900 × 2020 mm (W×D×H)
Body melamine, worktop with raised edges

Supporting metal structure:
- Made of steel profile section, C-shape painted with epoxy powders
- Colour: blue (similar to RAL 5014)
- Designated installation area for implementation of untertop cabling and services
- Furniture delivered with adjustable feet
- Wall panel with 1 mixer and 1 draining rack
- Working top with sink left and draining board right (opposite orientation available on request)



Undertop cabinet:
- 1 mobile cabinet with two doors (right- and left-hinged)
- Without back panel
- Colour: light grey (similar to RAL 7035)

Worktop	Order No.
polypropylene	**10 47 45420**

Worktop	Order No.
stoneware	**10 47 45421**

webcode To see other variants and accessories, please enter the webcode on our website.

Work Benches, Cabinets

webcode WW2VA002



Sludge Trap / Sedimentation Tank, Labor-Pilz

Polypropylene sludge trap/sedimentation tank for retention of heavy suspended particles in waste water.
Ideal for waste water pre-treatment by gravitation for application in building material test labs, ceramics labs, metallurgical labs, and other test laboratories producing waste water with a high sediment load which requires pre-treatment before it can be fed into the municipal sewage system.

- Lid with sealing gasket and clip closure
- Inner basket with two-chamber system (removable)
- With wheels

Technical data:	**4711-SF4020**	
Outer diameter with lid:	335 mm	420 mm
Height tank:	300 mm	400 mm
Height including wheels and lid:	400 mm	500 mm
Volume inner tank:	14 l	18 l
Volume outer tank:	21 l	25 l
Connections:	G 1 1/2″	G 1 1/2″
Colour:	Tank RAL 7032, lid RAL 7011	

Article	Order No.
Sludge trap 4711-SF4020	**10 47 41241**
Sludge trap 4711-SF4040	**10 47 41240**

webcode WW2VA020



Base Cabinets on Casters, Labor-Pilz/Talassi

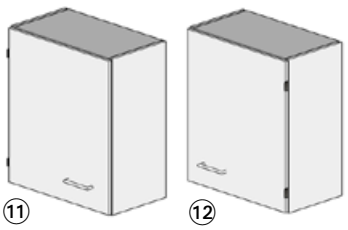
Dimension: 445 × 795 mm (D×H)

Cabinet:

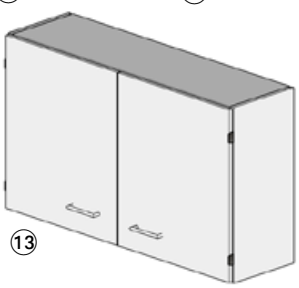
- Made of melamine
- Available in different types with doors or damped drawers
- Colour: light grey (similar to RAL 7035)
- Metal frame blue (similar to RAL 5014) with wheels

Full metal cabinets are available on request.

	Length mm	Version	Order No.
①	567	1 door, hung on the right	**10 47 49557**
②	567	1 full extension, 1 door	**10 47 49558**
③	567	4 full extensions	**10 47 49559**
④	567	3 full extensions	**10 47 49560**
⑤	567	2 full extensions	**10 47 49561**
⑥	567	2 full extensions of different heights	**10 47 49562**
⑦	835	2 wing doors	**10 47 49584**
⑧	1136	2 wing doors	**10 47 49514**
⑨	1136	2 full extensions, 2 wing doors	**10 47 49515**
⑩	1136	4 full extensions	**10 47 49516**



webcode WW2VA018



Wall Cupboards, Labor-Pilz

Dimension: 320 × 700 mm (T×H)

- With one adjustable shelf
- Made of melamine
- Colour: light grey (similar to RAL 7035)

	Length mm	Version	Order No.
⑪	600	1 door, hung on the left	**10 47 47001**
⑫	600	1 door, hung on the right	**10 47 47002**
⑬	1200	2 doors, hung on the left and right	**10 47 47003**

Work Benches, Cabinets

Laboratory Benches and Cupboards, BOCHEM

webcode WWQ7J062

18/10 steel laboratory benches:
made of chromium-nickel steel, material No. 4301/5, with finely ground surface
- sturdy, welded frame made of square section tube
- noise-insulated bench top and shelves
- drawers with telescopic guides
- adjustable feet
- height adjustable shelves
- double walled sliding door, with ball-bearing guide
- drawers on right or left
- G.N. 1/1-100 and G.N. 1/1-200 drawers
- sitting-height laboratory benches, 75 cm high


①

Laboratory benches without base panel

	H cm	L cm	W cm	Order No.	H cm	L cm	W cm	Order No.
①	75	100	75	**91 05 11500**	75	250	75	**91 05 11503**
	75	150	75	**91 05 11501**	75	300	75	**91 05 11504**
	75	200	75	**91 05 11502**				


②

Laboratory benches with base panel

	H cm	L cm	W cm	Order No.	H cm	L cm	W cm	Order No.
②	75	100	75	**91 05 11510**	75	250	75	**91 05 11513**
	75	150	75	**91 05 11511**	75	300	75	**91 05 11514**
	75	200	75	**91 05 11512**				


③

Laboratory benches with drawers at both ends

	H cm	L cm	W cm	Order No.	H cm	L cm	W cm	Order No.
③	75	200	75	**91 05 11532**	75	300	75	**91 05 11534**
	75	250	75	**91 05 11533**				


④

Laboratory benches with base panel, shelf and sliding doors

	H cm	L cm	W cm	Order No.	H cm	L cm	W cm	Order No.
④	75	100	75	**91 05 11580**	75	250	75	**91 05 11583**
	75	160	75	**91 05 11581**	75	300	75	**91 05 11584**
	75	210	75	**91 05 11582**				

Laboratory benches with base panel, shelf, sliding doors and drawers on the right

	H cm	L cm	W cm	Order No.	H cm	L cm	W cm	Order No.
⑤	75	160	75	**91 05 11591**	75	250	75	**91 05 11593**
	75	210	75	**91 05 11592**	75	300	75	**91 05 11594**


⑤

Your specialized laboratory dealer –
fast, competent and economical

Weighing Tables

webcode WWGZA021

DEWERT LABORTECHNIK



①



②

Weighing Benches, Dewert Labortechnik

Weighing Benches
- Made of ground granite
- Vibration-free construction with more leg room
- Stainless steel strut and vibration dampers
- Color variations are possible
- Special sizes on request
- Dimensions (W×D×H): 900 × 600 × 750 mm
- Weight: approx. 210 kg
- Delivery free buyer's address in Germany (except islands)

Article	Order No.
① Weighing bench	**91 08 81000**

Anti-vibration table – weighing table on stainless steel base
- Granite workbench 900 × 600, polished, easy to clean
- Vibration-free stainless steel frame with vibration dampers, height adjustable
- Designed for use also in S2 laboratories
- Workbenches made from other materials available on request
- Colour may differ from photo
- Stainless steel 1.4301 as a standard
- Special dimensions available on request
- Dimensions (W×D×H) 900 × 600 × 750 mm
- Weight: approx. 100 kg
- Delivery free buyer's address in Germany (except islands)

Article	Order No.
② Anti-vibration table	**10 08 81001**

AE ADAM



webcode WWDX7007

Anti-vibration Table, AE Adam

- Large working area: 400 mm × 450 mm
- Two-table construction keeps the granite block in the middle and reduces interference
- Sturdy design
- Comes in a small package; easy to assembly
- Height-adjustable feet
- High-quality lightweight aluminium frame
- Scratch-resistance working area
- Polished finish

Article	Order No.
Anti-vibration table	**10 56 58036**

Chairs

for my lab neoLab



③



④

webcode WW2NY013

Laboratory Chairs, neoLab®

Ideal for Class S1 and S2 cleanrooms, easy top decontaminate.
Tested and approved by German chemical association and biotech inspectorate.
- hard-wearing and functional
- pneumatic seat height adjustment
- for ergonomic sitting in the laboratory and workshop
- with twin castors and sliding feet for hard floors

Swivel chairs with mechanical adjustment of backrest height and tilt
Features: Seat and backrest made of black PU foam or natural beechwood

Version	Equipment	Seat height adjustment approx. cm	Order No.
③ PU foam, black	with castors	42 – 54	**10 01 11062**
③ PU foam, black	with sliding feet	42 – 54	**10 01 11063**
③ PU foam, black	with castors	47 – 64	**10 01 11064**
③ PU foam, black	with sliding feet	47 – 64	**10 01 11065**
④ PU foam, black	with castors+foot ring	47 – 64	**10 01 11066**
④ PU foam, black	with sliding feet+foot ring	47 – 64	**10 01 11067**
④ PU foam, black	with sliding feet+foot ring	56 – 82	**10 01 11068**
⑤ Natural beechwood	with castors	42 – 54	**91 01 11169**
⑤ Natural beechwood	with castors	47 – 64	**91 01 11201**

Continued on next page

Chairs

Swivel stool for relaxed working, with rigid seat

Features: PU foam round seat, natural beechwood round seat or upholstered round seat covered in black artificial leather, black aluminium base

	Version	Equipment	Seat height adjustment approx. cm	Ø cm	Order No.
⑥	PU foam, black	with castors	42 – 54	35	**91 01 11203**
⑥	PU foam, black	with castors	47 – 64	35	**91 01 11204**
⑦	Natural beechwood	with castors	42 – 54	35	**91 01 11205**
⑦	Natural beechwood	with castors	47 – 64	35	**91 01 11206**
⑧	upholstered artificial leather black	with castors	42 – 54	38	**91 01 11207**
⑧	upholstered artificial leather black	with castors	47 – 64	38	**91 01 11208**





Swivel high-stool with tilting seat, base on sliding feet, black frame

Standing aid with saddle seat made of black PU foam, with carrying handle.

- With seat tilt
- Turnable, height adjustable with the gas lift
- Black aluminium five foot base with sliding feet
- Especially suitable for cleanrooms S1 and S2, easy to decontaminate
- Recommended for the biotechnology

	Version	Equipment	Seat height adjustment approx. cm	Order No.
⑨	PU foam	with sliding feet	56 – 88	**91 01 11209**



Laboratory Chairs, LAT

⑩ High-stool

- seat made of black PU foam
- adjustable height by means of safe gas lift, 55 – 80 cm
- rocking technology
- x-base, black
- sliding feet or stopper castors

Article	Order No.
High-stool with stopper	**10 20 10101**
High-stool with castors	**10 20 10102**



webcode WWW4U029

⑪ Swivel stool

- seat made of black PU foam
- adjustable height bye means of safe gas lift, 46 – 66 cm
- ring trigger
- castors stopped depending on load

Article	Order No.
Swivel stool	**10 20 10105**



⑫ Swivel stool

- seat made of black PU foam
- saddle seat
- Adjustable seat tilt
- adjustable height bye means of safe gas lift, approx. 46 – 66 cm
- ring trigger
- castors stopped depending on load for hard floors

Article	Order No.
Swivel stool with saddle seat	**10 20 10106**



⑬ Laboratory chair

- mould seat and back rest made of PU foam
- adjustable height, 46 – 66 cm
- height of back rest adjustable
- tilt of seat and back adjustable
- castors for hard floors

Article	Order No.
Laboratory chair	**10 20 10108**



Continued on next page

Chairs



①



②



③

① Laboratory chair

- mould seat and back rest made of PU foam
- adjustable height by means of safe gas lift
- height of back rest adjustable, swinging
- adjustable seat depth

Article	Order No.
Laboratory chair, castors with load-dependent braking Height-adjustable: approx. 46 – 66 cm	**10 20 10110**
Laboratory chair with foot-ring and sleeding feet Height-adjustable: approx. 55 – 80 cm	**10 20 10111**

② Laboratory chair

- imitation leather black, seamless and tightly upholstered
- ergonomically shaped
- height adjustable by means of safe gas lift, ca. 46 – 66 cm
- height of back rest adjustable, swinging
- synchronous technology
- castors stopped depending on load

Article	Order No.
Laboratory chair made of artificial leather	**10 20 10115**

③ Laboratory chair

- Leatherette, ESD conductive, tear-proof, non-skid, black
- Height adjustable by means of safe gas lift, black, approx. 44 cm to 59 cm
- Height of backrest adjustable
- Comfortable backrest for permanent contact
- x-base, black
- Conductive castors for hard floors

Article	Order No.
Laboratory chair made of artificial leather, ESD	**10 20 10116**

Fume Hoods



④



⑤

Tabletop Fume Hoods / Pharmacy Hoods, Köttermann

Tabletop fume hoods

Tabletop fume hoods extract less critical hazardous substances released for example during refilling processes. Enclosed on three sides, they have fairly good extraction capacities. Tabletop fume hoods are no replacement for laboratory fume hoods as they have no certified ventilation technology.

- Color: arctic white; NCS S 0505 R 80 B
- For setting up on a table at a height for working while sitting or standing
- Self-carrying housing made of galvanized and epoxy-coated steel
- Front sliding screen made of polyacrylics
- Exhaust connection: DN 110
- Illuminated workspace
- Available with and without fan

W × H × D mm	Equipment	Order No.
800×1350×640	with fan	**10 12 04516**
④ 800×1350×640	without fan	**10 12 04517**

⑤ Pharmacy hoods

Pharmacy hoods are small hoods designed specifically for handling hazardous materials in pharmacies. The pharmacy hood is a hood pursuant to DIN 12924-4 designed for general use in laboratories pursuant to laboratory regulations.

- Colour: Arctic White; NCS S 0505 R 80 B
- For tabletop installation at sitting or standing working height
- Polyacrylic front pane
- Exhaust connection: DN 110
- Illuminated working space
- Available with and without media

Width × Depth × Height mm	Version	Order No.
900 × 1350 × 640	with media, with fan	**10 12 04512**
900 × 1350 × 640	with media, without fan	**10 12 04513**
900 × 1350 × 640	without media, with fan	**10 12 04514**
900 × 1350 × 640	without media, without fan	**10 12 04515**

Fume Hoods

High Performance Fume Cupboards, Irmeco

webcode WWR5C002

External walls of strong steel construction covered with epoxy paint, internal lining (chamber material) of stainless steel covered with chemically resistant epoxy paint, lateral panels with aerodynamic profile; equipped with over pressure protection system; moveable sash window (optional: Auto Protect system), countertop made of monolith technical ceramic, anti-acid, thickness 30 mm, with glazed surface and over-raised edge, for preventing the linking; under-bench storing cabinets made of steel covered with epoxy paint, for short term acids/bases storing; control panel for control of the unit; for connection to available venting system; certified according to EN 14175.

Standard equipment:
- Integrated lighting
- 2 × plugs 230 V (16A) sockets, splash proof IP 44 version
- 1 × cold water inlet valve with spout
- 1 × gas
- Sink made of solid homogenous ceramics, dimensions 280 × 80 mm
- Color of fittings in grey RAL 7035
- Touch screen controller, for complete control of the unit with alarm function

Article	Order No.
Fume cupboard, 1192×912×2462 mm	**10 15 80120**
Fume cupboard, 1492×912×2462 mm	**10 15 80150**
Fume cupboard, 1792×912×2462 mm	**10 15 80180**

Individual requests about a different configurations are welcome.
Customized solutions available on request.



Fume Hood for General Use, Labor-Pilz/Talassi

webcode WW2VA019

Standard equipment:
- Sash sliding vertically with protective safety glass sliding horizontally
- Electronic control MA95FLOW with display and visual and sonorous alarm
- Multilingual software
- Door locking device at 50 cm opening
- SAFETY-BLOCK device in case of ropes breaking
- Internal HPL with worktop in monolithic GRES with retaining edges
- Saving energy Led lamp IP65 for indoor lighting > 400 lux
- IP55 220 V electrical outlets protected by circuit breaker

Accessories and / or customizations:
- Box with combined charcoal and absolute filters for cabinets for acids and bases or flammables
- Stainless steel frameworks for glassware
- Airflowcontrol
- Internal coatings (high-resistance polypropylene, PVC, stainless steel, stoneware)
- Technical gases taps and pressure regulators

Further models of fume cupboards are available on request:
- Fume hood with weighing device
- Fume hood for powders
- Fume hood for aggressive acids
- Fume hood with low-level working top
- Walk-in fume hood

Image with optional details

Inner dimensions W×T mm	Outer dimensions W×D×H mm	Outer height max. mm	Order No.
900 × 750	1045 × 830 × 2355	2750	**10 47 45603**
1200 × 750	1345 × 830 × 2355	2750	**10 47 45605**
1500 × 750	1645 × 830 × 2355	2750	**10 47 45606**



Use the webcode on our website to see a larger selection of products from a specific manufacturer.

Table and Filter Fume Extractors



Fume Cupboards, CARLO ERBA Reagents

Recirculated-air fume cupboards with state-of-the-art molecular filtration technology

The ChemFAST Elite fume cupboard is in compliance with standard EN ISO 14175-3 and offers **maximum protection** from hazardous gases, vapours, aerosols etc. A blower system with a matching filter extracts the particles from the air, reliably protecting the operator from any hazardous substances.

ChemFAST Elite:
The fume cupboard can either be connected to the exhaust air system or run in recirculation mode.
- Lowest energy consumption <57 dB(A) at 0.9m
- Operating hours indication
- Filter saturation indication
- Selection of 9 different filters, also available in combinations of two
- Fold-up front pane for optimum cleaning
- Side windows made of laminated safety glass
- Chemical-resistant worktop
- Selection of chemicals filters for different applications
- Multi-function display with PLC control
- Non-dazzle LED work lights
- Workspace can be removed for easy cleaning

Possible filter types:
- HEPA filter (e.g. powder, particle)
- A/C filter (e.g. solvent)
- ACR filter (e.g. radioactivity)
- FORM filter (e.g. formaldehyde)
- SULF filter (e.g. acids, sulphides RH >85%)
- UR filter (e.g. acids, sulphide RH <85%)
- CYAN filter (e.g. hydrocyanic acid)
- MER filter (e.g. mercury)
- AM filter (e.g. ammonia)

Type	Outer dimensions W×H×D mm	Working range W×H×D mm	**Order No.**
0.6	595×1120×760	553×660×600	**10 35 30183**
0.9	885×1120×760	823×660×600	**10 35 30184**
1.2	1185×1120×760	1185×660×600	**10 35 30185**
1.5	1500×1120×760	1438×660×600	**10 35 30186**
1.8	1800×1120×760	1738×660×600	**10 35 30187**

Prices without filters

webcode WWW4U101



Mobile Gas Flue ECO², LAT

Mobile gas flue ECO²
Gas flue / gas filter cabinet without vent pipe
For handling reagents or chemical compounds at room temperature or medium temperatures in all kinds of laboratories.
- Filter change system USB
- Mechanical anemometer
- Constant suction speed
- Control for filter regulation
- LED light
- 2 years' warranty

Technical data:

External dimensions (W×D×H):	778 × 569 × 760 mm
Internal dimensions (W×D×H):	798 × 600 × 1012 mm
Average treated air volume:	160 m³/h
Cabinet air renewals:	9 renewals/min
Total power consumption:	47 W
Noise level:	50 dB
Weight:	65 kg
No. filter:	1 to 2

Article	**Order No.**
Mobile gas flue with filter, type ECO² G	**10 20 12001**

Please order the suitable filter for your application as well as the floor unit on castors separately!

Continued on next page

Table and Filter Fume Extractors

Accessories

Article	Order No.
Movilair, mobile rack	**10 20 12135**
Transparent back wall	**10 20 12138**
Fluid retention tray	**10 20 12134**

HEPA filter activated carbon

Article	Order No.
Type AD (organic vapors)	**10 20 12140**
Type BED (inorganic acids)	**10 20 12141**
Type FD (aldehydes and organic compounds)	**10 20 12142**
Type KD (NH3, amines)	**10 20 12143**
Type ABEKD (composite filter)	**10 20 12144**
Type MGD (mercury)	**10 20 12145**

Ductless Filtering Fume Enclosure acc. to EN14175-3 and EN14175-6, Weidner



Ductless Filtering Fume Enclosure

- Outside dimensions (L×D×H) 1000 × 750 × 1500 mm
- Inside dimensions (L×D×H) 940 × 590 × 750 mm
- Opening height 80 – 380 (service up to 650 mm)
- Opening width 780 mm
- Incl. fan with 230 V Schuko plug
- Illumination
- Front sliding sash and side walls made from safety glass
- Structure of the benchtop fume hood made of powder-coated steel, rear wall of fume hood coated with HPL
- Working bench stainless steel (also available with other laboratory working benches made of polypropylene, vitrified clay, solid phenol resin)

Automatic adjustment of the fan power when opening the sliding sash. Visual alarm in case of insufficient air flow and if maintenance is required.
The molecular air filtration process is carried out via an adsorption process in an activated carbon filter. Pre-filtration to remove ambient dust is carried out with a high-throughput electrostatic pre-filter. 95% efficiency with particles of 0.5 µm (class M6).

Article	Order No.
Ductless filtering fume enclosure	**83 58 02040**

Accessories

Article	Order No.
Activated carbon filter set for solvents	**83 58 02041**
Activated carbon filter set for acids	**83 58 02042**

Have any questions?
Just give us a call!

Safety Work Benches

webcode WWPKJ008

HMC EUROPE Labor- & Sterilisationstechnik

Microbiological Safety Cabinet, Class II, HMC



②

Safeguard-Pro safety cabinets – customised solutions for microbiological tasks
Premium product and user protection combined with easy handling and cleaning of the units. The Safeguard Pro 600 is not wider than a commercially available laboratory dishwasher! This small footprint gives you extra space.

Features at a glance:
- Biological safety cabinets, class II
- Highest personal, product and carry-over protection
- Negative pressure system
- Available in different sizes:
  HMC Safeguard Pro 600 with a width of only 600 mm (external and internal dimensions)
  HMC Safeguard Pro 1200 with a width of 1300 mm (external dimensions) / 1200 mm (internal dimensions)
- Remarkably low noise level: <47 d(BA) at 0.5 m/s inflow and 0.35 m/s downflow
- Remarkably low power consumption: The safety cabinet can run at half speed all the time and therefore reaches operativeness fast. In addition, it keeps the working space free from aerosol from the surrounding air. You will save time and money because the low power consumption can pay off the purchase costs in little time.
- Highly visible and audible alarm signals in case of malfunction ensure premium product and user protection
- Frameless side windows for easy cleaning and a divided stainless steel working surface which is particularly simple to handle and to clean.
- Relief for tired eyes: A dimmable LED-light is a standard feature for the working space; maximum 2000 lux.
- UV light as an option
- Wide range of optional accessories
- Latest technology (e.g. optional remote control)
- Made in Sweden
- Functional and modern design



①

Technical data:	HMC Safeguard Pro 600	HMC Safeguard Pro 1200
Front window opening:	200 (adjustable 180 – 330) mm	200 (adjustable 180 – 330) mm
Work height, standard support stand:	700 – 1050 mm	700 – 1050 mm
Weight:	145 kg	220 kg
Downflow:	0.28 m/s (adjustable 0.25 – 0.53 m/s)	0.28 m/s (adjustable 0.25 – 0.53 m/s)
Inflow:	0.45 m/s (adjustable 0.45 – 0.55 m/s)	0.45 m/s (adjustable 0.45 – 0.55 m/s)
Deviation ±:	< 8%	< 8%
Noise level ISO 3744:	46 dB(A)	46 dB(A)
Down flow rate:	340 m^3/h	680 m^3/h
Exhaust flow rate:	180 m^3/h	390 m^3/h
Downflowfilter,	HEPA H14 EN 1822	HEPA H14 EN 1822
Exhaustfilter:	99.999% at 0,3 µm particle size	99.999% at 0,3 µm particle size
Lighting of the working surface (LED):	0 – 2000, dimmbar	0 – 2000, dimmbar
Voltage frequency:	220–240 V/50–60 Hz or 110–120 V/50–60 Hz	220–240 V/50–60 Hz or 110–120 V/50–60 Hz
Power consumption min.:	60 W	100 W

	Article	Outer dimensions W × D × H mm	Working range W × D × H mm	Order No.
①	HMC Safeguard Pro 600	600 × 730 × 1953 (1978)	1303 × 799 × 1953 (1978)	**10 60 58000**
②	HMC Safeguard Pro 1200	540 (597) × 530 (640) × 700	1200 × 520 (625) × 700	**10 60 58001**

Carriage on request

Microbiological Safety Cabinets, CARLO ERBA Reagents

Safety cabinets class II pursuant to DIN EN 12469:2000

The microbiological safety cabinets by FASTER are manufactured in compliance with the standards EN 12469:2000 and NSF/ANSI 49. They are designed for work in the field of genetic engineering and microbiology or for handling cell cultures and ensure the safety of the staff, the products, and the environment. We offer the matching unit to suit your requirements.

SafeFAST Premium:
- < 85 Watt at 1.2m
- < 42.5 dB(A)
- Energy save Mode
- Double fan
- Motorised, fold-up front pane
- Electronic fan control (automatic readjustment with increased filter contamination)
- Stainless steel interior, worktop: 1.4404, rear wall 1.4301

Continued on next page

Safety Work Benches

- Side windows made of laminated safety glass
- Operating hours counter, fan power, etc.
- Non-dazzle LED work lights
- Digital airflow speed indication inflow / downflow
- Waste air and circulated air monitoring with optical and acoustic alarm, as well as all control functions required acc. to DIN 12469:2000
- Display with user interface
- Pressure-reduced heavy-duty suspended particles filter class H14 acc. to DIN EN 1822
- DEHS connectors for filter qualification

Optional accessories:
- UV lamp
- Electrically adjustable or height-adjustable base frame
- Prefilter G4
- Activated carbon filter
- Additional sockets
- Floating contact
- Various connection cocks (vacuum, compressed air, nitrogen, gas, water)
- Various connections (RS 232, RS 485, RJ 45, USB)
- Draft-free waste air connection

Type	Outer dimensions W×H×D mm	Working range W × H × D mm	**Order No.**
0.9m	1045×2350×860	887×740×580	**10 35 32490**
1.2m	1350×2350×860	1192×740×580	**10 35 32520**
1.5m	1655×2350×860	1497×740×580	**10 35 32550**
1.8m	1960×2350×860	1802×740×580	**10 35 32580**



webcode WWW4U102

Safety Cabinet BIO 1, LAT

Safety cabinet BIO; microbiological safety and environmental compatibility are certified by TÜV Nord according to EN 12469:2000. Safety cabinet of CLASS II TYPE A2 equipped with standard UV light, developed to protect the personnel and the environment from the material handled in it while at the same time preventing any external contamination of this material, which is of risk groups 1, 2, and 3.

- Handling of micro-organisms, bacteria, fungi, viruses, and parasites of risk groups 1 and 2, and isolation and sample culture
- Quantification methods
- Microscopy techniques and sample preparation, identification and typing of micro-organisms
- Genetic engineering

Standard equipment
- Counter
- Service socket
- Fuel gas line
- Compressed gas or vacuum supply tap
- UV light
- HEPA activated carbon filter

Optional accessories
- Additional taps for gaseous liquids
- Passive suction kit for external discharge
- Formalin evaporator and corresponding accessories for carrying out the semi-automatic decontamination cycle
- Sockets for various connections to devices placed in the cabinet
- Motorized suction kit for external discharge
- Motorized suction kit with remote-controlled fan motor for external exhaust
- Additional activated carbon or HEPA filters when discharging
- Tubular support table
- Movilair, base with castors

Technical data:

External dimensions (W×D×H):	1074 × 840 × 1450 mm
Internal dimensions (W×D×H):	924 × 600 × 700 mm
Average treated air volume:	±350 m^3/h
Cabinet air renewals:	0,50 m/s
Total power consumption:	260 W
Noise level:	<49 dB
Weight:	227 kg
No. filter:	1 to 2

Article	**Order No.**
Safety cabinet BIO 1	**10 20 12150**

Additional equipment available on request, please contact us.



Safety Work Benches

webcode WW4HV035

thermoscientific



① Herasafe 2030i 1.2 m

Thermo Scientific™ Herasafe™ 2030i Class II Biological Safety Cabinets, Thermo Scientific

For demanding cell culture applications and other sensitive tasks where the safety of the product, the staff, and the environment must be ensured.

- Graphic user interface with touchscreen
- Stainless steel interior with LED lighting
- 200-mm front pane and UV-C cross-beams in the side walls
- Patented SmartFlow Plus system provides for automatic regulation of the air speed and of the efficient dual DC fan motors
- Digital airflow monitoring system DAVe Plus with independent pressure sensors for optimum protection of user and sample
- Start/stop function at the push of a button
- Cross-beam UV in the side walls
- Front pane folds up for easy cleaning and disinfection of the interior
- Inclined front pane, electronically adjustable, for fatigue-free working position
- Cushioned arm rests, ergonomically adjustable (optional)
- 2 Smart Ports for leading through vacuum tubes and cables
- USB connection, cloud-capable for data transmission via WLAN
- Adapts to the individual requirements thanks to the wide range of options and accessories
- EN 12469

Model	W work space m	Outer W × D × H mm	Order No.
Herasafe 2030i	0.9	1000×800×1536	**10 79 22328**
① Herasafe 2030i	1.2	1300×800×1536	**10 79 22329**
Herasafe 2030i	1.5	1600×800×1536	**10 79 22330**
Herasafe 2030i	1.8	1900×800×1536	**10 79 22331**

To see other cabinet models and accessories, please enter webcode WW4HV035 to access our online catalogue.

Insulators



SICCO Glove Box with Transfer Chamber, Bohlender

Made of acrylic panels, PE base panel in the work space, aluminium frame, 4 quick couplings, 2 hoses, natural rubber gloves size 9, 2 lead-ins for cables on the backside (upper left and upper right).

- Low cost compared to conventional steel glove boxes
- Light weight combined with robust construction
- Easy to move and install
- Superb all-round visibility
- Absolutely tight
- Clever solution for efficient work
- Large front opening

Optional types:

- Light protected or antistatic
- Box modularly expandable
- Openings for connections to a fume hood
- Additional pair of gloves at the back side

Technical data:

Panels:	clear
Material:	PMMA
Temperature resistance:	from -20°C to +70°C
Use:	normal pressure
Stand:	rubber feet
Maximum all-over load Box:	40 kg
Maximum all-over load transfer chamber:	3 kg
Usable volume Box:	260 l

Outer dimensions W × H × D	Wght	Usable interior space box W × H × D	Usable interior transfer chamber W × H × D	Hinged lid opening W × H	Order No.
mm	kg	mm	mm	mm	
1210×780×600	20	850×500×540	220×275×320	850×425	**10 17 68208**

Insulators

SICCO Glove Box for Exhaustion, Bohlender



Aluminium frame with panels made of acrylic glass. Base panel, integrated connector for exhaust system and closing lid made of polyethylene. Iris-Ports and cable lead-ins made of polyethylene and silicone. Two lead-ins for cable on the back side (upper left and upper right).

Two crosswise slotted silicone discs each in the openings and cable lead-ins. They are staggered mounted so that the overlapping segments at the same time allow easy access to the interior space and close the openings at non-use. The Iris-ports ensure pressure compensation through air streaming when the exhaust system is switched on.

Connection to exhaust system through an integrated connector on the top panel. This connector is graded for tubes with inner diameters 100, 120, 160 and 180 mm. When working without exhaust system the opening can be closed with a lid.

Technical data:

Panels:	clear
Material:	PMMA
Temperature resistance:	from -20°C to +70°C
Use:	normal pressure
Stand:	rubber feet
Maximum all-over load Box:	40 kg
Usable volume Box:	290 l

Outer dimensions W × H × D mm	Weight kg	Usable interior space W × H × D mm	Hinged lid opening W × H mm	**Order No.**
890×700×600	16	850×650×540	850×425	**10 17 69888**

SICCO Glove Box with Transfer Chamber Antistatic, Bohlender



Aluminium frame with static dissipative panels made of polycarbonate, base panel made of static dissipative polyethylene. Front panel with two glove ports and one pair of static dissipative EPDM gloves size 9,75, two lead-ins for cables on the back side (upper left and upper right). Transfer chamber with two doors, external door with latch to prevent accidental opening, the tray extends into the workspace with opening of the internal door for easy removal of inserted products.
Work space and transfer chamber each including two hose connectors for gas-filling and aeration and appropriate tubing (2x 5 m tubing for gas-filling made of PVC and 2x 5 m aeration tubing made of PE).
All materials used can discharge electrostatic charging by means of a grounding cable which can be connected on the back side (connecting thread M6).

Technical data:

Panels:	bluish
Material:	PC-ESD
Temperature resistance:	from -20°C to +70°C
Use:	normal pressure
Stand:	rubber feet
Maximum all-over load Box:	40 kg
Usable volume Box:	290 l

Outer dimensions W × H × D mm	Wght kg	Usable interior space W × H × D mm	Usable interior transfer chamber W × H × D mm	Hinged lid opening W × H mm	**Order No.**
1210×700×600	20	850×650×540	220×275×320	850×425	**10 17 69208**

Use the webcode on our website to see a larger selection of products from a specific manufacturer.

Insulators



SICCO Glove Box Vitrum with Transfer Chamber, Bohlender

Aluminium frame with panels made of borosilicate glass, front panel with two glove ports, right side panel and bottom side base panel made of aluminium, top side of base panel made of stainless steel. Including one pair of natural rubber gloves size 9, two lead-ins for cable on the back side (upper left and upper right).
Transfer chamber with two doors, external door with latch to prevent accidental opening, the tray extends into the workspace with opening of the internal door for easy removal of inserted products. Work space and transfer chamber each including two hose connectors for gas-filling and aeration and appropriate tubing (2x 5 m tubing for gas-filling made of PVC and 2x 5 m aeration tubing made of PE).

Technical data:

Panels:	clear
Material:	borosilicate 3.3
Temperature resistance:	from -20°C to +120°C
Use:	normal pressure
Stand:	rubber feet
Maximum all-over load Box:	40 kg
Usable volume Box:	290 l

Outer dimensions W × H × D mm	Wght kg	Usable interior space W × H × D mm	Usable interior transfer chamber W × H × D mm	Hinged lid opening W × H mm	Order No.
1210×700×600	36	850×650×540	220×275×320	850×425	**10 17 68608**



SICCO Glove Box Air Stream with Transfer Chamber, Bohlender

Aluminium frame with panels made of acrylic glass, base panel made of polyethylene. Front panel with two glove ports and one pair of natural rubber gloves size 9, two lead-ins for cables on the back side (upper left and upper right). Transfer chamber with two doors on the right, external door with latch to prevent accidental opening, the tray extends into the workspace with opening of the internal door for easy removal of inserted products. Integrated HEPA filtering unit in the top side for a high-purity atmosphere in the work-space. Manometer to display the degree of filter saturation. Pipe sockets made of PE are included in delivery for converting to the different operating modes: internal air circulation, fresh air supply and exhaust. The conversion can be made without any tooling. Exchange-able filter cartridge. Maintenance-free and trouble-free motor. Electrical power connection 230 V / 50 Hz is required.

Technical data:

Panels:	clear
Material:	PE
Temperature resistance:	from -20°C to +70°C
Use:	normal pressure
Stand:	rubber feet
Maximum all-over load Box:	40 kg
Usable volume Box:	290 l

Outer dimensions W × H × D mm	Wght kg	Usable interior space W × H × D mm	Usable interior transfer chamber W × H × D mm	Hinged lid opening W × H mm	Order No.
1210×1015×660	42	850×650×540	220×275×320	850×425	**10 17 64508**

More than 20,000 articles in this catalogue –
and still more on our website!

SAFE AND SECURE STORAGE IN THE LABORATORY

For today's laboratories, a flexible spatial concept is extremely important. As lab processes are subject to constant change, it is advisable to think about a sustainable storage concept for hazardous materials already in the planning phase. Central flame-resistant storage rooms are no longer the state-of-the-art in laboratory architecture. Today, labs rely primarily on flame-resistant safety storage cabinets: They ensure a high degree of safety while keeping the costs for future refurbishments to a reasonable limit.

The legal basis for handling hazardous materials is defined by a number of global regulations (such as the GHS), the Ordinance on Hazardous Substances, technical regulations on handling hazardous substances, and other laws and directives.

Flame-resistant safety cabinets pursuant to DIN EN 14470-1

Modern laboratories are equipped with these cabinets which, in accordance with their certified fire resistance, ensure close-by, risk-minimized storage of toxic, flammable, potentially explosive substances and substances which combine these hazardous properties.

In case of fire, a potential risk from the substances stored in the cabinet is almost non-existent for the duration of the certified fire resistance time of the cabinet. If flammable liquids are stored properly in the cabinet, firefighters and rescuers can concentrate on controlling the fire and saving injured persons instead of having to deal first with these hazardous substances.

The safety cabinets are subject to the test criteria of DIN EN 14470-1 which regulate the design and test requirements. There are 4 fire resistance classes (type 15, 30, 60, and 90). The figure stands for the minimum number of minutes for which the safety cabinets are able to resist the fire (type 90). Today, 90 minutes fire resistance is considered the state of the art for laboratory safety cabinets.



Fire resistant storage cabinets for compressed gas cylinders pursuant to DIN EN 14470-2

In many cases, the local storage and withdrawal of compressed gases is the less expensive solution because the prices for the long pipeline required with central storage are very high, particular with corrosive gases.

With local storage, the length of the pipelines is reduced to a minimum, which also lowers the consumption of rinse gases etc.

If flexible local storage of compressed gases is required, type G90 safety cabinets are the better choice.

Before making the decision for a central or local gas supply, you should by all means consider the latest technical developments. Compressed gas cylinder cabinets certified to EN 14470-2 today offer the same safety level as type 90 safety cabinets for storage of flammable fluids: 90 minutes fire resistance.

Acid and alkali cabinets

Acids and alkalis can give off aggressive vapors, mists, or smoke. Therefore, these substances must be stored in such a way that neither people nor the environment are in danger.

Acids and alkalis can be stored directly at the workplace – separately if possible – in special so-called "acid/alkali cabinets" made of mostly corrosion-resistant material. However, there is no German DIN or EN standard for these storage cabinets. The requirements to be met by the storage cabinets are based on various laws.

- Equipped with sumps to prevent leaking. They must be able to retain 10 % of the stored amount or at least the contents of the largest tank.
- The cabinet must be resistant to corrosion and compatible with the stored acids and alkalis.
- The cabinet must be connected to an exhaust air blower which continuously discharges the escaping vapors to the open air.
- Strong acids and alkalis must be stored and extracted in separate sections of the cabinet (separate from each other) because their vapors/mists may react and generate heat.

CONCLUSION

A modern laboratory without hazardous substances is inconceivable – just as these chemicals, compressed gases, acids, or alkalis are inconceivable without their immanent risks.

However, you can reduce the risks associated with the storage of these hazardous substances to a minimum with safety storage cabinets designed and fire chamber-tested in accordance with European standards EN 14470 Part 1 and Part 2, and adequate cabinets for storage of aggressive but not flammable hazardous substances!

Safety Cabinets

Safety Cabinets, asecos



① ②

Safety cabinets with folding doors and interior equipment
Safety cabinets for proper storage of hazardous substances in work areas, complies with TRGS 510 (Appendix 3).
Type-tested to withstand fire for 90 minutes as defined in EN 14470-1 (Type 90) and DIN 12925-1 (FWF90). GS tested, CE compliant.

Expansion joints provide protection in case of fire. Fine steel outer shell with plastic coating, light gray (RAL 7035), plastic coating with good chemical, impact and scratch resistance characteristics applied to inner surface. Edge protection on insulation material. External ground connection.

Model S90.196.120.FDAC with AGT and automatic door-closing
Open two doors with one hand (AGT). Integrated door-closing automatic releases the locked doors after ca. 60 seconds. Visual and acoustic alarm before door is closed. Smooth door locking process with air suspension. Complete locking mechanism outside of the storage room, increased corrosion protection of modules which are relevant regarding safety. Safety in case of fire, doors close automatically due to integrated thermal release.

Serial equipment:
- 2 folding doors
- AGT (Asynchron gekoppelter Türantrieb = asynchronously linked door drive)
- TSA (Tür-Schließ-Automatik = automatic door-lock)
- Door-catching device
- Profile cylinder lock (chamber can be integrated in available locking systems)
- Adjustment aids to balance floor bumps
- Integrated air ducts ready for connection (NW 75) to a technical exhaust system
- Earth connection
- Outer dimensions (W × D × H): ca. 1196 × 616 × 1968 mm

Interior dimensions (W × D × H)
Shelf: 1040 × 432 × 30 mm
Perforated plate insert: 1017 × 482 × 66 mm
Bottom collecting pan: 1024 × 489 × 86 mm
Drawer: 844 × 488 × 90 mm

	Article	Order No.
①	Safety cabinet S90.196.120.FDAC (without interior)	**10 13 13119**

Delivery costs depending on place of delivery

Interior equipment packages model S90.196.120.FDAC
(powder-coated steel plate):
- height-adjustable shelves
- drawers

Recommended configuration: 3 shelves, perforated plate insert and bottom collecting pan acc. to StawaR or 6 drawers and bottom collecting pan acc. to StawaR

	Article	Order No.
②	3 Shelves, perforated plate insert, bottom collecting pan acc. to StawaR	**10 13 13127**
	4 Shelves, perforated plate insert, bottom collecting pan acc. to StawaR	**10 13 13128**
	4 drawers and bottom collecting pan acc. to StawaR	**10 13 13147**
	5 drawers and bottom collecting pan acc. to StawaR	**10 13 13148**
	6 drawers and bottom collecting pan acc. to StawaR	**10 13 13149**



③ ④

Modell S90.196.060.FDAC with automatic door-closing
Integrated door-closing automatic releases the locked door after ca. 60 seconds. Visual and acoustic alarm before door is closed. Smooth door locking process with air suspension. Complete locking mechanism outside of the storage room, increased corrosion protection of modules which are relevant regarding safety. Safety in case of fire, door closes automatically due to integrated thermal release.

Serial equipment:
- 1 folding door (door hinge left)
- TSA (Tür-Schließ-Automatik = automatic door lock)
- Door-catching device
- Profile cylinder lock (chamber can be integrated in available locking systems)
- Adjustment aids to balance bumps
- Integrated air ducts ready for connection (NW 75) to a technical exhaust system
- Earth connection
- Outer dimensions (W × D × H): ca. 596 × 616 × 1968 mm

Interior dimensions (W × D × H)
Shelf: 440 × 432 × 30 mm
Perforated plate insert: 409 × 474 × 107 mm
Bottom collecting pan: 417 × 482 × 127 mm
Drawer: 345 × 500 × 50 mm

	Article	Order No.
③	Safety cabinet S90.196.060.FDAC (without interior)	**10 13 13235**

Delivery costs depending on place of delivery

Continued on next page

Safety Cabinets

Interior equipment packages model S90.196.060.FDAC
(powder-coated steel plate):
- height-adjustable shelves
- drawers

Recommended configuration: 3 shelfes, perforated plate insert and bottom collecting pan acc. to StawaR or 6 drawers and bottom collecting pan acc. to StawaR

	Article	Order No.
	3 Shelves, perforated plate insert, bottom collecting pan acc. to StawaR	**10 13 13249**
	4 Shelves, perforated plate insert, bottom collecting pan acc. to StawaR	**10 13 13250**
	4 drawers and bottom collecting pan acc. to StawaR	**10 13 13267**
	5 drawers and bottom collecting pan acc. to StawaR	**10 13 13268**
④	6 drawers and bottom collecting pan acc. to StawaR	**10 13 13269**

Safety Cabinets, asecos

Safety cabinets with wing doors and interior equipment
Safety cabinets for proper storage of hazardous substances in work areas, complies with TRGS 510 (Appendix 3).
Type-tested to withstand fire for 90 minutes as defined in EN 14470-1 (Type 90) and DIN 12925-1 (FWF90). GS tested, CE compliant.

Expansion joints provide protection in case of fire. Fine steel outer shell with plastic coating, light gray (RAL 7035), plastic coating with good chemical, impact and scratch resistance characteristics applied to inner surface. Edge protection on insulation material. External ground connection.

Modell S90.196.120.WDAS with door-catching device
Soft, air-sprung closing behavior of the doors. The entire closing mechanism is outside of the storage space for increased corrosion protection of safety-relevant components. The door-catching device locks the doors for safe transfer in and removal from the cabinet. Safety in case of fire: doors close automatically thanks to the integrated temperature-controlled tripping function.

Serial equipment:
- 2 folding doors
- Door-catching device
- Profile cylinder lock (chamber can be integrated in available locking systems)
- Adjustment aids to balance floor bumps
- Integrated air ducts ready for connection (NW 75) to a technical exhaust system
- Earth connection
- Outer dimensions (W × D × H): ca. 1196 × 616 × 1968 mm

Interior dimensions (W × D × H)
Shelf: 1040 × 432 × 30 mm
Perforated plate insert: 1017 × 482 × 66 mm
Bottom collecting pan: 1024 × 489 × 86 mm



⑤ ⑥

	Article	Order No.
⑤	Safety cabinet S90.196.120.WDAS (without interior)	**10 13 13116**

Delivery costs depending on place of delivery

Interior equipment packages model S90.196.120.WDAS
(powder-coated steel plate):
- height-adjustable shelfs

Recommended configuration: 3 shelfs, perforated plate insert and bottom collecting pan acc. to StawaR

	Article	Order No.
⑥	3 Shelves, perforated plate insert, bottom collecting pan acc. to StawaR	**10 13 13127**
	4 Shelves, perforated plate insert, bottom collecting pan acc. to StawaR	**10 13 13128**

We are also glad to help you in person.
Give us a call!

Continued on next page

Safety Cabinets



① ②

Model S90.196.060.WDAS with door-catching device

Soft, air-sprung closing behavior of the doors. The entire closing mechanism is outside of the storage space for increased corrosion protection of safety-relevant components. The door-catching device locks the doors for safe transfer in and removal from the cabinet. Safety in case of fire: doors close automatically thanks to the integrated temperature-controlled tripping function.

Serial equipment:
- 1 folding door (door hinge left)
- Door-catching device
- Profile cylinder lock (chamber can be integrated in available locking system)
- Adjustment aids to balance floor bumps
- Integrated air ducts ready for connection (NW 75) to a technical exhaust system
- Earth connection
- Outer dimensions (W × D × H): ca. 596 × 616 × 1968 mm

Interior dimensions (W × D × H)
Shelf: 440 × 432 × 30 mm
Perforated plate insert: 409 × 474 × 107 mm
Bottom collecting pan: 417 × 482 × 127 mm

	Article	Order No.
①	Safety cabinet S90.196.060.WDAS (without interior)	**10 13 13228**

Delivery costs depending on place of delivery

Interior equipment packages model S90.196.060.WDAS
(powder-coated steel plate):
- height-adjustable shelfs

Recommended configuration: 3 shelfs, perforated plate insert and bottom collecting pan acc. to StawaR

	Article	Order No.
②	3 Shelves, perforated plate insert, bottom collecting pan acc. to StawaR	**10 13 13249**
	4 Shelves, perforated plate insert, bottom collecting pan acc. to StawaR	**10 13 13250**



③ ⑤

Safety Cabinets, asecos

Acid and alkali cabinets with interior fittings
Safe and proper storage of aggressive hazardous material. GS-approved, laboratory furniture standard EN 14727. Body made of epoxy resin-coated steel sheet RAL 7035 (light grey), interior made of highly resistant melamine resin-coated special material plates. Circumferential synthetic lip seals prevent noxious fumes from escaping. Two hermetically separated storage compartments, vented separately. Door opening angle more than 90°. Corrosion-resistant, metal-free air channels. Interior largely freely of metal.

Shelves: with removable, liquid-proof and highly resistant plastic trays with general buildings supervisory approval (DIBt).

Model SL.196.120.MV
- 2 folding doors (vertical partition)
- Outside dimensions (W × D × H) mm: ca. 1197 × 603 × 1965

	Article	Order No.
③	Model SL.196.120.MV (without interior)	**10 13 19120**

Delivery costs depending on place of delivery

Model SL.196.060.MH
- 2 folding doors (horizontal partition)
- Outside dimensions (W × D × H) mm: ca. 597 × 603 × 1965

	Article	Order No.
④	Model SL.196.060.MH (without interior)	**10 13 19060**

Delivery costs depending on place of delivery

Interior equipment packages
Recommended configuration: 12 tray pull-outs (SL.196.120.MV), 6 tray pull-outs (SL.196.060.MH)

	Article	Width model mm	Width × Depth × Height mm	Order No.
	8 tray pull-outs	1200	407 × 468 × 80 (each drawer)	**10 13 13607**
⑤	12 tray pull-outs	1200	407 × 468 × 80 (each drawer)	**10 13 13608**
	4 tray pull-outs	600	407 × 468 × 80 (each drawer)	**10 13 13614**
⑥	6 tray pull-outs	600	407 × 468 × 80 (each drawer)	**10 13 13615**

Typ 90 fire resistant gas cylinder cabinet
Gas cylinder cabinets for proper storage, provision, and removal of gas cylinders in work rooms pursuant to TRGS 510 and TRBS 3145.

Type-tested fire resistance for a period of 90 minutes pursuant to DIN EN 14470-2 (G90), GS approved. Fire protection insulation with intumescent joint seals. Body made of plastic-coated sheet steel in RAL 7035 (light grey), interior surfaces coated with impact- and scratch-proof synthetics highly resistant to chemicals.

Continued on next page

Safety Cabinets

Serial equipment:
- 2 folding doors
- Door opening angle max. 180°
- Profile cylinder lock (chamber can be integrated in available locking systems)
- Adjustment aids to balance floor bumps
- Earth connection
- Integrated air ducts ready for connection (NW 75) to a technical exhaust system
- Options for pipeline ducts through the cabinet ceiling.

	Article	Storage capacity gas cylinders	Order No.
⑦	G90.205.120 (without interior)	4 × 50 l	**10 13 15120**

Compressed gas cylinder cabinet also available in widths of 600 mm, 900 mm and 1400 mm.
Delivery costs depending on place of delivery.



④ ⑥

Interior equipment version model G90.205.120
Interior fitting consists of:
- Roll-in flap
- Cylinder holder with 4 tension belts
- Mounting rails

	Article	Order No.
⑧	Interior equipment	**10 13 13775**



⑦ ⑧

Safety Underbench Cabinets, asecos

Suitable for placement under fume hoods.
Proper storage of hazardous substances in work areas in compliance with TRGS 510 (Appendix 3). Type-tested to withstand fire for 90 minutes as defined in EN 14470-1 (Type 90). GS-approved, in conformity with CE.

Expansion joints provide protection in case of fire. Fine sheet steel outer shell with plastic coating, light gray (RAL 7035). Plastic coating with good chemical, impact and scratch resistance characteristics applied to inner surface. Edge protection on insulation material. External ground connection.

Model UB90.060.110.S
- one drawer, can be locked in any position
- useable internal height (without perforated insert): 465 mm

Standard equipment:
- integrated collecting pan acc. to StawaR
- open drawer closes in case of fire (thermal activation)
- Ground cable with clamp in the drawer.

Technical data:

External dimensions (W × D × H):	approx. 1102 × 574 × 600 mm
Collecting pan (W × D × H):	approx. 930 × 440 × 85 mm
Drawer load capacity (distributed load):	50 kg

	Article	Order No.
⑨	Safety cabinet UB90.060.110.S with collecting pan	**91 13 56011**

Delivery costs depending on place of delivery



⑨ ⑩

⑩ **Interior equipment versions model VBF.60.110-S**

Article	Order No.
Perforated plate insert (stainless steel 1.4301)	**10 13 13424**
2nd drawer level (powder-coated steel plate)	**91 13 18053**

Model UB90.060.110.2S
- with two drawers
- useable internal height per drawer (without perforated insert): 465 mm

Standard equipment:
- integrated collecting pan acc. to. StawaR in each drawer
- open drawer closes in case of fire (thermal activation)
- ground cable with clamp in the drawer.

Technical data:

External dimensions (W × D × H):	approx. 1102 × 574 × 600 mm
Collecting pan (W × D × H):	approx. 425 × 440 × 85 mm
Drawer load capacity (distributed load):	50 kg

	Article	Order No.
⑪	Safety cabinet UB90.060.110.2S with collecting pans	**10 13 13427**

Delivery costs depending on place of delivery



⑪ ⑫

⑫ **Interior equipment versions model UB90.060.110.2S**

Article	Order No.
Perforated plate insert (stainless steel 1.4301), left or right drawer	**10 13 19975**
2nd drawer level (powder-coated steel plate), left or right drawer	**10 13 13407**

Continued on next page

Safety Cabinets



① ②

Model UB90.060.110.2T

- with double wing doors
- usable inner height (collection tray with perforated metal insert): 400 mm

Standard equipment:

- Doors close automatically in case of fire (thermal activation)

Technical data:

External dimensions (W × D × H):	approx. 1102 × 574 × 600 mm
Interior equipment (W × D × H)	
Tray:	969 × 416 × 20 mm
Perforated plate insert:	955 × 425 × 60 mm
Bottom collecting pan:	959 × 426 × 75 mm

	Article	Order No.
①	Safety cabinet UB90.060.110.2T without interior equipment	**10 13 13443**

Delivery costs depending on place of delivery

Interior equipment packages model UB90.060.110.2T

(powder-coated steel plate)

Recommended configuration: perforated plate insert and bottom collecting pan acc. to StawaR

	Article	Order No.
②	Perforated plate insert, bottom collecting pan acc. to StawaR	**10 13 13447**
	Tray, perforated plate insert, bottom collecting pan acc. to StawaR	**10 13 13453**

PCR Workbenches

webcode WWW4U100

PCR Cabinet, LAT



Total sterilisation

The new CRUMA PCR cabin was developed specifically for DNA-carry-over-blocking under application of PCR technology (Polymerase Chain Reaction).
The three UV tubes and the timer provide for total sterilisation of the material inside the chamber and on the entire working surface, preventing a potential cross-contamination of DNA and ARN samples which may result in false-positive test results.
The 4 mm thick hardened glass acts as a filter for the UV radiation and protects the operator as well as the environment. If the front door is opened accidentally, the UV lamps are switched off automatically to ensure complete protection for the operator.

Technical data:

Technique:	PCR
Power:	62 W
Voltage:	230 V / 50 Hz
Front opening height:	235 mm
Internal dimensions (W×D×H):	50 × 565 × 605 mm
Outer dimensions (W×D×H):	60 × 600 × 775 mm
Weight:	40.2 kg
Class:	DNA/RNA extraction
Filter:	without
UV light sources:	3

Article	Order No.
PCR cabinet	**10 20 10114**

Comes fully assembled.

Laminar Flow Cabinets

webcode WWW4U099

Laminar Flow Cabinet, Vertical, Cruma FL, LAT



③

The Cruma FL-2, an innovative workbench for the cleanroom, offers the following features: digital control screen, filter change warning, programmable timer, large front plate, variable number of sockets. In the FL, modern design is complemented by state-of-the-art technology. Easy operation – Plug and Play.
In the FL models, the air flow passes through a HEPA H-14 filter (made pursuant to EN-1822) at constant speed, travelling vertically through the cabinet in a laminar flow and producing a Class 100 sterile area (in accordance with AF standards209E, corresponding to ISO class 5) to protect the sample from external contamination. Cross contamination between the samples is prevented as well. The filter system has an efficiency of at least 99.995% for particles from 0.3 µm, as well an extraction rate of 100%.

Application:

- Manipulations which require sample protection to avoid contamination

Continued on next page

Laminar Flow Cabinets

Users:
- Food industry labs in general
- Transfer of drugs in pharmaceutical departments
- Haematology and clinical analysis

Technical data:

Power:	225 W
Delivery:	fully-assembled
Class:	100/ISO 5
Filter:	HEPA H-14
Vertikal stream	
UV	

	Type	Inner dimensions mm	Outer dimensions mm	Order No.
③	Cruma FL 1	575 × 565 × 605	800 × 600 × 775	**10 20 10121**
④	Cruma FL 2	1100 × 540 × 610	1200 × 600 × 1140	**10 20 10122**

5 years' warranty



④

Ion Exchanger Cartridges

Service regeneration of demineraliser cartridges, Service

Refilling of VE-reusable cartridges with regenerated, batch-monitored blending bed ion-exchanger resins.
For reliable operation of ion-exchangers. Only for drinking water!

Nominal size	Order No.
425	**10 99 50425**
800	**10 99 50800**
1500	**10 99 51500**
2000	**10 99 52000**
2800	**10 99 52800**
4000	**10 99 54000**
6000	**10 99 56000**
7000	**10 99 57000**
11000	**10 99 51100**
15000	**10 99 51501**

Capacity at 10° GSG
Deviating sizes and regeneration service manuals upon request!



Demineralizers, behropur®, Behr

behropur® mixed bed ion exchangers supply fully demineralized water in compliance with the following specifications:
- Quality 3 in the sense of the classification pursuant to DIN ISO 3696:1987 – Water for analytical purposes
- Pharmaceutical specification pursuant to VDI guideline VDI 2083 – Cleanroom technology. quality, generation, and distribution of ultrapure water
- European and German Pharmacopoeia (Deutsches Arzneimittelbuch, DAB)
- behropur® mixed bed ion exchangers contain resins of tested quality.

Absolutely even distribution of water within the unit ensures optimum utilization of the exchanger capacities for water with a very low conductivity over the whole capacity of the demineralizer.

⑤ **behropur® demineralizers with unpressurized gravity-flow output**
Practical mixed bed (anionic & cationic) ion exchanger in an especially thick-walled, robust blue polyethylene container with gravity-fed unpressurized output to a reservoir. It is also ideal for second stage deionization of output from reverse osmosis units and for use in aquaria containing particularly sensitive fish species.
- Can be connected directly to the water line and is immediately ready for operation.
- Since the water enters at the bottom of the canister, air is automatically displaced.
- The polyethylene slit-jet does not provide breeding ground for bacteria.
- The slit-jet unit is robust and easily cleaned. It is impervious to damage resulting from mechanical stress or water pressure.
- The slit-jet unit is sealed into the canister base by means of a special Behr thermal fusion process. A secure and leak-proof bond results.
- Conductance meter is mounted directly on canister.
- The B 5 and B 10 canisters may be wall-mounted using the provided mounting brackets.
- Automatic shutoff at preselectable limits and levels.
- Conductance is monitored by meter mounted directly an resin canister. Also available with remote-location meter.

behr Labor-Technik

webcode WWXKS021



⑤

Continued on next page

Ion Exchanger Cartridges



①

Performance data

Model	Capacity at 10°dH	Max. flow rate l/h	Dia. cm	Height cm
B5	500 l	50	16	53
B10	1000 l	100	21	63

Type	Version	Order No.
B5	complete with conductivity meter	**93 48 20005**
B10	complete with conductivity meter	**93 48 20010**
B5Z	Second cartridge	**93 48 20050**
B10Z	Second cartridge	**93 48 20110**
B5A	with conductivity meter, limit switch and solenoid valve	**93 48 50005**
B10A	with conductivity meter, limit switch and solenoid valve	**93 48 50010**

Capacity: cut-off at 20 µS

① **behropur® demineralizers with nylon resin canisters - operating pressures up to 8 bar**

User-friendly and reliable mixed bed ion exchanger for low to medium volume high purity water requirements. Optimal for glassware washers, general laboratory use and for smaller industrial applications. Suitable for second stage purification in conjunction with reverse osmosis units.

- Optimal exploitation of the full ion exchange capacity by means of absolutely uniform water distribution through the resin bed.
- May be connected directly to water supply without a pressure reducer.
- Resistant to load cycles.
- Conductance is monitored by meter mounted directly on resin canister; also available with remote-location meter.
- Optional automatic shutdown at preselectable limits and levels.

Performance data

Model	Capacity at 10°dH	Max. flow rate l/h	Dia. cm	Height w. CM cm	Height canister cm
B10dN	1200 l	300	21	68	55
B22dN	2400 l	500	21	112	98
B45dN	5500 l	800	26	125	110

Type	Version	Order No.
B10dN	complete with conductivity meter	**93 48 30011**
B22dN	complete with conductivity meter	**93 48 30023**
B45dN	complete with conductivity meter	**93 48 30046**
B10dNZ	Second cartridge	**93 48 30111**
B22dNZ	Second cartridge	**93 48 30123**
B45dNZ	Second cartridge	**93 48 30146**
B10dNA	with conductivity meter, limit switch and solenoid valve	**93 48 50112**
B22dNA	with conductivity meter, limit switch and solenoid valve	**93 48 50123**
B45dNA	with conductivity meter, limit switch and solenoid valve	**93 48 50146**

Capacity: cut-off at 20 µS



②



③

② **behropur® mixed bed stainless steel ion exchange units - operating pressures up to 10 bar**

Standard canister made of V4A stainless steel with widespread applicability. Useful for water supply of lab glassware washers, general laboratory pure water supply and low-demand industrial applications. Also suitable as a second stage purification following reverse osmosis units.

- Optimal exploitation of the full ion exchange capacity by means of absolutely uniform water distribution through the resin bed.
- Throughput rates up to 700 l/h.
- May be connected directly to water supply without a pressure reducer.
- Resistant to damage from water pressure peaks and variation.
- Hard rubber collars vulcanized onto the base and top of the canister provide effective protection.
- Convenient carrying handles molded into the upper protective collar.
- Conductance monitor with meter mounted directly on resin canister. Also available with remote-location meter.
- Automatic shutdown at preselectable limits and levels.

Performance data

Model	Capacity at 10°dH	Max. flow rate l/h	Dia. cm	Height w. CM cm	Height canister cm
E28d	2800 l	500	24	74	60
E40d	4000 l	700	24	84	70

Type	Version	Order No.
E28d	complete with conductivity meter	**93 48 40028**
E40d	complete with conductivity meter	**93 48 40040**
E28dZ	Second cartridge	**93 48 40128**
E40dZ	Second cartridge	**93 48 40140**
E28dA	with conductivity meter, limit switch and solenoid valve	**93 48 50128**
E40dA	with conductivity meter, limit switch and solenoid valve	**93 48 50140**

Capacity: cut-off at 20 µS

Continued on next page

Ion Exchanger Cartridges

behrotest® float level switch for guide value meter

	Article	Order No.
③	behrotest® float level switch SW2	**10 48 50700**

Particle-free water: behropur® filter FG 130

Working downstream of the ion exchanger, the filter fully retains even the finest particles to protect your valuable equipment. The transparent enclosure of the FG 130 allows you to check the condition of the filter cartridge at one glance.

Depending on the requirements, use a universal filter (5 µ) or an activated carbon filter (20 µ). Downstream filters must only be used with pressure-resistant behropur® ion exchangers. Unpressurized exchangers would be destroyed by the counterpressure. Risk of expensive consequential damages!

	Article	Order No.
④	**FG 130** Filter enclosure for filter partridges of a length of 5″. Transparent polypropylene enclosure. Connections 3/4″, maximum operating pressure 8 bar, max. temperature 50°C	**10 48 60260**
	FE 130 Filter cartridge, polypropylene, 5 µ, length 5″, max. pressure 6 bar, max. temperature 80°C	**10 48 60261**
	AF 130 Filter cartridge, activated carbon, 20 µ, length 5″, max. pressure 6 bar, max. temperature 50°C	**10 48 60262**



④



⑤

Accessories

	Article	Order No.
⑤	Quick-acting coupling for demineralizer, pressure-tight	**10 48 60271**

Ion Exchange Systems, ELGA LabWater / Veolia Water Technologies Deutschland GmbH

⑥ **SD ion exchangers made of stainless steel**

Stainless steel cartridges for producing fully deionized water by means of blending-bed ion exchange resin. Connections for water inlet and water outlet 3/4″ external thread. The cartridges are designed for operating pressures of up to 10 bar. A hose kit is required for the operation of an SD cartridge. Different measurement devices are available to determine the con-ductivity.

Type	Flow rate l/h	Ø mm	Height mm	Capacity at 10° TDS l	Order No.
SD 2000	300	240	490	2000	**93 14 11121**
SD 2800	950	240	600	2800	**93 14 11141**
SD 4000	1000	240	700	4000	**93 14 11161**
SD 6000	1000	240	1155	6000	**93 14 11181**
SD 8400	1800	363	750	8400	**10 14 70840**
SD 14000	1800	363	1150	14000	**10 14 71400**



⑥

Conductivity meters to determine the water quality from the ion exchanger and accessories

	Article	Order No.
	Conductivity meter LFM AC 1	**10 14 71000**
⑦	Conductivity meter LFM 1[1)]	**10 14 71001**
	Conductivity meter LFM 3[1)]	**10 14 71002**
	Conductivity meter LFM 5[1)]	**10 14 71003**
	T-piece as spare part (Veolia cell constant and jack plug)	**10 14 71950**

A measuring cell, e.g. the above-named T-piece, is required for operating conductivity meter LFM 1, 3, 5



⑦

Other accessories

Article	Order No.
Tube set SD, ¾″	**10 14 71590**
Hose set for series connection	**10 14 71948**
Transition pieces from R 3/4 ″ to quick release	**10 14 74098**
Quick release only male (1 pair)	**10 14 71943**
Quick release only female (1 pair)	**10 14 71944**



Ion Exchanger Cartridges



AQUADEM® Ion Exchanger Systems, Werner

Desalting using ion exchange cartridges by Werner. Economical water desalting for the individual lab's requirements, using the correct cartridge size:
- Plastic or stainless steel unpressurized or pressure resistant cartridges
- Quick-connect couplings make them very easy to use
- Filled with quality controlled, mixed bed ion exchangers that can be regenerated on a continuous basis; practical disposable resins are available on request
- Established brand product
- Wide range of accessories to met the individual requirements

AQUADEM® DL ion exchanger system

- Unpressurized water desalting cartridges in plastic case filled with mixed bed resin that can be regenerated
- Ready-to-use, economical compact solution for low-volume applications
- Comfortable generation of pure water at the laboratory table
- Practical and simple to use

	Type	Capacity at 10° dGS	Flow rate l/h	Dimensions with conductivity meter Ø × H mm	Order No.
①	5 DL	500	50	160 × 480	**93 02 41006**
②	10 DL	1000	100	210 × 560	**93 02 41011**



Accessories DL

Article	Order No.
Connection set SL3 for models DL Inlet and outlet tube, flow-through electrode, riser pipe SL3 conductometer analog with LED display green/red	**10 14 04018**
Connection set GS3 for models DF Inlet and outlet tube, flow-through electrode, riser pipe GS3 conductometer digital with limit value contact	**93 02 43219**

AQUADEM® DF-N ion exchanger system

- Plastic pressure-resistant pure water cartridges filled with mixed bed resin that can be regenerated – the 1:1 successor product for the DF series
- Patented connection head with integrated conductivity measuring cell
- Optionally available with calibration certificate
- 4 different sizes available to meet all requirements
- Ideal for integration into a cabinet

	Type	Capacity at 10° dGS	Flow rate l/h	Dimensions with conductivity meter Ø × H mm	Order No.
③	8 DF-N	1000	500	160 × 620	**93 02 42009**
④	12 DF-N	1500	600	180 × 770	**93 02 42013**
⑤	22 DF-N	2750	800	200 × 920	**93 02 42023**
⑥	42 DF-N	5000	1000	250 × 1050	**93 02 42043**

Accessories DF

Article	Order No.
Connection set SL3 for models DF Inlet and outlet tube, adapter, SL3 conductometer with LED display green/red	**10 14 04022**
Connection set S3 for models DF Inlet and outlet tube, adapter, S3 conductometer with digital display	**93 02 43209**
Connection set GS3 for models DF Inlet and outlet tube, adapter, GS3 conductometer with limit value contact, digital display	**10 14 04005**



AQUADEM® SDF ion exchanger system

- Pressure resistant stainless steel water desalting cartridge, filled with mixed bed resin that can be regenerated
- AQUADEM® SDF 20 l - classic standard equipment for laboratory glassware washers
- Long-lifetime and rugged enough for transport, suitable for very heavy work loads

	Type	Capacity at 10° dGS	Flow rate l/h	Dimensions with conductivity meter Ø × H mm	Order No.
⑦	13 SDF	1400	200	237 × 405	**93 02 43014**
⑧	20 SDF	2500	600	237 × 555	**93 02 43021**
⑨	42 SDF	5000	800	237 × 1180	**93 02 43043**

Continued on next page

Ion Exchanger Cartridges

Accessories SDF

Article	Order No.
Connection set SL3 for models SDF Inlet and outlet tube, flow-through electrode, SL3 conductometer LED display green/red	**10 14 04023**
Connection set S3 for models SDF Inlet and outlet tube, flow-through electrode, S3 conductometer with digital display	**10 14 04007**
Connection set GS3 for models SDF Inlet and outlet tube, flow-through electrode, GS3 conductometer with limit value contact, digital display	**10 14 04008**

Sample order for all models:
Please order a cartridge and a matching connector kit from the range of accessories. Replacement cartridges are ordered without connector kit.



AQUADEM® conductivity meter

Conductivity meter SL 3
Battery-operated micro conductivity meter for clipping on to an AQUADEM measuring cell. The information is indication by means of a green and a red LED. Flashing frequency automatically every 4 seconds.
- Indication 0 to 10 µS/cm: 1 × LED green
- Indication > 10 µS/cm: 1 × LED red (flashing)
- Battery lifetime: approx. 4 years

Conductivity meter S 3
Conductivity meter S 3 (digital) with separate power adapter and adjustable switching points without switching contact.
- Measuring range: 0 – 199.9 µS/cm
- Power adapter voltage: 100 – 240 V AC
- Measuring cell factor: C = 0.1
- Switching points: 0.5/1.3/2.0/2.4/4.3/7.5/10/15/20/30/50 µS/cm, adjustable via rotary coding switch; switching point indication via LED



Conductivity meter GS 3
Conductivity meter GS 3 (digital) with separate power adapter and adjustable switching points with switching contact.
- Measuring range: 0 – 199,9 µS/cm
- Power adapter voltage: 100 – 240 V AC
- Measuring cell factor: C = 0.1
- Switching points: 0.5/1.3/2.0/2.4/4.3/7.5/10/15/20/30/50 µS/cm, adjustable via rotary coding switch; switching point indication via LED
- Switching contact: Changeover contact, floating, 250 V / 2 A



Article	Order No.
⑩ Conductivity meter SL 3	**10 14 01248**
⑪ Conductivity meter S 3	**10 14 01246**
⑫ Conductivity meter GS 3	**10 14 01247**

Stainless steel Ion-exchange Systems, LAT

Premium pressure-resistant ion exchanger cartridges for cost-efficient production of DI water for a wide range of applications: warewashers, autoclaves, high-purity water systems, and general laboratory applications. The cartridges come with R3/4" threaded connections but can be changed to quick-lock coupling without any problems. The compressive strength is 10 bar. The optional conductivity meter determines the water quality and signals when the resins should be regenerated.

webcode WWW4U087



Type	Capacity at 10° TDS l	Flow rate l/h	Ø mm	H mm	Wght kg	Order No.
LAT1500	1500	300	240	410	14	**10 20 11500**
LAT2000	2000	300	240	490	18	**10 20 12000**
LAT2800	2800	950	240	570	24	**10 20 12800**
LAT4000	4000	1000	240	700	27	**10 20 14000**
LAT6000	6000	1000	240	1155	45	**10 20 16000**

Use the webcode on our website to see a larger selection of products from a specific manufacturer.

webcode

Ion Exchanger Cartridges



webcode WWW4U091

Ion-exchange System DS 450, LAT

Unpressurized synthetic cartridge made of blue polyethylene, filled with mixed-bed resins. For treatment of small amounts of water in medical practices, small labs, or for production of battery water.
An analog conductivity meter, a wall bracket, and 2 × 1.5 m tubing are comprised in the delivery.
- Pure water quality 0.1 – 20 µS/cm
- Tubing connection R3/4″ AG

Type	Capacity at 10° TDS l	Flow rate l/h	Ø mm	Height mm	Weight kg	Order No.
DS 450 disposable resin	425	50	100	600	3	**10 20 19450**
DS 450 replacement cartridge	425	50	100	600	3	**10 20 19451**



① Scientific Instruments



② webcode WWW4U086

Conductometers, LAT

Digital conductometer for conductivity and temperature control of high-purity and ultrapure water.
The display shows µs/cm and temperature in °C at the same time. When a setpoint value is exceeded, the conductometer issues an optical and acoustic alarm. Automatic temperature compensation, RS232 and USB connection. Wall-mounted. Also available as an analog unit for cartridge mounting.

Technical data:

Conductivity measuring range:	0.055 – 199.9 µs/cm
Temperature measuring range:	0.1 – 99.9°C
Limit value setting:	0.055 – 30 µs/cm infinitely variable
Electrical connection:	230 V/50–60 Hz
Thread:	R3/4″ incl. raw and pure water hose, length 1.5 m each

Article	Order No.
① Digital Conductometer LAT	**10 20 15910**
② Analog Conductometer LAT	**10 20 15920**
Hose set with hose connection R3/4″, 2 × 1,5 m	**10 20 15931**
Conversion set from R3/4″ to quick connect	**10 20 15932**
Hose set with hose connect quick connect to cartridge quick connect	**10 20 15933**

Reverse Osmosis Systems



③

Ultra Pure Water Systems Series Ultra Clear™ TP (Touch Panel), Evoqua

③ **Ultra Clear™ TP**
With its wide choice of versions, the user-friendly Ultra Clear TM TP series is sure to offer the right system for your applications. The units are equipped with a fixed dispenser.
The Ultra Clear TM TP can optionally be mounted to the wall without any extra accessories.
It provides a water quality which, depending on the version, far exceeds all requirements for AAS, HPLC, IC, ICP/MS, cell cultures, microbiology, TOC analysis etc.

Technical data:

Type I water

Ultrapure water output:	up to 1.8 l/min	
Resistivity at 25°C:	18.2 MΩ-cm	
Conductivity at 25°C:	0.055 µS/cm	
TOC:	< 1–3 ppb	
Bacteria:	< 0.1 cfu/ml	
Particles > 0.2 µm:	< 1 (per ml)	
Endotoxins:	—	in UF version: < 0.001 EU/ml
DNase, RNase, DNS:	—	in UF version: free

Article	Order No.
Ultra Clear TP UV TM (with TOC monitoring)	**10 89 03631**
Ultra Clear TP UV UF TM (with TOC monitoring)	**10 89 03632**

Continued on next page

Reverse Osmosis Systems

Ultra Clear™ TP TWF and Ultra Clear™ TP TWF EDI ultra pure water system

Technical data:

Type II water

Flow rate pure water:	up to 10 l/h	
Flow rate pure water with EDI:	up to 20 l/h	
Salt rejection:	up to 99%	

Type I water

Output:	up to 1.8 l/min	
Conductivity at 25°C:	0.055 µS/cm	
TOC:	< 1–3 ppb	
Bacteria:	< 0.1 cfu/ml	
Particles > 0.2 µm:	< 1 (per ml)	
Endotoxins:	—	in UF option: < 0.001 EU/ml
DNase, RNase, DNS:	—	in UF option: free



④

④ **Ultra Clear™ TP TWF**

Article	Order No.
Ultra Clear TP 10 TWF 30 UV TM (with TOC monitoring)	**10 89 03641**
Ultra Clear TP 10 TWF 30 UV UF TM (with TOC monitoring)	**10 89 03643**
Ultra Clear TP 10 TWF 60 UV TM (with TOC monitoring)	**10 89 03651**
Ultra Clear TP 10 TWF 60 UV UF TM (with TOC monitoring)	**10 89 03653**

webcode WWCGJ001

Ultra Clear™ TP TWF EDI

Article	Order No.
Ultra Clear TP 20 TWF EDI 30 UV TM (with TOC monitoring)	**10 89 03648**
Ultra Clear TP 20 TWF EDI 30 UV UF TM (with TOC monitoring)	**10 89 03649**
Ultra Clear TP 20 TWF EDI 60 UV TM (with TOC monitoring)	**10 89 03658**
Ultra Clear TP 20 TWF EDI 60 UV UF TM (with TOC monitoring)	**10 89 03659**

Reverse Osmosis Systems, RO 10-40, Werner



A basic solution to meet pure water requirements of 50 to 1,000 liters/day. Can be used as a central or decentralized solution. As a single system that can be expanded to suit your needs, the Reverse Osmosis system by Werner can be upgraded at any time to cope with increased water requirements, for example from 100 liters to 1,000 liters/day.

- Pure water treatment for all common laboratory applications: laboratory washers, pre-treatment for ultra-pure water systems, autoclaves, climatic chambers, and all simple analytical processes
- Direct connection to tap water supply without any pretreatment
- Extra low maintenance
- Very low operating costs thanks to durable RO modules > 5 years
- Standard delivery comprises the integrated pre-filter, automatic rinsing system, and high-grade stainless steel pressure tubes
- 2 integrated conductometers
- Conductivity < 0.1 to 199 MS
- Programmable limit values (visual alarm)
- Calibration certificate for system control as a service option
- Optional: 35/60/95/100/200/300/500 liters storage tanks
- Optional: post-treatment demineralization module (ion exchange or electrode deionization)
- Optional: pressure boost module, UV decontamination, membrane filtration
- Available complete as a turnkey unit in a stainless steel frame with all accessories, e.g. tank, pump, post-deionization cartridge

Technical data:

Supply water:	drinking water pursuant to Drinking Water Ordinance, min. 2 bar
Dimensions W x H x D:	600 × 500 × 295 mm
Mounting:	wall unit
Weight:	30 kg (RO 10, 20), 32 kg (RO30, 40)
Electric supply:	230 V / 50 Hz
Retention rate of salt:	> 99%
Conductivity:	0.1* – 10 µS / cm (*in combination RO-DI)
Retention rate of bacteria:	>99.5%

Type	Pure water at 15 °C l/h	Order No.
Werner RO 10	15	**93 02 50160**
Werner RO 20	30	**93 02 50170**
Werner RO 30	45	**93 02 50175**
Werner RO 40	60	**93 02 50180**

webcode To see other variants and accessories, please enter the webcode on our website.

Ultrapure Water Systems



①



②

Ultrapure Water System, ELGA LabWater / Veolia Water Technologies Deutschland GmbH

PURELAB flex ultrapure water system

The award-winning PURELAB flex system uniquely combines ease of use with the accurate delivery of ultrapure water. The flexible and modular system can be configured to deliver the exact quality of water you need for your applications.

PURELAB flex – Key benefits at a glance

- Delivers ultrapure water with Type I quality from pretreated or drinking water
- Intuitive to use multifunction dispense handset with a large easy-to-read display
- Enables recording of relevant operational data on a USB flash drive
- Precise fingertip control for drop by drop dispensing or auto-volume dispensing up to 60 l
- Dispense rate up to 2 l/min
- Flexible and continuously height adjustable dispense handset
- Highly efficient purification pack for minimal running costs in the long term
- Real-time TOC monitoring to control organic purity
- Very simple and easy to set up and maintain
- Flexible mounting on wall or bench

PURELAB flex – Ultrapure water quality through various treatment technologies:

- Reverse osmosis (only PURELAB flex 3)
- Ion exchange
- UV disinfection (185 nm / 254 nm)
- Recirculation
- Optional: Point of use filter or bio filter for removal of RNase, DNase and endotoxins

Dimensions

- PURELAB flex 2: H × W × D = 900 to 1020 × 236 × 374 mm
- PURELAB flex 3: H × W × D = 900 to 1020 × 236 × 470 mm

	Article	Order No.
①	**PURELAB flex** pretreated feed water <1 µS/cm, incl. UV, purification pack and TOC monitor	**10 14 75578**
②	**PURELAB flex 3** drinking water feed, incl. reverse osmosis, UV, purification pack and TOC monitor	**10 14 75287**

Accessories

Article	Order No.
Purification cartridge PURELAB flex 2	**10 14 75579**
Purification cartridge PURELAB flex 2	**10 14 75286**
Point of use filter 0.2 µm	**10 14 73862**
Bio filter	**10 14 72163**
Wall mounting kit	**10 14 75587**

Pure Water System, ELGA LabWater / Veolia Water Technologies Deutschland GmbH

PURELAB Chorus 2 pure water system

The PURELAB Chorus 2 produces up to 480 liter of Type II purity water for general laboratory applications and can be used as stills replacement. The system minimizes the use of consumables thus enabling permanently low operational costs. The corresponding range of storage reservoirs are designed to maintain optimum purity of stored purified water and provide effective protection against airborne contaminants. These reservoirs can be supplied as stand-alone units or can be positioned on top as well as beneath the PURELAB Chorus 2 to save valuable laboratory space.

PURELAB Chorus 2 (RO/DI) – Key benefits at a glance

- Optimized resin mixes to maximize consumables capacity
- Quick and easy automated sanitization to minimize downtime
- Maintains purity of water through auto rinse
- Simple to install, operate and maintain
- Storage reservoirs with LED level indicator and dispense tap with choice of 2 positioning options
- Flexible installation (undertable, bench or wall)

Continued on next page

Ultrapure Water Systems

PURELAB Chorus 2 (RO/DI) – treatment technologies:
- Pre-treatment
- Reverse osmosis
- Purification pack
- Optional: Degassing module for CO_2 removal, water recovery kit

Dimensions: H × W × D = 435 × 375 × 340 mm

Article	Order No.
PURELAB Chorus 2 RO/DI 10 l/h, Boost Pump	**10 14 76635**
PURELAB Chorus 2 (RO/DI) 10 l/h	**10 14 76636**
PURELAB Chorus 2 (RO/DI) 20 l/h, Boost Pump	**10 14 76637**
PURELAB Chorus 2 (RO/DI) 20 l/h	**10 14 76638**
15 liter storage reservoir	**10 14 72141**
30 liter storage reservoir	**10 14 72142**
60 liter storage reservoir	**10 14 72143**
100 liter storage reservoir	**10 14 72144**



Accessories

Article	Order No.
Degassing module	**10 14 79939**
Pretreatment cartridge PURELAB Chorus	**10 14 70737**
RO module 10 l/h PURELAB Chorus	**10 14 70735**
Treatment cartridge PURELAB Chorus 2	**10 14 74727**

Pure Water System, ELGA LabWater / Veolia Water Technologies Deutschland GmbH

PURELAB Chorus pure water system
The compact system produces up to 20 l/h (withdrawal >1 l/min) type 2+ ultrapure water from potable tap water. To ensure constant water quality and low operating costs with high requirements, the treated water recirculates from the reservoir to the outlet via the patented electro-deionization module (EDI) and the UV lamp. The colour display shows water parameters, status messages, and the reservoir level at a glance. Alarm values for permeate quality, product water quality and temperature can be set individually. Optionally, the system can be combined with max. three Halo Dispensers for withdrawal of ultrapure water, and with end filters.

Article	Order No.
PURELAB Chorus 2+ (RO / EDI / UV) 10 l/h, Boostcamp	**10 14 73902**
PURELAB Chorus 2+ (RO / EDI / UV) 10 l/h	**10 14 73903**
PURELAB Chorus 2+ (RO / EDI / UV) 20 l/h, Boost Pump	**10 14 73904**
PURELAB Chorus 2+ (RO / EDI / UV) 20 l/h	**10 14 73905**
15 liter storage reservoir	**10 14 72141**
30 liter storage reservoir	**10 14 72142**
60 liter storage reservoir	**10 14 72143**
100 liter storage reservoir	**10 14 72144**



Consumables

Article	Order No.
Pretreatment cartridge PURELAB Chorus	**10 14 70737**
RO module 10 l/h PURELAB Chorus	**10 14 70735**
Treatment cartridge PURELAB Chorus 2	**10 14 74727**
UV lamp	**10 14 73932**
POU micro filter	**10 14 70145**
Bio filter	**10 14 72163**
Degassing module	**10 14 79939**

Accessories

Article	Order No.
Wall mount Chorus	**10 14 73997**
RO degassing set PURELAB Chorus	**10 14 70738**

Ultrapure Water Systems

Ultrapure Water System OmniaTap, stakpure

webcode WW6X9001



The Allrounder. For H_2O pure types I + II.
OmniaTap is the ideal system when both pure water and ultrapure water are required, but in relatively small amounts. The ability to provide both types from a single system results from the combination of ultramodern purification technologies. These also make it possible to connect the system directly to a drinking water tap. A touch on the flexible dispenser button activates dispensing of ultrapure water type I via the digital dispenser control. The recirculation of the pure water held in the installed 10 litre tank keeps it permanently at type II quality. The pure water tank has a second outlet for feeding downstream end users.


Single-handed operation


Adapts to working surface


Space-saving wall mount

Specifications	OmniaTap	OmniaTap UV	OmniaTap UV/UF
Type II			
Pure water performance l/h at 15°C:	6 or 12	6 or 12	6 or 12
Conductivity µS/cm:	0.067 – 0.1	0.067 – 0.1	0.067 – 0.1
Resistance MΩ×cm:	15 – 10	15 – 10	15 – 10
Pure water tank pressurized outlet:	optional	optional	optional
Type I			
Conductivity µS/cm:	0.055	0.055	0.055
Resistance MΩ×cm:	18.2	18.2	18.2
TOC-value[1] ppb:	5 – 10	1 – 5	1 – 5
Dispensing performance l/min:	up to 2	up to 2	up to 1.6
Endotoxins[1] EU/ml:	—	—	0.001
Particles /ml (with sterilizing filter 0.2 µm):	< 1	< 1	< 1
Bacteria CFU/ml (with sterilizing filter 0.2 µm):	< 0.1	< 0.1	< 0.1
Technical data			
Operating pressure bar:	2 – 6	2 – 6	2 – 6
Supply voltage Volt/Hz:	90–240/50–60	90–240/50–60	90–240/50–60
Connected load kW:	0.1	0.1	0.1
Connector size:	¾″	¾″	¾″
Ambient temperature °C:	+2 to +35	+2 to +35	+2 to +35
Dimensions W × H × D mm:	390×720[2]×615	390×720[2]×615	390×720[2]×615
Weight kg:	22	23	23

[1] in dependence on the feed-water quality
[2] with OptiFill Dispenser

Ultrapure water systems OmniaTap

Type	Application	Order No.
OmniaTap 6	AAS, IC, ICP, buffers and media preparation	**10 45 48251**
OmniaTap 12	AAS, IC, ICP, buffers and media preparation	**10 45 48211**
OmniaTap 6 UV	Ultra-trace analysis, ICP-MS, HPLC, TOC	**10 45 48252**
OmniaTap 12 UV	Ultra-trace analysis, ICP-MS, HPLC, TOC	**10 45 48212**
OmniaTap 6 UV/UF	Life science and microbiology, cell culture media	**10 45 48253**
OmniaTap 12 UV/UF	Life science and microbiology, cell culture media	**10 45 48213**

RO cartridge, ultrapure water cartridge, sterile filter capsule 0.2 µm, sterile overflow and sterile vent filter included.

Consumable material

Article	Order No.
RO cartridge OmniaTap 6	**10 45 49205**
Pre-treatment cartridge OmniaTap 12	**10 45 49210**
Ultrapure water cartridge Omnia 055	**10 45 49203**
Sterile filter capsule 0.2 µm	**10 45 49130**
Bio filter capsule	**10 45 49121**
Sterile vent filter	**10 45 40400**
Replacement UV-lamp for TOC reduction – Omnia 185	**10 45 40185**
UF-ultrafiltration BIG	**10 45 40050**

Accessories

Article	Order No.
Wall mount Omnia	**10 45 49230**
Disinfection kit Omnia	**10 45 49256**
Disinfectant Omnia, 3 Pc./Pack.	**10 45 49257**
Pre-treatment unit OmniaTap/Lab 10″	**10 45 49221**

Ultrapure Water Systems

Ultrapure Water System OmniaPure, stakpure

The specialist. For H_2O pure type ASTM I.
When your need is for highest quality pure water that fulfils the demands of analytical and life science laboratory requirements, then one of these OmniaPure systems type will be right for you. You can configurate it. Flexible in function, economical in operation. The incorporated pre-treatment constantly ensures the reliability of your experimental results and reduces running costs. As free laboratory space is mostly limited, three possibilities for system placement are given: wall-mount, bench-top or, to save bench space, in a base cabinet. The standard OptiFill dispenser and monitoring unit enables convenient and precise filling into laboratory vessels.

stakpure

webcode WW6X9002


Single-handed operation


Adapts to working surface


Space-saving wall mount



Specifications	OmniaPure	OmniaPure UV / UV-TOC	OmniaPure UV/UF / UV-TOC/UF
Type I			
Conductivity µS/cm:	0.055	0.055	0.055
Resistance MΩ×cm:	18.2	18.2	18.2
TOC-value[1] ppb:	5 – 10	1 – 5	1 – 5
TOC monitor:	—	— / yes	— / yes
Dispensing performance l/min:	up to 2	up to 2	up to 1.6
Endotoxins[1] EU/ml:	—	—	0.001
RNase[1] ng/ml:	—	—	< 0.01
DNase[1] pg/ml:	—	—	< 4
Particles /ml (with sterilizing filter 0.2 µm):	< 1	< 1	< 1
Bacteria CFU/ml (with sterilizing filter 0.2 µm):	< 0.1	< 0.1	< 0.1
Technical data			
Operating pressure bar:	0.5 – 6	0.5 – 6	0.5 – 6
Supply voltage V/Hz:	90–240/50–60	90–240/50–60	90–240/50–60
Connected load kW:	0.1	0.1	0.1
Connector size mm:	3/4″	3/4″	3/4″
Ambient temperature °C:	+2 to +35	+2 to +35	+2 to +35
Dimensions W×H×D mm:	390×720[2]×525	390×720[2]×525	390×720[2]×525
Weight kg:	19	20	20

[1] in dependence on the feed-water quality

[2] with OptiFill Dispenser

Ultrapure water systems OmniaPure

Type	Application	Order No.
OmniaPure	AAS, IC, ICP, buffers and media preparation	**10 45 41821**
OmniaPure UV	Ultra-trace analysis, ICP-MS, HPLC, TOC-analysis	**10 45 41822**
OmniaPure UV/UF	Life science and microbiology, cell culture media	**10 45 41823**
OmniaPure UV-TOC	Ultra-trace analysis, ICP-MS, HPLC, TOC-analysis	**10 45 40004**
OmniaPure UV-TOC/UF	Life science and microbiology, cell culture media	**10 45 40005**

Filter cartridges and sterile filter capsule 0.2 µm included.

Consumable material

Article	Order No.
Pre-treatment cartridge OmniaPure	**10 45 49202**
Ultrapure water cartridge Omnia 055	**10 45 49203**
Sterile filter capsule 0.2 µm	**10 45 49130**
Bio filter capsule	**10 45 49121**
Replacement UV-lamp for TOC reduction – Omnia 185	**10 45 40185**
UF-ultrafiltration BIG	**10 45 40050**

Accessories

Article	Order No.
Wall mount Omnia	**10 45 49230**
Disinfection kit Omnia	**10 45 49256**
Disinfectant Omnia, 3 Pc./Pack.	**10 45 49257**

webcode To see other variants and accessories, please enter the webcode on our website.

Ultrapure Water Systems

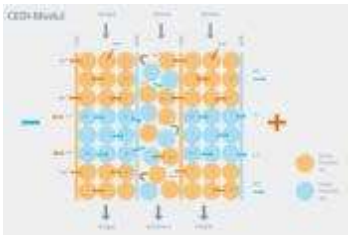
stakpure

webcode WW6X9003



Ultrapure Water System OmniaLab^{ED+}, stakpure

The big one. For H_2O pure types I + II.
OmniaLab^{ED+} is the system of choice when the complete laboratory pure water and ultra-pure water requirements are to be fulfilled. The system complies with international water standards such as ASTM, ISO 3696 and CLSI. The economy of it is maximized by the inclusion of a continuously self-regenerating electrodeionizer, without having to give any demanding analytical applications a pass. Further to this, each OmniaLab^{ED+}-system holds 100 litres of pure water type II ready for withdrawal in a storage tank that is equipped with quality recirculation. The flexible positioning of the purification modules enables OmniaLab^{ED+} to be supplied as a tower-unit (mobile on castors) or, to save space, for fitting in a base cabinet. OmniaLab^{ED+} is exactly right as pure water supplier to autoclaves and laboratory washing machines as well as for the withdrawal of type I ultra-pure water for analytics and bioscience applications.



Electrodeionization



Single-handed operation



Space saver:
tank in base cabinet

Specifications	OmniaLab^{ED+20}	OmniaLab^{ED+40}	OmniaLab^{ED+70}
Type II			
Pure water performance l/h at 15°C:	20	40	70
Conductivity µS/cm:	0.067 – 1	0.067 – 1	0.067 – 1
Resistance MΩ×cm:	15 – 1	15 – 1	15 – 1
Silicate removal[1] %:	99.9	99.9	99.9
Dispensing performance l/min:	up to 2	up to 2	up to 2
Pure water tank pressurized outlet:	optional	optional	optional
Particles /ml (with sterilizing filter 0.2 µm):	< 1	< 1	< 1
Bacteria CFU/ml (with sterilizing filter 0.2 µm):	< 0.1	< 0.1	< 0.1
Typ I			
Conductivity µS/cm:	0.055	0.055	0.055
Resistance MΩ×cm:	18.2	18.2	18.2
TOC-value[1] ppb (with UV-unit):	1 – 5	1 – 5	1 – 5
Technical data			
Operating pressure bar:	2 – 6	2 – 6	2 – 6
Supply voltage V/Hz:	90–240/50–60	90–240/50–60	90–240/50–60
Connected load kW:	0.25	0.25	0.25
Connector size mm:	¾″	¾″	¾″
Ambient temperature °C:	+2 to +35	+2 to +35	+2 to +35
Dimensions tower W×H×D mm:	511×1520[2]×575	511×1520[2]×575	511×1520[2]×575
Dimensions base cabinet tank mm:	511×800×575	511×800×575	511×800×575
Weight kg:	60	65	65

[1] in dependence on the feed-water quality
[2] with OptiFill Dispenser

Ultrapure water systems OmniaLab^{ED+}
Typical applications: Feedwater for autoclaves and laboratory washers, as well as for analytics and bioscience applications.

Article	Order No.
Ultrapure water system OmniaLab^{ED+20}	**10 45 41872**
Ultrapure water system OmniaLab^{ED+40}	**10 45 41874**
Ultrapure water system OmniaLab^{ED+70}	**10 45 41877**

RO cartridge, ultrapure water cartridge, sterile filter capsule 0.2 µm, sterile overflow and sterile vent filter + CO_2 absorber included.

Continued on next page

Ultrapure Water Systems

Accessories/Consumable material

Article	Order No.
Pre-treatment unit OmniaLab 10″	**10 45 49220**
Spare pre-filter cartridge 10″ – 1 µm	**10 45 40100**
RO cartridge, set of 2 – Omnia 20	**10 45 40011**
RO cartridge – Omnia 40	**10 45 40012**
RO cartridge, set of 2 – Omnia 70	**10 45 40080**
Ultrapure water cartridge Omnia 055	**10 45 49203**
Sterile filter capsule 0.2 µm	**10 45 49130**
UV Tank disinfecting unit	**10 45 49250**
UV Flow through disinfection 254	**10 45 49251**
UV Unit for TOC reduction 185	**10 45 49252**
Replacement UV-lamp for TOC reduction – Omnia 185	**10 45 40185**
CO_2-Adsorber + sterile vent filter	**10 45 40200**
Sterile vent filter	**10 45 40300**

Ultrapure Water System, Berrytec®

Berrytec

webcode WWMUD016

Berrypure® Mini

- Ultrapure water system for water quality ASTM I
- Fully automated control board with all information
- Display 7 inch touch panel (as a standard), with recirculation and flushing
- Languages English, German, flow rate 1.6 litres/min for a recommended withdrawal rate of 20 litres/hour/day
- Flexible dispenser arm, external, ABS housing
- Dimensions Berrypure® Mini (L×W×H) 180 × 350 × 420 mm (without arm, with the RO module 100 mm higher)
- Dimensions RO module (L×W×H) 180 × 440 × 550 mm (for feed water generation > 5 µS from tap water)
- Models with UV lamp or ultrafiltration filter available as an option
- For use with tap water, install our RO module upstream



Article	Order No.
Osmosis pack Berrypure® Mini series	**10 63 51065**
Osmosis unit 8 l/h, tank 7 l with sterile tank ventilation filter and cleaning cartridge. Generates ultrapure water ASTM type III better than 0.25 µS/cm.	
Berrypure® Mini UP	**10 63 52120**
18.2 MΩ, e.g. AS, IC, ICP	
Berrypure® Mini UPUV	**10 63 52130**
18.2 MΩ and UV lamp e.g. HPLC, ICP-MS, TOC analysis, MC	
Berrypure® Mini UPUVUF	**10 63 52140**
8.2 MΩ, UV lamp and UF module, covers all combinations	
Berrypure® Mini UPUF	**10 63 52150**
8.2 MΩ and UF module, e.g. PCR, DNS, cell culture	
TOC real-time measurement	**10 63 52100**
for all miniUP Flex systems	
Sterile final filter 0.22 µm	**10 83 22300**
Filter cartridge Berrytec DuoUP Pak Basic	**10 63 52400**
Filter cartridge Berrytec DuoUP Pak TOC	**10 83 22402**
for optimisation of the TOC value	
Filter cartridge errytec DuoUP Pak ION	**10 63 52404**
UV lamp	**10 83 22410**
Spare UV lamp for mini and Plus series	
Cleaning cartridge osmosis pack	**10 63 51392**
Pretreatment pack osmosis pack	**10 63 51393**

Berrypure® Ultra

Article	Order No.
Berrypure® IR-Control with protective gas atmosphere (Argon)	**10 63 53015**

Other system versions such as osmoses, EDI, and ultrapure water for requirements of more than 20 litres/day available on request.

webcode To see other variants and accessories, please enter the webcode on our website.

Ultrapure Water Systems

webcode WWEZ6017

SARTORIUS

arium® mini Compact Lab Water System, Sartorius Lab Products and Services

The arium® mini is a compact ultrapure water system that is specially designed for ultrapure water requirements of less than 10 liters per day. With the capacity to deliver ultrapure water at a rate of 1 L/min. and a width of only 28 cm, this space-saving unit easily integrates into nearly any lab environment. For analytical and especially critical applications, such as HPLC/UHPLC, arium® mini can be equipped with an optional integrated UV lamp (185/254 nm). This ensures reliable production of ultrapure water that is virtually free of organic components

The system is available in two versions:
The arium® mini plus is directly connected to a feed water tap. In this system, feed water is treated first by a pre-treatment cartridge, which consists of a combination of activated carbon and a reverse osmosis module.
The standard version of arium® mini is independent of a permanently installed water tap. Pretreated feed water is provided in a container. Feed water needed to produce ultrapure water is supplied by the unique 5-liter bag integrated on the side of the system. Uncomplicated exchange of the bag also facilitates upkeep of the system and considerably reduces maintenance time compared with conventional tank systems.

Features:
- Easy bag exchange in less than 5 minutes
- No cleaning agents required
- Closed system for optimised cleanliness, prevents biofilm formation
- Intuitive menu navigation via high-quality touch display, developed on the basis of profound customer study & feedback
- Small footprint: width 28 cm only
- Withdrawal of volumes of 50 ml and up

Applications:
- GC-MS
- ELISA
- Reagents preparation
- IC
- HPLC/UHPLC
- Preparation of buffers and media
- AAS
- Histology
- Photometry
- SPE
- ICP-MS



arium® mini plus
The compact ultrapure water system was developed for the supply of ASTM type 1 and ASTM type 3 water. The system is suitable for general and analytical applications with a daily requirement of < 10 liters.

Technical data:

Feed:	Drinking water
Maximum flow rate:	1 l/min (ASTM Type 1)/ 8 l/h (Type 3)
Voltage:	100 – 240 V
Product water resistivity (at 25°C):	18.2 MΩ × cm & < 20 µS/cm
Product water type:	Ultrapure Water (Type 1), Reverse Osmosis Water (Type 3)

Article	Order No.
arium® mini plus	**10 55 57301**
arium® mini plus with integrated UV lamp	**10 55 57302**
For critical analyses, the integrated UV lamp can reduce organic substances to max. < 5 ppb TOC*.	

arium® mini
The compact ultra-pure water system was designed to supply ASTM type 1 water. The H20-MM-T system is suitable for general as well as analytic applications with a daily requirement of < 10 liters.

Technical data:

Feed:	Manual feed with pre-treated water
Maximum flow rate:	1 l/min (ASTM Type 1)
Voltage:	100 – 240 V
Product water resistivity (at 25°C):	18.2 MΩ × cm & < 20 µS/cm
Product water type:	Ultrapure Water (Type 1)

Article	Order No.
arium® mini	**10 55 57304**
arium® mini inklusive UV lamp	**10 55 57305**
For critical analyses, the integrated UV lamp can reduce organic substances to max. < 5 ppb TOC*.	

Please enter the webcode WWEZ6017 to see the other variants and accessories in our online catalogue.

Gas Generators

Gas Generators CINEL®, Zefa

webcode WWQ7T014

ZEFA

① **Hydrogen generators**
- New hydrogen generator for generation of ultrapure hydrogen (99.99999%)
- Ideal for laboratory use
- Eliminates risks involved in the use of conventional gas cylinders
- Based on the new, patented electrolysis cell with patented arrangement of electrodes (best possible insulation between the electrodes)
- Maintenance-free cell
- Low energy consumption – smaller loss of electrical energy
- More efficient electrolysis – higher efficiency
- Less electrode wear

Applications: FID / GC-MS / ICP-MS

Model	Flow rate	Order No.
H2 AD - 180	180 ml/min hydrogen (purity > 99.9999% at a pressure of 10.7 bar)	**10 83 24934**
H2 AD - 500	500 ml/min hydrogen (purity > 99.9999% at a pressure of 10.7 bar)	**10 83 24935**
H2 AD - 800	800 ml/min hydrogen (purity > 99.9999% at a pressure of 10.7 bar)	**10 83 20568**



①

② **Nitrogen generators**
- Nitrogen generators ensure constant and reliable supply of ultrapure nitrogen to LC-MS systems
- Utilization of PSA technology
- ZEFIRO Zero – without compressor
- Low-noise < 50 dB
- Little maintenance required – NEW: double interval - now only every 8,000 h
- Extensive portfolio of models matching all commonly used LC-MS systems

Application: LC-MS / GC-ICP

Please enter the webcode WWQ7T014 to see the other models in our online catalogue.

Model	Flow rate	Order No.
Zefiro 35 LC-MS	35 l/min nitrogen (purity 99.0% at a pressure of 8 bar)	**10 83 24937**
Zefiro 5 HP	5 l/min nitrogen (purity 99.999% at a pressure of 5 bar)	**10 83 24938**
Zefiro z 40 LC-MS	40 l/min nitrogen (purity 98.5% at a pressure of 7 bar)	**10 83 25031**



②

③ **Zero air generator**
- Zero air generators produce laboratory grade purified and hydrocarbon free air from an existing in house oil free compressed air supply. Zero Air Generators remove HC pollutants to less than 0.1 ppm, CO to less than 0.1 ppm and all kinds of particles.
- Increase of analysis accuracy
- Elimination of the need for inconvenient high-pressure gas cylinders, and the accompanying risks
- Ready to use – easy to install – minimum maintenance in yearly intervals
- Low-noise (< 50 dB)
- Payback period typically < 1 year

Application: GC-FID, GC-FPD, GC-NPD

Model	Flow rate	Order No.
ZA - 3000	3,000 ml/min (contamination HC < 0.1 ppm, CO < 0.1 ppm, particle-free)	**10 83 24936**
ZA - 6000	6,000 ml/min (contamination HC < 0.1 ppm, CO < 0.1 ppm, particle-free)	**10 83 29291**



③

Compressor

Type	Flow rate	Order No.
CZA	15 l/min dried air, max. pressure 7 bar	**10 83 28269**

Everything for your laboratory –
from one source

Gas Generators

webcode WWGZA026

Lab Gas Generators, Dewert Labortechnik



①

① Labgas type MA hydrogen generators: electrolysis technology

Ensuring reliable and low-cost generation of a continuous volume flow of pure hydrogen, these hydrogen generators make high-pressure steel hydrogen cylinders completely redundant in the lab.
Consuming low levels of electricty, the generators produce hydrogen from deionised water at low pressure, and only when required.

Choose from various series:

Hydrogen generator type MA-N purity 6.0 (99.9999%)

The generators of the MA-N series are ideally suited for supplying fuel gas to all detectors routinely used in gas chromatography.

Technical data:

Outlet pressure: 8 bar
Power supply: 110 – 240 V
Interfaces: RS 485, Ethernet
Dimensions (WxDxH): 245 × 460 x 500 mm
Weight: 23 kg
3.5″ colour display
Remote functions

Model	Flow rate ml/min	Order No.
MA-150N	150	**10 08 00150**
MA-250N	250	**10 08 00250**
MA-400N	400	**10 08 00400**

Hydrogen generator type MA-D purity 7.0 (99.9999%)

The generators of series MA-D provide higher-purity hydrogen and are perfect suppliers of carrier gas for the applications GC and GC/MS, as well as of ICP-MS reaction gas.

Technical data:

Outlet pressure: 10 bar, optionally 12 bar
Power supply: 110 – 240 V
Interface: RS 485, Ethernet
Dimensions (W×D×H): 245 × 460 × 500 mm
Weight: 25 to 28 kg depending on the model
3.5″ colour display
Remote functions

Model	Flow rate ml/min	Order No.
MA-150D	150	**10 08 01150**
MA-250D	250	**10 08 01250**
MA-400D	400	**10 08 00401**
MA-600D	600	**10 08 00601**
MA-800D	800	**10 08 00801**
MA-1000D	1000	**10 08 11000**
MA-1200D	1200	**10 08 12000**



②

② Labgas type GA nitrogen generators: technology PSA pressure swing adsorption

Nitrogen generators are suitable for supplying nitrogen to a wide range of laboratory applications. All generators use the time-proven pressure swing adsorption technology (PSA).
It uses activated carbon molecular sieves to remove oxygen, hydrocarbons, carbon dioxide and moisture from compressed air, producing ultrapure nitrogen fit for use in the laboratory.
Depending on the model, all generators produce nitrogen with purities ranging from 98% to 99.999% (or better).

Technical data:

Output pressure: 6 – 8 bar(g) standard
Power supply: 110 – 240 V
Interface: RS 485, Ethernet
Dimensions (W×D×H): 440 × 855 × 760 mm
External, oil-free compressed air required
3.5″ colour display
Remote functions

Model	Flow rate ml/min	Order No.
GA-T2	15.5 – 1.9 @ 98 – 99.9999%	**10 08 00002**
GA-T4	31.0 – 3.8 @ 98 – 99.9999%	**10 08 00004**
GA-T6	46.5 – 5.7 @ 98 – 99.9999%	**10 08 00006**
GA-T8	62.0 – 7.6 @ 98 – 99.9999%	**10 08 00008**
GA-T10	77.0 – 9.5 @ 98 – 99.9999%	**10 08 00010**

Continued on next page

Gas Generators

③ **Labgas zero air generators type OR: technology catalytic combustion**

Zero air generators produce a continuous volume flow of clean and dry air with a particularly low residual methane content of under 0.1 ppm from an external compressed air source.
The compressed air passes through a hot catalytic unit in which all hydrocarbons are oxidised to water and carbon dioxide. This ensures the desired ultra-efficient removal of all hydrocarbons.
Choose from various series.

Technical data:
Output pressure: 9 bar(g) max.
Dimensions ^(W×D×H): 400 × 550 × 134 mm
Power supply: 230 V
Weight: 10 kg
External, oil-free compressed air required

Model	Flow rate ml/min	**Order No.**
OR-Z01	4	**10 08 00011**
OR-Z02	8	**10 08 00020**

Model	Flow rate ml/min	**Order No.**
OR-Z03	16	**10 08 00030**
OR-Z04	32	**10 08 00040**



③

② **Labgas oxygen generators type GE: technology PSA pressure swing adsorption**

Using PSA technology, oxygen generators produce a continuous oxygen flow with purities from 90 to 95% from compressed air. Oxygen generators make high-pressure steel oxygen cylinders completely redundant in the laboratory.

Technical data:
Output pressure: 6 bar(g) Standard
Power supply: 110 – 240 V
Interfaces: RS 485, Ethernet
Dimensions (W×D×H): 440 × 855 × 760 mm
External, oil-free compressed air required
3.5″ colour display
Remote functions

Model	Flow rate l/min	**Order No.**
GE-T2	3.2 – 2.7 @ 90 – 95%	**10 08 00202**
GE-T4	6.4 – 5.4 @ 90 – 95%	**10 08 00404**
GE-T6	9.6 – 8.1 @ 90 – 95%	**10 08 00606**
GE-T8	12.8 – 10.8 @ 90 – 95%	**10 08 00808**
GE-T10	16.0 – 13.5 @ 90 – 95%	**10 08 01010**

Further models on request, please contact us.

Use the webcode on our website to see a larger selection of products from a specific manufacturer.

Webcode

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