

**Edition 1**

**Your Lab is Our Mission!**  
Lab Instruments and Consumables

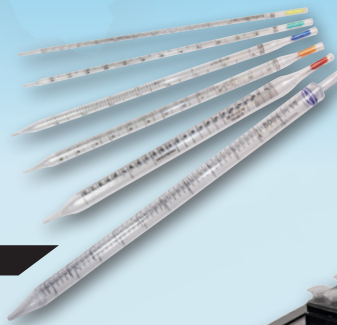


**Life Science  
Research  
Development**

# Your Lab is Our Mission!



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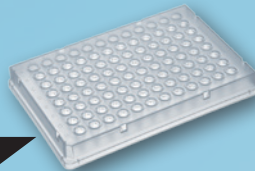
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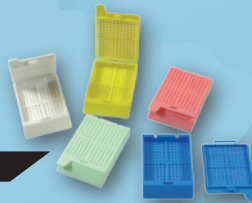
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### 1 Laboratory bottles Borosilicate glass 3.3, GL 45, with retrace code



Borosilicate glass 3.3. DIN 168 - 1. EN ISO 4796-1.  
With graduations and retrace code, pouring ring,  
PP screw cap with ISO thread.  
Certificates are available on request.

Kimble KIMAX

Capacity	Ext. diam.	Height	PK	Cat. No.
ml	mm	mm		
100	56	100	10	<b>9.072 331</b>
250	70	138	10	<b>9.072 332</b>
500	86	176	10	<b>9.072 334</b>
1000	101	225	10	<b>9.072 335</b>
2000	136	260	10	<b>9.072 336</b>
5000	186	330	1	<b>9.072 337</b>
10000	234	410	1	<b>9.072 338</b>



9.072 334

### 2 Membrane Cap, PP/ PTFE

Cap from PP, membrane from PTFE. Ideal for autoclaving processes because the membrane permits pressure equalisation and tight sealing, reducing the risk of contamination.  
Temperature resistant up to 140 °C.  
Typical applications: storage or transport of gas generating media, autoclaving of media.

DURAN Group

Neck thread	PK	Cat. No.
GL		
25	1	<b>9.284 567</b>
32	1	<b>9.284 568</b>
45	1	<b>9.209 068</b>
80	1	<b>9.284 531</b>



### 3 Double-walled wide-mouth bottles GLS 80®, DURAN®

The DURAN® double-walled wide-mouth bottles GLS 80® incorporate an integral jacket that isolates the contents from the external environment. Heated or cooled liquids can be circulated through the jacket to control the temperature within the screw topped DURAN® bottle.

#### Applications

- Simple, low cost, jacketed chemostat or bioreactor for cell culture.
- Vessel for temperature-controlled reactions such as enzyme digestions.
- Simple continuous flow stirred reactor system with the optional GLS 80® cap components.
- Thermostatic vessel to maintain fluids, or high viscosity liquids at a constant temperature, useful when working with endo- or exothermic reactions.
- Large cold trap or condenser when used with dry ice in the inner container.

#### Features

- Usable temperature range of - 40 to + 120 °C.
- Manufactured from DURAN® borosilicate 3.3 glass.
- All components are fully autoclavable.
- Available in two sizes: 500 and 1000 ml.
- Compatible with full range of wide mouth GLS 80® connection cap systems for liquid addition or removal during processing.

Capacity	Diam.	Height without closure	PK	Cat. No.
ml	mm	mm		
500	110	170.0	1	<b>6.266 805</b>
1000	110	270.0	1	<b>6.266 806</b>



### 4 Accessories for Wide-mouth bottles GLS 80®, PP

Temperature resistant up to 140 °C. Autoclavable.

DURAN Group

Description	Diam. mm	Height mm	PK	Cat. No.
Screw cap	87	40.0	1	<b>9.140 110</b>
Pouring ring, blue	77	6.8	1	<b>9.284 530</b>



# General laboratory consumables

## Laboratory bottles



### 1 Square bottles Type 2015, PC, with screw cap, PP

PC bottle with leakproof PP screw cap. With moulded graduations and pouring rim. Ideal for storing aqueous solutions and for the short-term storage of cell culture media. Autoclavable.

Thermo Scientific

Capacity ml	Screw cap diam. mm	Height with cap mm	Width mm	Depth mm	PK	Cat. No.
30	20	64	38	38	12	<b>9.103 284</b>
60	24	83	41	41	12	<b>9.103 285</b>
125	38-430*	110	54	54	6	<b>9.103 286</b>
250	38-430*	146	57	57	6	<b>9.103 287</b>
500	38-430*	177	74	74	4	<b>9.103 288</b>
1000	38-430*	220	94	94	4	<b>9.103 289</b>
2000	53B	271	116	116	1	<b>9.103 077</b>

\* with high form thread.



### 2 Square Media Bottles Typ 2019, PETG, sterile

With white PE-HD screw closure. Reduced permeability to CO<sub>2</sub>/O<sub>2</sub> which reduces pH-shift. Bottles and closures are radiation-sterilised and non-pyrogenic to eliminate costly washing, depyrogenation and autoclaving steps. Heatshrink band around closure and neck provides tamper-evident seal. Packed in shrink-wrapped trays. 2 l size has molded-in handgrips and a 53-mm (53B) white closure. Bottles are sterile to 10<sup>-6</sup> SAL, non-pyrogenic, non-cytotoxic and comply with USP Class VI guidelines. Sterile. Transparent. Leakproof. Graduated.

Thermo Scientific

Type	Capacity ml	Cover type	Dimensions mm	PK	Cat. No.
2019	30	diam. 20 mm	64 x 38 x 38	24	<b>9.103 121</b>
2019	60	diam. 24 mm	82 x 41 x 41	24	<b>9.103 122</b>
2019	125	diam. 38-430 mm	110 x 54 x 54	24	<b>9.103 123</b>
2019	250	diam. 38-430 mm	146 x 61 x 61	24	<b>9.103 124</b>
2019	500	diam. 38-430 mm	177 x 74 x 74	12	<b>9.103 125</b>
2019	1000	diam. 38-430 mm	220 x 94 x 94	12	<b>9.103 126</b>
2019	2000	diam. 53-53B mm	271 x 116 x 116	6	<b>9.103 127</b>



### 3 InVitro™ Biotainer®-Bottle, Type 3025, PETG, sterile

With PE screw cap with silicone seal. Ready to use. With printed graduations in ml. With ribbed hand-grips (except 125 ml and 5000 ml). Materials meet current USP VI, are non-cytotoxic and non-pyrogenic.

Thermo Scientific

Type	Capacity ml	Cover type	PK	Cat. No.
3025	125	38 mm	5	<b>9.102 972</b>
3005	500	38 mm	5	<b>9.102 970</b>
3110	1000	48 mm	35	<b>9.102 974</b>
3230	2000	48 mm	20	<b>9.102 977</b>
3415	5000	48 mm*	6	<b>6.233 835</b>
3415	5000	48 mm	1	<b>9.102 984</b>

\* with PE handle.

# General laboratory consumables

## Centrifugation Tubes Microtubes

### 1 LLG-Microcentrifuge tubes, PP, non-sterile

LLG Microtubes cover standard volumes for a variety of sample tests. They are available in 0.5 ml, 1.5 ml and 2.0 ml volumes. These standard Microtubes withstand high centrifugal forces, are temperature and chemical-resistant and guaranteed leak free. An innovative and modern new generation of Microtubes with new features. Perfect sealing qualities, excellent chemical stability and optimal construction materials guarantee even better resistance to centrifugal and chemical forces. Easy to open and to close thanks to the improved lid geometry. For visual volume control the 1.5 ml tubes are equipped with graduations at 0.5 ml, 1.0 ml and 1.5 ml. The 2.0 ml tubes have graduations at 0.5 ml, 1.0 ml, 1.5 ml and 2.0 ml. The 0.5 ml tubes have no graduations.

Certified DNase-, RNase- and pyrogen free.

Non sterile, clear, in bags. Certified free of DNase, RNase, suitable for microbiology. Guaranteed metal-free.

#### Specifications

**Autoclavability**  
 Temperature: 121 °C (250 °F)  
 Pressure: 1.05 bar or 15 psi  
 Time: 20 min or less

**Centrifugation**  
 Fixed angle rotor: 25000 x g  
 Swing out rotor: 70000 x g

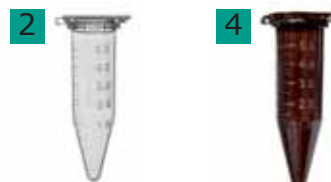
Volume ml	Form	PK	Cat. No.
0.5	conical	1000	9.409 023
1.5	conical	1000	9.409 024
2.0	round	1000	9.409 025



### LLG-Centrifuge tubes, 5 ml, PP, non-sterile

The LLG-Centrifuge tubes 5 ml, non-sterile, represent the perfect solution for all laboratory applications requiring incubation, centrifugation and sample handling in an intermediate volume range. The LLG centrifuge tubes are available in clear, amber for use with light sensitive samples and as a color assorted pack (green, blue, yellow and red).

- Max. 25.000 x g, suitable for high speed centrifugation
- Graduations every 0.25 ml for easy volume estimation
- A flat, frosted cap and large writing pad for sample labeling and identification
- Autoclavable
- Fits all rotors and racks that hold 15 ml conical tubes, no adapters needed
- Certified free of RNase and DNase



6.281 113

6.281 115



6.281 114

Description	Package contents	PK	Cat. No.
Clear	1 bag of 250 pieces	250	6.281 113 2
Colour assortment green, yellow, red, blue	4 bags of 50 pieces (1 colour per bag)	200	6.281 114 3
Amber	1 bag of 250 pieces	250	6.281 115 4

### 5 LLG-Centrifuge tubes, PP

Polypropylene tubes with very good thermal, mechanical and chemical stability. With screw closures. Sterile tubes with screwed-on closure. Packed in boxes or bags. With graduations and labelling area. Cytotoxicity-free, DNase/RNase- and human DNA-free. Centrifugation capacity (Max. RCF): 6000 x g



Capacity ml	Diam. mm	Height mm	Form	Description	PK	Cat. No.
15	17.0	120	conical	sterile, single packed	50	9.316 062
15	17.0	120	conical	sterile, bulk pack	50	6.263 886
15	17.0	120	conical	non-sterile	500	9.316 063
50	30.0	120	conical	sterile, single packed	50	9.316 064
50	30.0	120	conical	non-sterile	500	9.316 065
50	30.0	120	with rim	sterile, single packed	50	9.316 067
50	30.0	120	with rim	non-sterile, bulk pack	50	4.008 506

# General laboratory consumables

## Centrifugation Tubes Microtubes

1



1

### Micro tubes, PP, with attached screw cap, PE, with sealing cone

PP, ungraduated, screw cap PE. Operating range: -90 °C to +100 °C.  
Available separately: colored cap inserts (PP) for identification.

BRAND

Capacity ml	Description	PK	Cat. No.
0.5	self-standing	1000	<b>6.701 485</b>
1.5	self-standing	1000	<b>7.079 677</b>
1.5	round-bottom	1000	<b>7.300 156</b>
2.0	self-standing	1000	<b>7.300 197</b>
2.0	round-bottom	1000	<b>7.510 076</b>

2



2

### Micro tubes, PP, with attached screw cap, PP, with silicone seal

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.  
Available separately: colored cap inserts (PP) for identification.

BRAND

Capacity ml	Grad. ml	Description	PK	Cat. No.
0.5		self-standing	1000	<b>6.802 474</b>
1.5	1.00	self-standing	1000	<b>7.070 048</b>
1.5	1.00	round-bottom	1000	<b>7.076 849</b>
2.0	1.20	self-standing	1000	<b>7.300 124</b>
2.0	1.40	round-bottom	1000	<b>7.300 580</b>

3



3

### Micro tubes, PP, bulk screw cap, with silicone seal

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.

BRAND

Sterile: DNA, DNase and RNase-free, endotoxin-free, non-mutagenic, non-toxic. Available separately: colored screw caps and colored cap.

Capacity ml	Description	Type	PK	Cat. No.
0.5	self-standing, with lid, transparent	sterile	500	<b>6.401 078</b>
1.5	self-standing, with lid, transparent	sterile	500	<b>4.000 236</b>
1.5	round-bottom, with lid, transparent	sterile	500	<b>7.300 006</b>
2.0	self-standing, with lid, transparent	sterile	500	<b>7.602 492</b>
2.0	round-bottom, with lid, transparent	sterile	500	<b>7.612 290</b>
0.5	self-standing, without lid	non-sterile	1000	<b>4.000 234</b>
1.5	self-standing, without lid	non-sterile	1000	<b>6.801 871</b>
1.5	round-bottom, without lid	non-sterile	1000	<b>6.802 032</b>
2.0	self-standing, without lid	non-sterile	1000	<b>6.401 135</b>
2.0	round-bottom, without lid	non-sterile	1000	<b>6.401 081</b>
	lid, white	non-sterile	1000	<b>6.901 915</b>
	lid, blue	non-sterile	1000	<b>4.000 235</b>
	lid, red	non-sterile	1000	<b>6.801 872</b>
	lid, green	non-sterile	1000	<b>6.401 082</b>
	lid, yellow	non-sterile	1000	<b>6.401 134</b>

4



4

### Colored cap inserts (PP) for reaction tubes

BRAND

Colour	PK	Cat. No.
white	500	<b>7.079 716</b>
blue	500	<b>7.059 689</b>
red	500	<b>7.079 676</b>
green	500	<b>7.059 690</b>
yellow	500	<b>7.059 691</b>



# General laboratory consumables

## Centrifugation Tubes Microtubes

### 1 2 Microtubes, PP, detached screw-cap, PP

Graduated, sterile (SAL 10<sup>-6</sup>) or non-sterile with tamper-evident screw cap as indicated. With frosted marking area.

BRAND

Operating range: -196 °C to +121 °C. Autoclavable at 121 °C (2 bar), acc. to DIN EN 285. Sterile: DNA, DNase, and RNase-free, endotoxin-free, non-mutagenic, non-toxic.



Capacity ml	Description	Type	PK	Cat. No.
0.5	self-standing, with cap, transparent	sterile	500	9.284 164
1.5	self-standing, with cap, transparent	sterile	500	6.251 643
1.5	round bottom, with cap, transparent	sterile	500	6.251 644
2.0	self-standing, with cap, transparent	sterile	500	9.284 165
2.0	round bottom, with cap, transparent	sterile	500	9.284 166
0.5	self-standing, without cap	non-sterile	1000	9.284 167
1.5	self-standing, without cap	non-sterile	1000	9.284 168
1.5	round bottom, without cap	non-sterile	1000	9.284 169
2.0	self-standing, without cap	non-sterile	1000	6.251 980
2.0	round bottom, without cap	non-sterile	1000	9.284 170
	Lid, transparent	non-sterile	1000	6.266 735
	Lid, blue	non-sterile	1000	6.266 736
	Lid, green	non-sterile	1000	6.266 737
	Lid, red	non-sterile	1000	6.266 739
	Lid, yellow	non-sterile	1000	6.266 740

### 3 Centrifuge tubes Oak Ridge Typ 3114, FEP

Teflon® FEP with Tefzel® ETFE screw cap. Resistant to all acids, bases and solvents. Autoclavable.

Thermo Scientific

Operating temperature range -100 to +150 °C. Can be used brim-full in refrigerated centrifuges at up to 50000 x g rcf. Leak-proof. Accessory sealing cap assemblies are available for all sizes.



Type	Volume ml	Diam. mm	Height mm	PK	Cat. No.
3114	10	16.0	81.5	1	9.315 701
3114	30	25.5	93.7	1	9.315 702
3114	50*	28.8	107.7	1	9.315 703

\* Capacity: 46 ml to the brim.

Teflon® and Tefzel® are a registered trademark of DuPont.



# General laboratory consumables

## Centrifugation Tubes Microtubes



### 1 Nalgene™ Oak-Ridge centrifuge tubes Type 3118, PC

Transparent. PC with PP screw cap. Can be used in suitable refrigerated or ambient centrifuges at up to 50.000 x g rcf. Autoclavable. Accessory sealing cap assemblies are available for 10 ml, 30 ml and 50 ml sizes (on request).

Thermo Scientific

Type	Capacity ml	Diam. mm	Height mm	PK	Cat. No.
3118	10	16.1	81.7	1	9.315 691
3118	28	25.4	101.8	1	9.315 692
3118	30	25.7	94.5	1	9.315 693
3118	50*	28.8	107.0	1	9.315 694
3118	85**	38.2	105.7	1	9.315 695

\* Capacity: 43 ml to the brim.

\*\*Capacity: 81 ml to the brim.



### 2 Nalgene™ Oak-Ridge centrifuge tubes Type 3119, PP-copolymer

PP-copolymer with PP screw cap. PPCO is more resistant to chemicals than PC. Autoclavable. When wet, the translucent test-tube enables observation of the contents. Can be used in refrigerated and unrefrigerated centrifuges at up to 50.000 x g rcf. Accessory sealing cap assemblies are available for all sizes (on request).

Thermo Scientific

Type	Volume ml	Diam. mm	Height mm	PK	Cat. No.
3119	10	16.0	81.4	1	9.315 711
3119	28	25.4	101.9	1	9.315 712
3119	30	25.5	94.3	1	9.315 713
3119	50*	28.8	106.7	1	9.315 714

\* Capacity: 42 ml to the brim.



### 3 Wide-mouth centrifuge bottles Typ 3141, PP-copolymer

PP-copolymer with sealing screw cap. Autoclavable.

Thermo Scientific

Type	Volume ml	Diam. mm	Height mm	Max. rcf x g	PK	Cat. No.
3141	250	60.7	133.4	27500	1	9.315 763
3141	450	69.5	160.0	13700	1	9.315 764

### 1 Micro test tubes and racks, PP, 1.2 ml

Suitable for biological examination, e.g. PCR, cell uptake studies, RIA, EIA, etc. Functional design for storing, freezing and transporting reagents and samples. Compatible with standard microtitre plates and suitable for work with multi-channel pipettes.

BRAND



#### Properties

- 8 x 12 configuration
- Alphanumeric identification system
- Tubes and rack are autoclavable at 121 °C (2 bar), according to DIN EN 285
- Tube dimensions: 8.8 mm external Ø, height 45 mm
- Suitable for storage up to -80 °C
- Test tube capacity 1.2 ml (1.1 ml when capped)
- Individual tube or 8-tube strips available
- With PE cap (not autoclavable)

Type	PK	Cat. No.
Rack with 96 single test tubes, non-sterile, PP	10	9.407 605
Rack with 12 x 8-tube strips, non-sterile, PP	10	9.407 606
Test tubes, single, non-sterile, loose, PP	960	9.407 607
8-tube strips, non-sterile, loose, PP	120	9.407 608
Lid, single, non-sterile, loose, PE	960	9.407 609
8-cap strip, non-sterile, loose, PE	120	9.407 610
Rack with grid, non-sterile (empty), PP	10	9.407 611

### 2 96-tube Racks and accessories, 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.

BRAND



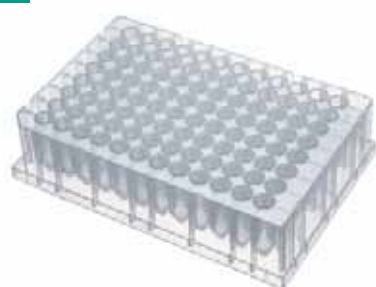
Description	Material	PK	Cat. No.
Rack with lid for 0.65 ml tubes, empty	PP	50	4.007 903
Rack with lid for 1.2 ml tubes, empty	PP	50	6.240 089
Rack with lid with 96 coded 0.65 ml tubes	PP	50	4.007 904
Rack with lid with 96 coded 1.2 ml tubes	PP	50	4.007 905
Refill unit of 96 coded 0.65 ml tubes	PP	50	4.007 906
Refill unit of 96 coded 1.2 ml tubes	PP	50	4.007 907
Single 0.65 ml tube without coding	PP	5000	4.007 908
Single 1.2 ml tube without coding	PP	5000	6.237 017
Strip of 8 lids, piercable	TPE	1000	6.237 016
Cover mat for 96 tubes, piercable	TPE	100	4.007 909

### LLG Deep well plates, 96 well, PP

- Cut-away corner for orientation
- Resistant to DMSO and low temperatures (-196 °C)
- Autoclavable (121 °C)
- Virgin polypropylene, certified RNase, DNase and endotoxin free

Description	Capacity µl	Colour	PK	Cat. No.
96 Well Storage Plate, round caps, with V-Bottom	800	transparent	50	9.407 508 <b>3</b>
96 Deep Well Storage Plate, round caps, with U-Bottom	1200	transparent	50	9.407 509 <b>4</b>
96 Deep Well Storage Plate, square caps, with V-Bottom	2200	transparent	50	6.263 838
96 Deep Well Storage Plate, square caps, with U-Bottom	1200	transparent	50	7.608 837
96 Deep Well Storage Plate, square caps, with U-Bottom	2200	transparent	50	9.407 511 <b>5</b>

3



9.407 508

4



9.407 509

5



9.407 511

# General laboratory consumables

## Centrifugation Tubes Microtubes

1



### 1 LLG-Deep well plates, 384-well, PP

- 384 square wells
- pyramidal well bottom for optimal sample retrieval
- raised rims for optimal sealing and reduced risk of cross-contamination
- raised rims on the corners to protect edges of seals
- chemical resistant (e.g. against DMSO, Phenol, Chloroform)
- autoclavable (121 °C)
- Virgin polypropylene, certified RNase, DNase and endotoxin free

Description	Capacity µl	PK	Cat. No.
384 Well Storage Plate, with V Bottom	120	50	9.407 510
384 Well Storage Plate, with V Bottom	300	50	9.407 512

2



### 2 LLG-Sealing mats for Deep well plates, 96-well

- for sample storage
- not DMSO resistant
- alphanumeric grid
- thermoplastic elastomer
- flexible with end tabs
- with round or angled nodules

Description	For	PK	Cat. No.
with round nodules, not piercable, autoclavable	9.407 508 / 9.407 509	50	9.407 513
with angled nodules, not piercable, autoclavable	9.407 511 / 7.608 837 / 6.263 838	50	9.407 517
with angled nodules, piercable, not autoclavable	9.407 511 / 7.608 837 / 6.263 838	50	7.659 384

3



### 3 Sealing mats

Cover mats reduce the maximum volume of wells, but improve sealing and reduce sample evaporation. Adhesive sealing films can also be used.

BRAND

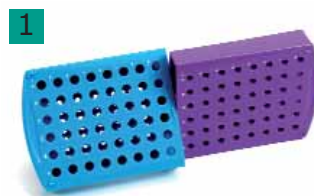
Description	PK	Cat. No.
Cover mat for 0.3 ml 384-well plates (standard), silicone, non-sterile	50	9.407 623
Cover mat for 0.5 ml 96-well plates (standard), PP, non-sterile	50	9.407 621
Cover mat for 1.1 ml 96-well plates (standard), mod. PE, non-sterile	24	9.407 616
Cover mat for 1.2 ml 96-well plates (low profile), TPE, non-sterile	50	4.007 853
Cover mat for 2.2 ml 96-well plates (standard), EVA, non-sterile	24	9.407 617
Sealing foil, gas-permeable, non-sterile	100	9.407 620



### 1 Microtube Rack Rota-Rack® Duo

Works with PCR® tubes right next to centrifuge tubes. The 0.2 ml tube wells oriented in standard 96-well format. Use with PCR® transfer trays. Rotate the rack to work either with 0.2 ml tubes and 0.5 ml tubes, with 0.2 ml tubes and 1.5 ml tubes or with 0.5 ml tubes and 1.5 ml tubes. Or turn a module and work with a total of 96 x 1.5 ml tubes. Quickly identify tubes with imprinted alphanumeric system. Autoclavable. Dimensions (L x W x H): 296 x 118 x 34 mm

Heathrow Scientific



Type	PK	Cat. No.
Tube Rack Rota-Rack®Duo	1	9.194 000

### 2 LLG-Microtube rack, stainless steel 18/10

This sloping, combination rack holds 48 x 0.2 ml PCR tubes (suitable also for 8 and 12 strips), 30 x 0.5 ml tubes and 12 x 1.5 ml or 12 x 2.0 ml tubes. Resistant against UV sterilisation, ideal for PCR workstations. Autoclavable and heat resistant (200 °C). Dimensions (L x W): 220 x 95 mm. Height: front 20 mm, back 45 mm.



Type	PK	Cat. No.
LLG-Microtube Rack	1	9.409 000

### 3 Tube Rack Adapt-a-Rack™, POM

Capable of holding different size tubes in each available slot as the well literally adapts to your tube size to hold firmly in an upright position. The design enables you to hold 12 to 30 mm (5 to 50 ml) tubes simultaneously and still allow full viewing of the tube label. Racks can be linked together for additional holding capacity. Autoclavable. Dimensions (W x D x H): 181 x 56 x 76 mm

Heathrow Scientific



Colour	PK	Cat. No.
Blue	2	9.194 027
Green	2	9.194 028
White	2	9.194 029

### 4 Rack for centrifuge tubes, PP

Suitable to hold 15 ml and 50 ml centrifuge tubes with conical bottom. Just push the tubes into the cavities and leave them. Unique design has an angular end to provide easy stacking for space saving purpose. Moulded in alpha numeric grid reference on the rack allows easy sample identification.

Isolab

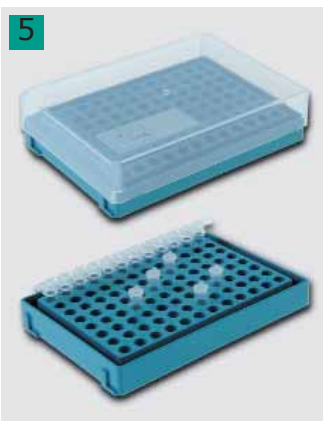


Array	For tubes ml	PK	Cat. No.
5 x 5	15	1	6.267 412
5 x 5	50	1	6.267 413

### 5 96-Well PCR Rack, HDPP

- Manufactured from high density polypropylene which is fully autoclavable. Excellent rack for "before" and "after" PCR sampling.
- This rack can be used alone or inserted in the workstation.
- This working/storage rack is designed to accommodate 96 pieces 0.2 ml PCR tubes or strips of 8 and 12 tubes.
- Tube wells are easily identified with alphanumeric, embossed numbers and letters.
- Translucent clear cover protects the tubes from dust and has a non-slip surface to allow safe storage of multiple racks.
- Dimensions (W x D x H): 125 x 88 x 31 mm

Isolab



For tubes ml	PK	Cat. No.
0.2	1	6.255 804

# General laboratory consumables

## Racks

1



### 1 96-Well PCR Rack, PP

Removable hinged lid lies flat. Perfect for pre- or post-PCR sampling. Sturdy polypropylene rack accommodates individual 0.2 ml tubes or strips of 8 or 12 tubes. Tube wells are easily identified with embossed numbers and letters. Dimensions (L x W x H): 130 x 98 x 33 mm. Autoclavable.

*Heathrow Scientific*

For tubes ml	Colour	PK	Cat. No.
0.2	blue, green, pink, yellow, orange	5	9.409 661

2



### 2 40/168-well PCR Rack, PP

Removable hinged lid fits both sides. Flip this polypropylene reversible rack to the size of tubes you need. PCR side of the rack has 168 wells that hold 0.2 ml tubes. The wells accommodate 8- or 12-tube strips or individual tubes. The opposite side of the rack has 40 wells that hold 0.5 ml tubes. Both sides of the rack have 12 wells for 1.5 ml tubes. Dimensions (L x W x H): 206 x 131 x 54 mm. Autoclavable.

*Heathrow Scientific*

For tubes ml	Colour	PK	Cat. No.
0.2	blue, green, purple, yellow, orange	5	9.409 660

3



### 3 Tube Rack for 5 ml centrifuge tubes, PP

Designed specifically for 40 x 5 ml centrifuge tubes this rack will also accommodate other tubes with a diameter of 13 to 16 mm. Made of durable and corrosion resistant white polypropylene. End plates have handles for easy transport and stacking

*Bel-Art Products*

Steam autoclavable at 121 °C  
Dimensions (L x W x H): 260 x 113 x 105 mm  
Rows: 4 x 10

No. of tubes	For tubes diam. mm	PK	Cat. No.
40	13 - 16 mm	1	9.194 026

4



### 4 PCR Multirack, PP

Fully autoclavable. This storage/working rack, with lid, is designed to work with different PCR volumes at the same time. It can accommodate up to 32 individual 0.2 ml PCR tubes, 24 pieces of 1.5/2.0 ml and 16 pieces of 0.5 ml microtubes. Tube wells are alpha-numerically matrixed with raised bold type for accurate sample identification. The rack also has a transparent lid for easy viewing of samples. Frosted writing panels on four sides allow labelling or writing. Rack dimensions 215 x 118 x 50 mm

*Isolab*

Description	PK	Cat. No.
Rack dimensions 215 x 118 x 50 mm	1	6.255 805

### 1 PARAFILM® M sealing film

Can be stretched up to 200 % and clings around irregular shapes and surfaces. Parafilm® M is resistant to many polar substances such as saline solutions, inorganic acids and alkaline solutions for up to 48 hours (After this time it may become brittle). Parafilm® M conforms to general FDA requirements if used below 55 °C.

Melting temperature: 60 °C  
 Continued use temperature: -45 °C to +50 °C  
 Stretching ability: 200 %



Type	Width mm	Length m	PK	Cat. No.
PARAFILM®M	50	75	1	9.170 003
PARAFILM®M	100	38	1	9.170 002
PARAFILM®M	100	75	1	9.170 005
PARAFILM®M	500	15	1	9.170 004

### 2 LLG-Dispenser for PARAFILM® M, orange, ABS

PARAFILM® M feeds through easily and is easy to cut using the safety cutting device. For rolls with width up to 100 mm.

Type	PK	Cat. No.
PARAFILM®M dispenser, ABS	1	9.170 006

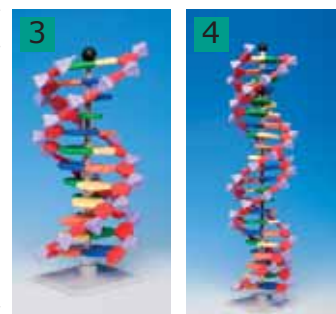


### 3 4 Molecular model system miniDNA®

The advanced miniDNA® system comprises colour-coded, abstract-shaped parts designed to represent the nitrogenous bases, pentagonal sugar and pyramidal phosphate components needed to make a double-helix model of DNA. The three hydrogen bonds that connect Cytosine to Guanine and the two that connect Thymine to Adenine are represented by the appropriate number of pegs.

Two DNA kits are available to make either a 12-layer (1 turn) or 22-layer (2 turns) DNA model. The models can be displayed on their stands, or unzipped into a ladder form to demonstrate the process of Replication.

Type	Description	PK	Cat. No.
miniDNA®	12-layer Kit	1	6.261 370
miniDNA®	22-layer Kit	1	6.261 344



### 5 Bunsen burner, portable Labogaz® 206

For operation with gas cartridge C 206 GLS (Cat.-No.: 9.018 520). DVGW-authorized.

Weight: 380 g without cartridge  
 Height: 200 mm with cartridge  
 Consumption: 55 g/h

Type	PK	Cat. No.
Labogaz® 206	1	9.018 510



### 6 Gas cartridges

#### C 206 GLS pierceable cartridge

Piercing cartridge with integrated gas lock system according to EN 417: 2012. For bunsen burner without safety valve. For bunsen burners Labogaz® 206.



Type	Capacity g	Height mm	Description	PK	Cat. No.
C 206 GLS	190	90	Gas ratio 80/20 Butane/Propane	1	9.018 520

# General laboratory consumables

## Burners

1



6.232 207

### Safety Laboratory Gas Burners Fuego SCS series

WLD-TEC

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. The Fuego SCS series can be operated with foot pedal, button function or touch free IR-Sensor. Made of stainless steel, with fireproof controls.

- SCS Safety Control System with gas safety cut off: Ignition and flame control, temperature monitor, automatic unit switch off, residual heat display, burner head assembly monitor.
- BHC Burner Head Control.
- Removable burner head.
- Tilt mechanism right/left.
- Turbo flame.
- Holding device for 3 inoculation loop holders.
- Nozzles for natural gas, propane/butane gas.
- Approved by DIN-DVGW, approval no. NG2211AS0167.
- Warranty: 2 years.

**Fuego SCS basic/Fuego SCS basic RF:** With stainless steel foot pedal. The foot pedal regulates the burning time either by continuous foot pressure or by start-stop function. Instrument with ON/OFF button function. Basic model without IR-Sensor and without graphic display.

**Fuego SCS basic RF:** Features as Fuego SCS basic but enables wireless operation due to modern radio foot pedal.

**Fuego SCS/Fuego SCS pro:** with Double-Click IR-sensor, button function and foot pedal operation. (foot pedal optional). Double-Click IR-sensor: This adjustable safety function ensures that the burner can only be ignited by activating the IR-Sensor twice. Adjustable IR-sensor reaction distance: 5 mm to 50 mm.

**Illuminated graphic display:** The animated, self-explanatory and language-less symbol display facilitates a rapid selection of all functions. 6 standard-programs with count down display: 1sec to 2hrs selectable.

**The first safety laboratory gas burner with comfort package:** Cooling time reminder for inoculation loops, temperature regulation for heating media, gas consumption display for gas cartridges, flexible and individual by selecting user account, acoustic signals as operating aids.

**Additional safety assistance:** Zero-pressure shut off for a pressureless gas hose. Graphical installation instructions facilitate the initial start-up.

**Fuego SCS pro:** Features as Fuego SCS, plus battery operation (9 hrs), 2 rechargeable batteries (Mignon AA), fast charge function (3hrs) and safety tilt sensor.

Additional accessories are available on request.

2



6.231 770

### Specifications

Dimensions (W x D x H):	103 x 130 x 49 mm
Power supply:	100-240 V 50/60 Hz
Weight:	700 g

Type	PK	Cat. No.
Fuego SCS basic	1	<b>6.232 207</b> 1
Fuego SCS basic RF	1	<b>6.255 678</b>
Fuego SCS	1	<b>6.231 770</b> 2
Fuego SCS pro	1	<b>9.018 584</b>
Stainless steel foot pedal	1	<b>9.018 585</b>



### 1 Tubes, glass, culture, screw cap, Soda-lime glass

Autoclavable. For culture growth, transport and storage. Complete with aluminium or plastic screw cap and rubber sealing gasket. The 5 ml size has a frosted marking area.

*schuett-biotec*

Further sizes available on request.

Capacity	Diam.	Height	Screw cap	PK	Cat. No.
ml	mm	mm			
3	12	35	Aluminium	100	<b>9.010 608</b>
5	14	50	Aluminium	100	<b>9.010 602</b>
15	27	45	Aluminium	100	<b>6.266 815</b>
20	27	50	Aluminium	100	<b>6.264 629</b>
30	27	75	Aluminium	100	<b>6.266 816</b>
5	14	50	Plastic	100	<b>9.010 603</b>
15	27	45	Plastic	100	<b>9.010 610</b>
20	27	50	Plastic	100	<b>9.010 611</b>
30	27	75	Plastic	100	<b>9.010 601</b>



### 2 LLG-Sample containers, PP, with screw cap, PE-HD



Ideal for liquid specimen collection, transportation and storage.

- Ideally suited for liquid histological samples
- Container made of non-cytotoxic polypropylene
- Very solid quality
- Top and bottom gripping assures easy opening and closing when wearing gloves
- Half-transparency containers
- With graduation
- With label

Capacity	Height	Outer diam.	Ø Cover	PK	Cat. No.
ml	mm	mm	mm		
20	42	32	37	1000	<b>6.265 649</b>
40	40	45	50	500	<b>6.265 650</b>
60	58	45	50	500	<b>6.265 651</b>
90	77	45	50	300	<b>6.265 652</b>
120	77	53	58	300	<b>6.265 653</b>
250	52	89	97	154	<b>6.265 654</b>
500	110	89	97	132	<b>6.265 655</b>
1000	138	111	120	64	<b>6.265 656</b>



### 3 LLG-Sample containers, PS, with screw cap, PE/PP



Ideal for many applications as sample collection, transportation or storage

- Container made from virgin polystyrene. All materials are non-cytotoxic
- 30 ml container with conical skirted bottom
- Ideal for small volume samples
- Leakproof-tested
- Unique leak tight cap ensures exceptional leak proof seal
- With plain label

Capacity	Height	Outer diam.	Ø Cover	Material container	Material Lid	PK	Cat. No.
ml	mm	mm	mm				
7	48	17	22	PS	PP	700	<b>6.265 646</b>
30	90	24	30	PS	PP	50	<b>6.265 647</b>
60	58	39	43	PS	PE	60	<b>6.265 648</b>



# Sample preparation, Sample treatment

## Sample vessels

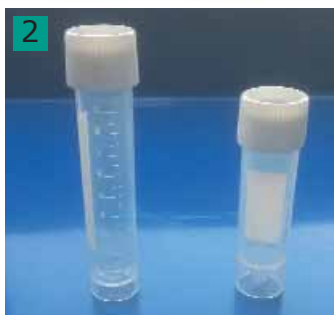


### 1 LLG-Sampling Dippers, PS, sterile, with screw cap and handle

Blue sample container with PP lid (30 ml) or metal cover with PVC seal (100 ml, 250 ml). Easy to transport after sampling by breaking the handle.

- For sterile sample collection and dispatch
- To minimize the risk of cross contamination
- Individually wrapped and EO sterilised
- Leakproof-tested screw cap
- Handle easily breakable after sampling

Capacity ml	Length Handle mm	Material container	Material Lid	PK	Cat. No.
30	200	PS	PP	50	<b>6.265 643</b>
100	385	PS	metal	50	<b>6.265 644</b>
250	330	PS	metal	50	<b>6.265 645</b>



### 2 LLG-Transport tubes, PP, with screw cap

For convenient storage and dispatch of samples.

- Conical bottom
- Free standing
- Printed graduation
- 1 1/4 turn thread design for super fast screwing


Capacity ml	Outer diam. mm	Height with cap mm	PK	Cat. No.
5	16	60	100	<b>6.265 667</b>
10	16	80	100	<b>6.265 668</b>



### 3 Whirl-Pak® Sample bags, PE, sterile

Whirl-Pak® bags are sterile polyethylene laboratory sample bags used to transport samples for biological testing and other applications. Nasco

- With or without write-on strip. Bags should not be used at temperatures above 82 °C.
- Bags can be frozen to any temperature, even liquid nitrogen temperatures down to -210 °C - careful handling required after freezing.

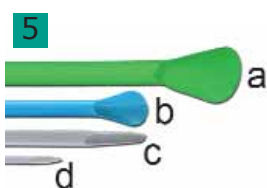
Filling volume approx ml	Thickness mm	Dimensions (D x W) mm	Description	PK	Cat. No.
30	0.057	65 x 125	with label	500	<b>7.080 208</b> 
60	0.057	75 x 125	with label	500	<b>7.058 005</b>
120	0.057	75 x 185	with label	500	<b>7.077 212</b>
530	0.064	115 x 230	with label	500	<b>7.058 120</b>
710	0.076	150 x 230	with label	500	<b>6.242 083</b>
2720	0.102	254 x 380	with label	250	<b>6.266 304</b>
60	0.057	75 x 125	without label	500	<b>6.091 055</b>
120	0.057	75 x 185	without label	500	<b>9.404 234</b>
207	0.076	95 x 180	without label	500	<b>7.981 345</b>
1240	0.076	150 x 380	without label	500	<b>6.266 302</b>
530	0.064	115 x 230	without label	500	<b>9.404 235</b>
710	0.076	150 x 230	without label	500	<b>6.228 639</b>
1060	0.076	125 x 380	without label	500	<b>9.404 236</b>
2040	0.076	190 x 380	without label	500	<b>6.305 117</b>



### 4 5 Powder spatula smartSPATULAS®, PP

Single use polypropylene lab tools made to increase productivity and reduce costly contamination errors. They offer a clean alternative to metal spatulas. Heathrow Scientific

- Size related designs to fit perfectly with standard 0.5, 1.5/2.0, 15 and 50 ml tubes
- Ideal for dispensing or sample collection of powders or soft solids
- Shatter resistant in liquid nitrogen and resistant to dilute acids and bases and can be used with hot liquids
- Anti-static, sterile and Eco-friendly versions available
- Autoclavable and complies with FDA standards for food contact



Description	Colour	For tubes ml	Length mm	Diam. mm	Figure	PK	Cat. No.
Micro Antistatic	Natural	0.2	140	3.5	d	300	<b>6.256 896</b>
Eco	Natural	1.5/2.0/15.0	140	7.0	-	300	<b>6.256 894</b>
Standard	Blue	1.5/2.0/15.0	210	7.0	b	300	<b>6.256 893</b>
Standard	Natural	1.5/2.0/15.0	210	7.0	c	300	<b>6.256 895</b>
Standard sterile	Natural	1.5/2.0/15.0	210	7.0	-	100	<b>6.256 898</b>
Macro	Green	50	310	1.0	a	150	<b>6.256 897</b>

# Sample preparation, Sample treatment

## Sample grinding, homogenisation

### 1 Mixers MICROTRON® MB 550/MB 800

The systems MICROTRON® MB 550 and MB 800 are specially designed for mixing, dispersing, homogenizing, emulsifying and size reduction of cuttable materials. Four different attachments made from glass with volumes of 125 ml, 250 ml, 500 ml and 1000 ml are available for the MICROTRON® MB 550. Attachments made from stainless steel with volumes of 2000 ml and 4000 ml are available for the MICROTRON® MB 800. Both systems are safety laboratory devices: grounded, double safety isolated, radio screened. A safety system prevents uncontrolled starting and therewith personal injuries: the mixer can only be started with well attached safety hood or lid. In case the hood or lid will be removed during operation the device will be stopped automatically. The systems comply with the CE guidelines for industrial machines. Both systems are designed to withstand high loads; they are space saving and always ready to use.

KINEMATICA



**Mixing jars and protective hoods - please order separately.**  
**Mixer MICROTRON® MB 550 can only be started with attached safety hood.**

#### Specifications

Motor input power	
MB 550:	550 W
MB 800:	800 W
Speed range	
MB 550:	Stepless, 1000 to 15.000 rpm
MB 800:	Stepless, 1000 to 17.000 rpm
Dimensions (Ø x H):	190 x 245 mm
Protection class acc. to EN 60335-1.	

Type	PK	Cat. No.
MB 550	1	6.241 879
MB 800	1	6.259 416

### Accessories for Mixer MICROTRON® MB 550/MB 800

Mixing attachments including cutter head. The mixing attachments MBA 125 to 1000 ml can be dismantled completely and easily. All parts are dishwasher safe and rust free. The mixing attachments MBA 2000 and MBA 4000 are made of dishwasher safe stainless steel. Their robust safety lids have an integrated feed opening for dosing.

KINEMATICA

For the operation of the mixer 550 MB MICROTRON a safety hood is mandatory.

Type	Description	Volume ml	Material	For	PK	Cat. No.
MBA 125	Mixing attachment	125	Glass	MB 550	1	6.257 342
MBA 250	Mixing attachment	250	Glass	MB 550	1	6.260 922
MBA 500	Mixing attachment	500	Glass	MB 550	1	6.241 880
MBA 1000	Mixing attachment	1000	Glass	MB 550	1	6.260 923 <sup>2</sup>
MBA 2000	Mixing attachment with safety lid	2000	Stainless steel	MB 800	1	6.260 924 <sup>3</sup>
MBA 4000	Mixing attachment with safety lid	4000	Stainless steel	MB 800	1	6.259 417
MBH 125	Safety hood for MBA 125	-	Acrylic glass	MB 550	1	6.257 343
MBH 250	Safety hood for MBA 250	-	Acrylic glass	MB 550	1	6.260 925
MBH 500	Safety hood for MBA 500	-	Acrylic glass	MB 550	1	6.241 881
MBH 1000	Safety hood for MBA 1000	-	Acrylic glass	MB 550	1	6.260 926 <sup>4</sup>

2



6.260 923

3



6.260 924

4



6.260 926

# Sample preparation, Sample treatment

## Sample grinding, homogenisation

### 1 Homogeniser, POLYTRON® PT 1200 E

This handheld homogeniser is ideal for quick processing of small sample quantities and volumes, for example in Life Science or genetic.

KINEMATICA

Application volume: 0.05 to 250 ml

- Soft start prevents splashing of homogenate from sample vessel
- Tip speed up to 12 m/s
- Ergonomic design and various models of dispersing heads in Easy-to-Clean design

Applications:

- General homogenisation applications (dispersion and emulsification)
- Sample preparation for subsequent extraction of pharmaceutical agents (API)
- Cell disruption, RNA/DNA isolation from tissue
- Dispersion of small quantities from plants, animals or human tissue

**Dispersing heads must be ordered separately.**

#### Specifications

Application volume:	0.05 to 250 ml
Motor input power:	100 W
Dispersing heads:	diam. 3, 5, 7 and 12 mm and diam. 20 mm X EC-E116
Speed range:	Stepless up to 25.000 rpm
Max. viscosity:	6000 mPas
Drive Dimensions (L x W x H):	220 x 44 x 55 mm
Weight drive:	440 g
Tested to:	EN/IEC 61010, 61326-1

Type	PK	Cat. No.
PT 1200 E, 230 V (with EU-plug)	1	9.571 492



### Dispersing heads for Homogeniser POLYTRON® 1200 E

KINEMATICA

Type	Length	Diam.	Working volume	PK	Cat. No.
	mm	mm	ml		
PT-DA 03/2 EC-E050	50	3	0.05 - 2	1	6.258 269 <b>2</b>
PT-DA 05/2 EC-E085	85	5	0.1 - 5	1	9.570 223
PT-DA 07/2 EC-E107	107	7	0.3 - 10	1	6.258 271
PT-DA 07/2SYN-E082	82	7	0.3 - 10	25	6.258 273 <b>3</b>
PT-DA 12/2SYN-E126	126	12	0.05 - 250	10	6.261 033
PT-DA 20/2X EC-E116	116	20	10 - 250	1	9.570 226



6.258 269



6.258 273

# Sample preparation, Sample treatment

## Sample grinding, homogenisation

### Ultrasonic homogenisers, Sonopuls HD 2070/HD 2200

For cell disruption, emulsification and homogenising of materials, liquid degassing, dispersion, extraction and for sonochemistry. Amplitude adjustable from 10 to 100 %. Values can be monitored on the digital display. Pulsation time and data can be stored in the integrated memory. Processing frequency: 20 kHz, which is particularly effective. Fail-safe protection against operating when sample vessel empty and during continuous operation. For 230 V 50/60 Hz supplies, alternatively available for 115 V~, 50/60 Hz supplies on request.

*Bandelin*

On/off switch control:	Possible directly at the converter, at the ultrasonic generator or via remote control (foot switch on request)
Amplitude adjustment:	Electronically stabilised from 10 to 100 %, ±1 %
Pulsation control:	10 to 100 % permits heat dissipation when processing sensitive samples
Timer:	1 sec. to 99 mins. : 59 sec. or continuous operation

#### 1 Ultrasonic homogeniser, SONOPULS HD 2070

For volumes from 2 ml to 50 ml. Ready to operate, standard unit with GM 2070 generator, UW 2070 ultrasonic converter, SH 70 G titanium stepped horn probe with external thread and MS 73 3 mm diameter micro tip. HF-output: max. 70 W<sub>eff.</sub> Titanium probes for other volumes (1 ml to 200 ml) are available with probes from 2 mm to 13 mm diameter.

*Bandelin*

Type	PK	Cat. No.
SONOPULS HD 2070	1	9.650 180

HD 2070 (stand and vessel are not included in delivery).



#### 2 Ultrasonic homogeniser, SONOPULS HD 2200

For volumes from 20 ml to 900 ml. Ready-to-operate standard unit with GM 2200 generator, UW 2200 ultrasonic converter, SH 213 G booster horn with external thread and diameter 13 mm titanium tip TT 13. HF-output: max. 200 W<sub>eff.</sub> Titanium probes for other volumes (2 ml to 1000 ml) are available with probes from diameter 2 mm to 25 mm.

*Bandelin*

Type	PK	Cat. No.
SONOPULS HD 2200	1	9.650 185

HD 2200 (stand and vessel are not included in delivery).



#### 3 Homogeniser drive unit, schütt homgen<sup>plus</sup>

For the gentle homogenisation of biological samples or for grinding tough, rigid material which is difficult to break down. Complete with load-compensating drive unit and universal quick-action chuck, transparent plexiglas cooling jacket and multi-purpose spanner for centering homogenising vessels of varying sizes. Portable, but highly stable and vibration-free due to its triple-post frame construction, and easy to use. Continuously adjustable speed range: 40 rpm to 3000 rpm. Provides reproducible homogenising by maintaining constant rotational speed, which is shown on an easy to read, 4-digit LED display. The fast-action clamping chuck with hollow shaft permits rapid and easy replacement of the pestle and allows pestles with longer shafts to be used. We highly recommend using a quick-grip chuck for glass pestles to minimise lateral movement (and therefore strain) of the glass shaft. The cooling jacket incorporates a clamping holder suitable for Eppendorf test tubes and homogenising vessels with outside diameters from 10 mm to 40 mm. Sample cooling is easily achieved using ice, which can be introduced into the cooling jacket through a screw capped opening. The homogenising vessel moves up and down in conjunction with the cooling jacket platform and is raised and lowered using a lever jack. The long lever facilitates thorough homogenising without much effort. For 230 V 50/60 Hz, 300 W single phase supplies.

*schuett-biotec*

Supplied with: schuett homgen<sup>plus</sup> homogeniser drive unit with universal keyless chuck, incl. cooling vessel, 1000 ml and universal chuck set (consisting of 6 sizes).



Type	External dimensions (W x D x H) mm	PK	Cat. No.
schuett homgen <sup>plus</sup> , 230 V	300 x 350 x 888	1	9.651 560
Quick-change chuck for glass pestle	-	1	9.651 564

# Occupational safety

## Eye protection



### 1 LLG-Safety Eyeshields *classic*

- CE approved to EN166 and EN170
- Integrated side-lenses with vents, 180° field of vision
- Frame made of tested hypo-allergenic material
- Side arms adjustable in length and inclination
- 100 % UV protection (up to 380 nm)
- Weight: 34 g only

Colour	Lens	PK	Cat. No.
Blue	Clear, anti-scratch lens, 2C-1.2 U 1 F CE	1	9.006 001

### Safety Eyeshields SecureFit™ 200

- 3M Pressure Diffusion Technology allows temples to naturally adjust to individual head sizes.
- Self-adjusting feature eliminates need to stock multiple frame sizes at worksites.
- Secure, snug fit keeps eyewear in place without slippage even when the person is in motion.
- Anti-fog coating helps keep lenses free of moisture in hot and humid conditions.
- Polycarbonate lenses absorb 99.9 % UVA and UVB

3M Deutschland

Colour	Lens	PK	Cat. No.
clear	2C-1.2, UV, anti-scratch, anti-fog	1	9.006 127 <b>2</b>
clear	2C-1.2, UV, anti-fog	1	9.006 128 <b>3</b>
grey	2C-1.2, UV, anti-scratch, anti-fog	1	9.006 129 <b>4</b>
amber	2C-1.2, UV, anti-scratch, anti-fog	1	9.006 130 <b>5</b>



9.006 127



9.006 128



9.006 129



9.006 130

### 6 Mini-Ultrasonic Cleaner LLG-uniSONIC 1

For convenient cleaning of goggles or smaller laboratory instruments. Eco-friendly, only needs warm water. By ultrasonic sound millions of small air bubbles are generated. Combined with a very high pressure these achieve a fast, efficient and effortless cleaning.

- 420 ml stainless steel tank (filled to max.: approx. 300 ml)
- Automatic 3-minute-operation can be stopped anytime
- Removable lid
- Weight: 630 g only
- 45 kHz ultrasonic frequency
- 30 Watt cleaning performance
- Power supply 220 - 240 V , 50 Hz
- Outer Dimensions (W x D x H) approx.: 200 x 115 x 115 mm
- Dimensions tank (W x D x H) approx.: 155 x 80 x 40 mm
- Ready to use, no assembly required

Type	PK	Cat. No.
LLG-uniSONIC 1	1	6.263 560



### 1 2 LLG-Disposable Gloves *ergo*, Nitrile, Powder-Free



1



Disposable protective glove in nitrile that when worn, combines the comfort and "feel" of latex as well as the physical and chemical endurance of nitrile. With no risk of allergies. The ideal glove for all applications requiring high tactile sensation and protection against chemicals.

**- Thin - very comfortable to wear**

- Excellent tactile sensitivity - similar to latex
- Tried and tested quality product made of nitrile
- Excellent resistance to skin irritants in foodstuffs
- Specially formulated for a more resilient glove
- For single use in applications with an increased need for safety when handling chemicals
- Free from phthalates/softeners and allergenic latex proteins
- Easy to wear and particularly skin-friendly through special finishing process
- Colour lavender blue
- Suitable for areas subject to HACCP standards
- **Cat. III Low Chemical resistant. AQL 1.5**

According to ASTM F 1671 (ISO 16604) for protection against viral penetration.  
**According to EN 420 and DIN EN ISO /IEC 17025, DIN EN 45011.**  
**Suitable for food handling.**

Glove shape:	flat with rolled edge (ambidextrous)
Material:	nitrile
Colour:	lavender blue
Outside:	textured fingers
Inside:	powder-free halogenated
Size/total length:	S, M, L, XL/med. 240 mm
Thickness (measured in double layer):	<b>0.12 mm</b>



Size	PK	Cat. No.
S	200	<b>9.006 371</b>
M	200	<b>9.006 372</b>
L	200	<b>9.006 373</b>
XL	180	<b>9.006 374</b>

### 3 4 LLG-Disposable Gloves, *standard*, Nitrile, Powder-Free



3



Provide the same features as LLG-Disposable Gloves, *ergo*

- **Comfortable to wear**
- **Good tactile sensitivity**

Colour:	blue
Outside:	textured
Thickness (measured in double layer):	<b>0.16 mm</b>



Size	PK	Cat. No.
S	100	<b>9.006 375</b>
M	100	<b>9.006 376</b>
L	100	<b>9.006 377</b>
XL	90	<b>9.006 378</b>

# Occupational safety

## Disposal bags, Disposal containers

1



### 1 LLG-Autoclavable Bags, PP



Clear bags imprinted with blue biohazard labeling designed for safe disposal. Constructed of 50 µm thick polypropylene, allowing for repeated autoclaving. Strong side seams for securely holding items. Front write-on panel. Autoclavable at 250 °F (121 °C).

Width mm	Length mm	PK	Cat. No.
310	660	50	9.404 050
415	600	50	9.404 051
610	810	50	9.404 052

2



### 2 Biohazard Disposal Bags, PP, Red, 38 µm

- Material: polypropylene, 38 µm
- Print: standard biohazard warning symbol and precautionary protocols in four languages: English, French, German and Spanish
- With pre-printed sterilization indicator patch, which darkens when bag is autoclaved
- Can be autoclaved at 135 °C

*Bel-Art Products*

Dimensions (D x W) mm	PK	Cat. No.
360 x 480	200	6.240 465
480 x 580	200	9.404 010
640 x 890	200	6.301 637
790 x 970	200	6.253 096
970 x 1220	100	9.404 011

3



### 3 4 Disposal Container SHARPSAFE®, PP

- The disposal of waste at its source is thus very convenient and easy.
- Container consists of 2 parts: yellow base with semi-transparent cover, safe and quick installation by simply pressing and hearing 4 clearly audible "clicks"
  - The Sharpsafe® 0.6 l is a pocket container and is already pre-assembled
  - The Sharpsafe® 9 l is also available with a height of 498 mm for the disposal of long items such as serological pipettes
  - Equipped with a carrying handle
  - Wide opening for the disposal of large objects
  - Disconnection for all types of needles (2 l to 7 l), insulin pens (2 l to 7 l) and scalpel blades (2 l to 9 l)
  - Opening with integrated safety flap for additional protection (2 l to 7 l)
  - 2 locking positions: provisional and final, open simply by pressing the tab
  - Maximum filling level clearly visible by a black line on the lid
  - Inscription on a label fused into the container, label will not be removed by moisture or autoclaving
  - Information on the label in different languages (see table)
  - The empty and open container is autoclavable up to 134 °C for 18 minutes
  - Sharpsafe® conforms to ADR, TRBA 250, ISO 23907: 2013, NFX30-500 and owner of the label NF302
  - Country of origin: European Union

4



Type	Capacity ml	Dimensions (W x D x H) mm	Dimensions large opening mm	Labeling	PK	Cat. No.
SHARPSAFE®0,6 L	580	108 x 52 x 224	40 x 30	FR/NL	1	9.264 210
SHARPSAFE®1,0 L	1000	108 x 90 x 187	58 x 36	D/FR/IT/ES/EN	1	9.264 211
SHARPSAFE®2,0 L	2000	195 x 20 x 178	55 x 50*	D/FR/IT/ES/EN	1	9.264 212
SHARPSAFE®3,0 L	2600	197 x 120 x 205	55 x 50*	D/FR/IT/ES/EN	1	9.264 213
SHARPSAFE®4,0 L	4000	175 x 175 x 245	55 x 50*	D/FR/IT/ES/EN	1	9.264 214
SHARPSAFE®7,0 L	6700	175 x 175 x 380	55 x 50*	D/FR/IT/ES/EN	1	9.264 215
SHARPSAFE®9,0 L	9000	292 x 195 x 291	210 x 60	FR/NL	1	9.264 216
SHARPSAFE®9,0 L h	8200	175 x 175 x 498	55 x 77	FR/NL	1	9.264 217

\* Picture cover



## 1 LLG-PCR tubes with attached lids, PP

- Individual tubes
- Compatible with all major thermal cyclers
- 0.2 ml or 0.5 ml
- Maximum tube capacity: 0.25 ml or 0.6 ml when closed
- Individual attached flat or domed snap caps
- Consistent wall thickness for uniform heat transfer
- Cap design ensures fit and helps reduce sample evaporation
- Virgin polypropylene, certified RNase-, DNase and endotoxin free



Description	PK	Cat. No.
0.2 ml, single, flat cap	1000	<b>9.407 501</b>
0.2 ml, single, domed cap	1000	<b>9.407 502</b>
0.5 ml, single, flat cap	1000	<b>9.407 504</b>
0.5 ml, single, domed cap	1000	<b>9.407 505</b>

## 2 3 LLG-PCR-Tubes, 8 Strips with attached individual caps, PP

- for 0.2 ml thermal cycler blocks
- with flat or domed cap
- made of high quality polypropylene, RNase-, DNase- and Endotoxin free

Description	PK	Cat. No.
8 PCR tube strips with individually attached flat snap caps	250	<b>9.407 515</b>
8 PCR tube strips with individually attached domed ultra clear snap caps	250	<b>9.407 516</b>



## LLG-PCR-Tubes, 8 Strips, PP

- For 0.2 ml thermal cycler blocks
- Detached cap strips can be used as individual tubes when cut
- With domed or flat caps
- Consistent wall thickness for uniform heat transfer
- Contamination-free opening
- Cap strips provide tight seal during all PCR cycles
- Easy-to-use
- Maximum tube capacity: 0.25 ml when closed
- Highly transparent cap makes them ideal for qPCR
- Virgin polypropylene, certified RNase-, DNase and endotoxin free



Description	PK	Cat. No.
8 PCR tube strips plus detached cap strips	250	<b>9.407 503</b> 4
8 PCR tube strips plus detached cap strips	250	<b>9.407 514</b> 5
8 PCR detached cap strips, flat caps	120	<b>6.254 729</b>
8 PCR detached cap strips, domed caps	120	<b>9.407 522</b>
8 PCR detached cap strips, domed caps	250	<b>7.656 858</b>

## 6 Strips of 8 PCR tubes with attached cap strips

Eight 0.2 ml PCR tubes joined together in a strip with attached, hinged 8-cap strips. PP. The hinged, domed cap makes opening and closing the tubes with one hand easier.

BRAND

Type	PK	Cat. No.
Colourless	125	<b>9.409 373</b>



### 1 Strips of 12- PCR tubes plus detached cap strips, PP, autoclavable

PP. Strips of 12 connected PCR tubes (0.2 ml). Cap strips consisting of 12 domed caps (available separately) provide tight seal during all PCR cycles, thus protecting samples from cross-contamination. Consistent tube wall thickness allows rapid heat transfer along the entire exterior tube surface. Made of pure, virgin polypropylene, free from RNase-, DNase- and DNA. Autoclavable at 121 °C (2 bar), according to DIN EN 285.

BRAND

Capacity ml	Description	Colour	PK	Cat. No.
0.2	Strips of 12 PCR tubes, without caps	clear	125	<b>9.409 628</b>
0.2	Strips of 12 PCR tubes, without caps	pink	125	<b>9.409 629</b>
0.2	Strips of 12 PCR tubes, without caps	yellow	125	<b>9.409 630</b>
0.2	Strips of 12 PCR tubes, without caps	green	125	<b>9.409 631</b>
0.2	Strips of 12 PCR tubes, without caps	blue	125	<b>9.409 632</b>
0.2	Strips of 12 PCR caps, domed	clear	125	<b>9.409 633</b>
0.2	Strips of 12 PCR caps, domed	pink	125	<b>9.409 634</b>
0.2	Strips of 12 PCR caps, domed	yellow	125	<b>9.409 635</b>
0.2	Strips of 12 PCR caps, domed	green	125	<b>9.409 636</b>
0.2	Strips of 12 PCR caps, domed	blue	125	<b>9.409 637</b>



### LLG-96-well PCR Plates, PP

- cut-away corner for orientation
- clear well bottom for sample visibility, with V-Bottom
- compatible with leading thermal cyclers
- consistent wall thickness for uniform heat transfer
- holes in the skirt for easy handling
- virgin polypropylene, certified RNase, DNase and endotoxin free

Description	Capacity µl	PK	Cat. No.
96 Well Plate, skirted, low profile, PP	200	25	<b>9.407 507</b>
96 Well Plate, non-skirted, PP	300	25	<b>6.238 061</b>



9.407 507

## 96 well PCR-Plates, PP, for PCR or 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. The rim of the wells are designed to protect against cross-contamination, allowing a reliable seal with the sealing mats tailored to the plates.

BRAND

### 96-well, non-skirted

PP. 0.2 ml wells. 96-well non-skirted PCR plates are suitable for most commercially available thermal cyclers.

### 96-well, semi-skirted

PP. 0.2 ml wells. 96-well semi-skirted PCR plates can easily be labelled or tagged with a barcode.

### 96-well, semi-skirted. Suitable for Roche® LightCycler® 480 and other thermal cyclers

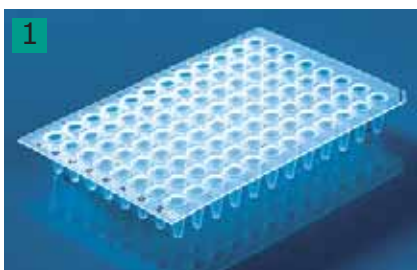
PP. 0.15 ml wells. Semi-skirted. With black alphanumeric code. Available with or without self-adhesive sealing film (polyester, high-transparent, for qPCR).

### 96-well, skirted

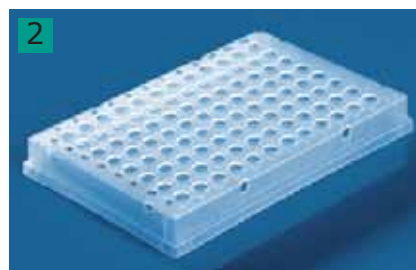
PP. 0.2 ml wells. 96-well skirted PCR plates are especially rigid, and are optimally suited for use with automatic pipetting systems and for being transported.

Description	Volume ml	Colour	Cut corner	PK	Cat. No.
Low Profile, non-skirted	0.15	clear	H12	50	<b>9.409 247</b> <sup>1</sup>
Low Profile, semi skirted	0.15	clear	A12	50	<b>9.409 256</b>
Low Profile, semi skirted, raised skirt	0.15	clear	A1	50	<b>9.409 258</b>
Low Profile, fully skirted*	0.15	clear	H1	50	<b>9.409 351</b> <sup>2</sup>
Low Profile, non-skirted	0.15	white	H12	50	<b>9.409 248</b>
Low Profile, semi skirted	0.15	white	A12	50	<b>9.409 257</b>
Low Profile, semi skirted, raised skirt	0.15	white	A1	50	<b>9.409 259</b>
Low Profile, for LightCycler® 480 (Roche®), semi skirted*	0.15	white	H12	50	<b>4.007 899</b> <sup>3</sup>
Low Profile, for LightCycler® 480 (Roche®), semi skirted, incl. films*	0.15	white	H12	50	<b>4.007 900</b>
Low Profile, fully skirted*	0.15	white	H1	50	<b>9.409 266</b>
Standard profile, non-skirted	0.20	clear	A12	50	<b>9.409 254</b>
Standard profile, semi skirted	0.20	clear	A12	50	<b>9.409 264</b> <sup>4</sup>
Standard profile, non-skirted, elevated rim	0.20	clear	H12	50	<b>9.409 381</b> <sup>5</sup>
Standard profile, semi skirted, elevated	0.20	clear	H12	50	<b>9.409 383</b> <sup>6</sup>
Standard profile, non-skirted	0.20	white	A12	50	<b>9.409 255</b>
Standard profile, semi skirted	0.20	white	A12	50	<b>9.409 265</b>
Standard profile, non-skirted, elevated rim	0.20	white	H12	50	<b>4.007 896</b>
Standard profile, semi skirted, elevated	0.20	white	H12	50	<b>4.007 897</b>

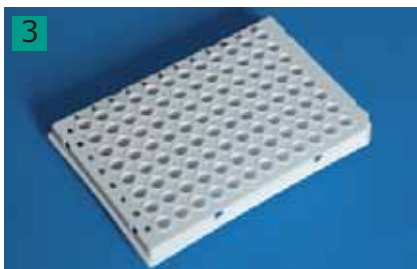
\*Black alphanumeric code, no additional markings on the cut corner.



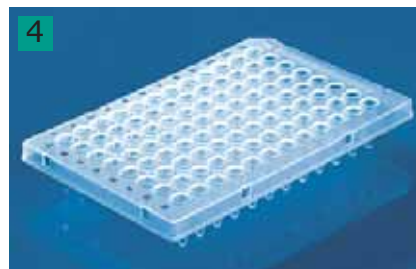
9.409 247



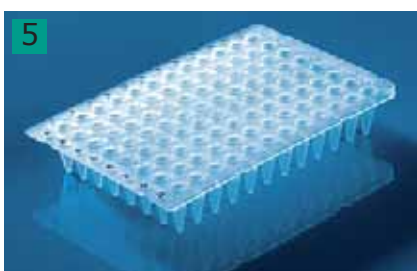
9.409 351



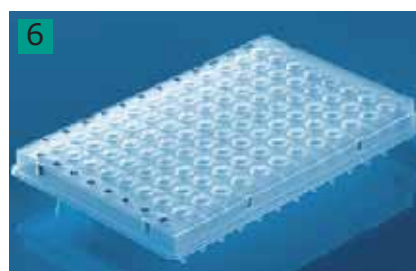
4.007 899



9.409 264



9.409 381



9.409 383



1

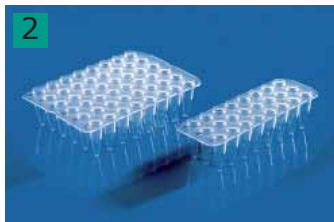
### 1 PCR Mini cooler, PP

With transparent lid.

BRAND

For protecting samples prior to 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.

Description	PK	Cat. No.
PCR Mini cooler	2	6.228 848



2

### 2 24/48 well PCR Plates, non-skirted, PP, for qPCR

0.2 ml wells. The 24 /48 well plates reduce material costs and allow work on a compact PCR plate even with small sample throughputs. With raised rim.

BRAND

Description	Colour	PK	Cat. No.
24-well, standard profile, elevated rim	clear	40	6.229 655
24-well, standard profile, elevated rim	white	40	4.007 901
48-well, standard profile, elevated rim	clear	20	9.409 368
48-well, standard profile, elevated rim	white	20	4.007 902

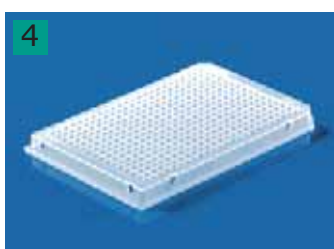


3

### 3 LLG-384-well PCR plates, PP

- maximum well volume: 40 µl
- working well volume: 25 µl
- fully skirted for use with automated systems
- holes in the skirt for easy handling
- compatible with all leading 384 block thermocyclers
- high temperature tolerance (-196 °C to + 120 °C)
- virgin polypropylene, certified RNase, DNase and endotoxin free

Description	Capacity µl	PK	Cat. No.
384 Well Skirted PCR Plate, thin wall, PP	40	50	9.407 500



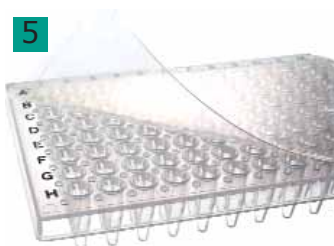
4

### 4 384 well PCR-Plates, white, for real-time PCR

White, PP. Suitable for qPCR. 0.03 ml tubes.

BRAND

Description	PK	Cat. No.
fully skirted, for LightCycler® 480 (Roche®)	50	4.007 898



5

### LLG-PCR adhesive film and foil

For use in cyclers with screw-down or clip-down lids. With end tabs

PCR Film: Clear film allows both the visual inspection of samples and fluorescence measurements.

PCR Foil: Aluminium, easy to pierce, no residue of adhesive on the pipette tips.

QPCR Foil: Adhesive seal optically clear, peelable, for QPCR and fluorescence applications.

6.238 132



6

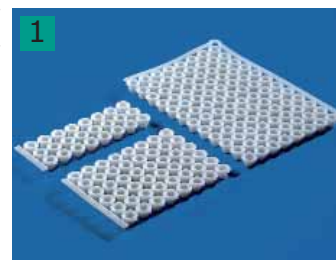
Description	Temp. range °C	PK	Cat. No.
PCR film	-20 to +120	100	6.238 132 5
PCR foil	-80 to +150	100	9.407 506 6
QPCR foil	-40 to +120	50	6.240 725

9.407 506

## 1 PCR Sealing Mats

PCR sealing mats reduce evaporation losses by up to 75 % compared to conventional systems (measured with Brand plates). They are characterised by their high flexibility, tight sealing, autoclavability and are easily pierced by pipette tips.

BRAND



Description	Material	PK	Cat. No.
Sealing mat for 24-well PCR plates	TPE	10	9.409 369
Sealing mat for 48-well PCR plates	TPE	10	6.230 903
Sealing mat for 96-well PCR plates	TPE	5	9.409 384
Sealing mat for 384-well PCR plates	Silicone	10	9.409 311

## 2 Roller for sealing films

The self-adhesive films can be securely and easily applied with a roller. The hard rubber roller ensures that the film is attached to the plate with a uniform pressure. The rugged handle with comfort-grip lessens fatigue.

BRAND



Type	PK	Cat. No.
Roller for sealing films	1	4.000 392

## 3 AccuSeal Semi-Automated Plate Sealer

- Accepts a wide range of microplates and heat seals
- User-friendly control system
- Large digital display shows all operating parameters
- Adjustable sealing temperature: 100 °C to 190 °C, or no heat
- Precise temperature, timing and pressure for consistent sealing

Labnet

### Specifications

Dimensions (W x D x H):	171 x 324 x 362 mm
Weight:	12 kg
Sealing Temperature:	Off, 100 to 190 °C (increments of 1.0 °C)
Temperature Accuracy:	±1.0 °C
Temperature Uniformity:	±1.0 °C
Sealing Time:	0.5 to 10 sec (increments of 0.1 sec)
Compatible Plate Materials:	PP (Polypropylene), PS (Polystyrene), PE (Polyethylene)
Compatible Plate Types:	Standard Assay Plates, Deep-Well Storage plates, PCR Plates (Non-Skirted, Semi-Skirted, Full-Skirted)
Maximum Plate Height:	45 mm
Compatible Sealing Film Types:	Foil Polypropylene laminate, Clear Polyester-polypropylene laminate, Clear polymer, Thin clear polymer, Foil-laminate, Foil



Type	Description	PK	Cat. No.
AccuSeal	includes adapters for standard and deepwell microplates, 230 V	1	9.595 290
AccuSeal	adapter for sealing PCR plates	1	9.595 291



## 1 CloneSaver™ Cards

- 96-well format for high throughput applications
- Stabilize BAC and plasmid DNA in one easy step from bacterial culture, resuspended colony, glycerol stock or purified plasmid DNA
- Clones can be rapidly screened by PCR without need for minipreps
- Plasmid DNA on Clone SaverCards is stable at room temperature for at least 4 years (real-time data)
- DNA is easily accessible for downstream applications such as transformations and PCR

GE Healthcare

Description	PK	Cat. No.
CloneSaver ResealableMulti-Barrier Pouch	50	9.971 715
CloneSaver Cards in 6-well Format	5	9.971 716



## 2 FTA® Cards

### FTA Classic Cards

Four sample areas for storage of up to 4 x 125 µl whole blood or 4 x 75 µl plant homogenate per card.

### FTA Mini Card

Two sample areas for storage of up to 2 x 125 µl whole blood or 2 x 75 µl plant homogenate per card. Convenient for protocols that require different locations for testing and archiving samples.

### FTA Micro Card

One sample area for storage of up to 125 µl whole blood or 75 µl plant homogenate per card.

### FTA Gene Card

Three sample areas in a card frame for storage of up to 3 x 75 µl whole blood or 3 x 50 µl plant homogenate per card. Can be run in most automatic dispensing/pipetting systems when used with the FTA Gene Card Tray.

### Indicating FTA Cards:

With colour indicator that changes from pink to white when sample is applied.

GE Healthcare

Type	Description	PK	Cat. No.
FTA Classic Card	sample area 125 µl / total 500 µl	100	9.971 708
Indicating FTA Classic Card	sample area 125 µl / total 500 µl	100	9.971 709
FTA Mini Card	sample area 125 µl / total 250 µl	100	9.971 710
Indicating FTA Mini Card	sample area 125 µl / total 250 µl	100	9.971 711
FTA Micro Card	sample area 125 µl / total 125 µl	100	9.971 712
Indicating FTA Micro Card	sample area 125 µl / total 125 µl	100	9.971 713
FTA Gene Card	sample area 75 µl / total 225 µl	100	9.971 714



9.971 718

## FTA Card Accessories

### FTA Purification Reagent

Removes haem, PCR inhibitors, and other potential contaminants to ensure superior quality DNA for downstream analysis.

### FTA Gene Card Tray

Holds two FTA Gene Cards for use in automatic liquid handling systems.

### Sterile Foam Tipped Applicator

Easy-to-use applicator for the noninvasive collection and transfer of buccal cells to FTA Cards.

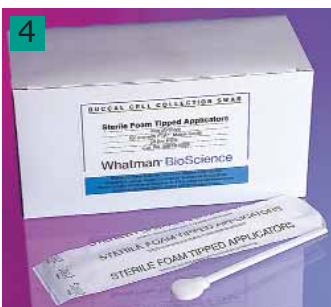
### Multi-Barrier Pouches

For transporting or storing FTA Cards.

### Storage Desiccant Packets

Ensure that FTA Cards remain dry during transport or storage. Contains indicator that changes colour to verify moisture adsorption.

GE Healthcare



9.971 719

Description	PK	Cat. No.
FTA Purification Reagent, 500 ml	1	9.971 718 <b>3</b>
FTA Gene Card Trays	20	9.971 721
Sterile Foam Tipped Applicator Swabs	100	9.971 719 <b>4</b>
Omniswab	100	9.971 732
Multi-Barrier Pouch, Large (for Classic Cards)	100	9.971 733
Desiccant (1 gm)	1000	9.971 720

## 1 Thermal Cycler MultiGene™ Mini

Labnet

MultiGene Mini is a compact and lightweight thermal cycler. This cycler is packed with features typically found only on larger thermal cyclers. Excellent accuracy and uniformity combine with fast ramping rates to provide quality results. An algorithm calculates sample temperature, based on volume, to control heating and cooling of the block. This means that samples reach programmed temperatures quickly, without any overshoot or lagging. Powerful Peltier units provide ramping rates as fast as 5 °C/second.



### Specifications:

Max. number of programmes:	99
Block capacities:	25 x 0.2 ml tubes or 18 x 0.5 ml tubes
Heated lid temperature	105 °C
Max. heat/cool rate	5 °C per sec/ 4 °C per sec
Temp range/ uniformity:	4 °C to 99 °C
Dimensions (W x D x H):	218 mm x 285 mm x 178 mm
Weight:	3.2 kg
Supply requirements:	230 V, 50/60 Hz*

Description	PK	Cat. No.
MultiGene Mini Personal Thermal Cycler with 18 x 0.5 ml tube block	1	9.595 341
MultiGene™ Mini Personal with 24 x 0.2 ml tube block	1	9.595 316

\*120 V available on request

## 2 Thermal Cycler MultiGene™ OptiMax

Labnet

The Thermal Cycler MultiGene™ OptiMax replaces the MultiGene™ Gradient and therefore includes the same approved features like easy handling and reliability.

### Improved features:

- Individual temperature setting for each block
- Faster speeds
- No condensation after overnight cooling at 4 °C
- With TM Calculator for the determination of the melting point
- With PC Viewer for viewing the actual temperature profiles in real time
- With USB and RS232 interface
- 6-segment block temperature control with user able to select 6-segment temperatures independently, array in 4 x 4 well format
- Temperature and time increments/decrements
- Password protected programs



### Specifications:

Sample capacity:	1 x 96 well plate, 12 x strip tubes (8 x 0.2 ml), 96 x 0.2 ml tubes
Programmable temperature range:	+4 °C to +99.9 °C
Temperature control:	Calculated or block
Temperature accuracy/uniformity:	±0.5 °C/±0.5 °C
Heating/cooling method:	Peltier
Max. heating/cooling rate:	±5 °C/±3.5 °C per second
Temperature range of 6-segment blocks:	+30 °C to +99 °C (can be set independently)
Maximum temperature difference between 6-segment blocks:	±24 °C
Programmable lid temperature:	+60 °C to +65 °C, +100 °C to +115 °C
Program memory:	200 complete programs
User program folders:	50 sets
Dimensions (W x D x H):	240 x 420 x 250 mm
Weight:	9 kg
Supply requirements:	240 V, 50/60 Hz*

Type	PK	Cat. No.
MultiGene™ OptiMax	1	9.595 319

\*120 V available on request

1



## 1 Thermal cyclers <sup>3</sup>PRIMEBASE/<sup>3</sup>PRIMEX/<sup>3</sup>PRIMEG

Personal Thermal cycler - find space on any laboratory bench

*Techn*e

- Approved cycler with new design
- With and without gradient function
- Gradient upgrade from <sup>3</sup>PRIMEX to <sup>3</sup>PRIMEG
- 3.5" colour touch screen with graphical display
- Fast heating and cooling rates
- Height-adjustable and heatable lid, temperature from 100 °C to 115 °C, with ON/OFF switch and automatic switch off against overheating
- 1.000 programs storable
- Password protected
- Auto-Restart
- USB port
- 4 years warranty for the Prime Thermal cycler

### Specifications

Block temperature:	+4 °C to +100 °C
Temperature gradient (only <sup>3</sup> PRIMEG or <sup>3</sup> PRIMEX with upgrade):	+30 °C to +80 °C
Max. Gradient:	+14 °C
Block uniformity at 55 °C:	<±0.3 °C
Max. Heating rate:	3.0 °C/s
Dimensions (W x D x H):	210 x 350 x 180

Type	Description	PK	Cat. No.
<sup>3</sup> PRIMEBASE	incl. block for 18 x 0.5 ml tubes	1	<b>9.595 501</b>
<sup>3</sup> PRIMEBASE	incl. block for 24 x 0.2 ml tubes	1	<b>9.595 502</b>
<sup>3</sup> PRIMEX	incl. block for 30 x 0.5 ml tubes	1	<b>9.595 503</b>
<sup>3</sup> PRIMEX	incl. block for 48 x 0.2 ml tubes	1	<b>9.595 504</b>
<sup>3</sup> PRIME gradient upgrade	Gradient upgrade from <sup>3</sup> PRIMEX to <sup>3</sup> PRIMEG	1	<b>9.595 505</b>
<sup>3</sup> PRIMEG	incl. block for 30 x 0.5 ml tubes	1	<b>9.595 506</b>
<sup>3</sup> PRIMEG	incl. block for 48 x 0.2 ml tubes	1	<b>9.595 507</b>

2



## 2 Thermal cyclers PRIME/ PRIMEG

High throughput Thermal cycler - perfect for a high sample throughput

*Techn*e

- Approved cycler with new design
- With and without gradient function
- Gradient upgrade from PRIME to PRIMEG
- now available with combination block for 33 x 0.2 ml and 33 x 0.5 ml PCR tubes
- 5.7" colour touch screen with graphical display
- fast heating and cooling rates
- height-adjustable and heatable lid, temperature from 100 °C to 115 °C, with ON/OFF switch and automatic switch off against overheating
- 1000 programs storable
- Password protected
- Auto-Restart
- USB port
- 4 years warranty for the Prime Thermal cycler

### Specifications

Block temperature:	+4 °C to +100 °C
Temperature gradient (PRIME only with upgrade):	+30 °C to +80 °C
Max. Gradient:	+29 °C
Block uniformity at 55 °C:	<±0.3 °C
Max. Heating rate:	3.4 °C/s
Dimensions (W x D x H):	240 mm x 420 mm x 240 mm

Type	Description	PK	Cat. No.
PRIME	incl. block for 60 x 0.5 ml tubes	1	<b>9.595 508</b>
PRIME	incl. block for 96 x 0.2 ml tubes and 96well PCR plates	1	<b>9.595 509</b>
PRIME	incl. combination block for 33 x 0.2 ml and 33 x 0.5 tubes	1	<b>9.595 513</b>
PRIME gradient upgrade	Gradient upgrade from PRIME to PRIMEG	1	<b>9.595 510</b>
PRIMEG	incl. block for 60 x 0.5 ml tubes	1	<b>9.595 511</b>
PRIMEG	incl. block for 96 x 0.2 ml tubes and 96well PCR plates	1	<b>9.595 512</b>
PRIMEG	incl. combination block for 33 x 0.2 ml and 33 x 0.5 tubes	1	<b>9.595 514</b>



## Real-time PCR-system Prime Pro 48

The new Prime Pro 48 real time PCR system from Techne (UK) is a high specification, economically priced real-time thermal cycler. The Prime Pro 48 system has a unique high thermal block uniformity ( $\pm 0.1$  °C). This uniformity as well as validated sample volumes of down to 5  $\mu$ l enable an optimized reaction run time for 40 cycles down to only 15 minutes. The uniform temperature across the plate is achieved with a unique heating and cooling system that quickly enables a uniform temperature of  $\pm 0.1$  °C in every well of the block within a fraction of a second of reaching each well temperature. This high uniformity eliminates the need for triplicates which reduces reagent running costs. Prime Pro 48 accommodates a unique and economical 48-well PCR plate, the size of which is only 1/8 the size of a standard 96-well plate. The well format mirrors a 384-well plate therefore allowing the use of a 16-channel micropipette. The small plate cuts reagent costs in half whilst still producing a strong fluorescent signal. Applications include e.g. absolute and relative quantification, Allelic Discrimination and High Resolution Melt.

### Features:

- Validated volume per well: 5 to 20  $\mu$ l
- High temperature uniformity of  $\pm 0.1$  °C across the whole block instantly after every temperature change
- 40 cycles in 40 minutes before optimization, and down to only 15 minutes when optimized
- Genotype in 4 minutes with over 99 % accuracy
- Patented "Adaptive LED Control" minimizes optical artifacts and prevents premature detector saturation
- Dual LED excitation (452 nm to 486 nm and 542 nm to 582 nm)
- 4 emission filters (505 nm to 545 nm, 562 nm to 596 nm, 604 nm to 644 nm, 665 nm to 705 nm)
- Data is always collected in all four filters for all wells
- Distinguishes 5000 and 10000 template copies with 99 percent confidence

### Additional features:

- 48-well block
- MIQE compliant
- 400 analyte specific qPCR reagent kits available
- No calibration required
- Calibrated dyes: SYBR®, FAMTM, HEXTM, ROXTM, Cy®5.
- Additional dyes within the filter wavelength range are supported with no additional calibration required
- Unlimited software license
- 1 year warranty

**Custom 48-well qPCR plates and corresponding seals have to be ordered separately.**

### Specifications

Temperature range:	30 to 100 °C
Temperature stability:	$\pm 0.1$ °C
Temperature uniformity:	$\pm 0.1$ °C within 1 sec
Average ramp rate:	5.5 °C/sec
Dimensions (W x D x H):	345 x 310 x 320 mm
Weight:	13.6 kg

Type	PK	Cat. No.
Prime Pro 48	1	<b>9.595 515</b>
PCR plates Prime Pro 48	50	<b>9.595 517</b>
Plate seals Prime Pro 48	50	<b>9.595 516</b>

1



9.595 515

### 1 Electroporation System ECM® 399

The ECM® 399 is an electroporation system for the simple transformation of bacteria and yeast cells. It produces exponential decay waves and is designed to deliver the field strengths and pulse lengths required for transformations. The ECM® 399 is ideal for basic transformation in research and academic environments. It is easy to operate, cost effective, compact in size and portable.

BTX

Applications: Transformation of bacteria, yeast, fungus.

**Scope of supply:** Generator ECM® 399 , PEP cuvette holder, Cuvettes 1 mm, 2 mm, 4 mm (10 each) and Cuvette Rack

#### Specifications

Capacity/Resistance Range:	
LV Mode:	1050 µF/150 Ohm, fixed
HV Mode:	36 µF/150 Ohm, fixed
Maximum Voltage Output:	2500 V (Peak)
Pulse Interval:	100 ms to 10 s
Charge Time:	max. 5 s
Maximum Pulse Length:	125 ms at 500 V (Peak) or 5 ms at 2500 V (Peak)
Display:	16-character, liquid crystal, LCD backlit
Interface:	Digital User Interface
Relative Humidity:	60 %
Power supply:	100 - 240 V, 50/60 Hz

Type	PK	Cat. No.
ECM® 399	1	6.282 780

1



2



### 2 Cuvettes Plus

BTX Cuvettes Plus are designed for use in electroporation and electrofusion of bacteria, yeast, insect, plant and mammalian cells. Each sterilized Cuvettes Plus package includes a disposable cuvette and a transfer pipette, which is used for removal of the sample after electroporation. The cuvettes are molded with embedded polished aluminum electrodes, and gamma irradiated for guaranteed sterility.

BTX

Three electrode gap sizes are available:

- 1 mm for bacteria and yeast
- 2 mm for all cell types
- 4 mm for mammalian cells

BTX cuvette can obtain high field strengths up to 25.0 kV/cm. Round caps are leak resistant and allow for quick and easy removal. For research use only.

Colour Cap	Gap mm	Volume max. µl	Volume min. µl	PK	Cat. No.
Grey	1.0	90	20	50	6.282 773
Blue	2.0	400	40	50	6.282 774
Yellow	4.0	800	80	50	6.282 775
Grey	1.0	90	20	10	6.282 777
Blue	2.0	400	40	10	6.282 778
Yellow	4.0	800	80	10	6.282 779

## 1 UV/PCR cabinet UVT-B-AR

Grant

Economy bench-top model for protection against contamination during a variety of DNA/RNA procedures.

- UV surface irradiation, via single 25 W 254 nm open UV lamp
- Patented high intensity UV air cleaner, 25 m<sup>3</sup>/hour cleaner-recirculator continuous air flow with 1 cm UV irradiation distance
- UV lamp in the upper hood disinfects the working area, inactivating DNA/RNA fragments during 15-30 min of exposure
- UV exposure control, 24 hour digital timer
- Convenient, easy to use digital timer for accurate control of UV exposure
- White lamp provides local illumination of the workplace to optimise visual control during operations
- Shock proof glass panels, metal framework and stainless steel work surface
- Automatic switch-off of open UV light when door opened
- Contains an integral power socket



### Specifications

External dimensions (W x D x H): 690 x 585 x 555 mm  
 Working area dimensions (W x D x H): 650 x 475 mm  
 Weight: 32 kg

Type	PK	Cat. No.
UVT-B-AR	1	9.721 070

## 2 PCR Cabinets Type Airstream® SCR/PCR

Esco

Active PCR Cabinet with built-in UV Decontamination and true vertical laminar airflow.

- Average Airflow Velocity (adjustable): 0.3 m/s
- HEPA filter with Prefilter
- The air cleanliness within the work zone is better than ISO Class 5
- Sentinel-Microprocessor maintains steady blower speed (only 0.9 m and 1.2 m models)
- Hinged polycarbonate front window
- Tempered glass side panel
- ISOCIDE™ antimicrobial coating on all painted surfaces minimizes contamination.
- Fluorescent lighting provides superior illumination of the work zone
- Build-in UV lamp with timer
- Pass-through ports in the back wall

**More options, support stands on request.**



Type	Size	External dimensions (W x D x H) mm	PK	Cat. No.
Airstream® SCR-2A1	0.6 m	730 x 617 x 950	1	7.939 129
Airstream® PCR-3A1	0.9 m	1035 x 617 x 950	1	7.939 127
Airstream® PCR-4A1	1.2 m	1340 x 617 x 950	1	7.939 128



# Genomics

## DNA-Electrophoresis

### 1 Gel electrophoresis tank multiSUB Mini DUO

The multiSUB Mini is the smallest unit in the range, designed for low to medium numbers of samples. The cost-effective small gel size does not compromise versatility as two tray options are available: 7x7 cm and 7x10 cm. Easy preparation up to 16 samples. Simply by altering the gel tray or comb, this compact unit is capable of resolving up to 64 different samples, prepping 1 ml of sample or separating sample bands over a distance of 9 cm. *Cleaver Scientific*

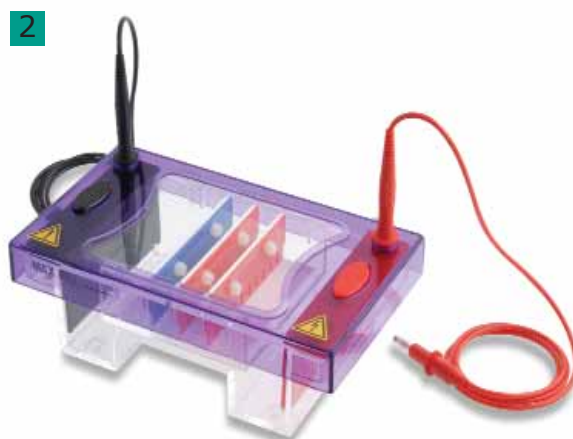
Supplied with: multiSUB Mini, 7x7 cm and 7x10 cm UV Tray, 2x8 sample combs 1 mm, loading guides, electrodes and dams.

#### Specifications

Gel dimensions (W x L):	7 x 7 cm and 7 x 10 cm
Unit dimensions (W x L x H):	21 x 9 x 9 cm
Max. sample capacity:	7 x 7 cm tray, 32 samples 7 x 10 cm tray, 64 samples
Buffer volume:	225 ml

Type	Description	Sample volume µl	PK	Cat. No.
MSMINIDUO	multiSUB Mini DUO		1	<b>7.920 043</b>
MS7-8-1	Comb 8 sample, 1 mm	25	1	<b>9.584 655</b>
MS7-12MC-1*	Comb 12 sample MC, 1 mm	14	1	<b>6.232 523</b>
MS7-16-1	Comb 16 sample, 1 mm	10	1	<b>6.227 253</b>
MS7-8-1.5	Comb 8 sample, 1.5 mm	37	1	<b>6.227 144</b>
MS7-12MC-1.5*	Comb 12 sample MC, 1.5 mm	20	1	<b>6.233 617</b>
MS7-16-1.5	Comb 16 sample, 1.5 mm	15	1	<b>9.584 656</b>

\* Multichannel compatible.



### 2 Gel electrophoresis tank multiSUB Midi DUO

With gel tray options of 10 x 7 cm and 10 x 10 cm, the multiSUB Midi has been designed for routine horizontal gel electrophoresis. Extending only the width of this unit allows more samples to be resolved per gel than the multiSUB Mini without a significant increase in buffer or gel volumes. A maximum of 100 samples per gel can be resolved making this unit ideal for those routinely checking medium numbers of samples over short to medium gel run lengths. *Cleaver Scientific*

Supplied with: multiSUB Midi, 10 x 7 cm & 10 x 10 cm UV Tray, 2 x 16 sample combs, loading guides, electrodes and dams.

#### Specifications

Gel dimensions (W x L):	10 x 7 cm and 10 x 10 cm
Unit dimensions (W x L x H):	22 x 12.5 x 9 cm
Max. sample capacity:	10 x 7 cm tray, 50 samples 10 x 10 cm tray, 100 samples
Buffer volume:	300 ml

Type	Description	Sample volume µl	PK	Cat. No.
MSMIDIDUO	multiSUB Midi DUO		1	<b>6.238 115</b>
MS10-8-1	Comb 8 sample, 1 mm	41	1	<b>9.584 657</b>
MS10-10MC-1*	Comb 10 sample MC, 1 mm	27	1	<b>9.584 658</b>
MS10-12-1	Comb 12 sample, 1 mm	23	1	<b>9.584 659</b>
MS10-16-1	Comb 16 sample, 1 mm	16	1	<b>9.584 660</b>
MS10-20MC-1*	Comb 20 sample MC, 1 mm	14	1	<b>9.584 661</b>
MS10-25-1	Comb 25 sample, 1 mm	10	1	<b>9.584 662</b>

\* Multichannel compatible.

### 1 Gel electrophoresis tank MultiSUB Maxi DUO/Maxi 25

The MultiSUB Maxi is primarily designed for resolution of high numbers of samples such as from Cloning or PCR. Tray sizes correspond to standard blotter sizes. It also allows easy sample transfer onto a membrane for further analysis. Four gel tray sizes are available: 20 x 10 cm, 20 x 15 cm, 20 x 20 cm and 20 x 25 cm. Multichannel pipette compatible, 40 combs facilitates speed loading of up to 440 samples per gel. 50 sample combs allow maximum sample capacity of 550 samples per gel.

Supplied with:

MSMAXIDUO: MultiSUB Maxi, 20 x 10 and 20 x 20 cm UV Tray, 2 x 20 sample, 1 mm thick combs, casting dams, electrodes and loading guides.

MSMAXI25: MultiSUB Maxi, 20 x 25 cm UV Tray, 2 x 20 sample, 1 mm thick combs, casting dams, electrodes and loading guides.

#### Specifications

Gel dimensions (w x l):	10 x 7 cm and 10 x 10 cm
Unit dimensions (w x l x h):	22 x 12.5 x 9 cm
Max. sample:	10 x 7 cm tray, 50 samples
Capacity:	10 x 10 cm tray, 100 samples
Buffer volume:	300 ml



Type	Description	Sample volume µl	PK	Cat. No.
MSMAXIDUO	MultiSUB Maxi DUO		1	9.584 670
MSMAXI25	MultiSUB Maxi 25		1	9.584 671
MS20-20MC-1*	Comb 20 sample MC, 1 mm	27	1	9.584 672
MS20-30-1	Comb 30 sample, 1 mm	17	1	9.584 673
MS20-40MC-1*	Comb 40 sample MC, 1 mm	11	1	9.584 674
MS20-50-1	Comb 50 sample, 1 mm	10	1	9.584 675
MS20-20MC-1.5*	Comb 20 sample MC, 1.5 mm	41	1	9.584 676
MS20-30-1.5	Comb 30 sample, 1.5 mm	26	1	9.584 677

\* Multichannel compatible.

### 2 3 Gel electrophoresis tank MultiSUB Choice

Gel size: 15 x 15 cm (W x L). This unit is ideal for restriction fragment analysis, sample prep or checking of high number of samples. The MultiSUB choice offers a high degree of versatility. T

wo additional tray options are available: 15 x 7 cm and 15 x 10 cm. Gel casting is easy by using casting dams.

Supplied with:

MSCHOICE15: MultiSUB Choice, 15 x 15 cm UV Tray, 2 x 20 sample combs, loading guides, electrodes and dams.

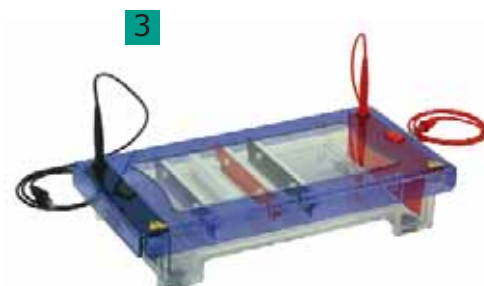
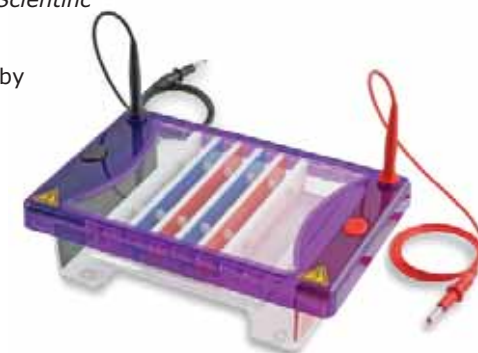
MSCHOICETRIO: MultiSUB Choice Trio, 15 x 7, 10 & 15 cm UV Tray, 2 x 20 sample combs, loading guides, electrodes and dams.

MSCHOICEST20: MultiSUB Choice Stretch 20, 15 x 20 cm UV tray, 4 x 28 sample combs, loading guides, electrodes and dams.

MSCHOICEST25: MultiSUB Choice Stretch 25, 15 x 25 cm UV tray, 4 x 28 sample combs, loading guides, electrodes and dams.

#### Specifications

Unit dimensions (w x l x h):	26.5 x 17.5 x 9 cm
Max. sample:	41 x 17.5 x 9 cm (Stretch models) 15 x 7 cm Tray - 70 Samples 15 x 10 cm Tray - 140 Samples 15 x 15 cm Tray - 210 Samples 15 x 20 cm Tray - 280 Samples 15 x 25 cm Tray - 350 Samples
Buffer volume:	500 ml 1000 ml (Stretch models)



Type	Description	Sample volume µl	PK	Cat. No.
MSCHOICE15	MultiSUB Choice 15		1	9.584 651
MSCHOICETRIO	MultiSUB Choice Trio		1	6.239 273
MSCHOICEST20	MultiSUB Choice Stretch 20		1	9.584 663
MSCHOICEST25	MultiSUB Choice Stretch 25		1	9.584 664
MS15-20-1	Comb20 sample, 1 mm	21	1	6.234 451
MS15-35-1	Comb35sample, 1 mm	10	1	6.238 277
MS15-18MC-1*	Comb18sample MC, 1 mm	11	1	9.584 665
MS15-30MC-1*	Comb 30 sample MC, 1 mm	13	1	6.238 278
MS15-20-1.5	Comb 20 sample, 1.5 mm	32	1	6.233 618
MS15-18MC-1.5*	Comb 18 sample MC, 1.5 mm	17	1	9.584 667
MS15-30MC-1.5*	Comb 30 sample MC, 1.5 mm	19	1	9.584 666

\* Multichannel compatible.

### 1 2 Real-time horizontal gel electrophoresis system runVIEW

- Versatile, self-contained system on the market for real-time horizontal gel electrophoresis *Cleaver Scientific*
- System includes everything except chemicals and reagents to run horizontal SYBR- and EtBr-stained gels in real-time
- Combines the flexibility and high resolution capability of the MSCHOICE system with the time and space saving convenience of having the power supply and gel illuminator integrated within one highly compact bench top unit
- Optional dark room with 12.1 megapixel digital camera fits directly over the base unit and gel tank to allow gels to be imaged either as bands migrate in real-time or at the end of the electrophoresis run
- Includes accessories for standard gel electrophoresis and for size fractionation and simplified real-time gel free DNA band extraction and purification
- runVIEW Gel System with bluVIEW Lid Design: Orange spectral emission filter with condensation-free viewing panel.
- Extractor fan in the bluVIEW lid eliminates condensation to optimise DNA visualisation and resolution during electrophoresis.

Included Double-sided Combs: 2x 1-sample/2-sample preparatory; 2x 4-sample preparatory/16-sample combs; 4x 20- /28- sample multichannel compatible screening. Comb Thickness: 1 mm. Extra-thick 2x 4- and 2x 6-sample 3 mm preparatory combs are also included.

#### Specifications

##### runVIEW Viewing Dock

Blue Light Wavelength:	470 nm
Voltage/Resolution:	25-150 V/1V
Current/Resolution:	300 mA/1 mA
Power:	30 W
Timer:	1 to 999 min (with alarm)
Dimensions (W x D x H):	29.3 x 22.0 x 8.0 cm
Power supply:	100-240 V, 50/60 Hz

##### runVIEW Gel System

Gel Dimensions (W X L):	15 x 7 cm, 15 x 10 cm and 15 x 15 cm
Unit dimensions (W X D X H):	26.5 x 17.5 x 9.0 cm
Buffer volume:	500 ml

Type	Description	PK	Cat. No.
CSL-RVMSCHOICE7	runVIEW system complete with 15 x 7 cm gel tray, 1 set of casting dams and 8 double-sided combs	1	9.584 764
CSL-RVMSCHOICE10	runVIEW system complete with 15 x 10 cm gel tray, 1 set of casting dams and 8 double-sided combs	1	9.584 765
CSL-RVMSCHOICE15	runVIEW system complete with 15 x 15 cm gel tray, 1 set of casting dams and 8 double-sided combs	1	7.920 135
CSL-RVMSCHOICETRIO	runVIEW system complete with 15 x 7, 15 x 10 and 15 x 15 cm gel trays, 3 sets of casting dams and 8 double-sided combs	1	9.584 766
CSL-RVBSBVLID	runVIEW base station and bluVIEW lid	1	9.584 767
CSL-RVGELDOC	runVIEW gel documentation hood with 12,1 MP camera	1	9.584 768

1



2



### 1 Power supply nanoPAC-300 Mini for gel electrophoresis tanks

- Maximum constant current output of 400 mA
- Constant voltage up to 300 V
- Adjustable in 1 V and 1 mA increments
- Two parallel outputs
- Continuous run or timed setting up to 999 minutes
- Automatic safety shutdown
- Alarm function
- 3-digit LED display

Cleaver Scientific



Type	Supply requirements	Rating W	PK	Cat. No.
nanoPAC-300 Mini	300 V / 400 mA	60	1	6.253 368

### 2 Enduro™ power supplies

- For the connecting of different chamber systems.
- Select constant voltage or constant current mode
  - Automatic crossover between modes protects gels.
  - Compact, lightweight and stackable
  - Extremely quiet operation

Labnet



#### Specifications

Output voltage range/increments

#### Model 300 V

2-300 V/1 V  
4-500 mA/1 mA  
90 W max/na  
1-999 minutes or continuous  
No

Timer

Programmable

Dimensions/Wt

Input voltage

#### Model 250 V

Output voltage range/increments

5-250 V/1 V  
10-3.000 mA/10 mA  
1-300 W/1 W  
1 min to 99 h 59 min or continuous  
10 steps/program, 20 program memory  
19 x 25 x 8 cm/2.5 kg  
120-230 V

Timer

Programmable

Dimensions/Wt

Input voltage

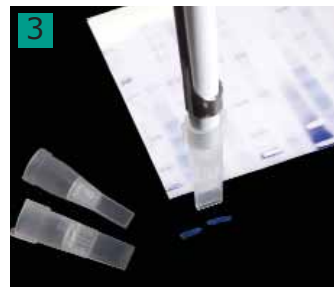
Description	PK	Cat. No.
Enduro 300 V power supply	1	9.595 314
Enduro 250 V power supply	1	9.595 306

Additional accessories are available.

### 3 Disposable Gel Excision Tips GelX

GelX tips allow completely safe and contamination free removal of the gel band of interest without the need to handle potentially dangerous scalpels. The gel band is neatly extracted and contained in the tip, when it is then dispensed into a tube for further analysis.

Cleaver Scientific



- Designed for removing bands from agarose and protein gels
- One-handed operation
- Push button gel and tip release mechanism
- Fits standard 1000 µl pipettes
- Autoclavable, and DNase and RNase free

Type	Dimensions mm	Description	PK	Cat. No.
CSL-GELX4	4 x 1	1 bag	250	6.237 751
CSL-GELX4RACK	4 x 1	5 racks of 48 pieces	240	6.237 752
CSL-GELX6.5	6.5 x 1	1 bag	250	9.584 699
CSL-GELX6.5RACK	6.5 x 1	5 racks of 48 pieces	240	7.900 620

1



### 1 Agarose for gel electrophoresis

For routine analysis of nucleic acids. They combine tensile strength with low electroendosmotic effects to achieve high resolving power for a wide size range of nucleic acid fragments.

*Cleaver Scientific*

AG agaroses are also very environmentally friendly, being manufactured by a process which excludes organic solvents.

#### Specifications

CAS:	9012-36-6
Appearance:	White to off-white powder
EEO:	<0.13
Gelling Point:	36 °C ±1.5 °C (1.5 % gel)
Melting Point:	88 °C ±1.5 °C (1.5 % gel)
Solubility:	Clear, colourless solution at 1 g in 100 ml water
Moisture:	≤10 %
Gel Strength:	>1200 g/cm <sup>2</sup> (1 % Gel)
Sulphate:	≤0.20 %
DNase, RNase, Protease, Endonuclease:	None Detected

Type	Capacity g	PK	Cat. No.
CSL-AG100	100	1	9.584 695
CSL-AG500	500	1	9.584 696
CSL-AG1000	2 x 500	1	9.584 697
CSL-AG2000	4 x 500	1	9.584 790
CSL-AG5000	10 x 500	1	9.584 791
CSL-AG10KG	20 x 500	1	9.584 792
CSL-AG20KG	40 x 500	1	9.584 793

2



### 2 LLG-Ethidium Bromide Extractor

For the rapid and safe removal of ethidium bromide from gel-staining solutions. Contains an activated carbon matrix, which quickly and easily removes >99 % of ethidium bromide. Each device can decontaminate up to 10 litres of gel-staining solution. After filtration, the decontaminated solution can be safely poured down the laboratory drain. The extractor funnel device fits most standard laboratory flasks and bottles (33 to 45 mm necks), and the unit includes a cap for storage between uses. Pack of 2

Type	PK	Cat. No.
LLG-Ethidium Bromide Extractor	2	6.282 288





### 1 UV lamps

- Filtered and unfiltered\*UV lamps with different wave lengths and power levels for a broad range of applications
- Models with wave length selector suited for multiple applications

Vilber Lourmat

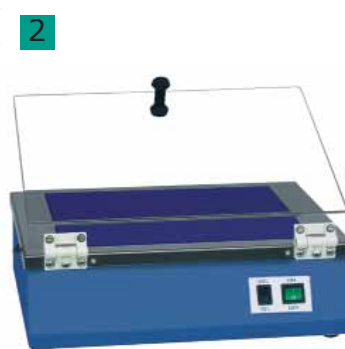


Type	Description	Filter size mm	Wave-length nm	No. of Tubes	Tubes		Spare tubes		PK	Cat. No.
					W	Type	Type	Type		
BVL-115.L	Single wavelength	295 x 66	365	1	15	J			1	9.971 936
BVL-215.G	UV sterilization lamp*	-	254	2	15	I			1	9.971 915
BVL-208.G	UV sterilization lamp*	-	254	2	8	F			1	9.971 935
BVL-4.LC	wavelength selector	70 x 48	365 / 254	1 / 1	4	B / A			1	9.971 917
BVL-6.LC	wavelength selector	145 x 48	365 / 254	1 / 1	6	D / C			1	9.971 918
BVL-8.LM	wavelength selector	220 x 48	365 / 312	1 / 1	8	G / E			1	9.971 937

### 2 Compact UV transilluminators

- Compact design (34 x 28 cm)
- Metal housing, with stainless steel filter frame and "long life" filter
- Modern technology, highest quality manufacture
- Single or dual wavelength models available
- BECXF models have intensity selector (Hi/Lo)

Vilber Lourmat



Type	Description	Filter size mm	Wave-length nm	No. of Tubes	Tubes		Spare tubes		PK	Cat. No.
					W	Type	Type	Type		
BECXF-20.M	Hi / Lo Intensity	200 x 200	312	6	8	E			1	9.971 910
BECXF-26.M	Hi / Lo Intensity	210 x 260	312	6	8	E			1	9.971 911
BTCP-20.LM	Multi-band	200 x 200	365 / 312	5 / 6	8	D / E			1	9.971 912
BTCP-20.MC	Multi-band	200 x 200	254 / 312	5 / 6	8	E / F			1	9.971 913
BTCP-26.LM	Multi-band	210 x 260	365 / 312	5 / 6	8	G / E			1	9.971 914

### 3 UV transilluminators

Standard features include a high/low intensity safety switch and an efficient starter that allows each of the six 8W UV tubes to energise quickly without flickering, while special filter glass minimises unwanted background light. All of these features maximise contrast and sensitivity, allowing even the faintest fluorescent gels to be viewed. Two dual wavelength models offer added flexibility and convenience.

Cleaver Scientific



Type	Filter size mm	Wave-length nm	Tubes		Spare tubes	PK	Cat. No.
			Type	Type			
CSLUVTS254	210 x 210	254	6 x 8W	F		1	9.584 770
CSLUVTS312	210 x 210	312	6 x 8W	E		1	6.231 832
CSLUVTS365	210 x 210	365	6 x 8W	G		1	9.584 771
CSLUVTS254/312	210 x 210	254/365	6 x 8W	F / G		1	9.584 772
CSLUVTS254/312	210 x 210	254/312	6 x 8W	F / E		1	9.584 773



### 1 Blue-LED-Transilluminators

UV protection shield optional.  
Intensity setting 10 to 100 %

*biostep*

Type	Filter size mm	Wave-length nm	Tubes	PK	Cat. No.
BST-20G-D2R	200 x 200	470	LED Matrix 504	1	<b>4.007 023</b>
BST-30G-D4R	230 x 300	470	LED Matrix 756	1	<b>4.007 024</b>

### Spare tubes for UV instruments and UV lamps

Suitable for instruments from Vilber Lourmat, Cleaver Scientific and biostep (instruments of other suppliers on request).

Type	Wave-length nm	Tubes W	For Type	PK	Cat. No.
A	254	4	BVL-4.LC	1	<b>6.230 463</b>
B	365	4	BVL-4.LC	1	<b>6.230 464</b>
C	254	6	BVL-6.LC	1	<b>6.230 465</b>
D	365	6	BVL-4.LC	1	<b>6.224 405</b>
E	312	8	BECXF-20.M, BECXF-26.M, BTCP-20.LM, BTCP-20.MC, BTCP-26.LM, CSLUVTS312, CSLUVTSDUO312	1	<b>6.225 934</b>
F	254	8	BVL-208.G, CSLUVTS254, CSLUVTSDUO, CSLUVTSDUO312	1	<b>6.242 036</b>
G	365	8	BVL-8.LM, BTCP-20.LM, BTCP-26.LM, CSLUVTS365, CSLUVTSDUO	1	<b>6.240 332</b>
H	312	15	BVL-215.M, BETXF-20.M, BETXF-26.M	1	<b>6.232 337</b>
I	254	15	BVL-215.G	1	<b>6.237 967</b>
J	365	15	BVL-115.L	1	<b>6.228 209</b>

### 2 Gel documentation system Doc-Print VX5

- Compact, PC-independent gel documentation system
- Robust and durable
- Easy handling, even with wet gloves
- Large TFT display, excellently readable
- Context-sensitive task buttons, quick-shot button
- Highly-sensitive scientific camera for high imaging quality (2.0 MP/16-Bit)

*Vilber Lourmat*

All models with the following standard components:

- Sensitive CCD camera, zoom, UV spectral filter, hood
- Control unit with integrated display and USB ports
- Free PC analysis software

Type	Description	PK	Cat. No.
DP VX5	With standard components	1	<b>7.930 022</b>
DP VX5-P	With standard components and thermal printer	1	<b>7.930 023</b>
DP VX5-20.M	With standard components and transilluminator BECXF-20.M	1	<b>9.971 928</b>
DP VX5-P-20.M	With standard components, thermal printer and transilluminator	1	<b>9.971 929</b>

2



### 1 2 Gel documentation system omniDOC/omniDOCi

The omniDOC offers high performance gel documentation and analysis at a relatively low cost. A high resolution 5 mega pixel camera with slide-out UV transilluminator, and optional blue epi-illumination module and white light table, makes the omniDOC suitable for imaging most fluorescent and colorimetric gels. *Cleaver Scientific*

#### OMNIDOC and OMNIDOCi features:

- Pre-focused 5 mega pixel camera with auto-exposure for almost instantaneous high resolution gel imaging; CMOS sensor for improved light sensitivity
- 6 mm lens, F1.2 aperture size, with manual adjustment
- Interchangeable filter slide with 620 nm ethidium bromide filter as standard; 520, 560 and 580 nm filter options available for runSAFE, SYBR stain and other fluorescence applications
- Viewing pane with universal amber filter for gel inspection, which may be covered by a spring-loaded panel during documentation
- Internal white LED - aids gel positioning and focusing
- Slide-out 312 nm transilluminator; uses optional plug-in white light table for coomassie, silver-stain and other colorimetric gels
- Large 210 x 260 mm filter area
- Dark room assembly with corrosion resistant ABS construction
- Safety switch prevents accidental UV exposure when opening front door panel
- USB port for PC connectivity in omniDOC, and used for maintenance and installation of updates in omniDOCi
- Wi-Fi connection for wireless remote control and image transfer to complimentary image acquisition and analysis software downloadable as an App (in omniDOCi models only) or supplied on disc for installation onto a laptop or PC (omniDOC and omniDOCi)

**OMNIDOCi:** OMNIDOC plus benefit of wireless connectivity to a remote laptop or tablet

**omniDOCSAFE:** OMNIDOC plus Blue LED Epi-illumination and 520, 560 & 580 nm filters

**omniDOCiSAFE:** omniDOCi plus benefit of wireless connectivity to a remote laptop or tablet

Type	Description	PK	Cat. No.
OMNIDOC	with 620 nm (EtBr) emission filter, 312 nm UV transilluminator and USB cable	1	<b>6.263 221</b>
OMNIDOCSAFE	as OMNIDOC plus Blue LED Epi-illumination Module, and 520, 560 and 580 nm filters	1	<b>6.265 278</b>
OMNIDOCi	with 620 nm (EtBr) emission filter, 312 nm UV transilluminator and USB cable	1	<b>6.265 279</b>
OMNIDOCiSAFE	as OMNIDOCi plus Blue LED Epi-illumination Module, and 520, 560 and 580 nm filters	1	<b>6.265 280</b>

1



2



# Genomics

## Vacuum concentrator



### 1 Vacuum concentrator, Concentrator plus™

Eppendorf Vertrieb

The new Concentrator plus features a new LCD display and user-friendly control panel with clearly labeled function keys.



9.776 623

The new Concentrator plus from Eppendorf is available in two configurations:  
 - Complete system with an integrated service-free diaphragm pump  
 - Basic concentrator for connecting to an existing vacuum.

The Concentrator's heating technology optimises the evaporation process. No matter which configuration you choose, you're assured of quick and efficient-yet gentle-vacuum concentration of your samples (e.g. DNA/RNA, proteins). The complete system includes a vapour condenser that purifies the exhaust air by up to 85 %. This serves as protection against unpleasant vapours.

#### Specifications

Max. power consumption:  
 Dimensions (W x D x H):  
 Weight:  
 Vacuum:  
 Fixed rotation speed:  
 Tube sizes:  
 Capacity:

#### Complete system/Basic device

350 W/150 W  
 33 x 58 x 29 cm/33 x 37 x 23 cm  
 31.5 kg/16.5 kg  
 20 hPa (20 mbar)  
 1.400 rpm  
 0.2 ml - 50 ml  
 max. 144 tubes  
 2 microplates

Description	PK	Cat. No.
Complete system with integr. membrane vacuum pump and 48 x 1.5 ml / 2.0 ml fixed angle rotor	1	<b>9.776 620</b>
Complete system with integr. membrane vacuum pump, with connection for external units	1	<b>9.776 621</b>
Complete system with integr. membrane vacuum pump, w/o rotor	1	<b>9.776 622</b>
Single unit with 48 x 1.5 ml / 2.0 ml fixed angle rotor	1	<b>9.776 623</b> 2
Rotor F-35-6-30 for 6 x 15 ml Falcon tubes	1	<b>9.776 624</b>



9.776 490

### 3 Rotors for Concentrator plus™

Eppendorf Vertrieb

Type	Description	PK	Cat. No.
F-45-48-11	for 48 tubes 1.5/2.0 ml (11 x 41/11 x 47 mm)	1	<b>9.776 465</b>
F-45-8-17	for 8 tubes 15 ml (Falcon®) (17 x 120 mm)	1	<b>9.776 490</b> 3
A-2-VC	for 2 x 96 tubes 0.2 ml (128 x 86 x 27 mm)	1	<b>9.776 496</b>



## BRANDplates®

### Microplates for Immunoassays (non-sterile)

Diagnosis of disease, pregnancy or verification of doping substances. They are characterized by their high specificity and provide the opportunity to detect the lowest concentrations of defined substances in complex liquids e.g. blood serum.

### 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, e.g. lipoproteins or peptides.

### Non-treated (sterile or non-sterile)

Non-treated PS microplates are used in the most diversified application fields, e.g. homogenous standard assays and extensive screening assays. The hydrophobic characteristics of untreated PS are often of use in performing these applications.

### 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  $\beta$ -radiation. Especially suited for bacteriological assays.

Colours, wells and shapes:

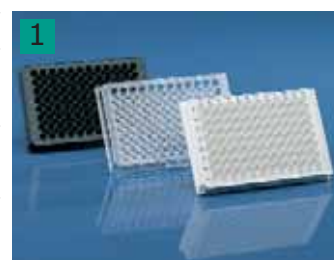
- 96- and 384-well format
- standard or transparent bottom
- transparent, white or black
- Various well bottom shapes: U-, V-, F-, C-bottom for 96-well format
- clearly distinguishable via color code: blue embossed alphanumeric coding for 96-well standard plates.
- free from endotoxins (< 0.01 EU/ml), DNase, DNA, RNase, non-cytotoxic (according to ISO 10993)
- ANSI/SLAS format
- **non-sterile products without lid, please order separately**
- **sterile products comply with ISO 11137 and AAMI guidelines.**
- **A SAL of  $10^{-6}$  is reached. Supplied individually wrapped with lid.**

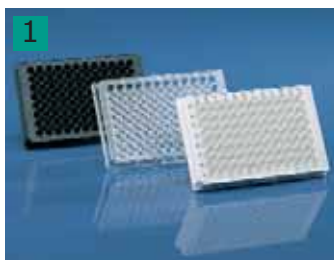
## 1 ImmunoGrade™ (high binding)

PS, non-sterile. Optimized for the immobilization of IgG, standard ELISA assay.

BRAND

Description	Bottom shape/ Well volume $\mu$ l	PK	Cat. No.
96-well, transparent	U / 330	100	<b>4.000 275</b>
96-well, transparent	V / 360	100	<b>4.000 276</b>
96-well, transparent	F / 350	100	<b>4.000 277</b>
96-well, transparent	C / 350	100	<b>4.000 278</b>
96-well, white	U / 330	100	<b>4.000 279</b>
96-well, white	C / 350	100	<b>4.000 280</b>
96-well, black	U / 330	100	<b>4.000 281</b>
96-well, black	C / 350	100	<b>7.635 711</b>
96-well, black / transparent	F / 330	100	<b>4.000 282</b>
384-well, transparent	F / 100	50	<b>4.000 283</b>
384-well, white	F / 100	50	<b>4.000 284</b>
384-well, black	F / 100	50	<b>4.000 285</b>





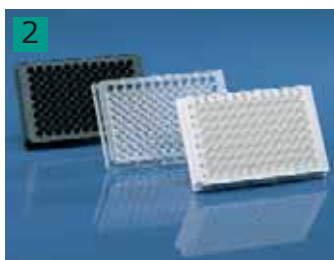
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### 1 hydroGrade™

PS, non-sterile. Hydrophilic. For solid phase with hydrophilic molecules and liquid phase with hydrophobic molecules, resp.

BRAND

Description	Bottom shape/ Well volume µl	PK	Cat. No.
96-well, transparent	U / 330	100	<b>4.000 286</b>
96-well, transparent	F / 350	100	<b>4.000 287</b>
96-well, transparent	C / 350	100	<b>4.000 288</b>
96-well, white	U / 330	100	<b>4.000 289</b>
96-well, white	C / 350	100	<b>4.000 290</b>
96-well, black	U / 330	100	<b>4.000 291</b>
96-well, black	C / 350	100	<b>4.000 292</b>
384-well, transparent	F / 100	50	<b>4.000 293</b>
384-well, white	F / 100	50	<b>4.000 294</b>
384-well, black	F / 100	50	<b>4.000 295</b>



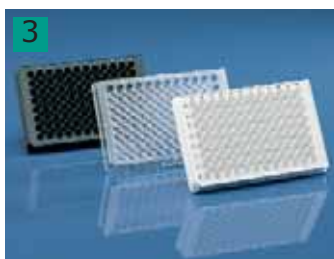
2

### 2 lipoGrade™

PS, non-sterile. Lipophilic/hydrophobic. For solid phase with hydrophobic molecules and liquid phase with hydrophilic molecules, respectively.

BRAND

Description	Bottom shape/ Well volume µl	PK	Cat. No.
96-well, transparent	U / 330	100	<b>4.000 296</b>
96-well, transparent	V / 360	100	<b>4.000 297</b>
96-well, transparent	F / 350	100	<b>4.000 298</b>
96-well, transparent	C / 350	100	<b>4.000 299</b>
96-well, white	U / 330	100	<b>4.000 300</b>
96-well, white	C / 350	100	<b>4.000 301</b>
96-well, black	U / 330	100	<b>4.000 302</b>
96-well, black	C / 350	100	<b>4.000 303</b>
96-well, white / transparent	F / 330	100	<b>4.000 304</b>
96-well, black / transparent	F / 330	100	<b>4.000 305</b>
384-well, transparent	F / 100	50	<b>4.000 306</b>
384-well, white	F / 100	50	<b>4.000 307</b>
384-well, black	F / 100	50	<b>4.000 308</b>
384-well, hite / transparent	F / 120	50	<b>4.000 312</b>
384-well, black / transparent	F / 120	50	<b>4.000 313</b>



3

### 3 pureGrade™ (medium binding)

PS. Non-treated, non-sterile.  
For homogenous assays, screenings, storage, etc.

BRAND

Description	Bottom shape/ Well volume µl	PK	Cat. No.
96-well, transparent	U / 330	100	<b>4.000 238</b>
96-well, transparent	V / 360	100	<b>6.233 851</b>
96-well, transparent	F / 350	100	<b>6.231 785</b>
96-well, transparent	C / 350	100	<b>4.000 239</b>
96-well, white	U / 330	100	<b>4.000 240</b>
96-well, white	F / 350	100	<b>6.233 548</b>
96-well, black	U / 330	100	<b>4.000 241</b>
96-well, black	F / 350	100	<b>6.233 756</b>
96-well, white / transparent	F / 330	100	<b>4.000 242</b>
96-well, black / transparent	F / 330	100	<b>4.000 243</b>
96-well, UV-transparent*	F / 350	50	<b>9.408 976</b>
384-well, transparent	F / 100	50	<b>4.000 244</b>
384-well, white	F / 100	50	<b>4.000 245</b>
384-well, black	F / 100	50	<b>4.000 246</b>
384-well, white / transparent	F / 120	50	<b>4.000 250</b>
384-well, black / transparent	F / 120	50	<b>4.000 251</b>
1536-well, transparent	F / 10	50	<b>4.000 253</b>
1536-well, white	F / 10	50	<b>4.000 254</b>
1536-well, black	F / 10	50	<b>4.000 255</b>

\*slightly hydrophilized, not available in USA and Japan

### 1 pureGrade™ S

PS. Non-treated, sterile.  
For bacteriological assays, screenings, storage, etc.

BRAND



Description	Bottom shape/ Well volume µl	PK	Cat. No.
96-well, transparent	U / 330	50	4.000 256
96-well, transparent	V / 360	50	4.000 257
96-well, transparent	F / 350	50	6.233 912
96-well, transparent	C / 350	50	4.000 258
96-well, white	F / 350	50	4.000 259
96-well, black	F / 350	50	4.000 260
96-well, white / transparent	F / 330	50	4.000 261
96-well, black / transparent	F / 330	50	4.000 262
384-well, transparent	F / 100	50	4.000 263
384-well, white	F / 100	50	4.000 264
384-well, black	F / 100	50	4.000 265
384-well, white / transparent	F / 120	50	4.000 269
384-well, black / transparent	F / 120	50	4.000 270
1536-well, transparent	F / 10	50	4.000 272
1536-well, white	F / 10	50	4.000 273
1536-well, black	F / 10	50	4.000 274

### 2 Strip plates 12x8 BRANDplates®

BRANDplates® microplates have ideal optical characteristics and are manufactured according to ANSI and SBS standards.

BRAND

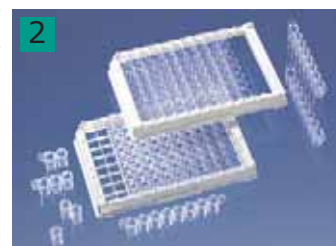
**immunoGrade™** high binding capacity (highbinding), ideal for IgG and molecules with hydrophobic and hydrophilic regions

**pureGrade™** medium binding capacity (medium-binding), somewhat more hydrophobic than immunoGrade™

These plates offer high flexibility. Use only as many wells as necessary. Two variants are available:

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 divisible.

Strip plates with grid: likewise for 12 strips of 8 wells each. 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.



Capacity µl	Type	Description	PK	Cat. No.
360	pureGrade™	without grid, not splittable	100	4.007 910
350	pureGrade™	with grid, splittable	100	4.007 911
360	immunoGrade™	without grid, not splittable	100	4.007 912
350	immunoGrade™	with grid, splittable	100	4.007 913

### 3 Lids for BRANDplates® microplates

The lids are made of crystal-clear polystyrene. The cut-corner sets the orientation of the lid. For 96-well standard plates, lids with condensation rings are also available.

BRAND



Description	Height mm	PK	Cat. No.
for 96-well standard plates with condensation rings	8.0	100	4.000 363
for 96-well standard plates	8.0	100	4.000 364
for 96-well plates with transp. bottom and for 384-well plates	4.5	50	4.000 365
for 1536-well plates	5.5	50	4.000 366



### 1 C96 MicroWell™ Plates, PS

- C-shaped bottom for optimal washing and liquid retrieval
- FluoroNunc™ for fluorescence based immuno assays with minimal auto-fluorescence
- MaxiSorp™ and PolySorp™ for quantitative and qualitative solid phase immuno assays
- Working volume range: 50 - 250 µl/ well

Thermo Scientific

Surface	Colour	Sterile	Description	PK	Cat. No.
MaxiSorp™*	White	no	without lid	60	<b>6.079 678</b>
MaxiSorp™*	Clear	no	without lid	60	<b>9.390 553</b>
MaxiSorp™*	Clear	no	without lid	60	<b>9.390 554</b>
PolySorp™	Clear	no	without lid	60	<b>9.390 557</b>

\* certified.



### 2 F96 Immuno™ Plates, PS

Clear, white or black plates with excellent optical clarity and flat bottom wells. MaxiSorp™, MediSorp™, MultiSorp™ and PolySorp™ are optimal for solid phase immuno assays.

Thermo Scientific

Material plates: Polystyrene  
Total volume µl/well: 400

Surface	Colour	Sterile	Description	PK	Cat. No.
Non-treated	Clear	no	without lid	180	<b>6.222 441</b>
Non-treated	White	no	without lid	180	<b>6.201 514</b>
Non-treated	Black	no	without lid	180	<b>6.228 233</b>
MediSorp™	Clear	no	without lid	60	<b>4.008 649</b>
MultiSorp™	Clear	no	without lid	60	<b>4.008 650</b>
MaxiSorp™ *	Clear	no	without lid	60	<b>9.390 550</b>
MaxiSorp™	Clear	no	without lid	60	<b>9.390 551</b>
PolySorp™	Clear	no	without lid	60	<b>9.390 555</b>
Non-treated	Clear	no	without lid	180	<b>4.008 780</b>
PolySorp™	Clear	no	without lid	180	<b>4.008 802</b>
MaxiSorp™ *	Clear	no	without lid	180	<b>4.009 010</b>
MaxiSorp™ *	Clear	no	without lid	180	<b>6.301 671</b>
Non-treated	Clear	no	with lid	160	<b>7.603 959</b>
Non-treated	Clear	no	without lid	60	<b>9.390 514</b>

\* certified.



### 3 V96 MicroWell™ Plates, PS

Clear plates with V-shaped well bottom for maximized sample recovery. The wells have raised rims and lids are supplied with rings, which prevent cross contamination. Applications include: antibiotic screens, serological tests, storing and screening compounds and DNA libraries.

Thermo Scientific

Material plates: Polystyrene  
Total volume µl/well: 300

Surface	Colour	Sterile	Description	PK	Cat. No.
Non-treated	Clear	yes	with cap	50	<b>4.008 606</b>
Non-treated	Clear	yes	without cap	50	<b>9.390 513</b>
Non-treated	Clear	no	without cap	180	<b>9.390 512</b>



### 4 U96 MicroWell™/Immuno™ Plates, PS

Clear plates with excellent optical quality and round well bottom. Nunclon™Δ surface optimized for cell based assays and sterile non-treated versions for bacteriological applications. MaxiSorp™ and PolySorp™ suitable for solid phase immuno assays.

Thermo Scientific

Material plates: Polystyrene  
Total volume µl/well: 300

Surface	Colour	Sterile	Description	PK	Cat. No.
Nunclon™Δ *	Clear	yes	with lid	50	<b>9.407 471</b>
Non-treated	Clear	yes	without lid	50	<b>9.390 511</b>
Non-treated	Clear	yes	with lid	160	<b>4.009 009</b>
Non-treated	Clear	nein	without lid	180	<b>9.390 510</b>
MaxiSorp™	Clear	nein	without lid	60	<b>9.390 552</b>
PolySorp™	Clear	nein	without lid	60	<b>9.390 556</b>
HydroCell™	Clear	yes	with lid	8	<b>4.008 713</b>
Cell culture	Clear	yes	with lid	160	<b>4.008 768</b>

\* certified.



### 1 Lids for 96-well and 384-well Plates

Lids in various versions made of clear, strong polystyrene with notches for quick orientation. Reduce water loss due to lower evaporation. 96-well lids feature individual condensation rings.

Thermo Scientific



Height mm	With	Sterile	PK	Cat. No.
7.90	Evaporation barrier	no	100	<b>9.407 480</b>
7.90	Evaporation barrier	yes	50	<b>9.407 481</b>
7.90	Evaporation barrier	yes	60	<b>6.802 229</b>
8.34	-	yes	60	<b>4.008 599</b>
8.34	-	no	60	<b>6.206 034</b>

Evaporation barrier is a rim around the inside edge of the lid.

### 2 Sealing Tapes for MultiWell Plates

Effectively seals all microplate formats for storage, PCR, microscopy, culture and protection. Pre-cut, plate-sized sheets.

Thermo Scientific



- Type 1) General use, PCR, storage, photo-sensitive samples
- Type 2) Cell Culture, sterile applications
- Type 3) Microscopy, good optics, low auto-fluorescence, DMSO compatible
- Type 4) Breathable, cell culture

Type	Material	Glue	Sterile	Colour	PK	Cat. No.
1)	Aluminium	Silicone	no	Silver	100	<b>6.250 417</b>
2)	Polyester	Acrylic	yes	Clear	800	<b>9.407 482</b>
3)	Polyolefin	Acrylate	no	Clear	100	<b>6.223 248</b>
4)	Rayon	Acrylate	yes	White	50	<b>4.008 574</b>

### 3 Immuno™ Washers

- Easy-to-use
- Allow for a flexible washing procedure
- Uniform and efficient washing
- Rack included (not autoclavable)
- Adjustable to all well shapes
- Autoclavable at 121 °C
- for tubing with 6 mm bore

Thermo Scientific



Description	PK	Cat. No.
Nunc-Immuno™ Wash 8, 8-Channel	1	<b>6.302 667</b>

### 4 Manual Microplate washer Type 200

- quiet and reliable operation in a compact modular format.
- accurate dispensing and low residual volumes.
- adjustable dispense pressure.
- filtered pump inlet and silenced outlet.
- fully autoclavable, metal free fluid path.
- 8 or 12 way wash heads, optional aspirate probes and fill manifolds.

Mikura



#### Technical specifications

Operating voltage/Hz:	100-240 V 50/60 Hz a.c.
Max current requirement:	12 VA
Dispense reservoir:	2 litre bottle
Waste reservoir:	2 litre bottle
Weight of pump unit:	3.0 kg
Weight of complete system:	4.8 kg
Dimensions, W x D x H: (with reservoirs)	250 x 300 x 250 mm

Type	PK	Cat. No.
8 Channel Washer complete	1	<b>4.006 931</b>
12 Channel Washer complete	1	<b>4.006 932</b>

### 1 Gel electrophoresis tank omniPAGE Mini

The preferred unit for routine mini protein electrophoresis, the omniPAGE mini is constructed using the latest injection moulding manufacturing techniques. This gives a high quality, low cost product with unsurpassed finish, durability and strength. The unit incorporates a sealing system which is compatible with all major types of 8 x 10 cm and 10 x 10 cm precast gel. Gel casting and running utilise the same insert, no transfer of glass plates during gel casting is necessary. The insert contains the option of sliding clamps or just one screw per clamping bar side allowing very rapid set up of both hand cast and precast gels. Ultra soft silicone seals and pressure bars which surround the glass plates guarantee leak proof gel casting. 2 mm thick glass plates prevent breakage and have bonded spacers for convenience. Accessory electro blotting and tube gel modules are available which use the same outer tank and lid.

*Cleaver Scientific*

#### Supplied with:

CVS10D: omniPAGE Mini, 10 x 10 cm Dual, 2 sets of Glass Plates, electrodes, 1 mm thick bonded Spacers, 2 x 12 sample, 1 mm thick combs. CLAMP VERSION.

CVS10DSYS: as CVS10D additionally with caster

CVS10CBS: as CVS10D additionally with caster and blotting insert

#### Technical specifications

Gel dimensions (W x L):	7.5 x 8 cm
Unit dimensions (W x D x H):	19 x 13 x 15 cm
Max. sample capacity:	80 samples, 20 samples per gel
Buffer volume:	min. 250 ml; max 1200 ml

Type	Description	Sample volume µl	PK	Cat. No.
CVS10D	omniPage Mini		1	9.584 652
CVS10CBS	Complete system for Mini Vertical 10 x 10 cm		1	6.229 038
CVS10DSYS	omniPage Mini incl. caster		1	9.584 654
VS10NG	Notched Glass Plates 2 mm		2	6.229 282
VS10PGS0.75	Plain Glass Plates with 0.75 mm Bonded Spacers		2	9.584 730
VS10PGS1	Plain Glass Plates with 1 mm Bonded Spacers		2	6.230 607
VS10PGS1.5	Plain Glass Plates with 1.5 mm Bonded Spacers		2	9.584 731
VS10-12-0.75	Comb 12 sample, 0.75 mm	25	1	9.584 732
VS10-16MC-0.75*	Comb 16 sample MC, 0.75 mm	20	1	9.584 733
VS10-8MC-1*	Comb 8 sample MC, 1 mm	60	1	6.232 797
VS10-10-1	Comb 10 sample, 1 mm	40	1	6.232 290
VS10-12-1	Comb 12 sample, 1 mm	35	1	6.232 176
VS10-16MC-1*	Comb 16 sample MC, 1 mm	25	1	6.229 039
VS10-20-1	Comb 20 sample, 1 mm	20	1	6.232 291
VS10-12-1.5	Comb 12 sample, 1.5 mm	50	1	9.584 734
VS10-16MC-1.5*	Comb 16 sample MC, 1.5 mm	40	1	9.584 735

\* Multichannel compatible.



## 1 Gel electrophoresis tank VS20 Wave Maxi

The new VS20 WAVE Maxi System is Cleaver Scientific's latest product innovation for large-format vertical gel electrophoresis. Designed to perform a variety of separations, including first- and second-dimension SDS-PAGE, native, preparative, gradient and high-resolution nucleic acid electrophoresis, plus capillary tube gel IEF and electroblotting, the VS20 WAVE is one of the most versatile maxi vertical systems available.

*Cleaver Scientific*

By introducing innovative, new vertical screw-clamp technology only four screws are now necessary to secure as many 20x20 cm gels. This gives the VS20 WAVE Maxi the selective advantage of a much faster set up speed compared to competitor products whose traditional clamping configurations require as many as 24 screws to secure just two glass plates. In addition, the WAVE's vertical screw-clamp configuration distributes pressure evenly along the height of the gel rather than in the centre to eliminate plate bowing and gel compression, but still maintains a leak-proof seal during casting; while the ergonomic wave-like design aids both handling and set up.

Whatever your requirements are the WAVE can be made to meet them. Regardless of whether it is running 2 or 4 gels, electroblotting, and IEF using capillary tube gels or IPG strips.

**VS20 WAVESYS** incl. VS20 WAVE Maxi, Glass plates, 2 x 24 well combs, cooling coil, casting base

**VS20 WAVESYS-CU** incl. VS20 WAVE Maxi, 20 x 20 cm Dual, 2 sets of Glass Plates, 1 mm thick bonded spacers, 2 x 24 sample, 1 mm thick combs, cooling coil, dummy plate, caster, external casting upstand

**VS20CBS** incl. WAVE Maxi Vertical Unit, 2 x 4 mm thick notched glass plates, 2 x 4 mm thick plain glass plates with 1 mm thick bonded spacers, 1 x dummy plate, 2 x combs (1 mm thick 24 samples), 1 x casting base, silicone mat, cooling pack;

**plus:** 1x WAVE Standard Electroblotting Module which includes: WAVE Maxi Platinum Wire Blotting Insert, 4 x compression cassettes and 18x fibre pads

### Specifications

Gel dimensions (W x L):	20 x 20 cm
Gel dimensions (W x L) VS20CBS:	17.5 x 18 cm
Unit dimensions (W x D x H):	30 x 18 x 27 cm
Max. sample capacity:	2 x 24 samples
Buffer volume:	min. 4.8 l (4 gels), max. 5.3 l (2 gels)
Buffer volume VS20CBS:	min. 5.3 l, max. 6.4 l

Type	Description	Sample volume µl	PK	Cat. No.
VS20 WAVESYS			1	9.584 795
VS20 WAVESYS-CU			1	9.584 796
VS20CBS			1	9.584 750
VS20NG	20 x 20 cm Notched Glass Plates 4 mm thick		2	6.232 288
VS20PGS1	20 x 20 cm Plain Glass Plates with 1 mm Bonded Spacers		2	6.232 289
VS20PGS1.5	20 x 20 cm Plain Glass Plates with 1.5 mm Bonded Spacers		2	9.584 737
VS20-18MC-1	Comb 18 sample MC, 1 mm	50	1	6.232 630
VS20-24-1	Comb 24 sample, 1 mm	40	1	9.584 738
VS20-36MC-1	Comb 36 sample MC, 1 mm	25	1	9.584 739
VS20-48-1	Comb 48 sample, 1 mm	20	1	9.584 740
VS20-18MC-1.5	Comb 18 sample MC, 1.5 mm	80	1	9.584 741
VS20-24-1.5	Comb 24 sample, 1.5 mm	60	1	9.584 742



## Power supplies for gel electrophoresis tanks

- microprocessor controlled
- constant voltage or current



4.006 961

Supply requirements	Description	Rating W	PK	Cat. No.
300 V / 700 mA	no programs, 4 outputs, LED display, stackable	150	1	4.006 960
300 V / 3000 mA	30 programs, 4 outputs, LCD display, stackable	300	1	4.006 961 <b>2</b>
500 V / 600 mA	10 programs, 4 outputs, LED display, stackable	300	1	4.006 962

1



9.584 753

## Semi Dry Blotters

The devices allow transfer times of only 15 to 30 min for DNA, RNA and protein blotting. Suitable for all types of blotting (Western, Southern, Northern) and gel strengths of 0.25 up to 10 mm. Semi-Dry Blotting usually regains only a few milliliters of buffer. The tightly screwable cover secures the contents and ensures even pressure and transfer. The uniform heat distribution in sandwich ensures homogeneous transfer times and avoids temperature damage.

*Cleaver Scientific*

Type	Description	Dimensions (W x D x H)	Capacity Buffer	Qty. Blots	Dimensions blots	PK	Cat. No.
		mm	ml		cm		
SD10	Mini, 10 x 10 cm System	160 x 160 x 70	5	1	8 x 8,5	1	<b>9.584 753</b>
SD20	Maxi, 20 x 20 cm System	260 x 260 x 70	20	1	16 x 17,5	1	<b>6.229 381</b>
				2	16 x 8,5		
				4	8 x 8,5		
SD33	Maxi Plus, 33 x 45 cm System	33 x 45 x 70	75	1	33 x 45	1	<b>6.239 745</b>
				2	26 x 20		
				5	16 x 17,5		
				10	16 x 8,5		
				20	8 x 8,5		
SD50	Maxi Blotter 20 x 50 cm System	26 x 56 x 70	50	1	20 x 50	1	<b>9.584 754</b>
				2	16 x 17,5		
				2	26 x 20		
				6	16 x 8,5		
				13	8 x 8,5		

2



## 2 Blotting paper

*Hahnemühle*

Description	PK	Cat. No.
Blotting paper, medium absorptive, 0,4 mm thick, 460x570	100	<b>4.006 154</b>
Blotting paper, medium absorptive, 0,4 mm thick, 580x600	100	<b>4.006 155</b>
Blotting paper, medium absorptive, 0,8 mm thick, 580x600	50	<b>4.006 156</b>
Blotting paper, highly absorptive, 1,2 mm thick, 580x600	25	<b>4.006 157</b>

3



## 3 LLG-Transfer membrane, PVDF

Hydrophobic Polyvinylidene Fluoride (PVDF) transfer membrane with high binding capacity and low background. Ideal for use in protein binding applications such as Western blots, solid phase assays and immunoblotting procedures. BSA binding capacity up to 125 µg/cm<sup>2</sup>

Length	Width	Pore size	PK	Cat. No.
mm	mm	µm		
3000	300	0.45	1	<b>6.268 166</b>
3000	300	0.22	1	<b>6.268 167</b>
200	200	0.45	25	<b>6.268 168</b>
200	200	0.45	5	<b>6.268 169</b>
200	200	0.22	5	<b>6.268 170</b>

4



## 4 LLG-Transfer membrane, supported nitrocellulose

Supported Nitrocellulose transfer membranes combine the binding characteristics of nitrocellulose membranes with the strength of nylon membranes. These membranes are used for DNA/RNA transfers requiring low background or for multiple hybridizations. For use with chemiluminescence and radiographic detection systems. BSA binding capacity up to 100 µg/cm<sup>2</sup>.

Length	Width	Pore size	PK	Cat. No.
mm	mm	µm		
3000	300	0.45	1	<b>6.268 171</b>
3000	300	0.22	1	<b>6.268 172</b>
200	200	0.45	25	<b>6.268 173</b>
200	200	0.45	5	<b>6.268 174</b>
200	200	0.22	5	<b>6.268 175</b>

## 1 LLG-Transfer membrane, nitrocellulose

Pure Nitrocellulose transfer membrane for all protein or immunoblotting applications. The high sensitivity and low background ensures excellent results in all transfers. Compatible with all detection systems. BSA binding capacity up to 100 µg/cm<sup>2</sup>.

Length	Width	Pore size	PK	Cat. No.
mm	mm	µm		
3000	300	0.45	1	<b>6.268 161</b>
200	200	0.45	25	<b>6.268 162</b>
200	200	0.22	25	<b>6.268 163</b>
200	200	0.45	5	<b>6.268 164</b>
200	200	0.22	5	<b>6.268 165</b>



## 2 Transfer membranes Nytran® N

Neutral nylon membranes.  
For DNA/RNA transfers. Very low background. For chemiluminescence detection and multiple hybridisations.

GE Healthcare

Dimensions	Pore size	PK	Cat. No.
mm	µm		
300 x 3 m	0.20	1	<b>9.057 107</b>
300 x 3 m reel	0.45	1	<b>9.057 117</b>

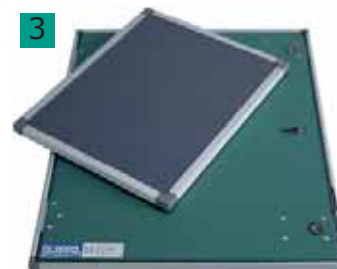


## 3 X-Ray cassettes

Standard design with lead lining and snap fit lid.

- easy to open, easy to close with gentle pressure.
- firm, consistent support for films through special shaping: base pre-formed with convex profile.
- flexible, pure aluminium base (Absorption 1.2 mm Al-value) film processed in frames
- Aluminium base coated in impact-resistant paint
- Anodised aluminium frame
- Elastic foam for film protection
- Specifically designed for autoradiography at 70 °C

Use our reinforcement films in the blue sensitivity range with these X-Ray cassettes.



Format	PK	Cat. No.
mm		
180 x 240	1	<b>9.106 580</b>
240 x 300	1	<b>9.106 581</b>
200 x 400	1	<b>9.106 582</b>
356 x 432	1	<b>9.106 583</b>

## Reinforcement films for X-Ray cassettes

Reinforcement films Universal B 1  
CaWo<sub>4</sub>, blue.

Format	PK	Cat. No.
mm		
180 x 240	2	<b>9.106 570</b>
240 x 300	2	<b>9.106 571</b>
200 x 400	2	<b>9.106 572</b>
356 x 432	2	<b>9.106 574</b>



1



## 1 Dialysis membrane tubing OrDial

Orange Scientific OrDial dialysis membrane tubings are made of high quality Regenerated Cellulose. They are produced with the highest care and attention to quality and stability. Still, they are extremely cost effective. The membranes are supplied dry containing glycerol acting as a preservative. Thus, the membranes should be cleaned before use.

Orange Scientific

Each box includes:

- Two free of charge dialysis membrane clips.
- Technical manual.
- Analytical data sheet (except D14b range).
- In order to prevent any damage to the membranes during transport, the membranes are packed in a carton. This carton is packed in a seal bag containing a desiccant and the bag is packed in another thick carton box.

Type	MWCO	Width (flat)	Length	Diam. (dry)	Thickness	Vol./cm	PK	Cat. No.
	da	mm	m	mm	µm	ml		
OrDial D35	3500	25	15	16	20	2.02	1	6.266 373
OrDial D35	3500	25	30	16	20	2.02	1	6.266 374
OrDial D35	3500	44	15	28	20	6.16	1	6.266 375
OrDial D35	3500	44	30	28	20	6.16	1	6.266 376
OrDial D35	3500	55	15	35	25	9.63	1	6.266 377
OrDial D80	6000 - 8000	25	15	16	20	2.02	1	6.266 378
OrDial D80	6000 - 8000	25	30	16	20	2.02	1	6.266 379
OrDial D80	6000 - 8000	34	15	22	23	3.81	1	6.266 380
OrDial D80	6000 - 8000	34	30	22	23	3.81	1	6.266 381
OrDial D80	6000 - 8000	44	15	28	20	6.16	1	6.266 382
OrDial D80	6000 - 8000	44	30	28	20	6.16	1	6.266 383
OrDial D80	6000 - 8000	55	15	35	25	9.63	1	6.266 384
OrDial D80	6000 - 8000	55	30	35	25	9.63	1	6.266 385
OrDial D14	12000 -14000	10	15	6	51	0.29	1	6.266 386
OrDial D14	12000 -14000	10	30	6	51	0.29	1	6.266 387
OrDial D14	12000 -14000	25	15	16	20	2.02	1	6.266 388
OrDial D14	12000 -14000	25	30	16	20	2.02	1	6.266 389
OrDial D14	12000 -14000	34	15	22	23	3.81	1	6.266 390
OrDial D14	12000 -14000	34	30	22	23	3.81	1	6.266 391
OrDial D14	12000 -14000	44	15	28	20	6.16	1	6.266 392
OrDial D14	12000 -14000	44	30	28	20	6.16	1	6.266 393
OrDial D14b	12000 -14000	10	30	6	51	0.29	1	6.266 394
OrDial D14b	12000 -14000	25	30	16	27	2.02	1	6.266 395
OrDial D14b	12000 -14000	32	30	20	30	3.15	1	6.266 396
OrDial D14b	12000 -14000	40	30	25	30	4.91	1	6.266 397
OrDial D14b	12000 -14000	80	15	51	51	20.43	1	6.266 398

2



## 2 Dialysis tubing clips

Orange, PP. Suitable for RC standard membranes. Autoclavable.

Flat width mm	PK	Cat. No.
12	1	9.206 734
23	1	9.206 735
35	1	9.206 736
55	1	9.206 737
75	1	9.206 738

Further colours and clips for Biotech membranes available on request.



## 1 Centrifugal concentrators, Vivaspin 500

Membrane: polyethersulphone. Vivaspin 500 µl unit with 2.2 ml sample carrier tube can be used in a fixed angle rotor.

Sartorius

Membrane surface: 0.5 cm<sup>2</sup>  
Max. rcf.: 15000 x g  
Hold-up volume: < 5 µl

MWCO	PK	Cat. No.
<b>da</b>		
3000	25	9.049 863
5000	25	9.049 755
10000	25	9.049 756
30000	25	9.049 757
50000	25	9.049 758
100000	25	9.049 759
Starter kit (5 ea. 5K to 100K)	25	9.049 750
3000	100	9.049 864
5000	100	9.049 850
10000	100	9.049 851
30000	100	9.049 852
50000	100	9.049 853
100000	100	9.049 854



## 2 Centrifugal concentrators, Vivaspin 2

Membrane: polyethersulphone. This 2 ml volume unit combines the rapidity of the classic Vivaspin products with reduced internal surface and membrane areas for superior recoveries from very dilute solutions.

Sartorius

Membrane surface: 1.2 cm<sup>2</sup>  
Max. rcf.: 8000 x g  
Hold-up volume: < 10 µl

MWCO	PK	Cat. No.
<b>da</b>		
3000	25	9.049 861
5000	25	9.049 760
10000	25	9.049 761
30000	25	9.049 762
50000	25	9.049 763
100000	25	9.049 764
3000	100	9.049 862
5000	100	9.049 777
10000	100	9.049 778
30000	100	9.049 779
50000	100	9.049 780
100000	100	9.049 781



## 3 Vivaspin 6

Membrane: polyethersulphone. Vivaspin 6 ml concentrators have been developed to offer increased volume flexibility and performance.

Sartorius

Vivaspin 6 can process an impressive 6 ml in either swing-out buckets or fixed angle rotors accepting standard 15 ml conical bottom test tubes. The Vivaspin 6 features twin vertical membranes for unparalleled filtration speeds and 100x plus concentrations.

Membrane area: 2.5 cm<sup>2</sup>  
Max. centrifugal force: 10000 x g  
Dead volume: < 10 µl

MWCO	PK	Cat. No.
<b>da</b>		
5000	25	9.049 765
10000	25	9.049 766
30000	25	9.049 767
50000	25	9.049 768
100000	25	9.049 769
0.2 µm	25	9.049 770
5000	100	9.049 782
10000	100	9.049 783
30000	100	9.049 784
50000	100	9.049 785
100000	100	9.049 786
0.2 µm	100	9.049 787
Starter kit (5 ea. 5 K to 100 K)	25	9.049 753





## 1 Centrifugal concentrators, Vivaspin 20

Membrane: polyethersulphone. Vivaspin 20 ml centrifugal concentrators Sartorius have been developed to offer increased volume flexibility and performance. Vivaspin 20 handles up to 20 ml in swing bucket centrifuges and 14 ml in 25° fixed angle rotors accepting 50 ml centrifuge tubes.

Membrane area: 6.0 cm<sup>2</sup>  
 Max. centrifugal force: 8000 x g  
 Dead volume: < 20 µl

MWCO	PK	Cat. No.
<b>da</b>		
3000	12	9.049 855
5000	12	9.049 771
10000	12	9.049 772
30000	12	9.049 773
50000	12	9.049 774
100000	12	9.049 775
300000	12	9.049 857
1000000	12	9.049 858
0.2 µm	12	9.049 776
3000	48	9.049 856
5000	48	9.049 788
10000	48	9.049 789
30000	48	9.049 790
50000	48	9.049 791
100000	48	9.049 792
300000	48	9.049 859
1000000	48	9.049 860
0.2 µm	48	9.049 793
Starter kit (2 ea. 5 K to 0.2 µm)	12	9.049 754



## 2 Centrifugal filtration units, Centrisart I

Centrisart I is a ready to use unit for small volume centrifugal ultrafiltration to separate proteins from low molecular weight substances in biological samples. Sartorius

Type	PK	Cat. No.
Centrisart 5,000 MWCO CTA	12	9.054 671
Centrisart 10,000 MWCO CTA	12	9.054 672
Centrisart 20,000 MWCO CTA	12	9.054 673
Centrisart 100,000 MWCO PES	12	9.054 674
Starter pack (3 units each of 5 K, 10 K, 20 K, 100 K)	12	9.054 675

CTA = Cellulose tri-acetate  
 PES = Polyethersulphone





### 1 2 3 LLG-Serological pipettes, PS, sterile

Serological pipettes from LLG are ideally suited for sterile serological and cell culture applications. Easy to read graduation scales facilitate volume measurement and dosing. All LLG serological pipettes are plugged, sterile, non-pyrogenic and have an increased volume capacity through extra graduations.

LLG Serological pipettes are available in 3 versions with different features.

#### Type 1:

- Also available as short-pipettes (5 ml, 10 ml and 25 ml) or wide-mouth pipette (10 ml)
- 1 ml, 5 ml, 10 ml, 25 ml and 50 ml pipettes contain a bi-directional secondary graduation scale for precise dosing
- Colour coded ringmark for easy volume identification
- Single packed in easy-to-open plastic/paper packaging

#### Type 2

- Single-piece pipette-bodies (except 50 ml pipette)
- 5 ml, 10 ml, 25 ml and 50 ml pipettes contain a bi-directional secondary graduation scale for precise dosing
- Colour coded plug for easy volume identification
- Single packed in easy-to-open plastic/paper packaging

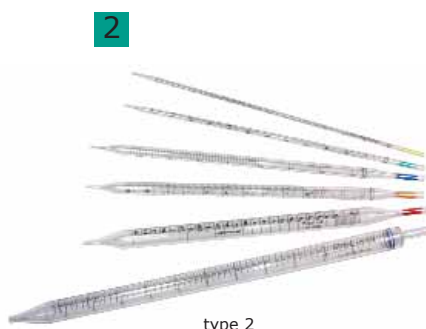
#### Type 3:

- Especially suited for use in clean rooms
- Colour coded for easy volume identification
- Single packed in easy-to-open plastic/plastic packaging

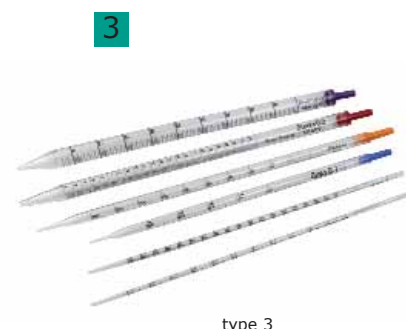
Type	Volume ml	Grad. ml	Colour code	Negative graduations	PK	Cat. No.
1	1	1/100	yellow	0,3	500	9.380 440
1	2	1/50	green	0,6	500	9.380 441
1	5	1/10	blue	3	200	7.930 401
1	10	1/10	orange	3	200	6.268 240
1	10	1/10	orange (wide mouth)	3	200	9.380 442
1	25	2/10	red	8	150	7.930 403
1	50	5/10	purple	10	100	9.380 443
1	5	1/10	blue (short form)	3	200	6.265 881
1	10	2/10	orange (short form)	10	150	6.265 882
1	25	5/10	red (short form)	9	100	6.265 883
2	1	1/100	yellow	0.3	500	6.266 995
2	2	1/50	green	0.4	500	6.266 996
2	5	1/10	blue	3	250	6.266 997
2	10	1/10	orange	3	200	6.266 998
2	25	2/10	red	2	100	6.266 999
2	50	5/10	purple	9	100	6.267 100
3	1	0.01	clear	0.3	1000	6.268 099
3	2	0.01	clear	0.3	1000	6.268 100
3	5	0.1	blue	2.0	200	6.268 101
3	10	0.1	orange	3.0	500	6.268 102
3	25	0.2	red	10.0	200	6.268 103
3	50	0.5	purple	10.0	100	6.268 104



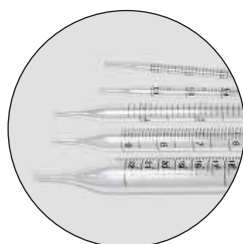
type 1



type 2



type 3



type 2



typ 3

# Cell Culture

## Serological pipettes, pipett help

1



2



### 1 2 LLG-Electrical pipette Plus

- Ergonomic and precise - the cordless and lightweight LLG-Electrical pipette Plus enables fast and exact pipetting with glass and plastic pipettes.
- Fatigue-proof pipetting due to ergonomically shaped handle
  - Suitable for left and right handers
  - Exchangeable filters protect the device mechanism from contamination
  - LED display with speed display: High, Low or Gravity mode (for free liquid flow without drive operation)
  - 5 different coloured autoclavable nose pieces and labelling area enables customisation of the pipette
  - Extremely quiet and powerful drive
  - Low-Battery LED indicator

**Scope of supply:** Charger (100-240 V, 50/60 Hz), Li-Ion battery, 5 coloured nose pieces, 3 membrane filters, adapter for 1 ml pipettes, benchtop rack, magnetic wall mounting

#### Specifications

Membrane filters:	PTFE/Ø 25 mm /0.45 µm
Capacity:	1 to 100 ml, glass and plastic pipettes
Pipette attachment:	Polypropylene, autoclavable
Dimensions:	15 x 152 x 41 mm
Weight:	approx. 200 g
Power supply:	rechargeable Li-Ion battery, 8 h continuous operation
Warranty:	1 year

Description	PK	Cat. No.
LLG-Electrical pipette Plus	1	9.281 041
Membrane filter, 0.45 µm, PTFE, non-sterile	5	9.281 005

3



### 3 Pipette filler, pipetus®

- The pipetus® is ergonomically sophisticated in every detail despite most modern technology, powerful and light-weight. Fits graduated, volumetric and Pasteur pipettes from 0.1 ml to 200 ml. Without reloading it can be operated up to one week. The colour display shows the selected defaults (speed) and the current battery capacity
- Hirschmann*
- Automatic inductive charge in the park station guarantees constant readiness
  - Controlled pipetting by a simple push of a button
  - EX/Blow out switch for precise operating
  - Speed key for 5 operating speeds
  - No memory effect by inserted microcontroller
  - Clear colour display with permanent display
  - Optimal meniscus adjustment by sensitive valve technique
  - Standard relief valve against penetration of liquid
  - Ergonomic design for fatigue-free serial pipetting
  - Power supply 100-240 V, with EU, UK, US plugs

#### Supplied with:

pipetus® complete with mains operated charging unit and inductive charging stand, color display with battery level indicator, 2 additional round PTFE filters, additional safety valve and wall mount.

Type	PK	Cat. No.
pipetus®	1	9.283 958

## Pipette controllers, pipetus®, accessories

*Hirschmann*

Type	PK	Cat. No.
Pipette holder, complete	1	9.283 970
Round filter set with one-sided connection	5	9.283 965
Spare silicone adapter	1	9.283 961
Spare safety valve	1	9.283 962
Charging set 230 V including inductive charging station, EU, UK, US plug	1	9.283 966
Mounting bracket	1	9.283 967
Retainer Ring, chrome	1	9.283 968
Pipette holder housing	1	9.283 969
Table Stand	1	9.287 859

## 1 Cell Culture Dishes, Nunclon™Δ Surface, PS, treated, sterile

Surface treated dishes for cell culture available in various sizes and formats are optically clear and suitable for microscopy. Nunclon™Δ surface modification is certified non-pyrogenic and tested for both monolayer formation and cloning efficiency employing primary cells as well as repeating cell lines. Sterile. With lid. Material: Polystyrene

Thermo Scientific



Dimensions	Height	Culture surface	Working volume	PK	Cat. No.
mm	mm	cm <sup>2</sup>	ml		
Ø 35	10	8.8	3	500	<b>9.407 393</b>
Ø 60	15	21.5	5	400	<b>9.407 395</b>
Ø 100	15	56.7	12.5	150	<b>9.407 398</b>
Ø 100	20	56.7	12.5	240	<b>9.407 401</b>
Ø 150	20	145.0	35	80	<b>9.407 399</b>

## 2 Cell culture flasks, treated, PS, sterile

These cell culture flasks with treated surfaces for the cultivation of adherent cells are available with different growth areas from 12.5 to 182 cm<sup>2</sup>. Available with vented or plug-seal caps made from polyethylene. Vented caps contain a 0.22 µm hydrophobic filter to allow gas exchange and minimize risk of cross-contamination. Plug Seal caps can be used in closed systems, providing a liquid and gas shear seal, but by simply unscrewing the cap one quarter of a turn, this cap can also be used in an open system. Features:

- Innovative angled neck design offers good pipette and cell scraper access
- Upper triangular and wider base shape provides stability
- Protruding ridge on the back side of the flask enables easy stacking
- Special writing area near the neck
- Engraved graduation on both flask sides
- Sterilized by gamma irradiation
- Non-pyrogenic

Material: Polystyrene

Culture surface	Working volume	Cover type	Neck	Neck thread	PK	Cat. No.
cm <sup>2</sup>	ml			mm		
12.5	20	standard	angled	45	10	<b>6.267 172</b>
12.5	20	vented	angled	45	10	<b>6.267 173</b>
25.0	40	standard	angled	45	10	<b>6.267 174</b>
25.0	40	vented	angled	45	10	<b>6.267 175</b>
75.0	75	standard	angled	45	5	<b>6.267 176</b>
75.0	75	vented	angled	45	5	<b>6.267 177</b>
182.0	400	standard	angled	45	5	<b>6.267 178</b>
182.0	400	vented	angled	45	5	<b>6.267 179</b>





## 1 Cell Culture Flasks, Nunclon™ $\Delta$ Surface, PS/PE-HD, sterile

Nunclon™ $\Delta$  cell culture flasks with surface areas from 75 to 175 cm<sup>2</sup> are available with filter caps or Vent/Close caps for good gas exchange. *Thermo Scientific*

Short, wide neck (angled or straight) allows easy access to entire growth surface. The Nunclon™ $\Delta$  treatment is limited to the intended growth area. Neck areas are not treated to prevent cell attachment and growth in undesired areas. Certified non-pyrogenic and tested for both monolayer formation and cloning efficiency employing primary cells as well as repeating cell lines. Sterile.

Material flasks: Polystyrene

Material caps: HDPE

Culture surface cm <sup>2</sup>	Neck	Cover type	Working volume ml	PK	Cat. No.
25	Angled	Filter	7	160	<b>9.390 345</b>
25	Angled	Vent/Close	7	160	<b>9.407 027</b>
80	Straight	Filter	30	50	<b>9.390 346</b>
80	Straight	Vent/Close	30	50	<b>9.407 077</b>
175	Straight	Filter	68	32	<b>9.390 348</b>



## 2 Cell Culture Flasks EasyFlask™, treated, PS/PE-HD, sterile

Cell culture flasks available with Nunclon™ $\Delta$  modified surface (culture areas of 25 cm<sup>2</sup> to 225 cm<sup>2</sup>) or Collagen I and Poly-D-Lysine coated (culture areas up to 175 cm<sup>2</sup>). Choose cap: Filter caps for continuous venting or Vent/Close caps. *Thermo Scientific*

Ergonomic closure enables opening and closing with 1/3 turn and "Y"-mark allows visual verification of vent position, even when stacked. Angled, wide neck gives easy access to entire growth surface. Graduations are both printed and moulded on the side walls. Certified non-pyrogenic and tested for both monolayer formation and cloning efficiency employing primary cells as well as repeating cell lines. Sterile.

Material flasks: Polystyrene

Material caps: PE-HD

Accessories: Vent/Close caps for 25 cm<sup>2</sup> flasks, order no. 4.008 543.

Surface	Culture surface cm <sup>2</sup>	Neck	Cover type	Working volume ml	PK	Cat. No.
Nunclon™	25	Angled	Filter	7	200	<b>9.390 331</b>
Nunclon™	25	Angled	Vent/Close	7	200	<b>9.390 330</b>
Nunclon™	75	Angled	Filter	25	100	<b>9.390 333</b>
Nunclon™	75	Angled	Vent/Close	25	100	<b>9.390 332</b>
Nunclon™*	175	Angled	Filter	55	30	<b>7.510 686</b>
Nunclon™*	175	Angled	Vent/Close	55	30	<b>4.008 552</b>
Nunclon™*	225	Angled	Filter	70	30	<b>6.236 539</b>
Nunclon™*	225	Angled	Vent/Close	70	30	<b>4.008 625</b>
Collagen I	25	Angled	Filter	7	60	<b>4.009 044</b>
Collagen I	75	Angled	Filter	25	30	<b>6.244 028</b>
Collagen I	175	Angled	Filter	55	30	<b>4.009 123</b>
Poly-D-Lysin	25	Angled	Filter	7	60	<b>4.009 043</b>
Poly-D-Lysin	75	Angled	Filter	25	30	<b>4.008 945</b>
Poly-D-Lysin	175	Angled	Filter	55	30	<b>4.009 122</b>

\* Batch no. and cat. no. printed on each flask.



## 3 Cell Culture Flasks EasyFlask™/TripleFlask™, non-treated, PS/PE-HD, non-pyrogenic

Non-treated, sterile flasks for suspension cell cultures. White caps for easy identification. Non-Pyrogenic. *Thermo Scientific*

Material flasks: Polystyrene

Material caps: PE-HD

Type	Capacity ml	Neck	Working volume ml	PK	Cat. No.
EasyFlask™	70	curved	7	200	<b>6.702 724</b>
EasyFlask™	260	curved	30	100	<b>6.222 672</b>
EasyFlask™	645	curved	55	30	<b>7.900 288</b>
TripleFlask™	800	straight	200	32	<b>7.900 289</b>

## 1 Cell culture flasks Nunc™ 300 cm<sup>2</sup>, treated, PS/PE-HD, sterile

The Thermo Scientific™ Nunc™ 300 cm<sup>2</sup> Cell Culture Flask is our newest and biggest cell culture flask. In fact, this 1.900 ml total volume flask provides the largest culture area of any single-layer flask on the market, and is cell culture treated to deliver a uniform surface chemistry for promoting cell attachment and expanded growth. Promotes cell attachment and growth: Vacuum-gas plasma tissue-culture treated polystyrene for uniform surface chemistry, cell attachment, spreading and promoting cell growth. Durable construction, friendly design: Blow-molded, one-piece design with straight neck and molded grip notches that make this 1.900 ml flask easy to hold. Quick volume estimation and sample identification: Includes bold printed graduations (100 ml to 500 ml, in 50 ml graduations) and a large writing patch. Maintains optimal sterility during growth and passage: Filter cap incorporates a 0.2 µm pore size hydrophobic membrane that allows gas exchange while maintaining sterility. High-quality assurance: Sterilized by gamma irradiation, non-pyrogenic. Easy to stack: Prominent stacking feet on upper surface facilitate reliable stacking in incubators and under your culture hood.

Material flasks: Polystyrene  
Material caps: PE-HD



Culture surface cm <sup>2</sup>	Neck	Cover type	Working volume ml	PK	Cat. No.
300	straight	Vent/Close	1900	12	9.390 337
300	straight	Filter	1900	12	9.390 338

## 2 Cell culture flasks TripleFlask Nunclon™ Δ Surface, PS/PE-HD, sterile

Cell culture flasks with three parallel growth surfaces provide a total culture area of 500 cm<sup>2</sup> - with external dimensions of a 175 cm<sup>2</sup> standard flask. Ideal for scale-up. Available with Vent/Close caps or filter caps for good gas exchange. Certified non-pyrogenic and tested for both monolayer formation and cloning efficiency employing primary cells as well as repeating cell lines. Sterile

Material flasks: Polystyrene  
Material caps: PE-HD



Culture surface cm <sup>2</sup>	Neck	Cover type	Working volume ml	PK	Cat. No.
500	Straight	Filter	200	32	9.390 351
500	Straight	Vent/Close	200	32	9.390 350

## Cell Culture Flasks, Nunclon™ Sphera™

### Optimizing spheroid formation

- Allows cells to grow in suspension with virtually no cell attachment
- Supports many different cell types and their ability to generate spheroids
- Enables consistent, repeatable cell growth

### Growing 3D cancer cultures

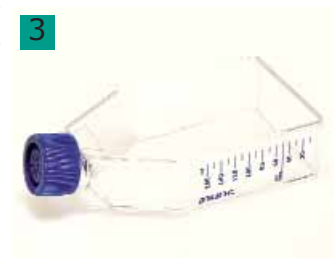
- Minimizes variability and supports the consistent formation of cancer spheroids that simulate the 3D structures of tumor growth, providing a better model system for studying tumor cell progression and efficacy of anticancer agents in vitro

### Promoting formation of embryoid bodies (EB)

- Demonstrates superior quality for embryoid body formation of pluripotent stem cells with minimal spontaneous differentiation
- Resultant cells are able to differentiate into all three germ layers

### Certifications/Compliance

- Free of animal products Nonpyrogenic: Endotoxin tested (0.5 EU/ml)
- Biologically inert: USP biological reactivity class VI
- High level of sterility: SAL 10<sup>-6</sup>, ethylene oxide gas sterilization



6.265 521

Culture surface cm <sup>2</sup>	Neck	Cover type	Working volume ml	PK	Cat. No.
25	angled	filter	7	1	6.265 520
75	angled	filter	25	1	6.265 521



## 1 Multidishes, non-treated, PS, sterile

Non-treated, sterile multidishes for suspension cell cultures are available in formats from 4 up to 48 wells. Raised well rims lower the risk of cross contamination. Excellent optical quality. Non-pyrogenic. With lid. Material dishes and lids: Polystyrene

Thermo Scientific

No. of wells	Working volume ml	PK	Cat. No.
4	1	120	<b>6.223 971</b>
6	3	75	<b>6.803 562</b>
12	2	75	<b>7.623 040</b>
24	1	75	<b>6.222 953</b>
48	0.5	75	<b>6.207 164</b>



## 2 Multidishes, Nunc™ cell culture treated surface, PS, sterile

4- to 48-well multidishes with Nunclon™ Δ treated surface. 6-well plates also available with Poly-D-Lysine and Collagen I coating. Raised well rims lower the risk of cross contamination.

Thermo Scientific

Excellent optical quality. All available surface modifications are certified non-pyrogenic and tested for both monolayer formation and cloning efficiency employing primary cells as well as repeating cell lines. Sterile. With lid  
Material dishes and lids: Polystyrene

No. of wells	Culture surface cm <sup>2</sup>	Working volume ml	Description	PK	Cat. No.
4	1.9	1	Nunclon™Δ, Flat	120	<b>6.050 151</b>
4	21.8	5	Nunclon™Δ, Flat	100	<b>4.009 034</b>
6	9.6	3	Nunclon™Δ, Flat	75	<b>9.390 401</b>
6	9.6	3	Nunclon™Δ, Flat	85	<b>9.390 402</b>
6	9.6	3	Poly-D-Lysin, Flat	20	<b>4.008 850</b>
6	9.6	3	Collagen I, Flat	20	<b>4.008 874</b>
8	10.5	3	Nunclon™Δ, Flat	100	<b>4.009 045</b>
12	3.5	2	Nunclon™Δ, Flat	75	<b>9.390 403</b>
24	1.9	1	Nunclon™Δ, Flat	75	<b>9.390 410</b>
24	1.9	1	Nunclon™Δ, Flat	85	<b>7.634 155</b>
48	1.1	0.5	Nunclon™Δ, Flat	75	<b>9.390 411</b>
48	1.1	0.5	Nunclon™Δ, Flat	85	<b>6.206 402</b>



## 3 Cell Culture Dishes with thermosensitive UpCell™ Surface, PS

UpCell™ Surface enables harvesting of adherent cells by simple reduction of temperature from 37 °C to below 32 °C.

Thermo Scientific

- Without trypsinization you will get your cells with intact surface proteins for culture passaging, single-cell analyses and cell transplantation research.
  - No manual cell scraping to get high viability.
  - Enables harvesting of cell sheets and creation of 3D- tissue models held together by normal cell junctions and extracellular matrix deposited by the cells.
  - Available in sterile MicroWell™ Plate, Petridish or MultiDish format.
  - With lids with airvent rims.
  - Certified for functionality, sterility, non- pyrogenic and non- toxicity.
- 6- Well- Multidish and 3.5 cm- Dish will be delivered with specific membrane for cell sheet transfer.

Type	No. of wells	Culture surface cm <sup>2</sup>	Dimensions mm	Working volume ml	PK	Cat. No.
MicroWell™ plate	96	0.3	128/86**	0.2	8	<b>4.008 724</b>
Multidish	48	1.1	128/86**	0.5	6	<b>4.008 658</b>
Multidish	24	1.9	128/86**	1	6	<b>4.008 657</b>
Multidish	12	3.5	128/86**	2	6	<b>4.008 656</b>
Multidish*	6	9.6	128/86**	3	6	<b>4.008 655</b>
Petridish 100 mm	1	56.7	92/17**	12.5	6	<b>4.008 763</b>
Petridish 100 mm, with grid	1	56.7	92/17**	12.5	6	<b>4.008 764</b>
Petridish 60 mm	1	21.5	60/15**	5	30	<b>4.009 049</b>
Petridish 60 mm, with grid	1	21.5	60/15**	5	30	<b>4.009 050</b>
Petridish 35 mm*	1	8.8	40/12**	3	30	<b>4.009 011</b>

\*with membrane for cell sheet transfer

\*\*Max. ext. dimension

## 1 Cell Culture Plates, treated, PS, sterile

These standard surface treated cell culture plates for the cultivation of adherent cells exhibit a reduced evaporation due to raised well rims and uniform rings on the lids.

Features:

- Available with 6-, 12-, 24-, 48- or 96-wells (lid included)
- Flat well bottom
- 96-well plate also available as round bottom plate (6.267 171)
- Single position lid reduces the risks of cross-contaminations
- Wells are labeled with alphanumeric code for easy identification
- Sterilized by gamma irradiation
- Non-pyrogenic

Material: Polystyrene



No. of wells	Culture surface	Working volume	PK	Cat. No.
	cm <sup>2</sup>	ml		
6	10.00	17.00	100	<b>6.267 166</b>
12	4.20	6.80	100	<b>6.267 167</b>
24	2.00	3.50	100	<b>6.267 168</b>
48	0.85	1.55	100	<b>6.267 169</b>
96	0.38	0.39	100	<b>6.267 170</b>
96	0.38	0.32	100	<b>6.267 171</b>

## 2 F96 MicroWell™ Plates, PS

Clear, white or black plates with excellent optical clarity and flat bottom wells. Nunclon™Δ, Collagen I, Poly-D-Lysine surface modifications suitable for cell culture assays.

Material plates: Polystyrene

Total volume µl/well: 400

Thermo Scientific



Surface	Colour	Sterile	Description	PK	Cat. No.
Nunclon™Δ *	Clear	yes	with lid	160	<b>6.803 751</b>
Nunclon™Δ *	Clear	yes	with lid	50	<b>9.407 473</b>
Nunclon™Δ *	White	yes	with lid	50	<b>6.802 646</b>
Nunclon™Δ *	Black	yes	with lid	50	<b>6.802 647</b>
Collagen I **	Clear	no	with lid	20	<b>4.008 866</b>
Poly-D-Lysin **	Clear	no	with lid	20	<b>4.008 858</b>
Non-treated	Clear	yes	with lid	160	<b>6.237 877</b>
Non-treated	White	yes	with lid	50	<b>6.231 848</b>
Non-treated	Black	yes	with lid	50	<b>7.601 891</b>
Non-treated	Clear	yes	without lid	180	<b>4.008 715</b>
Cell culture	Clear	yes	without lid	180	<b>4.008 767</b>
Non-treated***	Clear	yes	with lid	160	<b>6.803 101</b>
Non-treated	Clear	yes	without lid	50	<b>9.390 515</b>
Cell culture	Clear	yes	without lid	50	<b>9.407 475</b>

\* certified.

\*\*Produced in clean environment.

\*\*\*with Barcode





6.264 322

## 96-well plate Nunclon™ Sphera™

Thermo Scientific

### Optimizing spheroid formation

- Allows cells to grow in suspension with virtually no cell attachment
- Supports many different cell types and their ability to generate spheroids
- Enables consistent, repeatable cell growth

### Growing 3D cancer cultures

- Minimizes variability and supports the consistent formation of cancer spheroids that simulate the 3D structures of tumor growth, providing a better model system for studying tumor cell progression and efficacy of anticancer agents in vitro

### Promoting formation of embryoid bodies (EB)

- Demonstrates superior quality for embryoid body formation of pluripotent stem cells with minimal spontaneous differentiation
- Resultant cells are able to differentiate into all three germ layers

### Certifications/Compliance

- Free of animal products
- Nonpyrogenic: Endotoxin tested (0.5 EU/ml)
- Biologically inert: USP biological reactivity class VI
- High level of sterility: SAL 10<sup>-6</sup>, ethylene oxide gas sterilization
- Shelf Life 4 years

Surface	Colour	Sterile	Description	PK	Cat. No.
Nunclon™ Sphera™	Clear	SAL 10 <sup>-6</sup>	round bottom	1	<b>6.264 322</b> 1
Nunclon™ Sphera™	Clear	SAL 10 <sup>-6</sup>	flat bottom	1	<b>6.264 323</b>



4.009 096

## 96-well plate Nunc™ Edge, 96-wells with flat bottom, PS

Thermo Scientific

Minimize plate evaporation through the uniquely engineered design of Thermo Scientific™ Nunc™ Edge-96 Well Plate. The edge plate is engineered for optical superiority allowing your automated imaging systems to operate efficiently. The plates are made of clear polystyrene for excellent optical properties making it ideal for optical measurements

### Features:

- Reduced Edge Effect virtually eliminates evaporation in lengthy incubations
- Overall plate evaporation rate reduced to <2 % after seven days of incubation
- Low evaporation permits full-plate results
- Large evaporative buffer zones eliminate well-to-well variability
- Perimeter moat can be filled with 1.7 ml sterile H<sub>2</sub>O or media
- Low background fluorescence, ideal for optical instruments
- Ideal for image-based high content applications like measuring primary neuron cultures
- Customized bar coding available (upon request)
- Untreated or cell culture treated hydrophilic surface (Nunclon™ Δ)

Material: Polystyrene

Total well volume: 400 µL

Surface	Colour	Sterile	Description	PK	Cat. No.
Nunclon™Δ	Clear	yes	without lid	160	<b>4.009 096</b> 2
Nunclon™Δ	Clear	yes	with lid	50	<b>4.008 772</b>
Non-treated	Clear	no	with lid	160	<b>4.009 033</b>
Non-treated	Clear	yes	with lid	50	<b>4.008 723</b>



## 1 F96 Well Optical Bottom Plates, PS

- Nunclon™ $\Delta$  surface for cell culture
- Non-treated plates are optimised for scintillation counting
- White or black upper structure with polymer bottom plates combine the optical clarity of virgin crystalline polystyrene with optimal surface for a wide range of HTS applications
- Working volume range: 50 - 200  $\mu$ l/well

Thermo Scientific



Surface	Colour	Sterile	Description	PK	Cat. No.
Nunclon™ $\Delta$	White	yes	with lid	30	<b>4.008 852</b>
Nunclon™ $\Delta$	Black	yes	with lid	30	<b>6.801 890</b>
Non-treated	White	no	without lid	30	<b>6.231 847</b>
Non-treated	Black	no	without lid	30	<b>6.901 329</b>

## 2 384 Well Optical Bottom Plates, PS

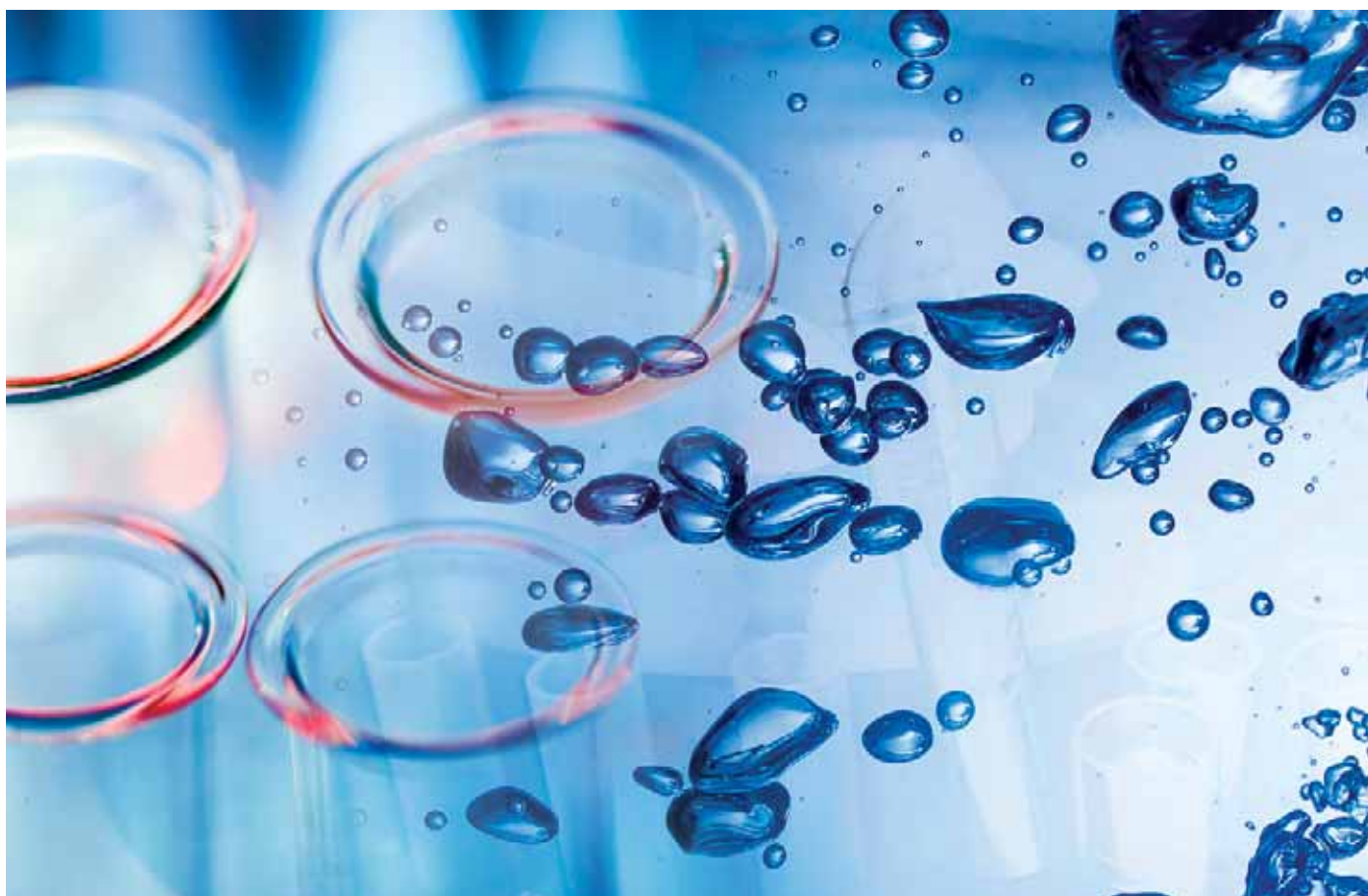
Combining a white or black upper structure with an optically clear, flat well bottom polymer base allows for reading from bottom and top, or both. Nunclon™ $\Delta$  surface modifications are for cell culture optimized. Non-treated plates are ideal for scintillation counting. Material plates: Polystyrene  
Total volume  $\mu$ l/well: 120

Thermo Scientific



Surface	Colour	Sterile	Description	PK	Cat. No.
Nunclon™ $\Delta$	White	yes*	with lid	30	<b>4.009 018</b>
Nunclon™ $\Delta$	Black	yes*	with lid	30	<b>4.009 004</b>
Non-treated	White	no	without lid	30	<b>4.008 951</b>
Non-treated	Black	no	without lid	30	<b>4.008 753</b>

\* certified.





## 1 BRANDplates® Insert System

For manual and automated cell and tissue culture work.

Includes two different cell culture plates and two types of cell culture inserts, which can also be used in combination.

### Quality features

General:

- Sterile according to ISO 11 137 and AAMI-Guidelines, SAL  $10^{-6}$
- Non cytotoxic according to ISO 10 993 5, endotoxin free ( $<0.01$  EU/ml), free from DNA, DNase and RNase.

Plates:

- Innovative, specially designed wells with side feeding ports,
- Manufactured according to the requirements in ANSI/SLAS Standards 1 and 4
- pureGrade™ S (untreated) and cellGrade™ plus (TC treated) surface

Inserts:

- Track-etched PC and PET membranes
- Hanging inserts
- Perfect positioning in the plates via guide ridges
- cellGrade™ plus surface (TC treated)

### BRANDplates® plates

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 Special Plate

The 4 wells are all connected as one large, elongated well. This well can be 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.

### BRANDplates® Insert Strips and Insert System

Cell culture inserts, smooth walled

Cell culture inserts with 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 skin mode



## BRANDplates® Insert System, 6-well Plates filled with 6 Insert Strips

PS. cellGrade™ plus surface, sterile. Insert strips smooth walled or Inlet Opening System\*. In each case with lid with condensation rings.

BRAND



6.257 647

Description	Pore size µm	Package contents	Membrane	PK	Cat. No.
smooth-walled	0.40	5 (30 Insert Strips)	PC	5	<b>6.257 647</b>
smooth-walled	1.00	5 (30 Insert Strips)	PC	5	<b>6.257 648</b>
smooth-walled	3.00	5 (30 Insert Strips)	PC	5	<b>6.257 649</b>
smooth-walled	8.00	5 (30 Insert Strips)	PC	5	<b>6.257 650</b>
Inlet Opening System	0.40	5 (30 Insert Strips)	PC	5	<b>6.257 651</b>
Inlet Opening System	1.00	5 (30 Insert Strips)	PC	5	<b>6.257 652</b>
Inlet Opening System	3.00	5 (30 Insert Strips)	PC	5	<b>6.257 653</b>
Inlet Opening System	8.00	5 (30 Insert Strips)	PC	5	<b>6.257 654</b>
smooth-walled	0.40	5 (30 Insert Strips)	PET	5	<b>6.257 655</b>
smooth-walled	1.00	5 (30 Insert Strips)	PET	5	<b>6.257 656</b>
smooth-walled	3.00	5 (30 Insert Strips)	PET	5	<b>6.257 657</b>
smooth-walled	8.00	5 (30 Insert Strips)	PET	5	<b>6.257 658</b>
Inlet Opening System	0.40	5 (30 Insert Strips)	PET	5	<b>6.257 659</b>
Inlet Opening System	1.00	5 (30 Insert Strips)	PET	5	<b>6.257 660</b>
Inlet Opening System	3.00	5 (30 Insert Strips)	PET	5	<b>6.257 661</b>
Inlet Opening System	8.00	5 (30 Insert Strips)	PET	5	<b>6.257 662</b>

\* Patent pending

## BRANDplates® 24-well Standard-Plates or 6-well Plates

PS. pureGrade™ S or cellGrade™ plus surface, sterile. In each case with lid with condensation rings.

BRAND

Packaging: single packed, with lid



Description	Surface	PK	Cat. No.
24 well standard plate	pureGrade™ S	10	<b>6.257 627</b>
6 well plate	pureGrade™ S	10	<b>6.257 628</b>
24 well standard plate	cellGrade™ plus	10	<b>6.257 629</b>
6 well plate	cellGrade™ plus	10	<b>6.257 630</b>

## BRANDplates® Single Insert System, 13 mm, smooth walled or with Inlet Opening System

PS. cellGrade™ plus surface, sterile. Single Inserts (single packed).

BRAND



Description	Pore size µm	Membrane	Height Insert mm	PK	Cat. No.
smooth-walled	0.40	PC	13	48	<b>6.266 249</b>
smooth-walled	1.00	PC	13	48	<b>6.266 253</b>
smooth-walled	3.00	PC	13	48	<b>6.266 257</b>
smooth-walled	8.00	PC	13	48	<b>6.266 261</b>
Inlet Opening System	0.40	PC	13	48	<b>6.266 250</b>
Inlet Opening System	1.00	PC	13	48	<b>6.266 254</b>
Inlet Opening System	3.00	PC	13	48	<b>6.266 258</b>
Inlet Opening System	8.00	PC	13	48	<b>6.266 262</b>
smooth-walled	0.40	PET	13	48	<b>6.266 251</b>
smooth-walled	1.00	PET	13	48	<b>6.266 255</b>
smooth-walled	3.00	PET	13	48	<b>6.266 259</b>
smooth-walled	8.00	PET	13	48	<b>6.266 263</b>
Inlet Opening System	0.40	PET	13	48	<b>6.266 252</b>
Inlet Opening System	1.00	PET	13	48	<b>6.266 256</b>
Inlet Opening System	3.00	PET	13	48	<b>6.266 260</b>
Inlet Opening System	8.00	PET	13	48	<b>6.266 264</b>

# Cell Culture Cultivation

## BRANDplates® Insert System, 13 mm or 9 mm, smooth walled or with Inlet Opening System

PS. cellGrade™ plus surface, sterile. Strips of 4 inserts, divisible (single packed).

BRAND

Description	Pore size µm	Membrane	Height Insert mm	PK	Cat. No.
smooth-walled	0.40	PC	13	12	<b>6.257 631</b> 1
smooth-walled	1.00	PC	13	12	<b>6.257 632</b>
smooth-walled	3.00	PC	13	12	<b>6.257 633</b>
smooth-walled	8.00	PC	13	12	<b>6.257 634</b>
Inlet Opening System	0.40	PC	13	12	<b>6.257 635</b> 2
Inlet Opening System	1.00	PC	13	12	<b>6.257 636</b>
Inlet Opening System	3.00	PC	13	12	<b>6.257 637</b>
Inlet Opening System	8.00	PC	13	12	<b>6.257 638</b>
smooth-walled	0.40	PET	13	12	<b>6.257 639</b>
smooth-walled	3.00	PET	13	12	<b>6.257 641</b>
smooth-walled	8.00	PET	13	12	<b>6.257 642</b>
Inlet Opening System	0.40	PET	13	12	<b>6.257 643</b>
Inlet Opening System	1.00	PET	13	12	<b>6.257 644</b>
Inlet Opening System	3.00	PET	13	12	<b>6.257 645</b>
Inlet Opening System	8.00	PET	13	12	<b>6.257 646</b>
smooth-walled	0.40	PC	9	12	<b>6.266 265</b> 3
smooth-walled	1.00	PC	9	12	<b>6.266 269</b>
smooth-walled	3.00	PC	9	12	<b>6.266 271</b>
smooth-walled	8.00	PC	9	12	<b>6.266 273</b>
Inlet Opening System	0.40	PC	9	12	<b>6.266 266</b> 4
smooth-walled	0.40	PET	9	12	<b>6.266 267</b>
smooth-walled	1.00	PET	9	12	<b>6.266 270</b>
smooth-walled	3.00	PET	9	12	<b>6.266 272</b>
smooth-walled	8.00	PET	9	12	<b>6.266 274</b>
Inlet Opening System	0.40	PET	9	12	<b>6.266 268</b>



6.257 631



6.257 635



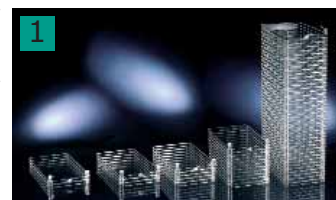
6.266 265



6.266 266

## 1 Cell Factories with Nunclon™ $\Delta$ Surface, PS, sterile

Cell culture Cell Factories are optimal for industrial scale production of vaccines, monoclonal antibodies or pharmaceuticals. Nunclon™ $\Delta$  modification is certified for cell culture, ideal for adherent cells and can be used for suspension cultures. Available in 1, 2, 4, 10 or 40 tray versions for easy scale-up. Additional connectors etc. please see Cell Factories Accessories. Sterile. Material Cell Factories: Polystyrene



No. of chambers	Culture surface		Capacity	PK	Cat. No.
	cm <sup>2</sup>	ml			
1	632	200		8	<b>6.800 181</b>
2	1264	400		6	<b>6.231 100</b>
4	2528	800		10	<b>4.009 101</b>
10	6320	2000		2	<b>6.301 727</b>
40	25280	8000		2	<b>6.300 402</b>

## 2 Cell Factories EasyFill™ with Nunclon™ $\Delta$ Surface, PS, sterile

A time and space saving vessel for large scale cell culture production. Suitable for industrial scale production of vaccines, monoclonal antibodies or pharmaceuticals. Nunclon™ $\Delta$  surface modification is certified for cell culture and ensures consistent cell growth layer to layer, lot to lot. Ready to use and easy to fill and empty with plug and play connection. Wide range of accessories available for different methods of filling, venting and harvesting (please see Cell Factories Accessories). Sterile. Material cell factories: Polystyrene



No. of chambers	Culture surface		Capacity	PK	Cat. No.
	cm <sup>2</sup>	ml			
1	630	200		6	<b>4.008 721</b>
2	1260	400		6	<b>4.008 786</b>
4	2520	800		4	<b>4.008 806</b>
10	6300	2000		2	<b>4.008 779</b>

## EasyFill™ Cell Factory System Accessories, PE-HD

It is now easy to create a Thermo Scientific Nunc EasyFill™ Cell Factory system for your applications.

- Connections made easy: Plug a media bag or tubing set to any cell factory.
- Save time and reduce costs: Minimise cleaning processes and sterility validations. Accessories are gamma irradiated and individually wrapped.
- Prevent build up of back pressure during filling application: New venting options provide additional air venting when filling and harvesting by gravity or with a peristaltic pump.



Description	PK	Cat. No.
EasyFill™ Cell Factory Universal Adaptor Cap	12	<b>9.390 710</b> 3
EasyFill™ Cell Factory Barbed Cap, 1/4"	12	<b>9.390 711</b> 4
EasyFill™ Cell Factory Barbed Cap, 3/8"	12	<b>9.390 712</b> 5
1.0 $\mu$ m Air Vent Assembly, sterile	2	<b>9.390 713</b> 6
0.22 $\mu$ m Air Vent Assembly, sterile	2	<b>9.390 714</b> 7
Cell Factory Filling Tubing Set w/ Male MPC, sterile	2	<b>9.390 715</b> 8

## 9 Cell Scrapers, sterile

Available in two different lengths with adjustable blade for optimal application flexibility. Non-pyrogenic. Sterile.



For bottles	Length	Height	Width	PK	Cat. No.
cm <sup>2</sup>	cm	mm	mm		
25 - 80	23	7.5	15.5	50	<b>6.222 130</b>
75 - 175	32	16.0	17.5	250	<b>9.390 356</b>



## 1 LLG-Cell strainers, Nylon, sterile

Cell strainers are especially suited for the generation of homogenous single cell suspensions from tissue or primary cell lysates

- Available in 3 mesh sizes, 40 µm: 70 µm, and 100 µm
- Colour coded mesh size
- Designed to fit into 50 ml tubes
- Individually packaged
- Handle and mantle surface for improved aseptic handling
- Nylon mesh
- Non-pyrogenic

Mesh size µm	Colour code	PK	Cat. No.
40	blue	50	<b>6.268 093</b>
70	white	50	<b>6.268 092</b>
100	yellow	50	<b>6.268 091</b>



## 2 LLG-Pestle for Cell strainers, sterile

- Facilitates the creation of homogenous suspensions
- Individually packaged
- Non-pyrogenic, Dnase/Rnase-free
- Sterile

Type	PK	Cat. No.
LLG-Pestle for Cell strainers, sterile	100	<b>6.268 090</b>



## 3 Cellstrainers EASYstrainers™, PP, sterile

- Available in 3 mesh sizes: 40 µm, 70 µm and 100 µm
- Color coded mesh size
- Designed to fit into 50 ml tubes
- Individually packaged, convenient blister pack
- Handle and mantle surface for improved aseptic handling
- Vent opening for fast filtration
- PET mesh
- Non-pyrogenic

*Greiner Bio-One*

Mesh size µm	Colour code	PK	Cat. No.
40	green	50	<b>6.266 185</b>
70	blue	50	<b>6.266 186</b>
100	yellow	50	<b>6.266 187</b>



## 4 Cellstrainers Pierce™ Tissue Strainers, 250 µm, Nylon

- 250 µm mesh size
- Designed to fit into 15 ml tubes
- Up to 2.5 ml tissue sample per load
- Nylon mesh

*Perbio Science  
Deutschland*

Mesh size µm	PK	Cat. No.
250	50	<b>6.266 188</b>

## 1 Aspirator LLG-uniVACUUSYS

LLG-uniVACUUSYS Vacuum Aspiration System with integrated vacuum pump and vacuum controller is ideally suited for aspirating liquids in Life Science applications, e.g. the removal of media from cell cultures, aspiration of supernatants after centrifugation, or the removal of wash solutions from Immuno assay plates. The set vacuum is automatically readjusted in case of deviations.

- Integrated vacuum pump with vacuum control
- Easy to use
- Self-closing connectors for quick installation and prevention of liquid or aerosol escape.
- Liquid level sensor, prevents liquid overflow
- Autoclavable waste collection bottle and nozzle

**Scope of supply:** Vacuum Aspiration System with integrated vacuum pump, 4 liter waste collection bottle, single channel needle and 8-channel needle aspirator handle, tubing and quick-connectors

### Specifications

Vacuum range:	0 to 600 mbar (adjustable)
Aspiration rate:	1 to 15 ml/s
Noise emission:	<50 dB(A)
Dimensions (W x D x H):	180 x 320 x 530 mm
Weight:	3.4 kg
Power supply:	100-240 V, 50/60 Hz

Type	PK	Cat. No.
LLG-uniVACUUSYS, with EU plug	1	6.263 585
LLG-uniVACUUSYS, with UK plug	1	6.263 586



## BioChem-VacuuCenter BVC control

The compact BioChem-VacuuCenter offers the perfect solution for safe, sensitive and efficient aspiration of supernatants or filtration in all application areas.

VACUUBRAND

- The BVC control serve for efficient and convenient aspiration of supernatants. The vacuum level and thus the suction force is sensitively adjustable by the electronic touch panel and allows a delicate and reproducible operation. The chemically-resistant diaphragm vacuum pump is automatically turned on and off as needed, which is reducing the low noise level even further.
- The system is available in two complete equipment options with different collection flasks and ready to accept a second aspiration hand controller (VHC) to support two users. The 2L borosilicate glass bottle (BVC control G) with a protective coating has a very high chemical resistance. For larger amounts of liquids the 4L bottle (BVC control) of unbreakable polypropylene (PP) is used.

Country specific power cable, please order separately.  
Supply requirements: 230 V 50/ 60 Hz

Type	Pump Model	Dimensions (W x D x H) mm	Weight kg	PK	Cat. No.
BVC control	ME 1C	194 x 408 x 500	7.3	1	9.882 227
BVC control G	ME 1C	194 x 408 x 430	7.7	1	9.882 228 2



9.882 228

## 3 Accessories for Biochem-VacuuCenter BVC basic/control/professional

VACUUBRAND

Description	PK	Cat. No.
VHCpro VacuuHandControl handset	1	6.260 677
Stand for VHCpro suction handset	1	6.260 678



# Cell Culture Microbiological Safety Cabinet

1



9.536 724

## Microbiological Safety Cabinet, class II, acc. to DIN 12469, Type Airstream® Plus

- Certified according to EN 12469 by TÜV-Nord, Germany Esco
- Ergonomically angled and motorized front sash for one hand operation (aerosol tight gasket)
- Dual Energy efficient DC ECM motor
- Sentinel-Gold-controller maintains steady blower speed
- Tempered glass side panels at E-Series, stainless steel side walls at S-Series
- LED lamp
- Esco triple-wall design with negative pressure prevents the possibility of contamination from leaks
- Multi-piece work surface removal simplifies cleaning at E-Series, single piece work surface with sink at S-Series
- HEPA filter (H14) for long lifetime
- Esco ISOCIDE™ antimicrobial coating on all painted surfaces minimizes contamination
- Quickstart Mode
- RS232 serial interface port
- More options on request (prefilter, RS485 serial interface port for using Voyager Software)

### Standard equipment:

- 2 Electrical outlets
- UV lamp with timer

Without support stand.

**More options and support on request.**

Type	Size	External dimensions (W x D x H) mm	PK	Cat. No.
Airstream® Plus E	1.2 m	1340 x 823 x 1400	1	<b>9.536 724 1</b>
Airstream® Plus S	1.2 m	1340 x 823 x 1400	1	<b>9.536 725</b>
Airstream® Plus E	1.5 m	1645 x 823 x 1400	1	<b>9.536 726</b>
Airstream® Plus S	1.5 m	1645 x 823 x 1400	1	<b>9.536 727</b>
Airstream® Plus E	1.8 m	1950 x 823 x 1400	1	<b>9.536 728</b>
Airstream® Plus S	1.8 m	1950 x 823 x 1400	1	<b>9.536 729</b>

2



## MSC-Advantage™ Class II Biosafety Cabinets

Thermo Scientific biological safety cabinets combine smart design and extraordinary value with best-in-class energy efficiency, reliability and usability. The MSC-Advantage is designed to meet the stringent safety requirements of EN 12469:2000 and EN 61010-1:2001, and carries the NF Mark as well as the test report from the Health Protection Agency (HPA) from Porton Down, UK. Thermo Scientific

- 60 % less energy consumption than competing AC motor-driven cabinets
- 60 % less heat emission than competing AC motor-driven cabinets
- Extremely low noise level (54 or 59 dB(A)) for a more comfortable work environment
- Largest work surface area of any cabinet (more workspace for your research)
- Cleaning position of window (patented feature that allows user to clean the entire window)
- Sloped front window for improved ergonomics (more comfortable working position)
- Motor operates at reduced speed when front window is closed (keeps interior cleaner for faster set up each day and eliminates noise into the lab when not in use)
- Low overall height to fit into labs with shorter ceilings
- Supply/exhaust air filter: HEPA H 14 EN 1822, 99.999 % at 0.3 µm particle size
- Additional exhaust filter option (AEF): HEPA H 14 EN 1822, 99.999 % at 0.3 µm particle size
- Voltage: 230 V, 50/60 Hz

Description	External dimensions (W x D x H) mm	Internal dimensions (W x D x H) mm	Weight kg	PK	Cat. No.
MSC Advantage 0.9	1000 x 800 x 1522	900 x 630 x 780	170	1	<b>4.010 047</b>
MSC Advantage 1.2	1300 x 798 x 1550	1200 x 495 x 780	240	1	<b>6.235 767</b>
MSC Advantage 1.5	1600 x 800 x 1522	1500 x 630 x 780	230	1	<b>4.010 048</b>
MSC Advantage 1.8	1900 x 798 x 1550	1800 x 495 x 780	340	1	<b>4.010 033</b>



## Accessories for MSC-Advantage Microbiological Safety Cabinets Class II

*Thermo Scientific*

Description	PK	Cat. No.
Standard floor stand, 750 mm height for 1.8M cabinet	1	4.009 986
Manual Adjustable stand, 1.2M cabinet, 750-950 mm in 50 mm increments	1	4.009 987
Manual Adjustable stand, 1.8M cabinet, 750-950 mm in 50 mm increments	1	4.009 988
Electric Adjustable stand, 750-950 mm height for 1.2M cabinet	1	4.009 989
Electric Adjustable stand, 750-950 mm height for 1.8M cabinet	1	4.009 990
UV Light Option, Factory Installed	1	4.010 098
Standard floor stand, 750 mm height for 1.2M cabinet	1	6.241 502
Solenoid valve for combustable gas tap	1	9.536 550
Water tap H2O 3/8 connection	1	9.536 551
Non-combustible gas 3/8 tap with long neck for installation in side walls	1	9.536 552
Tap for flammable gas cylinders 3/8 connection	1	9.536 553

### 1 Microbiological Safety Cabinet BSC-700II

*HMC-EUROPE*

This miniature Class 2 safety workbench offers security on a minimum of space.

The protection of the user as well as the safety of the samples is ensured by the two HEPA filters with an efficiency of 99.995 % at 0.3 microns. An air-flow gauge (velometer) monitors the speed of air at the front and will activate an alarm (audiovisual), if the fan malfunctions. The unit may be placed on a desk without any problems, optional with mobile base frame available.

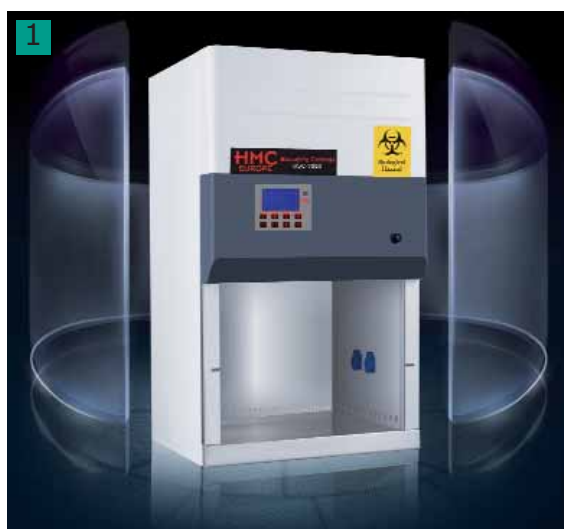
Standard features:

- Electrical sliding window
- UV light, to be positioned freely
- 2 sockets, can be disconnected from outside
- Electronically controlled air stream
- Automatic readjustment of fan
- Stainless-steel working surface
- Quiet fan drive with low vibration
- Digital air flow indication
- Main switch as key-operated switch
- Option: Stainless steel base frame with 4 castors (2 castors are lockable)

#### Specifications

External dimensions (W x D x H):	700 x 650 x 1230 mm
Working area dimensions (W x D x H):	600 x 500 x 540 mm
Material front sash:	Multi-layer toughend glass
Material working area:	SUS 304 stainless steel
Clean level:	Class 10
Noise level:	65 dB
Vibration:	≤5 µm
Power requirements:	AC 230/V 50 Hz
Power consumption:	800 W
Light:	>680 lux
Safety standard:	EN 12469

Type	PK	Cat. No.
BSC-700II	1	9.536 800
Rack on wheels for BSC-700II	1	7.629 781





1

### 1 2 LLG-Microbiological Media, dehydrated

The new LLG-Media assortment includes a wide range of high quality dehydrated media, media components and agars used for the cultivation of different microorganisms including *E. coli* and other bacteria as well as yeasts. Application areas of LLG-Media products include for example general microbiology, molecular biology as well as diagnostic analysis involving the cultivation of microorganisms. Simply dissolve the recommended media quantity in water, autoclave it and use the sterile media for the cultivation.

Selected media are available as granulated media. When working with granulated media the risk of dust formation and therefore the risk of inhalation which could lead to allergic reactions is reduced. Granulated media also facilitate the generation of homogenous solution.

All LLG-Media are available as powder media with an excellent price-performance ratio.

2



#### Media for bacteria

##### Luria Bertani (Miller):

- Standard high salt content media for *E. coli* cultivation
- Ideal for plasmid preparation
- Available also as granulated media

##### Terrific Broth:

- Rich content media for the high density cultivation of *E. coli*
- Ideal for protein expression and plasmid preparation
- Available also as granulated media

##### 2xYT Broth:

- Nutritive medium for the cultivation of recombinant *E. coli* strains and for the growth of filamentous bacteriophages

#### Media for yeasts

##### YPD-Broth:

- Standard medium for the cultivation of *Saccharomyces cerevisiae* and other yeasts

#### Agar

##### Bact. Agar.:

- High quality agar used for the preparation of culture media and other bacteriological applications

#### Media components

##### Yeast Extract:

- Concentrate of the water-soluble portion of autolyzed *Saccharomyces cerevisiae* cells
- Non-animal product, used widely for non-animal formulations of bacterial, fungal, mammalian and insect cell culture.

##### Tryptone:

- Pancreatic digest of casein
- Excellent nutrient for use in culture media for producing antibiotics, toxins, enzymes and other biological products

#### Powder

Description	Capacity g	PK	Cat. No.
Luria Bertani (Miller)	500	1	6.271 000
Terrific Broth	500	1	6.271 007
2xYT Broth	500	1	6.271 001
YPD Broth	500	1	6.271 002
Bact. Agar	500	1	6.271 003
Yeast Extract	500	1	6.271 004
Tryptone	500	1	6.271 005

#### Granules

Description	Capacity g	PK	Cat. No.
Luria Bertani (Miller)	500	1	6.271 100
Yeast Extract	500	1	6.271 101
Terrific Broth	500	1	6.271 102

### 1 Microbiological rapid tests Lovibond® Dipslides

The Lovibond® Dipslides are designed to test liquids as well as surfaces. These dual-sided Dipslides are available in a wide range of different media types. They are ideal for use in many applications including evaporative cooling towers, closed water circuits, cutting fluids, food testing, and many more.



Description	PK	Cat. No.
TTC/TTC for total viable count (TVC)	10	6.282 520
TTC/MALT for Yeast, Moulds, Fungi, TVC	10	6.282 521
TTC/ROSE for Yeast, Moulds, Fungi, TVC	10	6.282 522
TTC/MAC for coliforms, TVC	10	6.282 523
TTC/E.COLI for E.coli/coliforms, TVC	10	6.282 524
PDM/MAC for Pseudomonas specias, coliforms	10	6.282 525
TTC/PDM for Pseudomonas specias, TVC	10	6.282 526
SRB for Sulphate reducing bacteria	10	6.282 527
NRB for Nitrite reducing bacteria	10	6.282 528
R2A/R2A - TTC for testing of potable water	10	6.282 529

### 2 Nutrient pads

Sterile, dehydrated culture media pads in petri dishes. Once they are moistened with 3.0 ml to 3.5 ml of sterile and demineralised (or distilled) water they are ready-to-use immediately. All Nutrient Pad sets are supplied with the appropriate membrane filters, which are also individually sterile packed. Shelf life of the NPS 18 to 24 months at room temperature. Alternative nutrient media are available on request.

*Sartorius*



Type	For	Colour	Pore size µm	PK	Cat. No.
Azide	Enterococci	Green / green	0.45	100	9.055 006
Endo	E. coli + Coliforms	White / green	0.45	100	9.055 008
Caso	Colony count	Green / green	0.45	100	9.055 017
Standard TTC	Colony count	Green / green	0.45	100	9.055 010
Tergitol TTC	E. coli + Coliforms	White / green	0.45	100	9.055 011
Chapman	Staphylococci	White / green	0.45	100	9.055 032
Wort	Yeasts and moulds	Grey / white	0.65	100	9.055 013
ECD	E. coli	White / green	0.45	100	9.055 025
VLB S7-S	Pediococci and Lactobacilli	White / green	0.45	100	9.055 014
Caso	Colony count	Green / green	0.45	100	9.055 018
Glucose-Tryptone	thermophilic spore formers, mesophilic bacteria	White / green	0.45	100	9.055 020
M-FC	E. coli + Coliforms	White / green	0.45	100	9.055 022
Tomato juice	Leuconostocoenos	Green / green	0.45	100	9.055 026
Lysin	wild yeasts	Grey / white	0.65	100	9.055 015
Sabouraud	Yeast + mould	Grey / green	0.65	100	9.055 023
Mac Conkey	Enterobacteria	White / green	0.45	100	9.055 027
Cetrimide	Pseudomonas	White / green	0.45	100	9.055 031
Schaufus Pottinger	Yeast + mould	White / green	0.65	100	9.055 034
Yeast extract	Colony count	Green / green	0.45	100	9.055 037
*Schaufus Pottinger	Yeasts and moulds	White / green	1.20	100	9.055 028
Weman	Mesophilic slime-forming bacteria	Green / green	0.45	100	9.055 019
Bismuth sulphite	Salmonellae	Green / green	0.45	100	9.055 012

\* also available in 1.2 µm (white/green), 0.8 µm (grey/white) and 0.65 µm (white/green) versions.

# Microbiology Swabs

## LLG-Dry swabs, sterile

Description	Length	Ext. diam.	PK	Cat. No.
	mm	mm		
with Cotton tip and wooden stick, in PP test tube	150	12	400	<b>9.404 002</b>
with Rayon tip and plastic stick, in PP test tube	150	12	400	<b>9.404 003</b>
with Cotton tip and wooden stick, individually wrapped	150		1000	<b>9.404 004</b>
with Rayon tip and plastic stick, in PP test tube, individually wrapped	150	12	150	<b>9.404 005</b> <sup>1</sup>
with Rayon tip and plastic stick, individually wrapped	150		1000	<b>9.404 006</b> <sup>2</sup>
with clear Amies medium, Rayon tip and plastic stick, in PP test tube	150	12	150	<b>9.404 007</b>
with clear Amies medium with Charcoal, Rayon tip and plastic stick, in PP test tube	150	12	150	<b>9.404 008</b>



9.404 005



9.404 006



### 3 Swabs, plain, culture, cotton/wood

Disposable cotton swab on wooden stick. Length 150 mm. With labelled outer storage tube. Sterile and individually packed.

Type	PK	Cat. No.
Swabs, plain, culture	300	<b>9.404 001</b>



### 4 Cotton Applicator

Ideal for sampling in laboratories

9.413 160: non-sterile, according to EN ISO 13485

9.413 161: sterile, according to EN ISO 13485 and conforming to 93/42/EEC, sterilised with ETO gas

Material	Wall thickness mm	Length mm	Head size	Sterile	Package	PK	Cat. No.
Wood	2.2	150	4 to 5.5 mm diam.	no	bag	100	<b>9.413 160</b>
Wood	2.2	150	Ø 4 to 5.5 mm	yes	single, Peel-Pack	100	<b>9.413 161</b>

### 5 6 Inoculating needles smartPicks®, wood

Available in three lengths and two needle sizes to suit a wide range of application needs. The Mini fits neatly into a 1.5 ml microfuge tube allowing the lid to be closed for full sample transfer/recovery.

Heathrow Scientific

- Manufactured in an FDA-registered factory and complies with FDA standards for food contact
- Autoclavable and available in semi or needle point styles for delicate operations



Type	Description	PK	Cat. No.
smartPicks®Mini	Semi point, for 1.5 ml tubes	2000	<b>6.257 176</b>
smartPicks®Mini	Needle point, for 1.5 ml tubes	2000	<b>6.257 177</b>
smartPicks®Standard	Semi point, single tip	1600	<b>6.257 178</b>
smartPicks®Standard	Needle point, single tip	1500	<b>6.257 179</b>
smartPicks®Large	Semi point, single tip	500	<b>6.257 180</b>
smartPicks®Large	Needle point, single tip	500	<b>6.257 181</b>

### 1 LLG-Petri dishes, Soda-lime glass

Ext. diam. mm	Height mm	PK	Cat. No.
40	12	1	9.170 570
60	15	1	9.170 571
80	15	1	9.170 572
90	15	1	9.170 575
100	10	1	9.170 573
100	15	1	9.170 574
100	20	1	9.170 576
120	20	1	9.170 577
150	25	1	9.170 578
180	30	1	9.170 579
200	30	1	9.170 580
200	50	1	9.170 581



### 2 Petri dishes, PS

Non-sterile. For bacteriology. With or without vents. In light or heavy duty versions.

*Greiner Bio-One*

Ext. diam. mm	Height mm	Vents	Version	PK	Cat. No.
35	10	With	Light	740	9.408 035
60	15	With	Light	600	9.408 040
94	16	Without	Light	480	9.408 094
94	16	Without	Heavy	480	9.408 047
94	16	With	Light	480	9.408 095
94	16	With	Heavy	480	9.408 045
100	15	With	Light	420	6.077 283
100	20	With	Light	360	6.510 005
145	20	With	Light	120	6.052 085



### 3 Petri Dishes, PS

Suitable for culturing of fungi, bacteria and other microorganisms. Contact dish (with grid) useful for sampling in hospital environments (for research use only), as well as in the food science and the pharmaceutical industry. All dishes perform well in automatic dispensers due to complete flatness and uniform height. Material: Polystyrene

*Thermo Scientific*

Ext. diam. mm	Height mm	Capacity ml	Working volume ml	Culture surface cm <sup>2</sup>	Sterile	PK	Cat. No.
140	20	250.0	35	145.0	yes	80	4.008 582
93	17	68.0	12.5	58.0	yes	320	6.223 201
67	15*	7.7	6	25.0	yes	396	6.052 163

\* contact bowl with grid



### 4 Petri dish stands, adjustable, ABS

This adjustable dispenser neatly and safely holds 15 Petri dishes up to 102 mm. Slides open at the base for easy refilling. Rugged ABS plastic. Extends from 127 to 210 mm.

*Bel-Art Products*

Width mm	Length mm	Height mm	PK	Cat. No.
89	210	210	1	9.170 100



# Microbiology

## Petri-dishes, Spatula and inoculation loops



### 1 Inoculating Turntable

Manually operated turntable creates virtually concentric circles of uniformly spread out bacterial colonies. This turntable can hold various sizes of Petri dishes 60, 90, 100 mm. Ball bearings provide a steady, even, and prolonged spin time resulting in a rapid inoculation step and extended operating life.

Bel-Art Products

- Equally allocate bacteria across Petri Dishes with ease
- Ball bearings assure simple and graceful spinning
- Lightweight, non-skid, durable and portable
- Polypropylene construction

Diameter: 127 mm  
Height: 50 mm  
Weight: 0.4 kg

Description	PK	Cat. No.
Inoculating Turntable	1	9.520 530



### 2 Petri dish turntables, schütt Petriturn

For uniform inoculation of petri dishes. Easy-to-use.

#### schütt petriturn-M

With manually operated, heavy turntable for smooth and long-lasting rotation. Double-sided construction accommodates two sizes of petri dish (90 mm or 150 mm diameter), by inverting the turntable.

#### schütt petriturn-E

Electrically driven, infinitely adjustable, constant speed rotation from 10 to 120 rpm. Permanent operation, or optionally a footswitch can be connected. 12V d.c., 5 W power supply requiring 100 - 240 V 50/60 Hz (115 V optional).

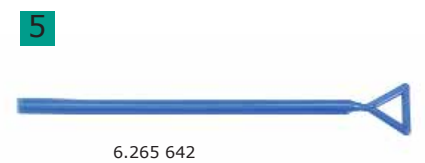
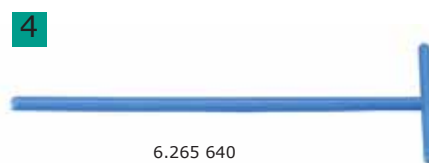
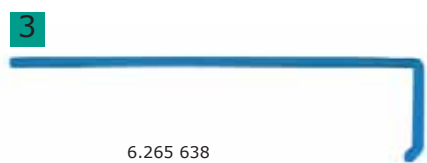
Type	Dimensions mm	Figure	PK	Cat. No.
schuett petriturn-M, manually driven	(Dia. x H) 160 x 45	1	1	9.520 201
schuett petriturn-E, electrically driven	(Dia. x H) 160 x 70	2	1	9.520 200
Foot pedal for schuett petriturn-E			1	9.520 203
Turntable adapter for Petri dishes up to 150 mm diameter			1	9.520 204

### LLG-spatulas, sterile

Ideal for the uniform spreading of cell cultures and liquids

- Smooth, rounded surfaces for uniform spreading without scratching the agar surface
- Ethylene oxide sterilized
- Sterile, 10 per bag or individually packed
- Autoclavable

Description	Material	Length mm	Width mm	Package contents	PK	Cat. No.
LLG-Spatula, L-shaped, blue, sterile	ABS	156	38.0	50 x 10	500	6.265 638 <b>3</b>
LLG-Spatula, L-shaped, blue, sterile	ABS	156	38.0	individually packed	500	6.265 639
LLG-Spatula, T-shaped, blue, sterile	ABS	140	34.0	50 x 10	500	6.265 640 <b>4</b>
LLG-Spatula, T-shaped, blue, sterile	ABS	140	34.0	individually packed	500	6.265 641
LLG-Spatula, Delta-shaped, blue, sterile	PP	208	30.0	100 x 10	1000	6.265 642 <b>5</b>



### 1 LLG-Drigalski spatulas

For easy plating.

Description	Material	Diam. mm	Length mm	Width mm	PK	Cat. No.
LLG-Drigalski spatulas	Stainless steel 18/10	4	190	40.0	1	9.197 490
LLG-Drigalski spatulas	Wironit, CrNi 18/12, straight	3	150	24.5	1	9.197 496
LLG-Drigalski spatulas	Wironit, CrNi 18/12, angular 10°	3	190	45.0	1	9.197 497
LLG-Drigalski spatulas	Borosilicate glass 3.3	5	150	30.0	1	9.197 499
LLG-Drigalski spatulas	PS, sterile	4	174	51.5	100	6.251 768
LLG-Inoculation hook	Glass	5	145	40.5	1	9.520 206
LLG-Inoculation hook	Stainless steel	4	185	57.0	1	9.520 205

1



2



### 2 LLG-Inoculation loops, PS, sterile

Inoculation loops "plastic" are made of flexible polystyrene. They have ultra-smooth loops and offer problem free planting and streaking of cultures.

Free of lubricants, oils and electrostatic charges, enabling consistent and complete liquid transfer. Loops do not cut or gouge the agar surface during streaking. Ergonomic design of the loop handle improves grip due to the large handle and assists orientation. When viewed in cross section, the shafts of the loops have a hexagonal shape which creates a handle with six flat surfaces. This design facilitates maximum grip and easy orientation of the loop head. The needle end for colony counting is also a perfect tool for picking off individual isolated colonies. They are also suitable for making stab inoculations into agar slants or tubes of solid culture medium.

Package: 10 bags of 10 pieces

Type	Capacity µl	PK	Cat. No.
Needle / loop	1	100	9.160 041
Needle / loop	10	100	9.160 042
Loop / loop	1 / 10	100	9.160 043

### 3 Inoculation loops Wironit

Wironit. CrNi 18/12.

Hammacher

3

Diam. mm	Length mm	PK	Cat. No.
1.5	50	1	9.160 057
2.0	50	1	9.160 056
2.5	50	1	9.160 058
4.0	50	1	9.160 055
1.5	60	1	9.160 061
2.5	60	1	9.160 062
4.0	60	1	9.160 063



# Microbiology

## Spatula and inoculation loops

### 1 2 3 Inoculation loops "metal" and loop stands

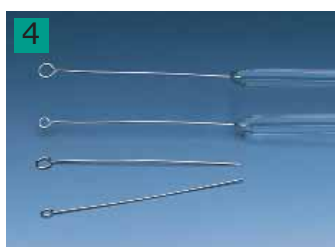
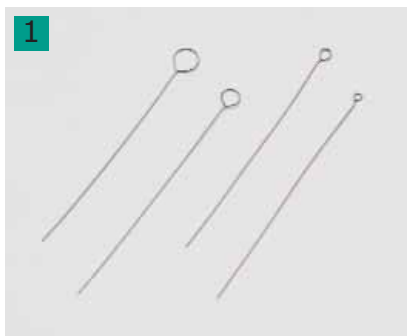
**Inoculation loops** made from stainless steel, special stainless steel wire or platinum-iridium wire (90/10). Can be heated to red heat.  
Length: 60 mm. Wire diameter: 0.5 mm.

*schuett-biotec*

**Inoculation loop holder** according to Kolle for 0.3 to 0.7 mm wire diameter.

**Inoculation loop stand** robust and sturdy made of plastic (autoclavable).  
Accomodate up to 6 inoculation loop holders at any one time.

Type	Description	Loop diam. mm	PK	Cat. No.
P-I 1	Platinum-iridium	1	1	9.520 180
P-I 2	Platinum-iridium	2	1	9.520 181
P-I 3	Platinum-iridium	3	1	9.520 182
P-I 5	Platinum-iridium	5	1	9.520 184
E 1	Stainless steel, special wire	1	10	9.520 170
E 2	Stainless steel, special wire	2	10	9.520 171
E 3	Stainless steel, special wire	3	10	9.520 172
E 5	Stainless steel, special wire	5	10	9.520 174
W-1.5	Stainless steel	1.5	10	9.520 185
W-2.5	Stainless steel	2.5	10	9.520 186
W-4.0	Stainless steel	4.0	10	6.233 696
Inoculation loop holder	160 mm long		1	9.520 178
Inoculation loop stand R (round)	(Diam. x H) 80 x 50 mm		1	9.520 190
Inoculation loop stand L (long)	(L x W x H) 180 x 50 x 50 mm		1	9.520 191



### 4 Inoculation loops, platinum-iridium

Platinum-iridium wire 90/10.  
0.5 mm thick.

Type	Diam. mm	PK	Cat. No.
without glass rod	3	1	9.160 050
without glass rod	2	1	9.160 052
fused into glass rod	3	1	9.160 053
fused into glass rod	2	1	9.160 054



### 5 Platinum-iridium wire

Platinum-iridium 90/10 wire available in different diameters.  
Sold per cm.

Diam. mm	PK	Cat. No.
0.2	1	9.160 702
0.3	1	9.160 703
0.4	1	9.160 704
0.5	1	9.160 705
0.6	1	9.160 706
0.8	1	9.160 708
1.0	1	9.160 710



### 1 Microincinerator Nova

Cost-efficient infrared sterilizer for needles and inoculating loops made out of metal.

*Argos Technologies, Inc.*

- For sterilizing without using a flame in the open air
- Eliminates the aerosol effects of microorganisms
- Infrared heating in a ceramic tube protects users from any gases or flames
- At a temperature of 815 °C, the needle is sterilized in 5 to 7 seconds
- Heating element can be adjusted in 5 different positions
- The heating element is protected by a perforated stainless steel case



Type	PK	Cat. No.
Microincinerator Nova, with EU plug	1	6.281 560
Microincinerator Nova, with UK plug	1	6.282 348

### 2 Loop Sterilizer schuett solaris

Sterilization of inoculating loops, tweezers and small instruments within seconds.

*schuett-biotec*

- Sturdy and maintenance-free, no wearing parts
- No gas, no open flame - Works with standard electrical power
- Intuitive, easy to use
- Instant, ready-to-use, no warm-up time, no waiting
- Sterilization temperature: 900 to 1300 °C
- Touch-free START, with IR- sensor and adjustable timer (5 to 7 seconds)
- For use in Laminar Flow Cabinets
- Ideal for mobile operation in the field



#### Specifications

Dimensions (W x D x H): 152 x 195 x 210 mm  
Weight: approx. 2500 g

Type	PK	Cat. No.
Loop Sterilizer schuett solaris	1	9.018 741
Quartz tube with bottom, outer diam. 17 mm, length 100 mm	2	9.018 742

### 3 Loop Sterilizer SteriMax smart

IR-HotSpot Technology: High-Speed Annealing and Sterilizing the Smart Way.

*WLD-TEC*

#### Smart Infrared Light - Instantly Ready to Work

Specifically focused infrared light generates an IR-HotSpot in which your inoculation loop is sterilized at temperatures from 750 to 1000 °C after only 5 to 10 seconds.

#### Advantages:

- Instantly ready to work without any unnecessary warm-up
- Auto-Start through touchless IR-Sensor technology
- Adjustable sterilization and cool-down timers for two users
- Touch operation
- Annealing tube made of special quartz glass
- Simple cleaning of the device and the annealing tube

**Supplied with:** SteriMax smart incl. quartz glass annealing tube, inoculation loop holder with inoculation loop, diam. 3 mm, holding device for 3 inoculation loop holders.



#### Specifications

Dimensions (W x D x H): 110 x 170 x 180 mm  
Power supply: 220 - 240 V, 50/60 Hz  
Protection class: IP 20

Type	PK	Cat. No.
Loop Sterilizer SteriMax smart	1	6.261 507
Quarz glass annealing tube	1	6.261 508

# Microbiology

## Anaerobic jars

### 1 Anaerobic jars, stainless steel

For the cultivation of anaerobic and microaerophilic microorganisms in a defined and rapidly generated gas atmosphere. The requested atmosphere may be reached under ideal conditions by two methods. Either by using chemical gas packs (anaerobe systems) or by manually evacuating the jars with a vacuum pump and flushing with gas afterwards (e.g. with nitrogen), in this case no chemical accessories are needed (except anaerobic jar eco). The jars are made of robust stainless steel or transparent PC. The lids are made of UV-resistant plastic or transparent polycarbonate with two corner valves incl. tube clips for vacuum hoses (5 mm i.d.) and with manometer for exact control of the vacuum or overpressure from -1 to 0.2 bar (except anaerobic jar eco). On request, the lids are available as custom-made versions, e.g. made of other material, without valves and manometer or equipped with high-temperature manometer. The optional racks are made of stainless steel providing holders for comfortable operation of the anaerobe systems.

*schuett-biotec*

Methods for reaching anaerobic conditions:

3 x times evacuating and filling gas, flushing with gas for 5 minutes and chemical gas production (GasPacks) for Anaerobic jars "small", "standard", "large" and "crystal". For Anaerobic jar "eco" flushing with gas for 5 minutes (Using GasPack-Kits).

Type	To hold dishes	Int. diam.	Int. height	Capacity	Figure	PK	Cat. No.
	quantity	mm	mm	litres			
Anaerobic jar "small"*	10 (60 to 100 mm dia.)	120	170	2	a	1	9.520 051
Anaerobic jar "standard"*	15 (60 to 100 mm dia.)	120	270	3	b	1	9.520 056
Anaerobic jar "large"*	15 (up to 150 mm dia.)	175	260	6	c	1	9.520 050
Anaerobic jar "eco"***	15 (60 to 100 mm dia.)	120	270	3	d	1	9.520 057
Anaerobic jar "crystal"****	15 (60 to 100 mm dia.)	120	270	3	e	1	9.520 058
Rack "small" (for all Anaerobic jars)	10 (60 to 100 mm dia.)					1	9.520 059
Rack "standard" (for "standard", "large", "eco", "crystal")	15 (60 to 100 mm dia.)				f	1	9.520 053
Rack "150" (for "large")	15 (up to 150 mm dia.)					1	9.520 060
Rack "3 x 60" (for "large")	45 (60 mm dia.)					1	9.520 061
Rack "micro" (for "large")	for multiwell plates					1	9.520 062
Test tube holder (for all Anaerobic jars)	for 9 test tubes (18 mm dia.)					1	9.520 063
GAS-Pack-Kit "anaerobic" (1 x 3.5 l)						10	9.520 064
GAS-Pack-Kit "CO2" (1 x 2.5 l)						10	9.520 065
GAS-Pack-Kit "microaerophil" (1 x 3.5 l)						10	9.520 066
Anaerobiose Indicator (test strip)						100	9.520 067

\*Stainless steel jar with UV-resistant plastic lid (2 valves, 1 manometer)

\*\*Stainless steel jar with UV-resistant plastic lid (ventilation screw)

\*\*\*Transparent polycarbonate jar and lid (2 valves, 1 manometer)



### 1 Culture flasks, glass DURAN®, straight neck

DURAN®. Erlenmeyer. Straight neck. Suitable for metal caps. Glass Type I/neutral glass as per USP, EP and JP. With retrace code (Batch Identification). Certificate available via the Internet. Autoclavable. Corresponding lids please order separately (Cat.No.: 9.010 481, 9.010 482).

DURAN Group



Capacity	Diam.	Neck diam.	Height	PK	Cat. No.
ml	mm	mm	mm		
100	64	38	114	1	9.010 472
200	79	38	138	1	9.010 473
250	85	38	149	1	9.010 474
300	87	38	161	1	9.010 475
500	105	38	183	1	9.010 476
1000	131	38	229	1	9.010 477
2000	166	38	302	1	9.010 478

### 2 Erlenmeyer flasks, Borosilicate glass 3.3, narrow neck

DIN ISO 1773. With graduations and beaded rim.

Kimble KIMAX



2

Capacity	Neck diam.	External flask diam.	Height	PK	Cat. No.
ml	mm	mm	mm		
25	22	42	70	10	9.141 079
50	22	51	90	10	9.141 080
100	22	64	105	10	9.141 081
200	34	79	135	10	9.141 085
250	34	85	145	10	9.141 082
300	34	87	160	10	9.141 086
500	34	105	180	10	9.141 083
1000	42	131	220	10	9.141 084



### 3 Erlenmeyer flasks, Borosilicate glass 3.3, wide neck

DIN ISO 24450. With graduations and beaded rim.

Kimble KIMAX



3

Capacity	Neck diam.	External flask diam.	Height	PK	Cat. No.
ml	mm	mm	mm		
25	31	43	70	10	9.141 186
50	34	51	85	10	9.141 180
100	34	64	105	10	9.141 181
200	50	79	131	10	9.141 187
250	50	85	140	10	9.141 182
300	50	87	156	10	9.141 183
500	50	105	175	10	9.141 184
1000	50	131	220	10	9.141 185



### 4 Erlenmeyer flasks, borosilicate glass 3.3, with screw neck

Borosilicate glass 3.3. Resistant to heat and almost all chemicals. Inscriptions are in white enamel which is specially designed for glass use. Autoclavable flasks and PP screw caps are resistant up to 121 °C.

Isolab

Capacity	Height	Neck thread	PK	Cat. No.
ml	mm	GL		
100	110	32	1	9.141 100
250	145	32	1	9.141 101
500	180	32	1	6.242 393
1000	225	32	1	9.141 102



# Microbiology

## Erlenmeyer flasks



### 1 2 Disposable Erlenmeyer Flasks with screw closure, Type 4112, 4113, PETG, sterile

Sterile disposable flasks with white PE-HD closure reduce the chance for cross contamination. Ideal for shaker and suspension cell culture, media preparation or storage. Made of light, crystal clear PETG plastic. Molded-in graduations. Leak-proof PE-HD screw closures open to vent with 1/4 turn. Flasks offer a 5-year shelf life, a 10<sup>-6</sup> SAL, are non-pyrogenic and non-cytotoxic. Individually packaged for easy storage and handling. Available with flat or baffled bottom. Vented closures with finish 38-430 (for 125 ml and 250 ml) or with finish 45-430 (for 500 ml, 1000 ml and 2000 ml) separate available. *Thermo Scientific*

Type	Description	Volume ml	Cover type	PK	Cat. No.
4112	Flat Bottom	125	38-430	24	<b>7.630 506</b>
4112	Flat Bottom	250	38-430	12	<b>6.802 833</b>
4112	Flat Bottom	500	45-430	12	<b>6.229 662</b>
4112	Flat Bottom	1000	45-430	6	<b>6.234 596</b>
4112	Flat Bottom	2000	45-430	4	<b>9.141 301</b>
4112	Flat Bottom	2800	70	4	<b>9.141 302</b>
4113	Baffled Bottom	125	38-430	24	<b>6.901 167</b>
4113	Baffled Bottom	250	38-430	12	<b>6.901 168</b>
4113	Baffled Bottom	500	45-430	12	<b>6.234 594</b>
4113	Baffled Bottom	1000	45-430	6	<b>6.234 595</b>
4113	Baffled Bottom	2000	45-430	4	<b>6.227 923</b>
4113	Baffled Bottom	2800	70	4	<b>9.141 303</b>
4114	Vented Closure		38-430	12	<b>6.229 663</b>
4114	Vented Closure		45-430	12	<b>6.227 924</b>



### 3 4 Disposable Erlenmeyer Flasks with vented closure, Type 4115, 4116, PETG, sterile

With blue vented closure, the chance for cross contamination is reduced. Ideal for shaker and suspension cell culture, media preparation or storage. Made of light, crystal clear PETG. Molded-in graduations. Leak-proof PE-HD closure has a hydrophobic 0.2 µm PTFE membrane that allows sterile air exchange. Flasks offer a 5-year shelf life, a 10<sup>-6</sup> SAL, are non-pyrogenic and non-cytotoxic. Available with flat or baffled bottom. Individually packaged for easy storage and handling. *Thermo Scientific*



Type	Description	Capacity ml	Cover type	PK	Cat. No.
4115	Flat Bottom	125	38-430	24	<b>6.234 530</b>
4115	Flat Bottom	250	38-430	12	<b>6.231 087</b>
4115	Flat Bottom	500	45-430	12	<b>9.141 304</b>
4115	Flat Bottom	1000	45-430	6	<b>9.141 305</b>
4115	Flat Bottom	2000	45-430	4	<b>9.141 306</b>
4115	Flat Bottom	2800	70	4	<b>9.141 307</b>
4116	Baffled Bottom	125	38-430	24	<b>9.141 308</b>
4116	Baffled Bottom	250	38-430	12	<b>9.141 309</b>
4116	Baffled Bottom	500	45-430	12	<b>9.141 310</b>
4116	Baffled Bottom	1000	45-430	6	<b>9.141 311</b>
4116	Baffled Bottom	2000	45-430	4	<b>9.141 312</b>
4116	Baffled Bottom	2800	70	4	<b>9.141 313</b>



### 5 Erlenmeyer flasks with screw cap, PP

Highly transparent, wide-mouth, can also be used with NS stoppers (not included). Suitable for storage and cultivation of cell cultures. Safer than glass flasks for use in incubator shakers due to the break resistance of plastic. Suitable for microwaves. To preserve markings, do not clean at temperatures exceeding 60 °C. Food-safe product according to EC Directive No. 10/2011. *VITLAB*

Capacity ml	Grad. ml	Neck thread GL	Stopper NS	PK	Cat. No.
50	10	40	34/35	1	<b>9.141 381</b>
100	20	40	34/35	1	<b>9.141 382</b>
250	50	52	45/40	1	<b>9.141 383</b>
500	100	52	45/40	1	<b>9.141 384</b>
1000	200	52	45/40	1	<b>9.141 385</b>

### 1 Culture flasks, borosilicate glass 3.3

Erlenmeyer. With 3 side baffles. Beaded rim.

Capacity	Diam.	Neck diam.	Height	PK	Cat. No.
ml	mm	mm	mm		
250	85	34	140	1	9.010 125
300	87	34	156	1	9.010 126
500	105	34	175	1	9.010 127
1000	131	42	220	1	9.010 128

### 2 Culture flasks, borosilicate glass 3.3

Erlenmeyer. With 3 side baffles. Straight neck. Suitable for metal caps.

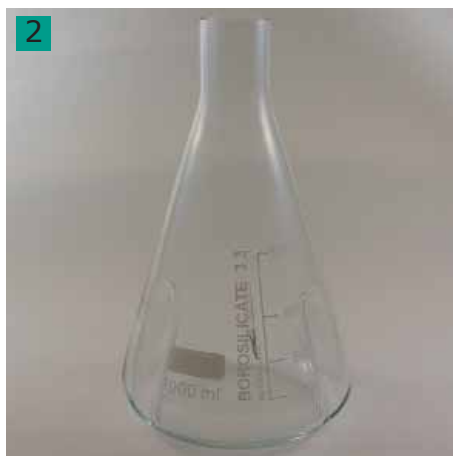
Capacity	Diam.	Neck diam.	Height	PK	Cat. No.
ml	mm	mm	mm		
100	64	38	112	1	9.010 120
250	85	38	145	1	9.010 121
500	105	38	183	1	9.010 122
1000	131	38	232	1	9.010 123
2000	166	38	305	1	6.236 466

### 3 Baffled flasks, Pyrex® borosilicate glass

- Manufactured from Pyrex® borosilicate glass
- Exhibits 4 baffle indents to provide optimal and constant agitation

*Scilabware*

Capacity	Diam.	Neck diam.	Height	PK	Cat. No.
ml	mm	mm	mm		
250	82	32	138	5	9.141 171
500	101	36	186	5	9.141 172
1000	129	43	222	2	9.141 173
2000	161	49	282	1	9.141 174





### 1 Baffled flasks DURAN®

With GL 45 thread

*DURAN Group*

- Oxygen introduction is often a limiting factor for cell growth.
- Baffled flasks cause a turbulent flow, increase the gas exchange surface and produce a higher oxygen transfer.
- Automated one-step production enables a reproducible and comparable result.
- Complete with membrane screw cap (gas exchange).

Capacity ml	Bottom diam. mm	Neck diam. mm	Height mm	PK	Cat. No.
250	85	30	145	1	9.141 260
500	105	30	149	1	9.141 261
1000	136	30	221	1	9.141 263



### 2 Erlenmeyer flasks with baffles, PC

Transparent. With baffles indented into the base which increases mixing when trypsinizing and aerating in processes such as cell culture and fermentation. Autoclavable.

*Thermo Scientific*

Capacity ml	PK	Cat. No.
250	1	9.140 968
500	1	9.140 969
1000	1	7.048 662
2000	1	7.048 663



9.141 169

### 3 Fernbach baffled flasks, Pyrex®

For use in preparation of cultures.

*Scilabware*

- Large surface area to volume ratio
- Three laterally integrated baffles, to provide optimal and constant agitation
- Available in 2 versions: with Delong neck, for use with culture flask caps or with PP screw cap, GL45

Description	Capacity ml	Diam. mm	Neck diam. mm	Height mm	PK	Cat. No.
Delong neck	2800	210	38	230	2	9.141 169 <b>3</b>
Screw cap	2800	210	45	230	2	9.141 170



### 1 LLG-Cellulose stoppers, Steristoppers®

Cellulose, 100 % biodegradable and fully compostable autoclavable. Steristoppers® have been proved as an excellent sealing for microbiological samples and tissue cultures in test tubes and Erlenmeyer flasks. They are in constant use in many European microbiological laboratories.

- Autoclavable up to 200 °C
- Filters bacteria
- Sterilisable
- Air permeable

Type	For inter. diam. mm	Bottom diam. mm	Top diam. mm	Length mm	PK	Cat. No.
No. 5 S	5.5 - 6.5	5.0	7.0	31	1000	<b>9.231 205</b>
No. 7	8.5 - 9.5	8.0	9.5	32	1000	<b>9.231 207</b>
No. 9	10.5 - 11.5	10.0	12.0	30	2000	<b>9.231 209</b>
No. 9 D	7.0 - 9.5	6.0	10.5	26	1000	<b>6.055 727</b>
No. 9 P	9.0 - 10.5	9.0	13.0	29	1000	<b>6.801 854</b>
No. 10	9.5 - 11.5	9.0	14.0	30	1000	<b>9.231 210</b>
No. 11	12.0 - 14.5	13.0	16.0	39	1000	<b>6.800 324</b>
No. 12	11.5 - 13.5	11.0	16.0	32	1000	<b>9.231 211</b>
No. 13	12.5 - 14.5	11.0	16.0	35	1000	<b>9.231 212</b>
No. 13 H	12.5 - 13.5	8.0	15.0	30	1000	<b>7.628 015</b>
No. 13.5	13.5 - 14.5	13.0	19.0	33	1000	<b>9.231 213</b>
No. 14	13.0 - 14.5	12.0	16.0	40	1000	<b>9.231 214</b>
No. 14,5	14.0 - 16.0	13.0	17.0	35	1000	<b>9.231 216</b>
No. 14 P (for thick-walled reagent tubes)	12.0 - 14.0	12.0	16.0	40	1000	<b>6.050 524</b>
No. 15	13.5 - 15.5	13.0	18.0	39	500	<b>9.231 215</b>
No. 15 D	13.5 - 16.0	12.0	19.0	36	5000	<b>6.258 570</b>
No. 16	16.5 - 18.0	17.0	20.0	40	5000	<b>7.602 253</b>
No. 18	17.5 - 18.5	17.0	22.0	38	500	<b>9.231 218</b>
No. 18 D (thick)	17.5 - 19.5	18.0	21.0	36	500	<b>9.231 219</b>
No. 19	19.0 - 22.0	17.0	25.0	42	500	<b>9.231 221</b>
No. 20	20.5 - 22.0	20.0	23.0	42	400	<b>9.231 220</b>
No. 20 A	20.5 - 22.5	21.0	24.5	34	500	<b>6.085 459</b>
No. 21.5	17.5 - 21.5	12.0	24.0	45	500	<b>9.231 223</b>
No. 22 long	22.0 - 24.0	24.0	26.0	49	500	<b>9.231 224</b>
No. 23.5 P	25.0 - 27.0	24.0	30.0	40	500	<b>9.231 225</b>
No. 26	26.0 - 27.0	24.0	28.0	42	500	<b>9.231 226</b>
No. 27	27.0 - 32.5	25.0	35.0	53	1000	<b>7.210 063</b>
No. 29	29.5 - 31.0	28.0	33.0	62	250	<b>9.231 229</b>
No. 32	32.5 - 35.0	31.0	36.0	65	100	<b>9.231 232</b>
No. 32 P	32.0 - 33.0	31.0	46.0	54	150	<b>9.231 233</b>
No. 32 PD	30.0 - 32.5	30.0	49.0	54	750	<b>6.303 108</b>
No. 32 W	32.5 - 35.0	31.0	36.0	65	800	<b>9.231 231</b>
No. 34	33.5 - 36.5	33.0	37.0	62	150	<b>9.231 234</b>
No. 36	35.5 - 39.5	36.0	40.0	58	600	<b>7.600 688</b>
No. 37	37.5 - 41.5	37.0	45.0	59	100	<b>9.231 237</b>
No. 38	40.0 - 43.5	37.0	47.0	60	100	<b>9.231 238</b>
No. 40 P	42.0 - 46.5	43.0	50.0	53	100	<b>9.231 240</b>
No. 45 P	47.0 - 48.0	44.0	57.0	66	75	<b>9.231 245</b>
No. 60 P	57.0 - 60.0	55.0	74.0	74	200	<b>9.231 260</b>
Magnum (for glasses with variable wall thickness)	26.0 - 30.0	26.0	34.0	69	800	<b>6.073 109</b>
Magnum 2/3 (short form of Magnum)	25.5 - 29.0	26.0	31.0	44	250	<b>7.601 157</b>

P = correct fit, D = thin, W = soft, S = pointed, H = tougher version

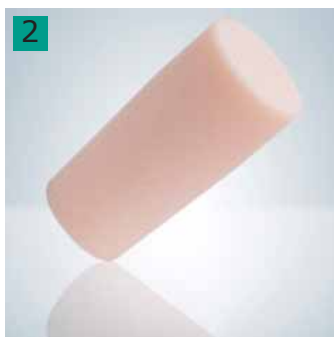




### 1 Sterile stoppers SILICOSEN® and BIO-SILICO®

SILICOSEN® and BIO-SILICO® are specially processed culture plugs in sterile 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 microorganisms.

The choice between SILICOSEN® and BIO-SILICO® culture stoppers depends on the requirements of the application. SILICOSEN® culture stoppers have low water evaporation which makes them particularly suitable for long term cultures. BIO-SILICO® culture stoppers have high air permeability, similar to cotton plugs. Both types are chemically resistant, temperature resistant, liquid repellent and reusable.



### 2 Sterile stoppers SILICOSEN® T- and L-Type

Moisture evaporation is minimal, thus there is less drying of the culture medium. Colour: natural.

*Hirschmann*

Type	Joint size (NS)	Cylinder length mm	Cone length mm	PK	Cat. No.
T-10	6/9	13	17	1	9.231 010
T-12	9/11	14	17	1	9.231 012
T-15	11/14	15	20	1	9.231 015
T-17	13/16	10	30	1	9.231 017
T-19	15/18	12	30	1	9.231 019
T-22	18/21	15	30	1	9.231 022
T-24	20/23	21	31	1	9.231 024
T-28	20/23	20	35	1	9.231 028
T-32	22/30	23	32	1	9.231 032
T-38	26/35	30	35	1	9.231 038
T-42	30/40	35	50	1	9.231 042
T-52	40/50	40	60	1	9.231 052
T-66	54/63	40	60	1	9.231 066
T-76	64/74	40	60	1	9.231 076
L-12	9/11	40	10	1	9.231 072
L-17	13/16	30	20	1	9.231 077
L-22	18/21	30	30	1	9.231 082



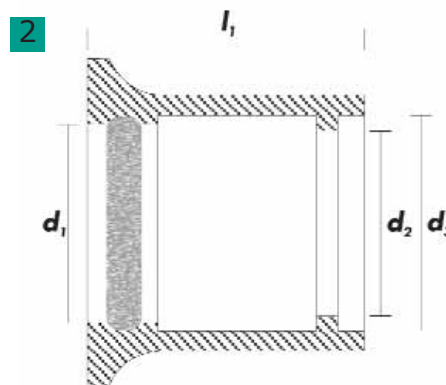


### 1 2 Sterile stoppers SILICOSEN® C-Type

Superb permeability and fits tight onto the media container due to sealing lip, where importance is placed on mounting quality. Suitable for shaking cultures.

Hirschmann

Type	Joint size (NS)	d1 mm	I1 mm	d2 mm	d3 mm	PK	Cat. No.
C-20	15/20	16	28	12	20	1	9.231 120
C-30	20/30	26	28	18	30	1	9.231 130
C-40	30/40	36	28	27	40	1	9.231 140
C-55	40/50	50	28	34	55	1	9.231 150
C-65	42/52	57	42	65	28	1	9.231 160



### 3 Sterile stoppers SILICOSEN® S-Type

Superb permeability. Suitable for aerobic bacterium cultures and shaking cultures.

Hirschmann



Type	Joint size (NS)	Top diam. mm	Bottom diam. mm	Cylinder length mm	Cone length mm	PK	Cat. No.
S-28	17/26	28	17	18	27	1	9.231 178
S-35	24/33	35	24	20	30	1	9.231 185
S-40	28/38	39	28	20	30	1	9.231 190

### 4 Sterile stoppers BIO-SILICO® N-Type

Cell size is uniform, which provides stable and good permeability. Optimum product for shaking cultures-durability and operability are excellent.

Hirschmann



Type	Joint size (NS)	Top diam. mm	Bottom diam. mm	Cylinder length mm	Cone length mm	PK	Cat. No.
N-12	9/11	13	9	13	17	1	9.231 100
N-15	11/14	16	11	14	22	1	9.231 101
N-17	13/16	19	13	15	25	1	9.231 102
N-19	15/18	21	15	16	28	1	9.231 103
N-22	18/21	24	18	18	30	1	9.231 104
N-24	20/23	26	20	20	32	1	9.231 105
N-28	21/26	30	21	20	34	1	9.231 109
N-32	22/30	34	22	24	36	1	9.231 106
N-42	30/40	44	30	32	46	1	9.231 107
N-52	40/50	54	40	36	50	1	9.231 108

# Microbiology

## Culture bottles and tubes



### 1 Culture media bottles DURAN®, glass, cylindrical

Rimless. For use with Kapsenberg caps. Glass Type I/neutral glass as per USP, EP and JP. Autoclavable.

DURAN Group

Capacity ml	Diam. mm	Height mm	Neck diam. mm	PK	Cat. No.
50	40	107	18	1	9.010 050
100	40	150	18	1	9.010 060
200	50	175	18	1	9.010 070



### 2 Kapsenberg caps

Aluminium. For the closure of culture tubes, bottles and flasks.

DURAN Group

For neck diam. mm	PK	Cat. No.
16	1	9.010 116
18	1	9.010 118



### 3 Culture tubes, soda glass, not graduated

Rimless or with PP screw cap and white TPE elastomer seal. Autoclavable at 121 °C (2 bar), according to DIN EN 285.

BRAND

Capacity ml	Ext. diam. mm	Height mm	Wall thickness mm	Max. rcf x g	Description	PK	Cat. No.
6.5	12	100	1.00	3000	thread GL 14	100	9.010 032
10.0	16	100	1.00	3000	thread GL 18	100	9.010 036
20.0	16	160	1.00	1800	thread GL 18	100	9.010 037
30.0	18	180	1.00	1100	thread GL 18	100	7.019 348
3.0	10	75	0.60	3000	rimless	250	9.010 040
5.5	12	75	0.60	3000	rimless	250	9.010 041
7.5	12	100	0.60	3000	rimless	250	9.010 042
13.0	16	100	0.70	2600	rimless	78	9.010 043
18.0	16	125	0.70	1800	rimless	105	9.010 044
22.0	16	160	0.70	1500	rimless	100	9.010 045
30.0	18	180	0.70	900	rimless	121	9.010 039

### 1 Culture tubes, Pyrex®, PTFE

Scilabware

- Ideal for culture work
- Manufactured from Pyrex® borosilicate glass
- High resistance to attack from water reduces leaching of contaminants which can cause pH changes
- Phenolic screwcaps with inert PTFE lined rubber disc
- Cap can withstand repeated dry heat and steam sterilisation cycles (121 °C for 2 hours)

Diam.	Height	Wall thickness	Neck thread	PK	Cat. No.
mm	mm	mm	mm		
14	100	1.5	13	40	6.226 022
16	100	1.8	15	40	6.226 949
16	125	1.8	15	40	6.254 027
16	160	1.8	15	40	6.253 961
18	100	1.8	18	40	6.258 472
18	180	1.8	18	40	6.226 619
20	100	1.8	20	40	6.236 081
20	200	1.8	20	40	6.231 721
22	200	1.8	22	40	6.253 139
26	100	2.0	25	40	6.226 950
26	200	2.0	25	40	6.228 145

Culture tubes are not recommended for centrifugation.

Do not autoclave with a tightly screwed cap, always slacken off. Failure to adopt this procedure may result in tube breakage.



### 2 Tubes, glass, DURAN®, culture, screw cap

DURAN Group

DIN thread. Complete with red PBT screw cap with PTFE-faced sealing wad. Thus, it is suitable for the cultivation of microorganisms. Glass Type I/neutral glass as per USP, EP and JP. Autoclavable.

Diam.	Height	Neck thread	PK	Cat. No.
mm	mm	GL		
12	100	14	50	9.010 012
13	100	14	50	9.010 013
16	150	18	50	9.010 014
16	160	18	50	9.010 016
18	180	18	50	9.010 018
20	150	18	50	9.010 019



### 3 Culture tubes, glass DURAN®, small, rimless

DURAN Group

To DIN 38411. Rimless. Suitable for use with Kapsenberg caps. Glass Type I/neutral glass as per USP, EP and JP. Autoclavable. Please order cap separately (see 9.010 116, 9.010 118).

Diam.	Height	Wall thickness	PK	Cat. No.
mm	mm	mm		
16	160	1.0 to 1.2	100	9.010 046
18	180	1.0 to 1.2	100	9.010 048



### 4 Culture tubes, Durham, soda lime glass

Marienfeld

Durham culture tubes are mainly used in microbiology to detect gas produced by micro organisms. These special tubes are placed upside down in bigger test tubes.

- Made of soda lime glass
- With straight rim and with round bottom
- Ungraduated

Diam.	Wall thickness	Height	PK	Cat. No.
mm	mm	mm		
6	0.7	35	250	6.266 183
6	0.7	50	350	6.266 184



# Microbiology

## Culture bottles and tubes, Pestles



### 1 Culture tubes, Borosilicate glass, screw cap

For culture growth, transport and storage. Heavy walled, thickness 1.1 mm. Wide neck for easy inoculation and cleaning. Complete with aluminium or plastic screw cap and rubber sealing gasket. The 15 ml size is specifically designed for use in centrifuges. Autoclavable. *schuett-biotec*

Capacity ml	Diam. mm	Height mm	Screw cap	PK	Cat. No.
15	16	98	Aluminium	100	<b>9.010 612</b>
20	16	150	Aluminium	100	<b>9.190 600</b>
15	16	98	Plastic	100	<b>9.010 613</b>
20	16	150	Plastic	100	<b>9.190 605</b>
50	25	150	Plastic	100	<b>9.010 620</b>

### LLG-Micropestles, stainless steel

Polished stainless steel, micropestles. Precisely fitted for Eppendorf Safe-Lock Tubes™, manufactured in one-piece, smooth handle sections, can be disinfected easily. Minimum homogenate displacement due to tapered piston.

#### For Reaction tubes:

For homogenisation of cells, tissues or foodstuffs/feed samples.

- For tubes with 0.5 ml, 1.5 ml and 2.0 ml
- Can be cooled down to -196 °C
- Sterilisable in an autoclave or dry heat at +200 °C
- Suitable for PCR applications
- Alternative to single-use plastic pestles
- Perfectly suitable for Eppendorf Safe-Lock Tubes

#### For Sarstedt tubes:

Primarily used with food analysis with highly processed samples in which little DNA, protein or allergen is present.

- For tubes 13 ml (Cat. No. 6.239 124)

For volume ml	Pestle length mm	PK	Cat. No.
0.5	94	1	<b>9.314 500</b> <b>2</b>
1.5	124	1	<b>9.314 501</b> <b>3</b>
2.0	120	1	<b>9.314 502</b> <b>4</b>
13.0	190	1	<b>9.314 503</b> <b>5</b>



9.314 500



9.314 501



9.314 502



9.314 503



### 6 Micro pestles, CTFE/stainless steel

Reusable, for 500 µl and 1.5 ml reaction tubes. Autoclavable CTFE/stainless steel. Suitable for battery-operated drive motor (9.314 496). *Kimble*

For volume ml	Pestle length mm	PK	Cat. No.
0.5	60	1	<b>9.314 494</b>
1.5	140	1	<b>9.314 495</b>



### 7 EPPI pestle, PP

For resuspending pellets and homogenising within tubes (1.5, 2.0 ml, exact fit). Autoclavable. Suitable for homogeniser/motor drive. *schuett-biotec*

For volume ml	Pestle length mm	PK	Cat. No.
1.5/2.0	70	10	<b>9.197 689</b>

## Disposable Pellet pestles, PP, with reaction tube

Autoclavable polypropylene. Suitable for battery-operated drive motor (9.314 496). Pestle length 7 cm. Supplied with reaction tube, except Cat. No. 9.314 492 and 9.314 493.

Kimble



9.314 491

For volume ml	Pestle length mm	Description	PK	Cat. No.
0.5	70	with reaction tube	100	<b>9.314 490</b>
0.5	70	without reaction tube	100	<b>9.314 492</b>
0.5	70	with reaction tube, RNase, DNase and pyrogen free	100	<b>9.314 498</b>
1.5	70	with reaction tube	100	<b>9.314 491</b>
1.5	70	without reaction tube	100	<b>9.314 493</b>
1.5	70	with reaction tube, RNase, DNase and pyrogen free	100	<b>9.314 499</b>

## 2 Micro pestles, PTFE, with stainless steel shaft

PTFE. With stainless steel shaft diam. 3.2 mm. For 1.5 ml reaction tubes. Ideal for re-suspending lyophilized products or precipitates, and for homogenizing samples in a microcentrifuge tube. Overall length 143 mm Steam autoclavable at 121°C. May be hand-held or mounted in a motorized chuck.

For volume ml	Pestle length mm	Description	PK	Cat. No.
1.5	143	Flat tip	1	<b>9.315 000</b>
1.5	143	Round tip	1	<b>9.315 001</b>



## 3 Micro pestles, accessory drive motor

Kimble

Description	PK	Cat. No.
Complete with two batteries (AA)	1	<b>9.314 496</b>
Spare pestle adapter	1	<b>9.314 497</b>



## 5 Tissue Grinders System

For safety grinding of any cells by minimal temperature rising. Closed System (CS) for minimizing the risk of personal contact with aerosols and sample overflow while grinding. Optimal contact of grinder and conical sample tube (15 or 50 ml) to grind each cell in the best way.

Kimble

Each unit is gamma sterilized and comes with a fully assembled pestle, conical sample tube (PP), solid top cap (PE-HD) and label.

Type CS1: Tip from glass-filled PP (30 %/70 %) for standard grinding

Type CS2: Vitrified tip (cast silica) for harder grinding

For volume ml	Type	PK	Cat. No.
15	CS 1	10	<b>9.651 050</b>
50	CS 1	10	<b>9.651 051</b>
15	CS 2	10	<b>9.651 052</b>
50	CS 2	10	<b>9.651 053</b>



9.651 051



### 1 Homogenisers with PTFE or glass pestles

For use with all homogeniser drive-units. Homogenisers and pestles provide a precise shape and are consequently separately exchangeable. Clearance between pestle and homogeniser is between 0.18 and 0.23 mm.

*schuett-biotec*

#### Homogeniser with PTFE pestle

Tapered or cylindrical. Shaft made of stainless steel. Inert. Elastic. With smooth, wax-like, moisture-rejecting surface. Resistant against high temperatures. Also available as glass fiber reinforced model. Highly efficient with especially tough tissue.

#### Homogeniser with glass pestle

Tapered or cylindrical. With robust glass shaft. Ground-glass surface in cylindrical/tapered part. Highly efficient with tough tissue.

**Homogenizers and pestles also available individually as spare parts.**

Glass mortar Type 1:	With flared overflow neck and spout, conical
Glass mortar Type 2:	Without flared overflow neck, cylindrical
Glass mortar Type 3:	With flared overflow neck and spout, cylindrical
Glass mortar Type 4:	Round bottom, with flared overflow neck, without spout, cylindrical

Capacity ml	Glass mortar type	Form	Figure	PK	Cat. No.
2	1	PTFE pestle tapered	3	1	9.651 850
15	1	PTFE pestle tapered	3	1	9.651 851
40	1	PTFE pestle tapered	3	1	9.651 852
2	2	PTFE pestle cylindrical	1	1	9.651 853
5	2	PTFE pestle cylindrical	1	1	9.651 854
10	2	PTFE pestle cylindrical	1	1	9.651 855
15	3	PTFE pestle cylindrical	2	1	9.651 856
20	2	PTFE pestle cylindrical	1	1	9.651 857
30	2	PTFE pestle cylindrical	1	1	9.651 858
40	3	PTFE pestle cylindrical	2	1	9.651 859
5	2	PTFE pestle cylindrical*	1	1	9.651 860
10	2	PTFE pestle cylindrical*	1	1	9.651 861
15	3	PTFE pestle cylindrical*	2	1	9.651 862
30	2	PTFE pestle cylindrical*	1	1	9.651 863
40	3	PTFE pestle cylindrical*	2	1	9.651 864
2	1	Glass pestle, tapered	4	1	9.651 865
15	1	Glass pestle, tapered	4	1	9.651 866
40	1	Glass pestle, tapered	4	1	9.651 867
8	4	Glass pestle, cylindrical	5	1	9.651 868
15	4	Glass pestle, cylindrical	5	1	9.651 869
40	3	Glass pestle, cylindrical	6	1	9.651 870

\*glass-fibre reinforced



## Colony counter eCount™

Multi-function electronic counter with a Sharpie® pen for marking Petri dishes to prevent missing or double-counting colonies. Light, ergonomic body is balanced for easy manipulation. For easy counting of bacteria and mould fungus colonies.

Heathrow Scientific

Counting control via membrane keys.

- Incl. thumb button which allows you to use the eCount as a digital tally counter
- Count up, then count down verification
- Display the total and keep in the memory up to 32 separate counts
- Disable the counter so you can write totals and notes
- Verify each count with either a bleep or LED Flash



9.521 783

Type	PK	Cat. No.
Colony counter eCount™ incl. Sharpie® pen black, fine-point and stand	1	<b>9.521 783</b>
Replacement pens Sharpie®, black fine-point	12	<b>9.521 787</b>

## 2 Schuett Count Colony Counter

Designed for reliable and efficient counting of bacterial colonies and bacteriophage plaques growing on nutrient agar or nutrient discs/filter discs in Petri dishes. Provides ergonomic, relaxed and comfortable operation. For Petri dishes of 60, 90 or 150 mm diameter. State-of-the-art, LED light, for absolutely glarefree illumination without blinding or stray light. No eyestrain. A so far unknown level of transparency and contrast differentiation with natural colour reproduction of the colonies is obtained. Contrast-disk is provided for counting colonies in light and dark fields when using clear or dark agar. No heating of the samples occurs. The counting impulse is triggered by marking the colonies with an ordinary felt-tip marker pen. The device is equipped with a penholder as well as a 4-digit LED-display (0 to 9999 counts) and a clearly arranged foil keypad for all controls. Average count calculation, data transfer via USB to PC, light intensity, pressure sensitivity and buzzer are adjustable as counting controls. Items supplied: For 90 mm dia. Petri dishes: adapter (transparent) for illumination from below, adapter (black/white) for illumination from side, contrast disc (black), USB-cable, marker-pen with holder.

schuett-biotec

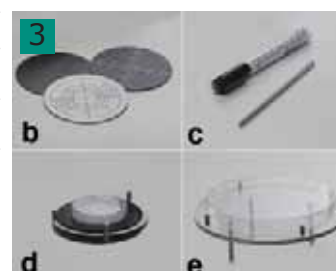
Overall dimensions (W x D x H): 260 x 250 x 130 mm  
Height with integral support stand approx. 300 mm

Type	PK	Cat. No.
schuett count colony counter, 100-240 V (Fig. a)	1	<b>9.521 940</b>



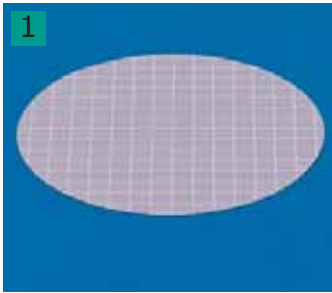
## 3 Accessories for schuett count Colony counter

Type	PK	Cat. No.
Magnifier 3 x (100 mm dia.)	1	<b>9.521 941</b>
Magnifier 6-8 x (60 mm dia.)	1	<b>9.521 942</b>
LED overhead lamp	1	<b>9.521 943</b>
Adapter for Petri dishes, 50 to 60 mm dia. (Fig. d)	1	<b>9.521 944</b>
Adapter for Petri dishes, 140 to 150 mm dia. (Fig. e)	1	<b>9.521 945</b>
Spiral-Plater Disc, black/white (Fig. b)	1	<b>9.521 946</b>
Wolffhügel Disc, black/white (Fig. b)	1	<b>9.521 947</b>
Counting needle (Fig. c)	1	<b>9.521 948</b>



# Filtration

## Membrane filters



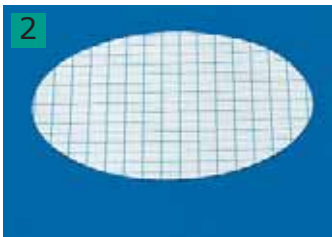
### 1 Membrane filters Type 13005/13006, series

Cellulose nitrate. Grey membranes (black after wetting) with white grid. For detection of yeasts and moulds, particle analysis and microscopy.

Sartorius

Type	Pore size µm	Diam. mm	Description	PK	Cat. No.
13005	0.65	47	sterile	100	<b>9.054 122</b>
13006	0.45	47	sterile	100	<b>9.054 132</b>
13006	0.45	50	sterile	100	<b>9.054 133</b>
13006	0.45	50	non-sterile	100	<b>9.054 139</b>

Other types available on request.

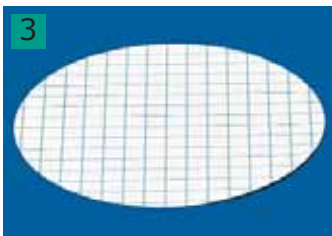


### 2 Membrane filters, gridded Type 13806

Cellulose nitrate. Sterile, individually packed. Green with dark green grid. Optimal contrast to light or white bacteria colonies when colony counting.

Sartorius

Type	Pore size µm	Diam. mm	PK	Cat. No.
13806	0.45	47	100	<b>9.054 202</b>
13806	0.45	50	100	<b>9.054 203</b>



### 3 Membrane filters, gridded Type 13906 and 139 h6

Cellulose nitrate. Sterile and individually packed. White with green grid. For the evaluation of microbiological and particle samples.

Sartorius

Type	Pore size µm	Diam. mm	Description	PK	Cat. No.
13906	0.45	47	Standard	100	<b>9.054 460</b>
13906	0.45	50	Standard	100	<b>9.054 462</b>
139 h6	0.45	47	High flow	100	<b>9.054 464</b>
139 h6	0.45	50	High flow	100	<b>9.054 465</b>



### 4 Membrane filters, cellulose acetate

Type 111. Resistant to steam sterilisation up to 134 °C, or in dry heat up to 180 °C. Very low adsorption (important when filtering proteinaceous solutions). Suitable for particle removal and ultracleaning of aqueous solutions, methanol, ethanol, high-grade alcohols and residue analysis of fuels and oils. The extractable content of these filters make up <1 % of their weight. Other pore sizes and formats available on request.

Sartorius

Type	Pore size µm	Diam. mm	PK	Cat. No.
11106	0.45	25	100	<b>9.053 044</b>
11106	0.45	47	100	<b>9.053 048</b>
11106	0.45	50	100	<b>9.053 049</b>
11106	0.45	142	25	<b>9.053 055</b>
11107	0.20	25	100	<b>9.053 064</b>
11107	0.20	47	100	<b>9.053 068</b>
11107	0.20	50	100	<b>9.053 069</b>
11107	0.20	142	25	<b>9.053 075</b>

Other patterns are available on request.



### 1 Membrane filters, cellulose nitrate

Type 113. White. Very low content of extractable materials. Weight constant after 60 minutes of drying at 105 °C. Suitable for residue analysis, microscopic viewing in incident or transmitted light, chemotaxis, x-ray fluorescence, spectrometry and gravimetric analysis. Autoclavable at 121 °C. Other pore sizes and formats are available on request. *Sartorius*

Type	Pore size µm	Diam. mm	PK	Cat. No.
11301	8.00	25	100	9.053 304
11301	8.00	47	100	9.053 308
11301	8.00	50	100	9.053 309
11302	3.00	50	100	9.053 349
11303	1.20	25	100	9.053 364
11303	1.20	47	100	9.053 368
11303	1.20	50	100	9.053 369
11304	0.80	25	100	9.053 384
11304	0.80	47	100	9.053 388
11304	0.80	50	100	9.053 389
11306	0.45	25	100	9.053 424
11306	0.45	47	100	9.053 428
11306	0.45	50	100	9.053 429
11306	0.45	142	25	9.053 432

Other patterns are available on request.

1



### 2 Membrane filters, blotting, Polycarbonate

Type 230. Polycarbonate (PC), white, non-sterile. Ultrapure, polycarbonate membrane with especially smooth surface and fine pore distribution. Applications include COD/TOC testing, particle analysis or epifluorescence microscopy. *Sartorius*

Type	Pore size µm	Diam. mm	PK	Cat. No.
23006	0.40	25	100	9.049 182
23006	0.40	47	100	9.049 183
23007	0.20	25	100	9.049 180
23007	0.20	47	100	9.049 181

Other patterns are available on request.

2



### 3 Membrane filters, Polyamide

Type 250. Polyamide, white. For filtration of alkaline solutions and organic solvents. *Sartorius*

Type	Pore size µm	Diam. mm	PK	Cat. No.
2506	0.45	25	100	9.053 227
2506	0.45	47	100	9.053 242
2506	0.45	50	100	9.053 243
2507	0.20	25	100	9.053 222
2507	0.20	47	100	9.053 223
2507	0.20	50	100	9.053 224

Other patterns are available on request.

3



### 4 Membrane Tweezers

Swiss made. Made of austenitic steel. Non-magnetizable. Good corrosion resistance to most chemicals, salts and acids. Flat, with round tips and rounded edges. Especially suitable for safe handling of transfer membranes. *Ideal-tek*

Length mm	Form	PK	Cat. No.
115	flat, round tip	1	9.160 131

4



### 5 Tweezers for filter paper, stainless steel

Perfect tool to use for handling papers. *Isolab*

Description	PK	Cat. No.
Tweezers for filter paper	1	6.243 682

5



# Filtration

## Syringe filters

### LLG-Syringe Filters

Our syringe filters cover most applications in HPLC, pharmaceutical, environmental, biotechnology and food and beverage testing laboratories.

- Housing injected in Polypropylene or MABS
- Multifunctional Syringe filters equipped with Female Luer-Lock/Male Luer Lock or Male Luer Slip connections for different applications
- Pre-sterilised or non-sterile
- Sterile products in individual hard blister
- Superior pressure stability
- Easy to identify because of colour code and printed description

1



9.055 500

#### LLG Syringe Filter CA, Cellulose acetate

Hydrophilic membrane for filtration of aqueous solutions

This membrane features excellent shape stability in aqueous solutions and a very low binding capacity for proteins (21µg per 25 mm Filter).

Ideal for use with biological macromolecules, water soluble oligomers and polymers. With Luer-Lock-outlet.

Filter diam.	Pore size	Housing	Type	PK	Cat. No.
mm	µm				
13	0.20	Acrylic, blue	non sterile	500	<b>9.055 500</b> 1
13	0.45	Acrylic, yellow	non sterile	500	<b>9.055 502</b>
13	0.80	Acrylic, green	non sterile	500	<b>9.055 504</b>
25	0.20	Acrylic, blue	non sterile	500	<b>9.055 501</b>
25	0.45	Acrylic, yellow	non sterile	500	<b>9.055 503</b>
25	0.80	Acrylic, green	non sterile	500	<b>7.970 389</b>
13	0.20	Acrylic, blue	sterile	50	<b>9.055 510</b>
13	0.45	Acrylic, yellow	sterile	50	<b>9.055 512</b>
25	0.20	Acrylic, blue	sterile	50	<b>9.055 511</b>
25	0.45	Acrylic, yellow	sterile	50	<b>9.055 513</b>

2



9.055 520

#### LLG Syringe Filter NY, Nylon/Polyamide

This is a rather hydrophilic membrane; it is recommended for filtration of aqueous and organic/aqueous medium polar liquids.

Excellent chemical compatibility with esters, bases and alcohols.

Filter diam.	Pore size	Housing	Type	PK	Cat. No.
mm	µm				
13	0.20	PP	non sterile	500	<b>9.055 520</b> 2
13	0.45	PP	non sterile	500	<b>9.055 522</b>
25	0.20	PP	non sterile	500	<b>9.055 521</b>
25	0.45	PP	non sterile	500	<b>9.055 523</b>

3



7.970 213

#### LLG Syringe Filter PES, Polyethersulfone

Hydrophobic membrane. Ideal for filtration of non-polar liquids and gases.

It is very resistant to various solvents as well as acids and bases.

Filter diam.	Pore size	Housing	Type	PK	Cat. No.
mm	µm				
13	0.20	Acrylic	non sterile	500	<b>9.055 524</b>
13	0.45	Acrylic	non sterile	500	<b>9.055 526</b>
25	0.20	Acrylic	non sterile	500	<b>9.055 525</b>
25	0.45	Acrylic	non sterile	500	<b>7.970 213</b> 3

4



7.970 286

#### LLG Syringe Filter PVDF, Polyvinylidene fluoride

Hydrophilic membrane for aqueous polar and light unpolar solutions. Very low protein binding

High flow rates ideal for use with biological macromolecules, water soluble oligomers and polymers.

Filter diam.	Pore size	Housing	Type	PK	Cat. No.
mm	µm				
13	0.20	PP	non sterile	500	<b>7.970 258</b>
13	0.45	PP	non sterile	500	<b>9.055 534</b>
25	0.20	PP	non sterile	500	<b>7.970 387</b>
25	0.45	PP	non sterile	500	<b>7.970 286</b> 4

### LLG-Microbiological Monitors and Analytical Funnels

LLG-Microbiological Monitors and Analytical funnels provide a ready-to-use solution for the filtration of liquid samples using a manifold. No need for flaming or sterilization, reduces the testing time up to 70 %. These 100 ml units are suited for monitoring contaminants in all types of samples, from raw materials to finished products. In the case of Microbiological Monitors the nitrocellulose membrane is fixed to the unit. The filtration unit easily converts to a Petri dish, which can be labeled and incubated for further analysis. When using analytical funnels the nitrocellulose membrane can be removed and transferred to a Petri dish for further analysis. Adapter for use with a manifold is included.

#### 1 LLG-Analytical funnels, sterile

Capacity ml	Diam. mm	Pore size µm	Colour Filter / Grid	PK	Cat. No.
100	47	0.45	white / black	50	<b>6.268 176</b>
100	47	0.45	white / black*	50	<b>6.268 177</b>
100	47	0.20	white / black	50	<b>6.268 178</b>
100	47	0.20	white / black*	50	<b>6.268 181</b>
100	47	0.45	black / white	50	<b>6.268 179</b>
100	47	0.45	black / white*	50	<b>6.268 180</b>

\*single packed



#### 2 LLG-Microbiological Monitors, sterile

Capacity ml	Diam. mm	Pore size µm	Colour Filter / Grid	PK	Cat. No.
100	56	0.45	white / black	50	<b>6.268 182</b>
100	56	0.45	black / white	50	<b>6.268 183</b>
100	56	0.80	black / white	50	<b>6.268 184</b>
100	56	0.20	white / black	50	<b>6.268 185</b>
100	47	0.45	white / black	50	<b>6.268 186</b>
100	47	0.45	white / black*	50	<b>6.268 187</b>
100	47	0.45	black / white	50	<b>6.268 188</b>
100	47	0.80	black / white	50	<b>6.268 189</b>

\*single packed



#### LLG-vacuum manifold, stainless steel

Multi-branch vacuum manifolds ideal for microbiological monitors and analytical funnels filtration using a perforated no. 8 stopper. These space-saving 3- or 6-place manifolds have specifically been designed for operators working in laminar flow hoods. Each manifold position is equipped with a large and easy to operate 2-way valve. The tubing to the vacuum source can be connected to either side of the manifold. A unique system has been incorporated to ensure the stability of the manifold on non-flat working areas. The stainless steel base can be autoclaved; valves and adaptor tubing cannot be autoclaved. The system includes stainless steel manifold with valves, no. 8 stopper and tubing adaptor for microbiological monitors and analytical funnels.

Description	PK	Cat. No.
3-place stainless steel manifold	1	<b>6.269 118 3</b>
6-place stainless steel manifold	1	<b>6.269 119</b>



6.269 118

E & OE.

# Filtration

## Filtration apparatus and units



**1 Filter funnel, Biosart® 250** Sartorius

For microbiological and analytical quality assurance in industry. 250 ml sterile plastic funnels reduce process time in colony and particle analysis. For use with Sartorius membrane filters and Sartorius cardboard culture plates.

Type	PK	Cat. No.
BioSart 250 disposable funnel, sterile	50	<b>9.049 340</b>
BioSart 250 disposable funnel, sterile, individually packed	50	<b>9.049 341</b>



**2 Pressure filtration units** Sartorius

Sartolab P 20. For sterile filtration of cell culture media. Ready-to-use, disposable filtration units. Surfactant-free, 0.2 µm cellulose acetate membrane with minimal protein adsorption. With Luer lock inlet and filling bell on the outlet.

Sartolab P 20 plus. With additional, binding agent-free, glass-fibre pre-filter for media which are difficult to filter.

Type	PK	Cat. No.
Sartolab P 20	10	<b>9.054 681</b>
Sartolab P 20 plus	10	<b>9.054 686</b>
Coupling M12 x 1 with G <sup>3</sup> / <sub>8</sub> male thread	1	<b>9.604 383</b>
Diaphragm pump, pressurizing, G <sup>3</sup> / <sub>8</sub> male screwthread connection, for 220 V, 50 Hz supplies	1	<b>9.604 389</b>
Tripod for pressure filtration apparatus 9.604 345	1	<b>9.604 394</b>
Double-ended box spanner for tripod 9.604 394	1	<b>9.604 395</b>
Stainless steel forceps	1	<b>9.604 061</b>

Further designs available on request.



**3 4 Microbiological monitoring of water: MBS I system and membranes** GE Healthcare

The MBS I filtration system is designed for laboratories that handle high numbers of samples for microbiological quality control. It consists of a membrane dispenser, a funnel dispenser, and a 2-place filter AS220 manifold. AS220 Filtration Manifold and Filtration funnels AS220 is a two-place stainless-steel filtration manifold, which can be joined together (maximum of 3 manifolds). This simple manifold can be used with 47 mm or 50 mm filtration membranes.

AS220 Filtration Manifold and Filtration funnels deliver:

- Waste reduction-because PP funnels can be autoclaved up to 20 times
- Time saving-No need to flame in between filtrations
- Easy handling
- Cost saving-20 PP funnels are enough for 1000 analyses
- Reduces cross-contamination



Description	PK	Cat. No.
2-place vacuum manifold AS 220	1	<b>6.231 788</b>
Automatic dispenser for funnels	1	<b>6.231 860</b>
Funnels 100 ml, PP, autoclavable	20	<b>7.616 566</b>
Funnels 350 ml, PP, autoclavable	20	<b>6.801 571</b>
Autoclaving bags	20	<b>7.608 012</b>
Membran-Butler manual	1	<b>6.225 967</b>

### 1 Filtering apparatus DURAN®

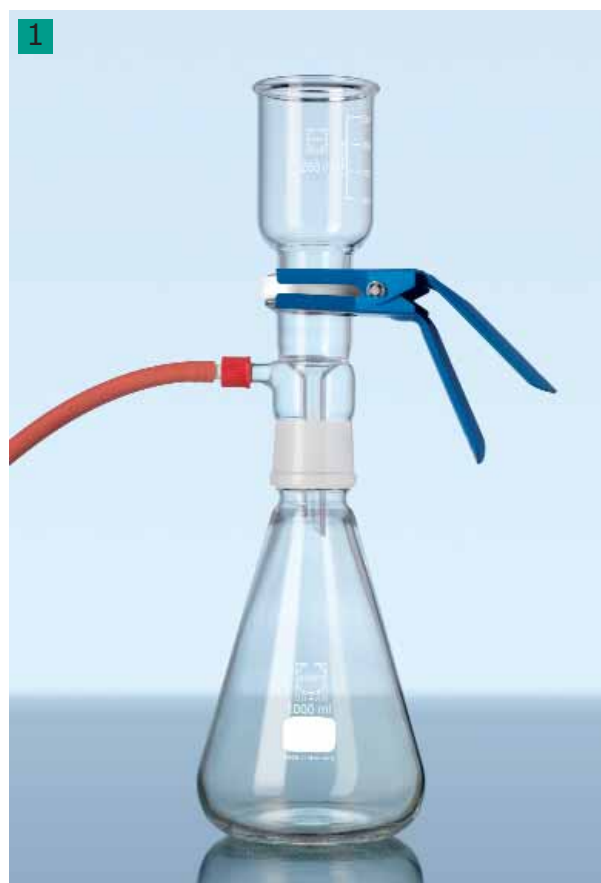
DURAN Group

The DURAN® filtering apparatus is made of high-quality borosilicate glass. Aside from glass, the medium only comes into chemical contact with PTFE. This means that the filtering apparatus can be used to filter virtually any chemical. Thanks to the PTFE disc holder, fritted glass discs of different porosities can be used in addition to the slit-sieve disc. This creates a wide application scope for filtration using filter paper, membrane filters (47 mm) or simply using glass filters. Different porosities are available between 10 µm and 160 µm, which makes it possible to perform coarse and fine filtration in addition to analytical filtration. Furthermore, the filtering apparatus is suitable for the filtration of HPLC media, testing for bacterial contamination, residue analysis and the filtration of other media. A Slit and a glass filter plate porosity 2 are included in the set. A Slit and a glass filter plate porosity 2 are included in the set.

Properties:

- Removable filter discs ensure easy cleaning
- Slit-sieve disc for mounting filter paper/membrane filter
- Only glass and PTFE come into contact with the medium
- Funnel with scale
- Secure plastic hose connection
- Tried-and-tested DURAN® filtering flask
- All components are available as spare parts

Description	PK	Cat. No.
Filtering apparatus DURAN®	1	9.052 744



### Filtering apparatus DURAN®, Spare parts

DURAN Group

Description	PK	Cat. No.
PTFE adapter disc	1	9.052 745
Clamp (anodised aluminium)	1	9.052 746
Funnel with 250 ml scale	1	9.052 747
Head NS 45 / 40	1	9.052 748
Filtering flask with NS 45 / 40, 1000 ml	1	9.052 749
Plastic hose connection with silicone seal, straight, GL 14	1	7.023 754
PTFE adapter, NS 45/40, GL 45	1	9.052 750

# Filtration

## Filtration apparatus and units



### 1 Filter units, PES membrane

These bottle-top filter units are ideally suited for the separation or purification of samples which are contained in large volumes. The units are available with either 0.22 µm or 0.45 µm pore sizes and 3 different volumes (250, 500 and 1000 ml).

Features:

- Bottle-top filter and reservoir bottle are included
- Light weight and stable wall construction
- Large knurls on the reservoir bottle cap for easy screwing
- Wide bottle mouth for efficient pouring out
- Volume graduation
- Hose connector fits multiple diameters
- Non-pyrogenic

Membrane material: Polyethersulfone (PES)

Capacity	Pore size	Neck thread	PK	Cat. No.
ml	µm	mm		
250	0.22	45	12	<b>6.267 180</b>
250	0.45	45	12	<b>6.267 181</b>
500	0.22	45	12	<b>6.267 182</b>
500	0.45	45	12	<b>6.267 183</b>
1000	0.22	45	12	<b>6.267 184</b>
1000	0.45	45	12	<b>6.267 185</b>

### 2 Filter units, Sartolab RF, PES membrane

Sterile filter units with receiver for sterile filtration of aqueous solutions and media, particularly cell culture. Simple and safe to handle. The integral polyethersulfone (PES) membrane guarantees extremely good throughput times and low protein binding, making it ideal for filtering proteinaceous solutions. The receiver is supplied with a flexible vacuum tubing adapter and a lid.

*Sartorius*

Type	Capacity	Pore size	PK	Cat. No.
	ml	µm		
Sartolab RF 150	150	0.22	12	<b>9.049 200</b>
Sartolab RF 250	250	0.22	12	<b>9.049 201</b>
Sartolab RF 500	500	0.22	12	<b>9.049 202</b>
Sartolab RF 1000	1000	0.22	12	<b>9.049 203</b>

### 3 Bottle-top filters, Sartolab BT, PES membrane

Sterile vacuum filters for screwing directly onto sterile bottles.

*Sartorius*

Disposable units for sterile filtration of media and aqueous solutions.

The special polyethersulfone (PES) membrane produces extremely good throughput times and low protein binding, making it ideal for cell culture applications. With GL45 screw connection for all standard bottles.

Caution: Only use sterile bottles authorised for use in low pressure applications.

Type	Capacity	Pore size	PK	Cat. No.
	ml	µm		
Sartolab BT 150	150	0.22	48	<b>9.049 204</b>
Sartolab BT 500	500	0.22	12	<b>9.049 205</b>
Sartolab BT 1000	1000	0.22	12	<b>9.049 206</b>



### 1 Filter units Nalgene™ Rapid-Flow™, PES Membrane, sterile

Ideal for biological and pharmaceutical sterile filtration. PES membrane features low protein binding, low level of extractables and a high flow rate. Now available in three pore sizes: The best filter units with 0.20 µm and 0.45 µm pore size and new to the protection of valuable cell cultures from mycoplasma with 0.10 µm pore size. Filter top and filtrate bottle are graduated. Blue color-coded collar with cellulosic vent plug side arm and quick-disconnect tubing adapter. Leakproof, sterile screw closure included for storage of sterile filtrate. Sterile, single packed. Certificate of Quality included in each full case. Lot number, catalogue number, membrane type, pore size and expiration date are printed on filter units, bottle tops and receivers for easy identification and lot traceability.

Thermo Scientific



Type	Volume upper/lower part ml	Thread GL	Pore size µm	Membrane diam. mm	PK	Cat. No.
565	150/150	45	0.10	50	1	9.046 022
568	250/250	45	0.10	50	1	9.046 024
566	500/500	45	0.10	75	1	9.046 023
565	150/150	45	0.20	50	1	6.302 336
568	250/250	45	0.20	50	1	6.228 218
566	500/500	45	0.20	75	1	6.227 381
569	500/500	45	0.20	90	1	6.225 298
567	1000/1000	45	0.20	90	1	6.229 041
165	150/150	45	0.45	50	1	7.047 785
168	250/250	45	0.45	50	1	7.047 791
166	500/500	45	0.45	75	1	7.047 787
169	500/500	45	0.45	90	1	7.047 793
167	1000/1000	45	0.45	90	1	7.047 789

### 2 Bottle Top Filters Nalgene™ Rapid-Flow™, PES Membrane, sterile

Filters securely screw onto glass media bottles with 33 mm or 45 mm neck sizes. Allows direct filtration of liquid into sterile glass media bottles.

Thermo Scientific

Tight and secure thread connection for vacuum filtration, vacuum tubing to be connected onto tubing adapter of side-arm. Graduated. Certificate of quality included in each full case. Lot number, catalogue number, membrane type, pore size and expiration date are printed on filter units for easy identification and lot traceability.



Type	Capacity ml	Neck thread GL	Pore size µm	Membrane diam. mm	PK	Cat. No.
596	150	33	0.20	50	1	7.048 392
596	150	45	0.20	50	1	6.224 312
595	500	33	0.20	75	1	7.048 388
595	500	45	0.20	75	1	7.048 390
597	1000	33	0.20	90	1	7.048 396
597	1000	45	0.20	90	1	7.048 397
296	150	33	0.45	50	1	7.048 393
296	150	45	0.45	50	1	7.048 395
295	500	33	0.45	75	1	7.048 389
295	500	45	0.45	75	1	7.048 391

# Filtration

## Filtration apparatus and units



### 1 Filter Units Nalgene™, Low Profile, PES Membrane, sterile

Compact Nalgene™ filter units with PES membrane are ideally suited for quick filtration of samples between 50 to 100 ml.

Thermo Scientific

- Unitary construction with non-separable upper and receiver components
- Padless membrane support minimizes foaming of proteinaceous samples
- Non-pyrogenic
- Sterile

Type	Volume upper/lower part ml	Thread GL	Pore size µm	Membrane diam. mm	PK	Cat. No.
524	115/150	45	0.20	50	1	<b>6.234 424</b>
124	115/150	45	0.45	50	1	<b>9.046 020</b>



### 2 Filter Units Nalgene™ Rapid-Flow™ with 50 ml centrifuge tube, PES Membrane, sterile

Polystyrene housing, 0.2 µm PES membrane. The optimal choice for small volume tissue culture work. Offers clean, fast filtration of 20 ml to 50 ml of media or buffers. This low protein binding unit is non-cytotoxic and non-pyrogenic. Comes assembled with 50 ml conical tube and a separate closure. Includes 2 reusable stands in each case. Certified and graduated. Lot number, catalogue number, membrane type, pore size and expiration date are printed on it.

Thermo Scientific

Type	Volume upper/lower part ml	Thread GL	Pore size µm	Membrane diam. mm	PK	Cat. No.
564	50/50	45*	0.20	50	1	<b>9.046 021</b>

\* with adapter for 50 ml tube



### 3 Filter Units, Cellulose Nitrate Membrane, sterile

White, cellulose nitrate membrane. Colour code: green. Gamma-irradiated sterile. Highest throughput rate for water and aqueous solutions, low extractables content. Surfactant-free. Lot number, catalogue number, membrane type, pore size and expiration date are printed on filter units, bottle tops and receivers for easy identification and lot traceability.

Thermo Scientific

Type	Volume upper/lower part ml	Thread GL	Pore size µm	Membrane diam. mm	Grid	PK	Cat. No.
121	115/115	45	0.45	50	black	1	<b>7.047 590</b>
125	150/150	45	0.20	50	without	1	<b>9.046 109</b>
125	150/150	45	0.45	50	black	1	<b>9.046 110</b>
125	150/150	45	0.80	50	without	1	<b>9.046 111</b>
126	250/250	45	0.20	50	without	1	<b>9.046 121</b>
126	250/250	45	0.45	50	black	1	<b>9.046 122</b>
126	250/250	45	0.80	50	without	1	<b>9.046 123</b>
450	500/500	45	0.20	75	without	1	<b>9.046 131</b>
450	500/500	45	0.45	75	black	1	<b>9.046 132</b>
450	500/500	45	0.80	75	without	1	<b>9.046 133</b>
127	500/1000	45	0.20	75	without	1	<b>9.046 141</b>
127	500/1000	45	0.45	75	black	1	<b>9.046 142</b>
127	500/1000	45	0.80	75	without	1	<b>9.046 143</b>



### 1 Filter Units Nalgene™ Rapid-Flow™, Nylon Membrane, sterile

Single-use, disposable filter units for sterile filtration of media and other reagents, and for other highly sensitive cell culture lines. With polystyrene (PS) upper and lower chambers and nylon membrane. Colour code: red. For cell culture. Gamma-irradiated sterile. Extremely low in extractable substances, no wetting agents. Lot number, catalogue number, membrane type, pore size and expiration date are printed on filter units, bottle tops and receivers for easy identification and lot traceability.

Thermo Scientific



Type	Volume upper/lower part ml	Thread	Pore size $\mu\text{m}$	Membrane diam. mm	PK	Cat. No.
		GL				
150	150/150	45	0.20	50	1	9.046 055
150	150/150	45	0.45	50	1	9.046 056
153	250/250	45	0.20	50	1	9.046 061
153	250/250	45	0.45	50	1	9.046 062
151	500/500	45	0.20	75	1	9.046 064
151	500/500	45	0.45	75	1	9.046 065
163	500/500	45	0.20	90	1	9.045 978
154	500/1000	45	0.20	75	1	9.046 067
154	500/1000	45	0.45	75	1	9.046 068
164	1000/1000	45	0.20	90	1	9.045 979

### 2 Filter units Nalgene™ Rapid-Flow™, SFCA Membrane, sterile

Single-use, disposable filter units for sterile filtration of media and other reagents, and for other highly sensitive cell culture lines. With polystyrene (PS) upper and lower chambers and surfactant-free, cellulose acetate membranes. Colour code: yellow collar. For cell culture. Gamma-irradiated sterile. Low protein binding, with high throughput rate for proteinaceous solutions and minimal extractables content. Lot number, catalogue number, membrane type, pore size and expiration date are printed on filter units, bottle tops and receivers for easy identification and lot traceability.

Thermo Scientific



Type	Volume upper/lower part ml	Thread	Pore size $\mu\text{m}$	Membrane diam. mm	PK	Cat. No.
		GL				
122	115/115	45	0.20	50	1	7.047 591
122	115/115	45	0.45	50	1	6.236 659
155	150/150	45	0.20	50	1	9.046 034
155	150/150	45	0.45	50	1	9.046 035
157	250/250	45	0.20	50	1	9.046 037
157	250/250	45	0.45	50	1	9.046 038
156	500/500	45	0.20	75	1	9.046 041
156	500/500	45	0.45	75	1	9.046 042
158	500/1000	45	0.20	75	1	9.046 044
158	500/1000	45	0.45	75	1	9.046 045
162	500/500	45	0.20	90	1	9.045 975
162	500/500	45	0.45	90	1	9.045 976
161	1000/1000	45	0.20	90	1	9.045 971

# Filtration

## Filtration apparatus and units



### 1 Bottle Top Filters Nalgene™ Rapid-Flow™, SFCA Membrane, sterile

Tissue culture filters for screw fitting onto bottles with 33 mm or 45 mm neck diameters. With surfactant-free, cellulose acetate membrane (SFCA) and polystyrene (PS) housing. Gamma-irradiated sterile. Pyrogen free. Non cytotoxic. Low-pressure filtration can be carried out directly into a suitable sterile bottle. Caution: Only use sterile bottles authorised for use in low pressure applications. Always wear protective equipment for low pressure procedures. The membrane is characterised by its low protein binding, good throughput rates and minimal clogging with negligible protein loss. Permanent, moulded graduations. Quick-disconnection tubing adaptor with cellulosic vent plug for tubing with an internal diameter of 6 mm to 9 mm. Lot number, catalogue number, membrane type, pore size and expiration date are printed on filter units for easy identification and lot traceability.

Thermo Scientific

Type	Capacity ml	Neck thread GL	Pore size µm	Membrane diam. mm	PK	Cat. No.
290	150	33	0.20	50	1	9.045 951
290	150	33	0.45	50	1	9.045 952
290	150	45	0.20	50	1	9.045 953
290	150	45	0.45	50	1	9.045 954
291	500	33	0.20	75	1	9.045 956
291	500	33	0.45	75	1	9.045 957
291	500	45	0.20	75	1	9.045 958
291	500	45	0.45	75	1	9.045 959
292	1000	33	0.20	90	1	9.045 961
292	1000	45	0.20	90	1	9.045 963

### 2 Filter Storage Bottles Nalgene™ Rapid-Flow™, PS, sterile

Easy-to-use ergonomic design. Can be used to store sterilised filtrate. Radiation-sterilised to save you time and minimize contamination. Also handy as presterilised, single-use storage containers. 1-1/2-turn threaded screw closure guarantees a leakproof seal and eliminates pH shift in receivers. Certified. Non pyrogenic, non cytotoxic. Sterile, graduated and leakproof.

Thermo Scientific

Type	Capacity ml	Thread GL	PK	Cat. No.
455	150	45	1	7.048 731
455	250	45	1	7.048 732
455	500	45	1	7.048 733
455	1000	45	1	7.048 734



### 1 LLG-Histology cassettes with detachable lid

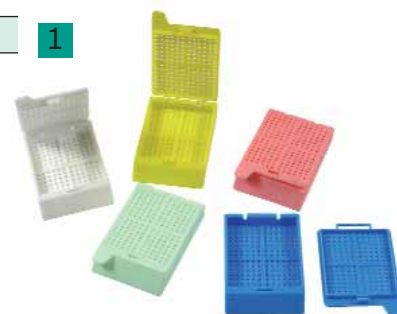
For routine tissue and biopsy processing and embedding.

Made of Polyoxymethylene (POM). 100 % resistant to the chemical action of histological solvents.

With detachable lid (unassembled). Special design for easy frequent opening and closing, as well as easy and safe lid removal/insertion without any danger of specimen loss.

With two large labeling areas on the cassette sides and a standard 45° front writing area adaptable to most cassette labelers.

Fine square pores (0.9 x 0.9 mm) for an optimal fluid exchange and proper drainage.



Colour	PK	Cat. No.
blue	500	9.160 841
green	500	9.160 842
pink	500	9.160 843
white	500	9.160 844
yellow	500	9.160 845

### 2 Disposable razor

1 blade, incl. protective cap.

Type	PK	Cat. No.
Disposable razor	100	6.265 281



### 3 Scissors dissecting, stainless steel

Excellent grade polished stainless steel with fine sharps points and close shanks.

Available as 2 types:

- straight body form
- curved body form

Type	Length mm	PK	Cat. No.
straight body form	130	1	6.236 264
curved body form	130	1	9.204 222

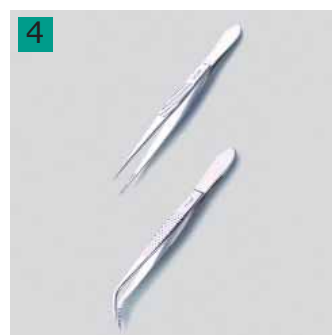


### 4 LLG-Dissecting forceps, stainless steel 420

Manufactured from premium grade polished stainless steel with fine sharp points and sprung flutes.

Available as 2 types:

- straight body form
- curved body form



Length mm	Type	PK	Cat. No.
105	sharp - straight	1	4.008 482
115	sharp - straight	1	9.171 121
130	sharp - straight	1	9.171 122
150	sharp - straight	1	9.171 123
160	sharp - straight	1	4.008 483
200	sharp - straight	1	4.008 484
105	sharp - curved	1	4.008 485
115	sharp - curved	1	9.171 124
130	sharp - curved	1	6.236 683

# Histology

## Scalpels and dissecting needles

1

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12

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24



### 1 2 Scalpels, disposable Cutfix®

Sterile. For cleaner, smoother, more accurate incisions.

B. Braun

- Excellent cutting ability of stainless steel blade
- Ergonomic solid plastic handle
- Ready for use, sterile packed
- Complete range of blades for every incision
- Individually packed precision knife with cap
- Total length about 150 mm depending on the blade shape and length

Type	PK	Cat. No.
10	10	9.409 804
11	10	9.409 805
12	10	9.409 806
15	10	9.409 807
20	10	9.409 808
21	10	9.409 809
22	10	9.409 810
23	10	9.409 813
24	10	9.409 814

2



### Scalpel handles, stainless steel

For interchangeable, disposable blades using the BAYHA interlocking system.

Bayha

Blades insert into the side of the handle.

Scalpel handle (Cat. No. 9.409 846) and safety cap (Cat. No. 9.409 850) not suitable for sterile processing.

Type	Length mm	PK	Cat. No.
1, Scalpel handle	130	1	9.409 841 <b>3</b>
4, Scalpel handle	160	1	9.409 844
5, Scalpel with hollow handle	150	1	9.409 845 <b>4</b>
6, Scalpel handle with plastic grip	160	1	9.409 846 <b>5</b>
Safety cap		1	9.409 850 <b>6</b>

3



9.409 841

4



9.409 845

5



9.409 846

6



9.409 850

7



### 7 Dissecting knives

Wironit CrNi 18/12. Fine pattern. With metal handle.

Hammacher

Type	Length mm	Blade length mm	PK	Cat. No.
Rounded	135	30	1	9.160 534
Pointed	135	30	1	9.160 535
Rounded	150	20	1	9.160 536
Pointed	150	20	1	9.160 537
Rounded	130	15	1	9.160 533
Pointed	130	15	1	9.160 543

### 1 Dissecting needles

Wironit. CrNi 18/12. Length 50 mm.

Hammacher

Description	PK	Cat. No.
Lancet-shaped	1	9.160 040
Straight, sharp	1	9.160 030
Curved, sharp	1	9.160 035
Semi-lancet	10	9.160 036
Spatula	10	9.160 037

1



### 2 Dissecting needles

With plastic or metal handle.  
Length 140 mm.

Hammacher

Type	Description	PK	Cat. No.
Plastic	Pointed, straight	1	9.160 070
Plastic	Pointed, curved	1	9.160 072
Plastic	Lancet shaped	1	9.160 075
Metal	Pointed, straight	1	9.160 090
Metal	Pointed, curved	1	9.160 092
Metal	Lancet shaped	1	9.160 095

2



### Dissecting needle holder

Wironit CrNi 18/12. For specimen loops and dissecting needles up to max. diam. 1.0 mm.

Hammacher

Type	Length mm	PK	Cat. No.
Wironit shaft with plastic handle	240	1	9.160 020
Aluminium shaft with plastic handle	240	1	9.160 022
Wironit shaft with aluminium handle	170	1	9.160 025

3



9.160 020

### 4 Blood lancets Solofix®, sterile

For single use. Sharp, flexible lancet made of V2A supra steel. Optimal insertion depth 3.8 mm.

B. Braun

Type	PK	Cat. No.
Solofix®	200	9.409 820

4



1



### 1 Water bath/Tissue Float Bath 1052

Special bath to stretch and dry cut tissue samples embedded in wax, in histological, chemical, clinical and bacteriological laboratories. GFL  
 Temperature range from approx. 5 °C above ambient to approx. +80 °C. Precise temperature regulation, consistently ±0.5 °C, ensures evenly stretched cuttings which are clearly visible in the black anodized bath. Comfortable and safe working due to low bath height of 100 mm. Bath interior made of black anodised aluminium. Housing in powder-coated aluminium. A control thermometer is fixed to rim of the bath within a stainless steel holder. Tested according to the German Equipment Safety Law.

#### Specification

Temperature range:	up to +80 °C
Interior dimensions (Dia. x H):	200 x 60 mm
Exterior dimensions (Dia. x H):	280 x 100 mm
Supply requirement:	230 V 50/60 Hz, 0.3 kW
Weight:	2 kg

Type	PK	Cat. No.
Tissue Float Bath 1052	1	9.905 952
Black anodised aluminium dust cover, 1950	1	9.905 951

2



### 2 Microscope slide drying bench, MH 6616

Accepts up to 50 slides 26 mm x 76 mm. With built-in energy regulator for temperatures up to 100 °C. Speeds up slide preparation. Slides can be placed in any position: On storage bars, against storage bars, flat. Electrothermal

Heating area:	702 cm <sup>2</sup>
Dimensions (W x D x H):	180 x 390 x 95 mm
Supply requirement:	220 V, 150 W

Type	PK	Cat. No.
Microscope slide drying bench, MH 6616	1	9.770 106
Spare heating element	1	9.770 108

3



### 3 Tissue-embedding wax, PARAPLAST®

Granules for embedding tissue. PARAPLAST PLUS® additionally contains dimethyl sulphoxide (DSMO) which improves speed and penetration into tissue samples. Melting point: 55 - 57 °C

Type	Capacity kg	PK	Cat. No.
PARAPLAST®	1	1	9.170 015
PARAPLASTPLUS®	1	1	9.170 020

4



### 4 Histofluid mounting medium

Histofluid is a water-clear adhesive of acrylic resins dissolved in xylene. It hardens fast and due to its optical properties suits perfectly well for embedding microscopic preparations. Marienfeld

- long storing or temperature changes do not cause fissures or deformations in Histofluid layers
- does not fluoresce, does not form bubbles
- refractive index of 1.5 (nD 20 °C) is adjusted to the microscope slide and cover glass
- water-repellent and dissolves in, for example, xylene, acetone, chloroform, dioxan and toluol

Description	Capacity ml	PK	Cat. No.
Histofluid mounting medium	500	1	9.160 899

## Precision folding magnifiers, plastic

- Glass fibre reinforced, non-breakable polyamide body
- The body is dustproof when closed
- Glass lenses

Eschenbach



9.151 055

Mag-nification	Lens diam. mm	Lens	Description	PK Cat. No.
3x + 6x = 9x	Ø 23	Achromatic, coated	Distortion-free image	1 <b>9.151 055</b> 1
10x	Ø 23	Aplanatic	Distortion-free image	1 <b>9.151 155</b>

## Educational Microscopes, F11 Series

- Monocular head, 45° inclined, 360° rotating
- Widefield eyepiece WF10X/18 mm
- Quadruple revolving nosepiece
- Achromatic objectives DIN 4X, 10X, 40X S
- Separate Coarse and fine focusing system with tension adjustment
- Plain stage with sample clips
- 0.65 N.A. condenser built in on stage with iris diaphragm (F1110)
- Focusable 1.25 N.A. Abbe condenser with iris diaphragm (F1115)
- LED illumination 20 mA, 3.5 V, 70 mW with intensity control
- Power supply 220 V (CE)
- Dust cover

Motic



6.239 879

Type	Description	PK Cat. No.
F1110 LED	0.65 N.A. condenser built in on stage with iris diaphragm	1 <b>6.239 879</b> 2
F1115 LED	Focusable 1.25 N.A. Abbe condenser with iris diaphragm	1 <b>6.243 414</b>

## Binocular Microscopes for Schools/Laboratories, B1-220ASC, B1-223ASC

- B1-220 ASC: Binocular tube with 45° viewing angle, 360° rotatable
- B1-223 ASC: Trinocular tube with 30° viewing angle, 360° rotatable
- Widefield eyepieces WF10X/20 mm
- Quadruple revolving nosepiece
- Achromatic Super Contrast objectives ASC 4X, 10X, 40X S, 100X S-Oil
- Coaxial coarse and fine focusing system with tension adjustment
- Built in low position coaxial mechanical stage
- Focusable 1.25 N.A. Abbe condenser with iris diaphragm and filter holder
- Halogen illumination 12 V/20 W with intensity control
- Power supply 100 V-240 V (CE)
- Blue, yellow and green filters, dust cover and immersion oil

Motic



7.900 085

Type	PK Cat. No.
B1-220ASC	1 <b>9.727 002</b>
B1-220ASC UK	1 <b>9.727 003</b>
B1-223ASC	1 <b>7.900 085</b> 3

1



6.243 410

### Advanced Microscope for University and Laboratory use, B3-220ASC, B3-223ASC

- Observation Tube Siedentopf Type, Binocular -/Phototube 30°, F.N. 20
- Widefield eyepieces WF10X/20 mm
- Reversed quintuple revolving nosepiece
- Achromatic Super Contrast objectives ASC 4X, 10X, 40X S, 100X S-Oil
- Coaxial coarse and fine focusing system with tension adjustment
- Built in low position coaxial mechanical stage
- Focusable 1.25 N.A. Abbe condenser with iris diaphragm and filter holder
- Koehler illumination halogen 12V/20 W with intensity control
- Power supply 100 V-240 V (CE)
- Blue, yellow and green filters, dust cover and immersion oil

Motic

Type	Description	PK	Cat. No.
B3-220ASC	binocular	1	<b>6.243 410 1</b>
B3-223ASC	trinocular	1	<b>7.636 721</b>

2



6.265 838

### Basic Biological Microscope for Education and Routine, BA210E

- Infinity Optics [CCIS®]
- Observation Tube Siedentopf Type, Binocular -/Phototube 30°, F.N. 20
- Interpupillary Distance 55-75 mm
- Eyepieces High-Eyepoint N-WF 10x/20 mm with dioptre adjustment on both eyepieces
- Reversed quadruple revolving nosepiece
- Objectives CCIS EC Plan 4x, 10x, 40x-S, 100x-S-Oil
- Build in low position coaxial, rackless mechanical stage (right hand control)
- Focusable Abbe condenser N.A. 1.25 with iris diaphragm and slot
- Illumination 6 V/30 W halogen with intensity control
- Ø 45 mm blue filter, immersion oil (5 ml), power cord, Allen hexagonal key, thumb crew, vinyl dust cover
- interchangeable LED module available

Motic

Optional available: Phase-contrast 10x/40x, DF 10x-40x, Polarization

Type	Description	PK	Cat. No.
BA210E	Binocular	1	<b>6.265 838 2</b>
BA210E	Trinocular	1	<b>6.266 907</b>

3



9.727 050

### Clinical & Lab Microscope for advanced applications, BA410E

- Infinity Optics [CCIS®]
- Observation Tube Siedentopf Type, Binocular -/Phototube 30°, F.N. 22
- Interpupillary Distance 48-75 mm
- Eyepieces High-Eyepoint N-WF 10x/22 mm with diopter adjustment on both eyepieces
- Reversed sextuple nosepiece
- Objectives CCIS EC-H Plan 4x, 10x, 40x-S, 100x-S-Oil
- Low position coaxial, rackless mechanical stage with ceramic insert (right hand control)
- Achromat swing-out condenser N.A. 0.90/0.13 with iris diaphragm
- Koehler illumination quartz halogen 12 V/50 W or 12 V/100 W with external lamp house and intensity control
- Auto-off and light-memory function when changing the magnification
- Ø 45 mm blue filter, immersion oil (5 ml), power cord, Allen hexagonal key, vinyl dust cover
- arm rest, spare fuse

Motic

Optional available: Phase-contrast (Ph 1.2.3), DF 10x-40x, Polarization, Plan fluar objectives, Epi-fluorescence, Multi-head viewing system

Type	Description	PK	Cat. No.
BA410E	Binocular 50 W	1	<b>9.727 050 3</b>
BA410E	Binocular 100 W	1	<b>9.727 051</b>
BA410E	Trinocular 50 W	1	<b>9.727 052</b>
BA410E	Trinocular 100 W	1	<b>9.727 053</b>



## Inverted Routine microscope for live cell, AE2000

- Infinity Optics [CCIS®]
- Observation Tube Siedentopf Type, Binocular -/Phototube 45°, F.N. 20
- Interpupillary Distance 48 mm-75 mm
- Eyepieces High-Eyepoint N-WF 10x/20 mm provide dioptre adjustment for both eyes
- Side facing quadruple nosepiece
- Objectives CCIS Plan achromat PL 4x, LWD PL 40x
- CCIS Plan Achromat Phase PL Ph10x, LWD PL Ph20x
- Plain stage 200 mm x 239 mm surface with metal & glass stage inserts
- Condenser ELWD N.A. 0.3 with phase slider (Ph1, BF)
- Illumination 6V/30 W halogen with intensity control and sleeping mode
- Universal power supply 100 V-240 V (CE)
- Ø 45 mm blue, green interference and neutral density filters with filter slider, centering telescope, power cord, Allen hexagonal key, vinyl dust cover.
- Interchangeable LED module available.

Motic

1



9.727 031

Optional: phase-contrast 4x/40x, mechanical stage with well plate holder.

Type	Description	PK	Cat. No.
AE2000	Binocular	1	9.727 030
AE2000	Trinocular	1	9.727 031

## C-Mount camera Adapter to BA & AE series

Motic

2



Description	PK	Cat. No.
adapter C-Mount 0,5x	1	7.626 193
adapter C-Mount 0,65x	1	6.243 486

## High-performance Greenough Stereo Microscope with LED, SMZ-171 Serie

Versatile Stereo microscope for a wide range of biological and material science applications

- improved optical and mechanical performance
- improved image contrast due to multi-layer lens coating
- improved illumination concept
- ESD compatible set ups available
- various accessories available

Motic

3



7.671 016

- Observation Tube Binocular -/Phototube 45°, 360° rotating, F.N. 23
- 100:0 (eyetubes), 0:100 (left eyetube/trinocular tube) optical split
- Widefield adjustable eyepieces WF10X/23 mm
- 6.7:1 Zoom ratio, WD=110 mm
- Objective magnification range: 0.75X-5X
- SMZ-171 Pole type stand with large working area and head holder
- Coarse focusing system with tension adjustment
- 3W incident and transmitted LED illumination with independent intensity controls
- Transmitted light with tilting reflector (oblique illumination)
- Option to adapt flexible light guide
- Main supply 100 V-240 V (CE)
- Black/White and frosted glass stage plates, and dust cover

Type	Description	PK	Cat. No.
SMZ-171-BLED	Binocular	1	6.264 087
SMZ-171-TLED	Trinocular	1	7.671 016

1



6.253 610

### Digital CMOS Microscope Cameras MOTICAM for all purpose

Moticam Series: digital microscope cameras for every application  
Ideal for beginners in digital color microscopy, perfect for schools and small laboratories. Ergonomic and compact housing. Exceptional color resolution.

Motic

- Output: USB 2.0 (cable attachable), progressive Scan, TWAIN-interface and DirectX
- Supplied with two variable diameter eyepiece couplers, focusable macro lens, macrotube, Motic 4-dot calibration slide, Software Motic Images Plus 2.0 for PC (multilingual) and MAC
- Operation system: Windows XP (and higher) and Mac OSX

Type	Resolution	Sensor format	PK	Cat. No.
MOTICAM 2	2 MP (max. 1600x2000 px)	1/3" CMOS	1	<b>6.253 610 1</b>
MOTICAM 3	3 MP (max. 2048x1536 px)	1/2" CMOS	1	<b>6.253 611</b>
MOTICAM 10	10 MP (max. 3664x2748 px)	1/2.5" CMOS	1	<b>6.253 614</b>

2



### 2 WiFi Digital Microscopy Moticam X

The Moticam X is the first WiFi Microscope Camera for wireless image transmission. With every Android and iOS hardware (tablet, smartphone), it is now possible to obtain microscopic image results freely and to share with others. This results e.g. for the work in the class composites completely new possibilities.

Motic

- Sensor: CMOS
- Resolution: 1.3 MP
- WiFi resolution: 1280 x10124
- Optical calculation: 1/3.2"
- Output: WiFi
- Power supply through USB

Scope of delivery: 2 variable diameter eyepiece adapters, focusable lens 12 mm, Macro tube for specimen observation, Motic 4-dot calibration slide, Motic Images Plus 2.0 ML & Mac  
Operation system: Windows XP and higher, Mac OSX; Android 4.0 and higher; iOS5 and higher

Description	PK	Cat. No.
Moticam X	1	<b>9.727 022</b>

4



### 4 Microscope Cleaning Kit

Content: 1 power blower, cotton swabs, cleaning liquid, cleaning cloth, lens cleaning paper, retractable brush

Motic

Type	PK	Cat. No.
Microscope Cleaning Kit	1	<b>6.280 087</b>

5



### 5 Dissecting set No. 1, small

Corrosion-free instruments with satin finish, enclosed in an imitation leather case. Dissecting set comprises of the following:

- |                             |                                |
|-----------------------------|--------------------------------|
| Scalpel, pointed 35 mm long | Forceps 105 mm long            |
| Dissecting needle           | Scissors, straight 115 mm long |
| Lancet                      | Section lifter                 |

Type	PK	Cat. No.
Dissecting set I, small	1	<b>9.160 014</b>

### 1 Cold light sources

For sample illumination in microscopy, clinical diagnostics, dental technology, photography or mineralogy. Cold light sources filter out heat-producing, infra-red radiation. Visible light with a high and constant intensity is directed to the specimen via flexible light guides. The specimen is not subjected to heat. Compact, easy to use and maintenance-free. KL 300 LED without fan otherwise with a low-noise fan with air vented at the rear of the casing. Schott Fiber Optics

#### KL 300 LED - compact, save energy and cost-effective

30 W halogen equivalent LED with continuous dimming. Convection cooling for silent and vibration-free operation. Max. light intensity: 80 lm incl. wide-range power supply with international plug system.

#### KL 1600 LED - economy

The brightness is equivalent to a 150 W halogen cold light source LED with continuous dimming. Max. lighting intensity: 680 lm incl. broad range power supply

#### KL 2500 LCD - professional

Professional cold light source with 24 V/250 W halogen ellipsoid reflector lamp and variable brightness control dial with 5 click-stop positions for reproducible setting. Light remains constant irrespective of power supply fluctuations ( $\pm 15\%$ ). Max. lighting intensity: 1300 lm.

**Swan neck light guide please order separately.**

Light exit angle: Approx. 70° without focussing attachment,  
approx. 20° with focussing attachment

Supply requirement  
KL 300 LED, KL 1600 LED: 100-240 V, 50/60 Hz  
KL 2500 LCD: 230 V, 50/60 Hz, safety class II.

Type	Light colour K	Width mm	Depth mm	Height mm	PK	Cat. No.
KL 300 LED	5600	106	114	61	1	<b>6.253 748</b>
KL 1600 LED	5600	114	231	137	1	<b>9.705 206</b>
KL 2500 LCD	2000 - 3400	200	265	170	1	<b>9.705 202</b>



### Cold light source, accessories, KL 300 LED/KL 1600 LED/KL 2500 LCD

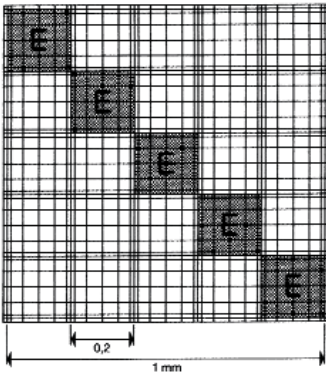
Split ring illuminator, i.d. 58 mm: For Leica M1-M7 microscopes. No adaptor required on Zeiss Stemi 1000 and 2000, SV6 and SV11. Required adaptor is supplied directly by Zeiss. 6-point ring illuminator, i.d. 58 mm and split light illuminator, i.d. 58 mm: No adaptor required on Leica GZ6, M8, M10, M12 and MZAPO microscopes. When using 6-point ring illuminator, i.d. 66 mm and split light illuminator, i.d. 66 mm Lens adapter I is required. Schott Fiber Optics

Description	PK	Cat. No.
Swan-neck, fibre-optic light guide, single, 3.5 mm diameter, length 500 mm	1	<b>9.705 221</b>
Swan-neck, fibre-optic light guide, double, 3.5 mm diameter, length 500 mm	1	<b>9.705 220</b>
Flexible light guide, single, PVC sheathed, 4.5 mm diameter, length 600 mm	1	<b>9.705 225</b>
Flexible light guide, double, PVC sheathed, 4.0 mm dia., length 1000 mm	1	<b>9.705 226</b>
6 point ring light, Int. diameter 66 mm	1	<b>9.705 230</b>
6 point ring light, Int. diameter 58 mm	1	<b>9.705 231</b>
Focussing attachment and filter set	1	<b>9.705 170</b>
Polarisation filter for focussing attachment	1	<b>9.705 176</b>
Focussing attachment, without filter, for swan-neck and flexible fibre optic light guides	1	<b>9.705 175</b>
Conversion filter for focussing attachment	1	<b>9.705 177</b>
Lens adapter I (from 66 mm to 58 mm)	1	<b>9.705 272</b>
Split ring light, int. diam. 58 mm	1	<b>9.705 194</b>
Split ring light, int. diam. 66 mm	1	<b>9.705 195</b>

# Microscopy

## Counting chambers

1

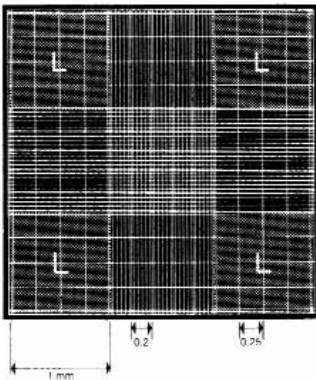


### 1 Counting chamber, Improved Neubauer

With double ruling. Calibratable. Cell depth 0.1 mm. Counting grid with 9 large squares each 1 mm<sup>2</sup>. The 4 large squares in the corners for counting leucocytes are each subdivided into 16 squares with a side length of 0.25 mm. The large square in the middle is subdivided into 25 squares each with a side length of 0.2 mm. Each of these is further subdivided into 16 smaller squares each with a side length of 0.05 mm and an area of 0.0025 mm<sup>2</sup>. The 5 group squares marked with an 'E' are used to count thrombocytes and erythrocytes. All group squares have triple boundary lines on each side. BRAND

Type	PK	Cat. No.
With snap-on clips	1	7.020 272
Without snap-on clips	1	9.161 078

2

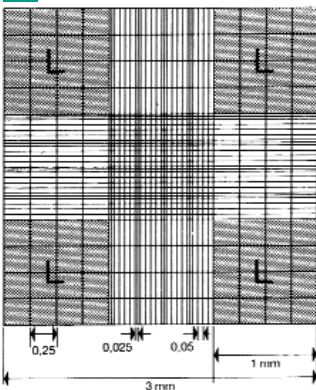


### 2 Counting chamber, Improved Neubauer, bright line

Bright line. With double ruling. Calibratable. Same counting grid as the Improved Neubauer cell, but with rhodium coated chamber base. Rulings are engraved into the Rhodium layer and appear bright under normal microscope settings. By altering the contrast it is possible to reverse the image under the microscope to make the rulings appear brighter or darker as required. BRAND

Description	PK	Cat. No.
Without snap-on clips	1	9.161 079

3

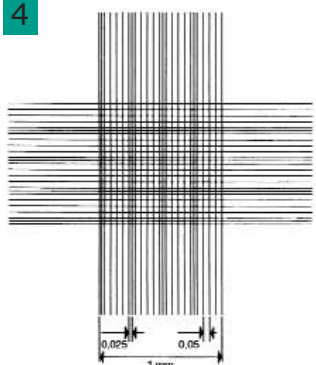


### 3 Counting chamber, Improved Neubauer

With double ruling. Calibratable. Cell depth 0.1 mm. Same ruling as Improved Neubauer, but the large square in the centre is divided into 16 squares each with a side length of 0.25 mm. Unlike the more modern Improved Neubauer counting chambers, the counting area of each group square is limited by the outermost of the triple border lines. BRAND

Type	PK	Cat. No.
With snap-on clips	1	7.020 278
Without snap-on clips	1	9.161 086

4



### 4 Counting chamber, Thoma ruling

Double ruling. Without snap-on clips. Calibratable. Cell depth 0.1 mm. Grid is the same as the grid in the centre of large square in the Neubauer chamber. The area of the small square is 0.0025 mm<sup>2</sup>. Since the large outer squares are not included, the Thoma system is only used to count thrombocytes and erythrocytes.

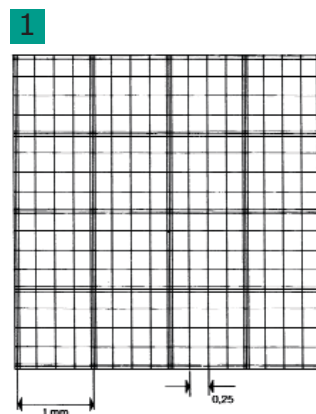
Type	PK	Cat. No.
Counting chamber, Thoma ruling	1	9.161 080

### 1 Counting chamber, Fuchs-Rosenthal

With double ruling. Without snap-on clips. Calibratable.

Cell depth 0.2 mm. Grid has 16 x large 1 mm<sup>2</sup> squares. Each square is divided into 16 smaller squares each with a side length of 0.25 mm and an area of 0.0625 mm<sup>2</sup>. These counting chambers are commonly used to count cells in cerebrospinal fluid.

Type	PK	Cat. No.
Counting chamber, Fuchs-Rosenthal	1	9.161 098



### 2 Hand tally counter

Use for counting blood cells, bacterial colonies, drops of liquid, or any repetitive event. Tallies up to 9999. Features a quick-reset knob, lens window for easy reading, and finger ring for a secure grip. Sturdy, chrome-finished, metal housing.

Dimensions: 46 mm diameter x 41 mm W.

Description	PK	Cat. No.
Hand tally counter	1	6.237 971



### 3 Microscope slides

According to ISO 8037/I. Prewashed and polished. Nominal thickness 1 mm. Size 76 x 26 mm. Also available with 20 mm, frosted, writing patch at one end.

Menzel

Description	Edge finish	Type	PK	Cat. No.
Extra white	Cut	Without frosted end	50	9.161 110
Extra white	Cut	With frosted end	50	9.161 145
Extra white	Ground 45°	Without frosted end	50	9.161 120
Pure white	Cut	Without frosted end	50	9.161 130
Pure white	Ground 45°	Without frosted end	50	9.161 140
Pure white	Ground 90°	Without frosted end	50	9.161 141



### 4 Microscope slides with cavities

Dimensions: 76 mm x 26 mm x 1.2 mm to 1.5 mm, with cavities approx. 15 mm to 18 mm diameter and approx. 0.6 to 0.8 depth.

Menzel

Number of cavities	Colour	Edge finish	PK	Cat. No.
1	extra white glass	90° ground edges	1	9.161 151

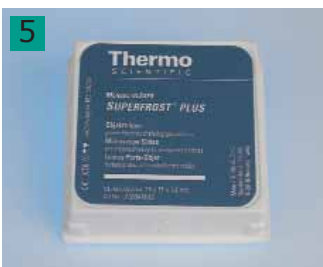


### 5 Superfrost® Plus adhesive microscope slides

Size: 75 mm x 25 mm x 1.0 mm. Ground edges 90°, white SuperFrost marking area. A new application method provides the surface of a slide with a permanent positive charge. Electrostatic attraction binds fresh frozen tissue sections and cytology preparations. Also available with blue, yellow or green SuperFrost marking area.

Menzel

Type	Colour	PK	Cat. No.
SuperFrost®Plus	White	72	9.161 155



# Microscopy

## Slide- storage and covers



### 1 Superfrost® slides

According to ISO 8037/I. With colour-coded writing patch as outlined below. Size 76 mm x 26 mm. Nominal thickness 1.0 mm. Menzel  
 With cut or ground edges. With approx. 0.013 mm thick coating which prevents slides sticking together and being scratched.

Edge finish	Colour	PK	Cat. No.
Cut	white	50	9.161 161
Cut	blue	50	9.161 162
Cut	pink	50	9.161 163
Cut	yellow	50	9.161 164
Cut	green	50	9.161 165
Ground 45°	white	50	9.161 171
Ground 45°	blue	50	9.161 172
Ground 45°	pink	50	9.161 173
Ground 45°	yellow	50	9.161 174
Ground 45°	green	50	9.161 175



### 2 Diagnostic slides without adhesion coating

Menzel

Material	No. of chambers	Diam. mm	Colour	PK	Cat. No.
Epoxy	1	8.0	Blue	100	9.161 181
Epoxy	3	14.0	Black	100	9.161 182
Epoxy	8	6.0	Black	100	9.161 183
Epoxy	10	6.7	Black	100	9.161 184
Epoxy	12	5.0	White	100	9.161 185
PTFE	1	8.0	Blue	100	9.161 186
PTFE	3	14.0	Black	100	9.161 187
PTFE	8	6.0	Black	100	9.161 188
PTFE	10	6.7	Black	100	9.161 189
PTFE	12	5.0	White	100	9.161 190



### 3 Diagnostic slides

Menzel

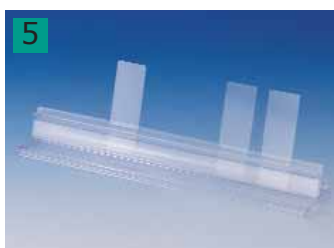
Material	No. of chambers	Diam. mm	Colour	PK	Cat. No.
PTFE	12	5	White	100	9.161 200



### 4 LLG-Slide dispenser

Slide dispenser can dispense 91 slides, individually. By turning the knob, one slide is dispensed. Only dry slides should be inserted into the storage magazine. With transparent, removable upper section for easy viewing of remaining slides and clean storage. For microscope slides with dimensions 75 x 25 mm and 76 x 26 mm.

Type	PK	Cat. No.
Dispenser	1	9.161 000



### 5 Microscope slide or paper strip holder, PS

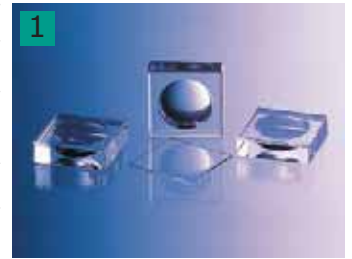
This slide holder has a sloped groove that accepts up to 10 single or double slides standing on end. Front ledge serves as a place to dry slides. Made of durable polystyrene. Bel-Art Products

Internal dimensions (W x D x H) mm	PK	Cat. No.
250 x 50 x 30	1	9.161 208

### 1 Staining blocks, moulded glass

With hemispherical cavity, 32 mm diameter and 40 mm x 40 mm glass cover plate.

Number of cavities	Int. bore diam. mm	Colour	PK	Cat. No.
10	32	Clear	1	<b>9.163 285</b>
10	32	Black	1	<b>9.163 286</b>



### 2 Circular cover slips

Made of clear white glass. Accurate cutting free of flaws and blisters. Diameters as indicated. Further sizes and thicknesses are available on request.

*Menzel*

Diam. mm	Thickness mm	PK	Cat. No.
10	0.13-0.16	100	<b>9.161 063</b>
12	0.13-0.16	100	<b>9.161 064</b>
13	0.13-0.16	100	<b>9.161 065</b>
14	0.13-0.16	100	<b>9.161 066</b>
15	0.13-0.16	100	<b>9.161 061</b>
18	0.13-0.16	100	<b>9.161 062</b>



### 3 Square cover slips

Made of clear white glass. Accurate cutting free of flaws and blisters. Further thicknesses are available on request.

*Menzel*

Width mm	Length mm	Thickness mm	PK	Cat. No.
15	15	0.13-0.16	200	<b>9.161 015</b>
18	18	0.13-0.16	200	<b>9.161 018</b>
20	20	0.13-0.16	200	<b>9.161 020</b>
22	22	0.13-0.16	200	<b>9.161 022</b>
24	24	0.13-0.16	200	<b>9.161 024</b>
26	21	0.13-0.16	100	<b>9.161 021</b>
32	24	0.13-0.16	100	<b>9.161 032</b>
40	24	0.13-0.16	100	<b>9.161 040</b>
50	24	0.13-0.16	100	<b>9.161 050</b>
60	24	0.13-0.16	100	<b>9.161 060</b>



### 4 Haemocytometer cover glasses

Officially calibrated, optically parallel cut.

*Menzel*

Width mm	Length mm	Thickness mm	PK	Cat. No.
26	20	0.4	10	<b>9.161 070</b>
22	22	0.4	10	<b>9.161 072</b>
24	24	0.4	10	<b>9.161 074</b>



### 5 LLG-Cover glass forceps, self-locking, stainless steel

Stainless steel 4301

Length mm	Form	PK	Cat. No.
105	Straight	1	<b>9.160 380</b>
105	Curved	1	<b>9.160 381</b>



### 6 LLG-Cover glass forceps, type Kühne, stainless steel

Stainless steel 4301

Length mm	Form	PK	Cat. No.
115	Curved	1	<b>9.160 386</b>
130	Curved	1	<b>9.160 387</b>
145	Curved	1	<b>9.160 388</b>
115	Straight	1	<b>9.160 391</b>
130	Straight	1	<b>9.160 392</b>
145	Straight	1	<b>9.160 393</b>



# Microscopy

## Slide- storage and covers

1



### 1 Prepared Slides

Prepared microscope slides for education and studies.  
Sets of 10 slides.

Type	PK	Cat. No.
Fishes, frogs and other ambhíbians	1	9.151 850
Lizard snakes and birds	1	9.151 851
Animal reproduction	1	9.151 852
Bacteria simple organisms	1	9.151 854
Plant reproduction and propagation	1	9.151 856
Structure of vegetable plants	1	9.151 857
Cell development and reproduction	1	9.151 858
Nanoplankton	1	9.151 859
Human body, normal tissues Part 1	1	9.151 860
Human body, normal tissues Part 2	1	9.151 861
The human body pathological tissues part 1	1	9.151 862
The human body pathological tissues Part 2	1	9.151 863
Animal and human parasites	1	9.151 864
Life in the ground	1	9.151 866
Animals and plants damaged by the environment	1	9.151 868
Set for teaching science	1	9.151 869
Set for teaching biology part 1	1	9.151 870
Set for teaching biology part 2	1	9.151 871

2



### 2 Microscope slide boxes

PP. For storing or shipping 5 thick or 10 thin slides. Sturdy design.  
Screw cap with fitting for sealing wire tag. When cap is open the slides  
protrude approximately 10 mm so they can be removed easily.

*Kartell*

Int. diam. mm	Height mm	PK	Cat. No.
45	90	1	9.161 395

3



### 3 20- and 30-place Cardboard Slide Trays

Features thumb cut for easy slide removal.

*Heathrow Scientific*

Cardboard slide trays hold standard slides (76 mm x 26 mm and 3 x 1"). The horizontal compartments are recessed to protect the specimens when the cover is closed. Features thumb cut for easy slide removal.

To hold microscope slides	Size	Colour	PK	Cat. No.
20	208 x 341 x 9 mm	black	1	9.161 295
30	281 x 328 x 10 mm	black	1	9.161 296
20	208 x 341 x 9 mm	blue	1	9.161 297
20	208 x 341 x 9 mm	green	1	9.161 298
20	208 x 341 x 9 mm	red	1	9.161 302



### 1 Slide storage box

Dense fibreboard covered with imitation leather. Hinged lid with locking clips. Holds slides 76 mm x 26 mm slides as outlined below.

To hold microscope slides	Cover type	PK	Cat. No.
100	With	1	9.161 210
50	With	1	9.161 215



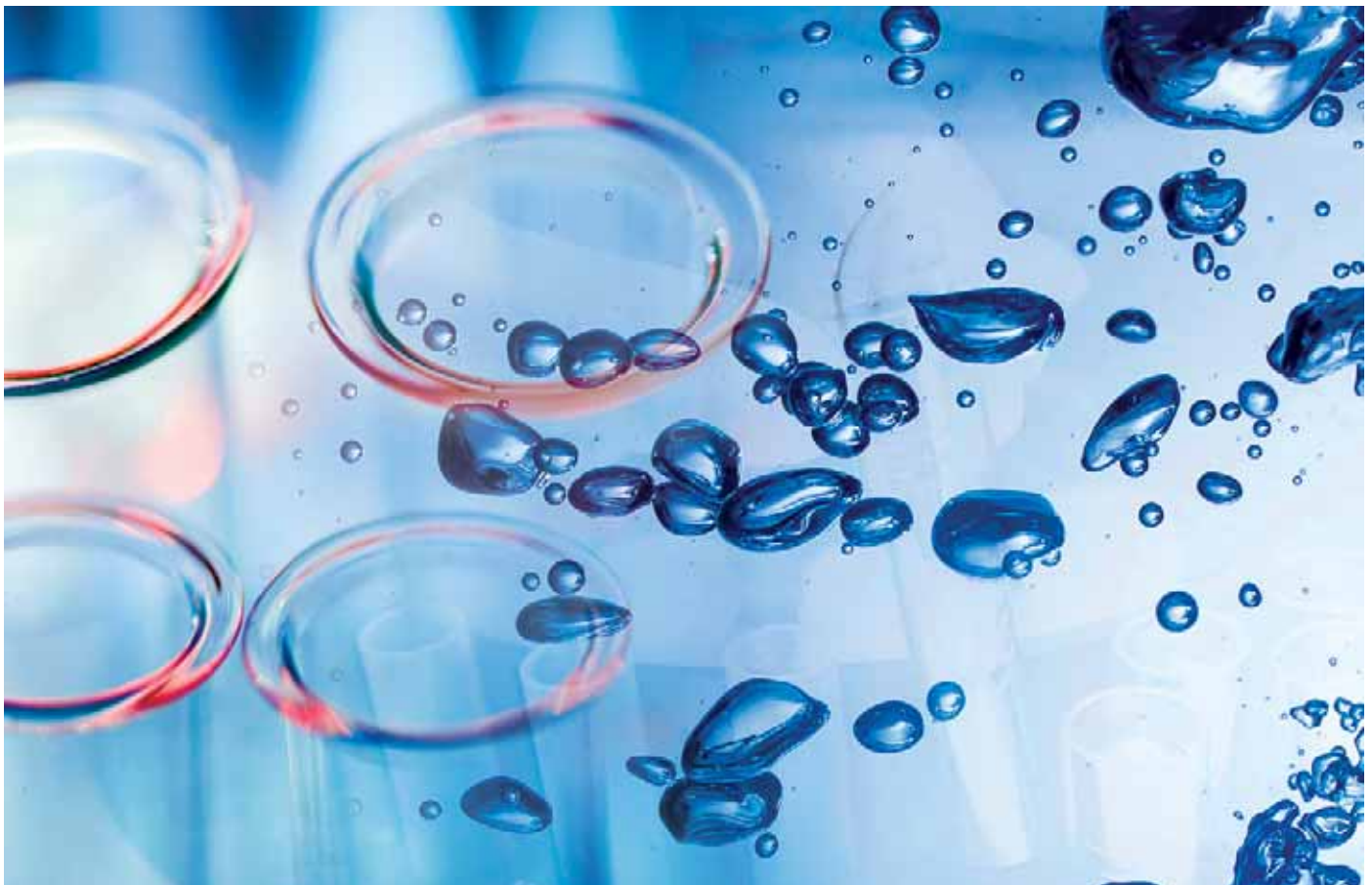
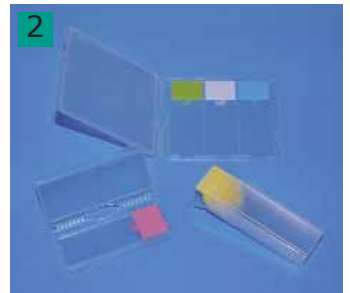
### 2 LLG-Slide mailers



Manufactured from high density polypropylene, for shipping, storing or staining slides. Flat mailers can hold 1, 2, 3 or 5 standard (up to 76 mm x 26 mm) slides securely.

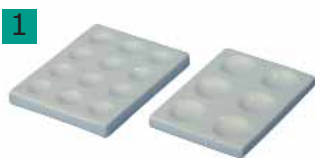
- Light weight and flat
- With marking area and "Top" printed on top surface
- With large, easy-to secure snaps.
- Slotted channels inside mailer keep slides safely separated

To hold microscope slides	PK	Cat. No.
1	10	9.161 291
2	10	9.161 292
3	10	9.161 293
5	10	9.161 294



# Microscopy

## Staining racks



### 1 LLG-Cavity tiles, porcelain

Rectangular, white, glazed, with cavities as outlined below.

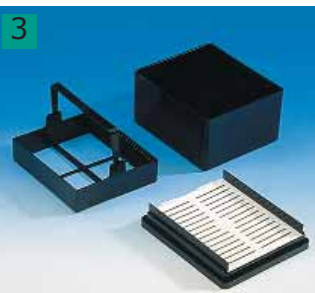
Number of cavities	Int. bore diam. mm	Cavity depth mm	Width mm	Length mm	Height mm	PK	Cat. No.
6	25	4	81	112	25.0	1	<b>6.232 575</b>
12	17	2	91	115	17.0	1	<b>6.265 001</b>



### 2 LLG-Staining jars, soda-lime-glass

The Schiefferdecker Staining Jar is suitable for holding 76 mm x 26 mm slides horizontally. This staining jar has 10 grooves which can accommodate 20 slides back-to-back. The Hellendahl Staining Jar is suitable for holding 76 mm x 26 mm slides vertically. This staining jar has 8 grooves which can accommodate 18 slides back-to-back. The "Macro" Staining Jar is suitable for holding 20 slides with 76 mm x 26 mm (please order rack separately). This Stainless Steel rack for "Macro" has 20 grooves which can accommodate 20 single slides. Each staining jar is supplied with a glass lid.

Type	Width mm	Length mm	Height with cap mm	PK	Cat. No.
Schiefferdecker Staining Jar	68	88	50,15	1	<b>9.163 250</b>
Hellendahl Staining Jar	61	63	102	1	<b>9.163 251</b>
"Macro" Staining Jar	88	105	78	1	<b>9.163 252</b>
Rack, Stainless Steel, for "Macro" jar				1	<b>9.163 253</b>



### 3 Staining trough with rack, POM

Accepts 25 slides 76 mm x 26 mm. BRAND  
Tightly fitting lid provides good protection against evaporation.  
Insert rack with folding handle.

To hold microscope slides	Width mm	Length mm	Height mm	PK	Cat. No.
25	88	98	52	1	<b>9.161 370</b>



### 4 Disposable Staining Slide Tray

Stain, rinse, and dry your slides on a single working tray. Made of a polypropylene and polyethylene blend, this rugged staining tray is an economical alternative to metal versions offering a clean and fresh working surface area every time. Up to eight slides fit comfortably onto the base and the deep well holds liquid waste up to 38 ml. Two convenient pour spouts make it easy to dispose of unwanted liquid waste. Unique dark lid protects slides when used with light sensitive applications. Supplied with 4 Base Trays and 1 Lid. Heathrow Scientific

To hold microscope slides	Length mm	Width mm	Height mm	PK	Cat. No.
8	305	127	29.5	1	<b>9.161 400</b>



### 5 Staining jar, PMP (TPX®)

Supplied with 2 lids, one complete lid for use providing evaporation-free storage of staining liquids, the other lid with an opening to allow the handle of accessory staining rack 9.161 341 to be inserted. Kartell  
Note: Xylene can cause etching after 2 days at room temperature.

Width mm	Length mm	Height mm	PK	Cat. No.
80	100	70	1	<b>9.161 340</b>

## 1 Spectrophotometer LLG-uniSPEC 2

uniSPEC 2 is an inexpensive, basic UV/VIS-spectrophotometer suitable for pharmaceutical, biochemical and clinical lab applications as well as routine measurements such as kinetics, wavelength scans, quantitative analysis, multi-wavelength and DNA/Protein analysis. It is possible to store and save 200 calibration curves.

**Supplied with:** Photometer, manual, 4 glass cells and 2 quartz cells.

### Specifications

Optical system:	Single beam, Grating 1200 lines/mm, Silicium photodiode detector
Wavelength range:	190 to 1100 nm
Bandwidth:	2 nm
Wavelength accuracy:	±0.5 nm
Wavelength repeatability:	0.3 nm
Wavelength setting:	automatic
Photometric accuracy:	±0.5 %T
Photometric repeatability:	0.3 %T
Photometric range:	-0.3-3A, 0-200 %T, 0-9999 C
Stability:	±0.002 A/h at 500 nm
Stray light:	≤0.1 %T
Data output:	USB port
Printer port:	parallel port
Display:	128 x 64 Dots LCD
Standard cell holder:	4-position 10 mm cell changer
Lamps:	D2 lamp and W lamp
Dimension (W x D x H):	460 x 360 x 225 mm
Weight:	18 kg
Power supply:	220 V/50 Hz or 110 V/60 Hz
Guarantee:	3 years

1



Type	PK	Cat. No.
LLG-uniSPEC2, with EU-plug	1	6.263 610
LLG-uniSPEC2, with UK-plug	1	6.263 611

## 2 Spectrophotometer LLG-uniSPEC 4

uniSPEC 4 is a reasonably priced UV/VIS-spectrophotometer suitable for advanced pharmaceutical, biochemical and clinical lab applications as well as quality control and routine measurements such as kinetics, wavelength scans, quantitative analysis, multi-wavelength and DNA/Protein analysis. It is possible to store and save 200 calibration curves. A Real-time clock to help state date and time of results.

**Supplied with:** Photometer, manual, 4 glass cells and 2 quartz cells.

### Specifications

Optical System:	single beam, grating 1200 lines/ mm, silicium photodiode-detector
Wavelength Range:	190 to 1100 nm
Bandwidth:	1.8 nm
Wavelength Accuracy:	±0.3 nm
Wavelength Repeatability:	0.2 nm
Wavelength Setting:	automatic
Photometric Accuracy:	±0.3 %T
Photometric Repeatability:	0.2 %T
Photometric Range:	-0.3-3A, 0-200 %T, 0-9999 C
Stability:	±0.002 A/h at 500 nm
Baseline Flatness:	±0.001 A/h
Stray Light:	≤0.05 %T at 220 nm, 360 nm
Data Output:	USB port
Printer Port:	parallel port
Display:	320 x 240 Dots LCD
Standard Cell Holder:	4-position 10 mm cell changer
Lamps:	D2 lamp and W lamp
Dimension (W x D x H):	625 x 430 x 206 mm
Weight:	28 kg
Power supply:	220 V/50 Hz or 110 V/60 Hz
Guarantee:	3 years

2



Type	PK	Cat. No.
LLG-uniSPEC4 with EU-plug	1	6.263 620
LLG-uniSPEC4 with UK-plug	1	6.263 621

# Spectrophotometers

## Photometers

### 1 2 Spectrophotometer Genova Nano

Jenway

The Genova Nano micro-volume spectrophotometer measures small sample volumes as low as 0.5 µl with a high degree of accuracy, reproducibility and speed. It has the ability to measure small sample volumes, conserves precious samples, reduces the need for dilutions and eliminates the requirement for cuvettes. Cleaning is quick and simple; wiping the read heads with a microfiber cloth removes all trace of the sample, allowing faster change over between samples and therefore increasing sample throughput.

- Micro-volume, life science and standard spectrophotometer in one
- Ideal for DNA, RNA and Protein measurements
- Only 0.5 µl sample volume required
- Purity scan over entire wavelength range, 198 to 1000 nm
- Detects DNA concentrations as low as 2 ng/µl
- Easy and quick to clean
- Results are reproducible, accurate and easily obtained
- Method and result saving to USB memory stick
- 3 year warranty including Xenon lamp

#### Specifications

##### Wavelength

Range: 198 to 1000 nm  
 Accuracy: ±2 nm  
 Spectral Bandwidth: 5 nm  
 Path Length: 0.2 or 0.5 mm (auto-ranging)

##### Photometrics

Absorbance Range: 15 to 125 A (10 mm equivalent)  
 Absorbance Accuracy: ±2 % at 260 nm  
 Absorbance Precision: <0.005 A between 0 and 1 A (at 260 nm and 0.5 mm)

##### Concentration/Quantitation

Maximum Concentration: 6000 ng/µl (dsDNA) (at 0.2 mm)  
 Detection Limit: 2 ng/µl (dsDNA) (at 0.5 mm)  
 Measurement Time: <6.5 seconds  
 Minimum Sample Size: 0.5 µl (at 0.2 mm) 1.0 µl (at 0.5 mm)  
 Maximum Sample Size: 5 µl (in Nano mode)  
 DNA measurement modes: dsDNA, ssDNA, RNA, Oligonucleotides, 260/280, 260/230, Variable ratio  
 Protein measurement modes: BCA, Bradford, Lowry, Biuret, Direct UV  
 Dimensions (W x D x H): 275 x 400 x 220 mm  
 Weight: 7.7 kg

Type	PK	Cat. No.
Genova Nano	1	9.775 171



## 1 2 Spectrophotometer Genova Plus, for Life Science

The Genova Plus is a UV/visible spectrophotometer dedicated to life science analysis. Jenway

This spectrophotometer allows the measurement of DNA concentration dsDNA, ssDNA, RNA, Oligonucleotides, 260/ 280, 260/ 230, Variable ratio., with an optional correction at 320 nm. The Genova Plus is pre-programmed with Bradford, Lowry, Biuret, BCA and Direct UV methods for protein analysis. The Genova Plus has an OD measurement mode enabling users to measure optical density at 600 nm for cell harvesting. The purity scan across the entire wavelength range from 198 nm to 1000 nm displays any distorted peaks enabling impurities to be easily identified. With the touch of a button the Genova plus can be converted to a standard spectrophotometer for basic scanning, quantification, kinetics and multi-wavelength operations. 2 in 1 Spectrophotometer.

- Improved navigation system for easy and intuitive usability
- Improved optics
- Pre-programmed for DNA/RNA analysis
- DNA purity scan across entire wavelength range
- Protein methods pre-loaded
- Standard spectrophotometer functions
- Press to read xenon lamp
- Icon driven software
- Small footprint
- Save methods and results to USB memory stick
- 3 year warranty including xenon lamp

**Supplied with:** Single micro-cuvette holder, 4GB USB memory stick, instruction manual and universal power supply.

### Specifications

#### Wavelength

Range:	198 to 1000 nm
Wavelength repeatability:	±0.5 nm
Resolution:	1 nm
Accuracy:	±2 nm
Spectral bandwidth:	5 nm
Scan interval:	1, 2 and 5 nm

#### Photometrics

Absorbance Range:	-0.300 to 2.500 A
Transmittance Range:	0 to 199.9 %T
Photometric Accuracy:	±1 %T, ±0.01 A at 1.000 Absorbance

#### Concentration/Quantitation

Range:	0 to 9999
Resolution:	Selectable 1/0.1/0.01/0.001
Outputs:	USB, Analogue, RS-232, internal printer (optional)
Dimensions (W x D x H):	275 mm x 400 mm x 220 mm
Weight:	6 kg

Type	PK	Cat. No.
Life Science Analyser Genova Plus	1	9.775 160

1



2



# Spectrophotometers

## Cuvettes and accessories

### Cuvettes for Absorption Measurement, UV- Range

Wavelength Range: 200 nm - 2500 nm  
Optical material: Quartz SUPRASIL®

Hellma Analytics

Type	Path length	Capacity	Description	External dimensions (W x D x H) mm	internal width (mm) / aperture (mm x mm/Ø)	Centre height mm	PK	Cat. No.
	mm	µl						
macro	100	35000	PTFE lid	12,5 x 102,5 x 45	9,5		1	6.088 125
macro	10	3500	PTFE lid	12,5 x 12,5 x 45	9,5		1	9.144 210 <b>1</b>
macro	1	350	Glass-lid	12,5 x 3,5 x 45	9,5		1	9.144 201
macro	20	7000	PTFE lid	12,5 x 22,5 x 45	9,5		1	9.144 220
macro	2	700	Glass-lid	12,5 x 4,5 x 45	9,5		1	9.144 202
macro	40	14000	PTFE lid	12,5 x 42,5 x 45	9,5		1	9.144 240
macro	50	17500	PTFE lid	12,5 x 52,5 x 45	9,5		1	9.144 250
macro	5	1750	PTFE lid	12,5 x 7,5 x 45	9,5		1	9.144 205
macro	10	3500	PTFE stopper	12,5 x 12,5 x 46	9,5		1	9.144 610 <b>2</b>
macro	1	350	PTFE stopper	12,5 x 3,5 x 52	9,5		1	9.144 601
macro	2	700	PTFE stopper	12,5 x 4,5 x 52	9,5		1	9.144 602
macro	50	17500	2 PTFE stopper	12,5 x 52,5 x 46	9,5		1	9.144 650
macro	5	1750	PTFE stopper	12,5 x 7,5 x 46	9,5		1	9.144 605
macro	10	3500	Screw cap **	12,5 x 12,5 x 56	9,5		1	6.801 219
semi-micro	10	1400	PTFE lid	12,5 x 12,5 x 45	4		1	9.144 460
semi-micro	50	7000	PTFE lid	12,5 x 52,5 x 45	4		1	9.144 465
semi-micro	10	1400	PTFE lid *	12,5 x 12,5 x 45	4		1	9.144 490
semi-micro	10	1000	PTFE lid	12,5 x 12,5 x 45	4	15.2	1	6.250 017
semi-micro	10	1400	PTFE stopper	12,5 x 12,5 x 46	4		1	9.144 730
semi-micro	10	1400	PTFE stopper *	12,5 x 12,5 x 46	4		1	9.144 372 <b>3</b>
semi-micro	10	1400	Screw cap **	12,5 x 12,5 x 56	4		1	6.076 639
micro	10	700	PTFE lid	12,5 x 12,5 x 45	2		1	9.144 751
micro	10	700	PTFE lid *	12,5 x 12,5 x 45	2		1	9.144 756 <b>4</b>
micro	10	500	PTFE lid	12,5 x 12,5 x 45	2	15.2	1	6.084 722
micro	10	500	PTFE lid *	12,5 x 12,5 x 45	2	15.2	1	6.076 641
micro	10	400	PTFE lid	12,5 x 12,5 x 40	2		1	9.144 758
micro	10	400	PTFE lid *	12,5 x 12,5 x 40	2		1	9.144 385
ultramicro	10	160 <sup>M</sup>	PE stopper	12,5 x 12,5 x 45	8 x 2	15.0	1	9.190 969
ultramicro	10	160 <sup>M</sup>	PE stopper	12,5 x 12,5 x 45	8 x 2	8.5	1	9.190 966
ultramicro	10	100 <sup>M</sup>	PE stopper	12,5 x 12,5 x 45	5 x 2	15.0	1	9.190 968
ultramicro	10	100 <sup>M</sup>	PE stopper	12,5 x 12,5 x 45	5 x 2	8.5	1	9.190 965
ultramicro	10	50 <sup>M</sup>	PE stopper	12,5 x 12,5 x 45	2,5 x 2	15.0	1	9.190 967
ultramicro	10	50 <sup>M</sup>	PE stopper	12,5 x 12,5 x 45	2,5 x 2	8.5	1	9.190 964

<sup>M</sup> = Measuring volume

\*black side walls and base

\*\*with silicone rubber seal and with ISO thread GL 14



### Cuvettes for Absorption Measurement, NIR- Range

300 Wavelength Range: 200 nm - 3500 nm  
Optical material: Quartz SUPRASIL®

Hellma Analytics

Type	Path length	Capacity	Description	External dimensions (W x D x H) mm	internal width mm	PK	Cat. No.
	mm	µl					
macro	10	3500	PTFE-lid	12,5 x 12,5 x 45	9,5	1	6.086 375
macro	10	3500	PTFE-stopper	12,5 x 12,5 x 46	9,5	1	6.052 763

### Cuvettes for Fluorescence Measurement, Vis-Range

Wavelength Range: 320 nm - 2500 nm  
Optical material: Special optical glass

Hellma Analytics

Type	Path length	Capacity	Description	External dimensions (W x D x H) mm	internal width mm	PK	Cat. No.
	mm	µl					
macro	10 x 10	3500	PTFE-lid	12,5 x 12,5 x 45	10	1	9.144 760
macro	10 x 10	3500	PTFE-stopper	12,5 x 12,5 x 46	10	1	9.144 770

### Cuvettes for Fluorescence Measurement, UV-Range

Wavelength Range: 200 nm - 2500 nm  
Optical material: Quartz SUPRASIL®

Hellma Analytics

Type	Path length mm	Description	External dimensions (W x D x H) mm	internal width (mm) / aperture (mm x mm/Ø)	Centre height mm	PK Cat. No.
macro	10 x 10	PTFE lid, 4 window	12,5 x 12,5 x 45	10		1 9.144 761
macro	10 x 10	PTFE stopper, 4 window	12,5 x 12,5 x 46	10		1 9.144 771
semi-micro	10 x 4	PTFE lid	12,5 x 12,5 x 45	4		1 9.144 781 <b>1</b>
semi-micro	10 x 4	PTFE stopper	12,5 x 12,5 x 46	4		1 9.144 791
semi-micro	10 x 4	screw cap *	12,5 x 12,5 x 56	4		1 6.222 630
semi-micro	10 x 4	PTFE stopper **	12,5 x 12,5 x 49,5	4		1 6.080 511
micro	10 x 2	PTFE stopper	12,5 x 12,5 x 40	2		1 9.144 759
micro	10 x 2	PTFE lid	12,5 x 12,5 x 45	2	20.0	1 6.081 483
micro	10 x 2	PTFE lid	12,5 x 12,5 x 45	2		1 9.144 801
ultramicro	3 x 3	PE stopper, 3 window	12,5 x 12,5 x 45	5 x 3	15.0	1 9.144 391 <b>2</b>
ultramicro	3 x 3	PE stopper, 3 window	12,5 x 12,5 x 45	5 x 3	8.5	1 9.144 390
ultramicro	10 x 2	PE stopper, 3 window	12,5 x 12,5 x 45	5 x 2	15.0	1 6.051 579
ultramicro	10 x 2	PE stopper, 3 window	12,5 x 12,5 x 45	5 x 2	8.5	1 6.510 380

\* with silicone rubber seal and with ISO thread GL 14

\*\*for magnetic stirrers



9.144 781



9.144 391

### 3 Micro Volume Analysis TrayCell

Fibre-Optic Micro Measuring Cell. Accessory for standard spectrophotometer for droplet analysis.

Hellma Analytics

**Sample volume 0.7 µl to 10 µl.**

Typical applications are:

- nucleic acid analysis.
- determination of the incorporation frequency of fluorescent dye labels (FOI).
- protein analysis (A280, BCA, Lowry etc.).
- all UV/Vis analysis utilising wavelength range 190 nm to 1100 nm.
- material: SUPRASIL® quartz.

Please state the required cell centre height (8.5 mm, 15 mm or 20 mm) when placing your order. TrayCell is supplied as standard with caps for both 0.2 mm and 1 mm light path. Additional light path of 0.1 mm and 2 mm are available.

Path length mm	Capacity µl	Height mm	Centre height mm	PK	Cat. No.
0,2 / 1	0.7 - 10	68.5 / 75 / 80	8.5 / 15 / 20	1	6.224 913
0,2 / 1	0.7 - 10	53 / 59.5 / 64.5	8.5 / 15 / 20	1	6.230 433



### 4 HELLMANEX® III liquid

HELLMANEX® III is an alkaline liquid concentrate used for the highly effective cleaning of glass or silica cells and other sensitive optical components.

Hellma Analytics

Special surface-active substances facilitate the residue-free rinsing of the optical components once they have been cleaned.

Available in 1.3 kg PE-bottle.

Type	Capacity Litres	PK	Cat. No.
HELLMANEX® III	1	1	9.190 985



# Spectrophotometers

## Cuvettes and accessories



### 1 LLG-Disposable cells, PS

The shape and narrow wall thickness of the cuvettes enable an excellent heat transfer resulting in constant sample temperatures during photometric measurements.

- Cavity sorted
- Glass clear polystyrene (PS)
- Applicable wavelength range 340 nm to 900 nm
- Very low variation of extinction values
- Excellent optical transmission range
- Path length 10 mm
- Overall dimensions 12.5 mm x 12.5 mm x 45 mm
- Styrofoam racks: 100 cuvettes in a styrofoam box with cover

Description	Capacity ml	Path length mm	Material	Operating range nm	PK	Cat. No.
Macro	4.0	10.0	PS	340 to 900	100	<b>9.406 011</b>
Semi-micro	1.6	10.0	PS	340 to 900	100	<b>9.406 012</b>



### 2 Plastic disposable UV-Cuvettes for the UV/VIS range

BRAND

UV-transparent plastic Brand cuvettes replace fragile glass or quartz cuvettes in many applications that were previously beyond the range of plastic cuvettes. Designed for single use, they eliminate time-consuming washing, and the cross-contamination risk associated with washing and re-using cuvettes. Their very high chemical resistance allows use with most polar solvents, acids and alkalis (e.g. Acetone, Butanone, DMF, hydrochloric acid). The UV-Cuvette micro has a working range from 230 nm - sample volumes as small as 70 µl are sufficient.

The UV-Cuvette is also available in macro and semi-macro sizes for applications from 230 nm to 900 nm.

- Specially designed for photometric determination of proteins, ssDNA, dsDNA, TNA and oligonucleotides in the UV range.
- Ideally suited for measurements at 260 nm, 280 nm and in the visible range.
- Two different centre heights (8.5 mm and 15 mm) allow use in most commercial spectrophotometers without adapters (for more information please visit the Brand website, [www.brand.de](http://www.brand.de)).
- Round caps provide a tight seal and allow storage of samples at -20 °C.
- Coloured caps are available for easy sample identification.
- Grouped by mould cavity number to minimize extinction value variation.
- Recessed windows protect against scratching.
- Arrow indicates optical path orientation.

Description	Path length mm	Capacity µl	Operating range nm	PK	Cat. No.
UV micro cuvette (centre height 8.5 mm)	10,0	70 to 850	230 to 900	100	<b>9.406 120</b>
UV micro cuvette (centre height 8.5 mm)	10,0	70 to 850	230 to 900	500	<b>9.406 121</b>
UV micro cuvette (centre height 15 mm)	10,0	70 to 550	230 to 900	100	<b>9.406 122</b>
UV micro cuvette (centre height 15 mm)	10,0	70 to 550	230 to 900	500	<b>9.406 123</b>
Cap for UV micro cuvette, blue				100	<b>9.406 124</b>
Cap for UV micro cuvette, yellow				100	<b>9.406 125</b>
Cap for UV micro cuvette, green				100	<b>9.406 126</b>
Cap for UV micro cuvette, orange				100	<b>9.406 127</b>
UV macro cuvette	10,0	2.5 ml to 4.5 ml	230 to 900	100	<b>9.406 119</b>
UV semi-micro cuvette	10,0	1.5 to 3.0 ml	230 to 900	100	<b>9.406 118</b>



### 3 Cuvette rack, PP

Grey. 16 numbered positions. Autoclavable (121 °C).

BRAND

Width mm	Length mm	Height mm	PK	Cat. No.
70	210	38	1	<b>9.145 020</b>



### Densitometer DEN-1/DEN-1B

Compact and efficient benchtop densitometers for measuring turbidity of cell suspensions in a variety of life science applications. The densitometers are designed and factory calibrated to measure turbidity in the range of 0.3 to 5.0 McFarland units (DEN-1) 0.00 to 6.00 McFarland units (DEN-1B) with a small standard deviation. If required, they can deliver a wider measurement range (up to 15.00 McFarland units), but with a greater standard deviation.

Grant

1



9.721 057

#### Specifications

Light source:	light diode
Wavelength:	565 nm ±15 nm
Measuring range DEN-1:	0.3 to 5.0 McF
Measuring range DEN-1B:	0.0 to 6.00 McF
Standard deviation at 3.00 McF units:	±0.1 McF
Precision:	±3 %
Measurement time:	1 sec
Tubes diameter, external:	18 mm
Tube diameter with D16 adapter (included):	16 mm
Sample volume:	≥2 ml
Dimensions (W x D x H):	165 x 115 x 75 mm
Power supply:	12V (DEN-1B additionally 3 x AAA batteries)

Type	Description	PK	Cat. No.
DEN-1		1	6.234 576
DEN-1B		1	9.721 057
DEN MCF STDS	Set of 5 reference standards (0.5/1.0/2.0/3.0/4.0)	1	6.237 141

### 3 Cell density meter DSM

For measurement of E. Coli, yeast cells and other biological agents in suspension at 600 nm wavelength

Laxco

2

- Determination of McFarland units, % transmission (% T) and absorption (Abs)
- Portable, light-weight and battery-powered instruments
- Easy-to-use and easy-to-clean touch panel
- Small, space saving footprints
- Interval-mode for time-lapse recording

The single cuvette model DSM-Cuvette accepts 10 mm path length semi-micro and macro cuvettes or 14 to 17 mm round tubes. The DSM-Micro model can work with volumes down to 20 micro litres. The multiple channel model DSM-Dual combines the features of DSM-Cuvette and DSM-Micro and therefore allows multiple samples to be tested. All models are equipped with a drain channel under the sample site.

- One button operation, extremely easy workflow to allow quick testing
- USB 2.0 port for data collection, support automated data collection
- Direct results viewing on the instrument's screen
- LED light source for no maintenance and extended instrument life
- Fully built-in controls, no PC or software required
- Software for saving data as excel files available (please order separately)



6.266 312

3



#### Specifications

Wavelegh:	600 nm
Bandwidth:	10 nm
Reproducibility:	±0.02 Abs at 1 Abs
Absorbency Accuracy:	±0.05 Abs at 1 Abs
Absorbency Range:	-0.3 to 2.99 Abs
Stray light:	<1 % T
Path length:	10 mm
Memory:	2000 data points
Display:	LCD/3.5"
Dimensions (W x D x H):	173 x 194 x 84 mm
Power requirements:	NiMH battery or power supply 100-240 V

Type	PK	Cat. No.
DSM-Micro	1	6.266 310
DSM-Cuvette	1	6.266 311
DSM-Dual	1	6.266 312
Software for Density meters DSM	1	6.266 313

# Liquid Handling

## Capillary tubes and Pasteur pipettes



### 1 Micro-haematocrit capillary tubes

Comply with BS 4316-68 and DIN ISO 12 772 specifications. For use in microhaematocrit centrifuges. Without calibration marks. BRAND

Heparinised: For capillary blood sampling. The entire inner surface is coated with sodium-heparinate. Code: red.

Non-heparinised: To determine heparinised venous blood. Code: blue.

Length: 75 mm  $\pm$  0.5 mm  
 Wall thickness: approx. 0.2 mm  
 Internal diameter: 1.1 to 1.2 mm  
 External diameter: 1.5 to 1.6 mm

Type	PK	Cat. No.
Heparinised	100	<b>9.411 215</b>
Non-heparinised	100	<b>9.411 220</b>



### 2 Haematocrit sealing compound

Non-drying vinyl plastic compound on a plastic plate. For rapid and safe sealing of micro-haematocrit capillaries. BRAND

24 capillaries can be placed upright in the numbered storage places on each side of the plate.

Type	PK	Cat. No.
Haematocrit sealing compound	10	<b>9.411 240</b>



### 3 LLG-Pasteur pipettes, Soda-lime glass

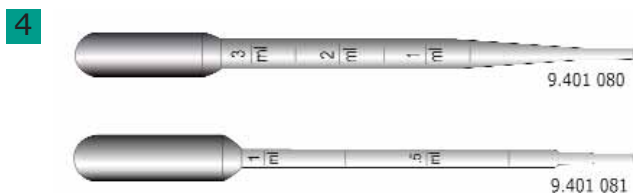
Single use. With uniform shape and length. With long drawn, 1.1 mm diameter fine tip, 20 mm suction tube and constriction for tight fitting of cotton wool plugs. External diameter: 7.1 mm. Please order Pipette teats separately.

Length mm	PK	Cat. No.
150	1000	<b>9.411 015</b>
230	1000	<b>9.411 020</b>

### 4 LLG-Pasteur Pipettes, PE

Manufactured from transparent PE. Sterile or non-sterile. Graduated.

Capacity ml	Type	Length mm	PK	Cat. No.
1.0	non-sterile	150	500	<b>9.401 081</b>
3.0	non-sterile	150	500	<b>9.401 080</b>
1.0	sterile, single wrapped	150	1000	<b>9.401 085</b>
3.0	sterile, single wrapped	150	1000	<b>9.401 084</b>



### 1 2 3 4 5 6 LLG-Digital single channel microliter pipettes

Available with fixed or adjustable volume.

#### Ergonomic shape for a very comfortable handling

The rounded shape and the unique soft grip of the LLG pipette ensures a safe and comfortable handling. A minimal effort is required for pipetting so that the risk of repetitive strain injuries (RSI) is reduced.

#### Maximum Precision and Accuracy

Thermal insulation of the internal components, using the innovative soft grip, improves the accuracy.

#### Universal Blow-out System

The two-step plunger operation allows reverse pipetting. This also facilitates last drop dispensing by soft plunger movements. High accuracy and precision are guaranteed.

#### Colour-coded push-button for quick operation

The colour code enables a quick choice of the right pipette depending on the volume to be pipetted (see corresponding column in the table below).

#### Easy Maintenance and Adjustment

The volume setting is easy and precise, using the push-button, even when wearing gloves. Maintenance and adjustment take only a few minutes with just one tool. (Included in delivery)

#### Contamination-free Pipetting

The pipette is fully autoclavable, ideal for applications where sterility is important.

#### Satisfaction Guaranteed

Each pipette is individually tested and calibrated twice, conforming to EN ISO 8655 and DIN 12600 Standards. A certificate is included.

Made in Germany, CE certified.



### LLG-Digital single channel microliter pipettes, fix

Capacity µl	Increments µl	Accuracy max. vol. (≤ ± R%)	Precision max. vol. (≤ CV%)	Colour code	PK	Cat. No.
5	-	1.0	0.5	grey	1	9.277 515
10	-	1.0	0.5	grey	1	9.277 516
20	-	4.5	1.0	grey	1	9.277 517
25	-	2.5	0.6	yellow	1	9.277 518
50	-	2.5	0.6	yellow	1	9.277 519
100	-	2.5	0.6	yellow	1	9.277 520
200	-	2.5	0.6	blue	1	9.277 521
250	-	2.9	0.6	blue	1	9.277 522
500	-	2.9	0.6	blue	1	9.277 523
1000	-	2.4	0.6	violet	1	9.277 524
2000	-	2.4	0.6	violet	1	9.277 525
2500	-	2.4	0.6	violet	1	9.277 526
5000	-	2.4	0.6	turquoise	1	9.277 527
10000*	-	3.0	0.6	turquoise	1	9.277 528

\* 10000 µl pipette does not have a tip ejector

### LLG-Digital single channel microliter pipettes, variable

Capacity µl	Increments µl	Accuracy max. vol. (≤ ± R%)	Precision max. vol. (≤ CV%)	Colour code	PK	Cat. No.
0.1 - 2.5	0.05	1.5	0.8	grey	1	9.280 000
0.5 - 10	0.1	1.0	0.5	grey	1	9.280 001
2 - 20	0.5	4.5	1.0	grey	1	9.280 002
10 - 100*	1.0	2.8	0.8	yellow	1	9.280 003
20 - 200	1.0	2.5	0.6	yellow	1	9.280 004
100 - 1000*	5.0	2.9	0.6	blue	1	9.280 005
500 - 5000*	50.0	2.4	0.6	purple	1	9.280 006
1000 - 10000**	100.0	3.0	0.6	turquoise	1	9.280 007

\*Filters for pipettes available on request.

\*\* 10000 µl pipette does not have a tip ejector

# Liquid Handling

## Microlitre pipettes

1



### 1 LLG-Pipette stands for single channel microliter pipettes, PMMA

White, stable plastic (PMMA), industrial grade. Pipettes are held in an ergonomic position for easy withdrawal and replacement. Adjustable heights. Suitable for all kinds of pipettes.

Description	PK	Cat. No.
for 4 pipettes	1	9.280 014
for 6 pipettes	1	9.280 011

2



2 3 4

### LLG-Electronic single channel microliter pipettes, variable

The LLG-Electronic pipettes have been designed for maximum performance, accuracy and simple operation. The microprocessor-based system reduces the possibility for human error. Lightweight and ergonomic controls help to reduce the risk of repetitive strain injuries which is common in manual pipetting. Attractively designed with an extraordinary finishing of parts due to high grade mould selection. That gives the LLG-Electronic Pipette its final touch.

#### Ingenious single operation

All software controls and functions of the LLG-Electronic Pipettes are done by one patented user-friendly innovative knob (jog-dial). No small switches and no snippy button keys as in old, conventional electronic pipettes. Each pipette can be easily selected and identified by colour coding.

#### Modern visual display

An innovatic OLED-Display for a graphic readout of status indicator for all functions of the new LLG-Electronic Pipettes.

#### Self-calibration system

The user can calibrate the pipettor for solutions of different viscosity. The system also permanently controls all functions and indicates all errors.

#### Resourceful SCS-System

This system controls the piston movement of the LLG-Electronic Pipettes and guarantees highest precision and accuracy.

#### Calibration

The LLG-Electronic Pipette is adjusted for the delivery (Ex) of its nominal volume as defined in ISO 8655.

3



4

Capacity	Increments	Accuracy max. vol. ( $\leq \pm R\%$ )	Precision max. vol. ( $\leq CV\%$ )	PK	Cat. No.
$\mu\text{l}$	$\mu\text{l}$				
0.2 - 10	0.01	5.0	6.0	1	9.281 050
5 - 100	0.1	2.5	1.5	1	9.281 051
10 - 200	0.2	0.9	0.5	1	9.281 052
50 - 1000	1.0	0.4	0.5	1	9.281 053
100 - 5000	5.0	0.4	0.5	1	9.281 054

All LLG-Electronic pipettes are supplied with EU, UK and US chargers.

5



### 5 Pipette stands Flip & Grip™ for single and multi-channel microliter pipettes

Unique pipette holder that gives you the option of using on the bench top, or hanging under shelf holder to help maximize your working space available.

Heathrow Scientific

- Will hold up to 6 single channel pipette, or a combo of 3 single and 3 multichannel
- Holds most common brands. Rubber grips prevent scratching pipette
- Holder rotates for easy pipette selection and storage
- Weighted base. Fixing screw provided for under shelf option
- Dimensions (W x H): 193 x 332 mm (bench top style); 193 x 187 mm (under shelf style)

Colour	PK	Cat. No.
Blue	1	9.194 002
Lime	1	9.194 003
Magenta	1	9.194 004

### 1 Single channel microliter pipettes LLG-proMPL

The new LLG-proMPL single channel microliter pipettes combine high accuracy and reliability with ergonomic and extremely low force pipetting relieving stress from your hand and thumb. This high precision instrument has been built to maintain accuracy for many years making it the ideal choice for all scientific work requiring exact and reproducible pipetting.

The LLG-proMPL pipettes are equipped with an adjustable eject button\* allowing right and left handed users to set the button according to their preferences. The built in volume locking mechanism and competitive pricing complete these high quality precision pipettes. Available volume ranges from 0.2 µl to 10 ml.

- High quality Made in France
- High accuracy, reliability and reproducibility
- Extremely light weight while the robustness still remains
- Perfect ergonomics for highest comfort
- Colour-coded push-button for quick operation
- Extremely low pipetting forces
- Built-in volume locking for error-free results
- Tip ejector button\*, adjustable for right- and left-handed users
- Completely autoclavable at 121 °C
- Including individual calibration certificate (according to EN ISO 8655)

\*not available for 5 ml and 10 ml pipettes

Capacity	Increments	Accuracy max. vol. ( $\leq \pm R\%$ )	Precision max. vol. ( $\leq CV\%$ )	Colour code	PK	Cat. No.
µl	µl					
0,1-2	0,002	1,65	0,75	dark orange	1	6.270 420
0,5-10	0,02	1,10	0,44	red	1	6.270 421
2-20	0,02	1,00	0,33	light yellow	1	6.270 422
10-100	0,2	0,80	0,17	light orange	1	6.270 423
20-200	0,2	0,80	0,17	dark yellow	1	6.270 424
100-1000	2	0,80	0,17	dark blue	1	6.270 425
500-5000	2	0,66	0,18	purple	1	6.270 426
100-10000	20	0,60	0,18	light blue	1	6.270 427



# Liquid Handling

## Microlitre pipettes

### Microliter pipettes Eppendorf Research® plus

The ultra light Eppendorf Research plus pipettor meets the highest requirements in precision and accuracy - combined with ultimate ergonomics and increased flexibility.

*Eppendorf Vertrieb*

A spring loaded tip cone, a secondary calibration option, an improved volume display - and all this within a fully autoclavable pipette.

- Calibrate your Research plus to your needs
- Autoclave the entire pipettor, or only the lower housing
- Durability has been tested thoroughly and meets the highest quality requirements
- Resistance to chemical, thermal and mechanical stress is now unchallenged
- Volume adjustment: Only a few turns needed to reach your desired volume
- Control button: Requires minimal operating force, colour indicates volume, ergonomically positioned for comfort
- Ejector: requires minimal operating force, ergonomically positioned for comfort
- Volume display: 4 digits, magnifying window
- Calibration display & adjustment opening: Calibrate your pipettor to a specific liquid and volume.

1



### 1 Single channel microliter pipettes Eppendorf Research® plus, variable

- Eppendorf PerfectPiston™: Ultra light piston made of Fortron®
- quick connection clip: easily removable lower part (not in 5 ml and 10 ml pipettes)
- spring loaded tip cone: Improved ergonomics, tight fit to the tip (except 5 ml and 10 ml pipettors)

*Eppendorf Vertrieb*

Capacity	Increments	Accuracy max. vol.	Precision max. vol.	Colour code	PK	Cat. No.
$\mu\text{l}$	$\mu\text{l}$	( $\leq \pm \text{R}\%$ )	( $\leq \text{CV}\%$ )			
0,1 - 2,5	0.002	1.4	0.7	dark grey	1	<b>9.283 200</b>
0,5 - 10	0.01	1.0	0.4	mid grey	1	<b>9.283 201</b>
2 - 20	0.02	1.0	0.3	yellow	1	<b>9.283 202</b>
2 - 20	0.02	1.0	0.3	light grey	1	<b>9.283 208</b>
10 - 100	0.01	0.8	0.2	yellow	1	<b>9.283 203</b>
20 - 200	0.02	0.6	0.2	yellow	1	<b>9.283 204</b>
30 - 300	0.02	0.6	0.2	orange	1	<b>9.283 209</b>
100 - 1000	1.0	0.6	0.2	blue	1	<b>9.283 205</b>
500 - 5000	2.0	0.6	0.15	purple	1	<b>9.283 206</b>
1000 - 10000	10.0	0.6	0.15	turquoise	1	<b>9.283 207</b>

2



### 2 Multichannel microliter pipettes Eppendorf Research® plus, variable

- Eppendorf PerfectPiston™: ultra-light piston made of Fortron® (except 10  $\mu\text{l}$  pipettors)
- quick connection clip: Easily removable lower housing
- spring loaded tip cone: improved ergonomics, tight fit to the tip
- channel indicator: - use the pipette the same way round - all the time
- remove individual channels: gain flexibility for individual needs

*Eppendorf Vertrieb*

Channels	Capacity	Increments	Accuracy max. vol.	Precision max. vol.	Control button	PK	Cat. No.
	$\mu\text{l}$	$\mu\text{l}$	( $\leq \pm \text{R}\%$ )	( $\leq \text{CV}\%$ )	colour		
8	0.5 - 10	0.01	1.0	0.4	mid grey	1	<b>9.283 222</b>
8	10 - 100	0.1	0.8	0.2	yellow	1	<b>9.283 224</b>
8	30 - 300	0.2	0.6	0.2	orange	1	<b>9.283 226</b>
12	0.5 - 10	0.01	1.0	0.4	mid grey	1	<b>9.283 223</b>
12	10 - 100	0.1	0.8	0.2	yellow	1	<b>9.283 225</b>
12	30 - 300	0.2	0.6	0.2	orange	1	<b>9.283 227</b>

### 1 LLG-Pipette tips *economy*, non-sterile

Certified free of DNase, RNase, suitable for microbiology. Guaranteed metal-free.

LLG universal fit tips are engineered for a wide variety of pipettes and are ideal for laboratories with multiple brands of pipettes. Our universal tips feature the universal grip design, using flexible materials with a series of bands and supports producing a positive seal. LLG tips have thin walls and a small surface area at the tip, greatly minimising the possibility of the tip retaining sample droplets. In addition the small surface area reduces the touch-off angle between the outer tip wall and the receiving sample tube. This reduced touch-off angle virtually eliminates the potential of capillary retention between the tip orifice and tube wall. Each of our tips is moulded to give a flash-free and uniform delivery orifice for consistent accuracy and reproducible sample delivery. All our tips are provided with calibration lines at specific volumes, acting as visual checks to minimise any risk of errors during sample aspiration.



Capacity	Colour	Package contents	PK	Cat. No.
<b>µl</b>				
0.1 - 10	clear	1 bag of 1000	1000	<b>9.409 099</b>
0.1 - 10	clear	10 racks of 96	960	<b>9.409 045</b>
1 - 200	yellow	1 bag of 1000	1000	<b>9.409 046</b>
1 - 200	clear	10 racks of 96	960	<b>6.253 577</b>
1 - 200	yellow	10 racks of 96	960	<b>9.409 047</b>
100 - 1000	blue	2 bags of 500	1000	<b>9.409 048</b>
100 - 1000	blue	10 racks of 96	960	<b>9.409 049</b>
100 - 5,000*	clear	1 bag of 250	250	<b>9.409 097</b>
100 - 5,000**	clear	1 bag of 250	250	<b>6.254 364</b>
1,000 - 10,000	clear	1 bag of 100	100	<b>9.409 098</b>

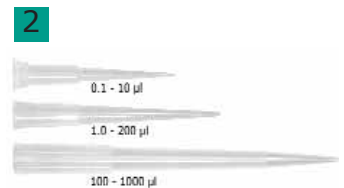
\*for manual pipettors

\*\*for electronic pipettors

### 2 LLG-Low-Retention Pipette tips pipettes *premium*, non-sterile

Certified free of DNase, RNase, suitable for microbiology. Guaranteed metal-free.

Sample retention can be a major contributor to pipetting inaccuracy, and siliconization of tips has proved unsatisfactory because of autoclaving and contamination problems. For LLG pipette tips "Premium" a new polymer, Novelle-Polypropylene has been developed, that produces a "super slick surface" on our new LLG pipette tips "Premium", that actually improves with autoclaving and cannot leach from the tip surface. On average, Novelle Polymer and LLG pipette tips "Premium" reduces the tip retention by near 85 % and decreases the standard deviation of the retained volume by more than 75 %.



Capacity	Colour	Package contents	PK	Cat. No.
<b>µl</b>				
0.1 - 10	Clear	1 bag of 1000	1000	<b>9.409 038</b>
0.1 - 10	Clear	10 racks of 96	960	<b>9.409 039</b>
1 - 200	Clear	1 bag of 1000	1000	<b>9.409 041</b>
1 - 200	Clear	10 racks of 96	960	<b>9.409 042</b>
100 - 1000	Clear	2 bags of 500	1000	<b>9.409 043</b>
100 - 1000	Clear	10 racks of 96	960	<b>9.409 044</b>

### 3 LLG-Low retention filter tips *premium*, sterile

Certified free of DNase, RNase, suitable for microbiology. Guaranteed metal-free.

Sterility acc. to EN 552/ISO 11137 and DIN EN 556. Filter pore size (effective) 4 to 6 µm.



Capacity	Colour	Package contents	PK	Cat. No.
<b>µl</b>				
0.1 - 10	Clear	10 racks of 96	960	<b>9.409 033</b>
1 - 20	Clear	10 racks of 96	960	<b>9.409 034</b>
1 - 100	Clear	10 racks of 96	960	<b>9.409 035</b>
1 - 200	Clear	10 racks of 96	960	<b>9.409 036</b>
100 - 1000	Clear	10 racks of 96	960	<b>9.409 037</b>

# Liquid Handling

## Pipette tips and accessories

1



### 1 LLG-Disposable Reagent reservoirs economy, PS

LLG-disposable reagent reservoirs economy from Polystyrol have been designed for use with multi-channel pipettes and can accommodate up to 12-channel standard pipettes. Angled sides and a V-shaped bottom allow maximum recovery of reagents. All reservoirs have internal graduated volume lines and pour-spouts on the corners. 25 ml or 50 ml versions. Available as sterile and non-sterile versions.

Capacity ml	Description	PK	Cat. No.
25	non-sterile, bulk	100	<b>6.282 144</b>
25	sterile, single packed	100	<b>6.282 145</b>
50	non-sterile, bulk	100	<b>6.282 146</b>
50	sterile, single packed	100	<b>6.282 147</b>

2



### 2 Reagent Reservoirs

With 25 ml interval graduations and indents to prevent stacked reservoirs from sticking together. For multichannel pipettors. The bottom of each reservoir tapers down into a narrow trough, to help you get the last drop of liquid.

*Heathrow Scientific*

Capacity ml	Description	PK	Cat. No.
55	PVC, clear, non-sterile	100	<b>6.236 945</b>
55	PS, white, non-sterile	100	<b>9.409 663</b>
55	PS, white, sterile	50	<b>9.409 666</b>
100	PS, white, non-sterile	100	<b>9.409 664</b>
100	PS, white, sterile	50	<b>9.409 667</b>

3



### 3 4 LLG-Disposable Reagent reservoirs, PS, system with reusable base

The system consists of disposable, crystal clear polystyrene inserts that fit into reusable bases with clearly visible volume markings. The pour-back spouts in the corners of the reservoir allow pouring back the liquid into the original container without spills. The reagent reservoirs are available in 25 or 100 ml in size and are stackable for space saving storage.

#### Features and benefits:

- Light is refracted so that graduations below the liquid surface become invisible, making it easier to identify the exact desired volume line.

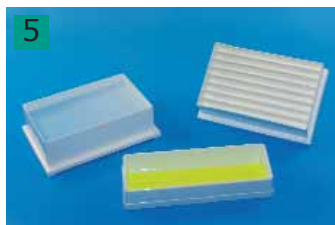
Delivery: 4 packs of 50 pcs., sterile wrapped, 1 base per case.

4



Capacity ml	Description	PK	Cat. No.
25	LLG Reagent Reservoirs incl. 1 base	200	<b>9.409 731</b>
100	LLG Reagent Reservoirs incl. 1 base	200	<b>9.409 732</b>

5



### 5 Multichannel Pipetting Reservoir

Three different, autoclavable reservoirs are available:

- 60 ml reservoir with a V-shape for optimal utilisation
- 125 ml reservoir with a sloping bottom
- 8-channel reservoir with 8 x 10 ml volume, floor sloping to one side

*Thermo Scientific*

Volume ml	PK	Cat. No.
1 x 60	5	<b>6.077 002</b>
8 x 10	10	<b>6.222 853</b>
1 x 125	10	<b>6.238 478</b>



### 1 LLG-uniDISPENS manual Serial Dispenser

The ergonomically designed manual dispenser LLG-uniDISPENS enables single handed volume selection, loading and dispensing. Due to its light weight it is ideally suited for serial dosing. You can flexibly select your desired dosing volume from 120 dosing programs for 12 tip sizes and with 10 stroke adjustments. You can view all settings and volumes at a single glance through the viewing window of the manual dispenser. The dispenser is compatible with Ritips® from Ritter, PD-Tips® from Brand, Combitips® and Combitips advanced® from Eppendorf™. The manual dispenser is made from high-quality materials and has a high resistance towards a broad range of chemicals. Thanks to a purely mechanical, maintenance-free construction, the manual dispenser is a practical and convenient device for daily laboratory use.

Adapter for 25 ml tips included in delivery.  
3 years warranty.



Description	PK	Cat. No.
LLG-uniDISPENS	1	9.284 238

### 2 3 Dispenser tips ritips® professional

- Nine tip sizes for steppers are suited for dispensing volumes from 1 µl to 50.000 µl. Ritter
- Using the direct displacement method, the tips are suitable for viscous, infectious and volatile liquids.
- Reliable and repeatable results through automated, individual tests of every single tip.
- Sterile ritips pyrogene-, ATP-, RNase- and DNA-free. The purity of the label bioclean® is certified by independent laboratories.
- A certificate of every batch is available on request.
- Lot no. on each box.
- Adapter for 25/50 ml ritips® professional is included in each package.

Suitable for use together with LLG-uniDISPENS, Multipette® 4780, HandyStep®, Minilab 100/1001, Stepmate, EasyStep, Distriman®, Multipette® plus\* and HandyStep® electronic.



Type	PK	Cat. No.
0.1 ml / Standard	100	9.284 191
0.2 ml / Standard	100	9.284 192
0.5 ml / Standard	100	9.284 193
1.0 ml / Standard	100	9.284 194
2.5 ml / Standard	100	9.284 195
5.0 ml / Standard	100	9.284 196
10.0 ml / Standard	100	9.284 197
25.0 ml / Standard	25	9.284 198
50.0 ml / Standard	25	9.284 199
0.1 ml / sterile	100	9.284 210
0.2 ml / sterile	100	9.284 211
0.5 ml / sterile	100	9.284 212
1.0 ml / sterile	100	9.284 213
2.5 ml / sterile	100	9.284 214
5.0 ml / sterile	100	9.284 215
10.0 ml / sterile	100	9.284 216
25.0 ml / sterile	25	9.284 217
50.0 ml / sterile	25	9.284 218



\* When used with Multipette® plus the display is inoperative. Electronic tip recognition suppressed.

# Liquid Handling

## Bottletop dispensers

1



9.283 806

### Bottletop dispenser LLG-uniTOPDISPENS with glass piston and clear glass cylinder

The LLG-uniTOPDISPENS is a reasonably priced bottle-top dispenser with glass piston available in 2 volumes: 10 ml and 50 ml. Precise, reliable and robust. The high quality of the material used and the precision of the grinding ensures the perfect seal of the complete dispensing system. 3 years warranty.

- Precise and reliable volume setting
- Visible dosing procedure
- Valve block made of PP gives optimised protection of the glass made dosing cylinder
- Precise grinding of the glass piston into the glass cylinder forms a perfect seal
- Ergonomic finger guard
- Delivered with 2 PP-adapters GL 40 and 45
- With glass piston and clear glass cylinder

Description	Volume ml	Graduations ml	Accuracy max. vol. ( $\leq \pm R\%$ )	Precision max. vol. ( $\leq CV\%$ )	PK	Cat. No.
LLG-uniTOPDISPENS	2 - 10	0.5	0.6	0.2	1	<b>9.283 806</b>
LLG-uniTOPDISPENS	10 - 50	1.0	0.6	0.2	1	<b>9.283 808</b>

2



### Bottletop dispenser LLG-uniTOPDISPENS 2

The combination of a springless PTFE valve and PTFE piston with chemically resistant ETP O-ring enables dispensing of both organic reagents as well as bases, thus, eliminating the need to buy different dispensers for different applications. The improved design of the uniTOPDISPENS 2 bottle top dispenser including a re-circulation valve allows a smooth, precise and reliable bubble free dispensing without any loss of reagent. The specially designed bottle adaptor which permits a 360° rotation of the unit, the easy volume setting as well as the flexible delivery nozzle underline the user friendliness of this bottletop dispenser. Available in six volume ranges.

Features:

- Springless PTFE valve, PTFE piston with chemically resistant ETP O-ring enables high chemical compatibility
- Re-circulation valve enables easy priming and bubble free dispensing
- Smooth, reproducible and effortless dispensing
- 360° rotation possible due to specially designed bottle adapter
- Flexible and adjustable delivery nozzle provides dispensing angle flexibility to the user
- Specially designed volume adjustment knob for quick and easy volume setting
- The telescopic extractable intake tube can be easily adjusted to varying bottle heights
- Nozzle cap reduces contact with air and prevents drying and dripping if the tip cover is attached
- Five bottle adaptors included (28 mm, 32 mm, 37 mm, 40 mm and 45 mm).  
Standard thread: 30 mm.
- Fully autoclavable at 121 °C, 15 psi for 10 to 15 min
- Individually calibrated in accordance with ISO 8655 standards and each unit is supplied with an individual calibration certificate
- 3 years warranty

Description	Volume ml	Graduations ml	Accuracy max. vol. ( $\leq \pm R\%$ )	Precision max. vol. ( $\leq CV\%$ )	PK	Cat. No.
LLG-uniTOPDISPENS 2	0.25 - 2.5	0.05	0.6	0.2	1	<b>6.282 275</b>
LLG-uniTOPDISPENS 2	0.5 - 5	0.1	0.6	0.2	1	<b>6.282 276</b>
LLG-uniTOPDISPENS 2	1 - 10	0.2	0.6	0.2	1	<b>6.282 277</b>
LLG-uniTOPDISPENS 2	2.5 - 30	0.5	0.6	0.2	1	<b>6.282 278</b>
LLG-uniTOPDISPENS 2	5 - 60	1.0	0.6	0.2	1	<b>6.282 279</b>
LLG-uniTOPDISPENS 2	10 - 100	2.0	0.6	0.2	1	<b>6.282 280</b>

## 1 LLG-Disposable syringes, 3-parts, PP, non-sterile, bulk



- Barrel: PP, Plunger: PP and Polyisoprene rubber
- Luer tip
- Smooth flow, tight, high transparency barrel
- Latex-free, pyrogen-free, DEHP-free, non-toxic
- Non-sterile, bulk packed in box of 500
- Defined safety stop to avoid accidental pull-out of plunger

Capacity ml	PK	Cat. No.
2	500	6.267 267
5	500	6.267 268
10	500	6.267 269
20	500	6.267 270

1



## 2 Disposable syringes HSW SOFT-JECT®, 3-part, PP, sterile

- Barrel: PP, Plunger: PP and polyisoprene rubber
- Luer tip
- smooth flow, tight, high transparency barrel
- gliding of plunger supported by added slipping agent
- latex-free, pyrogen-free, DEHP-free, non-toxic
- sterile, individually blister strip packed
- defined safety stop

Henke-Sass Wolf

Capacity ml	PK	Cat. No.
1 (Tuberculin)	100	9.410 061
5	100	9.410 063
10	100	9.410 064
20	100	9.410 065

2



## 3 Disposable syringes HSW NORM-JECT®, 2-part, PP/PE, sterile

- PP barrel, with PE piston
- smooth flow, tight, high transparency barrel
- no rubber, styrene or DEHP, latex- and silicone-oil-free
- pyrogen-free, PVC-free, non-toxic
- sterile, individually blister strip packed
- defined position of the plunger at volume "0" to feel when plunger is completely inserted
- extended graduation for wider range of application
- tested for use in HPLC
- defined safety stop to avoid accidental pull-out of plunger

Henke-Sass Wolf

Capacity ml	PK	Cat. No.
1 : 1/100 (Tuberculin)	100	9.410 000
2 (3)	100	9.410 002
5 (6)	100	9.410 005
10 (12)	100	9.410 010
20 (24)	100	9.410 020

3



## 4 Syringes BD Discardit™ II, disposable, 2-piece, PP/PE, sterile

- Clear barrel for perfect visualisation of syringe contents.
- 2-piece syringes with Luer-Tip
- Retaining ring: prevents accidental plunger rod withdrawal
- Leak-tight: Tested in compliance with ISO 7886-1
- Scale marking: accurate graduation suited to user's needs
- Barrel material: Polypropylene
- Plunger material: Polyethylene
- Plunger lubricant: Oleamide
- Silicone oil-free
- Sterile single packing, single use, latex-free, PVC-free

Becton Dickinson

Capacity ml	Nozzle type	Grad. ml	PK	Cat. No.
2	Concentric	0.10	100	6.052 153
5	Eccentric	0.20	100	7.619 784
10	Eccentric	0.50	100	9.410 403
20	Eccentric	1.00	80	6.052 157

4



# Liquid Handling

## Syringes and accessories



### 1 Disposable syringes HSW FINE-JECT®, PP/stainless steel, sterile

Sterile. Individually wrapped.  
Disposable. Luer fitting with plastic sheath.

Henke-Sass Wolf

Type	Diam. mm	Length mm	Colour	PK	Cat. No.
Pravaz 1	0.9	40	yellow	100	<b>9.410 101</b>
Pravaz 2	0.8	40	green	100	<b>9.410 102</b>
Pravaz 12	0.7	30	black	100	<b>9.410 112</b>
Pravaz 14	0.6	30	blue	100	<b>9.410 114</b>
Pravaz 16	0.6	25	blue	100	<b>9.410 116</b>
Pravaz 18	0.5	25	brown	100	<b>9.410 118</b>
Pravaz 20	0.4	20	grey	100	<b>9.410 120</b>



### 2 Self-filling laboratory syringes Dosys™

Socorex

- Optimal hand balance and ergonomics
- Fast and reliable volume setting
- Excellent reproducibility
- Plunger tightness without O-ring
- High chemical resistance
- Fully autoclavable at 121 °C/250 °F
- Self-refilling automatic

#### Dosys™ basic 162/172

- Fill-by-fill (automatic) through needle or cannula
- Supplied without valve system
- Luer Lock nozzle

Package includes syringe, PVC protection sleeve and operating instructions.

#### Dosys™ classic 163/173

- Integrated valve system
- Luer Lock nozzle

Package includes syringe, one meter silicone feed tube, sinker, PVC protection sleeve, aspiration and vent cannulas, spare set for valve, operating instructions.

#### Dosys™ premium 164/174

- Detachable valve system
- Enhanced corrosion resistance
- Luer Lock nozzle

Package includes syringe, one meter silicone feed tube, sinker, PVC protection sleeve, aspiration, vent and dosing cannulas, spare set for valve, operating instructions.

**Further Self-filling syringes available on request.**

Type	Volume ml	Valve	With	PK	Cat. No.
Dosys™ basic 162	0.5 - 5	without	2-ring handle	1	<b>6.229 740</b>
Dosys™ classic 163	0.3 - 2	integrated	2-ring handle	1	<b>6.206 201</b>
Dosys™ premium 164	0.3 - 2	detachable	2-ring handle	1	<b>6.204 472</b>
Dosys™ premium 164	1 - 10	detachable	2-ring handle	1	<b>6.224 207</b>
Dosys™ basic 172	0.1 - 1	without	pistol grip	1	<b>9.411 524</b>
Dosys™ basic 172	0.3 - 2	without	pistol grip	1	<b>9.411 525</b>
Dosys™ basic 172	0.5 - 5	without	pistol grip	1	<b>9.411 526</b>
Dosys™ basic 172	1 - 10	without	pistol grip	1	<b>9.411 527</b>
Dosys™ classic 173	0.1 - 1	integrated	pistol grip	1	<b>6.205 165</b>
Dosys™ classic 173	0.5 - 5	integrated	pistol grip	1	<b>6.231 686</b>
Dosys™ classic 173	1 - 10	integrated	pistol grip	1	<b>6.230 535</b>
Dosys™ classic 173	5 - 20	integrated	pistol grip	1	<b>7.630 775</b>
Dosys™ premium 174	0.1 - 1	detachable	pistol grip	1	<b>9.411 520</b>
Dosys™ premium 174	0.3 - 2	detachable	pistol grip	1	<b>9.411 521</b>
Dosys™ premium 174	0.5 - 5	detachable	pistol grip	1	<b>9.411 522</b>
Dosys™ premium 174	1 - 10	detachable	pistol grip	1	<b>9.411 523</b>

## 1 2 LLG-Cryotubes, PP, sterile

With star-shape in the screw cap, for automated capper/decapper.  
External screw thread or internal screw thread. Temperature resistant down to -196 °C.

**Not appropriate for operations in liquid nitrogen.**

With marking area, fill line and graduations printed on the vial. Safe and precise handling of biotechnology materials. Bar-code printed on each tube. DNase/RNase free. Vials and caps are autoclavable at 121 °C.

### Homogeneous conception:

- all made from polypropylene
- single-body, single-turn screw cap

Printed graduations for accurate measurements. Large white area for writing specimen identification. Sterile.

Packed in 2 bags of 50 tubes.



Capacity ml	Ext. diam. mm	Description	Thread	Height mm	PK	Cat. No.
1.2	12.6	self-standing	external	40.2	100	9.401 160
1.2	12.6	self-standing	internal	40.2	100	9.401 161
2.0	12.6	self-standing	external	45.6	100	9.401 162
2.0	12.6	self-standing	internal	48.2	100	9.401 163
2.0	12.6	without ring	external	44.5	100	9.401 164
2.0	12.6	without ring	internal	47.0	100	9.401 165
5.0	12.6	self-standing	external	87.6	100	9.401 166
5.0	12.6	without ring	internal	89.2	100	9.401 167
5.0	12.6	self-standing	internal	90.3	100	9.401 168

Fits in 10 x 10 Cryobox System 100™ 5026, Order No: 9.400 927

## 3 LLG-Insert cap disks for cryotubes, PP

Cap-disk with star-shaped insert. For colour-coding of cryotubes and quick identification of the samples.

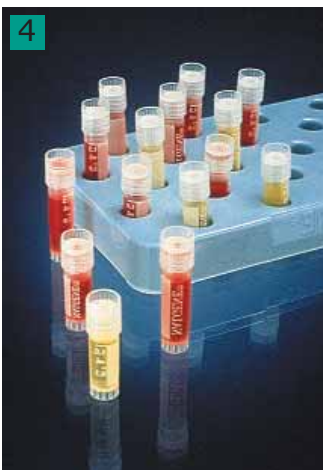
Colour	PK	Cat. No.
blue	1000	9.401 170
white	1000	9.401 171
yellow	1000	9.401 172
pink	1000	9.401 173
red	1000	9.401 174
green	1000	9.401 175



## 4 Cryovials System 100, with external screw thread, PP

With PE-HD screw cap and silicone gasket. External screw thread. *Thermo Scientific*  
Self-standing. Increase storage capacity in mechanical and gaseous phase liquid nitrogen freezers. The gasket prevents leakage in microcentrifuges (up to 8000 x g), or during transport. With writing area and graduations in white. Gamma radiation sterilized. One-handed operation possible. In compliance to CE. DNase/RNase free. Pyrogen-free and non-cytotoxic. Supplied in packs as indicated. Bar coded version available on request.

Capacity ml	Ext. diam. mm	Height mm	PK	Cat. No.
1.0	12	38	25	9.400 912
1.5	12	48	25	9.400 913



# Cooling

## Cryogenic tubes, Cryogenic accessories



### 1 Cryovials with external screw thread, PP, sterile

PP with PE-HD screw cap. External screw thread. Self-standing. *Thermo Scientific*  
 Temperature resistant down to -196 °C. Gamma radiation sterilised.  
 Non-cytotoxic and pyrogen-free. CE certified. DNase/RNase free. With marking area, fill line and graduations printed on the vial. Bar coded version available on request.

Type	Capacity ml	Ext. diam. mm	Height mm	Description	PK	Cat. No.
5000	1.2	13.5	38	conical, sterile	25	<b>9.400 941</b>
5000	2.0	13.5	48	conical, sterile	25	<b>9.400 942</b>
5000	5.0	13.5	92	conical, sterile	10	<b>9.400 943</b>
5005	15.0	33.0	47	flat, sterile	75	<b>9.400 950</b>

Also available in a larger pack size (1000 pc.).



### 2 Nunc Cryotubes with Internal Thread, PP, sterile

Intended for cryogenic transportation and storage of biological material. *Thermo Scientific*  
 Internal thread with a silicone gasket provides the best possible seal.  
 Available in four different bottom shapes: Round with or without free standing and round or conical with starfoot. Conform to the IATA requirements for the transport of diagnostic specimens and to the US pharmacopoeia USP Class VI. Packed in resealable zip lock bags with printed catalog no. and lot. no. Non-pyrogenic. Non-toxic. Sterile (SAL 10<sup>-6</sup>). CE marked.  
 Certified RNase- and DNase-free.  
 Material tube and screw cap: PP

Capacity ml	Height mm	Ext. diam. mm	Description	PK	Cat. No.
1.8	48	12.5	Round and writing area	500	<b>6.052 729</b>
3.6	70	12.5	Round and writing area	400	<b>7.607 431</b>
4.5	92	12.5	Round and writing area	300	<b>7.607 632</b>
1.0	42	12.5	Conical, free standing and writing area	500	<b>7.600 059</b>
1.8	49	12.5	Round, free standing and writing area	450	<b>6.800 228</b>
1.0	42	12.5	Conical, starfoot and writing area	500	<b>6.054 193</b>
1.8	49	12.5	Round, starfoot and writing area	450	<b>6.302 598</b>
3.6	72	12.5	Round, starfoot and writing area	400	<b>6.200 843</b>
4.5	92	12.5	Round, starfoot and writing area	300	<b>6.302 596</b>



### 3 Deep freeze labels TOUGH-SPOTS®

Pre-cut peel-off round labels for 0.5 and 1.5/2.0 ml microcentrifuge tube tops. Temperature resistant from -196 °C to 80 °C. *Heathrow Scientific*  
 Easy to write on: PVC labels accept writing from most lab markers.  
 Convenient: Dispensing box assists in labeling individual tubes used in small experiments.

Diam. mm	Colour	For vessels	PK	Cat. No.
9.5	White	0.5 ml Tubes	1000	<b>9.040 711</b>
9.5	Blue	0.5 ml Tubes	1000	<b>9.040 712</b>
9.5	Green	0.5 ml Tubes	1000	<b>9.040 713</b>
9.5	Red	0.5 ml Tubes	1000	<b>9.040 714</b>
9.5	Yellow	0.5 ml Tubes	1000	<b>9.040 715</b>
13.0	White	1.5/2.0 ml Tubes	1000	<b>9.040 716</b>
13.0	Blue	1.5/2.0 ml Tubes	1000	<b>9.040 717</b>
13.0	Green	1.5/2.0 ml Tubes	1000	<b>9.040 718</b>
13.0	Red	1.5/2.0 ml Tubes	1000	<b>9.040 719</b>
13.0	Yellow	1.5/2.0 ml Tubes	1000	<b>9.040 720</b>

## 1 Deep freeze labels Cryo-Babies®/Cryo-Tags®

Temperature resistant from -196 °C to +150 °C. All labels withstand freezer temperatures down to -196 °C (liquid and vapor phase nitrogen), boiling water baths (100 °C), autoclaving and moderate ovens (150 °C). Chemically inert labels resist most organic solvents and caustic agents. They adhere to most plastics, glass and metals without cracking, peeling or degrading. Made with a flexible, polyolefin label material and acrylic adhesive. This unique combination expands and contracts together with temperature fluctuations resulting in a strong adhesive bond. Convenient dispensing box assists in labeling individual tubes used in small experiments. Easy to write on. PVC labels accept writing from most lab markers including solvent resistant pens.

Heathrow Scientific



Type	Dimensions (W x D) mm	Colour	For vessels	PK	Cat. No.
Cryo-Babies®	24 x 13	White	0.5 ml tubes	1000	9.100 030
Cryo-Babies®	33 x 13	White	1.5/2.0 ml tubes	1000	9.100 031
Cryo-Tags®	38 x 13	White	General application	1000	9.100 032

## 2 LLG-Cryogenic storage boxes, plastic coated, 133 x 133

Freezer and cryogenic storage boxes (CryoBoxes). Made of cardboard, **plastic coated**. Without divider. Dimensions: 133 x 133 mm square. For the storage of samples. With lid. Special sizes and colours available on request.

Int. height mm	Colour	PK	Cat. No.
32	white	1	6.260 029
50	white	1	6.082 701
75	white	1	6.801 707
100	white	1	6.260 032
130	white	1	6.260 033



## 3 Partition inserts for LLG-Cryoboxes, 133 x 133

For cryoboxes 133 x 133 mm. With compartment heights and formats as indicated. Other sizes available on request.

Height mm	Array	PK	Cat. No.
30	5 x 5	1	7.606 811
30	9 x 9	1	6.081 879
30	10 x 10	1	6.075 820
30	12 x 12	1	6.260 035
40	5 x 5	1	6.260 044
40	6 x 6	1	6.260 043
65	4 x 4	1	6.079 079
65	5 x 5	1	6.260 046
65	6 x 6	1	6.206 129



## 4 LLG-Cryobox for 5 ml centrifuge tubes with partition insert, white, 133 x 133

Water repellent high quality and recyclable carton. With partition inserts for up to 25 x 5 ml centrifuge tubes.

Description	Array	PK	Cat. No.
LLG-Cryobox	5 x 5	1	6.281 179



# Cooling

## Cryogenic accessories

1



### 1 LLG-Cryogenic storage boxes, PP, autoclavable

With 81 places, 9 x 9 grid and numerical coded. Robust hinge with safe snap-on lid, stackable for safe transport. Minimised liquid retention. Guaranteed metal free. Temperature resistant from -90 °C - +121 °C, autoclavable at 121 °C, 20 minutes. Dimensions: 133 x 133 x 52 mm

Colour	Array	PK	Cat. No.
Magenta/clear	9 x 9	1	9.405 800

2



9.409 015

### 2 LLG-Temperature block *exact*, aluminium

Suitable for both cooling and heating, universally usable, uniform temperature distribution within the block, ideal for all temperature-sensitive applications.

Aluminum blocks with conical compartments and closed bottom for easy and precise tempering of reaction tubes and PCR tubes. The precisely adapted shape of the borings and the closed bottom offer advantages compared with cylindrical drilled blocks with open bottom, such as much better heat transfer and temperature accuracy. Made of a special aluminum alloy with high thermal conductivity. Identical temperature conditions for all samples. Compact size, requiring little space. Suitable for 96-well plates, 8 or 12 strips and single tubes. Ideal for working with 8- or 12-channel pipettes. Blocks for different tube sizes and combinations of tube sizes as indicated, all working steps in one block, holes closed at the bottom and tapered to fit perfectly the respective tube sizes and offer an optimum heat exchange.

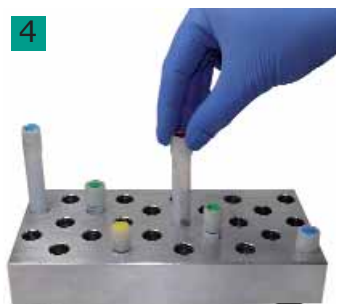
3



9.409 017

Description	PK	Cat. No.
LLG-aluminum block, 96 x 0.2 ml PCR tubes + 6 x 1.5 ml tubes	1	9.409 015 <a href="#">2</a>
LLG-aluminum block, 36 x 0.5 ml tubes + 11 x 1.5 ml tubes	1	9.409 016
LLG-aluminum block, 24 x 1.5 ml tubes	1	9.409 017 <a href="#">3</a>
LLG-aluminum block, 24 x 2.0 ml tubes	1	9.409 018
LLG-aluminum block, 25 x 2.0 ml Cryogenic tubes with round bottom	1	9.409 006
LLG-aluminum block, 12 x 15.0 ml Centrifuge tubes	1	9.409 008

4



### 4 LLG-Temperature block "exact", aluminium, for cryogenic tubes with rim, single-handed operation

#### Simultaneous single-handed operation and cooling of cryogenic vials

The cryogenic tubes are fixed in the cavities with a pin so that they can be opened and closed with one hand. Suitable for most cryogenic tubes with rim or notch such as LLG Labware. Cryogenic tubes are cooled by uniform temperature distribution in the block, ideal for temperature-critical work. The closed bottom of the block provides a much better temperature distribution and temperature accuracy over the block compared to blocks with open bottom. Made of a special aluminum alloy with high thermal conductivity. Thus, the block has identical temperature conditions for all samples.

Description	PK	Cat. No.
LLG-Temperature block "exact", aluminium, 25 x 2.0 ml Cryogenic tubes with tripod rim	1	9.409 007



### 1 Long term cryogenic storage tanks, B 2000 series

The B 2000 series is especially developed for storing of straws and cryo vials in ampoule holders.

*Cryo Diffusion*

The B 2000 series long term storage tanks are especially suited to hold small amounts of samples. Thanks to the small neck openings these storage tanks have holding times reaching 365 days. Supplied with canisters.



Type	Capacity	No. of vials	No. of straws	No. of canisters	Static holding time	Chamber dimensions (Diam. x H)	PK	Cat. No.
	L	2ml	0.25 ml		Days	mm		
B 2002M	2.00		474	3	25	26x110	1	9.524 506
B 2011M	12.00	216	2700	6	133	37x270	1	9.524 509
B 2020M	21.70	216	1560	6	238	37x110	1	9.524 511
B 2036M	35.90	216	1560	6	365	37x110	1	9.524 513

### 2 Cryogenic liquid dewars L 2000 series

The L 2000 Series of cryogenic liquid dewars are so-called because of their universal acceptance in laboratories and medical facilities worldwide.

*Cryo Diffusion*

These high-efficiency, super-insulated dewars are the most convenient, economical way to store and dispense liquid nitrogen. Accessories on request.

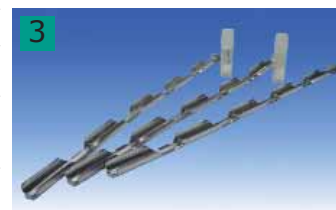


Type	Capacity	Evaporation rate	Neck diam.	Height	PK	Cat. No.
	L	L/ day	mm	mm		
L 2025	25.0	0.2	50	684	1	9.524 527
L 2035	35.0	0.25	50	591	1	9.524 528

### 3 Ampoule holders for cryogenic liquid dewars

*Cryo Diffusion*

For vials	Diam.	Height	PK	Cat. No.
	mm	mm		
6	11	45	1	9.524 536
6	12	45	1	9.524 537

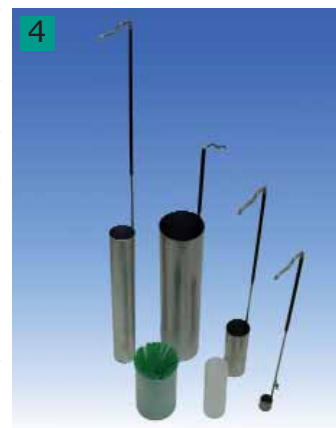


### 4 Canisters, stainless steel for cryogenic dewars

*Cryo Diffusion*

Diam. mm	Height mm	For	PK	Cat. No.
30	120	BS 2002	1	9.524 540
66	270	BS 2004	1	9.524 541
26	110	B 2002	1	9.524 542
37	110	B 2003	1	9.524 543
37	110	B 2009	1	9.524 544
66	110	B 2013/6	1	9.524 548
37	110	B 2020*	1	9.524 551
73	270	B 2048/10	1	9.524 555

\* one level  
\*\*two levels



### 5 Aluminum holder KryoCane™, Type 5015

For frozen storage of cryovials 1.2, 1.5 or 2.0 ml.

*Thermo Scientific*

Type	For	Length mm	PK	Cat. No.
5015	5 cryovials	290	1	9.400 956
5015	6 cryovials	300	12	9.400 935



# Cooling

## Liquid nitrogen container



### 1 Sleeve CryoSleeve™, Type 5016

Made of transparent PVC. For CryoCane™ aluminium vial holder.

Thermo Scientific

Type	Length mm	PK	Cat. No.
5016	273	100	9.400 957



### 2 Dewar flasks, Type 4150, PE-HD

With vented, insulating PE-HD lid. PE covered handle. Unbreakable and completely safe for short term storage of ice water, dry ice solvents and liquid nitrogen. Also suitable for use as warming baths. Chemical-resistant, reinforced walls, filled with urethane foam, are temperature resistant from -196 to +100 °C. 1, 2 and 4 litre flasks have a carrying handle.

Thermo Scientific

Type	Capacity Litres	Top diam. mm	Int. height mm	PK	Cat. No.
4150	1	96	195	1	9.031 961
4150	2	122	231	1	9.031 962
4150	4	158	259	1	9.031 964
4150	10	198	396	1	9.031 970



### 3 Dewar carrying flasks, cylindrical, for CO<sub>2</sub> and LN<sub>2</sub>

DURAN®. DIN 12492. Cylindrical. Borosilicate glass 3.3. With blue coated protective casing out of metal. With insulated lid, held by two spring clips and aluminium carrying handle. For cooling, storage and transport of small samples of temperature-sensitive goods e.g. with dry ice (CO<sub>2</sub>). When storing liquid nitrogen (LN<sub>2</sub>) a hole (diam. approx. 2 mm) in centre of the lid is necessary.

KGW

Type	Capacity Litres	Int. diam. mm	Int. height mm	PK	Cat. No.
26 B	1	100	150	1	9.032 726
27 B	2	138	170	1	9.032 727
28 B	3	138	230	1	9.032 728
29 B	4	138	310	1	9.032 729



### 4 Dewar flasks, shallow form, for CO<sub>2</sub> and LN<sub>2</sub>

DURAN®. DIN 12492. Dish-shaped. Generally for thermostating round bottom flasks to a constant temperature as hot or cold baths. With structured aluminium casing and edge protection. Suitable for use with magnetic stirrers.

KGW

Capacity ml	Int. diam. mm	Height mm	PK	Cat. No.
120	77	50	1	9.032 422
260	100	65	1	9.032 423
400	110	70	1	9.032 425
680	138	80	1	9.032 426
1600	170	110	1	9.032 427
3000	200	125	1	6.075 807



## Ultra low temperature freezer, ULUF series up to -90 °C

Reliable and powerful upright freezer with extra storage capacity and a user friendly controller. Features as non-manipulative data logger and USB readout are just some of the features that come as standard in the ULUF series.

Arctiko

### Features on ULUF series

- Low energy consumption
- Low noise level, low heat dissipation
- Insulated inner doors
- Castors
- Lock on door
- Ergonomic loading
- Heated door frame, heated vacuum valve
- 100 % HCFC/CFC free
- Porthole for external temperature probes

### Controller features

- Temperature graph
- Micro processor controller with digital display
- Approx. 72 hours battery back up for alarms, loggings and temperature display in case of power cut
- Visual and acoustic alarm, adjustable high/low temperature alarm, power failure alarm, probe failure alarm, instrument failure alarm, open door alarm, contact for remote alarm, prepared for GSM alarm
- Prepared for connection of 2 additional probes
- Integrated data logger (software included)
- RS485/232 Interface
- Computer USB data read out
- Direct download/upload on/from USB memory stick
- Auto cycle if probe failure
- Ambient temperature display
- Shows all alarms as text (no codes)
- 3-level password protected
- Battery level indication
- Integrated memory
- Display text available in different languages

### Accessories (optional):

- All freezers are available with stainless steel housing (on request)
- CO<sub>2</sub> back up
- GSM alarm module
- Racks and boxes
- Temperature chart recorder
- Drawer systems

Type	Capacity	Internal dimensions (W x D x H) mm	External dimensions (W x D x H) mm	Weight kg	Temp. range max. °C	PK	Cat. No.
	Litres						
ULUF 15	7	150 x 143 x 310	400 x 630 x 665	55	-40...-90	1	<b>6.264 066</b>
ULUF 65	55	360 x 468 x 320	600 x 700 x 810	80	-40...-86	1	<b>9.699 310</b> <sup>1</sup>
ULUF 125	115	360 x 493 x 530	950 x 725 x 810	100	-40...-86	1	<b>9.699 311</b> <sup>2</sup>
ULUF 450	413	480 x 608 x 1415	720 x 885 x 2089	183	-40...-86	1	<b>9.699 312</b> <sup>3</sup>
ULUF 550	585	680 x 608 x 1415	920 x 885 x 2089	215	-40...-86	1	<b>6.263 920</b>

\*Dual Cooling System: Increased safety due to 2 separate cooling systems.

1



9.699 310

2



9.699 311

3



9.699 312

# Cooling

## Deep freezing, Insulated container

1



### 1 Portable freezer DP-80 CRYO PORTER, up to -80 °C

The DP-80 ensures direct access to your samples at your desk.  
 Transport your probes at -80 °C e.g. with a car.

- Portable Freezer up to -80 °C
- Stirling technology, no compressor, no refrigerant
- Temp. stability ±0.2 °C
- Power connection 12V or 230 V
- Max volume one aluminium block (please order separately)
- Can only be used with aluminium block

Arctiko

Temperature range: 0 °C to -80 °C  
 Dimensions exterior (W x D x H): 230 x 262 x 390 mm  
 Power supply: 12/100 - 240 V 50/60 Hz  
 Weight: 10 kg

Description	PK	Cat. No.
DP-80 Cryo Porter	1	6.262 040
Aluminium Block, 40 wells for Vials, Cryotubes 1,8 ml	1	6.262 447
Aluminium Block, 96 wells for PCR-tubes 0,2 ml	1	6.265 273
Aluminium Block, 48 wells PCR-tubes 0,5 ml	1	6.265 274
Aluminium Block, 48 wells Sample-tubes 1,5 ml	1	6.265 275
Aluminium Block, 40 wells, Cryotubes 2,0 ml	1	6.265 276
Aluminium Block, one large compartment	1	6.265 277

2



### 2 Nalgene Freezing container Mr. Frosty, PC

With 120 mm diameter screw cap in blue PE-HD, vial holder made of white PE-HD. Suitable for 18 x 1.2/2.0 ml cryovials. Foam interior. Cooling rate 1 °C/min. Tubes can be easily removed. Each aperture has a moulded number for identification. Stackable.

Thermo Scientific

Diam.	Height	For tubes	No. of tubes	PK	Cat. No.
mm	mm	ml			
117	86	1.0-2.0	18	1	9.400 945
117	151	3.6	12	1	9.400 990
117	151	4.5-5.0	12	1	9.400 991

3



### 3 Ice buckets and pans PolarSafe™, PS

These polystyrene buckets and pans are produced with thick walls to provide rigidity and strength, and yet are very lightweight. Perfectly suited for use with ice, dry ice and slurry ice. Even liquid nitrogen can be stored in these containers. All products provide excellent insulating properties to help keep temperature sensitive samples safely chilled. PolarSafe buckets come with snug fitting lids to minimize evaporation loss and to maximize cooling. They feature easy-grab knobs on each lid and prominent recessed handles to facilitate transport. The pans, without a lid feature unique gripping ridges and pour spouts to facilitate the disposal of cooling agents.

Argos Technologies, Inc.

Description	Capacity	Dimensions (l x w x h)	Colour	PK	Cat. No.
	L	mm			
Ice Bucket*	2.5	276 x 308 x 114	black	1	6.281 562
Ice Bucket*	5.0	276 x 308 x 173	blue	1	6.281 563
Ice Pan	1.0	146 x 146 x 89	black	1	6.281 564
Ice Pan	4.0	305 x 229 x 127	blue	1	6.281 565
Ice Pan	7.5	372 x 308 x 124	green	1	6.281 566

\*with lid

## 1 Cool Containers True North®, PU

Rigid polyurethane container provides durability for chilling your temperature sensitive samples. Excellent insulation properties for ultra cold. Use with ice, dry ice and ice-salt slurries, etc. For low temperature use down to -196 °C. Minimize evaporation loss with close fit lid. Easily remove with comfortable recessed knobs. Keyed lid and base fit together to conveniently store lid under base. With spout and ergonomic handles for safe handling. Stackable.

Heathrow Scientific



Capacity litres	Dimensions (l x w x h) mm	Colour	PK	Cat. No.
4	234 x 181*	black	1	9.010 691
1	267 x 195.5 x 114	green	1	9.010 692
4	381 x 254 x 182	blue	1	9.010 693
9	521 x 292 x 163	red	1	9.010 694

\*(diam. x H)

## Insulated container Magic Touch 2™

Superior insulating properties combined with high chemical resistance make Magic Touch 2™ laboratory ice buckets and pans compatible not only with wet ice, but also with ultra-low temperature materials including dry ice, ice-salt mixtures, dry ice solvent mixtures, or liquid nitrogen. Their lightly textured non-slip finish and raised edge provides secure transport and a stylish look.

Bel-Art Products

Expanded urethane icewares are

- lightweight
- durable
- non-sweating
- impervious to moisture and odors
- able to withstand a wide temperature range: -196 °C to 100 °C
- provided with a convenient pour spout, drip-proof rims and fill line
- furnished with perfect fitting lid
- easy and secure to stack because of a keyed lid and base



9.010 632

9.010 635



9.010 636

Type	Capacity L	Dimensions mm	Colour	PK	Cat. No.
Mini Ice Pan	1.0	(W x D x H)183 x 183 x 116	blue	1	9.010 632
Mini Ice Pan	1.0	(W x D x H)183 x 183 x 116	red	1	9.010 633
Midi Ice Pan	4.0	(W x D x H)304 x 229 x 200	blue	1	9.010 638
Midi Ice Pan	4.0	(W x D x H)304 x 229 x 200	red	1	9.010 639
Maxi Ice Pan*	9.0	(W x D x H)420 x 303 x 200	blue	1	9.010 640
Handy Ice Bucket	2.5	(diam. x H)268 x 164	blue	1	9.010 634
Handy Ice Bucket	2.5	(diam. x H)268 x 164	red	1	9.010 635
N'Icer Ice Bucket	4.0	(diam. x H)268 x 212	blue	1	9.010 636
N'Icer Ice Bucket	4.0	(diam. x H)268 x 212	red	1	9.010 637

\* without lid

## 5 Labtop Cooler, Type 5115, 5116, DS5116

The economical alternative for keeping samples and biochemical reagents cool at the workbench or for protecting against temperature fluctuations and power failure in refrigeration apparatus. With write-on, gridded lid. Lids fit one way to maintain the correct grid orientation. Robust, space-saving and stackable. With non-slip rubber feet. Can be used down to -135 °C. Adapters are also supplied for 0.5 ml microtubes.

Thermo Scientific



Type	Description	Aperture array qty.	Temperature-maintained on lab bench	PK	Cat. No.
5115	Clear lid, without gel, for 1.5 - 2.0 ml tubes	12	≤ -15 °C up to 1 hr.	1	9.400 929
DS5116	Clear lid, without gel, for 1.5 - 2.0 ml tubes	12	≤ 1 °C up to 3.5 hrs.	1	9.400 930
5115	White lid, with gel, for 1.5 - 2.0 ml tubes	32	≤ -15 °C up to 2 hrs.	1	9.400 932
DS5116	White lid, with gel, for 1.5 - 2.0 ml tubes	32	≤ 1 °C up to 5 hrs.	1	9.400 933

# Cooling Water baths

## 1 2 Water Baths, PolyScience

PolyScience

The PolyScience water baths are characterized by a user-friendly display, high precision, simple operation and an excellent price-performance ratio. The inclined display makes the readability and usage very comfortable. Easy to use Digital Temperature controller features three temperature pre-sets for one-touch selection of frequently used set-points plus a user settable high limit alarm that alerts if the bath temperature exceeds pre-set limits.

- Displays actual and set point temperature simultaneously
- Three push-button pre-sets for frequently used temperatures
- Integrated timer
- Calibration capability
- Five Reservoir sizes from 2 to 28 litres
- Reservoir drain (10, 20 and 28 liter baths)
- Primary and automatic safety thermostats.
- Stainless steel tank with hinged gable lid
- 3.25" illuminated LCD-Display
- Maximum Ambient Temperature: 40 °C
- Sample tray included
- Temperature Range: Ambient + 5 to 99 °C
- Temperature Uniformity  $\pm 0.2$  °C
- Temperature Stability:  $\pm 0.1$  °C

An optional high rise lid allows the interference-free placement of media bottles or flasks into the General Purpose Water Bath. For example: 4 x 1 litre flasks will fit into a 10 litre bath with the lid fully closed. These lids are available on request.

Type	Volume litres	Power consumption W	Internal dimensions (W x D x H) mm	External dimensions (W x D x H) mm	PK Cat. No.
Water Bath, digital	2	120	109 x 99 x 152	229 x 305 x 267	1 <b>6.267 596</b>
Water Bath, digital, shallow	2	360	274 x 127 x 65	368 x 305 x 267	1 <b>6.268 105</b>
Water Bath, digital	5	360	274 x 127 x 152	368 x 305 x 267	1 <b>6.267 597</b>
Water Bath, digital	10	1000	269 x 295 x 152	393 x 432 x 305	1 <b>6.267 598</b>
Water Bath, digital	20	1400	432 x 241 x 152	572 x 445 x 305	1 <b>6.267 599</b>
Water Bath, digital	28	1400	432 x 241 x 203	572 x 445 x 356	1 <b>6.267 800</b>



## 1 Incubation/Inactivation Water Baths

Water Baths for incubations and inactivations of cultures

GFL

### Models 1002-1005/1008/1012/1013

Microprocessor controlled temperature regulation. Temperature display and setting digitally via LED display in 0.1 °C increments. Temperature constancy  $\pm 0.1$  °C, temporal at 50 °C.

Temperature range from approx. 5 °C above ambient temperature to 99.9 °C; after installation of a water level regulator 1919 (accessory) from approx. 3 °C above tap water temperature to 99.9 °C.

Short heating-up times. Electronic overtemperature cut-out, 4 °C above set temperature and electromechanical >130 °C. Electronic monitoring of the temperature regulator. In case of failure the cause of the fault is shown on the display. Soft touch keys with clear symbols. Interior (bath interior and heating element, cover frame, lid and perforated floor) made of stainless steel. Standard equipment includes lid and perforated floor.

Tip-up, insulating lid with inner chamber, no dripping back of condensate into the vessels. Corrosion-resistant outer housing is made of electrolytically galvanized sheet steel, powder-coated. Drain cock at the back. The units are tested according to the German Equipment Safety Law and have the CE mark. Electrical connection: 230 V, 50/60 Hz (other voltages available on request).

### Model 1005

Especially suitable for warming medical hot packs.

### Models 1012/1013

The circulation system ensures an optimal temperature uniformity throughout the whole bath. An electric motor with rotary magnet is flanged to the bath floor. Its torque is transmitted to a PTFE coated stirring magnet in the bath. The stirring magnet forces the water into the centre of the bath and then evenly back again.

Type	Capacity	External dimensions (W x D x H) mm	Internal dimensions (W x D x H) mm	Power	Weight	PK	Cat. No.
	Litres			W	kg		
1002	7	340 x 395 x 255	245 x 200 x 145	1000	9.0	1	9.905 902
1003	14	500 x 440 x 255	400 x 245 x 145	1500	12.5	1	9.905 903
1004	21	700 x 440 x 255	600 x 245 x 145	1500	16.7	1	9.905 904
1005	40	510 x 490 x 445	410 x 296 x 315	1500	20.7	1	9.905 905
1008	20	500 x 440 x 325	400 x 245 x 205	1500	14.7	1	9.905 908
1012	7	340 x 395 x 325	245 x 200 x 145	1000	10.6	1	9.905 912
1013	14	500 x 440 x 325	400 x 245 x 145	1500	14.6	1	9.905 913



## 2 Water bath preservative liquid Aqua Stabil

- Prevents build-up of algae and bacteria in bath tanks providing hygienic operation
- No contamination of the tank or immersion thermostat components
- Economical - only 2 ml of Aqua Stabil is required for every 1 litre of water
- Remains effective for weeks, as shown by colour indicator.

JULABO

2



Capacity ml	PK	Cat. No.
100 ml bottle	1	9.858 040

# Cooling

## Shaking water baths



### 1 Shaking Water Bath 1083

With Reciprocating Motion. Universally applicable for shaking tasks that require exactly reproducible temperatures. For gentle mixing or vigorous shaking. Microprocessor controlled temperature regulation. Temperature display and setting via LED display in 0.1 °C increments. Temperature range approx. 5 °C above ambient to +99.9 °C, alternatively after installation of water level regulator 1919 (accessory) approx. 3 °C above tap water temperature to +99.9 °C. Optimum temperature distribution throughout the whole bath interior. Overtemperature cut-out: electronic, 4 °C above set temperature, and electro-mechanical >130 °C. Electronic monitoring of the temperature controller. Maintenance-free and durable shaking device, electronically controlled and continuously adjustable from 10 to 250 rpm, with soft-start. Constant shaking frequency, independent of load, even when in continuous operation. All parts in contact with water made of stainless steel. No dripping back of condensate into the vessels due to double-walled insulating lid with internal gable. Corrosion-resistant housing is made of powder-coated, electrolytically galvanized sheet steel. Accessories to accept various kinds of vessels are quickly and safely attachable to the shaking device. Easily removable shaking rack. A drain tap is provided to empty the bath. Tested according to the German Equipment Safety Law and CE marked. GFL

#### Specifications

External dimensions (W x D x H):	715 x 520 x 330 mm
Internal dimensions (W x D x H):	450 x 300 x 160 mm
Usable capacity:	20 litres
Usable bath height:	190 mm
Net/gross weight:	28/32 kg
Shaking motion:	Reciprocating, can be switched on/off
Temperature constancy (temporal):	±0.1 °C
Temperature display:	Digital LED
Overtemperature cut-out:	electronic 4 °C above set temperature, and electro-mechanical > 130 °C
Shaking frequency:	10 to 250 rpm.
Shaking amplitude:	22 mm
Supply requirements:	230 V 50/60 Hz, 1.5 kW (alternative voltage models are available, details on request)

Type	PK	Cat. No.
1083	1	9.905 983



### 2 Tray type 3960

Accessory for **Shaking Water Baths 1083** GFL  
 Stainless steel, with holes to accept clamps for Erlenmeyer flasks, holder for reaction vessels 3926 and test tube racks 3924 and 3925. The tray has two handles that reach above the water surface, for easy inserting and removing from the bath.

Type	PK	Cat. No.
3960	1	9.837 960



### 3 Test Tube Racks 3924 and 3925

Accessory for **Shaking Water Baths 1083**. Stainless steel. The holding device can be tilted by an angle of 90°, equipped with springs for secure support. It can be screwed onto **shaking tray 3960**. GFL

**Type 3924:** e.g. for 15 ml Falcon tubes, max. 20 tubes x 12 to 17 mm dia., max. 4 racks per tray.

**Type 3925:** e.g. for 50 ml Falcon tubes, max. 12 tubes x 25 to 29 mm dia., max. 3 racks per tray.

Type	PK	Cat. No.
3924	1	9.905 996
3925	1	9.905 997



## 1 Mini-Incubator CULTURA® M including Multirack

1

The CULTURA® M Mini-Incubator has specifically been designed for the incubation of contact slides and dipslides, as well as common Petri dishes for detecting bacteria, fungi and yeast. With its extremely small footprint, it can easily be transported wherever you need to use it. The Cultura® M incubator has an internal capacity of approximately 4 L. It is used in the areas of medical diagnostics and water analytics. The transparent door allows you to check inside the incubator without opening the door. Supplied with one Multirack for the incubation of up to 18 dipslides, one shelf and one thermometer.

### Specifications

Temperature range:	25 to 45 °C
Temperature uniformity:	±1.0 °C
Capacity:	4 l
External dimensions (W x D x H):	310 x 168 x 155 mm
Internal dimensions (W x D x H):	220 x 150 x 120mm
Weight:	1.1 kg
Power supply:	230 V, 50 Hz
Warranty:	2 Years



Type	PK	Cat. No.
Mini-Incubator CULTURA®M inclusive Multirack	1	6.280 441

## 2 3 Mini-Incubator LLG-uniINCUB 20

The portable LLG-uniINCUB 20 digital incubator is ideally suited for haematology and microbiology applications, such as the cultivation of contact plates for microbiological hygiene analysis. Due to its small footprint and economical price, it is also the perfect incubator for educational institutions and small laboratories. The LLG-uniINCUB 20 incubator features a large internal chamber with a capacity of 20 liter, capable of storing flasks and bottles up to 2 liter. In addition, the incubator includes two adjustable/removable shelves for increased capacity, as well as an electrical socket. The digital temperature control eliminates the need for external thermometers and repetitive "fine tuning" of an analog control knob. Optimum temperature distribution throughout the cabinet interior by fan circulation. The LLG-mini tumbling shaker uniSHAKER 2 which can be positioned inside the incubator, can also be ordered separately (Cat No. 6.263 640).

### Specifications

Temperature range:	Ambient +5 °C to 60 °C
Accuracy:	±0.5 °C
Temperature uniformity:	±1.5 °C
Capacity:	20 l
External dimensions (W x D x H):	335 x 370 x 475 mm
Internal dimensions (W x D x H):	260 x 235 x 325 mm
Weight:	6.5 kg
Power supply:	100-240 V, 50/60 Hz
Warranty:	3 Years

Type	PK	Cat. No.
LLG-uniINCUB20 with EU plug	1	6.263 570

2



3



1



## 1 Incubator, mechanical control, B 28 series

BINDER

Robust, small, space-saving unit with mechanical controller and adjustable ventilation for accurate and reliable incubation.

- temperature range: 30 °C to 70 °C
- Adjustable air vent
- Inner glass door
- Available with, or without, overheat cut-out (Class 1)
- Internal volume: 28 L
- External dimensions: 580 x 425 x 405 mm
- Internal dimensions: 400 x 250 x 280 mm

Type	Description	PK	Cat. No.
B28	without cut-out	1	9.883 556
B28*	with cut-out	1	9.883 557

\* with overheat cut-out TB (Class 1)

2



## 2 Hybridisation Incubator 7601

GFL

For exact hybridisations of DNA and RNA probes with nucleic acid on filter paper and for incubations of protein blots with antibodies.

- microprocessor-controlled temperature regulation. Temperature range: approx. 8 °C above ambient to +99.9 °C, Temperature constancy (temporal): ±0.5 °C. Temperature setting and display: digital - LED, in 0.1 °C increments.
  - the ventilator ensures optimum temperature distribution throughout the cabinet interior
  - overtemperature cut-out: electrical, with visual alarm at 4 °C above the set temperature, and electro-mechanical > 130 °C. Electronic monitoring.
  - variable rotating rack for up to 8 hybridisation bottles 51mm dia. or 16 hybridisation bottles 32 mm dia. Rack rotation speed: 10 per minute, fixed
  - clear view of the interior cabinet through a large 16 mm thick, heat-insulating, acrylic glass window
  - key to switch on two 25 W cabinet lamps temporarily
  - interior parts of rotating rack made of stainless steel
  - two clip wheels with 8 spring clips (type 7937) and 4 hybridisation bottles (type 7945) are included as standard
  - housing: electrolytically galvanized sheet steel
  - W x D x H (internal): 400 x 330 x 380 mm W x D x H (external): 585 x 630 x 650 mm
  - supply requirements: 230 V 50/60 Hz, 650 W (other voltages are available - details on request)
  - weight: 45 kg
- Accessories on request.

Type	PK	Cat. No.
7601	1	9.535 601



## 1 Special Hybridisation Bottles

Accessories for Hybridisation Incubator 7601. Borosilicate glass, with plastic screw cap perforated with 0.5 mm centre hole for pressure compensation (also available unperforated on request).

GFL

Type	Diam. mm	Length mm	Max. bottles per rack	PK	Cat. No.
7943	32	273	16	1	<b>9.535 643</b>
7944	38	273	8	1	<b>9.535 644</b>
7945	51	273	8	1	<b>9.535 645</b>

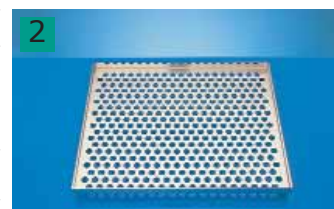


## 2 Perforated Tray for Hybridisation Incubator 7601

Perforated tray 7914. Stainless steel, can only be used instead of the rotating rack, max. five trays.

GFL

Type	PK	Cat. No.
7914	1	<b>9.535 614</b>



## 3 4 Heratherm General Protocol Microbiological Incubators

Thermo Scientific Heratherm General Protocol incubators have been designed for your routine applications in pharmaceutical, medical, food and research laboratories.

Thermo Scientific

- Gravity convection provides gentle air flow and minimal drying out
- Corrosion resistant stainless steel chamber
- Intuitive user interface for easy temperature setting
- Large vacuum fluorescent display for easy reading
- Safe view of samples through internal glass door, without impact on temperature
- Automatic overtemperature alarm
- Easy to remove "One Click" - shelf system
- Easy to clean interior with rounded corners
- Efficient small footprint to optimize benchtop space
- Efficient utilization of interior with flexible shelf system
- Tabletop models conveniently stackable without the need for tools or stacking kits
- Lockable casters for easy mobility and stability (floor models only)
- Wire mesh shelf for 60 L - 180 L Incubators on request

### Specifications

Temperature range: ambient +5 °C to 75 °C

Power supply: 230 V/50/60 Hz

Type	Internal volume litres	Description	Internal dimensions (W x D x H) mm	External dimensions (W x D x H) mm	PK	Cat. No.
IGS60	75	General Protocol	354 x 414 x 508	530 x 565 x 720	1	<b>4.009 191</b>
IGS100	117	General Protocol	464 x 414 x 608	640 x 565 x 820	1	<b>4.009 192</b>
IGS180	194	General Protocol	464 x 589 x 708	640 x 738 x 920	1	<b>4.009 193</b>
IGS400	405	General Protocol	544 x 569 x 1307	778 x 770 x 1545	1	<b>9.534 150</b>
IGS750	747	General Protocol	1004 x 569 x 1307	1261 x 770 x 1545	1	<b>9.534 153</b>





## 1 Heratherm Advanced Protocol Microbiological Incubators

Thermo Scientific Heratherm Advanced Protocol incubators provide exceptional temperature performance for demanding applications. *Thermo Scientific*

- Dual convection for application versatility-fan speed adjustable from 0 to 100 %
- Advanced digital timer for daily or weekly ON/OFF cycles
- Easy to clean, corrosion-resistant stainless-steel interior (AISI 304)
- Broad temperature range from 5 °C above ambient to 105 °C-suitable for drying applications
- Temperature uniformity of ±0.6 (Fan off) and between ±0.2 °C and ±0.4 °C (Fan full speed) (measured at 37 °C)
- Temperature stability of ±0.1 °C (measured at 37 °C)
- Intuitive user interface for setting temperature
- Large, easy to read vacuum fluorescent display
- Internal glass door allows sample viewing without impacting temperature
- Exceptionally small footprint
- Wire mesh shelf for 60 L - 180 L Incubators on request

### Specifications

Temperature range: ambient +5 °C to 105 °C

Type	Internal volume litres	Description	Internal dimensions (W x D x H) mm	External dimensions (W x D x H) mm	PK	Cat. No.
IMH60	66	Advanced Protocol	354 x 368 x 508	530 x 565 x 720	1	<b>4.009 194</b>
IMH100	104	Advanced Protocol	464 x 368 x 608	640 x 565 x 820	1	<b>4.009 195</b>
IMH180	178	Advanced Protocol	464 x 543 x 708	640 x 738 x 920	1	<b>4.009 196</b>
IMH60 SS*	66	Advanced Protocol	354 x 368 x 508	530 x 565 x 720	1	<b>4.009 200</b>
IMH100 SS*	104	Advanced Protocol	464 x 368 x 608	640 x 565 x 820	1	<b>4.009 201</b>
IMH180 SS*	178	Advanced Protocol	464 x 543 x 708	640 x 738 x 920	1	<b>4.009 202</b>



## 2 Heratherm Advanced Protocol Security Incubators

Thermo Scientific Heratherm Advanced Protocol Security incubators incorporate additional safety features for ultimate sample protection. *Thermo Scientific*

- Lockable incubator door for restricted access
- Audible alarm if the door is left open accidentally
- Automatic over- and under temperature alarm
- 140 °C decontamination, contaminating microorganisms are reduced to a minimum, comparable to sterilisation, within a six hour cycle. No need for separate autoclaving of interior fittings. Certified by an accredited microbiological institute.
- Wire mesh shelf for 60 L - 180 L Incubators on request

### Specifications

Temperature range: ambient +5 °C to 105 °C

Power supply: 230 V, 50/60 Hz

Type	Internal volume litres	Description	Internal dimensions (W x D x H) mm	External dimensions (W x D x H) mm	PK	Cat. No.
IMH60-S	66	DUAL convection	354 x 368 x 508	530 x 565 x 720	1	<b>4.009 197</b>
IMH100-S	104	DUAL convection	464 x 368 x 608	640 x 565 x 820	1	<b>4.009 198</b>
IMH180-S	178	DUAL convection	464 x 543 x 708	640 x 738 x 920	1	<b>4.009 199</b>
IMH60-S SS*	66	DUAL convection	354 x 368 x 508	530 x 565 x 720	1	<b>4.009 203</b>
IMH100-S SS*	104	DUAL convection	464 x 368 x 608	640 x 565 x 820	1	<b>4.009 204</b>
IMH180-S SS*	178	DUAL convection	464 x 543 x 708	640 x 738 x 920	1	<b>4.009 205</b>
IMH400-S	381	Mechanical convection	544 x 569 x 1335	778 x 770 x 1545	1	<b>9.534 151</b>
IMH400-S SS	381	Mechanical convection	544 x 569 x 1335	778 x 770 x 1545	1	<b>9.534 152</b>
IMH750-S	702	Mechanical convection	1004 x 569 x 1335	1261 x 770 x 1545	1	<b>9.534 154</b>
IMH750-S SS	702	Mechanical convection	1004 x 569 x 1335	1261 x 770 x 1545	1	<b>9.534 155</b>

\*Stainless steel housing.

## Accessories for Heratherm Microbiological Incubators

*Thermo Scientific*

Description	PK	Cat. No.
Perforated stainless steel insert for all 400 litre Incubators	1	<b>9.534 169</b>
Perforated stainless steel insert for all 750 litre Incubators	1	<b>9.534 170</b>

## 1 Incubators, BD, BF series and refrigerated incubators, KB series

BINDER incubators and refrigerated incubators stand for optimal incubation and for results that are reproducible in every routine test, even under high batch throughputs in long-term operation.

- Safe and reproducible incubation
- Disinfection routine at 100 °C
- Broad range of products and applications

Series BD: Incubators with gravity convection. The specialist for incubating organisms, as well as microbiological heating and conditioning.

Series BF: Incubators with forced convection. It shines with its homogeneity and quick recovery times, even under a full load and high throughput.

Series KB: Refrigerated incubators with forced convection. Safe incubation at high ambient temperatures. Additional options and a weekly programming function make it very versatile.

Equipment:

- Electronically controlled APT.line™ preheating chamber
- Temperature range: from 5 °C above room temperature to 100 °C (BD/BF), -5 °C to 100 °C (KB)
- 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
- Inner glass door

BINDER



9.883 570

Type	Internal volume litres	Internal dimensions (W x D x H) mm	External dimensions (W x D x H) mm	PK Cat. No.
BD 23	20	222 x 277 x 330	435 x 520 x 495	1 <b>9.883 599</b>
BD 400	400	1000 x 500 x 800	1235 x 765 x 1025	1 <b>9.883 603</b>
BD 720	720	1000 x 600 x 1200	1235 x 865 x 1530	1 <b>9.883 604</b>
BF 400	400	1000 x 500 x 800	1235 x 765 x 1025	1 <b>6.203 549</b>
BF 720	720	1000 x 600 x 1200	1235 x 865 x 1530	1 <b>9.883 625</b>
KB 23	20	222 x 277 x 330	435 x 600 x 620	1 <b>9.883 528</b>
KB 53	53	400 x 330 x 400	635 x 665 x 840	1 <b>9.883 568</b>
KB 115	115	600 x 400 x 480	835 x 730 x 1025	1 <b>9.883 569</b>
KB 240	240	650 x 485 x 785	930 x 880 x 1460	1 <b>9.883 570</b>
KB 400	400	650 x 485 x 1270	930 x 880 x 1945	1 <b>9.883 571</b>
KB 720	720	970 x 576 x 1250	1255 x 970 x 1925	1 <b>9.883 572</b>

## Storage cooled chamber, IPS

Sample storage incubating and cooling in the food industry, medicine, the cosmetics industry, or pharmaceuticals. The storage cooled incubators with Peltier elements heat and cool seamlessly with one system.

Working-temperature range/setting temperature range: + 14 °C to +45 °C. With gentle, fan-assisted, air circulation via Peltier fan.

Memmert



9.538 012

Type	Internal volume litres	Internal dimensions (W x D x H) mm	Shelf support ribs/shelves	External dimensions (W x D x H) mm	Weight kg	PK Cat. No.
IPS260	256	640 x 500* x 800	9/2	824 x 774** x 1186	113	1 <b>9.538 011</b>
IPS750	749	1040 x 600* x 1200	14/2	1224 x 874** x 1726	230	1 <b>9.538 012</b>

\* Minus 10 mm for fan - Peltier

\*\*Depth without door handle, please add 38 mm

# Heating

## Cooling incubators

### Peltier incubators IPP and IPPplus

- PID microprocessor control with integrated auto-diagnostic system
- Interior of stainless steel material 1.4301 (ASTM 304) with all-round deep-drawn ribs to integrate the large-area heating with ceramic-metal sheath
- German, English, French, Spanish language settings available on the ControlCOCKPIT
- Digital backwards counter with target time setting adjustable between 1 minute and 99 days
- The SetpointWAIT function guarantees that the process time does not start until the set temperature is reached at all measuring points.

Memmert

#### Specifications

Working temperature range without light:	0 (max. 25 °C below ambient) to +70 °C
Working temperature range with light:	+10 to +40 °C
Setting temperature range:	0 to +70 °C
Setting accuracy:	0.1 °C
Power supply:	230 V, 50/60 Hz

1



9.538 002

### Peltier incubators IPP

#### SingleDISPLAY: ControlCOCKPIT with one TFT colour display

- Available parameters on the ControlCOCKPIT: Temperature (Celsius or Fahrenheit), fan speed, exhaust air flap position, programme time, time zones, summertime/wintertime
- One temperature sensor Pt100 DIN class A in a 4-wire circuit
- AtmoCONTROL software for reading out, managing and organising the data logger via Ethernet interface. USB stick with AtmoCONTROL software available as accessory (on demand)
- Double overtemperature protection: Electronic temperature monitoring with freely adjustable monitoring temperature with option A6 TWW/TWB (protection class 3.1 or 2), mechanical temperature limiter TB acc. to DIN 12880

Type	Internal volume litres	Internal dimensions (W x D x H) mm	Shelf support ribs/shelves	External dimensions (W x D x H) mm	Weight kg	PK	Cat. No.
IPP30	32	400 x 240 x 320	3 / 1	585 x 524** x 704	40	1	9.538 001
IPP55	53	400 x 320 x 400	4 / 1	585 x 604** x 784	52	1	9.538 002
IPP110	108	560 x 390 x 480	5 / 2	745 x 674** x 864	78	1	9.538 003
IPP260	256	640 x 490 x 800	9 / 2	824 x 774** x 1183	114	1	9.538 004
IPP750	749	1040 x 590 x 1200	14 / 2	1224 x 874** x 1726	230	1	9.538 005

2



9.538 009

### Peltier incubators IPPplus

#### Twindisplay: ControlCOCKPIT with two TFT colour displays

- Available parameters on the ControlCOCKPIT: Temperature (Celsius or Fahrenheit), fan speed, exhaust air flap position, programme time, time zones, summertime/wintertime
- Two Pt100 sensors DIN class A in a 4-wire circuit for mutual monitoring, taking over functions in case of an error
- AtmoCONTROL software on a USB stick for programming, managing and transferring programmes via Ethernet interface or USB port
- HeatBALANCE function for application specific adjustment of heat output distribution (balance) between the upper and lower heating groups in an adjustment range between -50 % and +50 % (not valid for IPP110plus)
- Displaying of already logged protocol data on the ControlCOCKPIT (max 10.000 values correspond to approx. 1 week)
- Multiple overtemperature protection: Electronic temperature monitoring TWW/TWB (protection class 3.3 or 2 resp. 3.3 for units with active cooling) and mechanical temperature limiter TB (protection class 1) acc. to DIN 12880, AutoSAFETY automatically adjusts to the set value within a freely adjustable tolerance range. Setting individual MIN/MAX values for over/undertemperature

Type	Internal volume litres	Internal dimensions (W x D x H) mm	Shelf support ribs/shelves	External dimensions (W x D x H) mm	Weight kg	PK	Cat. No.
IPP30plus	32	400 x 240 x 320	3 / 1	585 x 524** x 704	40	1	9.538 006
IPP55plus	53	400 x 320 x 400	4 / 1	585 x 604** x 784	52	1	9.538 007
IPP110plus	108	560 x 390 x 480	5 / 2	745 x 674** x 864	78	1	9.538 008
IPP260plus	256	640 x 490 x 800	9 / 2	824 x 774** x 1183	114	1	9.538 009
IPP750plus	749	1040 x 590 x 1200	14 / 2	1224 x 874** x 1726	230	1	9.538 010

## CO<sub>2</sub> Incubators INCOmed

For cell cultivation and for in-vitro fertilisation, the precision and reliability are of crucial importance.

Memmert

### Ventilation and Control:

- uniform atmosphere and temperature distribution owing to enclosed non-turbulent ventilation system in working chamber
- integral fault diagnostics on temperature, CO<sub>2</sub> and humidity limit control
- 2 x Class A , 4-wire circuit, Pt100 sensors mutually monitoring and maintaining the performance at the same temperature value
- digital 7-day programme timer with real time clock, precise minute setting
- digital display (LED) of all set parameters, such as temperature, weekdays, time, CO<sub>2</sub>, humidity and set-up values
- CO<sub>2</sub> supply via sterile filter
- digital electronic CO<sub>2</sub> control with automatic zeroing (infrared measuring system)
- CO<sub>2</sub>-supply being interrupted upon door opening
- digital display of set and actual values (LED 0.1 °C resolution) of temperature and CO<sub>2</sub>-concentration
- integral humidity limit control (88 to 97 %) with digital display of relative humidity - setting accuracy 1 %
- chip card (STERICard) for sterilization of working chamber with fixed cycle (4 hours/160 °C) without removal of sensors and mountings
- Textured Stainless Steel Casing

### Multiple Overtemperature Protection:

- with audible and visual alarm in case of over-/undertemperature and over-/under-CO<sub>2</sub>, open door and empty gas cylinder
- independently working, digitally adjustable electronic overtemperature controller TWW protection class 3.1
- additional adjustable Auto-Safety-Function "ASF" for over- and undertemperature automatically following the set value at a preset tolerance range
- mechanical temperature limiter TB class 1 switching the heating off at approx. 10 °C above max. oven temperature

**Temperature Range:** from +20 °C (however at least 8 °C above ambient) up to +50 °C

**Power supply:** 230 V, 50/60 Hz; 115 V, 50/60 Hz no extra cost

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9.867 732

2



9.867 733

Type	Internal dimensions/housing (WxHxD) mm
INCO108med	560 x 480 x 375/710 x 778 x 550
INCO153med	480 x 640 x 475/630 x 938 x 650
INCO246med	640 x 640 x 575/790 x 938 x 750

Type	Internal volume litres	Rating W	Weight kg	PK	Cat. No.
INCO108med basic model	108	1000	70	1	9.867 732 1
INCO153med basic model	153	1500	80	1	9.867 733 2
INCO246med basic model	246	2000	110	1	9.867 734

## Accessories for CO<sub>2</sub> Incubators INCOmed

### Humidity module:

active microprocessor control for humidifying and dehumidifying (40 - 97 % rh), incl. digital indication and auto-diagnostic system; humidity supply with distilled water (from an external tank) , dehumidifying via sterile filter; (standard humidity limit control and water dishes are omitted)

Memmert

### O<sub>2</sub> module:

control of oxygen concentration by N<sub>2</sub> inlet, adjustment range 1 % bis 20 % O<sub>2</sub>, setting accuracy 0.1 %  
Accessories on request.

Type	Description	PK	Cat. No.
B00325 INCO108med	Additional stainless steel shelf, full width	1	9.867 707
B00321 INCO153med	Additional stainless steel shelf, full width	1	9.867 708
B03813 INCO246med	Additional stainless steel shelf, full width	1	9.867 748
T6	O <sub>2</sub> module for INCO108, 153, 246med	1	9.867 749
K7	Active humidity control microprocessor for INCO108/153/246med	1	9.867 706
F7	Entry port in the rear, heated, with silicone stopper, 40 mm inner diameter	1	9.867 750

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## 1 CO<sub>2</sub> incubators, CB series with sterilizable sensor

BINDER

- VENTAIR™ air jacket system
- Temperature range: 7 °C above room temperature up to 60 °C
- BINDER controller with LCD color display for simultaneous display of all important parameters (temperature, % CO<sub>2</sub>, % O<sub>2</sub> concentration, humidity) and user-friendly push button/rotary knob
- Intuitive menu guidance
- Electronic chart recorder
- Variety of options for graphic display of process parameters
- Real-time clock
- **Standard-compliant hot air sterilization at 180 °C with sterilizable built-in CO<sub>2</sub> sensor**
- Drift-free infrared CO<sub>2</sub> measurement system
- CO<sub>2</sub> introduction through patented gas mixing nozzle
- ANTI.PLENUM Design to avoid contamination of critical fixtures
- Permadry™, double pan humidification system with defined condensation site for condensate-free interior walls
- Seamless deep-drawn inner chamber made of stainless steel with round corners and integrated shelf support system
- Electronic error self-diagnostic system with visual and audible alarms, as well as potential-free contact for central monitoring
- Independent temperature safety device class 3.1 (DIN 12880) with visual and audible temperature alarm
- Tightly-fitted inner glass door made of safety glass
- Ethernet interface for communication software
- APT-COM™ DataControlSystem
- Three perforated shelves made of stainless steel
- Stackable units with new flat stacking adapter
- Door lock
- BINDER test certificate

Type ending O-with O<sub>2</sub> control

Type ending GO-with O<sub>2</sub> control and divided inner door

Type	Internal volume litres	External dimensions (W x D x H) mm	Internal dimensions (W x D x H) mm	Weight kg	PK	Cat. No.
CB060-230 V-O	53	580 x 545 x 720	400 x 330 x 400	63.00	1	9.883 738
CB060UL-120 V-O	53	580 x 545 x 720	400 x 330 x 400	63.00	1	9.883 741
CB060-230 V-GO*	53	580 x 550 x 720	400 x 330 x 400	68.00	1	9.883 744
CB060UL-120 V-GO*	53	580 x 550 x 720	400 x 330 x 400	68.00	1	9.883 747
CB160-230 V-O	150	680 x 715 x 920	500 x 500 x 600	106.00	1	9.883 739
CB160UL-120 V-O	150	680 x 715 x 920	500 x 500 x 600	106.00	1	9.883 742
CB160-230 V-GO*	150	680 x 715 x 920	500 x 500 x 600	110.00	1	9.883 745
CB160UL-120 V-GO*	150	680 x 715 x 920	500 x 500 x 600	110.00	1	9.883 748
CB220-230 V-O	210	740 x 715 x 1070	560 x 500 x 750	125.00	1	9.883 740
CB220UL-120 V-O	210	740 x 715 x 1070	560 x 500 x 750	125.00	1	9.883 743
CB220-230 V-GO**	210	740 x 715 x 1070	560 x 500 x 750	132.00	1	9.883 746
CB220UL-120 V-GO**	210	740 x 715 x 1070	560 x 500 x 750	132.00	1	9.883 749

\*with 4 times divided inner door

\*\*with 6 times divided inner door





## Constant Climate Chambers HPP750life for keeping mice

1

### Ventilation and Control

Memmert

- forced ventilation by Peltier fan
- 2 fresh air inlets (40 mm Ø) in the rear at the bottom, can be closed with stopper
- 1 exhaust air outlet in the rear at the top (80 mm Ø) with fan, to control the air exchange rate, adjustable in 10 % steps (max. air exchange rate 38 times/h)
- adaptive multifunctional digital PID-microprocessor controller with 2 high definition TFT-colour displays
- integral fault diagnostics for 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 timer adjustable from 1 minute to 99 days
- parameters adjustable on ControlCOCKPIT: temperature (Celsius or Fahrenheit), relative humidity, programme time, time zones, summertime/wintertime
- SetpointWAIT function - the process time does not start until the set temperature is reached
- AtmoCONTROL software on a USB stick for programming, managing and transferring programmes via Ethernet interface or USB port
- heating and cooling performance distribution by individual control of the Peltier elements in the upper and lower row
- HeatBALANCE function for adapting the distribution of the heating performance of the upper and lower heating circuit from -50 % to +50 %
- setting of languages on ControlCOCKPIT: German/English/Spanish/French
- resolution of display for setpoint and actual temperature values 0.1 °C
- calibration facility directly at ControlCOCKPIT for three freely selectable temperature values, 2-point calibration for humidity: 20 and 90 % rh
- programme stored in case of power failure
- including works calibration certificate for +30 °C/45 % rh



### Humidifying and dehumidifying system

- active humidifying and de-humidifying adjustable from 10 - 90 % rh with digital display of relative humidity - resolution of display 0.1 %, setting accuracy 0.5 %
- dehumidification by means of compressed air for safe and stable humidity values in compliance with GV Solas guidelines
- humidity supply with distilled water from external tank by self-priming pump
- humidification by hot steam generator
- dehumidification by cold trap using the Peltier technology

### Multiple Overtemperature Protection

- with audible and visual alarm
- over- and undertemperature monitor TWW, protection class 3.3 or adjustable temperature limiter TWB, protection class 2, selectable on display
- additionally integrated over- and undertemperature protection "ASF", automatically following the setpoint value at a preset tolerance range; alarm in case of over or undertemperature, heating function is switched off in case of overtemperature, cooling function in case of undertemperature

### Textured Stainless Steel Casing

- fully insulated stainless steel doors with 2-point locking (compression door lock)
- inner glass doors
- rear zinc-plated steel
- on lockable castors

### Interior - Heating Concept

- energy-saving Peltier heating-/cooling system integrated in the rear (heat pump principle)
- 2 special stainless steel grids, reinforced, each with 2 LED light strips, adjustable in 1 % steps (5.500 K cold white or 2.700 K warm white)
- max. loading of chamber: 200 kg

### Temperature range:

- from 0 °C to +70 °C
- from +5 °C to +40 °C with light

Type	Capacity	Internal dimensions (W x D x H)		Housing (W x D x H)	Weight	Rating	Shelf support ribs/shelves	PK	Cat. No.
		l	mm						
HPP750life	749	1040	600 x 1200	1224 x 874 x 1726	208	1200	4/2	1	6.263 247

# Heating

## Climate chambers

### Climate chambers with illumination, KBW, KBWF series

BINDER

Homogeneous lighting conditions with constant temperature and humidity conditions, the BINDER climate chambers. The responsive humidification system, the high-performance cooling and uniform light distribution ensure optimal growth conditions.

- Homogeneous light distribution
- Natural growth conditions
- KBWF: Temperature, humidity & light in one unit

KBW Series: The KBW confidently meets all demands for optimal lighting and temperature conditions for precisely defined processes.

KBWF Series: The perfect combination of heat or cold, humidity and light in one chamber: The BINDER KBWF.

Equipment:

- Electronically controlled APT.line™ preheating chamber
- Temperature range 0 °C to 70 °C (without humidity and illumination)
- Humidity range 10 % to 80 % RH (without illumination)
- 2 variable position illumination cassettes each with 5 daylight fluorescent illumination tubes
- MCS controller for temperature, humidity, and lighting control with 25 storable programs of 100 sections each for a maximum of 500 program segments, for programming of day/night cycles
- Integrated electronic chart recorder
- Controlled humidification and dehumidification system with capacitive humidity sensor
- Independent temperature safety device class 3.1 (DIN 12880) with optical and audible temperature alarm
- Access port with silicone plug diam. 30 mm, left side
- RS 422 interface for communication software APT-COM™ DataControlSystem

Type	Internal volume litres	Internal dimensions (W x D x H) mm	External dimensions (W x D x H) mm	PK Cat. No.
KBW 240	247	650 x 485 x 785	925 x 800 x 1460	1 <b>9.883 573</b>
KBW 400	400	650 x 485 x 1270	925 x 800 x 1945	1 <b>9.883 535</b> <b>1</b>
KBW 720	698	970 x 576 x 1270	1255 x 887 x 1925	1 <b>9.883 574</b>
KBWF 240	247	650 x 485 x 785	930 x 800 x 1460	1 <b>9.883 575</b>
KBWF 720	720	973 x 576 x 1250	1255 x 890 x 1925	1 <b>9.883 576</b> <b>2</b>

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9.883 535

2



9.883 576

## 1 2 3 Shaking Incubators 3031, 3032 and 3033 with Orbital Motion

Specialising in gentle mixing as well as vigorous shaking, GFL Shaking Incubators are used for applications that require exactly reproducible orbital motions and temperatures of up to +70 °C, e.g. incubations, fermentations, homogenisations, chemical and biochemical reactions, enzyme and tissue studies, as well as for bacterial culture. The units carry the CE mark.

Incubation time, temperature and shaking frequency regulation are microprocessor-controlled. Fast and exact temperature setting, exact reproducibility of set values.

- built-in RS232 serial interface for remote control of measurement and control tasks via PC, compatible with PC software programme e.g. labworldsoft®
- temperature range: from 8 °C above ambient to +70 °C. Serial cooling coil for operation below ambient temperature. Operation with cooling coil: +20 °C to +70 °C (dependent on cooling media and ambient temperature)
- temperature constancy (temporal): ±0.2 °C
- setting and display of temperature (in 0.1 °C increments), shaking frequency and incubation time: digital - LED.
- optimum temperature distribution throughout the cabinet interior with a ventilator
- shaking motion: orbital, can be switched on and off.
- silent and robust shaking mechanism with gentle start-up.
- Incubation time: 1 minute to 999:59 hours
- Maximum load 3031/3032/3033: 12 kg/12 kg/20 kg
- Supply requirements: 230 V 50/60 Hz, 0.8 kW (other voltages are available on request)

### Type 3031:

Lift-up, transparent acrylic cover. Volume/capacity: approx. 46 litres/1 shaking tray. The aluminium shaking platform includes four plastic pins to accept a shaking tray or a universal mount (accessories).

- shaking frequency: 20 to 250 rpm max.

### Type 3032 (one-door design)/Type 3033 (two-door design):

Acrylic window panels. Volume: approx. 45L/approx. 150L, capacity: 2 shaking trays (for vessel heights > 150 mm/180 mm: 1 shaking tray). The frame, permitting the use of two shaking trays, is included.

- Shaking speed type 3032: 20 to max. 250 rpm
- Shaking speed type 3033: 20 to max. 250 rpm, if only bottom tray is fitted, max. 200 rpm, if both trays are fitted

GFL



Type	Amplitude mm	Internal dimensions (W x D x H) mm	External dimensions (W x D x H) mm	Max. kg	Weight kg	PK	Cat. No.
3031	30	450 x 450 x 280	525 x 665 x 570	12	38.50	1	9.837 926
3032	25	450 x 300 x 320	710 x 650 x 710	12	70.00	1	9.837 927
3033	25	674 x 540 x 430	930 x 890 x 820	20	135.00	1	9.837 929

## 4 5 Trays for Shaking Incubators

### Tray 3966 for Shaking Incubator 3031

Stainless steel, 450 mm x 450 mm.

### Tray 3970 for Shaking Incubator 3032

Stainless steel, 450 mm x 300 mm.

### Tray 3980 for Shaking Incubator 3033

Anodised aluminium, 670 mm x 537 mm.

Type	For Type	PK	Cat. No.
Tray 3966	3011 - 1018 / 3031	1	9.837 936
Tray 3970	3032	1	9.837 990
Tray 3980	3033 / 3019 / 3020	1	9.837 980

GFL



# Heating Shaking incubators

## Clamps for Erlenmeyer Flasks

Clamps for Shaking Incubators 3031/3032/3033, for **trays 3966, 3970 and 3980**. Made of stainless steel.

GFL

Complete with fixing material.

Type	For flasks ml	Clips required shaker Model <b>3966</b>	Clips required shaker Model <b>3970</b>	Clips required shaker Model <b>3980</b>	PK	Cat. No.
3983	25	79	52	99	1	<b>9.837 983</b>
3984	50	49	33	99	1	<b>9.837 984</b>
3985	100	36	22	50	1	<b>9.837 985</b>
3986	200	22	15	26	1	<b>9.837 986</b>
3987	250-300	16	13	26	1	<b>9.837 987</b>
3988	500	12	10	26	1	<b>9.837 988</b>
3989	1000	9	6	12	1	<b>9.837 989</b>

## 1 MaxQ 4450 Compact Benchtop Incubated Shakers, orbital

- Holds up to 4 x 1 L flasks.
  - Requires minimal bench space.
  - Choose between two temperature ranges, 5 °C above ambient to 80 °C or 5 °C below ambient to 80 °C.
  - Clear lid lets you view samples without disturbing internal temperature
  - Triple eccentric drive handles heavy loads, provides uniform agitation and continuous 24-hour operation, even at high speeds.
  - Monitor and control chamber temperature range with  $\pm 0.1$  °C accuracy and  $\pm 0.5$  °C uniformity at 37 °C.
  - View speed, operating time and temperature simultaneously on three individual LED displays.
  - Visual/audible alarms alert you to temperature deviations. Heat turns off if temperature deviates  $\pm 1$  °C of set point.
  - Soft start feature eliminates sudden starts and stops, splashing of vessel contents or wetting of flask closure.
  - Retains parameters during power failure and restarts unit automatically after power is restored.
  - Over-temperature safety feature with independent thermostat provides additional backup by controlling heat if main temperature controller fails.
  - Safety interlock stops platform motion when lid is opened.
  - 5 year warranty and 10 year on drive mechanism.
- Also available with analog operating system.

Thermo Scientific

### Specifications

Speed range, rpm:	15 to 500 $\pm 1$ rpm digital 40 to 400 $\pm 1$ rpm analog
Temperature range:	$\pm 0.1$ °C accuracy at 37°
Operating time:	0.1 hour to 999 hours or 0.1 minute to 999 minutes
Dimensions (L x W x H):	691 x 358 x 401 mm
Supply requirements:	240 V, 50/60 Hz

Description	Temp. range °C	Load max. kg	Amplitude mm	PK	Cat. No.
Benchtop Incubated Shaker, mini analog	RT +5 °C - 80 °C	15.9	19.0	1	<b>4.011 052</b>
Benchtop Incubated Shaker with Cooling Coil, mini analog	RT -5 °C - 80 °C	15.9	19.0	1	<b>4.011 053</b>
Benchtop Incubated Shaker, digital	RT +5 °C - 80 °C	15.9	19.0	1	<b>4.011 063</b>
Benchtop Incubated Shaker with Cooling Coil, digital	RT -5 °C - 80 °C	15.9	19.0	1	<b>4.011 064</b>



## 1 Digital Dry Bath AccuBlock™ Mini

Labnet

AccuBlock Mini combines digital control, a fast heating microtube block and a convenient AccuRack transfer system, all in an ultra compact footprint. With a temperature range to 100 °C which can be set in increments of 0.1 °C, AccuBlock Mini is suitable for a range of uses in life science, molecular biology, environmental and industrial laboratories and a variety of applications including incubation, enzyme reactions, immunoassays.

- accepts up to 12 x 1.5 ml tapered microcentrifuge tubes
- with thermometer well for temperature confirmation and calibration
- microprocessor controlled heating element
- easy to read 4 digit LCD display
- built in calibration mode allows end users to calibrate the bath as needed

The included AccuRack allows quick loading or unloading of all sample tubes simultaneously. It is self standing and can be used to hold samples while they are prepared for loading. Samples can also be loaded directly into the AccuBlock™ Mini without the AccuRack.



### Specifications:

Temperature range:	Ambient +5 °C to 100 °C, resolution 0.1 °C
Temperature uniformity:	±0.2 °C
Temperature accuracy:	±0.1 °C
Timer:	0 - 19 h 59 min or continuous
Block material:	Anodized aluminum
Block capacity:	12 x 1.5 ml tubes
Dimensions (W x D x H):	140 x 120 x 60 mm
Weight:	1.3 kg
Supply requirements:	230 V 50/60 Hz, or 120 V 50/60 Hz

Type	PK	Cat. No.
AccuBlock™ Mini	1	9.945 780

## 2 AccuBlock™ Digital Dry Baths

Labnet

The user calibration function allows for easy calibration of in-house standards when required. The dry bath is available as a single or dual block model. Interchangeable blocks are available to accommodate a wide variety of tubes, plates and slides. Each dry bath is supplied with a block lifter that enables the user to exchange blocks easily, even when the block is hot.

- precise microprocessor control
- timer for timed incubation applications
- broad temperature range, to 150 °C
- high temperature stability and uniformity due to molded block chamber
- large digital display
- easy user calibration
- single and dual block models

**Supplied with user manual, line cord and block lifter. Please order blocks separately**



### Specifications

Temperature range:	Ambient +5 to +150 °C
Temperature uniformity:	±0.2 °C
Temperature resolution:	±0.1 °C
Temperature accuracy:	±0.3 °C
Temperature control:	Microprocessor
Block material:	Stainless steel
Dimensions (W x D x H):	200 mm x 265 mm x 83 mm
Weight:	2.2 kg
Supply requirements:	230 V 50/60 Hz, or 120 V 50/60 Hz

Type	PK	Cat. No.
AccuBlock Digital Dry Bath, single block	1	6.224 190
AccuBlock Digital Dry Bath, dual block	1	6.225 737

# Heating

## Block thermostats

1



### 1 Accessories for Digital Dry Baths AccuBlock™

Labnet

Type	PK	Cat. No.
Block, 24 x 1.5 ml tubes	1	6.224 191
Block, 20 x 2.0 ml tubes	1	6.233 664
Block, 24 x 0.5 ml tubes	1	6.235 417
Block, 48 x 0.2 ml PCR tubes or 6 x 0.2 ml strips	1	9.945 763
Block 12 x 15 ml centrifuge tubes	1	9.945 764
Block 5 x 50 ml centrifuge tubes	1	9.945 765

2



### 2 Block thermostats PCH-1/PCH-2/PCH-3

Grant

Personal benchtop cooling/heating dry block for microcentrifuge tubes. The ingenious block construction, combined with the powerful Peltier module, produces very rapid cooling and heating.

Temperature range:	-10 to +100 °C
Heat up, amb. to 100 °C:	15 min
Cool down, 100 °C to amb.:	15 min
Cool down, amb. to -10 °C:	21 min

Type	Description	PK	Cat. No.
PCH-1	20 x 0.5 ml and 12 x 1.5 ml microtubes	1	9.721 009
PCH-2	20 x 1.5 ml microtubes	1	9.721 010
PCH-3	20 x 2.0 ml microtubes	1	9.721 066

3



### 3 Microtube block thermostat BTD

Grant

The block heating system BTD with fixed block is designed for rapid and precise heating of microtubes up to 100°C.

- Digital temperature control for optimum precision
- Heating block holds combinations of four microtube sizes simultaneously - up to a total of 49 tubes: 24 x 1.5/2.0 ml, 15 x 0.5 ml, 10 x 0.2 ml
- Flexible tube sizes and rapid heat-up time enables swift change of application
- Convenient integral timer for time-sensitive incubations
- Sturdy, durable, easy-to-clean plastic construction; compact design with small footprint
- 2-line display for simple and precise setting of temperature/time and for monitoring current status during operation

#### Specifications

Temperature range:	+5 to 100 °C
Stability at 37 °C:	±0.1 °C
Uniformity:	±0.1 °C
Heat-up times:	25 °C to 100 °C in 15 min 25 °C to 37 °C in 4 min
Timer:	1 min to 96 h
Power supply:	230 V, 50/60 Hz

Type	Power W	Dimensions (W x D x H) mm	PK	Cat. No.
BTD	200	210 x 230 x 110	1	6.223 310

## Block Heaters, analogue and digital, SBH series

Designed for the precise heating of test-tubes, microcentrifuge tubes, cuvettes and microplates.

Stuart

Excellent temperature stability and uniformity is maintained via sensitive, microprocessor control.

Heats to 100 °C in <12 mins.

Supplied complete with block extraction tool but without aluminium blocks which must be ordered separately.

With BioCote, silver-based, antimicrobial protection.

### Specifications

Temperature stability at 37 °C:	±0.1 °C
Uniformity within block at 37 °C:	±1 °C
Uniformity within block at 130 °C:	±0.1 °C
Electrical supply:	230 V 50 Hz
	<b>SBH130 // SBH130D // SBH200D</b>
Number of blocks:	2
Temp. range (Ambient):	Amb.+8 °C to +130 °C // Amb.+8 °C to +130 °C // Amb.+8 °C to +200 °C
Display type:	analog // LED // LED
Display resolution:	10 °C // 0.1 °C // 0.1 °C
Dimensions (W x D x H) mm:	235 x 280 x 115 mm
Net weight:	2.1 kg // 2.3 kg // 2.3 kg
Heater power:	300 W
	<b>SBH130D/3 // SBH200D/3</b>
Number of blocks:	3
Temp. range (Ambient):	Amb.+8 °C to +130 °C // Amb.+8 °C to +200 °C
Display type:	LED
Display resolution:	0.1 °C
Dimensions (W x D x H) mm:	310 x 280 x 115 mm
Net weight:	3.2 kg
Heater power:	450 W

Type	Description	PK	Cat. No.
SBH130	2 block, analogue, 130 °C	1	<b>9.852 300</b> 1
SBH130D	2 block, digital, 130 °C	1	<b>9.852 301</b>
SBH200D	2 block, digital, 200 °C	1	<b>9.852 302</b>
SBH130D/3	3 block, digital, 130 °C	1	<b>7.624 685</b>
SBH200D/3	block, digital, 200 °C	1	<b>9.852 303</b> 2

1



2



## Aluminium blocks SHT for block heaters Stuart SBH series

Stuart

Description	PK	Cat. No.
Aluminium block for 12 x 16.5 mm Ø tubes	1	<b>9.951 619</b>
Aluminium block for 8 x 19.5 mm Ø tubes	1	<b>9.951 620</b>
Aluminium block for 20 x 1.5 ml Eppendorf Tubes®	1	<b>9.951 623</b>
Aluminium block for 20 x 2.0 ml Eppendorf Tubes®	1	<b>9.951 624</b>

1



## 1 Thermo shaker LLG-uniTHERMIX 1 and 2

The LLG-uniTHERMIX is ideal for shaking and temperature control of a variety of tubes or plates (depending on the block used). With its high temperature uniformity, fast heating rate and excellent mixing results the LLG-uniTHERMIX is perfect for the incubation of samples of any kind, in particular for Life Science applications, e.g. Enzyme reactions, transformations, denaturation of DNA and RNA.

- Precise temperature control system
- Temperatures up to 100 °C
- Temperature accuracy of  $\pm 0.5$  °C (20 to 45 °C)
- Efficient mixing up to 1500 rpm (depending on the heating block)
- Up to 9 storable programs
- Many block options available (see accessories)
- Automatic block recognition

**LLG-uniTHERMIX 1:** with shaking and heating function,  
Temperature range: RT +5 °C to approx. +100 °C

**LLG-uniTHERMIX 2:** with shaking, cooling and heating function,  
Temperature range: 15 °C below RT to approx. +100 °C

**Blocks must be ordered separately.**

### Specifications

Temperature range	
LLG-uniTHERMIX 1:	RT +5 °C to approx. +100 °C
LLG-uniTHERMIX 2:	15 °C below RT to approx. +100 °C
Control accuracy:	$\pm 0.5$ °C (at 20 to 45 °C)
Uniformity:	Max. $\pm 0.5$ °C (at 20 to 45 °C)
Max. heating rate:	5.5 °C/min
Max. cooling rate (LLG-uniTHERMIX 2 only):	0.5 °C/min (below RT) 5 °C/min (100 °C to RT)
Speed range:	300 to 1500 rpm
Orbit:	3 mm
Display:	LCD
Programs:	6 stages, 9 programs
Timer:	1 to 99 min or continuous
Dimensions (W x D x H):	200 x 235 x 120 mm
Capacity:	1 exchangeable block*
Weight:	7.3 kg
Electrical heating/cooling power:	200 W
Power supply:	220-240 V, 50 Hz/60 Hz

Type	PK	Cat. No.
LLG-uniTHERMIX 1, with EU plug	1	6.263 470
LLG-uniTHERMIX 1, with UK plug	1	6.263 471
LLG-uniTHERMIX 2, with EU plug	1	6.263 472
LLG-uniTHERMIX 2, with UK plug	1	6.263 473

\*Exchangeable blocks are not included in delivery.

2



6.263 476

## Heating blocks for Thermo shaker LLG-uniTHERMIX 1 and 2

For	PK	Cat. No.
96 well PCR plates non-skirted, 0.2 ml tubes*	1	6.263 474
96/384 micro plate*	1	6.263 480
24 tubes, 0.5 ml*	1	6.263 475
24 tubes, 1.5 ml*	1	6.263 476
24 tubes, 2.0 ml*	1	6.263 477
8 tubes, 5 ml	1	6.263 481
8 tubes, 15 ml, max. 800 rpm	1	6.263 478
4 tubes, 50 ml, max. 600 rpm	1	6.263 479

\*with lid



## 1 Eppendorf ThermoMixer™ F1.5/Eppendorf ThermoMixer™ FP

To simplify your lab routines. Whether you regularly work with 1.5 ml reaction vessels or microplates (MTP and DWP), our customized systems offer you the perfect solution for your special applications. From 4 °C above RT to 100 °C, there are no limits to the application possibilities. The ThermoMixer F1.5 is equipped with block for 1.5 ml reaction vessels and the ThermoMixer FP has a block for microplates

*Eppendorf Vertrieb*

- Efficient mixing thanks to 2DMix-Control and anti-spill technology
- Simple and intuitive operation using predefined temperature keys (37 °C, 42 °C, 56 °C and 95 °C)
- Improved temperature homogeneity with the new ThermoTop

### Specifications

Temperature operation range:	min: +4 °C above RT, max: +100 °C
Temperature adjustable range:	+1 °C/+100 °C
Accuracy/Resolution ThermoMixer™ F1.5:	±0.5 °C at +20 to +45 °C
Accuracy/Resolution ThermoMixer™ FP:	±1.0 °C at +20 to +45 °C
Max. heating time ThermoMixer™ F1.5:	11 °C/min
Max. heating time ThermoMixer™ FP:	18 °C/min
Shaking frequency ThermoMixer™ F1.5:	300 to 1500 rpm
Shaking frequency ThermoMixer™ FP:	300 to 2000 rpm
Orbit:	3 mm orbital
Dimensions (W x D x H):	206 x 304 x 131 mm
Capacity ThermoMixer™ F1.5:	24 tubes 1.5 ml
Capacity ThermoMixer™ FP:	Microplates/Deepwell plates
Weight ThermoMixer™ F1.5:	6.0 kg
Weight ThermoMixer™ FP:	5.8 kg
Electrical heating power:	200 W (max.)
Power supply:	220 - 240 V ±10 %, 50/60 Hz



Type	PK	Cat. No.
ThermoMixer™ F1.5	1	9.776 904
ThermoMixer™ FP	1	9.776 905

## Microplate thermoshaker PHMP/PHMP-4

For 96- and 384-well plates. The PHMP is a variable speed, variable temperature microplate shaker incubator with excellent temperature uniformity across the microplate. The patented heated lid and base which completely cover the plate produce a controlled micro-environment. This is combined with powerful orbital shaking to produce the maximum yield from your incubations.

*Grant*

- Stability ±0.1 °C, uniformity ±0.25 °C
- Rapid heat-up
- For standard 96 or 384-well plates (max. 14 mm height)
- Choice of models with a capacity of 2 microplates (PHMP) or 4 microplates (PHMP-4)
- Variable speed: 250 rpm to 1200 rpm
- 2 mm shaking orbit for effective mixing
- Temperature setting range: +25 to 60 °C
- Temperature control range: RT +5 to 60 °C
- Timed operation: 1 min to 96 hours



9.721 033



Type	Temp. range max. °C	PK	Cat. No.
Thermoshaker PHMP	RT +5 to 60	1	9.721 033 <b>2</b>
Thermoshaker PHMP-4	RT +5 to 60	1	6.227 761 <b>3</b>

# Stirring

## Magnetic stirrers without heating

### 1 Magnetic stirrer LLG-uniSTIRRER 1

An ultra-flat inductive magnetic stirrer without heating with timer for applications in biology and biochemistry. The modern magnet coil technology consists only of non-moving parts and therefore guarantees a wear-free drive. For a better mixing of samples it is possible to change the direction of rotation every 30 seconds. 3 years warranty.

- Timer (1 min to 99 min, infinitely)
- 100 % wear- and maintenance-free inductive drive
- LED-display for an exact adjustment of the rotation speed
- Digital regulated rotation speed
- Alteration of the stirring direction
- High protection class IP 65
- Stainless steel surface

**Delivery includes:** magnetic stirrer, power cable, adapters for UK and US.

#### Specifications

Stirring quantity (H <sub>2</sub> O):	800 ml
Speed range:	15 to 1500 rpm
Permissible ambient temperature:	5 to 40 °C
Magnetic bar:	max. 25 mm
Display:	LED
Heating plate:	94 mm diam./ Stainless steel
Dimensions (W x D x H):	110 x 155 x 12 mm
Weight:	0.5 kg
Power supply:	100 - 230 V, 50/60 Hz
Protection class:	IP 65
Guarantee:	3 years

Type	PK	Cat. No.
LLG-uniSTIRRER1	1	6.263 420

### 2 Magnetic stirrer LLG-uniStirrer 2

A reasonably priced magnetic stirrer without heating for volumes up to 1000 ml. Adjustable speed from 0 to 2000 rpm. Plate diameter 120 mm. Body made of ABS. 3 years warranty.

Support rod, aluminium (Cat. No. 6.263 435) available as an optional accessory.

#### Specifications

Stirring quantity (H <sub>2</sub> O):	1000 ml
Speed range:	0 to 2000 rpm
Permissible ambient temperature:	0 to 50 °C
Permissible relative moisture:	85 %
Material:	ABS case
Dimensions (W x D x H):	150 x 135 x 53 mm
Weight:	0.5 kg
Power supply:	100 - 230 V, 50/60 Hz
Protection class:	IP 21
Guarantee:	3 years

Type	PK	Cat. No.
LLG-uniSTIRRER2 with EU-plug	1	6.263 430



## 1 Magnetic stirrer for cell cultures with external control, bioMIXdrive 1/2/3/4

Maintenance free motor drive. Magnetic stirrer with 1/2/3/4 stirring positions, for careful, protective and warming-free mixing of cell cultures and culture broths, also for viscous cultures, maintenance-free, large surface. 100 % jerk-free, speed range 5 rpm to 250 rpm, encapsulated stainless steel housing, water-, dust-, germproof, IP68, submersible, easy to clean, robust construction, flat design, suitable for propeller and spinning ball culture flasks, individual measurement on request. 3 years warranty. Made in Germany. Suitable for underwater use.



### Specifications

Permitted operation conditions: -10 °C up to +50 °C at 100 % H.R.  
max.+50 °C submerged in water

Housing: Stainless steel

Protection class: IP 68

Type	Rotation speed	Stirring positions	Stirring centre distances	Stirring capacity	Dimensions (W x D x H)	Power	Weight	PK	Cat. No.
	rpm		mm	ml	mm	W	kg		
bioMIXdrive 1	5 to 250	1		5 to 5000	180 x 180 x 38	5	2.5	1	9.645 950
bioMIXdrive 2	5 to 250	2	140	5 to 5000	130 x 270 x 38	5	2.5	1	9.645 978
bioMIXdrive 3	5 to 250	3	140	5 to 5000	130 x 410 x 38	5	3.5	1	9.645 979
bioMIXdrive 4	5 to 250	4	140	5 to 5000	270 x 270 x 38	5	4.7	1	9.645 980

## Control units for stirring drives bioMIXdrive

### bioMIXcontrol

Control unit for 1x bioMIXdrive 1/2/3/4, speed range 5 rpm to 250 rpm, power setting (10 steps) for high power with regard to large and viscous media and reduced power for warming-free continuous operation e.g. in CO<sub>2</sub> incubators, digital display, SoftStart, stainless steel housing. 3 years warranty. Made in Germany.

### bioMIXcontrol S

Identical to bioMIXcontrol, but with stackable housing and vertical control panel.

### bioMIXcontrol MS4

Identical to bioMIXcontrol, but for 4x bioMIXdrive 1, individual and independent speed setting for each stirring drive, also ON-/OFF-function, synchronous speed mode for all drives with one touch.

### Specifications

Operation conditions: 0 to +50 °C at 80 % H.R. max.

Operating voltage: 100-240 V 50/60 Hz, 1.5 A

Housing: Stainless steel

Protection category: IP 20



9.645 981



9.645 982

Type	Rotation speed rpm	Dimensions (W x D x H) mm	Power W	Weight kg	PK	Cat. No.
bioMIXcontrol	5 to 200	200 x 155 x 38	4-40 (10-steps)	1.4	1	9.645 951
bioMIXcontrol S	5 to 200	215 x 120 x 50	4-40 (10-steps)	1.4	1	9.645 981 2
bioMIXcontrol MS4*	5 to 200	200 x 155 x 38	6	2.5	1	9.645 982 3

\* only for bioMIXdrive 1



# Stirring

## Magnetic stirrers without heating

### Multi-position magnetic stirrers RO 5/10/15 series

IKA

Without heating. 5, 10 or 15-position digital magnetic stirrers, designed for synchronous stirring. The magnetic coil technology provides noiseless and consistent stirring on all positions. Speed remains constant, even when load changes. The closed and compact design allows easy cleaning and protects the equipment against the penetration of liquids. Additionally, a removable transparent anti-slip mat is included.

- Adjustable reverse operation
- Eco-mode for a low self-warming of the surface
- Wear free magnetic coils
- Error Code Display
- Easy operation with touch keypad
- Suitable for continuous operation
- Adjustable speed in increments of 10 rpm

#### Specifications

Max. stirring quantity per stirring position (H <sub>2</sub> O):	0.4 l
Distance between stirring places:	90 mm
Deviation for individual stirring positions:	0 %
Speed range:	0 to 1200 rpm
Speed display:	LED line
Set-up plate material:	stainless steel 1.4301
Protection class acc. to DIN EN 60529:	IP 40
Power supply:	100-240 V, 50/60 Hz

Type	Stirring positions	Dimensions (W x D x H) mm	PK	Cat. No.
RO 5	5	120 x 570 x 60	1	9.720 208 <b>1</b>
RO 10	10	190 x 570 x 60	1	9.720 222
RO 15	15	280 x 570 x 60	1	9.720 226 <b>2</b>



9.720 226



### 3 LLG-Magnetic stirring bars, cylindrical, PTFE, *eco pack*



Circular, smooth and PTFE-coated. Packaging size: 10 pieces

Length mm	Diam. mm	PK	Cat. No.
10	6	10	9.198 910
12	3	10	9.198 766
15	6	10	9.198 919
20	6	10	9.198 920
25	6	10	9.198 925
25	8	10	9.198 767
30	6	10	9.198 930
35	6	10	9.198 935
40	8	10	9.198 940
45	8	10	9.198 945
50	8	10	9.198 950
60	9	10	9.198 960
70	9	10	9.198 970
80	9	10	9.198 980

## 1 Magnetic stirrer with heating LLG-uniSTIRRER 5, complete package

Universal magnetic stirrer with an outstanding price-performance ratio. Safety features include a "hot" warning display and a stirring function that continues to run until the plate temperature is below 50 °C, even when the device is switched off. A digital timer enables unattended operation and can be set from 1 min to 99 h 59 min. When the set time has elapsed, the unit stops automatically. An integrated control function offers precise control of the heated fluid temperature via a remote PT1000 temperature probe. The device is equipped with a 135 mm ceramic plate, suitable for the LLG- Universal reaction block systems. 3 years warranty.

- Latest generation magnetic stirrer/hotplate
- Maintenance-free, brushless DC motor
- Timer (1 min to 99 h 59 min)
- Digital control and backlit display
- Stirrer and display can be controlled remotely via an RS232 interface
- Hot surface indicator
- White ceramic-coated, stainless steel top plate
- Sturdy metal housing, IP42-rated
- Powerful stirring
- Connection for PT1000, integrated control function

**Delivery includes:** Magnetic stirrer with PT1000 probe, rod and holder, user manual.

### Specifications

Stirring quantity (H <sub>2</sub> O):	20 l
Speed range:	100 to 1500 rpm
Accuracy:	±1 rpm
Magnetic bar:	80 mm
Display:	LCD
Heating plate:	diam. 135 mm/stainless steel with ceramic surface
Permissible ambient temperature:	5 to 40 °C
Temperature range:	Ambient to 340 °C
Setting accuracy:	±0.1 °C
Control accuracy:	±0.2 °C
Heat output:	550 W
Safety temperature:	100 to 360 °C
Dimensions (W x D x H):	280 x 160 x 85 mm
Weight:	2.8 kg
Power supply:	200 - 240 V, 50/60 Hz
Protection class:	IP 42
Guarantee:	3 years



Type	PK	Cat. No.
LLG-uniSTIRRER5 with EU-plug	1	6.263 440
LLG-uniSTIRRER5 with UK-plug	1	6.263 441



# Shaking, Mixing

## Vortexer, Disruptor

### 1 2 3 Vortexer LLG-uniTEXER with universal attachment

#### One head - multiple uses

Vortexer with single carrier head, accommodating the most popular consumables and tubes: for 1 x assay plate, 2 x 50 ml conical tubes, 2 x 15 ml conical tubes, 2 x 5 ml conical tubes, 4 x 1.5/2 ml microcentrifuge tubes, 6 x 0.5 ml and 24 x 0.2 ml microcentrifuge tubes.

- Touch function for short-term operation
- Carrier head is very easy to clean
- Precise speed control via a variable rotary switch
- Elastomeric feet ensure excellent stability on the bench and quieter operation
- Modern design
- Robust, ABS housing
- 3 years warranty

#### Specifications

Type of movement:	orbital/vortex
Orbital diameter:	3.7 mm
Speed:	1000, 2000 und 3000 rpm
Dimensions (W x D x H):	173 x 198 x 198 mm
Weight:	3.8 kg
Protection class:	IP 20
Supply requirements:	220 V, 50/60 Hz
Guarantee:	3 years

Type	PK	Cat. No.
LLG-uniTEXER	1	6.261 826



### 4 Test tube shaker LLG-uniTEXER 1

Compact test tube shaker with brushless motor drive and touch function for short-term operation. Adjustable speed control up to 4500 rpm for excellent mixing results in a very short time. Especially for small volumes. 3 years warranty.

#### Specifications

Type of movement:	orbital
Orbit:	4.5 mm
Speed range:	0 to 4500 rpm
Permissible ambient temperature:	5 to 40 °C
Permissible relative moisture:	<80 %
Dimensions (W x D x H):	100 x 100 x 70 mm
Weight:	0.55 kg
Power supply:	100 - 240 V, 50/60 Hz
Protection class:	IP 43
Guarantee:	3 years

Type	PK	Cat. No.
LLG-uniTEXER1 with EU-plug	1	6.263 490
LLG-uniTEXER1 with UK-plug	1	6.263 491

## 1 Vortex-Genie®-series

Robust and reliable shakers for speedy mixing and shaking of samples. *Scientific Industries*  
Multiple accessories: e.g. adapter tops for test tubes, beakers, centrifuge tubes etc. Adapter tops can be changed easily with the snap fit system.

### Vortex-Genie® 2

Variable speed for precise mixing from gentle to vigorous. Broad range of attachments for most tubes, plates and other containers. Hands-Free or Touch On control.

### Vortex-Genie® 2T with an integrated timer

Timer function: (Touch On) 1-60 seconds, (Hands-Free) 1-60 minutes or continuous. Unit automatically stops at the end of user programmed time.

### Digital Vortex-Genie® 2 with digital control and display of speed and time

Digital display provides accuracy, reproducibility and repeatability. Timer function: (Touch On) 1-99 seconds, (Hands-Free) 1-99 minutes or continuous. Specially configured unit for Applied Biosystems protocol available.



## Specifications

## Vortex-Genie® 2/Vortex-Genie® 2T/Digital Vortex-Genie® 2

Shaking movement:	orbital
Speed display/Timer:	Scale/No/Scale/Scale/Digital/Digital
Speed range:	600 - 2700 rpm/600 - 2700 rpm/500 - 2850 rpm
Timer	
Interval operation:	-/ 1 to 60 s/1 to 99 s
Hands-free mode:	-/ 1 to 60 min/1 to 99 min
Dimensions (L x W x H):	165 x 122 x 165 mm
Permissible ambient conditions:	0 to 38 °C at 95 % rh
Weight:	4 kg
Power supply:	230 V, 50/60 Hz

Type	Connector	PK	Cat. No.
Vortex Genie® 2	EU	1	9.730 060
Vortex Genie® 2	UK	1	6.251 939
Vortex Genie® 2	CH	1	6.235 684
Vortex-Genie® 2T	EU	1	6.252 823
Vortex-Genie® 2T	UK	1	6.252 946
Vortex-Genie® 2T	CH	1	9.730 121
Digital Vortex-Genie® 2	EU	1	6.242 793
Digital Vortex-Genie® 2	UK	1	9.730 120
Digital Vortex-Genie® 2	CH	1	6.240 599

## Accessories for Vortex-Genie®-series

*Scientific Industries*

Description	PK	Cat. No.
Standard shaking attachment, diam. 25 mm	1	9.730 051
TurboMix® attachment	1	7.400 045
Recessed platform	1	7.301 382 <b>3</b>
Elastic bands for recessed platform	2	6.235 226
Foam inserts for 9-16 mm tubes, for recessed platform	2	7.510 295
Foam inserts for 14-29 mm tubes, for recessed platform	2	7.510 296 <b>4</b>
Foam inserts, blank, for recessed platform	2	7.981 175
Platform (diam. 150 mm)	1	7.091 220
Foam inserts for microtubes, for platform (diam. 150 mm)	2	6.252 944 <b>5</b>
Foam inserts for microplates, for platform (diam. 150 mm)	1	9.730 058
Platform (diam. 75 mm) with rubber cover	1	6.254 016
Spare rubber cover (diam. 75 mm)	1	9.730 053
Attachment, horizontal, for 2 large ampoules	1	6.203 006
Attachment, horizontal, for 24 microtubes	1	6.252 814 <b>6</b>
Attachment, horizontal, for 12 x 15 ml tubes	1	7.970 740
Attachment, vertical, for 6 x 50 ml tubes	1	6.252 942
Attachment, vertical, for 24 microtubes	1	6.257 992
Attachment, vertical, for 6 x 50 ml, 6 x 15 ml and 12 x microtubes	1	7.930 215
High speed attachment, vertical, for 3 x 50 ml tubes	1	6.259 054 <b>2</b>
Starter Set incl. one foam insert for microtubes and microplates each	1	6.254 476
Starter Set incl. recessed platform and 4 different foam inserts	1	6.256 952



6.259 054



7.301 382



7.510 296



6.252 944



6.252 814

# Shaking, Mixing Vortexer, Disruptor

## Shakers Disruptor Genie® analog/digital

For cell disruption and homogenisation. The patented Disruptor Genie® provides a multi-directional action, which simultaneously agitates and vortexes at high speed, dramatically increasing cell disruption or sample resuspension efficiency.

Scientific Industries

- For accurate, repeatable and reproducible results
- Dramatically increased sample disruption efficiency. Ideal for difficult glass bead procedures (Glass beads - please order separately), cell disruption/homogenisation of yeast, bacteria, plant and animal tissues and pellet resuspensions or anything that requires extremely violent, high-speed agitation.
- Patented multi-directional action simultaneously agitates and vortexes at high-speed producing greater yields in less time
- Hands-Free disruption of up to twelve 1.5 ml or 2.0 ml microtubes with timer from 0 to 15 minutes (Disruptor Genie® analog), 0 to 99 minutes (Disruptor Genie® digital) or continuous operation
- Performance comparable to expensive ultrasonic cell disruptors/homogenisers.
- Suitable for use in cold rooms or incubators
- Remove the microtube holder and attach the supplied pop-off cup for high-speed vortexing of single test tubes

Supplied with: Disruptor Genie, tube holder for 12 tubes, pop-off cup

### Specifications

Speed	
Disruptor Genie® analog:	2850 rpm
Disruptor Genie® digital:	1000 to 2850 rpm
Dimensions (W x D x H):	122 x 165 x 190 mm
Weight:	4.3 kg
Supply requirements:	220 V 50 Hz, 250 mA

Type	Connector	PK	Cat. No.
Disruptor Genie® analog	EU	1	9.730 115 <sup>1</sup>
Disruptor Genie® analog	UK	1	9.730 116
Disruptor Genie® analog	CH	1	9.730 117
Disruptor Genie® digital	EU	1	6.253 276 <sup>2</sup>
Disruptor Genie® digital	UK	1	9.730 118
Disruptor Genie® digital	CH	1	9.730 119



9.730 115



6.253 276



6.253 281

## Accessories for Disruptor Genie®

Description	PK	Cat. No.
Microtube Holder for 12 x 1.5 or 2.0 ml tubes	1	6.253 281 <sup>3</sup>
0.1 mm Disruptor Beads, 375 g	1	9.730 100
0.5 mm Disruptor Beads, 375 g	1	9.730 101



## 1 Microplate shaker LLG-uniPLATESHAKER 1

The LLG-uniPLATESHAKER 1 has been designed for accommodating and mixing a single micro plate. Due to its small footprint it can be used in working areas with limited space such as fume hoods and bio safety cabinets. It can also be used inside a cold-room. 3-years warranty.

- Digital Display with Speed and Time settings
- Variable speed from 300 to 1800 rpm
- Maintenance free brushless DC motor
- Orbital Diameter of 2 mm for thorough mixing
- Timer setting from 1 to 99 min and continuous mode
- Universal fit, comes with interchangeable clamps for different micro plate sizes
- Comes with foam attachment for 20 x 1.5/2 ml microtubes



### Specifications

Type of movement:	orbital
Orbital diameter:	2 mm
Speed range:	300 to 1800 rpm
Motor:	Brushless DC motor
Timer:	1 to 99 min, continuous
Power consumption:	15 W
Permissible ambient temperature:	4 to 40 °C
Dimensions (W x D x H):	127 x 85 x 86 mm
Weight:	1.4 kg
Power supply:	100-230 V, 50/60 Hz

Type	PK	Cat. No.
LLG-uniPLATESHAKER 1 with EU-plug	1	6.263 488
LLG-uniPLATESHAKER 1 with UK-plug	1	6.263 489

## 2 Microplate shaker PMS-1000i

Reliable, regulated shaking for two or four microplates. Simple screw attachments allow quick and easy fitting of any standard depth 96 or 384 well plates, holding the plate securely in place.

- direct drive
- brushless motor
- RPM set and display
- variable speed: 150 rpm to 1200 rpm
- orbit: 2 mm
- continuous or timed operation
- integral timer: 1 min to 24 hours
- standard option for two microplates
- optional platform MPP-4 for four microplates
- ambient 4 °C to 40 °C

Grant



Type	Description	PK	Cat. No.
PMS-1000i	Microplate shaker	1	9.721 074
MPP-4	Platform for 4 micro plates	1	9.721 026



# Shaking, Mixing

## Orbital shaker

1



### 1 Orbital Shaker PSU-10i

Microprocessor controlled shaking platform providing smooth and quiet horizontal orbital motion for mixing in bottles, flasks and beakers.

- Continuous or timed operation with automatic switch-off
- Reliable direct drive system
- Automatic load balancing system

Grant

#### Specifications

Type of movement:	orbital
Orbit:	10 mm
Max. Load:	3 kg
Speed range:	50 to 450 rpm/10 rpm increments
Timer range:	1 min to 96 hours or continuous
Overall dimensions (W x D x H):	220 x 205 x 90 mm
Power supply:	100 - 240 V, 50/60 Hz

Type	Max. Load kg	PK	Cat. No.
PSU-10i	3.0	1	9.721 019

2



9.721 021

### Accessories for Orbital shaking platform PSU-10i

Grant

Type	Description	PK	Cat. No.
Bio PP-4	Flat platform, working area 230 x 230 mm	1	9.721 018
PUP-12	Universal platform, working area 270 x 195 mm	1	9.721 021 2
P12-100	Platform with clamps for 12 x 100 ml flasks / 150 ml beakers	1	9.721 023
P6-250	Platform with clamps for 6 x 250 ml flasks / 400 ml beakers	1	9.721 024
P16-88	Platform with spring holders for 88 tubes up to 30 mm	1	9.721 049

3



### 3 4 Orbital shaker LLG-uniSHAKER 25

Powerful, smooth running orbital shaker for loads up to 25 kg. The maintenance free brushless motor and the shaking mechanism with counter weight allow any time smooth and stable operation. Digital display for speed and time. Adjustable speed from 50 to 500 rpm, built-in timer from 1 to 99 minutes or continuous. Two different platforms (610 x 460 mm or 760 x 460 mm) and 7 clamps for vessels from 25 ml to 2000 ml available. Platforms and clamps must be ordered separately.

- Stable and robust metal housing
- Maximum load capacity 25 kg
- Shaking orbit 25 mm
- Different platforms and clamps available

4



#### Specifications

Type of movement:	orbital
Orbit:	25 mm
Speed range:	50 to 500 rpm
Max. Load:	25 kg
Motor:	Brushless DC motor
Timer:	0-99 minutes, continuous
Power consumption:	250 VA
Permissible ambient temperature:	4 to 75 °C
Dimensions (W x D x H):	600 x 550 x 150 mm
Weight:	48 kg
Power supply:	230 V, 50 Hz

Type	PK	Cat. No.
LLG-uniSHAKER 25 with EU plug	1	6.263 590
Universal attachment, 610 x 460 mm	1	6.263 591
Universal attachment, 760 x 460 mm	1	6.263 592
Clamp, 100 ml	1	6.263 593
Clamp, 250 ml	1	6.263 594
Clamp, 500 ml	1	6.263 595
Clamp, 1000 ml	1	6.263 596
Clamp, 2000 ml	1	6.263 597
Rubber mat, adhesive, transparent blue, 150 x 150 x 3 mm	2	6.263 598

## 1 Reciprocal shaker, large platform, SSL2

*Stuart*

- digital speed selection up to 250 rpm with soft start
- built-in digital timer
- reliable, quiet running mechanism
- fully adjustable cradle system

This lab scale platform shaker has powerful yet quiet shaking mechanisms and has been designed for trouble-free, continuous use. The cradle type platforms have four rubber cushioned horizontal securing bars which can be easily adjusted both vertically and horizontally to hold most sizes and types of vessel, including flasks, bottles and beakers. For example, they will accommodate the following Erlenmeyer flasks or bottles: 12 x 250 ml or 9 x 500 ml or 6 x 1000 ml or 2 x 2000 ml. Speed is continuously adjustable and is set digitally. The speed is accurately maintained, even over long runs. A built-in digital timer allows shaking times from 1 to 999 minutes to be set. Alternatively the unit can be set for continuous operation. With BioCote silver based antimicrobial protection. Accessories on request.



### Specifications

Type of movement:	reciprocal
Shaking diameter:	20 mm
Speed range:	25 to 250 rpm
Max. Load:	10 kg
Timer:	1 to 999 min
Power consumption:	50 W
Working temperature:	4 to 40 °C
Platform dimensions (W x D):	335 x 335 mm
Overall dimensions (W x D x H):	360 x 420 x 270 mm
Net weight:	11 kg
Supply requirements:	230 V, 50 Hz

Type	Description	Max. Load kg	PK	Cat. No.
SSL2	Shaker, reciprocal, large platform	10.0	1	9.728 841

## 3 Rocking shaker PMR-100

*Grant*

Large capacity, adjustable angle and speed platform rocker, providing soft or intensive side to side rocking for optimal mixing of samples. Suitable for Life Science applications. Ideal for mini-gel destaining after electrophoresis, conducting reactions of Northern, Southern and Western blots, immunoblots, hybridisation washes, cell culture, visualisation of blots, immunostaining, protein electrophoresis. For use in cold rooms or incubators with ambient operating temperature range +4 °C to +40 °C. Continuous or timed operation, with automatic switch-off. Integral timer: 1 min to 99 h 59 min.



### Specifications

Type of movement:	rocking
Rocking angle (adjustable):	0 to 10° (fixed at 10° over 50 rpm)
Max. Load (incl. attachment):	5 kg
Power consumption:	13 W
Speed range:	1 to 99 rpm
Speed display:	LCD
Dimensions platform (W x D x H):	460 x 360 mm
Dimensions (W x D x H):	400 x 480 x 250 mm
Weight:	13 kg
Protection class acc. to DIN EN 60529:	IP20
Power supply:	12 V

Type	Max. Load kg	PK	Cat. No.
PMR-100	5.0	1	9.721 015

# Shaking, Mixing

## Rocking shakers

1



### 1 Tumbling Shaker LLG-uniSHAKER 2

Multi-functional shaker, uniSHAKER 2, with dimpled mat, perfect for foam-free mixing of blood in centrifuge tubes. Suitable for a variety of tubes and dishes.

#### Specifications

Type of movement:	tumbling
Tumbling angle:	20°
Speed:	Fixed, 20 rpm
Max. Load:	1.6 kg
Ambient Temperature:	4 to 45 °C
Platform Dimensions (W x D):	202.5 x 152.5 mm
Dimensions (W x D x H):	202.5 x 152.5 x 202.5 mm
Weight:	2 kg
Power supply:	230 V, 50 Hz, 0.2 A
Warranty:	3 Years

Type	PK	Cat. No.
LLG-uniSHAKER2 with EU plug	1	6.263 640

2



### 2 Tumbling shaker SSL3, large platform

- Large platform rocker - ideal for multiple users
- Gentle rocking action
- Digital speed control and built-in timer
- Optional tier system available to increase capacity
- incl. non-slip mat

Stuart

This rocker has a large platform able to accommodate a number of samples, ideal for a busy lab. It is very quiet in operation and designed to be run continuously. The tumbling gyratory motion is ideal for low foaming agitation, DNA extractions, staining and de-staining procedures etc. The tilt angle can be adjusted to any position by hand to optimise mixing of vessels.

#### Specifications

Type of movement:	tumbling
Tumbling angle:	3° to 12°
Angle adjustable:	Yes by hand
Speed range:	5 to 70 rpm
Max. Load:	10 kg
Platform dimensions (W x D):	355 x 355 mm
Overall dimensions (W x D x H):	360 x 420 x 170 mm
Net weight:	10 kg
Supply requirements:	230 V, 50 Hz, 50 W

Type	Description	Max. Load kg	PK	Cat. No.
SSL3	Rocker, gyratory, lab scale	10.0	1	9.728 800



## 1 Overhead shaker LLG-uniROTATOR 2

Analogue overhead shaker for soft and gentle mixing of samples and various tubes and containers.

- Variable speed
- Compact design
- Housing easy to clean
- Non-slip, adjustable screw feet
- 3 year warranty

**Scope of delivery:** Overhead shaker incl. 12 clamps each for 2 ml, 15 ml and 50 ml tubes

### Specifications

Type of movement:	overhead
Rotation angle:	360°
Permissible shaking weight (incl. attachment):	2 kg
Motor rating input:	20 W
Dimensions (W x D x H):	530 x 150 x 190 mm
Protection class acc. to DIN EN 60529:	IP 21
Power supply:	100-240 V, 50/60 Hz

Type	Rotation speed rpm	PK	Cat. No.
LLG-uniROTATOR 2, with EU plug	0-80	1	6.263 660
LLG-uniROTATOR 2, with UK plug	0-80	1	6.263 661

1



## Vertical mini rotator PTR-25

Compact, economy solution with simple to use controls, providing thorough mixing of samples in tubes up to 50 ml. Suitable for preventing blood coagulation in tubes and for fulfilment of procedures of extraction of biological components. For use in cold rooms and incubators.

- 360° vertical rotation
- Vertical rotation speed range: 5 rpm to 30 rpm
- Timer: 1 min to 24 hours, with audible alarm and automatic switch-off
- Simple to use controls
- Max. capacity: 0.5 kg
- Platform accommodating 22 tubes (up to 15 mm diameter) is included as standard

Type	Description	PK	Cat. No.
PTR-25	for 22 microtubes	1	9.721 016
PRS-22	for 22 tubes up to diam. 15 mm, volume: 1.5 to 15 ml	1	9.721 046
PRSC-18	for 18 tubes up to diam.14-15 mm, with clips	1	9.721 047
PPRS4-12	for 4 x 50 ml and 12 x 1.5 to 15 ml tubes	1	9.721 029

## 4 Multi-function rotator PTR-35/PTR-60

Vertical multi-function rotator for thorough mixing in tubes, with multi-segment programme.

- Multi-function: vertical rotation, reciprocation, vibration
- Continuous or timed operation for each phase
- Choice of two models with different microtube capacities
- Speed: 1 rpm to 100 rpm
- Reciprocal rotation: 1° to 90° turning angle
- Vibration: programmable in a burst of 1 to 5 seconds
- Fully programmable sequence of functions, including pause
- Alternative platforms for larger tubes

Type	Description	PK	Cat. No.
PTR-35	for 26 microtubes with 15 mm dia.	1	9.721 028
PTR-60	for 48 microtubes with 15 mm dia.	1	9.721 030

2

Grant



9.721 016

3



9.721 046

4

Grant



# Shaking, Mixing

## Overhead mixer-Rotator

1



### 1 Rotator LLG-uniLOOPMIX 2

Analogue rotator for soft and gentle mixing of samples and various tubes and containers.

- Variable speed
- Compact design
- 3 year warranty

**Scope of delivery:** Rotator incl. 12 clamps each for 2 ml, 15 ml and 50 ml tubes

#### Specifications

Type of movement:	rotating
Rotation angle:	360°
Permissible shaking weight (incl. attachment):	2 kg
Motor rating input:	20 W
Dimensions (W x D x H):	220 x 300 x 310 mm
Protection class acc. to DIN EN 60529:	IP 21
Power supply:	100-240 V, 50/60 Hz

Type	Rotation speed rpm	PK	Cat. No.
LLG-uniLOOPMIX 2, with EU plug	0-80	1	6.263 665
LLG-uniLOOPMIX 2, with UK plug	0-80	1	6.263 666

2



9.645 323

### Rotators SB2/SB3

The Stuart rotators give gentle but effective mixing, ideal for life sciences applications such as keeping blood samples in suspension. *Stuart*

The angle of tilt is fully adjustable. The Rotators can be used in incubators up to 60 °C and in cold rooms down to 4 °C.

**SB2:** Fixed speed of 20 rpm.

**SB3:** Variable speed of 2 rpm to 40 rpm. Additional digital timer of 1 to 999 minutes. Digital speed control.

**There are six types of tube holder available. Please order separately.**

#### Specifications:

Dimensions (W x D x H):	200 x 270 x 230 mm
Supply:	230 V/50 Hz, 50 W
Weight:	3.2 kg

Type	PK	Cat. No.
SB2	1	9.645 322
SB3	1	9.645 323

### Tube holders for rotators SB2/SB3

*Stuart*

Type	For	No. of vessels	PK	Cat. No.
SB3/1	Micro tubes, 10 to 11.5 mm dia.	46	1	9.645 324
SB3/2	Test/blood tubes, 9 to 20 mm dia.	20	1	9.645 325
SB3/3	50 ml centrifuge tubes, 25 to 35 mm dia.	12	1	9.645 326
SB3/4	Culture tubes, 12 mm dia.	63	1	9.645 327
SB3/5	Culture tubes, 16 mm dia.	63	1	9.645 328
SB3/6	Culture tubes, 26 mm dia.	30	1	9.645 329

Additional accessories on request.

## Roller mixers LLG-uniROLLER 6 and 10, digital

Digital tube rollers with 6 or 10 rolls for the efficient mixing of biological samples, viscous substances and liquid-solid suspensions. The LLG-uniROLLER 6 and 10 are equipped with very easily detachable and autoclavable rollers enabling the user to adjust the space to hold tubes and bottles of different diameter and to quickly clean and decontaminate the unit in case of sample spillage.

### Features:

- Detachable and autoclavable rollers for very easy cleaning in case of sample spills
- Speed ranging from 10 to 80 rpm and timer from 1 min to 99 min and continuous mode
- Pulse mode feature for increased mixing efficiency
- Microprocessor controller for accurate speed under variable load
- Brushless DC motor for quiet operation and maintenance free long life
- Digital display
- Save up to 9 user defined programs
- Can be used in incubators up to 40 °C and humidity up to 80 %
- Stackable design

### Specifications

Type of movement:	rocking and rolling
Amplitude:	24 mm
Roller size (l x Ø)	330 x 30 mm
Ambient temperature:	up to +40 °C
Max. humidity:	up to 80 %
Protection class:	IP 21
Power supply:	24 V
Warranty:	3 Years

Type	Dimensions (W x D x H)	Rotation speed	Rollers	Load max.	PK Cat. No.
	mm	rpm		kg	
LLG-uniROLLER 6, with EU plug	502 x 301 x 92.5	10 to 80	6	2.0	1 <b>6.263 650</b>
LLG-uniROLLER 6, with UK plug	502 x 301 x 92.5	10 to 80	6	2.0	1 <b>6.263 651</b>
LLG-uniROLLER 10, with EU plug	502 x 448 x 92.5	10 to 80	10	2.0	1 <b>6.263 652</b>
LLG-uniROLLER 10, with UK plug	502 x 448 x 92.5	10 to 80	10	2.0	1 <b>6.263 653</b>



6.263 650

# Centrifuges

## Minicentrifuges

### 1 Mini centrifuge LLG-uniCFUGE 2 and LLG-uniCFUGE 2/5

A compact and reasonably priced mini centrifuge with two different rotor types. Speed can be adjusted to 4000 rpm or 6000 rpm. Powerful motor for fast starting. Quick stop when the lid is opened. 3 years warranty.

Two rotors are available:

- Universal rotor for 6 x 1.5/2.0 ml and 6 x 0.5 ml tubes and 2 times 8 x 0.2 ml PCR-strips
- Rotor for 4 x 5 ml tubes

#### Specifications

Max. RCF:	1200 x g and 2000 x g
Max. speed:	4000 rpm and 6000 rpm
Max. load:	6 x 0.5/1.5/2 ml and 2 x 8-tube PCR strips (0.2 ml) or 4 x 5 ml tubes
Dimensions (diam. x H):	140 x 120 mm
Weight:	0.7 kg
Power supply:	100-240 V, 50/60 Hz, 1 A
Guarantee:	3 years

Description	PK	Cat. No.
LLG-uniCFUGE 2 with universal rotor, with EU-plug	1	6.263 510
LLG-uniCFUGE 2 with universal rotor, with UK-plug	1	6.263 511
LLG-uniCFUGE 2/5, with rotor for 5 ml Tubes, with EU plug	1	6.263 515



### 2 3 4 Mini centrifuge LLG-uniCFUGE 3 with timer and digital display

A compact and reasonably priced mini centrifuge with brushless and non-wearing high-efficiency motor. Stepless speed adjustment from 0 to 6000 rpm. Microprocessor controlled regulation for load-independent accuracy and integrated imbalance control. Integrated timer (0-25 minutes) and high speed- constancy for reproducible results. Quick stop when the lid is opened. 2 flow-optimised rotors for 8 x 1.5/2 ml or 16 x 0.2 ml tubes reduce noise level and heat generation. Supplied with suction feet for a stable operation. 3 years warranty.

**Supplied with:** Centrifuge, rotor for 8 x 1.5/2 ml tubes, rotor for 16 x 0.2 ml tubes, adapter for 8 x 0.2/0.4/0.5 ml tubes

#### Specifications

Max. RCF:	2000 x g
Max. speed:	variable up to 6000 rpm
Accuracy speed:	±25 rpm
Motor:	brushless DC motor
Max. load:	8 x 1.5/2 ml or 16 x 0.2 ml PCR tubes
Dimensions (diam. x H):	160 x 116 mm
Weight:	1.1 kg
Power supply:	100 - 240 V, 50/60 Hz
Guarantee:	3 years

Description	PK	Cat. No.
LLG-uniCFUGE3 with EU-plug	1	6.263 520
LLG-uniCFUGE3 with UK-plug	1	6.263 521



## 1 2 3 Mini centrifuge LLG-uniCFUGE 5 with timer and digital display

Compact microcentrifuge with excellent price-performance ratio and a performance of up to 15.595 x g. Microprocessor controlled brushless motor for speeds up to 15.000 rpm. Operation possible in RPM or RCF mode. Short-spin mode with selectable RZB and RPM values. Fixed angle rotor with lid, made of aluminium for 12 x 1.5/2 ml tubes with optimised aerodynamics which minimize heat generation and noise during use. Large LCD readout with intuitive and user-friendly interface. Integrated imbalance-detection with automatic shutdown. Wide suction feet provide a stable base. The centrifuge can be controlled via computer by using the included software that can store up to 99 user-defined programmes. Operational record output to Excel. 3 years warranty.

### Item consists of:

- Centrifuge with rotor (incl. lid) for 12 x 1.5/2 ml tubes
- Power supply with USB cable
- 12 Adapters for 0.4/0.5 ml tubes
- 12 Adapters for 0.2 ml tubes
- Allen wrench with T handle
- Software CD
- User manual

### Optional:

- Rotor (Cat. No. 6.263 535) for 16 x 0.2 ml tubes or 2 x 8 PCR-stripes

### Specifications

Max. RCF:	15.595 x g
Max. speed:	variable from 500 up to 15.000 rpm
Accuracy speed:	±100 rpm
Motor:	brushless DC motor
Max. load:	12 x 2 ml PCR tubes
Dimensions (W x D x H):	262 x 230 x 131 mm
Weight:	4 kg
Power supply:	100 - 240 V, 50/60 Hz
Guarantee:	3 years

Type	PK	Cat. No.
LLG-uniCFUGE5 with EU-plug	1	6.263 530
LLG-uniCFUGE5 with UK-plug	1	6.263 531
Rotor for 16 x 0,2 ml tubes or 2 x 8 PCR-stripes	1	6.263 535



# Centrifuges

## Microplate centrifuges, Benchtop centrifuges

1



### 1 Mini Plate Spinner MPS 1000

- quickly spin down droplets and condensation
- use before and after thermal cycling to increase PCR yield
- accepts skirted, non-skirted and all standard PCR plates
- less than ¼ x the size of most plate centrifuges

Labnet

#### Specifications

Max. RCF:	500 x g
Max. speed:	2500 rpm
Max. capacity:	2 PCR Plates
Power consumption:	75 W
Dimensions (W x D x H):	190 x 210 x 183 mm
Weight:	3 kg
Power supply:	230 V 50/60 Hz

Type	PK	Cat. No.
MPS 1000	1	9.945 790

2



7.660 217

### 2 Microlitre centrifuge Z 216 M/Z 216 MK

The Z 216 M and Z 216 MK are setting new standards in this centrifuge class. Capable of centrifuging up to 44 x 1.5/2.0 ml at each run. Due to their compact design and quiet running properties they are fitting perfectly in their working area. The powerful refrigeration system of Z 216 MK keeps samples at temperatures as low as 4 °C during a continuous run at 20000 x g.

Hermle

#### Specifications:

- Maintenance-free induction drive
- Microprocessor with large LCD Display
- Motor driven lid lock
- Active imbalance-identification and cut off
- Standstill cooling
- Audible signal at the end of each run
- Rapid acceleration and deceleration (see rotor data)
- Lowest sample temperature 4 °C at 20000 x g
- Noise level < 60 dBA at 20000 x g
- Extremely compact with a space saving footprint
- Quick access to samples with a snap on lid
- Aerosol tight rotor option
- Manufactured according to international safety regulations, i.e. IEC 61010
- Distinct control panel

3



9.945 718

4



7.660 218

#### Specifications

Max. RCF:	<b>Z 216 M/Z 216 MK</b> 21380 x g
Max. speed:	15000 rpm
Max. capacity:	44 x 1.5/2.0 ml
Cooling temperature Z 216 MK:	-20 to 40 °C
Timer:	59 min 50 sec/10 sec increments 99 h 59 min/1 min increments
Power consumption:	280 W/560 W
Dimensions (W x D x H):	280 x 390 x 290 mm/280 x 550 x 290 mm
Weight:	17 kg/35 kg
Power supply:	230 V, 50/60 Hz

Description	PK	Cat. No.
Microlitre centrifuge Z 216 M	1	7.660 217 <b>2</b>
Refrigerated microlitre centrifuge Z 216 MK	1	6.231 520
Refrigerated microlitre centrifuge Z 216 MK incl. angle rotor	1	6.230 074
Microlitre centrifuge Z 216 MK incl. rotor V14, 24 x 1,5/2,0 ml cooled	1	9.945 933
Angle rotor 24 x 1.5/2.0 ml	1	9.945 715
Angle rotor 30 x 1.5/2.0 ml, hermetically sealed	1	9.945 717
Angle rotor 12 x 5 ml, closable	1	9.945 922
Angle rotor for 4 x 8 PCR Stripes	1	9.945 718 <b>3</b>
Angle rotor for 12 x 5 ml reaction vessels, closable	1	7.660 218 <b>4</b>

### Refrigerated high speed centrifuge Z 32 HK

Hermle

In spite of the remarkably small footprint, the Z 32 HK features a powerful refrigeration system capable of maintaining cool sample temperatures even at maximum speed.

Specifications:

- Maintenance-free induction drive
- Microprocessor with large LCD display
- Motor driven lid lock
- Automatic rotor identification system with over speed protection immediately upon rotor installation
- Active imbalance identification and cut off rotor specific
- CFC-free refrigeration system
- A large variety of rotors and accessories
- Audible signal at the end of each run with several melody options
- Quick and easy rotor exchange
- Noise level under 60dBA at max. speed

1



6.240 037

#### Specifications

Max. RCF:	38012 x g
Max. speed:	20000 rpm
Max. capacity:	4 x 100 ml
Cooling temperature:	-20 to +40 °C in 1 °C increments
Timer:	59 min 50 sec/10 sec increments 99 h 59 min/1 min increments
Power consumption:	1200 W
Dimensions (W x D x H):	400 x 700 x 360 mm
Weight:	71 kg
Power supply:	230 V, 50/60 Hz

2



9.945 915

Description	PK	Cat. No.
Refrigerated High Speed Centrifuge Z 32 HK	1	<b>6.240 037</b> 1
Angle rotor for max. 6 x 85 ml	1	<b>9.945 915</b> 2
Angle rotor for max. 20 x 10 ml	1	<b>9.945 916</b>

For further accessories see Z 326/Z326K.

### Compact centrifuge Z 206 A

Hermle

Compact centrifuge for physicians and clinical laboratories.

The Z 206 A accepts up to 12 x 15 ml conical and round bottom tubes.

For tubes with smaller dimensions we offer several adapters. For larger volumes we offer an angle rotor for 6 x 50 ml conical and round bottom tubes.

Specifications:

- Microprocessor with LCD display
- Electrical lid lock
- Pre-selection of the rotor type
- Active imbalance-identification and cut off
- Noise level under 60dBA at max. speed
- Easy change of rotors

3



9.945 737

4



9.945 740

#### Specifications

Max. RCF:	4427 x g
Max. speed:	6000 rpm
Max. capacity:	6 x 50 ml
Timer:	59 min 50 sec/10 sec increments 99 h 59 min/1 min increments
Power consumption:	100 W
Dimensions (W x D x H):	280 x 370 x 260 mm
Weight:	12 kg
Power supply:	230 V, 50/60 Hz

Description	PK	Cat. No.
Compact centrifuge Z 206 A	1	<b>9.945 737</b> 3
Compact centrifuge Z 206 A incl. angle rotor 12 x 15 ml	1	<b>9.945 738</b>
Angle rotor 12 x 15 ml	1	<b>9.945 728</b>
Angle rotor 6 x 50 ml	1	<b>9.945 729</b>
Angle rotor 18 x 1.5/2.0 ml	1	<b>9.945 739</b>
Swing out rotor 6 x 5 ml	1	<b>9.945 740</b> 4

# Centrifuges

## Benchtop centrifuges

1



6.241 114

### Universal centrifuges Z 326/Z 326 K

Universal laboratory centrifuge for medical laboratory, from the large volume (4 x 100 ml) to reaction vessels.

Hermle

Both the table top centrifuge Z 326 and the refrigerated table top centrifuge Z 326 K offer a wide assortment of rotor options, making them ideal for a wide variety of research applications. Rotor exchange between swing out, micro, or high volume angled rotors is very simple and can take place in a matter of seconds. The Z 326 K includes the refrigeration system on the back side of the unit, optimised for the lab bench at only 40 cm wide.

#### Specifications:

- Maintenance-free induction drive
- Microprocessor with large LCD display
- Motor driven lid lock
- Automatic rotor identification system with over speed protection, immediately upon rotor insertion
- Active imbalance-identification and cut off (rotor specific)
- Imbalance tolerant drive
- CFC free refrigeration system (Z 326 K)
- A large variety of rotors and accessories
- Manufactured according to international safety regulations, i.e. IEC 61010
- Audible signal at the end of each run with several melody options
- Rotor exchange is easy to handle
- Noise level under 60dBA at max. speed
- Optimized airflow system keeps the samples cool (Z 326)
- Distinct control panel

2



9.945 910

#### Specifications

Max. RCF:	23545 x g
Max. speed:	18000 rpm
Max. capacity:	4 x 100 ml
Cooling temperature Z 326 K:	-20 to +40 °C in 1 °C increments
Timer:	59 min 50 sec/10 sec increments 99 h 59 min/1 min increments
Power consumption	
Z 326:	455 W
Z 326 K:	660 W
Dimensions (W x D x H)	
Z 326:	400 x 480 x 360 mm
Z 326 K:	400 x 700 x 360 mm
Weight	
Z 326:	43 kg
Z 326 K:	60 kg
Power supply:	230 V, 50/60 Hz

3



6.238 615

Description	PK	Cat. No.
Universal centrifuges Z 326	1	<b>6.241 114</b> 1
Universal centrifuges Z 326 K	1	<b>6.238 613</b>
Swing out Rotor, 4 place	1	<b>6.238 614</b>
Bucket 1 x 100 ml	2	<b>9.945 750</b>
Bucket 1 x 50 ml Falcon	2	<b>9.945 752</b>
Bucket 2 x 15 ml Falcon	2	<b>9.945 753</b>
Bucket 10 x 1.5 ml	2	<b>9.945 771</b>
Swing out Rotor, 4 place	1	<b>6.241 887</b>
Bucket 2 x 50 ml Falcon	2	<b>9.945 772</b>
Bucket 3 x 15 ml Falcon	2	<b>9.945 773</b>
Bucket hermetic for tube racks	2	<b>6.241 888</b>
Tube racks 1 x 100 ml	2	<b>6.240 595</b>
Tube racks 1 x 50 ml Falcon	2	<b>6.902 309</b>
Tube racks 2 x 15 ml Falcon	2	<b>6.902 310</b>
Tube racks 7 x 5 to 7 ml	2	<b>9.945 903</b>
Tube racks 5 x 1.5 ml	2	<b>6.902 308</b>
Swing out rotor 2 x 3 Microtiterplates	1	<b>9.945 910</b> 2
Angle rotor for max. 12 x 15 ml	1	<b>9.945 912</b>
Angle rotor for max. 6 x 50 ml	1	<b>9.945 913</b>
Angle rotor for max. 6 x 85 ml	1	<b>6.240 038</b>
Angle rotor for max. 24 x 1.5/2.0 ml	1	<b>6.238 615</b> 3
Angle rotor for 4 x 8 PCR Stripes	1	<b>9.945 919</b>

## 1 2 CERTOCLAV-EL 12L/18L tabletop autoclave

The CertoClav EL laboratory autoclave is ready to start after only a few moments thanks to its simple operation. Its versatility and compact construction make the CertoClav -EL laboratory autoclave almost indispensable for research, development and medical applications.

*CertoClav*

### Control and operation

It would be difficult to imagine a workplace without a CertoClav EL after just a few days thanks to its single-button operation and its reliability. The thermostat and the 2-stage control valve ensure that operations and processes are precise. Culture media preparations, quality checks and autoclave processes can be carried out simply and quickly. The precision thermometer and precision pressure gauge with maximum indicator ensures faultless results for all applications. The sterilisations chamber is easy to open and close, simply turn the cover and remove.

### For your safety

The CertoClav 4-fold safety system: the overpressure valve, the safety interlock preventing opening under pressure, the safety control valve and the overpressure safety opening enable operation without any hazards.

### Including accessories

Stable instrument panel, with 3 feeds and minimum water level indicator

### Standards and conformity marks

GS from TÜV Rheinland in accordance with EN 61010 - 1:2001, EN 61010 - 2:040:2005  
Expert reports on microbiological and germicidal effectiveness

Operating temperature/pressure:	maximum 3 bar = 43.5 psi Stage 1: 125 °C = 1.4 bar/20.3 psi Stage 2: 140 °C = 2.7 bar/39.1 psi
* <b>Special valve:</b>	Stage 1: 115 °C = 0.7 bar/10.1 psi Stage2: 121 °C = 1.1 bar/ 15.9 psi
Heater:	integrated in floor/not exposed
Water connection:	no water connection necessary
Housing:	Aluminium
Air evacuation:	free steam flow process
Thermal output:	1900 W
Mains connection:	230 V ±10 %/50-60 Hz

Type	Capacity Litres	Diam. mm	Int. height mm	PK	Cat. No.
EL 12L GS	12	240	260	1	<b>9.842 013</b>
EL 18L GS	18	240	400	1	<b>9.842 014</b>

\*CertoClav EL 12 and CertoClav EL 18L delivery with valve temperature 125/140 °C or 115°/121C. Please regard by your order.

1



2



## Automatic horizontal autoclave Type AH

This autoclave is microprocessor controlled and monitored with 5 sterilisation programmes of which 4 are fixed and 1 is freely selectable for the AH-21 s2 dry and 10 sterilisation programmes of which 4 are fixed and 6 are freely selectable for the AHS-75 dry .

*Raypa*

- Operating temperature range 100 °C to 135 °C
- RS 232 interface
- Fully automatic functions
- With water reservoir, pre-vacuum and drying
- Case and lid shrouding are AISI 304 stainless steel
- Sterilisation chamber, lid and sealing system are AISI 304 stainless steel
- Electrical heating with protected heating elements
- Safety pressure valve
- Safety thermostat
- Automatic steam controlled by microprocessor
- Manual valves for emptying the sterilisation chamber and for draining steam
- Equipped with mesh stand on the chamber base and trays
- On request also available with vacuum and drying
- Supply requirements: 230 V 16 A single phase



9.851 888

Type	Capacity Litres	Chamber diam. x depth mm	Rating W	Width mm	Length mm	Height mm	PK	Cat. No.
AH-21 L	21	250 x 430	2000	680	590	425	1	<b>9.851 898</b>
AHS-50 DRY	50	400 x 400	3200	630	760	630	1	<b>6.267 579</b>
AHS-75 DRY	75	400 x 600	3200	830	760	630	1	<b>9.851 888</b>

# Sterilisation and cleaning

## Autoclaves and accessories

1



9.851 894

### Automatic vertical autoclaves, AES series

Raypa

These autoclaves are microprocessor controlled and monitored with 10 sterilisation programmes of which 4 are fixed and 6 are freely selectable.

- Operating temperature range 100 °C to 139 °C
- Agar modus (40 °C to 80 °C)
- RS 232 interface
- Timer
- Programmable auto-start (24 h)
- Fully automatic functions
- Case and lid shrouding are AISI 304 stainless steel
- Sterilisation chamber, lid and sealing system are AISI 304 stainless steel
- Electrical heating with protected heating elements in the interior of the chamber
- Safety pressure valve
- Safety thermostat
- Automatic steam controlled by microprocessor
- Manual valves for emptying the sterilisation chamber and for draining steam

**- Supply requirements:**

**AES-12 and AES-75: 230 V 16 A single phase**

**AES-110 and AES-150: 400 V + Neutral (3-phase)**

Type	Capacity Litres	Chamber diam. x depth mm	Rating W	Width mm	Length mm	Height mm	PK	Cat. No.
AES-12	12	250 x 270	1000	490	500	520	1	<b>9.851 893</b>
AES-28	28	300 x 400	2000	510	560	1010	1	<b>9.851 894</b>
AES-50	50	300 x 700	3200	510	560	1270	1	<b>6.267 578</b>
AES-75	75	400 x 600	3200	620	730	1090	1	<b>9.851 895</b>
AES-110	110	400 x 850	4500	630	730	1330	1	<b>9.851 896</b>
AES-150	150	500 x 750	6000	760	850	1310	1	<b>9.851 897</b>

2



2

### Indicator tape for steam, hot air and gas sterilisation

Crepe paper, adhesive. With heat-sensitive dyes. Colour changes according to DIN EN ISO 11140-1. Rolls of 50 m.

With	Width mm	PK	Cat. No.
Steam indicator	19	1	<b>9.140 784</b>

3



3

### Indicator Tape, Comply™

3M Deutschland

Lead free version available now.

Semi-crepe paper. Self adhesive. Very good adhesion on various soft packagings. Tape stretches to minimize tape pop-off, which reduces need for re-sterilization due to packs opening during processing. Accepts handwriting and labelling for easy use and better record keeping.

Supplied in a roll of 55 m.

Type	For	Width mm	PK	Cat. No.
Comply™	Dry-Heat Sterilisation	19	1	<b>9.140 783</b>
Comply™ lead free	Steam Sterilisation	18	1	<b>9.140 786</b>

## 1 Molecular BioProducts™ RNase AWAY® Surface Decontaminant

Eliminates unwanted DNA and RNase from glassware and plasticware without affecting subsequent DNA samples

*Thermo Scientific*

Degrades DNA more quickly and effectively than autoclaving.

- Suitable for gel boxes, pipettes, benchtops, thermal cyclers, or other apparatus
- Use before performing PCR or working with DNA for a DNA-free work area
- Simply apply the ready-to-use formula to the surface to decontaminate, then wipe dry or rinse clean

1



Type	Capacity ml	Package	PK	Cat. No.
MBP RNase Away®	475	spraying flask	1	6.227 799

## 2 Molecular BioProducts™ RNase AWAY® and DNA AWAY™ Surface Decontaminant

Eliminates unwanted DNA and DNase from glassware and plasticware without affecting subsequent DNA samples

*Thermo Scientific*

Degrades DNA more quickly and effectively than autoclaving.

2



Type	Capacity ml	Package	PK	Cat. No.
MBP DNA Away®	250	Flask	1	6.228 401



# Sterilisation and cleaning

## Ultrasonic baths

### Ultrasonic baths Sonorex

#### Sonorex Super ultrasonic baths

Bandelin

These devices work at 35 kHz and have PZT transducers for maximum cleaning power. SweepTec for permanent sound field oscillation ensures even and gentle cleaning®. Integrated heating is available.

Power information: High ultrasonic peak power and HF-power 230 V, 50/60 Hz, or 115 V.

All models are spill-proof with stainless steel tanks (RK 102 H hard-chromium plated) and outer cases, drip proof.

### 1 Ultrasonic baths, Sonorex Super

Cleaning of

Bandelin

- technical glassware like burettes, pipettes, petri dishes and laboratory flasks

- analysis sieves up to 400 mm diameter

- metal parts of all kinds

- electronic components

Cleaning and disinfection of medical instruments

Degassing of liquids to determine concentration

Acceleration of suspending processes

Production of emulsions

Preparation of samples for analysis, e. g. analysis of hair

- Type RK 102 H and above supplied with outlet, 1 to 15 min. timer and continuous operation.

- Type H with heating adjustable from 30 to 80 °C, 230 V~, or 115 V~, 50/60 Hz

- Types RK 106, RK 1028 C and RK 1040 are ideal for sieve cleaning.

Type	Internal dimensions (W x D x H) mm	Capacity		Ultra-sonic power W	HF peak power W <sub>eff</sub>	Heating power W	PK	Cat. No.
		L						
RK 31	190 x 85 x 60	0.90		160	40		1	9.877 021
RK 52	150 x 140 x 100	1.80		240	60		1	9.877 052
RK 52 H	150 x 140 x 100	1.80		240	60	140	1	9.877 051
RK 100	240 x 140 x 100	3.00		320	80		1	9.877 100
RK 100 H	240 x 140 x 100	3.00		320	80	140	1	9.877 101
RK 102 H	240 x 140 x 100	3.00		480	120	140	1	9.877 103
RK 103 H	240 x 140 x 150	4.00		560	140	200	1	9.877 114
RK 156	500 x 140 x 100	6.00		640	160		1	9.877 156
RK 156 BH	500 x 140 x 150	9.00		860	215	600	1	9.877 155
RK 255 H	300 x 150 x 150	5.50		640	160	280	1	9.877 256
RK 510	300 x 240 x 150	9.70		640	160		1	9.877 510
RK 510 H	300 x 240 x 150	9.70		640	160	400	1	9.877 511
RK 512 H	300 x 240 x 200	13.00		860	215	400	1	9.877 512
RK 514	325 x 300 x 150	13.50		860	215		1	9.877 540
RK 514 H	325 x 300 x 150	13.50		860	215	600	1	9.877 516
RK 514 BH	325 x 300 x 200	18.70		860	215	600	1	9.877 515
RK 1028	500 x 300 x 200	28.00		1200	300		1	9.877 537
RK 1028 H	500 x 300 x 200	28.00		1200	300	1300	1	9.877 529
RK 1028 C	500 x 300 x 300	45.00		2000	500		1	9.877 528
RK 1040*	500 x 195*	39.50		1520	380		1	9.877 108
RK 1050	600 x 500 x 200	58.00		2400	600		1	9.877 551

\* Ø x D







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# Your Lab is Our Mission!



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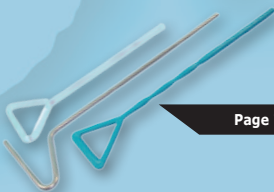
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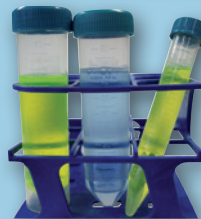
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