

## LABORTOPS

valid until 30.06.2021

### Mini centrifuge LLG-uniCFUGE 3 pro



- **Magnetic Fixing for Quick Rotor Change**
- **Safety Lid Lock**

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## Laboratory trays LaboPlast®, PP



White all-purpose bowl. Suitable for food. Resistant to many acids and alkalis. Strongly rounded rim. Temperature resistant up to 60 °C.

Internal dimensions mm	Width mm	Depth mm	Height mm	PK	Cat. No.
130 x 180	230	180	42	1	9200203*LLG
180 x 240	310	250	65	1	9200204*LLG
240 x 300	370	310	75	1	9200205*LLG
300 x 400	520	420	120	1	9200206*LLG
400 x 500	634	534	140	1	9200207*LLG
500 x 700	846	648	160	1	9200208*LLG

## LLG-Labeling tapes



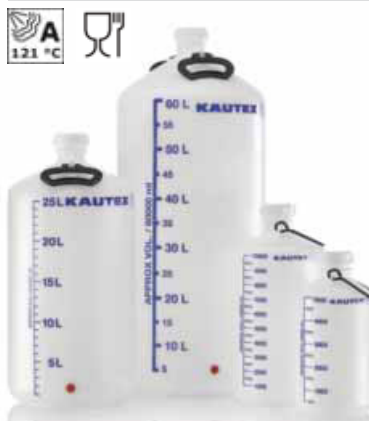
### Removal without Residue

For labelling and colour coding of laboratory vessels and utensils. Strong and durable. Water resistant. Can withstand temperatures ranging from -23 °C to 121 °C. The tapes are easy to write-on and leave no residue when removed. Rolls of 12.7 m. Please order optional dispenser separately (9.040 389).



Width mm	Colour	PK	Cat. No.
12.7	white	6	4663401*LLG
12.7	yellow	6	4663402*LLG
12.7	green	6	4663403*LLG
12.7	red	6	4663404*LLG
12.7	orange	6	4663405*LLG
12.7	blue	6	4663406*LLG
12.7	pink	6	4663407*LLG
12.7	3 x blue, 3 x green, 3 x orange, 3 x red, 5 x white, 4 x yellow, 3 x pink	24	4663408*LLG
19.0	white	4	4663409*LLG
19.0	yellow	4	4663410*LLG
19.0	green	4	4663411*LLG
19.0	red	4	4663412*LLG
19.0	orange	4	4663413*LLG
19.0	blue	4	4663414*LLG
19.0	pink	4	4663415*LLG
19.0	2 x blue, 2 x green, 2 x orange, 2 x red, 4 x white, 2 x yellow, 2 x pink	16	4663416*LLG
25.4	white	3	4663417*LLG
25.4	yellow	3	4663418*LLG
25.4	green	3	4663419*LLG
25.4	red	3	4663420*LLG
25.4	orange	3	4663421*LLG
25.4	blue	3	4663422*LLG
25.4	pink	3	4663423*LLG
25.4	1 x blue, 2 x green, 1 x orange, 2 x red, 2 x white, 2 x yellow, 2 x pink	12	4663424*LLG

## Aspirator Bottles, series 350, HDPE



Food-grade product according to Regulation (EC) No 10/2011. Natural with printed blue graduations (in L) and screwed closure. With or without threaded connection at base. Inside neck diameter 50 mm.

Please order stopcock separately.

Capacity Litres	Ext. diam. mm	Height mm	Stopcock connection	Handle	PK	Cat. No.
5	167	330	without	1	1	9011009*LLG
10	206	427	without	1	1	9011010*LLG
25	278	580	without	2	1	9011025*LLG
5	167	330	with	1	1	9011069*LLG
10	206	427	with	1	1	9011071*LLG
25	278	580	with	2	1	9011072*LLG

Height in mm without cap.

## Stopcock for Aspirator Bottles



Type	PK	Cat. No.
Stopcock, HDPE, blue	1	9011181*LLG

## Scintillation Vials, borosilicate glass

- With white screw caps made of PP (caps attached)
- Liner Material metal foil
- Made of WHEATON 180 low potassium borosilicate glass
- High ultraviolet transmission



Capacity ml	Cap size	Dimensions (dia. x H) mm	PK	Cat. No.
20	22-400	28 x 61	500	6253024*LLG
20	24-400	28 x 61	500	6284229*LLG

## LLG-Mini Narrow-neck vials, PP, Heavy Duty

Ideal for collecting, transporting and storing liquid samples.



- With screw cap
- Very stable design
- Transparent
- With graduation



Capacity ml	Diam. mm	Height mm	Thread external diam. mm	PK	Cat. No.
4	16	40	13	100	6289520*LLG
8	25	44	19	100	6289450*LLG
30	36	61	19	100	6289451*LLG
60	40	85	19	100	6289452*LLG
125	51	99	23	50	6289453*LLG

## Mini centrifuge LLG-uniCFUGE 2/5



Speed can be adjusted to 4000 or 6000 rpm. Powerful motor for fast starting. Quick stop when the lid is opened.

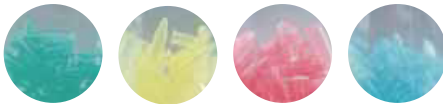
**Scope of supply:** Centrifuge, mains cable, rotor for 4 x 5 ml tubes

### Specifications

Max. RCF:	1200 x g and 2000 x g
Max. speed:	4000 rpm and 6000 rpm
Motor:	brushless DC motor
Max. load:	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

Description	Plug type	PK	Cat. No.
LLG-uniCFUGE 2/5 EU		1	6263515*LLG
LLG-uniCFUGE 2/5 UK		1	6263516*LLG

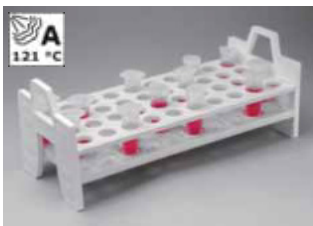
## LLG-Centrifuge tubes, 5 ml, PP



- Max. 25000 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

Description	Package contents	PK	Cat. No.
Clear	1 bag of 250 pieces	250	6281113*LLG
Colour assortment green, yellow, red, blue	4 bags of 50 pieces (1 colour per bag)	200	6281114*LLG

## Tube Rack for 5ml centrifuge tubes, PP



- Dimensions (L x W x H): 260 x 113 x 105 mm
- Rows: 4 x 10

Array	PK	Cat. No.
40	1	9194026*LLG

## Mini centrifuge LLG-uniCFUGE 3 pro



- **Magnetic Fixing for Quick Rotor Change**
- **With Timer and Digital Display**

**NEW**



This compact Mini centrifuge offers versatility, simplicity, safety and ease of usage in just one package and is specially suitable for microfiltration, cell separations and spin down applications.

- Easy rotor change via magnetic fixing
- Microprocessor controlled regulation for load-independent accuracy and integrated imbalance control
- Brushless and non-wearing high-efficiency motor
- Digital display
- Integrated timer
- Starts and stops in seconds
- Electronic safety brake on lid opening for user safety
- Lid safety interlock
- Smooth and silent, discreet running

### The following types of vessel can be used:

- 8 x 1.5 ml micro tubes
- 8 x 2 ml micro tubes
- 16 x 0.2 ml PCR tubes

### By using the fitting adapter:

- 8 x 0.2 ml micro tubes
- 8 x 0.5 ml micro tubes

**Scope of supply:** Centrifuge, rotor for 8 x 1.5/2 ml tubes, rotor for 16 x 0.2 ml PCR tubes, adapter for 8 x 0.2/0.5 ml tubes, power adapter (24 V, 1.5 A)

### Specifications

Max. RCF:	2000 x g
Max. speed:	1000 ... 6000 rpm
Motor:	brushless DC motor
Max. load:	8 x 1.5/2 ml or 16 x 0.2 ml PCR tubes
Timer:	1 ... 25 min, continuous
Dimensions (W x D x H):	162 x 157 x 116 mm
Weight:	1.1 kg
Power supply:	100 ... 240 VAC, 50/60 Hz

Description	Plug type	PK	Cat. No.
LLG-uniCFUGE 3 pro EU		1	6263522*LLG
LLG-uniCFUGE 3 pro UK		1	6263527*LLG

# Sample Preparation

## Knife mill HM100

The HM100 knife mill is used for grinding soft, medium-hard, brittle and fibrous materials. Especially suitable for samples with a high water, oil or fat content. The 2 knives are driven by a 900 W motor to achieve a reliable grinding result. Suitable for applications in agriculture, biology, medicine and food technology.

- For soft, elastic, fibrous, aqueous, oily or fatty samples
- Electronically controlled speed
- Samples are grinded in only 10 to 30 seconds
- Up to 700 ml sample volume
- Autoclavable grinding vessels
- Grinding vessels available in various materials
- Cutting knives with 2 stainless steel and titanium blades available
- Easy operation
- Quick start
- Coarse and fine grinding in one step
- Interval, reverse and manual mode available



**Scope of supply:** Knife mill, 1 l grinding vessel made of plastic (autoclavable), lid, stainless steel knife

### Specifications

Feed size:	40 mm
Feed quantity:	50 ... 700 ml
Ult. fineness:	<300 µm
Timer:	1 s ... 10 min
Motor speed:	2000 ... 10000 rpm
Power consumption:	900 W
Dimensions (W x D x H):	260 x 343 x 454 mm
Weight:	16 kg
Power supply:	220 V, 50 Hz

Type	PK	Cat. No.
HM100	1	4669516*LLG

## LLG-Mortars, porcelain



According to DIN 12906. Suitable for easy grinding, comminution or crushing of ground material during sample preparation. With practical spout.

Please order pestle separately.

Capacity	Ext. diam.	Height	DIN	Description	PK	Cat. No.
ml	mm	mm				
25	51	32		rough inside	1	9164410*LLG
70	63	41	12906	rough inside	1	6227149*LLG
75	76	45		rough inside	1	9164411*LLG
110	83	50		rough inside	1	6232577*LLG
160	90	56	12906	rough inside	1	6243865*LLG
220	105	64		rough inside	1	9164412*LLG
400	125	71	12906	rough inside	1	9164413*LLG
2250	224	127		rough inside	1	6252383*LLG
110	83	50		glazed inside	1	6227289*LLG
220	105	64		glazed inside	1	6234591*LLG

## Homogenising bags Whirl-Pak®, PE, sterile

Nasco



- Sterile, solid bags for the homogenisation of liquids and solids
- With labelling strips

Nominal capacity	Dimensions (D x W)	Thickness	PK	Cat. No.
ml	mm	mm		
1627	190 x 300	0.102	500	7059855*LLG

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

Nasco



Whirl-Pak® bags are sterile polyethylene laboratory sample bags used to transport samples for biological testing and other applications. Available with or without write-on label. With integrated wire closing system. Temperature range: -210 to 82 °C.

Nominal capacity	Dimensions (D x W)	Thickness	PK	Cat. No.
ml	mm	mm		
118	75 x 185*	0.057	500	7077212*LLG
532	115 x 230*	0.064	500	7058120*LLG
710	150 x 230*	0.076	500	6242083*LLG
2721	254 x 380*	0.102	250	6266304*LLG
5441	380 x 508*	0.102	100	6257989*LLG
58	75 x 125	0.057	500	6091055*LLG
710	150 x 230	0.076	500	6228639*LLG
2041	190 x 380	0.076	500	6305117*LLG

\*with label

## LLG-Pestles, porcelain



According to DIN 12906. With rough or glazed friction surface for easy crushing of ground material during sample preparation.

Head diam.	Length	DIN	Description	PK	Cat. No.
mm	mm				
14	54		rough	1	6227150*LLG
24	115	12906	rough	1	9164420*LLG
30	135	12906	rough	1	6232574*LLG
36	150	12906	rough	1	9164421*LLG
42	175	12906	rough	1	9164422*LLG
74	250	12906	rough	1	6252384*LLG
42	175	12906	glazed	1	6227292*LLG
36	150	12906	glazed	1	6234592*LLG



## Ultrasonic homogeniser, SONOPULS HD 2200.2

For volumes 2 to 1000 ml. Ready-to-operate set for volumes from 20 to 900 ml consisting of:

- HF generator GM 2200.2
- Ultrasonic converter UW 2200
- Standard horn SH 213 G
- Titanium flat tip TT 13, diam. 13 mm

Further Titanium probes with diam. 2 mm, 3 mm, 6 mm, 19 mm and 25 mm available on request.

### HF generator

Dimensions (W x D x H):

### Converter

Dimensions (diam. x L):

Titanium probes (diam.):

Ultrasonic nominal power:

### GM 2200.2

240 x 210 x 140 mm

### UW 2200

70 x 150 mm

2/3/6/13/19/25 mm  
(not supplied)

max. 200 W

Type	min. sample volume ml	max. sample volume ml	PK	Cat. No.
SONOPULS HD 2200.2	20.00	900	1	6273768*LLG



- For up to 2.5 Litres
- With Soft Start
- One-Handed Quick-Release Coupling

**BANDELIN**



Stand and vessel are not included.

## Homogeniser, stand, POLYTRON® PT 2500 E (Ecoline)

The PT 2500 E is the ideal solution for cost-conscious laboratories. It is able to perform homogenisations with volumes from 0.05 to 2500 ml. The electronic control system continuously monitors the speed and automatically adjusts it, keeping it constant with changing viscosity. The speed is easily seen on the large digital display. Dispersing heads with a variety of styles and diameters are available to provide optimum particle size reduction when using this drive. There are many different styles of aggregates available from 3 mm up to 25 mm

- Aggregate tip speeds up to 32 m/s
- Soft start prevents splashing of homogenate from sample vessel
- Thermal fuse for overload protection
- Speed remains constant even when viscosity changes
- Aggregate replacement using one-handed quick-release coupling
- Insulated motor housing keeps motor noise to a safe, approved level
- Various models of EasyClean dispersing aggregates
- Digital display

Type	Plug type	PK	Cat. No.
POLYTRON® PT 2500 E	EU	1	7981185*LLG
POLYTRON® PT 2500 E	CH	1	6263341*LLG

### Dispersing tool

The universal geometry uses two rows of teeth, is suitable for a large spectrum of laboratory applications, and it is reliable and efficient.  
Coupling type E.

Type	Length	Diam.	Working volume	PK	Cat. No.
	mm	mm	ml		
PT-DA 25 / 2EC-E192	192	25	100 ... 2500	1	9570227*LLG

**Stand and dispersing head must be ordered separately.**

### Specifications

Application volume:

Motor input power:

Dispersing heads:

Speed range:

Dimensions Drive

(W x D x H):

Weight Drive:

Power supply:

IP code acc. to DIN:

Tested to:

0.05 ... 2500 ml

500 W

diam. 3, 5, 7 and 12 mm and

diam. 20 mm and 25 mm

Stepless 500 ... 30000 rpm

76 x 157 x 236 mm

1.8 kg

90 ... 230 V ±10 %, 50/60 Hz

IP 20

IEC/EN61326-1/IEC/

EN 61000-6-2/

EN 61000-6-4 IEC/

EN 61010-2-51

**KINEMATICA**  
Homogenizing perfected.



### Stand

Plate stand with two rod design.  
Height adjustable.

Type	Weight	PK	Cat. No.
	g		
ST-P20/600	370	1	4013060*LLG

## Space-saving jerrycans, HDPE, electrically conductive



Black. For use in explosion-protected areas.

- Surface resistance < 10<sup>5</sup> Ohm
- With or without threaded connector 3/4"
- Space-saving due to its narrow width
- Grounding by means of antistatic set (available as accessory)
- Electrically conductive stopcock StopCock PA (available as accessory)

Capacity	Description	Width	PK	Cat. No.
l		mm		
5	Space-saving jerrycans with threaded connector	65	1	4665332*LLG
5	Space-saving jerrycans without threaded connector	65	1	4665330*LLG
5	Compact jerrycan set, with StopCock PA	65	1	4665322*LLG
10	Space-saving jerrycans with threaded connector	125	1	4665333*LLG
10	Space-saving jerrycans without threaded connector	125	1	4665331*LLG
10	Compact jerrycan set, with StopCock PA	125	1	4665329*LLG

## Anti-static Set



When dispensing combustible/explosive liquids pump, both dispensing and filling drum involved in the process must be sufficiently earthed, in order to prevent ignition or explosion through electrostatic discharges. Antistatic set, includes three colour-coded connecting cables with clamps, supplied complete in plastic case.

Type	PK	Cat. No.
Antistatic set	1	9001346*LLG

## Safety containers, HDPE, electrically conductive



Black. For use in explosion-protected areas. Electrically conductive, with or without floater for level control.

- Surface resistance < 10<sup>5</sup> Ohm

Capacity	Dimensions (W x D x H)	Thread	PK	Cat. No.
l	mm			
10	185 x 290 x 265*	S 60 / 61	1	4005602*LLG
20	185 x 290 x 500*	S 60 / 61	1	4005671*LLG
30	240 x 364 x 455*	S 60 / 61	1	4664150*LLG
60	330 x 395 x 625*	S 70 / 71	1	4005593*LLG
10	185 x 290 x 265	S 60 / 61	1	4005682*LLG
20	185 x 290 x 500	S 60 / 61	1	4005683*LLG

\* Without floater, with UN approval

## Safety containers with viewing stripe, HDPE, electrostatic conductive, with UN-approval



Black. For use in explosion-protected areas. Electrostatic conductive container for a safe collection and transportation of flammable solvents and solvent waste. Made of electrostatic conductive HDPE to avoid ignition risks. The viewing strip allows a permanent control of the solvent level.

- Surface resistance < 10<sup>5</sup> Ohm

Capacity	Dimensions (W x D x H)	Thread	PK	Cat. No.
l	mm			
10	195 x 195 x 380	S	1	6251593*LLG
10	190 x 230 x 319	50	1	6270296*LLG

## Antistatic Explosion Proof Tubing, electrically conductive



Manufactured from a special "Antistatic Compound" with pure PTFE and finest carbon dust. This makes them particularly suitable for use with light-sensitive substances, for example. The PTFE content of the hose ensures the greatest possible chemical resistance.

Thermal resistance: -200 to +250 °C.

Delivery quantity: 1 m

Int. diam.	Ext. diam.	PK	Cat. No.
mm	mm		
1.6	3.2	1	9205601*LLG
2.0	3.0	1	9205602*LLG
4.0	6.0	1	9205603*LLG
6.0	8.0	1	9205604*LLG
8.0	10.0	1	9205605*LLG
10.0	12.0	1	9205606*LLG
12.0	14.0	1	9205607*LLG

## Halogen moisture balances MB90 and MB120

Moisture Analysis Made Simple and Powerful.

- The precisely controlled halogen heating dries samples quickly and ensures uniform heating to yield fast, precise and repeatable results of 0.01 % readability
- Designed with effortless maintenance in mind; removable pan handler and heating chamber components that make cleaning quick and easy.
- Icon-based menu navigation on the easy-to-read touchscreen display makes operating intuitive
- Applications: Percent Moisture Determination, Percent Moisture Regain Determination, Percent Solid Determination, Weighing
- Display 4.3": TFT color touchscreen display

- Communication: RS232 with GLP/GMP data output, USB Host and USB Device (included)
- Construction: Metal base, ABS top housing, halogen heat source, stainless steel pan support, stainless steel pan handler, in-use cover



**Design Features MB90:** Three shut-off criteria (manual, timed or auto), two drying profiles (standard and fast), storage up to two methods, user guide, 40 to 200 °C heating temperature range (1 °C increments), 13 operational languages

**Design Features MB120:** Seven shut-off criteria (manual, timed, autofree %/s, autofree mg/s, A30, A60 and A90), four drying profiles (standard, fast, ramp and step), storage up to 100 methods and 1000 test results for all methods, user guide, 40 to 230 °C heating temperature range (1 °C increments), 13 operational languages

### Specifications

	MB90 // MB120
Capacity:	90 g // 120 g
Repeatability 3 g/10 g:	0.18 %/0.02 % // 0.05 %/0.015 %
Readability:	0.01 % or 0.001 g
Temperature range:	40 ... 200 °C // 40 ... 230 °C
Operating temperature:	10 ... 40 °C
Pan size (diam.):	90 mm
Dimensions (W x D x H):	210 x 350 x 180 mm
Weight:	5.23 kg
Power supply:	120 or 240 VAC, 50 ... 60 Hz

Type	PK	Cat. No.
MB90	1	6282764*LLG
MB120	1	6282765*LLG



## Compact Balances EK-AEP, Ex-protected

Compact, lightweight balance for precise weighing in potentially explosive atmospheres (zones 0, 1 and 2). Equipped with an optical data output for transferring measuring results to device in a distant, safe area.

- Easy-to-read backlit LCD display, digit size 16 mm
- Hygienic and chemically resistant stainless steel (SUS304) weighing pan
- Comparator function for faster and more accurate filling, packing, sorting, etc
- Adjustable response characteristics depending on the degree of drafts and vibrations at the location
- Multiple weighing units: g, oz, lb, oz, ct, mom, dwt, gr, N, in addition to pcs (counting mode), % (percent mode), SG (specific gravity)
- Battery operation (4 x AA alkaline batteries 1.5 V, approx. 250 hours)
- Auto power OFF function

Type	Plate dimensions	Capacity	Readability	PK	Cat. No.
	mm	g	g		
EK-300AEP	Ø 110	300	0.01	1	4672673*LLG
EK-3000AEP	133 x 170	3000	0.1	1	4672674*LLG
EK-12AEP	133 x 170	12000	1.0	1	4672675*LLG



EK-300AEP



EK-3000AEP

## Balance brushes

Oval.



Type	Size	Diam.	PK	Cat. No.
		mm		
Brush	1	5	1	2600069*LLG
Brush	2	6	1	6266807*LLG
Brush	4	9	1	6074169*LLG
Brush	6	12	1	6266808*LLG
Brush set*	2, 4, 6		1	6266825*LLG

\*consisting of one brush each size 2/6 mm, size 4/9 mm and size 6/12 mm

## LLG-Weighing paper

- Not treated with nitrogen during production
- Smooth surface
- 45 g/m<sup>2</sup> paper
- Block of 500 sheets



Dimensions (D x W)	PK	Cat. No.
mm		
76 x 76	500	6272246*LLG
102 x 102	500	6272247*LLG
152 x 152	500	6272248*LLG

## Chest Freezers LT/XLT Series, up to -65 °C

Freezer for temporary to longer term storage or daily use. Ideal where space is limited, but the user still needs a regular storage capacity. The unit is easy to install. Due to the small footprint, transport through all standard sized doors is possible. The freezer also has four castors (XLT C75 without castors, with legs), which makes it very mobile. The material is galvanized and pre-coated steel on the outside, pre-coated white steel on the inside and cyclopentane for efficient insulation.

- Digital controller with display
- Audible and visual alarm
- High/low temperature alarm
- Porthole for external probe & CO<sub>2</sub> backup Ø12 mm
- Integrated lock
- Eco-friendly, HCFC-free Nature R refrigerant at -65 °C and HCFC-free R290 refrigerant at -45 °C
- ISO 9001, 14001 & 18001 OHSAS certified

**Extended exchange warranty - in warranty cases which cannot be quickly solved onsite the client receives a new unit.**

Please contact us to arrange a customised rack configuration.

### Specifications

Baskets:	1 (3 for LT C500 and XLT C300/C500/4 for XLT C400)
Internal humidity:	<5 %
Temperature probes:	1/PTC at -45 °C/1/PT 1000 at -65 °C
Noise level:	55 dB
Power supply:	230 V/50 Hz



LT C400

Type	Capacity	External dimensions (W x D x H) mm	Internal dimensions (W x D x H) mm	Temp. range	Weight	PK	Cat. No.
	Litres			max. °C	kg		
LT C150	133	720 x 630 x 890	350 x 440 x 635	-45 ... -10	51	1	4672437*LLG
LT C200	189	920 x 630 x 890	550 x 440 x 635	-45 ... -10	65	1	4672438*LLG
LT C300	284	1260 x 630 x 890	890 x 440 x 635	-45 ... -10	71	1	4672439*LLG
LT C400	368	1560 x 630 x 890	1190 x 440 x 635	-45 ... -10	80	1	4672440*LLG
LT C500	476	1660 x 690 x 890	1290 x 500 x 640	-45 ... -10	108	1	4672441*LLG
XLT C75	71	555 x 580 x 900	390 x 390 x 465	-65 ... -30	48	1	4672430*LLG
XLT C150	133	720 x 630 x 890	350 x 440 x 635	-65 ... -30	56	1	4672431*LLG
XLT C200	189	920 x 630 x 890	550 x 440 x 635	-65 ... -30	65	1	4672432*LLG
XLT C300	284	1260 x 630 x 890	890 x 440 x 635	-65 ... -30	71	1	4672433*LLG
XLT C400	268	1560 x 630 x 890	1190 x 440 x 635	-65 ... -30	80	1	4672434*LLG
XLT C500	476	1660 x 690 x 890	1290 x 500 x 640	-65 ... -30	108	1	4672435*LLG

## Dewar flasks, cylindrical, for CO<sub>2</sub> and LN<sub>2</sub>



DURAN®. DIN EN ISO 16496. Cylindrical. With blue coated protective casing made of metal.

Type	Capacity	Int. diam. mm	Int. height mm	PK	Cat. No.
	ml				
3 C	500	57	210	1	9032015*LLG
6 C	800	67	240	1	9032018*LLG
9 C	1000	77	235	1	9032021*LLG
12 C	1500	90	245	1	9032024*LLG
13 C	2000	90	340	1	9032025*LLG
15 C	1500	100	240	1	9032027*LLG
16 C	2000	100	290	1	9032028*LLG
18 C	2500	110	290	1	9032030*LLG
S 21 C	4000	138	310	1	9032033*LLG

## Protection Gloves Waterproof Cryo-Grip® Gloves



The Waterproof Cryo-Grip® Gloves are particularly suitable for handling cryogenic liquefied gases such as liquid nitrogen. The breathable lining ensures that hands stay dry. These Cryo-Grip Gloves offer the highest level of safety when handling cryogenic liquefied gases, together with dexterity, flexibility and better grip. Package of 1 pair.

forearm length:	335 - 395 mm
elbow length:	440 - 500 mm

Description	Size	PK	Cat. No.
forearm length	S	1	4672246*LLG
forearm length	M	1	4672247*LLG
forearm length	L	1	4672248*LLG
forearm length	XL	1	4672249*LLG
elbow length	S	1	4672250*LLG
elbow length	M	1	4672251*LLG
elbow length	L	1	4672252*LLG
elbow length	XL	1	4672253*LLG



## Recirculating chillers ULK



**FRYKA**

- **Low-Noise and Energy Efficient**
- **Safe: Freeze-up, Overheat and Dry-running Protection**
- **Visual Alarm with Audio**



For cooling applications and processes in laboratory and industry. Thanks to the space-saving design and the particularly quiet cooling unit, the chiller are ideally suited for installation directly at the workplace.

- Higher energy efficiency through fan with EC technology
- Pleasantly quiet and space saving
- Refrigeration unit: fully hermetically sealed, air-cooled, low maintenance
- Integrated funnel
- Self-sealing hose connector with quick coupling
- Touchscreen controller with high-grade glass screen and integrated flow and digital fill level indicators
- Freeze-up and thermal overload protection
- Flow control with dry running protection
- Optical and acoustical alarm
- MOD bus interface optionally available

Type	Working Temp. range °C	Pressure bar	Flow rate L / min.	Cooling capacity kW at 20 °C	PK	Cat. No.
ULK 602	-10 ... 40	0.6	10	650	1	6284440*LLG
ULK 1002	-10 ... 40	2.9	12	1200	1	6284441*LLG
ULK 2002	-10 ... 40	2.9	12	2300	1	6284442*LLG

## LLG- Floating pellets, PP



Pellets with 20 mm diameter. Can cover 0.1 m<sup>2</sup>. Protect against evaporation and rapid temperature loss. Decreases hazardous vapors. Resistant against most acids, bases, solvents and mineral oils. Temperature stable up to +100 °C.

Description	PK	Cat. No.
Floating pellets	250	6266611*LLG

## Heating circulators MAGIO MS and MX

**Julabo**



For precise temperature control of internal and external applications from 3 to 26 litres.

- Simple control of complex applications
- Infinitely adjustable, extremely powerful pressure and suction pump
- Large, high-resolution TFT touch display with multilingual user interface
- Medium-contacting parts made of stainless steel
- Integrated programmer
- External Pt100 connection
- USB interface
- RS232 interface
- Ethernet interface
- Analogue interfaces (optional)
- Classification III according to DIN 12876-1
- High quality thermal insulation of the bath tanks
- Integrated drain cock for easy and safe emptying

### Specifications:

Temperature stability:  
Temperature range:  
Flow rate:  
Pump pressure:  
Suction pressure:  
Heating capacity:  
Permissible ambient temperature:  
Power supply:

### MS-BC // MX-BC

±0.01 °C  
20 ... 300 °C  
16 ... 31 l/min  
0.24 ... 0.92 bar  
0.03 ... 0.4 bar  
2000 W // 3000 W  
5 ... 40 °C  
230 V/50 ... 60 Hz

Type	Filling volume L	Dimensions (W x D x H) mm	Bath opening mm	PK	Cat. No.
MS-BC4	3 ... 4.5	230 x 410 x 420	130 x 150	1	4678303*LLG
MX-BC6	4.5 ... 6	240 x 440 x 470	130 x 150	1	4678310*LLG
MX-BC12	8.5 ... 12	330 x 490 x 470	220 x 150	1	4678311*LLG
MX-BC26	19 ... 26	390 x 620 x 480	260 x 350	1	4678312*LLG

Manifolds Microsart®, stainless steel



SARTORIUS



- Completely Autoclavable
- Easy and Flexible Installation
- Compatible with Different Filter Models



For microbiological quality control. Quick connectors at both sides of the manifolds enable fast connections of either tubing, another manifold or end caps. Various funnel and filtration units are available.

- Full autoclavability without disassembly
- Sterile venting
- Reduced risk of secondary contamination
- Low working height
- Rubber feet providing better stability at the workplace

Scope of supply:

**Microsart® Manifolds for Biosart® 100 monitors:** Manifold, filter base support with sinter frit, Biosart® adapter, blind coupling, 20 cm tubing and venting filter

**Microsart® Manifolds for Biosart® 250 funnels:** Manifold, filter base support with sinter frit, blind coupling, 20 cm tubing and plug for venting holes

Type	Description	Dimensions (W x D x H) mm	PK	Cat. No.
Microsart® Manifolds for Biosart® 100 monitors	1 branch	176 x 98 x 120	1	4669474*LLG
Microsart® Manifolds for Biosart® 100 monitors	3 branch	474 x 98 x 120	1	4669476*LLG
Microsart® Manifolds for Biosart® 100 monitors	6 branch	924 x 98 x 120	1	4669477*LLG
Microsart® Manifolds for Biosart® 250 funnels	1 branch	176 x 98 x 120	1	4669478*LLG
Microsart® Manifolds for Biosart® 250 funnels	3 branch	474 x 98 x 120	1	4669479*LLG
Microsart® Manifolds for Biosart® 250 funnels	6 branch	924 x 98 x 120	1	4669480*LLG

Dimensions without funnels and tubing.

Monitors Biosart® 100

SARTORIUS



Filtration unit for use with a Sartorius vacuum manifold or direct attachment to a special vacuum pump. Biosart® 100 Monitors have been specifically designed for the microbiological testing of pharmaceuticals, food, beverages, water and other liquids. These sterile disposable units with built-in membrane filter and cellulose pad are ready to use. After filtration, just remove the 100 ml funnel to convert the monitor into a petri dish.

Type	Diam. mm	Pore size µm	Colour Filter / Grid	PK	Cat. No.
K	47	0.45	white / black	48	9049300*LLG
ACK	47	0.20	white / black	48	9049311*LLG
ACK	47	0.45	white / black	48	9049312*LLG

ACK= individually sterile packed. K= sterile.

Filter funnels, Biosart® 250

SARTORIUS



For microbiological and analytical quality assurance in industry. 250 ml sterile plastic funnels reduce process time in colony and particle analysis.

Type	PK	Cat. No.
BioSart® 250 disposable funnel, sterile	50	9049340*LLG
BioSart® 250 disposable funnel, sterile, individually packed	50	9049341*LLG

## LLG-Filtering apparatus, borosilicate glass



Universally applicable filtration unit made of high-quality borosilicate glass. Wide range of applications for filtration with filter paper or membrane filters (47 mm).

- Large funnel (300 ml) with scale
- Filter flask 1 or 2 litres, with scale
- Safe plastic olive
- Filter plate with porosity 2
- Filter plates with porosity 1 or 3 optionally available
- All components available as spare parts

**Scope of delivery:** Filter flask NS45/40, funnel 300 ml, filter holder NS45/40 with connector GL 14 and filter plate 47 mm (por. 2), clamp.

Description	PK	Cat. No.
LLG-Filtering apparatus 1000 ml	1	6291850*LLG
LLG-Filtering apparatus 2000 ml	1	6291851*LLG

## LLG-Qualitative filter paper, circles



**Very fast, pore size 12 to 15 µm.**  
For coarse and voluminous precipitates like hydroxides and sulphides.

Diam. mm	Filtration time secs.	PK	Cat. No.
90	10	100	9045830*LLG
110	10	100	9045831*LLG
125	10	100	9045832*LLG
150	10	100	9045833*LLG
185	10	100	9045834*LLG

## LLG-Qualitative filter paper, circles



**Medium fast, pore size 5 to 13 µm.**  
For fast filtration with fine particles.

Diam. mm	Filtration time secs.	PK	Cat. No.
47	88	100	9045801*LLG
55	88	100	9045802*LLG
70	88	100	9045803*LLG
90	88	100	9045804*LLG
125	88	100	9045806*LLG
150	88	100	9045807*LLG
185	88	100	9045808*LLG
240	88	100	9045809*LLG

## LLG-Quantitative filter paper, circles



**Very fast, pore size 12 to 15 µm.**  
- For coarse, high volume precipitates  
- For determinations according to the German Standard Methods for the examination of water, waste water and sludge.  
- For  $\text{Fe}(\text{OH})_2$ ,  $\text{Al}(\text{OH})_3$ ,  $\text{NaSO}_4$   
- Ashless, equivalent black ribbon

Diam. mm	Filtration time secs.	PK	Cat. No.
70	10	100	9045840*LLG
90	10	100	9045841*LLG
110	10	100	9045842*LLG
125	10	100	9045843*LLG
150	10	100	9045844*LLG
185	10	100	9045845*LLG

## Filter paper, qualitative, Grade 3 hw, folded filters

SARTORIUS



Diam. mm	PK	Cat. No.
125	100	9049403*LLG
150	100	9049404*LLG
185	100	9049405*LLG
240	100	9049406*LLG
270	100	9049407*LLG
320	100	9049408*LLG

## Anaerobic jars, stainless steel

schuett<sup>®</sup>biotec.de



For the cultivation of anaerobic or microaerophilic microorganisms in a defined gas atmosphere which can be developed quickly. The tanks are made of robust stainless steel or transparent PC. The vessel lids are made of UV-stable plastic or transparent polycarbonate and are equipped with two angle valves including a hose olive for vacuum hoses (5 mm inner diameter) and a manometer for precise control of the vacuum or overpressure (-1 to +0.2 bar).

Anaerobic types: 3 x evacuation and gas flushing, gas flushing for 5 minutes and chemical gas generation (GasPacks).

Capacity	Int. diam.	Int. height	To hold dishes	PK	Cat. No.
l	mm	mm	quantity		
3	120	270	15 (60-100 mm diam.)	1	9520056*LLG

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

## Accessories for anaerobic jars

Type	To hold dishes	PK	Cat. No.
	quantity		
Rack "standard"	15 (60 to 100 mm dia.)	1	9520053*LLG
GasPack-Kit "anaerobic" (1 x 3,5 l)		10	9520064*LLG
GasPack-Kit "CO2" (1 x 2,5 l)		10	9520065*LLG
GasPack-Kit "microaerophil" (1 x 3,5 l)		10	9520066*LLG

## Inoculating Turntable

ISOLAB  
Laborgeräte GmbH



Double-sided construction accommodates petri dishes from 60 to 150 mm diameter by inverting the turntable. Ball bearings provide smooth and effortless spinning, ensuring rapid inoculation steps and extended operation life. Light weight but robust body manufactured from aluminum with non-skid footprint. The silicone pad holds the petri dishes firmly and always keeps the dish centered during inoculation steps.

Description	PK	Cat. No.
Inoculating Turntable	1	6286850*LLG

## LLG-Petri dishes, PS

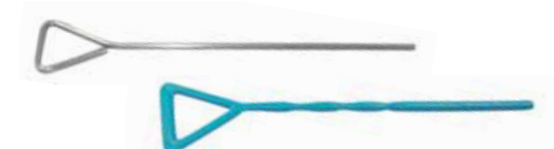


Made of high quality optical clear polystyrene. Produced under aseptic conditions in an ISO 6 cleanroom. Contact plate with counting grid.

- With a smooth surface for an optimal distribution of the transport medium
- Stable thickness to prevent any deformations while using
- Stackable
- With or without vents
- Aseptic (90 mm diam.) or beta irradiated sterile versions (all sizes)
- Packed in sleeves á 10 dishes or 20 dishes (90 mm diam. dishes)

Ext. diam. mm	Description	Height approx. mm	PK	Cat. No.
90	with triple vents, aseptic	16	480	6285823*LLG
90	without vents, aseptic	16	480	6285824*LLG
90	with triple vents, sterile	16	480	6285816*LLG
90	without vents, sterile	16	480	6285817*LLG
60	with triple vents, sterile	14	1080	4678371*LLG
60	without vents, sterile	14	1080	4678372*LLG
55	contact plate, sterile	17	1000	6285821*LLG

## LLG-Drigalski spatulas



For easy plating.

Diam. mm	Width mm	Length mm	Material	PK	Cat. No.
4	40.0	190	Stainless steel 18/10	1	9197490*LLG
4	51.5	174	PS, sterile*	100	6251768*LLG

\* individually packed



## UV sterilisation cabinets



- **Ideal for PCR Preparations**
- **Efficient Decontamination with UV Light**
- **Doors with Safety Switches**

These UV sterilisation cabinets provide a convenient area for setting up PCR reactions in a nucleic acid free environment thus limiting PCR reaction contamination. Acting effectively as a low cost alternative to a Cleanroom, the powerful UV lights on the cabinets denature nucleic acids in 5 to 30 minutes making them unsuitable for amplification. The cabinet incorporates safety features to prevent user exposure to UV light. The UV lights themselves are timer controlled and there are safety switches on the cabinets doors which turn off the UV lights when opened. Constructed from 10 mm acrylic, the cabinets also act as efficient shields from beta radiation emissions and can therefore be safely used with isotopes such as  $^{32}\text{P}$ .

### Specifications

UV Lights:	4 x 15 W
White Lights:	15
Dimensions (H x W x D):	770 x 580 x 420 mm
Weight:	19 kg

Description	PK	Cat. No.
UV sterilisation cabinets Maxi with timer, four UV lights and white light	1	9584774*LLG
Radiation hazard tray yellow, 680 x 540 mm	1	9584788*LLG

## Thermocycler Alpha Cyclers



The Alpha Cyclers systems also contain a novel programme wizard which allows users to define a protocol based specifically on their primer sequence and template source. Primer sequences or T<sub>m</sub>'s are entered, amplicon length and source defined and the on board algorithm generates an optimised protocol for your assay.

- Multi-block units have totally independent blocks for maximum flexibility
- HD Android driven touchscreen interface for simplified programming
- Generate and send instrument reports to diagnose the health of your system and identify any issues before they impact users work
- Lock programs with user defined password
- Alpha Track mobile app allows remote monitoring of run progress

Alpha Track App (free of charge): Track the progress of runs and health of your system remotely via the mobile app.

The Alpha Track Application is used in conjunction with your Alpha Cyclers and allows users to:

- Remotely track the progress of runs
- Send a health report for diagnosis by the technical support team
- Be notified of any issues and prevent system failures before occurring

### Specifications

Block temperature:	+10 to +100 °C
Block uniformity at 55 °C:	±0.3 °C
Temperature accuracy at 55 °C:	±0.25 °C
Max. Heating rate:	3.4 °C/s

Type	Description	Dimensions (W x D x H) mm	PK	Cat. No.
AC196	1 x 96 well block	430 x 260 x 200	1	4658855*LLG
AC296	2 x 96 well blocks	470 x 535 x 330	1	4658857*LLG

## Single PCR tubes with attached caps, PP



0.2 ml and 0.5 ml PCR tubes with attached caps are compatible with leading thermocyclers with heated lids. The caps are easy to open and close without tools, yet ensure a tight fit to reduce sample evaporation. DNase-, DNA- and RNase-free.



Capacity	Description	Colour	PK	Cat. No.
ml				
0.2	domed cap	clear	1000	9409370*LLG
0.2	flat cap	clear	1000	9409371*LLG
0.5	flat cap	clear	1000	9409372*LLG

## 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.

- UV resistant housing
- Fatigue-proof pipetting due to ergonomically shaped handle
- LED display with speed display: High, Low or Gravity mode (for free liquid flow without drive operation)
- Extremely quiet and powerful drive
- Low-Battery LED indicator

**Scope of supply:** Electrical pipette, Charger (5 V micro USB), 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

Description	PK	Cat. No.
LLG-Electrical pipette <i>Plus</i>	1	9281041*LLG

## 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, pyrogen-free and have an increased volume capacity through extra graduations.



- 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

Volume ml	Grad. ml	Colour code	Negative graduations	PK	Cat. No.
1	1/100	yellow	0.3	500	9380440*LLG
2	1/50	green	0.6	500	9380441*LLG
5	1/10	blue	3	200	7930401*LLG
10	1/10	orange	3	200	6268240*LLG
10	1/10	orange (wide mouth)	3	200	9380442*LLG
25	2/10	red	8	150	7930403*LLG
50	5/10	purple	10	100	9380443*LLG

## Cell Culture Flasks EasYFlask™, treated, PS/HDPE, sterile



Cell culture flasks with Nunclon™Δ. Surface modifications are certified pyrogen-free and tested for monolayer formation and cloning efficiency with primary and immortalized cell lines. Sterile. Bottleneck at an angle. Sterile.

Material flasks: Polystyrene

Material caps: HDPE

Cover type: Filter

Neck: Oblique

Working volume ml	Culture surface cm²	Surface	PK	Cat. No.
7	25	Nunclon™	200	9390331*LLG
25	75	Nunclon™	100	9390333*LLG
55	175	Nunclon™*	30	7510686*LLG
70	225	Nunclon™*	30	6236539*LLG

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

## Cell culture flasks TripleFlask Nunclon™Δ Surface, PS/HDPE, sterile



Cell culture flasks with three parallel growth surfaces provide a total culture area of 500 cm² - with external dimensions of a 175 cm² standard flask. Certified pyrogen-free 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

Cover type: Filter

Neck: Straight

Working volume ml	Culture surface cm²	PK	Cat. No.
200	500	32	9390351*LLG

## Filter units, PES membrane, sterile

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
- Pyrogen-free
- Membrane material: Polyethersulfone (PES)



Capacity	Pore size	Neck thread	PK	Cat. No.
ml	µm	mm		
250	0.22	45	12	6267180*LLG
250	0.45	45	12	6267181*LLG
500	0.22	45	12	6267182*LLG
500	0.45	45	12	6267183*LLG
1000	0.22	45	12	6267184*LLG
1000	0.45	45	12	6267185*LLG

## 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.

- Available with 4-, 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
- Pyrogen-free
- Material: Polystyrene

Working volume	Culture surface	No. of wells	PK	Cat. No.
ml	cm²			
1.96	1.96	4	100	4672523*LLG
2.90	9.60	6	100	6267166*LLG
1.14	3.85	12	100	6267167*LLG
0.57	1.93	24	100	6267168*LLG
0.29	0.84	48	100	6267169*LLG
0.20	0.33	96	100	6267170*LLG
0.20	0.58	96	100	6267171*LLG

## Automated cell Counter EVE™ Plus

NanoEnTek



- Fast Counting under 1 sec.
- Wi-Fi Data Transfer
- Storing 500 Results



EVE™ Plus is a benchtop automatic cell counter designed to accurately and precisely measure cell count and viability of different cell cultures. It uses the standard trypan blue technique.

- Fine distinction of clumped cells: Accurate results with advanced analysis algorithm
- Touchscreen interface
- Auto save function up to 500 results
- Data transfer via Wi-Fi
- Acoustic signal after each count

### Specifications

Manual counting time:	1 second or less
Auto focus counting time:	10 seconds or less
Measuring range:	$1 \times 10^4 \sim 2 \times 10^7$ cells/ml
Zählbarer Zellgrößenbereich:	5 ~ 60 µm

Type	PK	Cat. No.
Automated cell Counter EVE™ Plus	1	4669246*LLG

## Slides for automated Cell Counter EVE™

NanoEnTek



Description	PK	Cat. No.
Cell counting slides incl. 1 x 1.5 ml trypan blue (0.4 %) for 100 counts	50	6284818*LLG

## High-performance Greenough Stereo Microscope with LED, SMZ-171 Serie



SMZ-171-TLED

Versatile Stereo microscope for a wide range of biological and material science applications.

- Improved image contrast due to multi-layer lens coating
- ESD compatible set ups available
- Various accessories available
- Observation Tube Binocular -/Phototube 45°, 360° rotating, F.N. 23
- Fixed optical split 50:50
- Widefield adjustable eyepieces WF10X/23 mm, incl. eyecups
- 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	6264087*LLG
SMZ-171-TLED	Trinocular	1	7671016*LLG

## C-Mount camera adapters to SMZ-171 series



Description	PK	Cat. No.
Adapter C-Mount 0.5x	1	7626193*LLG
Adapter C-Mount 0.65x	1	6243486*LLG

## USB Handheld microscope with integrated 2 megapixels camera, D-EL1 ecoline

- With integrated LED illumination and Motic application software
- Sensor CMOS 1/3"
- 2 megapixel with USB 2.0 output
- Illumination 8-LED in ring formation with 2-step brightness control
- Power direct from computer through USB 2.0 connection
- Soft-grip focus wheel
- Direct capture button
- 2 Steps First Magnification 10x-50x. Second magnification at 200x (depending on screen size)
- Motic EcoLine Tool application software
- Can be used on a Mac with preinstalled application Photo Booth



Calibration slide and metal stand included.

Type	PK	Cat. No.
D-EL1 ecoline	1	9727034*LLG

## Microscope Cameras MOTICAM S

The next generation of Moticams offers solutions for a wide variety of applications in digital microscopy. Compact and robust, equipped with high-quality sCMOS sensors with many different resolutions and fast USB 3.1 connection.



Type	Resolution	Sensor format	PK	Cat. No.
S1	1.2 MP (max. 1280 x 950 px)	1/3" sCMOS	1	4672118*LLG
S3	3 MP (max. 2448 x 1536 px)	1/2.8" sCMOS	1	4672119*LLG
S6	6 MP (max. 3072 x 2048 px)	1/1.8" sCMOS	1	4672120*LLG
Pro S5 Lite	5 MP (max. 2448 x 2048 px)	2/3" sCMOS	1	4672121*LLG

## Lens Cleaning Tissues 9963

- Suitable for all kind of oculars
- Silicone-free
- 100 individually sealed tissues in a box
- Incl. clip for wall mounting



Description	PK	Cat. No.
Cleaning tissues 9963	100	6200654*LLG



## Viscosimeters ROTAVISC

Viscosimeters with a large range of functions to determine the viscosity of liquids in all areas of application, ranging from laboratory to quality control. The devices are suited for different viscosity ranges.

- Highest measurement accuracy
- Stepless speed adjustment
- 4.3" TFT display
- Digital level
- Simple ramp function
- With connection for ext. PT100 sensor

### Scope of supply:

Viscosimeter incl. standard spindle set, protective bracket, temperature sensor and ROTASTAND stand.



### Specifications

Rotation speed:	0.01 ... 200 rpm
Temperature range:	-30 ... +300 °C
Accuracy:	1 %
Repeatability:	0.2 %
Stroke max.:	200 mm
Dimensions stand (L x W x H):	351 x 372 x 629 mm
Weight:	7.1 kg
Power supply:	100 ... 240 V, 50/60 Hz
IP code acc. to DIN EN 60529:	IP 40

Type	Viscosity range mPas	Torque mNm	PK	Cat. No.
ROTAVISC lo-vi Complete	1 ... 6,000,000	0.0673	1	4662322*LLG
ROTAVISC me-vi Complete	100 ... 40,000,000	0.7187	1	4662323*LLG
ROTAVISC hi-vi I Complete	200 ... 80,000,000	1.4374	1	4662324*LLG
ROTAVISC hi-vi II Complete	800 ... 320,000,000	5.7496	1	4662325*LLG

## LLG-uniREFRACTO 5 pro



- 3 Scales
- Free Choice from 45 scales



LLG-uniREFRACTO 5 pro is a compact digital 3-scale handheld refractometer for measuring, e.g. Brix and refractive index of liquids. Two scales are pre-set to 0 - 95 % Brix and 1.33 - 1.54 RI, the third scale can be freely selected from more than 45 different scales, including Brix, refractive index, AdBlue®, °Baume, °Butyro, Ethylene Glycol %, Calcium Chloride % and specific gravity. All three scales can be freely selected and changed. The operation is quick and easy, calibration can simply be done with distilled water. The waterproof housing (IP 65) allows cleaning under running water.

- Easy switching between the three scales
- 4-digit LCD display
- Automatic temperature correction
- Sample plate made of stainless steel

**Scope of supply:** Refractometer, protective cover

### Specifications

Resolution:	0.1 % Brix/0.0001 RI
Accuracy:	±0.2 % Brix/±0.0003 RI
Operating temperature:	5 ... 40 °C
Measuring temperature sample:	5 ... 80 °C
Rel. Humidity:	< 95 %
Dimensions (W x D x H):	120 x 55 x 35 mm
Weight:	180 g
Power supply:	2 x AAA/LR03
IP code:	IP 65

Type	PK	Cat. No.
LLG-uniREFRACTO 5 pro	1	6263632*LLG

## Sucrose (Brix) Standards

Certified stabilized Sucrose (Brix) Standards.

- ISO 17025 accredited
- Uncertainty of measurement of 0.11 % for all Brix values at 20 °C
- Equivalent Nominal Refractive Index values from ICUMSA published tables reported on Certificate of Analysis
- Compatible with any brand of Refractometer
- 12 month shelf life
- Provided in high quality HDPE 15 ml dropper bottles



Brix %	Refractive Index at 20 °C	PK	Cat. No.
0	1.332986 nD	1	BS00S*REA
5	1.340264 nD	1	BS05S*REA
10	1.347824 nD	1	BS10S*REA
15	1.355679 nD	1	BS15S*REA
20	1.363842 nD	1	BS20S*REA
30	1.381149 nD	1	BS30S*REA
40	1.399860 nD	1	BS40S*REA
50	1.420087 nD	1	BS50S*REA
60	1.441928 nD	1	BS60S*REA

## Scanning Spectrophotometers Series 72, VIS and UV-Vis



The 72 series spectrophotometers offer measurement modes for single wavelength with basic absorbance and % transmittance; concentration determination (via reference standards or calibration curves with up to 6 standards), full spectrum scanning and kinetics for up to 3 simultaneous wavelength measurements.

The colour touchscreen user interface provides fast and easy set up and navigation of the instrument. The 4" display allows full spectrum scans, quantitation curves and kinetics runs to be viewed easily. The sample chamber lid can also be left open during measurements which is ideal for samples in tall test tubes.

Including two USB ports for data storage and printer connectivity.

- Scanning diode array detector (DAD)
- Colour Touchscreen navigation
- Small footprint and lightweight
- Fast scan speed
- Multiple USB ports for data storage and printer connectivity
- 2 years warranty on the instrument

### Specifications

Optical system:	Single beam
<b>Wavelength Range:</b>	
7200 (VIS):	335 to 800 nm
7205 (UV-VIS):	198 to 800 nm
Resolution:	±2 nm
Repeatability:	±2 nm
Spectral bandwidth:	
7200 (VIS):	7 nm
7205 (UV-VIS):	5 nm
<b>Photometric range:</b>	-0.300 to 2500 A
Accuracy:	±0.01 A at 1.0 A and 546 nm
Stability:	±0.005 A/h bei 0.04 A and 546 nm
Stray Light at 340 nm, %T:	< 1 % T acc. ANSI/ASTM E387-72
<b>Concentration range:</b>	±2500
<b>Quantitation:</b>	±2500
<b>Kinetics:</b>	15 bis 99999 s
<b>Light source:</b>	
7200 (VIS):	Tungsten halogen lamp
7205 (UV-VIS):	Xenon lamp
<b>Outputs:</b>	2 x USB
<b>Dimension (W x D x H):</b>	212 x 422 x 120 mm
<b>Weight:</b>	2.8 kg
<b>Power supply:</b>	100-240 V, 50/60 Hz
<b>Warranty:</b>	2 Years

Description	PK	Cat. No.
Spectrophotometer 7200 (VIS)	1	6283459*LLG
Spectrophotometer 7205 (UV-VIS)	1	6286777*LLG

## LLG-Disposable plastic 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	Operating range nm	PK	Cat. No.
Macro	4.0	10	340 to 900	100	9406011*LLG
Semi-micro	1.6	10	340 to 900	100	9406012*LLG

## Cuvette rack with attached lid, PP



For safe handling and holding up to 12 cuvettes with a 10 mm light path.

Description	PK	Cat. No.
Cuvette rack with attached lid	1	6267353*LLG

## Cuvette rack, PP



Grey. 16 numbered positions.

Width mm	Length mm	Height mm	PK	Cat. No.
70	210	38	1	9145020*LLG

## Microliter pipettes, Transferpette® S, variable, Starter-kits



- **Volume Adjustment Protection**
- **Universal Tip Cone**
- **Fully Autoclavable at 121 °C**

Low operating forces and a short stroke ensure relaxed pipetting, even during long pipetting series.

- One-hand operation for right- and left-handed users
- Volume-change protection
- Easy Calibration technology: Calibration without tools
- Universal tip cone
- Completely autoclavable at 121 °C
- Color code on volume adjustment wheel, shaft and volume-change protection
- DE-M marking



**Starter kit micro:** 3 x pipettes (0.1 - 2.5 µl, 0.5 - 10 µl, 10 - 100 µl), 3 shelf mounts

**Starter kit standard:** 3 x pipettes (0.5 - 10 µl, 10 - 100 µl, 100 - 1000 µl), 3 shelf mounts

**Starter kit midi:** 3 x pipettes (2 - 20 µl, 20 - 200 µl, 100 - 1000 µl), 3 shelf mounts

**Starter kit macro:** 3 x pipettes (100 - 1000 µl, 500 - 5000 µl, 1000 - 10000 µl), 3 shelf mounts

**Pipette package 1:** 5 x pipettes (0.1 - 2.5 µl, 0.5 - 10 µl, 2 - 20 µl, 20 - 200 µl, 100 - 1000 µl), table stand for 6 pipettes

Type	PK	Cat. No.
Starter kit micro	1	9280160*LLG
Starter kit standard	1	9280163*LLG
Starter kit midi	1	9280161*LLG
Starter kit macro	1	9280162*LLG
Pipette package 1	1	9280164*LLG

## LLG-Disposable Reagent reservoirs economy, PS



Made from polystyrol. 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.

- DNase-, RNase- and pyrogen-free certified

Description	Capacity	PK	Cat. No.
	ml		
non-sterile, bulk	25	100	6282144*LLG
sterile, single packed	25	100	6282145*LLG
non-sterile, bulk	50	100	6282146*LLG
sterile, single packed	50	100	6282147*LLG

## LLG-Labware pipette tips, economy 2.0, PP



The new generation of LLG Labware Pipette tips economy.

Available in bulk quantities in bags or in easy-to-open boxes with color coded racks. Racked-tip boxes are delivered in a dispenser, which can be opened from two sides facilitating the use of the product on two work spaces. Compatible with all common pipette brands. You can find the appropriate compatibility list on [www.llg-labware.com](http://www.llg-labware.com) in the Downloads section.

- Improved optical clarity and pipette fit
- Colored coded rack inserts for easy identification
- Graduated (5 and 10 ml tips without graduation)
- Autoclavable
- DNase and RNase free
- Non sterile

Capacity	Colour	Package contents	PK	Cat. No.
µl				
0.1 ... 10	transparent	1000 tips in bag	1000	4668775*LLG
0.1 ... 10	transparent	10 x 96 tips in rack	960	4668776*LLG
1 ... 200	transparent	10 x 96 tips in rack	960	4668778*LLG
1 ... 200	yellow	1000 tips in bag	1000	4668777*LLG
1 ... 200	yellow	10 x 96 tips in rack	960	4668779*LLG
100 ... 1000	transparent	1000 tips in bag	1000	4668780*LLG
100 ... 1000	transparent	8 x 96 tips in rack	768	4668782*LLG
100 ... 1000	blue	1000 tips in bag	1000	4679861*LLG
100 ... 1000	blue	8 x 96 tips in rack	768	4668783*LLG
100 - 5000*	clear	1 bag of 250	250	9409097*LLG
100 - 5000**	clear	1 bag of 250	250	6254364*LLG
1000 - 10000	clear	1 bag of 100	100	9409098*LLG

\*for manual pipettors

\*\*for electronic pipettors

## Storage system "MultiStore"



White, made of highly impact resistant plastic.  
Tilt bins made of crystal clear PS.

- For small components and accessories e.g. in industries, hospitals and laboratories
- Dust-free and clean storage of contents
- Multifunctional for individual storage solutions

Description	External dimensions (W x D x H) mm	Dimensions* (W x D x H) mm	PK	Cat. No.
4 tilt bins	601 x 171.5 x 206	125.5 x 128 x 133.5	1	9301553*LLG
3 tilt bins	601 x 198 x 238	176 x 149 x 161	1	9301554*LLG
2 tilt bins	601 x 310.5 x 353	265 x 221 x 241	1	9301555*LLG

\*Dimensions of each single tilt bin

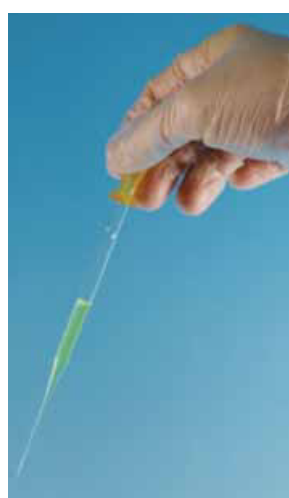
## LLG-Pasteur Pipettes, PE, non-sterile



Graduated.

Capacity	Length	PK	Cat. No.
ml	mm		
1	150	500	4672670*LLG
3	150	500	4672671*LLG

## 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	Acc. to	PK	Cat. No.
mm			
150	ISO 7712	1000	9411015*LLG
230	ISO 7712	1000	9411020*LLG

## LLG-Safety pipette bulb, rubber, red



Chemically resistant rubber. With valves for suction, emptying and air release, controlled by thumb and finger pressure.

Type	PK	Cat. No.
LLG-Safety pipette bulb, normal	1	6270265*LLG
LLG-Safety pipette bulb, universal	1	6270266*LLG

## LLG-Volumetric pipettes, soda glass, class AS, 1 mark, blue graduated



- DIN EN ISO 648, DIN 12687
- Conformity-certified
- With batch date identification
- Calibrated to deliver (EX)
- Ring mark and inscriptions in permanent blue enamel

Nominal capacity	Tolerance	Length	PK	Cat. No.
ml	± ml	mm		
1	0.007	310	10	6272207*LLG
2	0.010	330	10	6272208*LLG
3	0.010	360	10	6272209*LLG
4	0.015	360	10	6272210*LLG
5	0.015	400	10	6272211*LLG
10	0.020	440	10	6272212*LLG
15	0.030	455	10	6272213*LLG
20	0.030	510	10	6272214*LLG
25	0.030	520	10	6272215*LLG
50	0.050	540	10	6272216*LLG

## LLG-Graduated pipettes, soda glass, class AS, type 3



- DIN EN ISO 835, DIN 12699
- Conformity-certified
- With batch date identification
- Calibrated to deliver (EX)
- Ring marks and graduations in permanent blue enamel

Nominal capacity	Graduations	Tolerance	Length	PK	Cat. No.
ml	ml	± ml	mm		
1	0.01	0.007	360	10	6272200*LLG
2	0.02	0.01	360	10	6272201*LLG
5	0.05	0.03	360	10	6272202*LLG
10	0.1	0.05	360	10	6272203*LLG
20	0.1	0.1	450	10	6272204*LLG
25	0.1	0.1	450	10	6272205*LLG
50	0.1	0.2	720	10	6272206*LLG

## Pipette teats

DEUTSCH & NEUMANN | D&N



Natural rubber(NR)/Latex or Silicone (VMQ)

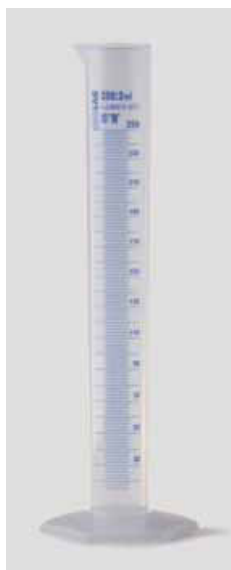
Capacity	Colour	Material	PK	Cat. No.
ml				
2	red	NR/Latex	100	4661160*LLG
2	transparent/white	VMQ	10	9072682*LLG



## Measuring cylinders, PP, tall form, class B, blue graduated



**ISOLAB**  
Laborgeräte GmbH



Tall form, highly transparent, with blue graduations, hexagonal base, calibrated to contain (IN). Tolerances class B according to DIN 12681/ISO 6706. Exposure to temperatures above 60 °C may effect accuracy. Cleaning up to max. 60 °C is recommended to preserve marks and inscriptions.

Capacity	Tolerance	Height	PK	Cat. No.
ml	± ml	mm		
25	0.500	160	1	9274081*LLG
50	1.000	195	1	9274082*LLG
100	1.000	240	1	9274083*LLG
250	2.000	320	1	9274084*LLG
500	5.000	380	1	9274085*LLG
1000	10.000	465	1	9274086*LLG

## Mixing cylinders, borosilicate glass 3.3, tall form, class A, blue graduated



All BLAUBRAND® cylinders are supplied with batch number and one batch certificate per packing unit.

- DIN EN ISO 4788
- DE-M marking
- PP stoppers and hexagonal foot
- Graduations and inscriptions in highly contrasting blue enamel
- Calibrated to contain (IN)

Capacity	Grad.	Height	Neck	PK	Cat. No.
ml	ml	mm	NS		
10	0.2	160	10/19	2	4680315*LLG
25	0.5	190	14/23	2	4680316*LLG
50	1	220	19/26	2	4680317*LLG
100	1	285	24/29	2	4680318*LLG
250	2	350	29/32	2	4680319*LLG
500*	5	395	34/35	2	4680320*LLG
1000*	10	500	45/40	2	4680321*LLG

\* Fitted with PE octagonal stoppers.

## Volumetric trapezoidal flasks, borosilicate glass 3.3, class A, blue graduations



All BLAUBRAND® volumetric flasks are delivered with batch number and one batch certificate included per pack.

- DIN EN ISO 1042
- DE-M marking
- Graduations and inscriptions in highly contrasting blue enamel
- Calibrated to contain (IN)

Nominal capacity	Tolerance	Joint size (NS)	PK	Cat. No.
ml	± ml			
1	0.025	7/16	2	4680322*LLG
2	0.025	7/16	2	4680323*LLG
5	0.025	7/16	2	4680324*LLG
10	0.04	10/19*	2	4680325*LLG
20	0.04	10/19	2	4680326*LLG
25	0.04	10/19	2	4680327*LLG
30	0.06	12/21	2	4680328*LLG

\* Wide neck version

## Volumetric flasks VITLAB® UV-protect, PMP, Class A with NS stoppers, PP



**VITLAB**  
Competence in Laboratory



UV-absorbing, highly transparent. For storing light-sensitive substances. With printed lot number and batch certificate.

- DIN EN ISO 1042
- DE-M marked
- With PP-NS stopper
- Graduation and lettering in high-contrast white
- Adjusted to IN

Capacity	Tolerance	Height	NS	PK	Cat. No.
ml	± ml	mm			
10	0.04	90	10/19	1	9276970*LLG
25	0.04	115	10/19	1	9276971*LLG
50	0.06	150	12/21	1	9276972*LLG
100	0.10	180	14/23	1	9276973*LLG
250	0.15	235	19/26	1	9276974*LLG
500	0.25	270	19/26	1	9276975*LLG
1000	0.40	310	24/29	1	9276976*LLG

## LLG-Disposable syringes, 3-parts, PP, non-sterile, bulk



- Barrel: PP, Plunger: PP and Polyisoprene rubber
- Latex-free, pyrogen-free, DEHP-free, non-toxic
- Suitable for all syringe filters with Luer connection
- Non-sterile, bulk packed in box of 500
- Luer-Lock according to DIN EN 1707
- Luer-Slip according to DIN EN 20594-1

Capacity ml	Nozzle type	PK	Cat. No.
2	Luer-Slip	500	6267267*LLG
5	Luer-Slip	500	6267268*LLG
10	Luer-Slip	500	6267269*LLG
20	Luer-Slip	500	6267270*LLG
2	Luer-Lock	500	6286616*LLG
5	Luer-Lock	500	6286617*LLG
10	Luer-Lock	500	6286618*LLG
20	Luer-Lock	500	6286619*LLG

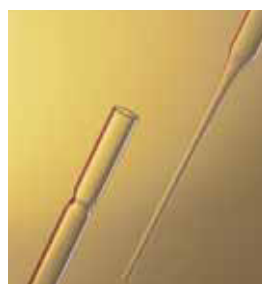
## LLG-2in1 KITs with crimp neck vials ND11 (wide opening)



2in1 KITs contain 100 vials (1.5 ml) and 100 closures in an orange PP-Box. As both components are always required at the same time, 2in1 KITs are a convenient way to obtain and store all required items for analysis. All advantages of the individual components (cleanroom packaging of the vials, recloseability of the packaging, etc.) remain unchanged.

Description	Cover type	PK	Cat. No.
clear	Crimp Cap, silver, hole, Natural Rubber red-orange / TEF transparent	100	6257139*LLG
clear	Crimp Cap, silver, hole, Natural Rubber / Butyl red-orange / TEF transparent	100	9003564*LLG
amber, labelling field	Crimp Cap, silver, hole, Natural Rubber red-orange / TEF transparent	100	9003566*LLG

## NMR Pasteur pipettes, Soda-lime glass



### Extra Long Tip for NMR Applications

Extra long tip, optimal for NMR applications. With constriction, without cotton wool.

Length mm	PK	Cat. No.
300	1000	4672077*LLG
350	1000	4672078*LLG

## NMR tubes, diameter 3 and 5 mm, borosilicate glass 3.3



The NMR tubes are produced with high precision. They are suitable for routine measurements, high-throughput measurements or NMR systems with autosampler at measurement frequencies up to 600 MHz. The tubes are manufactured from borosilicate glass 3.3 which is conform to USP Type I and ASTM E438, Type I, Class A. Please order closing caps separately.

Outer diam. mm	Int. diam. mm	Length mm	Wall thickness mm	PK	Cat. No.
2.95 ± 0.03	2.36 ± 0.03	178	0.29	50	6281792*LLG
2.95 ± 0.03	2.36 ± 0.03	203	0.29	50	6281793*LLG
4.95 ± 0.05	4.19 ± 0.05	178	0.38	100	9400310*LLG
4.95 ± 0.05	4.19 ± 0.05	203	0.38	100	9400311*LLG

## Closing caps for 3 and 5 mm NMR tubes



For	Colour	PK	Cat. No.
3 mm tubes	red	50	6282148*LLG
3 mm tubes	green	50	6282149*LLG
5 mm tubes	red	100	9400312*LLG
5 mm tubes	yellow	100	9400314*LLG

## Syringeless filters SEPARA



SEPARA integrates in a single unit Auto-Sampler vial, filtration membrane, flask and cap/Septa. Low sample loss. The slotted septum cap ensures easy and clean sample transfer, PP vials with Ø 12 x 33 mm, filter volume 0.48 ml, dead volume <30 µl, maximum operating temperature 50 °C

Membrane	Pore size µm	Colour	PK	Cat. No.
Nylon	0.22	light blue	100	6287339*LLG
PTFE	0.22	pink	100	6287340*LLG
Regen. Cellulose	0.22	grey	100	6287341*LLG
PVDF	0.22	yellow	100	6287342*LLG
PES	0.22	light green	100	6287343*LLG
Nylon	0.45	blue	100	6287344*LLG
PTFE	0.45	red	100	6287345*LLG
Regen. Cellulose	0.45	black	100	6287346*LLG
PVDF	0.45	orange	100	6287347*LLG
PES	0.45	green	100	6287348*LLG

## B.safe-Caps Starter Boxes, GL 45, PPS



### Complete Set



6.313 846

Initial equipment for HPLC with b.safe-Caps for bottles with thread GL 45. Furthermore fittings for easy connection of capillary tubing, blind fittings for closing unused connections and air valves for a trouble-free withdrawal of solvents are included. For up to 4 storage bottles.

### Scope of supply:

#### Starter Box 1:

- 3 x b.safe-Cap GL 45 with 2 connections UNF ¼" 28G
- 1 x b.safe-Cap GL 45 with 3 connections UNF ¼" 28G
- 4 x Air valve with service life indicator
- 5 x Fittings yellow for tubing O.D. 3.2 mm
- 1 x Blind fitting

#### Starter Box 2:

- 4 x b.safe-Cap GL 45 with 3 connections UNF ¼" 28G
- 8 x Air valve with service life indicator
- 4 x Fittings yellow for tubing O.D. 3.2 mm
- 4 x Blind fittings

Type	Thread	PK	Cat. No.
Starter Box 1	GL 45	1	6313845*LLG
Starter Box 2	GL 45	1	6313846*LLG

## Exhaust filters for SafetyWasteCaps



4.669 383



6.316 369

The S.C.A.T. active carbon is optimised to adsorb organic solvents, and offers an active filtering surface of 1200 m²/g. Supply pack with change indicator + splash guard

Filter size	Life time	Neck thread	PK	Cat. No.
S	3 months	GL	4	6316369*LLG
M	6 months	14	2	4669383*LLG

## Laboratory bottles, DURAN®, with retrace code, with screw cap



With blue PP screw cap and pouring ring.

Capacity ml	Diam. mm	Height with cap mm	Neck thread GL	PK	Cat. No.
25 *	36	74	25	1	218011453*SCHOTT
50	46	91	32	1	218011753*SCHOTT
100	56	105	45	1	218012458*SCHOTT
250	70	143	45	1	218013651*SCHOTT
500	86	181	45	1	218014459*SCHOTT
1000	101	230	45	1	218015455*SCHOTT
2000	136	265	45	1	218016357*SCHOTT

\*With specially shaped glass edge for improved pouring out (so that an additional plastic pouring ring is not required).

## Hand brushes, PP



- Soft bristles
- To remove fine particles
- Food-safe
- For colour coding
- Autoclavable

Bristle length mm	Overall length mm	Width mm	Height mm	Colour	PK	Cat. No.
50	330	35	110	green	1	4666176*LLG
50	330	35	110	blue	1	4666177*LLG
50	330	35	110	red	1	4666178*LLG
50	330	35	110	white	1	4666179*LLG
50	330	35	110	yellow	1	4666180*LLG

## Dustpans, PP



- Ergonomically designed
- Food-safe
- For colour coding
- Autoclavable

Length mm	Colour	PK	Cat. No.
330	green	1	4666171*LLG
330	blue	1	4666172*LLG
330	red	1	4666173*LLG
330	white	1	4666174*LLG
330	yellow	1	4666175*LLG

## Draining Racks, PE-coated wire



Wall or bench mounting.  
With drip channel and plastic covered feet.

With	Internal dimensions (L x W x H) mm	PK	Cat. No.
60 bars and 5 arches	420 x 160 x 610	1	9003305*LLG
24 bars and 20 arches	420 x 160 x 610	1	9003320*LLG

## Wipes Multiclean®, 3-ply



Handy cleaning cloths, resistant and with high wet strength they are ideal for light and coarse dirt work.  
2 rolls with 500 tears.

Width mm	Length mm	Weight g / m <sup>2</sup>	PK	Cat. No.
220	380	60	2	7618013*LLG
360	380	54	2	7618212*LLG

## Roll holders



With waste bag holder for rolls up to 42 cm width.

Description	PK	Cat. No.
Floor stand	1	6266990*LLG
Wall bracket*	1	6266991*LLG

\* Material for wall mounting included in delivery

## LLG-Laboratory and hygienic tissues, 2-ply, 150 wipes



- Laboratory and hygienic tissues in dispenser box
- Contains 150 white, double-ply tissues, 210 mm x 220 mm
  - Highly absorbent and ultra-soft
  - For sensitive application areas

Wall Mount, wire, white-coated with wall mounting material for packaging up to 70 mm depth.

Description	PK	Cat. No.
Carton of 30 boxes with 150 wipes	30	9413220*LLG
Wall Mount for Laboratory and hygienic tissues	1	9405371*LLG



## Overgoggles uvex super f OTG CR 9169



uvex



- Autoclavable
- Anti-fog Effect
- Allergy and Pollutant Free



- Professional protection of products and humans
- First autoclavable protective overgoggles with anti-fog effect
- Sterile eye protection in every situation
- Autoclavable at least 10 times, 121 °C, 20 minutes
- Innovative design for maximum functionality and wearer comfort
- Overgoggles with unrestricted lateral vision
- Also suitable for use over prescription spectacles
- Non-allergenic material which is free of harmful substances
- Ultra-modern lens technology
- Extremely flexible soft ear pieces
- EN 166
- UV 400
- Weight 37 g

Colour	Lens	Coating	PK	Cat. No.
white / light blue	clear, UV 400, 2C-1,2	uvex supravision clean	1	6268419*LLG

## Cleanroom Wipes ASPURE, polyester

AS ONE



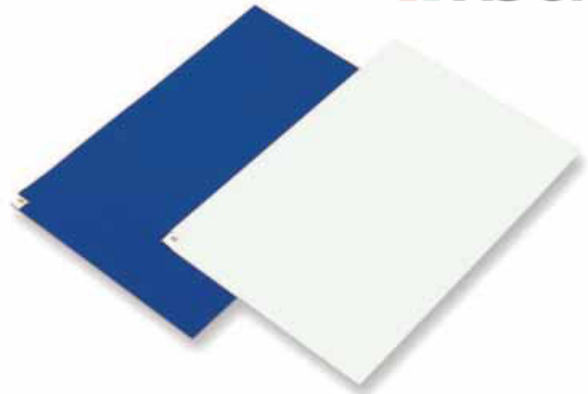
Extremely low particle number and evaporation residues. Laser-cutting techniques minimise the formation of dust and lint on cutting edges. The use of polyester long fibers prevents the generation of lint.

- Knitted, made of 100 % polyester
- Lasercut
- Cleaned with ultrapure water
- Double packed

Dimensions mm	Cleanroom Class	Package contents	PK	Cat. No.
229 x 229	ISO 5	1 x 150 pieces	150	4659070*LLG

## Adhesive Mats ASPURE, MDPE

AS ONE



Removes dust and dirt from shoe soles, in medium adhesive strength at a thickness of 35 µm per layer.

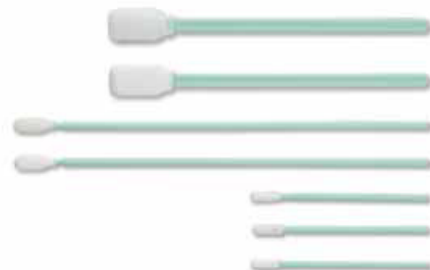
If the top adhesive mat is soiled, you can simply remove this layer and work directly on the next one of the stack. The number of remaining mats on the stack is indicated by the number in the corner.

1 carton with 10 mats, 30 layers.

Colour	Dimensions (D x W) mm	Thickness µm	PK	Cat. No.
blue	450 x 900	35	10	4659087*LLG
blue	600 x 900	35	10	4659088*LLG
blue	600 x 1200	35	10	4659089*LLG
white	450 x 900	35	10	4659092*LLG
white	600 x 900	35	10	4659090*LLG
white	600 x 1200	35	10	4659091*LLG

## Cleanroom-Swabs, PP

AS ONE



Cleanroom class: ISO 5. Cleanroom Swabs with polypropylene shaft and rounded head made of almost particle-free polyurethane or polyester. Packed dustfree in a cleanroom.

Length mm	Head size mm	Material Head	Package	PK	Cat. No.
125	12.7 x 25	PU-foam	double packed	100	4659074*LLG
125	12.7 x 25	Polyester	double packed	100	4659075*LLG
162	6.8 x 16.8	PU-foam	double packed	100	4659076*LLG
162	6.8 x 16.8	Polyester	double packed	100	4659077*LLG
70	4.0 x 12.0	Polyester	1 x 100 pcs.	100	4659078*LLG
70	3.5 x 11.0	PU-foam	1 x 100 pcs.	100	4659079*LLG
70	3.5 x 11.0	Polyester	1 x 100 pcs.	100	4678156*LLG

## Tabletop autoclaves LabStar 25



- Fits on every Laboratory Bench
- Safety Lock at over 80 °C



Small laboratory table-top autoclave with round chamber for sterilization tasks of various kinds. A hinged lid with electromotive locking mechanism in combination with the robust lip seal ensures easy and safe closing of the sterilization chamber. A temperature lock in the liquid program prevents opening at temperatures higher than 80 °C and therefore unwanted boiling delay. For an exact control the autoclave has an electronic absolute pressure sensor and a flexible temperature sensor PT100 Kl. A.

- Loading capacity: 10 media bottles or 6 Erlenmeyer flasks (500 ml)
- Safe and simple locking device
- Completely made of stainless steel

**For operation the basic unit plus one of the equipment versions is required.**

### Equipment versions

**Basic Lab:** With heating elements. For the sterilization of simple materials or liquids without dry removal.

**Dry Lab:** With heating elements, membrane-vacuum pump. For the sterilization of non-infectious waste bags and materials which require intensive subsequent drying.

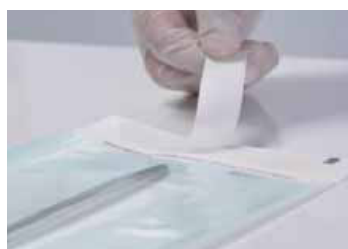
**Quick Lab:** With heating elements, water-cooling system, internal heat exchanger, membrane-vacuum pump. For the sterilization of non-infectious waste bags, large quantities of liquids and materials which require intensive subsequent drying.

### Specifications

Chamber volume:	25 l
Permissible operating pressure:	3.8 bar absolute
Permissible operating temperature:	140 °C
Heat output:	2.5 kW
Chamber dimensions (Ø x D):	300 x 360 mm
Outer dimensions (W x D x H):	450 x 640 x 525 mm
Weight basic unit:	45 kg
Power supply:	240 V, 50 Hz, 16 A

Description	PK	Cat. No.
Basic unit	1	4672349*LLG
Equipment version Basic Lab	1	4672350*LLG
Equipment version Dry Lab	1	4672351*LLG
Equipment version Quick Lab	1	4672353*LLG

## Self-Seal Sterilization Pouches



Self-seal sterilization pouches are pre-folded and assure accurate and fast closing without the requirement of a heat sealing device.

- Triple band seal for higher package integrity

Dimensions	PK	Cat. No.
mm		
75 x 200	200	6272280*LLG
90 x 230	200	6272281*LLG
90 x 270	200	6272282*LLG
130 x 290	200	6272283*LLG
190 x 340	200	6272284*LLG
300 x 430	200	6272285*LLG

## Sterilisation rolls



Heat sealable sterilisation rolls with and without side gusset.

Description	Width	Length	PK	Cat. No.
	mm	m		
flat	50	200	1	6272250*LLG
flat	75	200	1	6272251*LLG
flat	100	200	1	6272252*LLG
flat	150	200	1	6272253*LLG
flat	200	200	1	6272254*LLG
flat	250	200	1	6272255*LLG
flat	300	200	1	6272256*LLG
flat	350	200	1	6272257*LLG
flat	400	200	1	6272258*LLG
flat	500	200	1	6272259*LLG
gusseted	75	100	1	6272260*LLG
gusseted	100	100	1	6272261*LLG
gusseted	150	100	1	6272262*LLG
gusseted	200	100	1	6272263*LLG
gusseted	250	100	1	6272264*LLG
gusseted	300	100	1	6272265*LLG
gusseted	350	100	1	6272266*LLG
gusseted	400	100	1	6272267*LLG

## Indicator tape for steam sterilisation



Crepe paper, adhesive. With indicator. Colour changes according to DIN EN ISO 11140-1. Rolls of 50 m.

colour change	Width	PK	Cat. No.
	mm		
green / black	19	1	9140784*LLG
white / black	25	1	9140789*LLG

## Vacuum measuring instrument VACUU-VIEW



VACUU-VIEW



VACUU-VIEW extended

The rough vacuum gauge VACUU-VIEW covers the measuring range from atmospheric pressure down to 0.1 mbar very precisely. The combined rough and fine vacuum gauge VACUU-VIEW extended works in the enhanced range from atmosphere down to  $10^{-3}$  mbar. The illuminated displays of both vacuum gauges enable comfortable reading.

- Compact design with integrated sensors for useful setup in laboratory and process
- Chemically resistant, heavy duty vacuum sensors, highly reliable at harsh laboratory conditions even in case of very aggressive chemicals
- High repeatability and long-term accuracy under all typical conditions reliable and repeatable results
- Display with menu driven handling, easy to use e.g. for unit settings
- Compatible to gauge DCP 3000 and controller CVC 3000 or VACUU-SELECT
- The product is delivered ready for use

### VACUU-VIEW

Chemically resistant ceramic diaphragm sensor for measurement in the rough vacuum range. VACUU-VIEW provides gas-independent pressure indication with precise capacitive readout. Highest precision and chemical resistance in the range from atmosphere down to 0.1 mbar, a perfect gauge for all rough vacuum applications.

### VACUU-VIEW extended

The heavy duty combination of ceramic diaphragm sensor and ceramic jacketed Pirani sensor ensures reliable readings in the wide range from atmosphere down to  $10^{-3}$  mbar. Precision and chemical resistance in an exceptionally wide range, one gauge covers all applications in the fine and rough vacuum range

### Specifications

Chamber volume:	25 l
Permissible operating pressure:	3.8 bar absolute
Permissible operating temperature:	140 °C
Heat output:	2.5 kW
Chamber dimensions (Ø x D):	300 x 360 mm
Outer dimensions (W x D x H):	450 x 640 x 525 mm
Weight basic unit:	45 kg
Power supply:	240 V, 50 Hz, 16 A

Type	Plug type	PK	Cat. No.
VACUU-VIEW	EU, UK, CH	1	6268865*LLG
VACUU-VIEW extended	EU, UK, CH	1	6268864*LLG

## Mini-Diaphragm vacuum pumps LABOPORT® N96, chemically-resistant

The Pump combines a high flow rate with a very compact design. Suitable for filtration, SPE, and liquid aspiration using a vacuum. Due to the manual rotational speed control, the pump is quiet, very energy efficient, and can be optimally adjusted in accordance with the application.



- Easy-to-clean surface
- Very small footprint
- Adjustable in flowrate due to manual rotational speed control
- PTFE-coated diaphragm for use with aggressive/corrosive gases and vapors

### Specifications

Ultimate vacuum (abs.):	<130 mbar
Operating pressure:	2.5 bar
Connectors for tube:	ID 6 mm
Permissible ambient temperature:	5 ... 40 °C
Pump head:	PPS
Diaphragm:	PTFE coated
Valves:	FKM
Dimensions (W x D x H):	75 x 156 x 119 mm

Type	Flow rate L / min.	Ultimate vacuum mbar (abs).	PK	Cat. No.
N96	7	130	1	4672374*LLG

## Diaphragm vacuum pumps LABOPORT® N820G/N840G, chemically-resistant

The compact pumps feature a control knob for manual adjustments of the flow rate, making them well suited to a wide variety of applications, e.g. rotary evaporation, distillation, gel drying, degassing as well as the use with vacuum ovens and vacuum concentrators. Due to the manual rotational speed control, the pumps are quiet, very energy efficient, and can be optimally adjusted in accordance with the application.



N820G

- Easy-to-clean surface
- Adjustable in flow rate due to manual rotational speed control
- Combination of PTFE pump head and PTFE-coated diaphragm makes the pump ideal for extremely aggressive/corrosive gases and vapors
- High level of compatibility with vapor and condensation
- Integrated gas ballast valve
- 3-color status display: In operation/Stand-by/Error
- ATEX-compliant in accordance with II 2/-G IIB+H2 T3 internal atmosphere only
- 100 % oil-free transfer to ensure uncontaminated transfer, evacuation and compression
- Optional: Easily expandable with separators and/or condensers

### Specifications

Ultimate vacuum (abs.):	6 mbar
Operating pressure:	0.1 bar
Connectors for tube:	ID9/10 mm
Permissible ambient temperature:	5 ... 40 °C
Pump head:	TFM™ PTFE
Diaphragm:	PTFE-beschichtet
Valves:	FFPM
Dimensions N820G (W x D x H):	163 x 259 x 220 mm
Dimensions N840G (W x D x H):	177 x 289 x 240 mm

Type	Flow rate L / min.	Ultimate vacuum mbar (abs).	PK	Cat. No.
N820G	20	6	1	4672375*LLG
N840G	34	6	1	4672376*LLG

# Mixing and Stirring

## Platform shaker Mini-100 Orbital-Genie®

Benchtop orbital shaker with non-slip, rubber-coated platform and spill-proof edges for gentle shaking.

- Variable shaking speed up to 100 rpm
- Also suitable for use in cold rooms and incubators (not for CO<sub>2</sub> incubators)
- Further platform optionally available

**Scope of delivery:**  
Shaker incl. platform



### Specifications

Type of movement:	orbital
Orbit:	19 mm
Speed range:	20 ... 100 rpm
Max. Load:	3 kg
Working temperature:	0 ... 38 °C
Platform dimensions (W x D):	290 x 290 mm
Overall dimensions (W x D x H):	350 x 350 x 85 mm
Net weight:	3.5 kg

Type	Plug type	PK	Cat. No.
Mini-100 Orbital-Genie	EU	1	4667502*LLG
Mini-100 Orbital-Genie	UK	1	4667503*LLG
Mini-100 Orbital-Genie	CH	1	4667504*LLG

## Platform for Mini-100 Orbital-Genie®



Non-slip tray that extends the capacity of Mini-100 Orbital-Genie® shakers. 2 platforms can be stacked.

Type	Height	PK	Cat. No.
	mm		
Platform for Mini-100 Orbital-Genie®	114	1	4667548*LLG

## LLG-Magnetic stirring bars, cylindrical, PTFE, eco pack



Circular, smooth and PTFE-coated.  
Packaging size: 10 pieces



Diam.	Length	PK	Cat. No.
mm	mm		
3	12	10	9198766*LLG
6	15	10	9198919*LLG
6	20	10	9198920*LLG
6	25	10	9198925*LLG
8	25	10	9198767*LLG
6	30	10	9198930*LLG
6	35	10	9198935*LLG
8	40	10	9198940*LLG
8	45	10	9198945*LLG
8	50	10	9198950*LLG
9	60	10	9198960*LLG
9	70	10	9198970*LLG
9	80	10	9198980*LLG

## Magnetic stirrer IKA Plate (RCT digital)



With glass surface. The control can be optimized by regular firmware updates. The integrated timer and counter function supports the control of kinetics and sensitive reactions.

- Alteration of the stirring direction possible
- Heating plate made of aluminium alloy for optimum heat transmission
- Clearly arranged LCD display
- Housing made of glass for optimum cleaning and chemical resistance
- Temperature control directly in the medium with PT 1000 temperature sensor
- Adjustable safety circuit up to 360 °C
- IKA SmartTemp® function prevents users from burn injuries
- Timer
- USB-/RS232 interface
- 10 years warranty

**Scope of supply:** Magnetic stirrer incl. temperature sensor PT1000

### Specifications

Max. stirring quantity (H <sub>2</sub> O):	20 l
Motor rating input/output:	50 W/9 W
Speed range:	50 to 1500 rpm
Max. stirring bar length:	80 mm
Heating power:	600 W
Heating rate (1 l H <sub>2</sub> O):	7 K/min
Temperature range:	ambient +10 to 310 °C
Heat control accuracy at 100 °C:	±5 K
Safety circuit:	50 to 360 °C
Connection for ext. temp. sensor:	PT1000, ETS-D5, ETS-D6
Control accuracy with sensor PT1000, ETS-D5/ETS-D6:	±0.5 K/±0.2 K
Set-up plate Material:	Aluminium alloy
Set-up plate Dimensions:	diam. 135 mm
IP class acc. to DIN EN 60529:	IP 42
Overall dimensions (W x D x H):	160 x 270 x 85 mm
Weight:	2.4 kg
Power supply:	220-230/115/100 V, 50/60 Hz

Type	PK	Cat. No.
IKA Plate (RCT digital)	1	6286692*LLG

## LLG-Magnetic Stirring Bar Retrievers, PTFE



PTFE-encapsulated stirring bar retriever with strong permanent magnet (Alnico 5), universal chemical resistance. Lower end diameter 10 mm.

Diam.	Length	PK	Cat. No.
mm	mm		
8	150	1	9197717*LLG
8	250	1	9197725*LLG
8	300	1	4008501*LLG
8	350	1	9197735*LLG



## pH meter LAB 845



**Complete Set**

**SI Analytics**



Due to the intuitive operation and robust aluminum housing the pH-Meter LAB 845 is perfect for training and routine purposes.

- Made in Germany
- USB Interface
- Data logger (storage of up to 4000 entries: Date, time, main measured value, secondary measured value, measured temperature) with adjustable interval
- Numerical password protection
- Selectable user language (German, English, French and Spanish)
- Configurable turn-off time
- Sturdy aluminium housing
- Graphic LCD display, backlit

0-14 pH, BL25pH and BL29pH with gel electrolyte, BL19pH with liquid electrolyte KCl 3 mol/l.

BlueLine BL19pH: refillable, with PT1000 temperature sensor  
BlueLine BL25pH: non-refillable, without temperature sensor  
BlueLine BL29pH: non-refillable, with PT1000 temperature sensor

**Scope of supply:** pH meter, stand, mains adapter, electrode as indicated, 6 DIN buffers (2 x pH 4.01, 2 x pH 6.87, 2 x pH 9.18)

Specifications	Measuring range // Resolution // Accuracy
pH:	0 - 14 // 0.01 // $\pm 0.01$ ( $\pm 2$ at calibration point)
mV:	-1999 ... 1999 mV // 1 mV // $\pm 0.3$ mV
ISE:	0 ... 30000 ppm
Temperature:	-10 ... 100 °C // 0.1 °C // $\pm 0.1$ °C
Temperature compensation:	automatic with PT1000 or fix temperature

Description	PK	Cat. No.
Lab 845 set with BlueLine electrode BL19pH	1	6281380*LLG
Lab 845 set with BlueLine electrode BL25pH	1	6281620*LLG
Lab 845 set with BlueLine electrode BL29pH	1	6281621*LLG

## LLG-pH Meter 5



**Complete Set**



The LLG-pH meter 5 is a very easy to use pH/mV/°C handheld meter. The pH value and temperature can be stored directly on the SD card (Excel file) or transferred directly from the pH meter to a PC via the RS-232 interface.

- Gel filled pH electrode with external temperature sensor with 1 m cable
- BNC connector
- Automatic temperature compensation (ATC)
- Large, easy-to-read LCD display
- 3 point calibration
- Suitable for all standard SD cards up to 16 GB

Please order batteries separately (6 x 1.5 V AA)  
Optional: power cable, PC connection cable, PC software

**Scope of supply:** pH meter, pH electrode with temperature sensor, buffers pH 4 and pH 7, 4 GB SD-Memory card, transport case

### Specifications

Measuring range pH:	0 ... 14
pH resolution:	0.01
pH accuracy:	$\pm 0.02 + 2d$
Ambient conditions:	0 ... 50 °C, max. 85 % r.H.
Temperature range electrode:	0 ... 60 °C
Dimensions (W x D x H):	68 x 177 x 45 mm
Weight:	490 g
Power supply:	6 x 1.5 V AA batteries/ 9 V mains adapter (optional)
IP code:	IP 51
Warranty:	3 years (1 year on the electrode)

Type	PK	Cat. No.
LLG-pH Meter 5	1	6263691*LLG

## LLG-pH-Buffer solutions with colour coding in twin-neck dispensing bottles

The ready-to-use buffer solutions offer excellent quality, precision and advantages in use. The calibration vessel, integrated into the twin-neck dispensing bottles, allows the particularly economical dispensing of solution and prevents contamination.



- Accuracy  $\pm 0.01$ , tested and certified at 25 °C
- Temperature dependence data table printed on the label
- Traceable to NIST
- Shelf-life: 24 months (pH 7 and 10) or 36 months (pH 4) from date of production
- Colour-coded



pH-value at 25 °C	Colour	Capacity ml	PK	Cat. No.
4.00	Red	250	1	9040868*LLG
7.00	Yellow	250	1	9040869*LLG
10.00	Blue	250	1	9040871*LLG

## Data Logger EBI 20-T1/EBI 20-TE1



## For Transport and Storage Monitoring

### Applications:

- Transport
- Storage monitoring
- Refrigeration areas and cold rooms

### Features:

- Waterproof
- Visual alarm
- Max/min values on display
- Stores 40000 readings, can be read off at any time
- Replaceable battery

### Scope of supply:

**EBI 20-T1:** Temperature Logger

**EBI 20-T1-Set:** Temperature Logger, evaluation software, Interface

**EBI 20-TE1:** Temperature Logger with external probe

**EBI 20-TE1-Set:** Temperature Logger with external sensor, evaluation software, Interface

### Specifications

Measuring range

-30 to +70 °C

temperature:

Accuracy temperature:

±0.5 °C (-20 to +40 °C); ±0.8 °C for remaining measuring range

Resolution temperature:

0.1 °C

Memory:

40000 samples

Measuring period:

1 minute to 24 hours

Measuring mode:

immediate loop measurement, measurement from starting point, start immediately until memory full, start/stop measuring, start when button pressed

Power supply:

3 V lithium (CR 2450), can be replaced by user

IP code:

IP 67

Housing:

ABS

Dimensions (L x W x H):

69 x 48 x 22 mm

Type	PK	Cat. No.
EBI 20-T1	1	9908069*LLG
EBI 20-T1-Set	1	9908073*LLG
EBI 20-TE1	1	6228382*LLG
EBI 20-TE1-Set	1	6240382*LLG

## LLG-General purpose thermometers economy



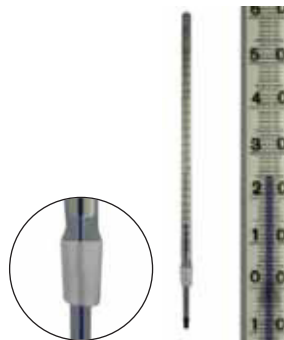
Solid stem, with loop, capillary yellow enameled, graduation resistant against acids and alkalis.

Red filling or environmentally friendly blue filling.

Length: 300 mm. Diameter: 6 mm.

Measuring range	Graduations	Immersion depth	Charge	PK	Cat. No.
°C	°C		colour		
-10 ... 50	1	Total	Red	1	9237010*LLG
-10 ... 100	1	Total	Red	1	9237011*LLG
-10 ... 150	1	Total	Red	1	9237012*LLG
-10 ... 200	1	Total	Red	1	9237013*LLG
-10 ... 250	1	Total	Red	1	9237014*LLG
-10 ... 110	1	76 mm	Blue	1	9237015*LLG
-10 ... 110	0.5	76 mm	Blue	1	9237016*LLG
-10 ... 150	1	76 mm	Blue	1	9237017*LLG
-10 ... 250	1	76 mm	Blue	1	9237018*LLG
-10 ... 360	2	76 mm	Blue	1	9237019*LLG

## Thermometers, ground glass joint

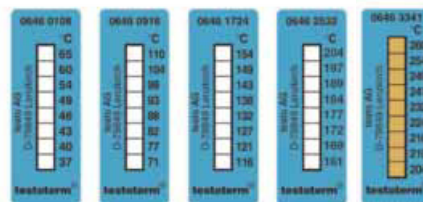


With NS 14.5/23 cone. Enclosed-scale type, Translucent glass scale. Upper section approx. 11 mm diameter, lower section 7.5 mm diameter. Richter-top finish seal without button.

Measuring range	Graduations	Corpus	Immersion depth	Charge	PK	Cat. No.
°C	°C	mm	mm	colour		
-10 ... 15	0.5	350	52	Red	1	9236022*LLG
-10 ... 25	1	300	52	Blue	1	9236023*LLG
-10 ... 360	1	350	52	Green	1	9236024*LLG
-10 ... 150	1	250	77	Red	1	9236025*LLG
-10 ... 150	0.5	350	77	Red	1	9236026*LLG
-10 ... 250	1	300	77	Blue	1	9236027*LLG
-10 ... 360	1	350	77	Green	1	9236028*LLG

(Built-in length = Immersion depth + 23 mm for ground joint)

## 8-step irreversible temperature strips testoterm®



Strips for 8 temperatures. 5 types cover the measuring range 37 to 260 °C, each strip displays 8 different temperatures. Each strip measures 50 x 18 mm.

Measuring range	PK	Cat. No.
°C		
37 ... 65	10	9246002*LLG
71 ... 110	10	9246003*LLG
116 ... 154	10	9246004*LLG
161 ... 204	10	9246005*LLG
204 ... 260	10	9246006*LLG

## Laboratory coat AlphaTec® 2000, model 209



Laboratory coat made of microporous polyethylene laminate fleece

- Protection against spray liquids and fine dust with low hazard
- CATEGORY III (Type PB (6) -B, EN 14126)
- High wearing comfort
- Permeable to water vapour ("breathable")
- Low lint
- Front zip
- 1 breast pocket
- 1 side pocket
- Felled seams

Material: polyethylene laminate fleece  
Colour: white  
Weight: 63 g/m<sup>2</sup>

Size	PK	Cat. No.
S	60	4661356*LLG
M	60	4661357*LLG
L	60	4661358*LLG
XL	60	4661359*LLG

## Chemical Protection Glove Ultranitril 381, Nitrile

EN ISO 374-1  
Type A  
EN ISO 374-5



Chemical protective glove made of nitrile with glued cotton liner for long term comfort. Anatomic shape. Z-pattern-profile for safe grip of wet things. More dexterity due to the glued cotton knit lining, which offers excellent comfort and thermal insulation. Excellent resistance against oils, greases and many solvents. 1 pair per pack.

Length: 355 mm  
Thickness: 0.85 mm  
Colour: Green  
CE: **Cat. III**

Size	PK	Cat. No.
S (7)	1	9005206*LLG
M (8)	1	9005207*LLG
L (9)	1	9005208*LLG
XL (10)	1	9005209*LLG
XXL (11)	1	9005199*LLG

## Disposable face mask activaMask®



- Bacterial Filtration efficiency > 98 %
- Integrated Nose Clip
- Three Layers of Protection, Latex free
- Type II R



Disposable face mask with earloops.

- Three layers of protection, polypropylene
- Integrated nose clip
- Bacterial filtration efficiency >98 %
- Latex free, glass fibre free
- EN 14683 Type II R
- Made in Germany

Colour	Width	Length	PK	Cat. No.
	mm	mm		
Blue/white	95	175	50	6316787*LLG

# LABORTOPS

## Air purifier ap360

grant



- **Protects Against Infections**
- **Ozone Free**
- **Low Noise Level**

The Air purifier ap360 protects from airborne infection by removing aerosols and also cleans the air from dust, pollen and many other allergens. Suitable for personal protection in laboratories, medical settings and production rooms.

- Efficient 360° air recycling of a 90 m<sup>3</sup> room four times in an hour, eliminating 99.95 % of known viruses (including coronaviruses)
- With a medical grade, high capacity HEPA13 filter (acc. to EN 14644)
- 2 powerful UVC lamps for destroying bacteria and viruses by damaging their RNA and DNA, which avoids replication
- Ozone free
- Low noise level
- With lockable castors for safe and easy handling

### Specifications

Filters:	Pre-filter H13 (EN 1822)
UV radiation source:	2 UV lamps, 55 W bactericidal, TU PL-L 55W UV-C
UV irradiance:	156 uW/cm <sup>2</sup> /s at 1 m (Philips)
Radiation type:	UV ( $\lambda = 253.7$ nm)
UV lamp service life	9000 h
Air flow:	360 m <sup>3</sup> /h
D90 dose:	280 J/m <sup>2</sup>
Timer:	1 min ... 24 h, continuous
Noise level:	max. 66 db
Dimensions (W x D x H):	350 x 350 x 1050 mm
Weight:	13.4 kg
Power supply:	120/230 V, 50/60 Hz



Type	PK	Cat. No.
ap360	1	4679869*LLG