Lab Unlimited
CARL STUART GROUP
A CALIBRE SCIENTIFIC COMPANY

LLG
LABWARE

Edition 3

Your Lab is Our Mission!
Lab Instruments and Consumables

Great Quality!

Excellent Value!

LLG LABWARE

®

Great Quality! Excellent Value!

Page 61

Page 171

Page 170

Page 27

Page 74

Page 156

Page 110

Page 139

Page 142

Page 181

Page 182

Page 90

Page 154

Contents

Abbreviation key:

PK = packaging unit
E & OE = Errors and omissions excepted
= Large pack. Price per pack. Pay attention to the pack content.

PEFC
PEFC/04-31-1334

Contents

Contents

Alphabetical index

Alphabetical index

Alphabetical index

1   Beakers, Borosilicate glass 3.3, low form

DIN 12 331. ISO 3819. With approximate graduations and spout.

Capacity	Ext. diam.	Height		PK	Cat. No.
ml	mm	mm			
5*	22	30		10	**9.013 905**
10*	26	35		10	**9.013 906**
25*	34	50		10	**9.013 900**
50	42	60		10	**9.013 901**
100	50	70		10	**9.013 902**
150	60	80		10	**9.013 903**
250	70	95		10	**9.013 904**
400	80	110		10	**9.013 910**
600	90	125		10	**9.013 911**
800	100	135		10	**9.013 912**
2000	130	185		10	**6.270 091**
5000	170	270		1	**6.280 298**

*without graduation

2   Beakers, Borosilicate glass 3.3, tall form

DIN 12 331. ISO 3819 with approximate graduations and spout.

Capacity	Ext. diam.	Height		PK	Cat. No.
ml	mm	mm			
25*	30	55		10	**9.013 924**
50	38	70		10	**9.013 925**
100	48	80		10	**9.013 920**
150	54	95		10	**9.013 921**
250	60	120		10	**9.013 922**
400	70	130		10	**9.013 923**
600	80	150		10	**9.013 930**
800	90	175		10	**9.013 931**
1000	95	180		10	**9.013 932**
2000	120	240		10	**6.270 117**
3000	135	280		6	**9.013 934**

*without graduation

3   LLG-Griffin beakers, PP

According to ISO 7056. Printed blue graduations.

Capacity	Grad.	Diam.	Height		PK	Cat. No.
ml	ml	mm	mm			
25	5	32	47		2	**9.013 670**
50	10	39	60		2	**9.013 671**
100	10	50	70		2	**9.013 672**
250	25	67	93		2	**9.013 673**
500	50	88	119		2	**9.013 674**
1000	50	109	147		2	**9.013 675**
2000	100	133	184		1	**9.013 676**

4   LLG-Measuring jugs, PP

According to ISO 7056. Printed blue graduations. Stackable.

Capacity	Grad.	Diam.	Height		PK	Cat. No.
ml	ml	mm	mm			
250	5	75	115		2	**9.013 680**
500	10	100	137		2	**9.013 681**
1000	10	125	167		2	**9.013 682**
2000	20	148	217		1	**9.013 683**
3000	25	170	244		1	**9.013 684**

E & OE.

General laboratory consumables
Vessels/Flasks

1   **1**   **Erlenmeyer flasks, Borosilicate glass 3.3, narrow neck**

DIN ISO 1773 with graduations and beaded rim.

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	85		10	**9.141 080**
100*	22	64	105		1	**6.228 110**
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**
2000	50	166	280		10	**6.270 089**
3000	50	187	310		1	**6.270 118**
5000	50	220	365		1	**6.270 119**

* without scale

2   **2**   **Erlenmeyer flasks, Borosilicate glass 3.3, wide neck**

DIN ISO 24450 with graduations and beaded rim.

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**
2000	69	166	280		10	**6.270 181**
3000	69	187	310		1	**6.281 125**

3   **3**   **Erlenmeyer flasks, NS neck, borosilicate glass 3.3**

Borosilicate glass 3.3. Conformed to DIN EN ISO 4797. NS necks are in compliance with DIN 12242 standards. Inscriptions are in white enamel which is specially designed for glass use.

Capacity	Socket	Height		PK	Cat. No.
ml	NS	mm			
50	14/23	85		1	**9.141 105**
50	19/26	85		1	**9.141 106**
50	29/32	85		1	**9.141 107**
100	14/23	100		1	**9.141 108**
100	29/32	100		1	**9.141 109**
250	29/32	140		1	**9.141 110**
300	29/32	156		1	**9.141 111**
500	29/32	175		1	**9.141 112**
1000	29/32	220		1	**9.141 113**

4   **4**   **Erlenmeyer flasks, NS neck, borosilicate glass 3.3, amber**

Borosilicate glass 3.3, amber. Conformed to DIN EN ISO 4797. NS necks are in compliance with DIN 12242 standards.

Capacity	Socket	Height		PK	Cat. No.
ml	NS	mm			
50	29/32	85		1	**9.140 400**
100	29/32	100		1	**6.258 244**
250	29/32	140		1	**6.258 150**
500	29/32	175		1	**6.255 806**
1000	29/32	220		1	**9.140 401**
2000	29/32	270		1	**9.140 402**

E & OE.

1   Erlenmeyer flasks, 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 ºC.
Food-safe product according to EC Directive No. 10/2011.

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

2   Stabilizing/Weighting rings, lead

LAB-Rings to stabilise glassware and plasticware on shakers or to immerse in water baths.
Vinyl-coated lead rings will not mark or scratch benchtops and labware.

Type	For flasks	Int. diam.	PK	Cat. No.
	ml	mm		
O-Shape	5 - 10	18	1	**7.072 085**
O-Shape	125 - 500	48	1	**6.243 010**
O-Shape	250 - 1000	51	1	**6.242 742**
O-Shape	500 - 2000	57	1	**6.243 011**
O-Shape	1000 - 4000	70	1	**7.054 161**
C-Shape	125 - 500	42	1	**9.149 902**
C-Shape	250 - 1000	51	1	**9.149 905**
C-Shape	500 - 2000	54	1	**9.149 906**
C-Shape	1000 - 4000	66	1	**9.149 907**

3   LLG-Test tubes, Fiolax® glass

Round bottom test tubes made of high quality Fiolax® glass with beaded rim.

Diam.	Height	Wall thickness	PK	Cat. No.
mm	mm	mm		
8	70	0.5	100	**7.190 001**
10	100	0.5	100	**6.234 026**
12	75	0.5	100	**7.613 795**
12	100	0.5	100	**7.190 011**
14	130	0.5	100	**7.606 374**
16	130	0.6	100	**7.606 375**
16	160	0.6	100	**7.190 021**
18	180	0.6	100	**7.190 023**
20	120	0.6	100	**7.617 551**
20	180	0.6	100	**7.190 028**
20	180	0.6	100	**7.616 579**

4   LLG-Test tubes, AR® soda-lime glass

Test tubes with round bottom made out of AR®-Glass. Hydrolytic resistance: Class HGB 3 acc. to ISO 719, Type III acc. to C - USP.

Diam.	Height	Wall thickness	Description	PK	Cat. No.
mm	mm	mm			
8	70	0.5	with beaded rim	100	**6.201 034**
10	100	0.5	with beaded rim	100	**6.801 073**
12	100	0.5	with beaded rim	100	**7.607 198**
14	130	0.5	with beaded rim	100	**6.800 620**
16	130	0.6	with beaded rim	100	**6.800 382**
16	160	0.6	with beaded rim	100	**7.600 405**
20	180	0.6	with beaded rim	100	**7.607 778**
25	150	0.9	with beaded rim	50	**6.800 621**
30	200	0.9	with beaded rim	50	**7.600 324**
30	100	1.0	without rim	100	**6.267 806**
15	100	1.0	without rim	100	**7.651 872**
16	120	1.0	without rim	100	**7.651 871**
18	130	1.0	without rim	100	**7.652 552**

1 Test tubes with spout, AR® soda glass

With spout and round bottom. 0.1 ml graduations.

Diam.	Height	Wall thickness		PK	Cat. No.
mm	mm	mm			
12	110	0.70		1	**9.190 305**
13	160	1.00		1	**9.190 310**
15	200	0.90		1	**9.190 320**

2 LLG-Stoppers with turn-over flange

Manufactured from rubber or silicone. These stoppers guarantee perfect sealing even with poorly finished rims on glass or plastic bottles. The top of the stopper has a septum which can be punctured by a hypodermic needle. Very secure fit prevents accidental opening of the flask.

Diam.	PK	Cat. No.
mm		
7.1	10	**6.267 396**
10.2	10	**6.267 397**
12.7	10	**6.267 398**
14.9	10	**6.267 399**
15.9	10	**6.267 400**
19.4	10	**6.267 401**
23.7	10	**6.267 402**
30.7	10	**6.267 403**

3 LLG-Stoppers for test tubes, PE

For tubes diam.	Colour	PK	Cat. No.
mm			
12 to 13	neutral	100	**9.231 270**
12 to 13	blue	100	**9.231 271**
12 to 13	yellow	100	**9.231 272**
12 to 13	red	100	**9.231 273**
12 to 13	green	100	**9.231 274**
15 to 16	neutral	100	**9.231 275**
15 to 16	blue	100	**9.231 276**
15 to 16	yellow	100	**9.231 277**
15 to 16	red	100	**9.231 278**
15 to 16	green	100	**9.231 279**

4 Rubber stoppers

DIN 12871. Solid.

Bottom diam.	Top diam.	Height		PK	Cat. No.
mm	mm	mm			
3.5	6.5	15		1	**9.230 203**
5.0	9.0	20		1	**9.230 205**
8.0	12.0	20		1	**9.230 208**
10.5	14.5	20		1	**9.230 210**
12.5	16.5	20		1	**9.230 212**
14.0	18.0	20		1	**9.230 214**
17.0	22.0	25		1	**9.230 217**
18.0	24.0	30		1	**9.230 218**
21.0	27.0	30		1	**9.230 221**
23.0	29.0	30		1	**9.230 223**
26.0	32.0	30		1	**9.230 226**
29.0	35.0	30		1	**9.230 229**
31.0	38.0	35		1	**9.230 231**
36.0	44.0	40		1	**9.230 236**
41.0	49.0	40		1	**9.230 241**
47.0	55.0	40		1	**9.230 247**
50.5	59.5	45		1	**9.230 250**
56.0	65.0	45		1	**9.230 256**
60.0	70.0	50		1	**9.230 260**
64.5	75.5	55		1	**9.230 264**
71.0	83.0	60		1	**9.230 271**
79.0	92.0	65		1	**9.230 279**
87.0	100.0	65		1	**9.230 287**
94.0	107.0	65		1	**9.230 294**

E & OE.

1   Silicone rubber stoppers

Transparent. To DIN 12871. Solid. Operating temperature up to 225 °C. Supplied singly.

Bottom diam. mm	Top diam. mm	Height mm		PK	Cat. No.
3.5	6.5	15		1	**9.230 503**
5.0	9.0	20		1	**9.230 505**
8.0	12.0	20		1	**9.230 508**
10.5	14.5	20		1	**9.230 510**
12.5	16.5	20		1	**9.230 512**
14.0	18.0	20		1	**9.230 514**
17.0	22.0	25		1	**9.230 517**
18.0	24.0	30		1	**9.230 518**
21.0	27.0	30		1	**9.230 521**
23.0	29.0	30		1	**9.230 523**
26.0	32.0	30		1	**9.230 526**
29.0	35.0	30		1	**9.230 529**
31.0	38.0	35		1	**9.230 531**
36.0	44.0	40		1	**9.230 536**
41.0	49.0	40		1	**9.230 541**
47.0	55.0	40		1	**9.230 547**
50.5	59.5	45		1	**9.230 550**
56.0	65.0	45		1	**9.230 556**
60.0	70.0	50		1	**9.230 560**
64.5	75.5	55		1	**9.230 564**
71.0	83.0	60		1	**9.230 571**
79.0	92.0	65		1	**9.230 579**

2   Rubber stoppers with single hole

DIN 12871. Plug with several holes on request.

Bottom diam. mm	Top diam. mm	Height mm	Bore diam. mm	PK	Cat. No.
10.5	14.5	20	3	1	**9.230 310**
12.5	16.5	20	3	1	**9.230 312**
14.0	18.0	20	3	1	**9.230 314**
17.0	22.0	25	4	1	**9.230 317**
18.0	24.0	30	4	1	**9.230 318**
21.0	27.0	30	5	1	**9.230 321**
23.0	29.0	30	5	1	**9.230 323**
26.0	32.0	30	6	1	**9.230 326**
29.0	35.0	30	6	1	**9.230 329**
31.0	38.0	35	7	1	**9.230 331**

3   Cork stoppers

A1 superb quality. Non-porous.

Bottom diam. mm	Top diam. mm	Height mm		PK	Cat. No.
3	6	16		1	**9.230 703**
6	9	17		1	**9.230 706**
7	10	18		1	**9.230 707**
8	11	20		1	**9.230 708**
9	12	20		1	**9.230 709**
10	13	22		1	**9.230 710**
12	15	22		1	**9.230 712**
14	17	22		1	**9.230 714**
15	18	22		1	**9.230 715**
16	19	23		1	**9.230 716**
18	22	26		1	**9.230 718**
20	24	27		1	**9.230 720**
22	26	27		1	**9.230 722**
24	28	27		1	**9.230 724**
26	30	27		1	**9.230 726**
28	32	27		1	**9.230 728**
30	34	27		1	**9.230 730**
32	36	27		1	**9.230 732**
34	38	27		1	**9.230 734**
36	40	27		1	**9.230 736**
38	42	27		1	**9.230 738**
41	45	27		1	**9.230 741**
45	50	30		1	**9.230 745**
50	55	30		1	**9.230 750**
55	60	30		1	**9.230 755**
60	65	30		1	**9.230 760**
65	70	30		1	**9.230 765**

E & OE.

1 Microtube racks, 20-Well, PP

Interlocking racks with 2 x 10 array hold 0.5/1.0/1.5/2.0 ml tubes.
Polypropylene racks lock together on each side, permitting the user to attach several together to increase capacity. Features an innovative "hold-it" finger slot on the front, and internal ribbing for stability. Autoclavable.
Dimensions (l x w x h): 210 mm x 90 mm x 46 mm.

Colour	PK	Cat. No.
blue	1	**9.409 088**

2 Microtube racks, 80-Well, PP

Autoclavable. Popular fraction collector plate-style rack. Easily load and transfer 80 tubes with 1.5 ml or 2.0ml in a compact format (5 x 16 array). Polypropylene rack has moulded-in coordinates to aid organisation. Assorted colours.
Dimensions (L x W x H): 225 mm x 67 mm x 28 mm.

Colour	PK	Cat. No.
Blue, green, pink, yellow and orange	5	**6.237 973**
Blue	1	**6.243 204**
Yellow	1	**6.243 205**
Natural	1	**6.243 206**
Orange	1	**6.243 207**
Pink	1	**6.243 208**
Green	1	**6.243 209**

3 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**

4 Microtube racks, 96-Well, PP

Autoclavable. Polypropylene rack has 96 wells for 0.5 ml microcentrifuge tubes on one side and 96 wells for 1.5ml to 2.0 ml microcentrifuge tubes on the other side. Wells are arranged in standard 8 x 12 array. Handy lid snaps into place via tabs on each end of rack.
Dimensions (L x W x H): 246 mm x 121 mm x 50 mm.

Colour	PK	Cat. No.
Blue, green, pink, yellow and orange	5	**9.193 982**
Natural	1	**6.237 620**
Blue	1	**6.237 267**
Green	1	**6.237 268**
Pink	1	**6.237 621**
Yellow	1	**6.237 622**

5 Microtube racks 4-Way, PP

Build as large a rack as you need by linking together multiple rack units. Racks feature a unique system of tabs and slots, which facilitate easy assembly and sturdy fit. Heavy-duty polypropylene racks can hold 4 x 50 ml or 12 x 15 ml conical tubes, 32 x 1.5 ml or 32 x 0.5 ml microtubes. Autoclavable. Dimensions (L x W x H): 175 x 95 x 51 mm.

Colour	PK	Cat. No.
Natural	1	**9.409 131**
Blue	1	**9.409 132**
Green	1	**9.409 133**
Pink	1	**9.409 134**
Yellow	1	**9.409 135**
Orange	1	**9.409 136**
Blue, green, pink, yellow, orange	5	**9.409 137**

E & OE.

1   Tube Rack for 5ml centrifuge tubes, PP

Designed specifically for 40 x 5ml centrifuge tubes this rack will also accommodate other tubes with a diameter of 13 to 16mm. Made of durable and corrosion resistant white polypropylene. End plates have handles for easy transport and stacking.
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 - 16mm	1	**9.194 026**

2   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 firming in an upright position. The design enables you to hold 12 to 30 mm (5 to 50ml) tubes simultaneously and still allow full viewing of the tube label. Racks can be linked together for additional holding capacity. Autoclavable.
Dimensions (WxDxH): 181 x 56 x 76 mm

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

3   Tube Rack, ABS

Made of "modified" high density ABS which enables the rack to be used in water baths. Racks can be linked together to form a multiple rack system. Rod type spacious tube compartments are ideal for screw cap tubes of 15 ml and 50 ml. Unique rack design enables perfect adaptance of the tubes and allows easy viewing of the tube contents. Pegs hold the tubes firmly in place and remain straight even after repeated autoclaving. Interlocking system for linking the racks in multiple rows.

Array	For tubes ml	PK	Cat. No.
5 x 10	15	1	**6.267 416**
5 x 5	50	1	**6.267 417**

4   Tube Rack pop-up™, foldable, PP

Robust polypropylene construction. Simple, easy to open and close. Flatten for compact storage. Pops up for instant use. Expand and collapse when racks are needed. Printed grid aids rapid retrieval. Stack racks in open or closed position. Saves space when racks are not in use. Not recommended for steam sterilisation. Dimensions (L x W x H): 255 mm x 137 mm x 72 mm when expanded, 21 mm high when collapsed.

Colour	For	PK	Cat. No.
Pink	21 x 15 ml and 12 x 50 ml tubes	2	**9.193 997**
Blue	21 x 15 ml and 12 x 50 ml tubes	2	**9.193 998**
Purple	45 x 15 ml tubes	2	**6.254 577**
Green	18 x 50 ml tubes	2	**6.254 578**

5   Tube Rack Rota-Rack®, PP

Interlocked racks. Rotate each of the four modules independently. Use several sizes of test tubes, culture tubes, centrifuge tubes or microcentrifuge tubes at the same time. Autoclavable. Each module of the Rota-Rack® for large tubes holds 2 x 50 ml tubes, 8 x 15 ml tubes, 6 x 20 mm tubes or 10 x 10/13 mm tubes. Each module of the Rota-Rack® for microtubes holds 6 x 15 ml tubes, 9 x 1.5/2.0 ml tubes, 12 x 0.5 ml tubes or 32 x 0.2 ml PCR tubes or 4 x 8-tube strips.

Description	Length mm	Width mm	Height mm	PK	Cat. No.
Rota-Rack®for large tubes	224	110	110	1	**9.193 988**
Rota-Rack®for micro tubes	210	100	100	1	**9.193 989**

1   Test tube rack, PP, "monoblock"

Manufactured from high density polypropylene. Moulded-in alpha numeric grid reference on the top tier of the rack allows easy sample identification. Weighted so they do not float in water bath.
Rack dimensions 140 mm x 275 mm x 72 mm

Array	For tubes diam. mm	PK	Cat. No.
50	12 - 13	1	**9.193 141**
50	15 - 16	1	**9.193 142**
50	17 - 18	1	**9.193 143**
45	18 - 20	1	**9.193 144**
26	28 - 30	1	**9.193 145**

2   Tube rack PP

Manufactured from high density polypropylene. Weighted so they do not float in water baths, not even in agitated water. These racks are supplied dismantled and can be easily assembled. A moulded-in alpha-numeric grid reference on the top tier of the rack allows easy sample identification. Rack dimensions : 250 mm x 110 mm x 70 mm

Array	For tubes diam. mm	PK	Cat. No.
6 x 15	13	1	**9.193 146**
5 x 12	16	1	**6.238 007**
4 x 10	20	1	**7.970 029**
3 x 8	25	1	**9.193 147**
3 x 7	30	1	**6.237 160**

3   Test tube racks, wire/nylon

Wire with white nylon coating. 3-tier design , second tier approximately 30mm high. Opening size 18 x 18 mm. Temperature resistant up to 80 °C max.

Array	Height mm	PK	Cat. No.
2 x 6	70	1	**9.193 762**
2 x 10	70	1	**9.193 764**
2 x 12	70	1	**9.193 766**
3 x 12	70	1	**9.193 768**
4 x 6	70	1	**9.193 772**
4 x 12	70	1	**9.193 774**
10 x 10	70	1	**9.193 776**
2 x 12	100	1	**9.193 784**
4 x 12	100	1	**9.193 788**
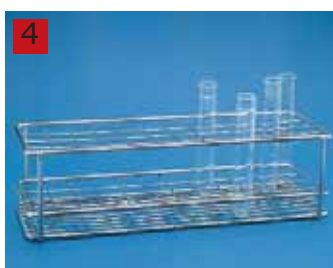
4   Test tube racks, stainless steel

Corrosion resistant, stainless steel wire. Electrochemically polished. Opening size 18 x 18 mm. Mesh grid levels are positioned at the top and 30 mm above the base.

Array	Height mm	PK	Cat. No.
2 x 12	70	1	**9.193 824**
3 x 12	70	1	**9.193 836**
4 x 12	70	1	**9.193 848**
4 x 12	100	1	**9.193 948**

E & OE.

1 2 Test tube rack, PP

PP. For all common test tube diameters. Very sturdy design. All openings are widely spaced apart to accommodate screw cap tubes. All racks have the same footprint and can be stacked easily when empty. Modified PP with greater density than water makes them ideal for use in water baths. Large marking area (60 x 12 mm) for barcode labels and alphanumeric references for clear sample identification. Racks are supplied in three parts for quick and permanent assembly. Continuous use temperature -20 to +90 °C. Autoclavable at 121 °C (2 bar), according to DIN EN 285. Choice of colours as outlined below.

Array	For tubes diam.	Dimensions (l x w x h)	Colour	PK	Cat. No.
	mm	mm			
6 x 14	13	265 x 126 x 75	White	1	**9.193 240**
6 x 14	13	265 x 126 x 75	Blue	1	**9.193 241**
6 x 14	13	265 x 126 x 75	Red	1	**9.193 242**
6 x 14	13	265 x 126 x 75	Yellow	1	**9.193 243**
5 x 11	16	265 x 126 x 75	White	1	**9.193 230**
5 x 11	16	265 x 126 x 75	Blue	1	**9.193 231**
5 x 11	16	265 x 126 x 75	Red	1	**9.193 232**
5 x 11	16	265 x 126 x 75	Yellow	1	**9.193 233**
5 x 11	18	265 x 126 x 75	White	1	**9.193 245**
5 x 11	18	265 x 126 x 75	Blue	1	**9.193 246**
5 x 11	18	265 x 126 x 75	Red	1	**9.193 247**
5 x 11	18	265 x 126 x 75	Yellow	1	**9.193 248**
4 x 10	20	265 x 126 x 75	White	1	**9.193 250**
4 x 10	20	265 x 126 x 75	Blue	1	**9.193 251**
4 x 10	20	265 x 126 x 75	Red	1	**9.193 252**
4 x 10	20	265 x 126 x 75	Yellow	1	**9.193 253**
4 x 8	25	265 x 126 x 88	White	1	**9.193 255**
4 x 8	25	265 x 126 x 88	Blue	1	**9.193 256**
4 x 8	25	265 x 126 x 88	Red	1	**9.193 257**
4 x 8	25	265 x 126 x 88	Yellow	1	**9.193 258**
3 x 7	30	265 x 126 x 88	White	1	**9.193 260**
3 x 7	30	265 x 126 x 88	Blue	1	**9.193 261**
3 x 7	30	265 x 126 x 88	Red	1	**9.193 262**
3 x 7	30	265 x 126 x 88	Yellow	1	**9.193 263**
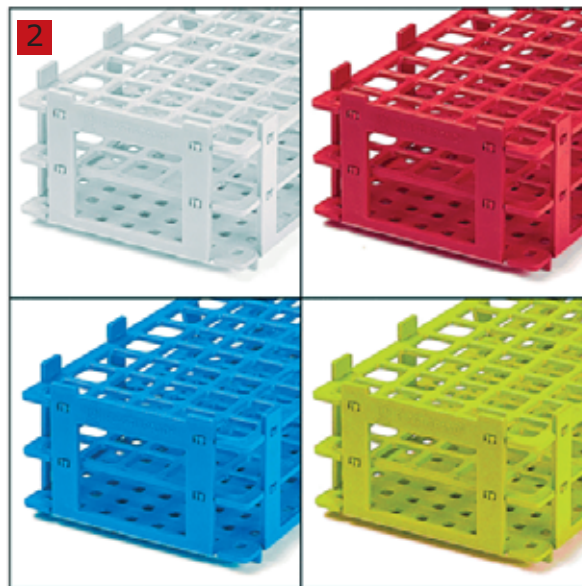
3 Test tube holders, wood

Wood with metal spring.

For neck diam. mm	PK	Cat. No.
Up to 20	1	**9.193 992**
Up to 30	1	**9.193 993**

1 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	**6.265 649**
40	40	45	50		500	**6.265 650**
60	58	45	50		500	**6.265 651**
90	77	45	50		300	**6.265 652**
120	77	53	58		300	**6.265 653**
250	52	89	97		154	**6.265 654**
500	110	89	97		132	**6.265 655**
1000	138	111	120		64	**6.265 656**

2 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
- 30ml 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	**6.265 646**
30	90	24	30	PS	PP	50	**6.265 647**
60	58	39	43	PS	PE	60	**6.265 648**

3 LLG-Sample containers, PS/PP, with tamper-evident cap, PE-LD/PP

White with tamper-evident cap. Multi-purpose containers e.g. for storage or transport of samples.

Capacity	Diam. with cap	Height with cap	Material container	Material Lid	PK	Cat. No.
ml	mm	mm				
40	36	52	PS	PE-LD	10	**9.402 350**
100	58	58	PP	PP	10	**9.402 353**
250	64	95	PS	PE-LD	10	**9.402 356**
1000	116	116	PP	PP	5	**9.402 359**

E & OE.

1 LLG-Sample containers, PP, with screw cap, PP

White with screwed on lid.

Capacity	Diam. with cap	Height with cap	PK	Cat. No.
ml	mm	mm		
30	58	19	10	9.402 310
75	58	47	10	9.402 313
310	81	81	10	9.402 318
600	119	67	10	9.402 321
1250	119	130	5	9.402 324

2 LLG-Sample containers, PS, with metal cap, sterile

Ideal for sample collection and storage. Made of virgin polystyrene. All materials are non-cytotoxic. The metal cap with inert PVC-Liner ensures leak proof seal.

Capacity	Diam. with cap	Height with cap	PK	Cat. No.
ml	mm	mm		
60	43	60	300	9.070 321
60	43	60	60	6.261 958
100	49	75	200	9.070 322
100	49	75	40	6.261 959
250	63	121	50	9.070 323
250	63	121	25	6.261 960

3 Rolled rim bottles, AR glass with PE snap-on lid

With PE snap-on lid. Tight closing.

Capacity	Diam. with cap	Height with cap	PK	Cat. No.
ml	mm	mm		
3	19	31	200	9.400 211
5	19	41	200	9.400 215
10	21	51	200	9.400 220
10	22	46	200	9.400 225
15	24	53	200	9.400 235
20	27	56	200	9.400 240
20	25	71	200	9.400 250
25	30	51	250	9.400 230
30	28	76	200	9.400 260
40	30	81	200	9.400 270
50	30	101	200	9.400 280
100	34	146	100	9.400 290

4 Cylindrical jars with ribbed cap, PE-HD

The cylindrical jars are supplied with insert and cap. Thanks to the large neck they are suitable for powders, solid specimen, creamy or semisolid substances, crystals and hygroscopic substances.
Suitable for foodstuff according to EC Regulation 1935/2004 and EC Regulation 10/2011.

Capacity	Diam. with cap	Height with cap	Neck i. d.	PK	Cat. No.
ml	mm	mm	mm		
70	50	60	36	1	6.205 920
120	56	71	36	1	6.206 304
250	69	94	50	1	6.205 857
500	86	107	70	1	6.205 921
1000	111	128	85	1	6.205 922
1500	111	182	87	1	6.226 130
2000	111	235	87	1	6.223 901

General laboratory consumables
Vessels/Containers-Transport boxes

1 LLG-Wide-neck jars, glass

Twist-off jar, wide-neck. Perfect for sample storage. Glass, clear.
Without cap, please order cap separately.

Capacity ml	Ø Glass jar mm	Height Glass jar mm	PK	Cat. No.
106	48	78.0	12	**9.070 301**
212	63	80.5	12	**9.070 302**
375	63	120.5	12	**9.070 303**
720	82	148.0	12	**9.070 304**
1062	82	176.0	12	**9.070 305**

2 Caps for LLG-Wide-neck jars

Twist-off screw cap for LLG-Wide-neck jars

Diam. mm	For	PK	Cat. No.
48	106 ml LLG Twist-Off-jar	12	**9.070 306**
63	212 ml and 375 ml LLG Twist-Off-jar	12	**9.070 307**
82	720 ml and 1062 ml LLG Twist-Off-jar	12	**9.070 308**

3 Bottle carriers, wire/PE

Made of PE coated wire.
For carrying laboratory bottles of various sizes.
With base and fixed carrying handle.

For bottles ml	Int. diam. mm	Height mm	PK	Cat. No.
4 x 2000	130	110	1	**9.102 204**
6 x 2000	130	110	1	**9.102 206**
8 x 2000	130	110	1	**9.102 208**
10 x 2000	130	110	1	**9.102 210**
4 x 1000	100	100	1	**9.102 214**
6 x 1000	100	100	1	**9.102 216**
8 x 1000	100	100	1	**9.102 218**
10 x 1000	100	100	1	**9.102 220**
4 x 250	80	80	1	**9.102 224**
6 x 250	80	80	1	**9.102 226**
8 x 250	80	80	1	**9.102 228**
10 x 250	80	80	1	**9.102 230**
12 x 250	80	80	1	**9.102 232**

4 Display boxes, PS

Polystyrol. Heavy duty, industrial quality. Stackable (lengthways and crosswise). With RAL certificate. Shock-resistant, high impact PS. Food safe colors. Smooth underbody, therefore suitable for transport.

Colour	Width mm	Length mm	Height mm	PK	Cat. No.
red	100	165/140	75	1	**9.033 121**
blue	100	165/140	75	1	**9.033 123**
green	100	165/140	75	1	**9.033 124**
red	145	232/200	125	1	**9.033 131**
blue	145	232/200	125	1	**9.033 133**
green	145	232/200	125	1	**9.033 134**
red	200	336/300	150	1	**9.033 141**
blue	200	336/300	150	1	**9.033 143**
green	200	336/300	150	1	**9.033 144**

5 Storage and transport containers, PP/PE-HD

White. Made of thermoplastic resin. Stackable.
The raw material used is physiologically compatible and corresponds with the directives of the Federal Board of Health.

Capacity Litres	Internal dimensions (W x D x H) mm	External dimensions (W x D x H) mm	Material	PK	Cat. No.
9	510 x 310 x 60	560 x 360 x 64	PP	1	**9.301 643**
10	410 x 310 x 85	445 x 345 x 90	PP	1	**9.301 641**
23	395 x 295 x 200	460 x 330 x 210	HDPE	1	**9.301 663**
28	600 x 400 x 120	660 x 450 x 130	HDPE	1	**9.301 647**
31	480 x 410 x 160	550 x 450 x 170	HDPE	1	**9.301 645**
35	530 x 315 x 210	600 x 350 x 220	HDPE	1	**9.301 661**
50	600 x 400 x 210	660 x 450 x 220	HDPE	1	**9.301 649**
96	600 x 400 x 400	660 x 450 x 410	PP	1	**9.301 651**

E & OE.

1   Collapsible Box mini, PP, stackable

A straightforward and tough folding mechanism permits a safe and easy handling. Volume 4 liter, weight 180 g, load 2.5 kg. Dishwasher safe, food safe. Autoclavable at 120 °C, enduring temperature stability from -40 °C to 90 °C.

Colour	Dimensions mm	PK	Cat. No.
black	238 x 161 x 100	1	9.301 480
white	238 x 161 x 100	1	9.301 481

2   Collapsible Box midi, PP, stackable

A straightforward and tough folding mechanism permits a safe and easy handling. Volume 14.5 liter, weight 300 g, load 8 kg. Dishwasher safe, food safe. Autoclavable at 120 °C, enduring temperature stability from -40 °C to 90 °C.
The Folding Box mini perfectly fits two-times into the Midi.

Colour	Dimensions mm	PK	Cat. No.
black	400 x 300 x 145	1	9.301 485
white	400 x 300 x 145	1	9.301 486

3   LLG-Buckets white with lid, PP

For transport, packaging and storage of foodstuffs, building materials and non-corrosive chemicals.
Stability guaranteed when filling up with material up to 80 °C.

Capacity Litres	Diam. mm	Height mm	PK	Cat. No.
1	131	127	1	9.040 030
2	179	133	1	9.040 031
3	198	141	1	9.040 032
5	224	193	1	9.040 033
10	266	265	1	9.040 034

4   LLG-Buckets, PP

Round version 10 L with metal handle, graduated, white.

Capacity Litres	PK	Cat. No.
10	1	9.040 216

E & OE.

1 **1** LLG-Bottles, wide mouth, PE-HD

Suitable for food. With carrying handle. Ideal for containing liquids, powders and granules. Very strong and durable quality for extended use over time. With gasket in the screw cap and additional inner cap for a very tight seal. Screw cap can be attached to the bottle using the integrated loops. The bottles can be used by temperature from -40 °C to +80 °C.

Capacity	Neck Int. diam.	Neck Ext. diam.	Body diam.	Height	Handle	PK	Cat. No.
Litres	mm	mm	mm	mm			
5	84	94	170	350	1	1	**9.139 938**
10	99	109	210	420	1	1	**9.139 939**

2 **2** LLG-Aspirator Bottles, narrow neck, PE-HD

With carrying handle. Suitable for food. Very strong and durable quality for extended use over time. With gasket in the screw cap for a very tight seal. Screw cap can be attached to the bottle using the integrated loops. With thread of 12 mm depth for use with a ¾" stopcock. Please order the stopcock separately (Cat. No. 9.139 937). The bottles can be used by temperatures from -40 °C to +80 °C.

Capacity	Neck Int. diam.	Neck Ext. diam.	Body diam.	Height	Handle	PK	Cat. No.
Litres	mm	mm	mm	mm			
5	52	62	160	350	1	1	**9.139 929**
10	52	62	210	430	1	1	**9.139 930**
25	84	97	270	570	2	1	**9.139 931**
50	84	97	350	690	2	1	**9.139 932**

3 **3** LLG-Aspirator Bottles, narrow neck, PE-HD, with stopcock

With carrying handle and ¾" stopcock. Thread and opening for stopcock provided. Suitable for food. Very strong and durable quality for extended use over time. With gasket in the screw cap for a very tight seal. Screw cap can be attached to the bottle using the integrated loops. The bottles can be used by temperature from -40 °C to +80 °C.

Capacity	Neck Int. diam.	Neck Ext. diam.	Body diam.	Height	Handle	PK	Cat. No.
litres	mm	mm	mm	mm			
5	52	62	160	350	1	1	**9.139 933**
10	52	62	210	430	1	1	**9.139 934**
25	84	97	270	570	2	1	**9.139 935**
50	84	97	350	690	2	1	**9.139 936**

4 **4** Stopcock, ¾", for LLG-Aspirator bottles

For 9.139 933 to 9.139 936 and 9.139 929 to 9.139 932.

Type	PK	Cat. No.
Tap for aspirator bottles	1	**9.139 937**

1 Industrial jerrycans, PE-HD

Jerrycans with capacity of 2 to 30L.
Please order closures separately.

Capacity	Width	Depth	Height	Weight	Thread external diam.	Colour	PK	Cat. No.
L	mm	mm	mm	g	mm			
2.00	145	109	196	110	45	natural	1	**9.140 021**
2.50	153	115	208	125	45*	natural	1	**9.140 022**
3.00	153	115	240	140	45*	natural	1	**9.140 023**
5.00	190	145	251	250	50*	natural	1	**9.140 025**
6.00	192	145	294	265	45	natural	1	**9.140 026**
8.00	230	190	270	320	45	natural	1	**9.140 027**
10.00	230	190	310	450	50*	natural	1	**9.140 030**
20.00	290	246	385	950	60*	blue	1	**9.140 032**
25.00	290	246	450	1100	60*	blue	1	**9.140 031**
30.00	320	284	435	1250	60*	blue	1	**9.140 033**
20.00	290	246	385	950	60*	natural	1	**9.140 037**
30.00	320	284	435	1250	60*	natural	1	**9.140 038**

* With UN approval.

2 Screw caps and accessories for industrial jerrycans, PE-HD

Description	For	PK	Cat. No.
Black, with tear-off ring and vent	2 / 2.5 / 3 / 6 / 8 litre jerrycans	1	**9.140 048**
Black, with tear-off ring and vent	5 / 10 litre jerrycans	1	**9.140 068**
Black, with tear-off ring and vent	20 / 25 / 30 litre jerrycans	1	**9.140 050**
Black, with tear-off ring	2 / 2.5 / 3 / 6 / 8 litre jerrycans	1	**9.140 051**
Black, with tear-off ring	5 / 10 litre jerrycans	1	**9.140 046**
Black, with tear-off ring	20 / 25 / 30 litre jerrycans	1	**9.140 047**
Red, with tear-off ring	2 / 2.5 / 3 / 6 / 8 litre jerrycans	1	**9.140 040**
Red, with tear-off ring	5 / 10 litre jerrycans	1	**9.140 042**
Red, with tear-off ring	20 / 25 / 30 litre jerrycans	1	**9.140 043**
With stopcock	2 / 2.5 / 3 / 6 / 8 litre jerrycans	1	**9.140 062**
With stopcock	5 / 10 litre jerrycans	1	**9.140 061**
With stopcock	20 / 25 / 30 litre jerrycans	1	**9.140 063**
With pump dispenser	2 / 2.5 / 3 / 6 / 8 litre jerrycans	1	**9.140 054**
With pump dispenser	10 litre jerrycans	1	**9.140 065**
With pump dispenser	20 litre jerrycans	1	**9.140 070**
With pump dispenser	25 litre jerrycans	1	**9.140 071**
With pump dispenser	30 litre jerrycans	1	**9.140 072**
Wrench, PE-HD to apply / remove	2 / 2.5 / 3 / 6 / 8 litre jerrycans	1	**9.140 073**
Wrench, PE-HD to apply / remove	5 / 10 / 20 / 25 / 30 litre jerrycans	1	**9.140 108**

E & OE.

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.

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

2 LLG-Protective netting, roll

Polyethylene net for covering glass containers. Cut to size with scissors. Package contains 5 m roll.

Description	Colour	For bottles diam. mm	PK	Cat. No.
LLG Safety Nets, roll	red	6 - 15	1	**6.258 996**
LLG Safety Nets, roll	blue	12 - 25	1	**6.510 849**
LLG Safety Nets, roll	yellow	20 - 40	1	**6.050 131**
LLG Safety Nets, roll	green	30 - 60	1	**6.050 132**
LLG Safety Nets, roll	red	50 - 100	1	**6.050 133**
LLG Safety Nets, roll	yellow	90 - 200	1	**6.079 513**

3 Wide-mouth bottles, soda-lime glass

Clear or amber glass. Round thread neck in accordance with DIN 168.
Please order screw caps separately.

Capacity	Neck thread	Diam.	Height	Colour	PK	Cat. No.
ml	GL	mm	mm			
30	32	36.0	68.0	clear	126	**7.960 500**
50	32	44.0	75.0	clear	85	**7.960 501**
100	40	50.0	93.0	clear	63	**7.960 502**
125	40	54.0	98.0	clear	80	**7.960 503**
150	45	57.0	104.0	clear	42	**9.072 210**
250	55	70.0	113.0	clear	48	**7.960 504**
500	55	84.0	154.0	clear	20	**7.960 505**
1000	68	103.5	180.5	clear	18	**7.960 506**
30	32	36.0	68.0	amber	126	**7.960 507**
50	32	44.0	75.0	amber	85	**7.960 508**
100	40	50.0	93.0	amber	63	**7.960 509**
125	40	54.0	98.0	amber	84	**7.960 510**
150	45	57.0	104.0	amber	48	**9.072 211**
250	55	70.0	113.0	amber	42	**7.960 511**
500	55	84.0	154.0	amber	20	**7.960 512**
1000	68	103.5	180.5	amber	12	**7.960 513**

4 Screw caps for wide-mouth bottles, PP/PE-LD

Cap PP, seal PE-LD

Neck thread GL	Material	PK	Cat. No.
32	PP	1	**9.072 164**
40	PP	1	**9.072 165**
45	PP	1	**7.075 021**
55	PP	1	**9.072 166**
68	PP	1	**9.072 167**
40	PPN	1	**6.902 280**
68	moulding mass	1	**7.060 569**

E & OE.

1 LLG-Wide-mouth bottles, with screw cap, PE-LD, economy pack

Transparent, with cap. The wide neck opening means that the bottles are easy to fill and clean, leak-proof.
Ideal for liquids, pastes and granulates.

Capacity	Diam.	Height	Thread external diam.	PK	Cat. No.
ml	mm	mm	mm		
50	39.0	76.0	32	50	**9.073 510**
100	48.0	93.5	32	20	**9.073 511**
250	64.0	120.0	40	10	**9.073 512**
500	77.0	154.0	50	10	**9.073 513**
1000	95.0	205.0	65	4	**9.073 514**
1500	108.0	226.0	65	4	**9.073 515**
2000	120.0	247.0	65	1	**9.073 516**

2 Graduated wide-mouth bottles, PE/PP

Polyethylene (body) and Polypropylene (cap). Will withstand considerable pressure before rupturing. Secured by tagging points on bottle and cap. Confidential notes can be placed in the space between insert sealing plug and cap.

Capacity	Grad.	Ext. diam.	Int. diam.	Height	PK	Cat. No.
ml	ml	mm	mm	mm		
50	10	40	24.00	77	1	**9.072 950**
100	20	48	24.00	89	1	**9.072 951**
250	25	61	34.50	126	1	**9.072 952**
500	50	75	34.50	158	1	**9.072 953**
1000	100	93	45.00	200	1	**9.072 954**
2000	100	115	45.00	247	1	**9.072 955**

3 Graduated wide-mouth square bottles, PE, with PP screw cap

Space saving bottles, ideal for long term storage of samples. Approximate graduations allow reproducible filling without the use of cylinders/beakers. Easy grip caps can be wired down for security. Suitable for foodstuff.

Capacity	Grad.	Width	Length	Height	Tubing i.d.	PK	Cat. No.
ml	ml	mm	mm	mm	mm		
25	5	32	34	52	18.0	1	**9.072 943**
50	10	38	38	70	24.0	1	**9.072 944**
100	20	42	48	90	34.5	1	**9.072 945**
250	50	57	60	110	34.5	1	**9.072 946**
500	100	70	80	138	45.0	1	**9.072 947**
1000	100	80	103	176	58.0	1	**9.072 948**
2000	100	100	134	210	58.0	1	**9.072 949**

E & OE.

1 Narrow-mouth packaging bottles, soda-lime glass

Amber, with PP (Pilferproof) 28 neck finish.
Please order caps separately.

Capacity ml	Diam. mm	Height mm	PK	Cat. No.
30	35.0	71.0	143	**9.070 200**
50	40.5	81.0	99	**9.070 201**
100	50.5	96.0	56	**9.070 202**
250	65.0	133.0	39	**9.070 203**
500	82.0	160.0	20	**9.070 205**
1000	100.5	207.0	14	**9.070 204**

2 Screw caps for narrow-mouth bottles, PP 28

PP Cap (Pilferproof) 28 neck finish, with approx. 19.4 mm inner mouth, white.
For bottles 9.070 200 to 9.070 205 series.

Description	PK	Cat. No.
with cone sealing	500	**9.070 210**
with pouring ring	500	**9.070 211**
with pouring ring, child proof lock	500	**9.070 212**
with foam insert and originality closure	500	**9.070 213**

3 LLG-Narrow-mouth bottles with cap, PE-LD, economy pack

Transparent with cap.

Capacity ml	Diam. mm	Height mm	Thread external diam. mm	PK	Cat. No.
50	37.0	78.0	18	50	**9.073 500**
100	47.0	105.0	18	20	**9.073 501**
250	63.0	119.0	25	10	**9.073 502**
500	78.0	152.0	25	10	**9.073 503**
1000	96.0	206.0	28	4	**9.073 504**
2000	120.0	264.0	28	1	**9.073 505**

4 LLG-Wash bottles, narrow neck, PE

Easy to squeeze, semi-rigid, translucent, with excellent clarity. The stream of the liquid can be easily controlled by hand pressure. Dispensing tip provides extra fine stream - tip can be cut back in order to increase the flow rate, if required.

Capacity ml	PK	Cat. No.
100	1	**9.223 500**
250	1	**9.223 501**
500	1	**9.223 502**
1000	1	**9.223 503**

E & OE.

1   LLG-Safety wash bottles, PE-LD

Manufactured from PE-LD and with the safety label printed on the wash bottle in accordance with regulation (EC) No. 1272/2008 (GHS).
- Colour coded cap and bottle for ease of identification and quick recognition of the bottle content.
- Dispensing tube designed to optimize backflow and turbulence-free operation.
- Permanent printing on the body of safety symbols in acc. with GHS, as well as of chemical formula, CAS number, hazard pictogram, signal word, hazard statements and NFPA code.
- Chemical name and warning texts in German, English, French and Spanish.

Label	Capacity ml	PK	Cat. No.
acetone	500	1	**9.223 504**
distilled water	500	1	**9.223 505**
ethanol	500	1	**9.223 506**
isopropanol	500	1	**9.223 507**
methanol	500	1	**9.223 508**

2   LLG-Safety vented wash bottles, LDPE

- Multi-lingual wide neck wash bottles featuring the patented DripLok® vapour venting valve that prevents solvent drips.
- Indelibly printed in 4 languages (English, French, German and Spanish).
- Choose from 4 solvent labels all including the new Globally Harmonised Symbols, NFPA diamond, risk phrases and safety information.
- Fitted with colour coded, one-piece polypropylene closures that maintain their shape in use.
- Closures feature precision jet-tip aperture for fine control.

Label	Capacity ml	PK	Cat. No.
Acetone	500	1	**9.223 491**
Methanol	500	1	**9.223 492**
Isopropanol	500	1	**9.223 493**
Ethanol	500	1	**9.223 494**

3   Dropper bottles, PE-HD

Natural. Highly suitable for adhesives and other liquids that can be finely dispensed.

PE-HD combination closure with screw-on dropping tip (Cat. No. 9.073 313). Please order separately.

Capacity ml	Diam. mm	PK	Cat. No.
10	24.0	1	**9.073 310**
25	31.3	1	**9.073 311**
50	40.0	1	**9.073 312**

4   Cap for dropping bottles, PE-HD

For bottles 9.073 310 to 9.037 312 series.

Type	PK	Cat. No.
Cap for dropping bottles	1	**9.073 313**

E & OE.

1 LLG-Funnel, borosilicate glass 3.3

With short stem. Cone angle of 60°. Standard borosilicate funnels with excellent heat resistance. All funnels have a cone angle of 60° and therefore offer an optimum fit for all filter sizes. DIN ISO 4798

Funnel diam. mm	Shaft diam. mm	Stem length mm	For filter paper diam. mm	PK	Cat. No.
40	6.0	70	55 - 70	1	**9.251 200**
60	8.0	100	70 - 90	1	**9.251 201**
80	8.0	140	125 - 150	1	**9.251 202**
100	10.0	180	150 - 185	1	**9.251 203**
120	16.0	210	185 - 240	1	**9.251 204**
150	16.0	250	240 - 270	1	**9.251 205**

2 LLG-Fast filtration funnels with internal rib, PP

Clear, virgin polypropylene, autoclavable at 121 °C and 1.1 bar for 30 minutes.
The external ribs prevent airlock and back pressure. The internal helicoidal rib prevents filter papers from sticking and increases filtration speed.

Funnel diam. mm	Shaft diam. mm	Stem length mm	For filter paper diam. mm	PK	Cat. No.
40	6.0	40	55 - 70	10	**9.251 191**
60	8.0	60	70 - 90	10	**9.251 192**
80	8.0	80	125 - 150	10	**9.251 193**
80	9.0	150	125 - 150	10	**9.251 197**
100	10.0	100	150 - 185	10	**9.251 194**
120	16.0	120	185 - 240	10	**9.251 195**
150	16.0	150	240 - 270	10	**9.251 196**

3 LLG-Funnels, PP

Made of clear, virgin polypropylene, autoclavable at 121 °C and 1.1 bar for 30 minutes. The external ribs prevent airlock and back pressure.

Funnel diam. mm	Shaft diam. mm	Stem length mm	For filter paper diam. mm	PK	Cat. No.
40	6.0	40	55 - 70	10	**9.251 185**
60	8.0	60	70 - 90	10	**9.251 186**
80	8.0	80	125 - 150	10	**9.251 187**
100	10.0	100	150 - 185	10	**9.251 188**
120	16.0	120	185 - 240	10	**9.251 189**
150	16.0	150	240 - 270	10	**9.251 190**

4 Powder funnels, PP

Transparent. With short, wide stem. For transfer of powdered and granular substances. Rapid flow due to a steep 60° angle. Food-safe products according to EC Directive No. 10/2011.

Funnel diam. mm	Height mm	Stem diam. mm	PK	Cat. No.
65	68	15	1	**9.251 720**
80	76	21	1	**9.251 725**
100	94	22	1	**9.251 730**
120	110	26	1	**9.251 735**
150	138	28	1	**9.251 740**
180	160	43	1	**9.251 741**

E & OE.

1 Powder funnels, borosilicate glass 3.3, with NS-cone

With short stem and NS cone.

Funnel diam. mm	NS	Stem diam. mm		PK	Cat. No.
60	14/23	13		1	**4.008 433**
80	19/26	17		1	**4.008 434**
100	24/29	22		1	**4.008 435**
120	29/32	26		1	**4.008 436**

2 Standard joint funnels, PP

Transparent. For multi-neck flasks, laterally flattened, suitable for standard joint necks of various sizes. Suitable for the filling of liquid or powdered reagents into a reaction flask, particularly multi-neck flasks, during a reaction. Food-safe product according to EC Directive No. 10/2011.

Funnel diam. mm	Height mm	Joint size (NS)	PK	Cat. No.
40	75	14 / 23	1	**9.251 814**
50	95	19 / 26	1	**9.251 819**
75	135	29 / 32	1	**9.251 829**

3 LLG-Funnel holder, PP

Manufactured from best quality polypropylene. Suitable to hold all types of laboratory funnels with diameters up to 150mm. Two tapered wedges are provided to ensure firm grip on rods having diameters of 10-13 mm.

Description	PK	Cat. No.
LLG-Funnel holder	1	**9.251 558**

4 LLG-Funnel holder, stainless steel, with or without boss head

These funnel holders are suitable to hold all types of funnels with a diameter up to 150 mm. They can also accommodate separating funnels (up to 1000 ml). With or without boss head.

Diam. mm	Description	PK	Cat. No.
40	without bosshead	1	**9.251 550**
60	without bosshead	1	**9.251 551**
80	without bosshead	1	**9.251 552**
100	without bosshead	1	**9.251 553**
40	with bosshead	1	**9.251 554**
60	with bosshead	1	**9.251 555**
80	with bosshead	1	**9.251 556**
100	with bosshead	1	**9.251 557**

5 Funnel holders, stainless steel

Adjustable height 140 to 220 mm. Inner diameter upper ring: 46 mm. Outer diameter bottom ring: 126 mm.

Description	PK	Cat. No.
Funnel holders	1	**4.008 510**

E & OE.

1   Watch glasses, Soda-lime glass

DIN 12341. Ground edges. Hydrolytical class 3.

Diam. mm	PK	Cat. No.
40	1	9.263 004
50	1	9.263 005
60	1	9.263 006
70	1	9.263 007
80	1	9.263 008
90	1	9.263 009
100	1	9.263 010
110	1	9.263 011
120	1	9.263 013
125	1	9.263 012
150	1	9.263 015
200	1	9.263 020
250	1	9.263 025

2   Watch glasses, Borosilicate glass 3.3

DIN 12341. Flame-polished edges. Autoclavable.

Diam. mm	PK	Cat. No.
50	10	9.263 470
60	10	9.263 471
70	10	9.263 472
80	10	9.263 473
100	10	9.263 474
125	10	9.263 475
150	10	9.263 476
200	10	9.263 477

3   4   LLG-Crystallising dishes, borosilicate glass

Crystallising dishes with or without spout. DIN 12337/12338. Autoclavable.

Capacity ml	Diam. mm	Height mm	DIN	Description	PK	Cat. No.
20	40	25	12337	without spout	1	7.616 800
40	50	30	12337	without spout	1	6.228 031
60	60	35	12337	without spout	1	6.236 596
100	70	40	12337	without spout	1	6.233 757
150	80	45	12337	without spout	1	6.227 688
300	95	55	12337	without spout	1	6.205 104
500	115	65	12337	without spout	1	6.205 105
900	140	75	12337	without spout	1	6.236 597
2000	190	90	12337	without spout	1	6.236 598
3500	230	100	12337	without spout	1	6.236 599
20	40	25	12338	with spout	1	6.226 043
40	50	30	12338	with spout	1	7.616 171
60	60	35	12338	with spout	1	6.227 922
100	70	40	12338	with spout	1	6.228 387
150	80	45	12338	with spout	1	6.225 256
300	95	55	12338	with spout	1	6.803 567
500	115	65	12338	with spout	1	6.223 298
900	140	75	12338	with spout	1	6.206 856
2000	190	90	12338	with spout	1	6.803 371
3500	230	100	12338	with spout	1	6.231 072

E & OE.

1 LLG-Porcelain evaporating dishes with spout, flat bottom, shallow form

Glazed.

Capacity	Ext. diam.	Height	DIN	PK	Cat. No.
ml	mm	mm			
10	50	10	12903	1	**9.115 301**
20	60	14	12903	1	**9.115 302**
28	75	15		1	**9.115 305**
55	80	20	12903	1	**9.115 303**
110	100	25	12903	1	**6.231 540**
250	130	30	12903	1	**9.115 304**
450	160	40		1	**9.115 306**
1100	200	55		1	**9.115 307**
1750	250	55		1	**9.115 308**

2 LLG-Porcelain evaporating dishes with spout, round bottom, medium form

Glazed.

Capacity	Ext. diam.	Height	DIN	PK	Cat. No.
ml	mm	mm			
10	40	16	12903	1	**9.115 310**
20	50	20	12903	1	**9.115 311**
30	63	25	12903	1	**6.239 177**
60	80	32	12903	1	**9.115 312**
150	100	40	12903	1	**9.115 313**
285	125	50	12903	1	**9.115 314**
700	170	74	12903	1	**9.115 315**
1000	200	80	12903	1	**9.115 316**
41	72	26		1	**9.000 150**
62	83	27		1	**9.000 151**
110	96	30		1	**9.000 152**
240	127	42		1	**9.000 153**
420	154	50		1	**6.232 525**
558	170	55		1	**9.000 154**

3 LLG-Porcelain evaporating dishes with spout, flat bottom, medium form

Glazed.

Capacity	Ext. diam.	Height	PK	Cat. No.
ml	mm	mm		
22	54	22	1	**7.970 673**
62	70	30	1	**6.268 802**
93	86	33	1	**6.251 474**
154	98	40	1	**6.253 566**
265	112	50	1	**6.262 379**
330	126	53	1	**6.257 949**
450	145	55	1	**6.269 244**
620	151	63	1	**6.257 950**
800	169	68	1	**6.269 245**
1200	195	74	1	**6.241 820**
3000	254	105	1	**7.971 013**

E & OE.

1 LLG-Evaporating basins, stainless steel

Manufactured from stainless steel as round bottom. A perfect product for heating and evaporating liquids. Can be used with direct flame in order to prevent breakage.

Capacity ml	Diam. mm	Height mm	PK	Cat. No.
50	60	30	1	**6.267 376**
130	80	40	1	**6.267 377**
250	100	50	1	**6.267 378**

2 LLG-Crystallising dishes, stainless steel

Alternative to borosilicate glass dishes for similar applications. Manufactured from seamless and robust stainless steel.

Length mm	Width mm	PK	Cat. No.
70	35	1	**6.267 379**
85	45	1	**6.267 380**
110	55	1	**6.267 381**

3 LLG-Porcelain casserole with handle

Capacity ml	Diam. mm	Height mm	PK	Cat. No.
22	45	26	1	**7.656 131**
84	67	39	1	**9.252 512**
176	85	49	1	**9.252 513**
270	101	51	1	**9.252 514**
450	120	64	1	**9.252 515**
960	150	86	1	**9.252 516**

4 Instrument trays, melamine resin

White, melamine resin. Autoclavable (121 °C)

Width mm	Length mm	Height mm	PK	Cat. No.
190	150	20	1	**7.608 352**
240	180	20	1	**9.200 324**
270	210	20	1	**9.200 327**
300	150	20	1	**9.200 328**
300	190	20	1	**7.055 383**
360	240	20	1	**9.200 335**
430	290	20	1	**9.200 345**

7.603 295 with handle bar

5 Instrument boxes, melamine resin

Melamine resin. Base section is autoclavable (121 °C).
Please order lid separately.

Width mm	Length mm	Height mm	PK	Cat. No.
110	210	30	1	**9.200 177**
150	190	40	1	**9.200 170**
160	290	30	1	**9.200 165**
160	290	60	1	**9.200 160**
240	350	40	1	**9.200 155**
250	350	100	1	**9.200 150**

E & OE.

1 Lids, PS, for instrument boxes

For	PK	Cat. No.
9.200 177	1	**9.200 181**
9.200 170	1	**9.200 182**
9.200 165 und 9.200 160	1	**9.200 183**
9.200 155 und 9.200 150	1	**9.200 184**

2 Trays, stainless steel

Width mm	Length mm	Height mm	PK	Cat. No.
110	170	20	1	**9.150 722**
120	200	20	1	**9.150 723**
140	220	28	1	**9.150 724**
180	240	30	1	**9.150 726**
180	260	30	1	**9.150 727**
180	280	30	1	**9.150 728**
210	310	40	1	**9.150 729**
250	350	40	1	**9.150 730**
280	420	50	1	**9.150 732**
340	520	50	1	**9.150 733**

3 LLG-Assortment box

Designed for storing and transporting small labwares such as magnetic stirring bars. Manufactured from clear material for easy observation of the contents. Different size of compartments for different size of materials.

Dimensions (W x D x H) mm	PK	Cat. No.
97 x 182 x 33	1	**6.267 405**

4 Tray, PP

For multi purpose use. Durable and resist to bending, with strong rounded rim. Stackable for space solving solutions, polished surface for easy cleaning. Resistant to many acids and alkaline solutions, can be used with foods.

Length mm	Width mm	Height mm	PK	Cat. No.
183	127	50	1	**6.267 362**
255	180	60	1	**6.267 363**
355	245	70	1	**6.267 364**

5 LLG-Porcelain crucibles, low, DIN 12904

To DIN 12904. Glazed.

Capacity ml	Ext. diam. mm	Height mm	Form	PK	Cat. No.
5	30	19	Low form	1	**9.250 900**
10	35	22	Low form	1	**9.250 901**
17	40	25	Low form	1	**9.250 902**
21	45	28	Low form	1	**9.250 903**
34	50	32	Low form	1	**9.250 904**
63	60	38	Low form	1	**9.250 905**
91	70	44	Low form	1	**9.250 906**

1 LLG-Porcelain crucibles, medium, DIN 12904

To DIN 12904. Glazed.

Capacity	Ext. diam.	Height	Form	PK	Cat. No.
ml	mm	mm			
10*	30	25	Medium form	1	**9.250 907**
12	35	28	Medium form	1	**9.250 910**
20	40	32	Medium form	1	**9.250 911**
30	45	36	Medium form	1	**9.250 912**
45	50	40	Medium form	1	**9.250 913**
80	60	48	Medium form	1	**9.250 914**
120	70	56	Medium form	1	**9.250 915**
200*	80	62	Medium form	1	**9.250 916**

* Not to DIN

2 LLG-Porcelain crucibles, tall, DIN 12904

To DIN 12904. Glazed.

Capacity	Ext. diam.	Height	Form	PK	Cat. No.
ml	mm	mm			
15	30	38	Tall form	1	**9.250 920**
26	35	44	Tall form	1	**9.250 921**
35	40	50	Tall form	1	**9.250 922**
50	45	56	Tall form	1	**9.250 923**
72	50	62	Tall form	1	**9.250 924**
130	60	75	Tall form	1	**9.250 925**

3 Porcelain lids for LLG-Crucibles, DIN 12904

Glazed.

Lid diam.	Crucible diam.	DIN	PK	Cat. No.
mm	mm			
34	30	12904	1	**9.250 930**
39	35	12904	1	**9.250 931**
44	40	12904	1	**9.250 932**
49	45	12904	1	**9.250 933**
54	50	12904	1	**9.250 934**
64	60	12904	1	**9.250 935**
74	70	12904	1	**9.250 936**
84	80		1	**9.250 937**

4 LLG-Crucibles, stainless steel

Stainless steel crucibles can resist up to 1200 °C.

Ext. diam.	Height	PK	Cat. No.
mm	mm		
40	35	1	**6.267 382**
50	45	1	**6.267 383**
60	50	1	**6.267 384**

5 Crucibles, quartz glass, medium form

Transparent silica (Quartz glass). Medium form.

Capacity	Ext. diam.	Height	PK	Cat. No.
ml	mm	mm		
20	40	32	1	**9.250 340**
49	50	40	1	**9.250 350**
90	60	48	1	**9.250 351**

6 LLG-Porcelain incinerating dishes

Capacity	Ext. diam.	Height	Form	Spout	PK	Cat. No.
ml	mm	mm				
21	40	20	deep	without	1	**6.237 126**
64	60	30	deep	with	1	**6.241 972**
64	60	30	deep	without	1	**6.242 424**
70	81	20	low	without	1	**7.654 046**
103	70	35	deep	without	1	**7.654 045**

E & OE.

1 LLG-Porcelain incinerating boats, with loop handle

Unglazed.

Length mm	Width mm	Height mm	PK	Cat. No.
40	12	10	1	9.250 943
75	13	8	1	9.250 940
85	13	8	1	9.250 942
90	13	8	1	6.243 229
105	14	9	1	9.250 941

2 Magnesia trays

Width mm	Length mm	PK	Cat. No.
9	100	100	9.152 109

3 Magnesia rods

For flame tests.

Type	PK	Cat. No.
Magnesia rods	100	9.152 125

4 Reagent spoons, 18/10 steel

Overall length mm	Dimensions Spoon (L x W) mm	PK	Cat. No.
200	25 x 15	1	4.008 513

5 LLG-Multi-purpose spoon, 18/10 steel

Length mm	For	Dimensions Spoon (L x W) mm	PK	Cat. No.
150	Right hander	35 x 15	1	9.150 800
180	Right hander	35 x 15	1	9.150 801
210	Right hander	35 x 15	1	9.150 802
250	Right hander	35 x 15	1	9.150 073
300	Right hander	35 x 15	1	9.150 074
150	Left hander	35 x 15	1	9.150 080
180	Left hander	35 x 15	1	9.150 081
210	Left hander	35 x 15	1	9.150 082

6 Spatulas, round grooved, 18/10 steel

Polished, round grooved.

Length mm	Spatula width mm	PK	Cat. No.
150	9	1	4.008 448
180	9	1	4.008 449
210	9	1	4.008 450

7 LLG-Spoon spatulas, 18/10 steel, wide form

18/10 steel. Wide form.

Length mm	PK	Cat. No.
120	1	4.008 445
150	1	9.150 810
180	1	9.150 811
210	1	9.150 812
250	1	4.008 446
300	1	4.008 447

1   Micro spoon spatulas, 18/10 steel

Excellent grade polished stainless steel with one end having a flat spatula and the other end having a micro spoon.

Length mm	PK	Cat. No.
150	1	9.150 820
180	1	4.008 451

2   3   Double ended spatulas, 18/10 steel

18/10 steel. Narrow form.

Length mm	Type	PK	Cat. No.
130	straight	1	4.008 454
150	straight	1	4.008 455
185	straight	1	4.008 456
210	straight	1	4.008 457
250	straight	1	4.008 458
300	straight	1	4.008 459
150	curved	1	6.267 385
180	curved	1	6.267 386
210	curved	1	6.267 387

4   5   Double-ended spatulas, 18/10 steel

18/10 steel. With one end having a flat spatula and the other end having a flat spatula with rounded edges.

Length mm	Spatula width mm	Type	PK	Cat. No.
130	9	Straight	1	9.220 013
150	9	Straight	1	9.220 015
185	9	Straight	1	9.220 018
210	11	Straight	1	9.220 021
250	11	Straight	1	9.220 025
300	16	Straight	1	9.220 030
150	9	Bent	1	9.220 115
185	9	Bent	1	9.220 118
210	11	Bent	1	9.220 121
250	11	Bent	1	9.220 125

6   Double ended spatulas chattaway, 18/10 steel

Polished stainless steel with one end flat and the other with a bent flat end.

Length mm	Spatula width mm	PK	Cat. No.
100	9	1	4.008 452
130	9	1	4.008 453
150	9	1	9.150 815
180	9	1	9.150 816
210	9	1	9.150 817

7   LLG-Macro Spoon Spatula, PP

Consists of a spoon on one side which allows easy transfer of sample, while the other end is a flat construction with a knife edge which can be used to draw salt or breaking crystals.

Length mm	PK	Cat. No.
150	25	6.267 390
180	25	6.267 391
210	25	6.267 392

E & OE.

1 Sampling spoon, PP

White PP. Length 180 mm. Autoclavable at 121 °C.
Long handle reaches easily into jars, bottles and other confined areas; minimizes the potential of personal contact with sampled material. Safe for food, drug and cosmetic contact.

Capacity ml	Width mm	PK	Cat. No.
1.25	20	1	**9.150 643**
2.46	25	1	**9.150 644**
4.93	30	1	**9.150 645**
14.79	39	1	**9.150 646**

2 3 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.
- 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
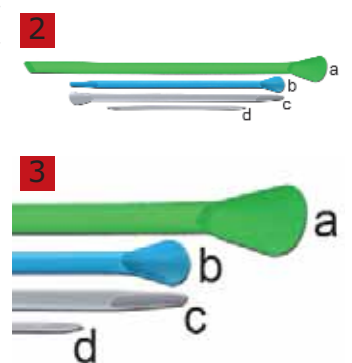
Description	Colour	For tubes ml	Length mm	Diam. mm	Figure	PK	Cat. No.
Micro Antistatic	Natural	0.2	140	3.5	d	300	**6.256 896**
Eco	Natural	15/1.5/2.0	140	7.0	-	300	**6.256 894**
Standard	Blue	15/1.5/2.0	210	7.0	b	300	**6.256 893**
Standard	Natural	15/1.5/2.0	210	7.0	c	300	**6.256 895**
Standard sterile	Natural	15/1.5/2.0	210	7.0	-	100	**6.256 898**
Macro	Green	50	310	1.0	a	150	**6.256 897**

4 Spatulas with wooden handle, stainless steel

Flexible, long blade as outlined below.

Length mm	Blade length mm	Blade width mm	PK	Cat. No.
165	75	14	1	**9.220 607**
190	100	18	1	**9.220 610**
230	130	20	1	**9.220 613**
250	150	22	1	**9.220 615**
275	165	27	1	**9.220 616**
310	200	32	1	**9.220 620**
365	250	38	1	**9.220 625**
415	300	42	1	**9.220 630**

5 Tongue depressors, wooden

Wooden.

Length mm	PK	Cat. No.
150	100	**9.165 101**

1 Stirring rods, soda glass

AR- soda glass. With flame-polished ends.

Length	Ext. diam.		PK	Cat. No.
mm	mm			
200	3		10	**9.197 403**
200	3		1	**9.197 413**
150	4		10	**9.197 404**
150	4		1	**9.197 415**
200	4		10	**9.197 405**
200	4		1	**9.197 416**
150	5		10	**9.197 406**
150	5		1	**9.197 419**
200	5		10	**9.197 407**
200	5		1	**9.197 420**
150	6		10	**9.197 408**
150	6		1	**9.197 422**
200	6		1	**9.197 423**
200	6		10	**9.197 424**
250	6		1	**9.197 425**
250	6		10	**9.197 426**
300	7		1	**9.197 430**
300	7		10	**9.197 431**
300	8		1	**9.197 432**
300	8		10	**9.197 433**
300	9		1	**9.197 434**
300	9		10	**9.197 435**

2 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		PK	Cat. No.
	mm			
straight body form	130		1	**6.236 264**
curved body form	130		1	**9.204 222**

3 LLG-Scissors general purpose, stainless steel

Excellent grade polished stainless steel with straight form and close shanks.
Available as 3 types:
- sharp/sharp points
- blunt/blunt points
- sharp/blunt points

Type	Length		PK	Cat. No.
	mm			
sharp - sharp	130		1	**6.237 703**
sharp - sharp	160		1	**9.204 231**
blunt - sharp	130		1	**9.204 232**
blunt - sharp	160		1	**9.204 233**
blunt - blunt	130		1	**9.204 234**
blunt - blunt	160		1	**9.204 235**

Universal scissors, stainless steel, Plastic handle

Length	Description	PK	Cat. No.
mm			
130	Straight	1	**4.008 515**
160	Straight	1	**4.008 516**
200	Curved	1	**4.008 517**

4.008 515

4.008 516

4.008 517

E & OE.
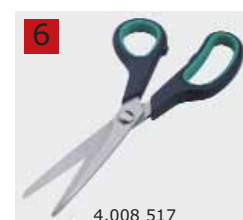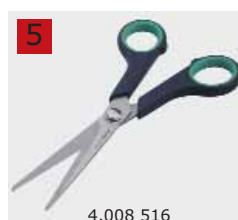
LLG-All round Cutter with rubber grip

9.160 656

An easy and comfortable handling is ensured by the ergonomically shaped and rubber grip. The break-off device is integrated into the grip section of the ABS plastic casing. Comes with a metal blade guide and auto-lock system. Both cutters will be delivered on blister cards including 2 spare cutting blades.

9.160 657

Type	PK	Cat. No.
LLG-All round Cutter 18 mm	1	**9.160 656**
LLG-All round Cutter 9 mm	1	**9.160 657**
Replacment blade for LLG-All round Cutter 18 mm	10	**9.160 658**
Replacment blade for LLG-All round Cutter 9 mm	10	**9.160 659**

3 LLG-Multi-purpose tool

Blue anodised housing with stainless steel screws. Specifications: Needlenose Pliers, Wire Cutters, Wire Stripper, Knife, Saw Knife, Saw, Screwdriver, Crosshead Screwdriver, Bottle/Can Opener, File. Supplied completely with Nylon Belt Pouch. Dimensions: 100 x 45 x 20 mm

Type	Weight g	PK	Cat. No.
LLG-Multi-purpose tool	230	1	**9.160 000**

4 LLG-Hose cutter

A perfect tool to cut even thick hoses with external diameter from 6.0 mm to 25 mm. The cut edges of tubings with the tube cutter are always clean and flat. Offers a clean and sharp cut of tubings in few seconds. Hose cutter has a two end blade which can be turned when one gets blunt and the other sharp side used.

Description	PK	Cat. No.
for diam. 6 - 25 mm	1	**6.267 395**

5 LLG-Universal slicer

Heavy duty scissor for cutting almost all material even also thin layers of steel. Cutting blade is manufactured from high quality hardened stainless steel. Spring supported ergonomic plastic handle with safety lock offers easy and secure use.

Length mm	PK	Cat. No.
185	1	**6.267 394**

6 Glass markers, diamond-tipped

Writing diamond for writing on glass. Available as a pen with retractable tip or mounted on a wooden handle.

Type	PK	Cat. No.
With wooden grip	1	**9.032 920**
Pen type	1	**9.032 930**

7 LLG-Forceps assortment, 4-parts, chromium-nickel steel

LLG-Forceps assortment, 4-parts, chromium-nickel steel (1.4301) in synthetic leather bag including:
1 Sharp forcep, curved, 115 mm
1 Thumb forcep, 115 mm
1 Forcep with guide pin straight, 130 mm
1 Coverglass forcep, 115 mm
1 Synthetic leather bag, 6 subjects 100 x 175 mm

Description	PK	Cat. No.
LLG-Forceps assortment, 4-parts	1	**9.160 394**

E & OE.

1   One-time tweezers, PS, sterile

One-time tweezers, 120 mm, sterile, PS, anatomic

Description	PK	Cat. No.
One-time tweezers, sterile	100	**6.270 262**

2   LLG-Forceps, 18/10 steel

Sprung flutes.

Length mm	Type	PK	Cat. No.
105	blunt-straight	1	**4.008 471**
115	blunt-straight	1	**4.008 472**
130	blunt-straight	1	**4.008 473**
145	blunt-straight	1	**6.255 826**
160	blunt-straight	1	**4.008 474**
200	blunt-straight	1	**4.008 475**
250	blunt-straight	1	**4.008 476**
300	blunt-straight	1	**4.008 477**
115	blunt-straight, with tooth	1	**4.008 478**
130	blunt-straight, with tooth	1	**4.008 479**
145	blunt-straight, with tooth	1	**4.008 480**
160	blunt-straight, with tooth	1	**4.008 481**
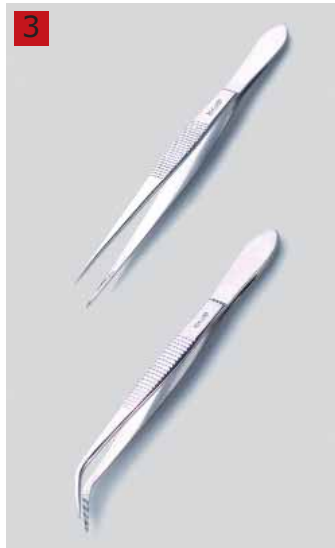
3   LLG-Dissecting forceps, stainless steel 420

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**

4   LLG-Cover glass forceps, self-locking, stainless steel

Stainless steel 4301

Length mm	Form	PK	Cat. No.
105	Straight	1	**9.160 380**
105	Curved	1	**9.160 381**

40

E & OE.

1 — LLG-Cover glass forceps, type Kühne, stainless steel

Stainless steel 4301

Length mm	Form	PK	Cat. No.
115	Curved	1	9.160 386
130	Curved	1	9.160 387
145	Curved	1	9.160 388
115	Straight	1	9.160 391
130	Straight	1	9.160 392
145	Straight	1	9.160 393

2 — Forceps, PMP

White. Polymethylpentene (PMP). Elastic. With pointed ends. Comfortable to use. Self-sprung. Autoclavable (121 °C).

Length mm	PK	Cat. No.
115	1	9.171 411
145	1	9.171 414

3 — LLG-Sampling scoops, Set of 3 parts, PP

Volume marked. Scoops have flat bottom which enables horizontal standing. Scoops have rounded corners for easy cleaning. Excellent for scooping of small or large volumes anything from powder to ice. Packed as 3 scoops as a set with scoop volume of 50, 100 and 250 ml.

Description	PK	Cat. No.
Set 3-parts each 1x 50, 100 and 250 ml	1	6.267 393

4 — LLG-Dispensing scoops, PE-HD

For heavy industrial use. Suitable for foodstuff.

Capacity ml	Length mm	PK	Cat. No.
250	25	1	9.201 091
500	30	1	9.201 092
1000	35	1	6.240 471
1500	40	1	9.201 093

5 — Dispensing scoops, Aluminium

Capacity ml	Overall length mm	Length Scoop mm	PK	Cat. No.
42	135	80	1	9.201 113
105	185	113	1	9.201 118
140	210	120	1	9.201 121
260	250	145	1	9.201 125
340	265	155	1	9.201 126
555	310	185	1	9.201 131
675	350	220	1	9.201 135
1510	400	270	1	9.201 140
3000	430	300	1	9.201 143

E & OE.

General laboratory consumables
Heating/Burners

1   Teclu burner, Ms-Ni

Nickel-plated brass and steel. DIN 30665. max. 1300 °C, with needle valve, air regulator and pilot light. An anti-slip rubber coating under the base ensures absolute stability.

Height mm	Rating kW	Type	PK	Cat. No.
180	1.53	Natural	1	**9.018 377**
180	2.36	Propane	1	**9.018 378**

2   Bunsen burners

Bunsen burner with needle valve and pilot flame DIN (NG-2411 BO0031).

Height mm	Weight g	Description	PK	Cat. No.
150	300	for natural gas	1	**9.018 313**
150	300	for propane gas	1	**9.018 314**

3   Bunsen burners

Bunsen burner with needle valve DIN (NG-2411 BO0031).

Height mm	Weight g	Description	PK	Cat. No.
150	320	for natural gas	1	**9.018 316**
150	320	for propane gas	1	**9.018 317**

4   Piezoelectric gas lighter, Clipper

Piezoelectric.

Type	PK	Cat. No.
Piezoelectric gas lighter, Clipper	1	**9.018 820**

E & OE.

1   Beaker tongs, stainless steel

Beaker tongs of 300 mm length is made out of stainless steel. Insulated jaws are used to hold all types of beakers.

Length mm	For	Temp. range max. °C	PK	Cat. No.
300	beakers volume up to 1000 ml	120	1	**6.237 287**

2   Flask tongs, stainless steel

Stainless steel flask tongs - 300 mm length with insulated jaws, used to hold all types of flasks.

Length mm	For	Temp. range max. °C	PK	Cat. No.
300	flasks volume up to 2000 ml	120	1	**4.008 397**

3   Crucible tongs, 18/10 steel

With bow and flutes.

Length mm	PK	Cat. No.
300	1	**4.008 441**

4   Basin tongs, 18/10 steel

Length mm	PK	Cat. No.
300	1	**4.008 440**

1 Safety tripod for laboratory gas burners

Perfect and safe combination of tripod and laboratory gas burner
- No risk of toppling the tripod and the laboratory burner!
- The laboratory gas burner is always in an optimal position, no risk of shifting of the burner.
- The safety tripod is suitable for use with DIN laboratory gas burners.
- Assembling is very easy - just screw one of the delivered screws into the interior thread at the bottom of the gas burner.
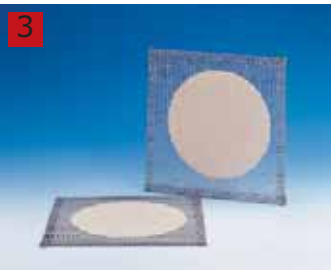
Description	PK	Cat. No.
TECLU Unit with adapter screws	1	**6.265 849**

2 Tripod stand

Chrome plated steel. Tripods are meant to be used in conjunction with wire gauze, triangles or a sand bath.

Diam. mm	Description	PK	Cat. No.
125	total height 200 mm	1	**6.242 704**
125	adjustable height min 200 mm/ max 250 mm	1	**4.008 512**

3 Wire gauzes

Steel wire with round ceramic centre. Sizes as outlined below.

Width mm	Length mm	PK	Cat. No.
120	120	1	**9.033 632**
160	160	1	**9.033 636**
200	200	1	**9.033 640**

LLG LABWARE

E & OE.

1　Tubing for gas burners

According to DIN 30664 section 1. Without reinforcement and jacket. Connecting line for connecting between safety gas connection fitting according to DIN 3383-4 and gas burners for laboratories according to DIN 30665 section 1.
For all gases according to DVGW worksheet G 260, at pressures up to 100 mbar and temperatures up to 70 °C. Installations according to DVGW-TRGI 2008 and DVGW worksheet G 621. DVGW Reg.-No. NG-4607AU2366. Supplied per metre.

Int. diam. mm	Wall thickness mm	PK	Cat. No.
10	2.00	1	**9.018 970**

2　Tubing

Red. Rubber (NR). Durometer 45 Shore A. Supplied per metre or in standard coils of 25 m.

Int. diam. mm	Wall thickness mm	PK	Cat. No.
2	1.00	1	**9.205 157**
3	1.00	1	**9.205 158**
3	1.50	1	**9.205 159**
4	1.00	1	**9.205 160**
4	1.50	1	**9.205 166**
4	2.00	1	**6.076 831**
5	1.50	1	**9.205 170**
5	2.00	1	**9.205 171**
6	1.50	1	**9.205 173**
6	2.00	1	**9.205 174**
7	1.50	1	**9.205 179**
7	2.00	1	**9.205 180**
8	2.00	1	**9.205 184**
9	2.00	1	**9.205 187**
10	2.00	1	**9.205 192**
12	2.50	1	**9.205 195**
15	3.00	1	**6.054 526**
18	3.00	1	**9.205 200**

3　Vacuum tubing, rubber

Red. Rubber (NR). Durometer 45 Shore A. Supplied per metre or standard coils of 25 m.

Int. diam. mm	Wall thickness mm	PK	Cat. No.
4	4.00	1	**9.205 804**
5	4.00	1	**6.075 946**
5	5.00	1	**9.205 805**
6	4.00	1	**6.079 829**
6	5.00	1	**9.205 806**
7	4.00	1	**6.077 239**
7	5.00	1	**9.205 807**
8	5.00	1	**9.205 808**
8	6.00	1	**6.053 348**
10	3.00	1	**6.078 678**
10	5.00	1	**9.205 809**
10	8.00	1	**6.078 473**
12	5.00	1	**6.054 195**

4　Fabric-reinforced PVC tubing

Transparent. Supplied per metre or in standard coils of 50M. PVC with terylene mesh reinforcement. Certified by German TÜV with due regard to regulatory of DIN EN ISO 5774:2008. Proofed by BGVO directive 2002/72/EC bis 2008/39/EC for food contact. Durometer 77 Shore A.

Int. diam. mm	Ext. diam. mm	Wall thickness mm	PK	Cat. No.
6.00	12.0	3.00	1	**9.205 816**
8.00	14.0	3.00	1	**9.205 818**
10.00	16.0	3.00	1	**9.205 820**
12.50	18.5	3.00	1	**9.205 823**

1 PVC-Tubing

Approved by BGVO directive 2002/72/EC and 2008/39/EC for food contact. Approved by KTW-C directive - Germany Federal Environment Agency for use in cold water. Durometer 77 Shore A.
Price per metre.

Int. diam. mm	Ext. diam. mm	Wall thickness mm		PK	Cat. No.
2.00	4.0	1.00		1	**9.205 345**
3.00	5.0	1.00		1	**9.205 358**
3.00	6.0	1.50		1	**9.205 359**
4.00	6.0	1.00		1	**9.205 365**
4.00	7.0	1.50		1	**9.205 366**
5.00	7.0	1.00		1	**9.205 369**
5.00	8.0	1.50		1	**9.205 370**
6.00	8.0	1.00		1	**9.205 372**
6.00	9.0	1.50		1	**9.205 373**
6.00	10.0	2.00		1	**9.205 374**
7.00	10.0	1.50		1	**9.205 379**
7.00	11.0	2.00		1	**9.205 380**
8.00	11.0	1.50		1	**9.205 382**
8.00	12.0	2.00		1	**9.205 384**
9.00	12.0	1.50		1	**9.205 386**
9.00	13.0	2.00		1	**9.205 387**
10.00	14.0	2.00		1	**9.205 392**
12.00	16.0	2.00		1	**9.205 394**
15.00	19.0	2.00		1	**9.205 397**
18.00	22.0	2.00		1	**9.205 398**

2 Tubing, silicone, Rausil FG

Suitable for food use, talc-powdered, according to BfR (BgVV) and FDA177.2600.
Supplied per meter or in standard coils of 50 m. Durometer 60 Shore A.

Int. diam. mm	Ext. diam. mm	Wall thickness mm		PK	Cat. No.
1.00	3.0	1.0		1	**9.205 222**
1.50	3.5	1.0		1	**9.205 233**
2.00	4.0	1.0		1	**9.205 245**
2.00	6.0	2.0		1	**9.205 246**
3.00	5.0	1.0		1	**9.205 258**
3.00	6.0	1.5		1	**9.205 259**
3.00	7.0	2.0		1	**9.205 260**
4.00	6.0	1.0		1	**9.205 265**
4.00	7.0	1.5		1	**9.205 266**
5.00	7.0	1.0		1	**9.205 269**
5.00	8.0	1.5		1	**9.205 270**
6.00	9.0	1.5		1	**9.205 273**
6.00	10.0	2.0		1	**9.205 274**
7.00	10.0	1.5		1	**9.205 279**
7.00	11.0	2.0		1	**9.205 280**
8.00	11.0	1.5		1	**9.205 282**
8.00	12.0	2.0		1	**9.205 284**
9.00	13.0	2.0		1	**9.205 287**
10.00	14.0	2.0		1	**9.205 292**
12.00	16.0	2.0		1	**9.205 294**

3 Plug tubing connectors, PE

PE. Comprising of two pull-apart sections, similar to conical ground joint. Not suitable for high pressure applications.

For tubing bore mm	Length mm		PK	Cat. No.
3 to 5	57		1	**9.207 261**
5 to 7	65		1	**9.207 262**
7 to 9	70		1	**9.207 263**
9 to 12	75		1	**9.207 264**
11 to 14	80		1	**9.207 265**
14 to 16	85		1	**9.207 266**

E & OE.

1   Y - tubing connectors, PP

Transparent, PP. Y- shape.

For tubing bore mm	Length mm	PK	Cat. No.
3 to 4	24	1	**9.207 200**
4 to 5	35	1	**9.207 203**
6 to 7	54	1	**9.207 205**
8 to 9	64	1	**9.207 207**
10 to 11	74	1	**9.207 208**
12 to 13	87	1	**9.207 210**

2   120° Y connectors, PP

Diam. mm min./max.	Tubing i.d. mm	PK	Cat. No.
4/5/6	1.5	1	**9.207 231**
6/7/8	2.7	1	**9.207 232**
8/9/10	4.7	1	**9.207 233**
10/11/12	5.5	1	**9.207 234**
12/13/14	7.6	1	**9.207 235**
14/15/16	9.6	1	**9.207 236**

3   4 way connectors, PP

Diam. mm	Tubing i.d. mm	PK	Cat. No.
3.5	1.5	1	**9.207 241**
6.0	2.7	1	**9.207 242**
8.0	4.6	1	**9.207 243**
10.0	7.0	1	**9.207 244**
12.0	8.0	1	**9.207 245**
13.5	9.5	1	**9.207 246**
15.0	11.6	1	**9.207 247**
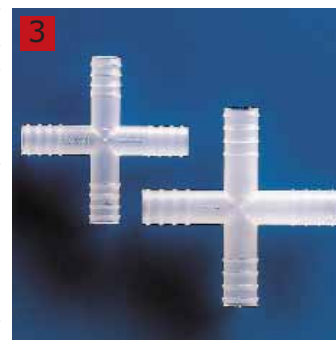
4   L - tubing connectors, PP

Transparent, PP. L-shape.

For tubing bore mm	Length mm	PK	Cat. No.
3 to 4	15	1	**9.207 251**
5	21	1	**9.207 252**
6 to 7	25	1	**9.207 253**
8 to 9	30	1	**9.207 254**
10 to 11	36	1	**9.207 255**
12 to 13	42	1	**9.207 256**
14 to 15	48	1	**9.207 257**
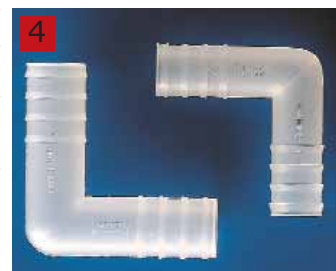
5   Non-return valves, PP

Prevents water back-flow when pressure falls. Useful for any tubing system and vacuum line. Maximum safe working pressure: 2 bar, minimum: 0.07 bar at room temperature (20 °C).

Int. diam. mm	PK	Cat. No.
8-10	1	**9.303 028**
10-15	1	**9.303 029**

1 Mediclips

Robust PPF. For flat widths of dialysis tubing up to 40 mm.

Type	PK	Cat. No.
Mediclips	1	**9.206 300**
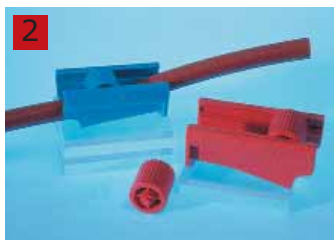
2 Keck tubing clamps KT

Thermoplastic polyester (PBT). Continuous control of flow rate in tubing with just one finger.

For external tube diam. mm	Colour	PK	Cat. No.
4.5	red	1	**9.205 904**
6.0	yellow	1	**9.205 906**
10.0	blue	1	**9.205 910**
14.0	red	1	**9.205 914**

3 Tubing clamp, Acetal

Clamp is molded of strong, durable plastic with serrated jaws 27 mm long. Attach at any point on tubing without disconnecting tubing. Designed to be operated with one hand, the clamp locks closed and opens when the locking tab is released.
- Autoclavable
- One hand open and close operation
- For use on tubing with a wall thickness of 0.82 mm or thinner
- When not in use, the circular opening (approximately 6 mm diameter) at hinge end allows clamp to remain attached to tubing having 6-10 mm OD with little to no restriction in flow
- Overall length is 59 mm

Type	PK	Cat. No.
Tubing clamp	12	**6.200 838**

4 WILO- Curved tubing clamps

SK range. Steel. Large, plastic knurled nut with embedded brass screwthread insert which closes a metal bracket onto the curved tubing stirrup. Clamping range 10 mm to 30 mm. Temperature resistant up to 150 °C.

Clamping range mm	Material	PK	Cat. No.
10	Knurled nut Aluminium	1	**9.180 210**
15	Knurled nut Moulded plastic	1	**9.180 215**
20	Knurled nut Moulded plastic	1	**9.180 220**
30	Knurled nut Moulded plastic	1	**9.180 230**

5 Tubing clamps

Hose clips, with hexagonal head.

Jaw opening mm	PK	Cat. No.
10 to 5.5	1	**9.207 510**
12 to 8.5	1	**9.207 512**
14 to 9.5	1	**9.207 514**
17 to 12.0	1	**9.207 517**
21 to 16.0	1	**9.207 521**
25 to 20.0	1	**9.207 525**
29 to 24.0	1	**9.207 529**

E & OE.

1 Adhesive label tape Write-on™, writable

Specially coated plastic tape with adhesive backing. Makes labels of any length. Can be used with any pens. Excellent adhesion to glass, metal, PE, etc. Resistant to humidity, as well as acids and alkali solutions in weak concentrations. Leaves no residue when removed.

Temperature resistance
up to +257 °C: 30 min
up to +80 °C: 24 h
Resistant to -80 °C.
Autoclavable at 121 °C.

Colour	Width mm	Length m	PK	Cat. No.
White	12.7	36.4	1	**9.040 379**
White	19.0	36.4	1	**9.040 380**
White	25.4	36.4	1	**9.040 381**
White	12.7	54.6	1	**9.040 351**
White	19.0	54.6	1	**9.040 352**
White	25.4	54.6	1	**9.040 353**
Red	12.7	36.4	1	**9.040 336**
Red	19.0	36.4	1	**9.040 341**
Red	25.4	36.4	1	**9.040 346**
Yellow	12.7	36.4	1	**9.040 337**
Yellow	19.0	36.4	1	**9.040 342**
Yellow	25.4	36.4	1	**9.040 347**
Green	12.7	36.4	1	**9.040 338**
Green	19.0	36.4	1	**9.040 343**
Green	25.4	36.4	1	**9.040 348**
Blue	12.7	36.4	1	**9.040 339**
Blue	19.0	36.4	1	**9.040 344**
Blue	25.4	36.4	1	**9.040 349**
Orange	12.7	36.4	1	**9.040 340**
Orange	19.0	36.4	1	**9.040 345**
Orange	25.4	36.4	1	**9.040 350**

2 Adhesive tape dispenser Write-On™ Economy

Provides a smooth writing surface, making labeling easy and fast. When marked tape is advanced and cut off on the serrated edge, a fresh length of label tape is positioned on the writing platform. Plastic cutting edge is moulded into the housing. Various widths and colours of tape rolls can be mixed together on the spindles, which accommodates 5 or more 12 to 19 mm narrow rolls or 4 x 25 mm wide rolls. Spindles are easily removed from the unit for loading and unloading and can be adjusted to hold either 25 or 75mm core diameter rolls.
- Includes three plastic separating discs to assure smooth, snag free dispensing for up to four rolls of tape (additional discs on request).
- Moulded-in pen holder wells on the dispenser help to keep writing instruments handy
- Ideal for use with the full line of Write-On™ Tapes, which are available in 6 colors and 3 widths.
- Includes mounting holes for secure attachment to a benchtop (screws not included). Can also be attached to vertical surfaces using Wall Mount Adapter

Dimensions (WxDxH): 302 x 143 x 105 mm

Items supplied:
Write-On™ Economy: Adhesive tape dispenser incl. 1 roll of 12 mm white Write-On™ Labeling Tape

Type	PK	Cat. No.
Write-On™ Economy	1	**9.040 389**

3 Permanent markers, edding 404, 0.75 mm

Stroke width approx. 0.75mm. Low-odour, smudge-proof water-resistant and quick drying. Refillable. Replaceable tips. For labelling, painting and writing on virtually all materials, including glass, metal and plastics. Alcohol-based ink without toluene/xylene. Colours as outlined below.

Colour	PK	Cat. No.
Black	1	**9.050 451**
Red	1	**9.050 452**
Blue	1	**9.050 453**
Green	1	**9.050 454**

E & OE.

1 LAB-Marker II, 0.6mm, highly permanent

With hard wearing, fine fibre point. For labelling most materials (plastic, metal, china, glass etc.). Particularly suitable for tissue and cell culture applications. The non-toxic ink is dye, bleach and wash-resistant and also resists solvents including alcohol and xylene.

Colour	PK	Cat. No.
black	1	**9.050 611**
red	1	**9.050 612**

2 Lab markers, 1.0mm point

Writes on dry or wet surfaces including glass, plastic, china and metal. Colour does not run in water or alcohol when used normally, but can be washed off.

Colour	PK	Cat. No.
black	1	**9.050 601**
red	1	**9.050 602**
blue	1	**9.050 603**
green	1	**9.050 604**

3 LLG-Lab Notebook

For recording research data, experimental procedures, and design ideas. Use these notebooks to keep your information safe and well organised. Numbered, acid-free, grid pages include spaces for title, project number, book number, date, and witness signature. Lined notebooks feature college ruled pages for easy report writing. Covers are waterproof and chemical-resistant. All notebooks contain periodic and conversion tables in the back. Admissible as court evidence when used as prescribed by law. Measures: 216 x 279 mm.

Description	Type	Colour	PK	Cat. No.
100 pages	grid	black	1	**9.050 750**
200 pages	grid	blue	1	**9.050 751**
200 pages	lined	red	1	**9.050 752**

4 Molecular model system Molymod®

The Molymod® system is an original, unique system of high quality molecular models.
The set consists of a variety of atom parts and links designed to make a large number of possible structures relevant to a specific chemistry subject or use, e.g. Biochemistry, Organic or Inorganic. All sets are fully compatible.
Atom parts are made of solid clouded plastic spheres. They are available with holes from 1 to 6 in the usual angular orientations.

Type	Description	PK	Cat. No.
Introductory Set	48 atom parts, 62 links	1	**9.883 101**
Organic Set, large	111 atom parts, 140 links	1	**9.883 103**
Biochemistry Set, large	257 atom parts, 160 links	1	**9.883 107**
Organic Set, small	50 atom parts, 64 links	1	**9.883 108**
Inorganic/Organic Set, small	51 atom parts, 38 links	1	**9.883 109**
Inorganic/Organic Set, large	106 atom parts, 86 links	1	**9.883 104**
Biochemistry Set, small	72 atom parts, 40 links	1	**9.883 110**
Molecular Orbital Organic	Carbon 12/18 hydrogen bonds 9/18	1	**9.883 111**
Molecular self-assembly kit Inorganic	diamond 30 atoms	1	**9.883 112**
Molecular self-assembly kit Inorganic	graphite 45 atoms	1	**9.883 113**
Molecular self-assembly kit Inorganic	sodium chloride, 27 atoms	1	**9.883 114**
Molecular self-assembly kit Inorganic	water 26 units	1	**9.883 115**

5 LLG-Laboratory jack, stainless steel

Length mm	Width mm	Min. height mm	Max. height mm	Max. load kg	PK	Cat. No.
200	200	90	320	25	1	**9.117 220**

E & OE.

1   Rectangular retort stand bases, Stainless steel, lacquered

Highly stable laboratory stand due to the steel rectangular base which is stove enamel coated. With an M10 threaded hole in the middle of one short side. Rubber support feet prevents the stand from sliding. Laboratory stands are supplied without support rod. Please select the suitable rod from "support rods".

Width mm	Length mm	Weight g	PK	Cat. No.
130	210	1725	1	6.242 701
150	300	2830	1	4.008 486
200	315	4000	1	4.008 487

2   Tripod retort stand bases 18/10 Stainless steel

Highly stable laboratory stand due to the steel tripod base which is stove enamel coated. With an M10 threaded hole in the middle. Rubber support feet prevents the stand from sliding. Laboratory stands are supplied without support rod. Please select the suitable rod from "support rods".

Foot length mm	Weight g	PK	Cat. No.
115	805	1	4.008 488
150	1050	1	4.008 489

3   Support rods galvanised steel

Galvanised steel. External diameter 12 mm.
With or without M10 thread.

Type	Length mm	PK	Cat. No.
With thread	600	1	4.008 490
With thread	750	1	6.242 703
With thread	1000	1	4.008 491
With thread	600	1	9.224 106
With thread	750	1	9.224 107
With thread	1000	1	9.224 110
With thread	1500	1	9.224 115
Without thread	600	1	9.224 126
Without thread	750	1	9.224 127
Without thread	1000	1	9.224 130
Without thread	1500	1	9.224 135

4   Support rods 18/10 stainless steel

18/10 stainless steel. 12 mm external diameter.

Thread	Length mm	PK	Cat. No.
M 10	600	1	4.008 492
M 10	750	1	4.008 493
M 10	1000	1	4.008 494
M 10	600	1	9.224 206
M 10	750	1	9.224 207
M 10	1000	1	9.224 210
without	600	1	9.224 226
without	750	1	9.224 227
without	1000	1	9.224 230

5   6   Support ring

Steel. With or without bosshead, as outlined below.

Type	Ext. diam. mm	Weight g	PK	Cat. No.
without bosshead	70	157	1	6.900 428
without bosshead	100	216	1	6.900 429
without bosshead	130	230	1	6.201 068
without bosshead	160	260	1	6.900 430
without bosshead	180	346	1	6.900 761
with bosshead	70	210	1	6.076 309
with bosshead	100	236	1	9.223 900
with bosshead	130	266	1	9.223 901

E & OE.

1 Bosshead

Malleable cast iron with lacquered chrome finish. DIN 12895. With lug screw.

Jaw opening mm	PK	Cat. No.
16.5	1	**9.224 254**
20	1	**6.225 278**
36	1	**6.802 614**

2 Bosshead

18/10 steel. To DIN 12895. Material number 4301. Electrolytically polished, with heart screw. Angle 90°.

Jaw opening mm	PK	Cat. No.
16.5	1	**9.224 252**

3 Cross bosshead

Malleable cast iron with chrome finish. DIN 12895. 90° and 180° angle with lug screw.

Jaw opening mm	PK	Cat. No.
16.5	1	**9.224 264**

4 Bosshead, malleable iron

Double bosshead malleable iron, epoxy coated.

Jaw opening mm	Description	PK	Cat. No.
20	with M8 brass thumb bolt	1	**9.223 902**

5 Cross bosshead, cast steel

Chrome plated cast steel. Suitable for frame works and fixing perpendiculars. Can be moved vertically and horizontally along the rods.

Description	PK	Cat. No.
suitable for rods 12 mm	1	**9.224 278**

Clamp, 2 prongs

Chrome plated cast steel with two PVC coated prongs for gently holding the objects. Two seperately adjustable clamps enable perfect control of holding pressure and precise positioning of the objects. Clamps can be opened and closed smoothly with a grip width of 0-50 mm.
Available as 2 types:
- with solid stem of 12 mm rod diameter, the holding angle and distance from the support rod can be adjusted by a separate bosshead.
- with swivel mechanism which enables the object to freely swivel 360° and lockable at any angle. Complete with a integral bosshead, usable for rods maximum diameter of 21 mm.

6.237 648

9.224 401

Description	Jaw opening mm	PK	Cat. No.
solid stem clamp	0 to 50	1	**6.237 648**
swivel clamp	0 to 50	1	**9.224 401**

E & OE.

1 Retort clamps

Standard to DIN 12894. With round jaws.

Jaw opening mm	Shaft length min. mm	Material	PK	Cat. No.
25	150	Malleable cast iron, chromed	1	9.224 470
40	150	Malleable cast iron, chromed	1	9.224 471
60	150	Malleable cast iron, chromed	1	9.224 472
80	180	Steel, zinc coated	1	6.306 164

2 Universal clamp, with cork

Prongs with cork.

Jaw opening mm	Shaft length mm	Material	PK	Cat. No.
0 to 80	180	Aluminium, DIN pattern	1	9.224 501
0 to 80	150	18/10 steel	1	9.224 502

Burette clamp

- Metal burette clamps are made out of steel and can hold one burette at a time. Graduations and meniscus line of the burette are clearly visible. They can be used on support rods of 8-14 mm diameter.
- Polypropylene burette clamp can hold one burette at a time. Graduations and meniscus line of the burette are clearly visible. They can be used on support rods of 10-12 mm diameter.

Description	PK	Cat. No.
Burette clamp, metal	1	4.008 313
Burette clamp, PP	1	6.240 474
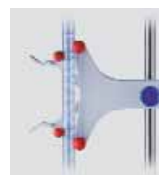
4.008 313 — 6.240 474

5 Aluminium foil

Suitable for a wide range of laboratory applications, sealing, wrapping and forming temporary containers.

Description	Length m	Width mm	Thickness µm	PK	Cat. No.
Dispenser box	100	600	30	1	6.027 813
Refilling roll	100	1000	50	1	6.050 417
Refilling roll	100	300	30	1	6.060 382
Dispenser box	100	300	30	1	6.070 786
Dispenser box	100	450	30	1	6.070 787
Refilling roll	100	500	30	1	6.075 999
Refilling roll	150	300	15	1	6.076 184
Dispenser box	150	300	15	1	6.076 250
Short roll	10	450	30	1	6.076 351
Roll	400	100	30	1	6.205 628
Roll	400	200	30	1	6.205 629
Roll	400	300	30	1	6.205 630
Refilling roll	100	600	30	1	6.510 476
Refilling roll	150	450	20	1	6.802 168
Roll	600	500	30	1	6.802 589
Roll	600	500	20	1	6.802 918
Roll	385	400	12	1	6.902 447
Refilling roll	100	450	30	1	7.510 894
Short roll	20	300	13	1	9.106 013
Short roll	10	450	15	1	9.106 015
Dispenser box	150	450	15	1	9.106 102
Dispenser box	100	300	13	1	9.106 103
Refilling roll	150	450	15	1	9.106 104
Dispenser box	100	500	30	1	9.106 105
Short roll	10	300	15	1	9.106 106
Short roll	10	300	30	1	9.106 107
Roll	200	500	50	1	9.106 205

E & OE.

1 Round aluminium discs

Interleaved with tissue paper. Foil thickness 0.03 mm

Diam. mm	PK	Cat. No.
80	1000	**9.106 208**
100	1000	**9.106 210**
120	1000	**9.106 212**
130	1000	**9.106 213**
150	1000	**9.106 215**

2 Aluminium containers, round

Capacity ml	Top diam. mm	Bottom diam. mm	Fill height mm	PK	Cat. No.
28	64	51	13	100	**9.106 240**
110	80	56	34	100	**9.106 241**
110	99	70	25	100	**9.106 242**
125	96	78	24	100	**9.106 261**
280	114	58	50	50	**9.106 263**

3 Aluminium containers, square

With lid.

Capacity ml	Dimensions top (D x W) mm	Dimensions bottom (D x W) mm	Fill height mm	PK	Cat. No.
250	103 x 128	67 x 93	34	100	**6.226 802**
500	127 x 191	92 x 156	29	60	**9.106 266**

4 LLG-Surface protector DescProtect

DescProtect is a durable paper which quickly absorbs liquid spills. The PE-coated base layer stops liquids reaching the work surface.
- stays flat, does not ripple or curl to de-stabilise vessels
- white surface can be written on using pens or pencils
- rapid absorption of liquid spills
- excellent fluid protection
- no contamination of work surfaces or laboratory cabinets
- suitable for school laboratories, wet chemistry, industry

Surface protection paper with two layers:
- Layer 1: Highly absorbent carrier paper, sucks up spilled toxic or radioactive liquids quickly
- Layer 2: Wetness impermeable polyethylene layer, protection for lab workbenches, trays or chemical cabinets
- Additional advantages: impermeable cover in animal cages, ideal in humidity chambers for atmospheric regulation

Type	Size	PK	Cat. No.
Sheets	460 mm x 570 mm	50	**9.160 270**
Spool	400 mm x 50 m	1	**9.160 271**

5 Desk protector, cork

Made from natural agglomerated cork which can be easily cleaned. Non-allergenic, anti-fungal, anti-bacterial and antistatic material. Heat and erosion resistant and also reduces noise and vibration.

Dimensions mm	PK	Cat. No.
200 x 200 x 10	1	**6.267 409**
300 x 300 x 10	1	**6.267 410**

E & OE.

1   LLG-Disposal bags, PE

Transparent. PE. Without seal.

Width mm	Length mm	Thickness mm	PK	Cat. No.
100	150	0.05	100	**9.404 128**
150	200	0.05	100	**9.404 130**
200	350	0.05	100	**9.404 140**
250	400	0.05	100	**9.404 150**
250	400	0.10	100	**9.404 151**
300	500	0.05	100	**9.404 152**
300	500	0.10	100	**9.404 153**

2   LLG-Pressure-seal bags with write on patch, PE

Transparent. PE. With rim channel seal that can be opened and closed repeatedly, and write-on patch.

Width mm	Length mm	Thickness mm	PK	Cat. No.
40	60	0.05	100	**9.404 176**
70	100	0.05	100	**9.404 173**
80	120	0.05	100	**9.404 179**
100	150	0.05	100	**9.404 171**
120	170	0.05	100	**9.404 172**
160	220	0.05	100	**9.404 177**
200	300	0.05	100	**9.404 178**

3   LLG-Pressure-seal bags, PE

Transparent. PE. With rim channel seal that can be opened and closed repeatedly.

Width mm	Length mm	Thickness mm	PK	Cat. No.
80	120	0.05	100	**9.404 160**
100	150	0.05	100	**9.404 161**
120	170	0.05	100	**9.404 162**
150	220	0.05	100	**9.404 163**
180	250	0.05	100	**9.404 164**
200	300	0.05	100	**9.404 165**
220	310	0.05	100	**6.304 307**
250	350	0.05	100	**9.404 166**
300	400	0.05	100	**9.404 167**

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.

Parafilm® M data

Toxicity	Non-toxic
Melting temperature:	60 °C
Burning point:	301 °C
Continued use temperature:	-45 °C to +50 °C
Stretching ability:	200 %
Elongation at tear:	300 %
Gas permeability over 24 hours at 23 °C and 50 % relative air humidity	
O_2 (Oxygen):	less than 350 cm³/m²
N_2 (Nitrogen):	less than 105 cm³/m²
CO_2 (Carbon dioxide):	less than 1100 cm³/m²
Steam permeability over 24 hrs. at 37 °C and 90 % relative air humidity:	0.8 g/m²

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**

E & OE.

1   LLG-Safety Eyeshields *basic*

- CE approved to EN166 and EN170
- Perfect for visitors as well as over goggles for spectacles wearers
- Integrated side lens with venting, 180° visual field
- Frame made of tested hypo-allergenic material
- 100 % UV protection (up to 380 nm)
- Weight: 43 g

Colour	Lens	PK	Cat. No.
Clear	Clear, uncoated, 2-1.2 U 1 F CE	10	**9.006 002**

2   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**

3   LLG-Safety Eyeshields *classic light*

- 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
- 100 % UV protection (up to 380 nm)
- Weight: 29 g only

Colour	Lens	PK	Cat. No.
light blue	clear, AF, AS, 2C-1.2 U 1 FT CE	1	**9.006 011**

LLG-Safety Eyeshields *evolution* and *evolution+*

- CE approved to EN166, EN170 and EN 172 for tinted lens
- Panoramic wrapping lens
- 180° field of vision
- Frame made of tested hypo-allergenic material
- Side arms adjustable in length
- Nose pad and arm tips are made from soft, mouldable material offer optimal comfort and individual customisation
- Rubber eyebrow protection for greater shock absorption
- 100 % UV protection (up to 400 nm)
- Lightweight: 30 g only

9.006 010

9.006 000

Type	Colour	Lens	PK	Cat. No.
Evolution	black/green	clear, anti-scratch and anti-fog lens, 2C-1.2 U 1 FT CE	1	**9.006 010**
Evolution+	black/green	tinted, anti-scratch and anti-fog lens, 2C-3/5-3.1 U 1 FT N CE	1	**9.006 000**

6   LLG-Safety Eyeshields *blue*

- CE approved to EN166 and EN170
- Panoramic wrapping lens
- 180° field of vision
- Frame made of tested hypo-allergenic material
- Side arms adjustable in length and inclination
- Soft ends made with outsert moulding
- 100 % UV protection (up to 380 nm)
- Lightweight: 29 g only

Colour	Lens	PK	Cat. No.
blue/silver	Clear, anti-scratch lens, 2C-1.2 U 1 F CE	1	**9.006 012**

E & OE.

LLG-Safety Eyeshields *lady*

- CE approved to EN166 and EN170
- Panoramic wrapping lens
- 180° visual field
- Frame made of tested hypo-allergenic material
- Temples with rubber tips, adjustable in length and inclination
- Nosepad and terminal tips made from soft, moldable material offer optimal comfort and individual customisation
- 100 % UV protection (up to 400 nm)
- Weight 25 g only

Colour	Lens	PK	Cat. No.
white/green	clear, AF+, AS+, 2C-1.2 U 1 FT KN CE	1	**9.006 007** 1
white/pink	clear, AF+, AS+, 2C-1.2 U 1 FT KN CE	1	**9.006 008** 2
black/green	clear, AF, AS, 2C-1.2 U 1 FT CE	1	**9.006 009** 3

9.006 007

9.006 008

9.006 009

4 Lens Cleaning Tissues

Non-abrasive cleaning for delicate optical surfaces. Lint-free fibre paper is ideal for cleaning lens and optics.
5 Booklets with 100 sheets.

Width mm	Length mm	PK	Cat. No.
100	150	500	**9.056 899**

5 6 LLG-Mini-Ultrasonic Cleaner uni*SONIC* 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
- Easy handling
- Removable lid
- Heat-retaining structure
- Weight: 630 g only
- 45 kHz ultrasonic frequency
- 30 Watt cleaning performance
- Power supply 220 - 240 V, 50 Hz
- Outer Dimensions (WxDxH) approx .: 200 x 115 x 115 mm
- Dimensions tank (WxDxH) approx .: 155 x 80 x 40 mm
- Ready to use, no assembly required

Type	PK	Cat. No.
LLG-uni*SONIC* 1	1	**6.263 560**

E & OE.

1   Surgical Face Masks, Eco Elastic Bands

- soft, non-irritating, elastic bands
- three-ply, non-fibre-glass, filter material
- integral nose bridge
- bacterial filtration efficiency 99 %
- EN 14683 CE

Colour	PK	Cat. No.
white	50	**6.264 475**
green	50	**6.264 631**
blue	50	**9.405 162**

Protection level classification

These filter classes are minimum requirements and simply serve as a guide. It is the wearers' responsibility to make sure the breathing apparatus conforms to the requirements in terms of hazardous materials and concentration before use!

FFP 1: for particles that are neither toxic nor associated with fibrosis. For protection up to 4 times the corresponding threshold limit value

FFP 2: for hazardous or harmful particles, vapour and smoke; filters for solid and liquid particles with a medium filtering level. For protection up to 10 times the corresponding threshold value

FFP 3: for poisonous particles, vapour and smoke; filters for solid and liquid aerosols with a high filtering classification. For protection up to 30 times the corresponding threshold limit value

Respirators ClassicLine, Folding Masks

ClassicLine fine dust masks are our advantageous standard programme. They offer a reliable and professional protection.

9.005 733

Description	Protection-level	PK	Cat. No.
without valve	FFP 1	10	**9.005 731**
without valve	FFP 2	10	**9.005 732**
with valve	FFP 1	10	**9.005 733**
with valve	FFP 2	10	**6.258 155**

Respirators ClassicLine, Moulded Masks

ClassicLine fine dust masks are our advantageous standard programme. They offer a reliable and professional protection.
- CE marked
- acc. to EN 149:2001

9.005 698

Description	Protection-level	PK	Cat. No.
ClassicLine without valve	FFP 1	10	**9.005 695**
ClassicLine without valve	FFP 2	10	**9.005 696**
ClassicLine with valve	FFP 1	10	**9.005 697**
ClassicLine with valve	FFP 2	10	**9.005 698**
ClassicLine with valve	FFP 3	10	**9.005 699**

E & OE.

Standards for safety gloves

EN 374 EN 374 EN 374 EN 388 EN 407 EN 421 EN 511 EN 420

EN 374	Protective hand gloves against chemicals and microorganisms;
EN 388	Protective hand gloves against mechanical risks
EN 407	Protective hand gloves against thermal risks (heat and/or fire)
EN 420	note instructions for use
EN 421	Protective hand gloves against ionising radiations and radioactive contamination
EN 511	Protective hand gloves against cold
	Not harmful to food stuffs
AQL-Value:	acceptable quality level for penetration

1 2 LLG-Disposable Gloves *classic*, Latex, Powder-Free

EN 374 EN 374 EN 420
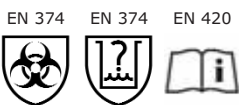
The ideal glove for all applications which require a high tactile sensitivity.
- Skin-friendly
- Excellent tactile sensitivity
- High durability due to special formulation
- **Cat. III** for complex risks. AQL 1.5.
- Thiuram free, reduced risk of contact eczemas

According to ASTM 1671 (ISO 16604) for protection against viral penetration.
According to EN 420. Suitable for food handling.

Glove shape:	flat with rolled edge, ambidextrous
Material:	natural latex
Colour:	natural white
Outside:	textured fingers
Inside:	powder free
Size/Length:	S, M, L, XL/med. 240 mm
Thickness (measured in double layer):	0.20 mm

Size	PK	Cat. No.
S	100	**9.006 383**
M	100	**9.006 384**
L	100	**9.006 385**
XL	90	**9.006 386**

E & OE.

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

EN 374   EN 374   EN 420

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 - comfortable to wear
- 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)**:	**0.12 mm**

Size	PK	Cat. No.
S	200	**9.006 371**
M	200	**9.006 372**
L	200	**9.006 373**
XL	180	**9.006 374**

1

2

1 **2** LLG-Disposable Gloves, *standard* and *standard long*, Nitrile, Powder-Free

EN 374   EN 374   EN 420

Disposable protective glove in nitrile with enhanced comfort in use and greater chemical protection - the standard glove for the laboratory.
- **Very comfortable to wear**
- Tried and tested quality product made of nitrile - excellent resistance to skin irritants in foodstuffs
- More resilience through special formulation
- For single use in applications with an increased need for safety when handling chemicals
- Free from phthalates/softeners and allergenic latex proteins
- Easy to don and particularly skin-friendly through special finishing process
- Colour 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, EN 455, EN 374-2: specified, EN 374-3: Class 6 Sodium Hydroxide 40 %. Suitable for food handling.

Glove shape:	flat with rolled edge (ambidextrous)
Material:	nitrile
Colour:	blue
Outside:	textured
Inside:	powder-free halogenated
Size/total length:	S, M, L, XL/med. 240 mm
Thickness **(measured in double layer)**:	**0.16 mm**

Size	PK	Cat. No.
S, standard	100	**9.006 375**
M, standard	100	**9.006 376**
L, standard	100	**9.006 377**
XL, standard	90	**9.006 378**

Extra long 300 mm

Size	PK	Cat. No.
S, standard long	100	**6.270 366**
M, standard long	100	**6.270 367**
L, standard long	100	**6.270 368**
XL, standard long	90	**6.270 369**

1

2

E & OE.

1 2 LLG-Disposable Gloves *strong*, Nitrile, Powder-Free

EN 374   EN 374   EN 420

Disposable, nitrile, heavy-walled, protective glove offering an enhanced resistance time against many chemicals. A protective glove for applications with higher safety requirements, but providing greater comfort in use than traditional chemical protective gloves.
- **Very sturdy - higher material thickness**
- Tried and tested quality product made of nitrile - excellent resistance to skin irritants in foodstuffs
- More resilience through special formulation
- For single use in applications with an increased need for safety when handling chemicals
- Free from phthalates/softeners and allergenic latex proteins
- Easy to don and particularly skin-friendly through special finishing process
- Colour 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, EN 455, EN 374-2: specified, EN 374-3: Class 6 Sodium Hydroxide 40 %. Suitable for food handling.

Glove shape:	flat with rolled edge (ambidextrous)
Material:	nitrile
Colour:	blue
Outside:	textured
Inside:	powder-free halogenated
Size/total length:	S, M, L, XL/med. 240 mm
Thickness **(measured in double layer)**:	**0.22 mm**

Size	PK	Cat. No.
S	100	**9.006 379**
M	100	**9.006 380**
L	100	**9.006 381**
XL	90	**9.006 382**

1

2

LLG-Glove Dispenser for 3 Boxes, Acrylic Glass

Dispenser for 3 boxes, with front insert or side slot. High-quality, sturdy design.
Mounting material included.

Description	Dimensions (W x D x H) mm	PK	Cat. No.
front insert, flexible material	260 x 90 x 405 mm	1	9.405 373
side slot, sturdy material	280 x 87 x 460 mm	1	9.405 374

9.405 373

9.405 374

3 LLG-Glove Dispenser, Coated Wire

Dispenser for 3 boxes (pict. 1), with top (left illustr.) or front insert (right illustr.). Mounting material included.
Dispenser for 1 box, with top or side slot. Mounting material included.

Description	For	Dimensions (W x D x H) mm	PK	Cat. No.
front insert	3 boxes	160 x 85 x 400	1	9.405 369
top insert	3 boxes	260 x 90 x 400	1	9.405 370
top/side insert	1 box	180 x 85 x 140	1	9.405 371
side insert	1 box	265 x 90 x 155	1	9.405 372

9.405 371

9.405 372

E & OE.

1   Chemical Protection Glove Ultranitril 492, Nitrile

EN 388   EN 374   EN 374   EN 420

4101   AJKL

Green nitrile glove with cotton flock liner. Anatomical shape. Good grip finish on palm and fingers. High mechanical resistance. Excellent chemical protection against alcohols, oils, greases and hydrocarbons. Thin material for increased dexterity. Comfort, due to the quality of the flock-lining. **Cat. III**
Packing with 1 pair.

Length:	320 mm
Thickness:	0.38 mm
Colour:	green
CE:	**Cat. III**

Size	PK	Cat. No.
XS (6)	1	**6.224 148**
S (7)	1	**9.005 170**
M (8)	1	**9.005 180**
L (9)	1	**9.005 190**
XL (10)	1	**9.005 200**
XXL (11)	1	**6.223 413**

2   Undergloves, Cotton

100% Cotton. Monofilament, ideal to wear under chemical protection gloves. 1 pair per pack.
Cat. I

Size	Length mm	PK	Cat. No.
6	250	1	**6.235 155**
7	250	1	**7.623 809**
8	250	1	**9.005 222**
9	250	1	**7.625 555**
10	250	1	**7.623 881**
11	250	1	**7.623 810**
12	250	1	**9.005 223**
13	250	1	**6.224 187**

3   Safety Gloves Clavies®, Heat Protection up to 232 °C

Soft, pliant, all-cotton terry cloth gloves are superb for handling hot objects out of the autoclave or oven, or for other heat protection in the lab, school or industry. Note: Gloves are not waterproof and should not be used to handle dry ice. CE approved.

Length gauntlet m	Overall length mm	PK	Cat. No.
130	330	1	**9.005 271**
280	470	1	**9.005 272**

4   Safety Gloves Nomex, Heat Protection up to 250 °C

EN 407   EN 388   EN 420

4231xx   12xx

Very supple, offering excellent movement. Knitted construction, without seams. Temperature resistant up to 250 °C. 1 pair per pack. **Cat. II**

Description	PK	Cat. No.
Gloves, standard	1	**9.005 250**
Gloves with forearm protection	1	**9.005 260**

E & OE.

1 Hand Protectors Hot Hand®

Made of thick-walled silicone.
Safe, non-slip protection against very hot or cold surfaces.
Measures 10cm x 19cm with durable silicone rubber construction that remains flexible from -57 °C to +260 °C. End pockets accept thumb and fingers to grasp objects.
Mitts have multiple studs with concave tips thus providing secure grip on virtually all hot/cold surfaces.

Type	PK	Cat. No.
Hot Hand®	1	**9.119 900**

2 Cleansing Lotion Ivraxo® Soft V

- mild skin cleansing lotion for lightly soiled hands
- good skin tolerance because of a balanced cleanser combination
- very skin-friendly
- adapted to the natural pH-value of human skin
- remoisturizing
- soap-free

9.191 156

Description	PK	Cat. No.
250 ml	1	**9.191 155**
1000 ml	1	**9.191 156** 2
Dosing pump for 1000 ml- hard bottle	1	**9.191 160** 3

9.191 160

4 Skin Protection Cream LINDESA® with Beeswax

Non-greasy, quickly absorbed. The cream strengthens the defensive functions of the skin, preventing skin damage from external pollution and soothes irritation. Smooths and cleans without leaving a residue. LINDESA® gives the skin elasticity and suppleness through its special caring agents. The sense of touch is not affected. For low levels of soiling it provides protection against weak acids, alkalis and organic substances.

Capacity ml	PK	Cat. No.
50	1	**9.191 159**
100	1	**9.191 161**

E & OE.

1 LLG-Laboratory coat, 100 % cotton

- very solid material, excellent wearing comfort
- snap fasteners (press buttons); easy and quick to open
- with fold-down collar
- one outside breast pocket and two side pockets
- washable up to 60 °C
- lady's coat with stitched-down back belt

Material: 100 % cotton
Colour: White
Weight: 220 g/m²

Size	Description	PK	Cat. No.
36/38	Ladies coat	1	**9.414 342**
40/42	Ladies coat	1	**9.414 343**
44/46	Ladies coat	1	**9.414 344**
44/46	Mens coat	1	**9.414 345**
48	Mens coat	1	**9.414 346**
50	Mens coat	1	**9.414 347**
52	Mens coat	1	**9.414 348**
54	Mens coat	1	**9.414 349**
56	Mens coat	1	**9.414 350**

2 Visitors gown, PP

- shirt collar
- without pockets
- 4 press studs
- weight: 34 g
- size universal
- individually packed in polybag

Size	PK	Cat. No.
universal	50	**9.414 051**

3 LLG-Working and Chemical Protective Apron Guttasyn®, PVC/PE

Made from PVC with reverse side made of PE. Material thickness: 0.5 mm. Side and neck ribbons made of woven plastic fabric and securely attached to the apron with welded PVC eyelets. Easy to clean, hygienic and dirt-repellent PVC surface. Liquids will not be absorbed but drain off the surface. Machine wash at 60 °C. Colour: white. Acc. to 89/686/EWG (Cat. III), EN 467 and EN 14605:2005.

Width mm	Length mm	PK	Cat. No.
800	1000	1	**9.414 415**
800	1200	1	**9.414 417**
1000	1200	1	**9.414 419**

4 Poncho, transparent, PE

Single-use poncho made of 25 µm thick polyethylene foil
- Versatile, e.g. for outdoor sampling
- Waterproof
- One size (100 x 120 cm)
- Individually packed, handy and space-saving

Description	PK	Cat. No.
Poncho, transparent, PE	10	**6.269 787**

E & OE.

1 LLG-Overall tritex® pro White, Type 5/6

Particle-tight, and to a limited extent, spray-tight chemical protective clothing.

The coverall made of 3-layer SMS material (spunbond-meltblown-spunbond) is robust and breathable. A meltblown filter membrane is embedded between two durable outer layers. Comfortable to wear, this coverall is a pleasant, protective companion in many work areas. Special features are the hood, the zipper cover strip, the back rubber element, and the arm and leg rubber elements.

Cat. III/CE0321/Type 5/6

Coverall individually packed!

Size	PK	Cat. No.
M	5	**6.266 640**
L	5	**6.266 641**
XL	5	**6.266 642**
XXL	5	**6.266 643**
XXXL	5	**6.266 644**

2 Bouffant Caps, PP

- polypropylene
- non-woven fabric
- soft with elastic band
- free from fibre-glass and breathable
- 52cm circumference.

Colour	PK	Cat. No.
Green	100	**9.414 040**
White	100	**9.414 041**
Blue	100	**9.414 042**

3 Disposable Overshoes, CPE

Blue Plastic CPE, PVC-free. Anti-static treated. Usage: Laboratory, clinical and food industries. Pack of 100.

Type	PK	Cat. No.
Disposable overshoes	100	**9.414 080**

1 2 3 4 LLG-GHS Warning Labels, Self-Adhesive, Roll in Dispenser Box

Dispenser box of 250 labels. These labels are produced using an extremely resistant 100 µm PE film. Due to their special surface coating they are resistant to most solvents and excellent for indoor or outdoor use. The strong adhesive, although permanent, can be removed from glass containers without leaving any trace.
Trilingual signal word: German, English, French.
Available in 2 sizes.

Type	Description	Label	Dimensions mm	PK	Cat. No.
GHS 01	warning	exploding bomb	26 x 37	250	**9.105 700**
GHS 01	danger	exploding bomb	26 x 37	250	**9.105 701**
GHS 02	warning	flame	26 x 37	250	**9.105 702**
GHS 02	danger	flame	26 x 37	250	**9.105 703**
GHS 03	warning	flame over circle	26 x 37	250	**9.105 704**
GHS 03	danger	flame over circle	26 x 37	250	**9.105 705**
GHS 04	warning	gas cylinder	26 x 37	250	**9.105 706**
GHS 05	warning	corrosive	26 x 37	250	**9.105 707**
GHS 05	danger	corrosive	26 x 37	250	**9.105 708**
GHS 06	danger	skull and crossbones	26 x 37	250	**9.105 709**
GHS 07	warning	exclamation mark	26 x 37	250	**9.105 710**
GHS 08	warning	health hazard	26 x 37	250	**9.105 711**
GHS 08	danger	health hazard	26 x 37	250	**9.105 712**
GHS 09	warning	environment	26 x 37	250	**9.105 713**
GHS 01	warning	exploding bomb	37 x 52	250	**9.105 720**
GHS 01	danger	exploding bomb	37 x 52	250	**9.105 721**
GHS 02	warning	flame	37 x 52	250	**9.105 722**
GHS 02	danger	flame	37 x 52	250	**9.105 723**
GHS 03	warning	flame over circle	37 x 52	250	**9.105 724**
GHS 03	danger	flame over circle	37 x 52	250	**9.105 725**
GHS 04	warning	gas cylinder	37 x 52	250	**9.105 726**
GHS 05	warning	corrosive	37 x 52	250	**9.105 727**
GHS 05	danger	corrosive	37 x 52	250	**9.105 728**
GHS 06	danger	skull and crossbones	37 x 52	250	**9.105 729**
GHS 07	warning	exclamation mark	37 x 52	250	**9.105 730**
GHS 08	warning	health hazard	37 x 52	250	**9.105 731**
GHS 08	danger	health hazard	37 x 52	250	**9.105 732**
GHS 09	warning	environment	37 x 52	250	**9.105 733**

1

2

GHS 01 / GHS 02 / GHS 03

3

GHS 04 / GHS 05 / GHS 06

4

GHS 07 / GHS 08 / GHS 09

5 LLG-Labels with "Biohazard" Symbol

Diameter 9.5 mm. Self-adhesive. Printing protected. For labeling of 0.5 to 2.0 ml microtubes that contains potentially hazardous substances. The labels have excellent heat resistance, chemical resistance and UV resistance and a very good adhesion to various materials, even on rough or non-polar surfaces such as on plastics with low surface energy. The material is UL certified. (File MH26760).
1000 labels per roll, in dispensing box.

Description	PK	Cat. No.
"biohazard" symbol	1000	**9.105 740**

E & OE.

1 LLG-Disposal Bags, PP, autoclavable

Constructed from very strong PP film with a broad seam at the bottom. For the disposal of contaminated labware. When autoclaving, the neck of the bag must be left open. Film thickness: 50 µm.

Size mm	auto-clavable at	Description	Package contents	PK	Cat. No.
200 x 300	134 °C	standard	Dispenser box of 100 bags	100	**9.404 099**
300 x 500	134 °C	standard	Box of 500 bags	500	**9.404 220**
400 x 780	134 °C	standard	Box of 250 bags	250	**9.404 221**
500 x 780	134 °C	standard	Box of 250 bags	250	**9.404 222**
600 x 800	134 °C	standard	Box of 100 bags	100	**9.404 103**
600 x 780	134 °C	standard	Box of 250 bags	250	**9.404 223**
700 x 1100	134 °C	standard	Box of 250 bags	250	**9.404 224**
700 x 1100	134 °C	standard	Box of 75 bags	75	**9.404 105**
200 x 300	121 °C	highly transparent	Dispenser box of 100 bags	100	**9.404 020**
300 x 500	121 °C	highly transparent	Box of 500 bags	500	**9.404 100**
400 x 780	121 °C	highly transparent	Box of 500 bags	500	**9.404 101**
600 x 800	121 °C	highly transparent	Box of 500 bags	500	**9.404 102**
700 x 1100	121 °C	highly transparent	Box of 350 bags	350	**9.404 104**

2 Holder for Waste Sacks

Steel wire. Epoxy resin coating. With rubber feet.
Supplied with 100 PP waste sacks, transparent, (l x w) 300 x 200 mm.

Int. diam. mm	Height mm	PK	Cat. No.
120	250	1	**9.404 030**

Warning: Never place sharp objects such as hypodermic needles, etc., in plastic bags! Always steam-sterilize bags unsealed. Injury hazard!

3 LLG-Autoclavable Bags, PP, autoclavable

Clear bags imprinted with blue biohazard labeling designed for safe disposal. Constructed of 50µm 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**

4 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	Figure	PK	Cat. No.
Steam indicator, lead free	18	a	1	**9.140 787**
Steam indicator, lead free	24	a	1	**9.140 788**
Steam indicator	19	b	1	**9.140 784**
Steam indicator	25	b	1	**9.140 789**
Steam indicator, strongly adhesive, for non-woven fabric	19	c	1	**9.140 790**
Steam indicator, strongly adhesive, for non-woven fabric	25	c	1	**9.140 791**
Ethylene oxide indicator	19	d	1	**9.140 792**
Hot air indicator	19	e	1	**6.240 223**

1 2 Disposal Container SHARPSAFE®, PP

Sharpsafe® offers a convenient range of disposal containers and accessories that meet high requirements of hygiene and safety. 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
- Secure one-hand use possible with different mounting accessories
- 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)
- The closure cap can be locked in the open position if required
- 2 locking positions: provisional and final, open simply by pressing the tab
- Maximum filling level clearly visible by a black line on the lid
- Safety distance between the container opening and the clear marking line of maximum filling level
- 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® is conform to ADR, TRBA 250, ISO 23907: 2013, NFX30-500 and owner of the label NF302
- Country of origin: European Union

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
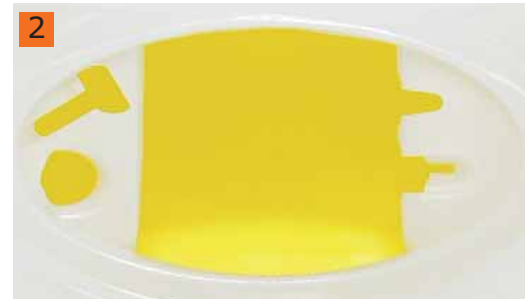
3 Waste Containers

PP. With two nickel-plated handles for carrying and holding down the lid. Bin liners please order separately.

Capacity litres	Dimensions (dia. x H) mm	Colour	PK	Cat. No.
23	350 x 450	dark green	1	**9.000 945**
46	430 x 570	dark green	1	**9.000 941**

4 Waste Bags, PE

Capacity Litres	Width mm	Length mm	PK	Cat. No.
120	750	950	12	**6.281 905**

E & OE.

1 2 Laboratory Trolley clax Mobil comfort with Box

Stable, multi-use trolley with parking brake.
Push-button collapsing/unfolding.
Made in Germany.

Load capacity:

Total:	60 kg
Upper shelf:	20 kg
Lower shelf:	40 kg

Dimensions

unfolded (L x W x H):	900 x 580 x 1020 mm
collapsed (L x W x H):	710 x 550 x 190 mm
Folding box dimensions	
Inner dimensions (WxDxH):	335 x 495 x 258 mm
Outer dimensions (WxDxH):	350 x 500 x 260 mm

Type	PK	Cat. No.
Laboratory Trolley clax Mobil comfort, incl. 1 clax folding box, 46 litres	1	**9.148 100**
	1	**9.148 099**
clax folding box single, 46 litres		

3 LLG Trolleys, Stainless Steel

Made of CNS 18/10, material no. 1.4301, with micro-polished surface. All shelves are produced with an all round raised profile edge. This prevents anything from slipping over the edge. The shelves are welded to the car. The load capacity per shelf is 80 kg. A noise-insulation mat is mounted on the bottom side of each shelf. The round tubes at the front edges are used as handgrips.
The trolleys are equipped with galvanized steel castors (4 swivel castors, 2 with brakes, castor diam. 125 mm) which are inserted in the tubular frame. Wall bumpers made of plastic (polyamide) on all four corners protect against damage.

Description	Width mm	Depth mm	Height mm	PK	Cat. No.
2 shelves, vertical spacing 585 mm	900	600	950	1	**9.148 101**
3 Shelves, vertical spacing 275 mm	900	600	950	1	**9.148 104**

LLG Laboratory Stools, PU Foam

According to EN 1728, EN 1021-1 and 1021-2, EN 61340-5-1. Surface enables easy cleaning and disinfecting. Revolving height adjustable seat. Metal 5-star bar with castors for hard and soft floors or gliders. Chromed footring as outlined below.

Type	Seat height adjustment mm	Description	Dimensions Seat (L x W) mm	PK	Cat. No.
PUR Special plus	525 - 770	5 gliders + footring	350 x 300	1	**9.732 204**
PUR Standard plus	525 - 770	5 gliders + footring	340 x 340	1	**9.732 208**
PUR Standard	425 - 540	2 x 5 castors for hard and soft floors	340 x 340	1	**9.732 209**
PUR Special plus II	430 - 555	5 gliders	350 x 300	1	**9.732 205**
Stool	570 - 740	2 x 5 castors for hard and soft floors	340 x 420	1	**9.732 206**
Castors, soft		for hard floors		5	**6.251 339**
Stop-and-go castors		for hard floors		5	**9.732 213**

9.732 204

9.732 208

9.732 209

E & OE.
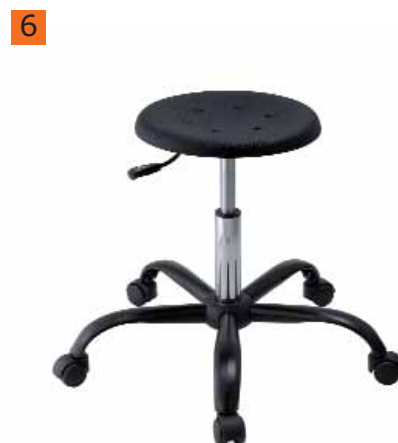
LLG Laboratory Chairs, PU Fam

According to EN 1728, EN 1021-1 and 1021-2, EN 61340-5-1. Surface enables easy cleaning and disinfecting. Revolving, height adjustable seat. Seat depth and angle and height of the backrest can be adjusted which always guarantees an ergonomic seating position. Metal 5-star bar with 5 castors for soft and 5 castors for hard and soft floors or gliders. Armrests and chromed footring as outlined below.

Type	Seat height adjustment mm	Description	Dimensions Seat (L x W) mm	PK	Cat. No.
LLG-Chair PUR Standard I	425 - 560	2 x 5 castors (soft floors) and 5 castors (hard floors)	420 x 400	1	**9.732 203** 4
LLG-Chair PUR Standard I plus	525 - 770	5 gliders + footring	420 x 400	1	**9.732 202** 3
LLG-Chair PUR Standard I plus	500 - 790	5 gliders + footring	440 x 460	1	**6.258 636**
LLG-Chair PUR Standard II plus	525 - 770	5 gliders + footring + armrests	440 x 460	1	**9.732 200** 1
LLG-Chair PUR Standard II	450 - 580	2 x 5 castors (soft floors) and 5 castors (hard floors)	440 x 460	1	**9.732 201** 2
Stop-and-go castors		for hard floors		5	**9.732 213**

1

9.732 200

2

9.732 201

3

9.732 202

4

9.732 203

5 Roller Steps, WEDO-Step

Colour: blue or red. PP. Very easy to move on 3 castors. Easily assembled. Plastic material steps feature non-slip surface.

5

Colour	Height mm	Int. diam. mm	Ext. diam. mm	Max. load kg	PK	Cat. No.
Blue	430	290	440	150	1	**9.700 400**
Red	430	290	440	150	1	**9.700 401**

1

LLG-Universal indicator paper, rolls

For the determination of pH values. Plastic dispensing reel with 1 roll of 5 m.

Range pH	Description	PK	Cat. No.
1 - 11	Dispensing reel with 1 roll	1	**9.129 800** 1
1 - 14	Dispensing reel with 1 roll	1	**9.129 802**
1 - 11	Refill packs with 3 rolls	3	**9.129 801**
1 - 14	Refill packs with 3 rolls	3	**9.129 803**

9.129 800

2

2 LLG-Universal indicator paper, strips

For determination of pH value. Box of 100 pre-cut indicator paper strips of 70 mm length.

Range pH	Package contents	PK	Cat. No.
1 - 14	box of 100 strips	100	**9.129 805**

3

LLG-Indicator paper sticks

For pH determination.

Range pH	Package contents	PK	Cat. No.
0 - 14	50 sticks per pack	50	**9.129 806**
0 - 14	100 sticks per pack	100	**9.129 807** 3

9.129 807

4
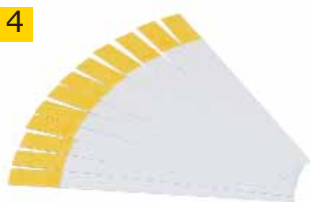
4 5 LLG-Universal Indicator strips, in vial with snap lid "*Premium*"

Flip-top vial easy to open and close with one hand. The new LLG pH strips offer the utmost in convenience and ease of use in laboratory grade testing. With a single colour match, and a 12mm reagent pad, these universal pH strips (0.0-14.0) belong in every lab.
- Single colour match - no more matching multiple pads
- 12 mm matching area for quick matches
- Flip-top vial stays closed when dropped, but is easy to open with one-hand
- Vial keeps strips safe from the elements
- 1 pack (vial) of 100 strips

Range pH	Package contents	PK	Cat. No.
0 - 14	100 strips per vial with snap lid	100	**9.129 808**

5

E & OE.

1   pH tester PHX 800

- Housing made of ABS
- Automatic switch-off after 15 minutes
- Hold-function
- Auto-lock-function
- Automatic deactivation
- Battery level indicator
- Exchangeable battery
- Robust
- Waterproof
- Adjustable

Specifications

Measuring range:	0 to 14 pH
Accuracy:	±0.1 pH
Resolution:	±0.2 pH
Operating temperature:	0 to +50 °C
Storage temperature:	-25 to +60 °C
Battery:	4 x 1.5 V A76/LR44
Battery lifetime:	approx. 150 hours
Dimensions (W x L x H):	170 x 32 x 15 mm
Weight:	approx. 70 g

Type	Description	PK	Cat. No.
PHX 800	pH tester	1	**6.266 914**

1

3   LLG-pH-Buffer solution

Tested and certified at 20 °C. Provided with label that gives the pH value at different temperatures. Tolerance ±0.02 pH. Supplied in PE-HD containers. Traceable to NIST (SRM). Temperature dependence data is printed on the label as well as batch numbers and expiry dates. Buffers have a 24 month shelf life from date of manufacture.

3

pH-value at 20 °C	Capacity ml	Buffer	PK	Cat. No.
pH 4.00	1000	citrate	1	**9.041 367**
pH 7.00	1000	phosphate	1	**9.041 368**
pH 9.00	1000	H_3BO_3-KCl-NaOH	1	**9.041 374**
pH 10.00	1000	borate	1	**9.041 369**

1 LLG-pH buffer solutions with colour coding

The ready-to-use colour coded pH buffer solutions offer excellent quality, precision and are designed to suit all end user requirements.
Supplied in 1L bottles and conveniently colour coded to eliminate any risk of confusion between the 3 pH values.

Features
- Accuracy ±0.01 pH, 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	Capacity ml	Colour	PK	Cat. No.
4.00	1000	red	1	**9.040 865**
7.00	1000	yellow	1	**9.040 866**
10.00	1000	blue	1	**9.040 867**

2 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.

Features
- Accuracy ±0.01 pH, 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	Capacity ml	Colour	PK	Cat. No.
4.00	250	red	1	**9.040 868**
7.00	250	yellow	1	**9.040 869**
10.00	250	blue	1	**9.040 871**

3 LLG-Electrolyte solutions, KCL

Potassium chloride electrolyte for pH electrodes - Filling solution for reference electrolyte.

Type	PK	Cat. No.
3mol/l, 1000 ml	1	**9.041 370**
3mol/l, 250 ml	1	**9.041 371**
3mol/l, (AgCl saturated.), 250 ml	1	**9.041 372**

4 LLG-Conductivity Solutions

- Directly traceable to NIST
- ISO 17025 Certificate including actual value, expiration date and uncertainty of measurement
- Actual expiry and temperature dependence data on label
- All standards are aqueous based and non-hazardous
- Supplied in unbreakable PE-HD bottle
- Values stated at 25 °C: Accuracy ±1%

Type	Capacity ml	PK	Cat. No.
84 µS/cm	500	1	**9.040 861**
147 µS/cm	500	1	**9.040 862**
1.413 µS/cm	500	1	**9.040 863**
12.880 µS/cm	500	1	**9.040 864**

E & OE.

Compact balances Type EMB

9.901 371

Economically priced, battery-operated models. Large LCD readout with 15 mm high digits. "Weigh-in" function simplifies mixing. Supplied with 9V block or 2 x 1.5 V AA batteries (Types EMB 2200-0 and EMB 5.2K2). With d.c. power connection socket (accessory mains adapter Cat. No. 6.270 080 available at extra cost). Auto-off function activates after 3 minutes without use for saving battery power.

Dimensions (W x D x H):   170 x 240 x 38 mm
Net weight: approx. 600 g

Type	Capacity	Readability	Reproduci-bility	Linearity	Plate diam.		PK	Cat. No.
	g	g	± g	± g	mm			
EMB 100-3	100	0.001	0.001	0.003	82		1	**6.238 426**
EMB 200-2	200	0.01	0.01	0.02	105		1	**9.901 320**
EMB 600-2	600	0.01	0.01	0.03	105		1	**9.901 321**
EMB 1000-2	1000	0.01	0.01	0.03	150		1	**6.235 728**
EMB 500-1	500	0.1	0.1	0.2	150		1	**9.901 322**
EMB 1200-1	1200	0.1	0.1	0.3	150		1	**9.901 323**
EMB 5.2K1	5200	1.0	1.0	3.0	150		1	**9.901 324**
EMB 2200-0	2200	1.0	1.0	2.0	150		1	**9.901 371**
EMB 5.2 K 5	5200	5.0	5.0	10.0	150		1	**9.901 372**

2 3 Precision balance EWJ

Verifiable entry level model in the upper laboratory class with EC type approval
- Concept of easy use: All primary functions have their own key on the keypad
- Automatic internal adjustment time-controlled every 4 hours. Guarantees high degree of accuracy and makes the location irrelevant
- Ideal for mobile applications which require verification, such as ambulatory gold and jewellery purchasing
- Compact size, practical for small spaces
- Capacity display: A bar lights up to show how much of the weighing range is still available
- Draft shield with removable cover and opening for using a pipette standard on all models 80 mm and 135 mm plate diameter. Weighing space (WxDxH): 145 x 160 x 80 mm
- RS-232 and USB interfaces for transferring weighing data to the PC, printer, USB sticks etc.

Type	Weighing range	Readability	Reproduci-bility	Linearity	Plate dimensions	PK	Cat. No.
	g	g	± g	± g	mm		
EWJ 300-3	300	0.001	0.001	0.003	Ø 80	1	**9.900 938**
EWJ 600-2M*	600	0.01	0.01	0.03	Ø 135	1	**9.900 939**
EWJ 6000-1M*	6000	0.1	0.1	0.2	155 x 145	1	**9.900 940**

*calibratable

4 LLG weighing scoops, porcelain

Length mm	PK	Cat. No.
37	1	**9.115 350**
53	1	**6.241 255**
64	1	**9.115 351**

5 Weighing scoops, stainless steel 18/10

Capacity ml	PK	Cat. No.
3	1	**6.238 169**
6	1	**6.238 170**
10	1	**6.238 171**

E & OE.

1 Weighing scoops, glass

Without counterweight.

Length mm	Material	PK	Cat. No.
60	Glass	1	**9.301 026**
80	Glass	1	**9.301 028**
100	Glass	1	**9.301 030**

2 Weighing scoops, glass

Made of high quality Borosilicate glass 3.3. Ideal for powders or granules which are dispensed via the tubular stem.

Capacity ml	PK	Cat. No.
3	1	**9.301 066**
6	1	**9.301 067**
10	1	**9.301 068**

3 Kjeldahl weighing boat 609, parchment paper, nitrogen-free

Ideal for weighing and transporting all types of sample. Especially for determination of nitrogen according to Kjeldahl (e.g. determination of total protein content in foodstuff). Made of nitrogen-free parchment paper. Can be dropped into the Kjeldahl flask and be dissolved together with the sample.

Width mm	Length mm	Height mm	PK	Cat. No.
10	55	10	100	**9.069 011**

4 Weighing paper MN 226

Transparent, smooth.
Block of 100 sheets.

Type	Width mm	Length mm	PK	Cat. No.
MN 226	90	115	100	**9.058 975**

Further weighing aids available on request.

5 LLG-Weighing bottles with NS lid, Borosilicate glass 3.3

With writing area.
Available in tall or low shape.

Form	Capacity ml	Diam. mm	Height mm	NS	PK	Cat. No.
low	6	25	25	19/12	1	**9.300 151**
low	15	35	30	29/12	1	**9.300 152**
low	15	40	25	34.5/12	1	**9.300 150**
low	26	50	30	45/12	1	**9.300 153**
low	45	60	30	50/12	1	**9.300 154**
low	80	80	30	80/12	1	**9.300 155**
tall	10	25	40	19/12	1	**9.300 160**
tall	20	30	50	24/12	1	**9.300 161**
tall	45	35	70	29/12	1	**9.300 162**
tall	70	40	80	34.5/12	1	**9.300 163**
tall	110	50	80	45/12	1	**9.300 164**

6 LLG-Sample dishes, Aluminium

High quality aluminium sample dishes, for moisture determination.

Diam. mm	Height mm	PK	Cat. No.
100	7	80	**6.265 408**

E & OE.

1 LLG-Aluminium weighing dish

Aluminium foil, for sample handling. With a flanged, crimped wall for rigidity. Finger-tab handle can be etched for identification prior to weighing. Made from oil-free, lightweight aluminium.

Diam. mm	Height mm	PK	Cat. No.
43	12	100	**6.238 138**
57	14	100	**6.238 139**
70	16	100	**6.238 140**
101*	8	50	**6.236 854**

* without handle

2 LLG-Weighing boats, antistatic, PS

Biologically inert and resistant to dilute and weak acids, aqueous solutions, alcohols, and bases. Temperature range -10 to +70 °C. Can be used with microwave moisture analysers. Features a diamond shape that easily flexes for accurate pouring and a wide, flat bottom to resist tipping.

Capacity ml	Dimensions mm	Colour	PK	Cat. No.
5	55 x 35 x 6	white	1000	**9.900 788**
30	85 x 65 x 14	white	500	**9.950 194**
100	125 x 100 x 19	white	250	**9.950 195**
5	55 x 35 x 6	black	1000	**9.900 801**
30	85 x 65 x 14	black	500	**9.950 196**
100	125 x 100 x 19	black	250	**9.950 197**

3 LLG-Hexagonal weighing boats, antistatic, PS

Biologically inert and resistant to dilute and weak acids, aqueous solutions, alcohols, and bases. Temperature range -10 to +70 °C. Can be used with microwave moisture analyzers. Bend flexible boats at points to form pour spouts. Flat bottoms to resist tipping. Sloping sides provide accurate transfer.

Size	Dimensions mm	Colour	PK	Cat. No.
Small	38 x 25 x 9	white	500	**9.900 893**
Medium	64 x 51 x 19	white	500	**9.900 894**
Large	102 x 76 x 22	white	500	**9.900 895**
X-Large	127 x 89 x 31	white	500	**9.900 896**

4 LLG-Square weighing boats, antistatic, PS

Biologically inert and resistant to dilute and weak acids, aqueous solutions, alcohols, and bases. Temperature range -10 to +70 °C. Can be used with microwave moisture analysers. Boats are shallow with a wide, flat bottom to resist tipping. Rounded corners simplify transfer.

Capacity ml	Dimensions (W x D x H) mm	Colour	PK	Cat. No.
7	44 x 44 x 8	White	1000	**9.900 785**
100	80 x 80 x 24	White	1000	**9.900 786**
250	140 x 140 x 22	White	1000	**9.900 787**
7	44 x 44 x 8	Black	1000	**9.900 789**
100	80 x 80 x 24	Black	1000	**9.900 791**
250	140 x 140 x 22	Black	1000	**9.900 800**

5 LLG-Weighing brush, with wooden handle

Fine hair weighing brush with pointed tips and wooden handle.
Excellent tool for cleaning of weighing boats, weighing dishes and analytical balances.

Description	PK	Cat. No.
LLG- Weighing brush	1	**6.267 404**

E & OE.

LLG-General-purpose thermometers economy

Solid stem, with loop, capillary yellow enameled, graduation resistant against acids and alkalies.
Red filling or environmentally friendly blue filling.

1

9.237 012

2

9.237 016

Measuring range °C	Length mm	Graduations °C	Diam. mm	Immersion depth	Charge colour	PK	Cat. No.
-10 ... +50	300	1	6	total	red	1	**9.237 010**
-10 ... +100	300	1	6	total	red	1	**9.237 011**
-10 ... +150	300	1	6	total	red	1	**9.237 012** 1
-10 ... +200	300	1	6	total	red	1	**9.237 013**
-10 ... +250	300	1	6	total	red	1	**9.237 014**
-10 ... +110	300	1	7-8	76 mm	blue	1	**9.237 015**
-10 ... +110	300	0,5	7-8	76 mm	blue	1	**9.237 016** 2
-10 ... +150	300	1	7-8	76 mm	blue	1	**9.237 017**
-10 ... +250	300	2	7-8	76 mm	blue	1	**9.237 018**
-10 ... +360	300	2	7-8	76 mm	blue	1	**9.237 019**

3

3 LLG-General purpose thermometer, red filling

Graduation resistant against acids and alkalies.
Breakage protected versions with FEP-coating available on request.

Measuring range °C	Length mm	Graduations °C	Diam. mm	Immersion depth	Capillary	PK	Cat. No.
-35 ... +50	300	1	6 ±1	total	white enameled, round	1	**9.236 720**
-20 ... +110	300	1	6 ±1	total	white enameled, round	1	**6.206 594**
-20 ... +150	300	1	6 ±1	total	white enameled, round	1	**9.236 723**
-20 ... +150	300	1	6 ±1	76 mm	white enameled, round	1	**9.236 731**
-10 ... +110	260	1	6 ±1	total	yellow enameled, round	1	**9.236 721**
-10 ... +110	270	1	6 ±1	76 mm	yellow enameled, round	1	**9.236 727**
-10 ... +150	260	1	6 ±1	total	yellow enameled, round	1	**9.236 722**
-10 ... +200	300	1	6 ±1	total	yellow enameled, round	1	**9.236 724**
-10 ... +200	300	1	6 ±1	total	white enameled, round	1	**9.236 725**
-10 ... +200	300	1	6 ±1	76mm	white enameled, round	1	**9.236 730**
-10 ... +250	300	1	6 ±1	total	yellow enameled, round	1	**9.236 726**

4 LLG- General-purpose thermometers, red filling

Enclosed-scale type, with eyelet. With uncoated, prismatic measuring capillary. Red spirit filling (except 9.235 265: blue).

4

Measuring range °C	Length mm	Graduations °C	Diam. mm	Immersion depth		PK	Cat. No.
-10/0 ... +50	200	1	7 - 8	total		1	**9.235 245**
-10/0 ... +100	260	1	7 - 8	total		1	**9.235 250**
-10/0 ... +150	260	1	7 - 8	total		1	**9.235 255**
-10/0 ... +200*	300	1	7 - 8	total		1	**9.235 260**
-10/0 ... +250*	300	1	7 - 8	total		1	**9.235 265**

* Note: With these types the colour can fade after extended periods of use at higher temperatures.

E & OE.

1 LLG- General-purpose thermometers, green filling

Glass, solid stem, with loop, white backed. Environmentally friendly thermometer, with biodegradable, green spirit filling.
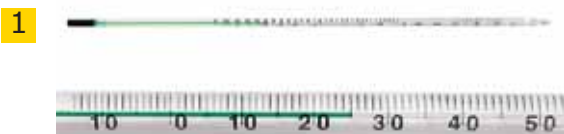
Measuring range °C	Length mm	Graduations °C	Diam. mm	Immersion depth mm		PK	Cat. No.
-10/0 ... +110	300	1.0	6-7	76		1	**9.235 275**
-10/0 ... +110	300	0.5	6-7	76		1	**9.235 276**
-10/0 ... +150	300	1.0	6-7	76		1	**9.235 277**
-10 ... +250	300	2.0	6-7	76		1	**9.235 278**
-10 ... +360	300	2.0	6-7	76		1	**9.235 279**

2 LLG-Precision thermometer, calibratable, red filling

Capillary: yellow enameled, round. Optional available with official calibration certificate, works certificate or DKD-calibration certificate. Please specify with order.
Breakage protected versions with FEP-coating available on request.

Measuring range °C	Length mm	Graduations °C	Diam. mm		PK	Cat. No.
-100 ... +30	300	1.0	6 ±1		1	**6.259 873**
-50 ... +50	280	1.0	6 ±1		1	**9.236 800**
-10 ... +100	305	1.0	6 ±1		1	**9.236 783**
-10 ... +150	305	1.0	6 ±1		1	**9.236 784**
-10 ... +200	350	1.0	6 ±1		1	**9.236 788**
-50 ... +50	300	0.5	6 ±1		1	**9.236 801**
-10 ... +100	270	0.5	6 ±1		1	**9.236 785**
-10 ... +150	350	0.5	6 ±1		1	**9.236 786**
-1 ... +101	610	0.1	6 ±1		1	**9.236 790**
-0 ... +50	420	0.1	6 ±1		1	**9.236 787**
-1 ... +200	610	0.2	6 ±1		1	**9.236 789**

3 LLG-Low temperature thermometers, -200 to +30 °C

Suitable for official calibration. Enclosed scale type, 8 to 9 mm diameter, with translucent glass scale and Richter seal. Prismatic, uncoated measuring capillary. The -200 to +30 °C thermometer has a luminous blue measuring capillary, and is pentane filled. Further thermometers are available, red toluene filled with uncoated measuring capillary. Graduated every 1 °C.
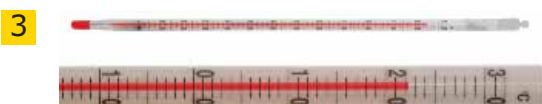
Measuring range °C	Length mm		PK	Cat. No.
-50 ... +50	300		1	**9.235 705**
-80 ... +30	300		1	**9.235 708**
-100 ... +30	300		1	**9.235 710**
-200 ... +30	300		1	**9.235 720**

4 LLG-Precision thermometer, -200 °C up to +30 °C, red filling

For measuring low temperatures from -200 up to +30 °C. Enclosed scale DIN 12778. Immersion depth total, prismatic capillary. Optional available with, works certificate or DKD-calibation certificate. Please specify with order.
Breakage protected versions with FEP-coating available on request.

Measuring range °C	Length mm	Graduations °C	Diam. mm	Capillary	Charge colour	PK	Cat. No.
-200 ... +30	350	1	9 ±1	blue reflecting	Pentanol, red	1	**9.236 780**
-150 ... +30	300	1	9 ±1	white enameled	Pentanol, red	1	**9.236 791**
-100 ... +30	305	1	9 ±1	transparent	Alcohol, red	1	**9.236 781**
-50 ... +30	305	1	9 ±1	transparent	Toluol, red	1	**9.236 782**

1 Thermometers, ground glass joint

With NS 14.5/23 cone. With fixed immersion (immersion length = lower section + ground joint). Enclosed-scale type, NS 14.5/23. Translucent glass scale. Upper section approx. 11mm diameter, lower section 7.5 mm diameter. Richter-top finish seal without button. Suitable for official calibration. Graduated every 1 °C.

Measuring range °C	Corpus mm	Immersion length mm	Charge colour	PK	Cat. No.
-10 - +150:1	250	75	red	1	**9.236 021**
-10 - +150:0,5	350	75	red	1	**9.236 022**
-10 - +250:1	300	75	blue	1	**9.236 023**
-10 - +360:1	350	75	green	1	**9.236 024**
-10 - +150:1	250	100	red	1	**9.236 025**
-10 - +150:0,5	350	100	red	1	**9.236 026**
-10 - +250:1	300	100	blue	1	**9.236 027**
-10 - +360:1	350	100	green	1	**9.236 028**

2 LLG-Exact-Temp thermometers

For monitoring critical temperature conditions in
- deep freezes
- refrigerators
- cold rooms
- blood bank refrigerators
- incubators, warming chambers

Characteristics:
- thermometer certifiable to National Standards
- supplied with works test certificate
- thermometer stem safely encapsulated in PTFE
- each thermometer is mounted in a square-shaped shatter-proof plastic bottle filled with a liquid to ensure accurate readings despite the opening and closing of instrument doors.
- each thermometer has an individual serial number.

LLG-Exact-Temp Standard thermometers, red spirit-filled

For	Measuring range °C	Grad. °C	Length mm	Bottle filling	PK	Cat. No.
Ultra Low Freezers	-90 ... +20	1.0	145	Sand	1	**9.235 663**
Freezers	-30 ... 0	0.5	125	Ethylene Glycol	1	**9.235 664**
Blood banks	-5 ... +20	0.5	145	Ethylene Glycol	1	**9.235 665**
Coolers	-5 ... +15	0.5	125	Ethylene Glycol	1	**9.235 666**
Incubators	+18 ... +50	0.5	135	Ethylene Glycol	1	**9.235 667**
Warming rooms, ovens	+20 ... +130	1.0	135	Vermiculite	1	**9.235 668**
Warming rooms, ovens	+35 ... +200	1.0	145	Vermiculite	1	**9.235 669**

LLG-Precision thermometers Exact-Temp, blue spirit-filled

For	Measuring range °C	Grad. °C	Length mm	Bottle filling	PK	Cat. No.
Refrigerators	-2 ... +10	0.1	180	Ethylene Glycol	1	**9.235 676**
Blood banks	-2 ... +10	0.1	180	Ethylene Glycol	1	**9.235 677**
Incubators	+15 ... +30	0.1	180	Ethylene Glycol	1	**9.235 678**
Incubators	+25 ... +45	0.1	190	Ethylene Glycol	1	**9.235 679**
Warming rooms, ovens	+50 ... +115	0.1	200	Vermiculite	1	**9.235 680**

E & OE.

1   LLG-Pocket thermometers

Complete with case.
Graduations 1 °C, length 140 mm, immersion depth total.
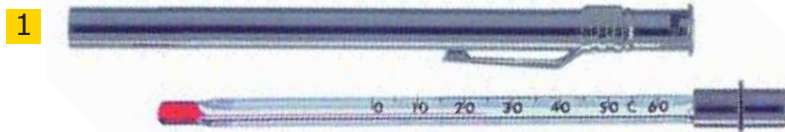
Measuring range °C	Form	Capillary	Charge colour	PK	Cat. No.
-38 ... +50	enclosed scale	transparent, prismatic	red	1	**9.236 740**
-10 ... +50	enclosed scale	transparent, prismatic	red	1	**9.236 741**
-10 ... +100	enclosed scale	transparent, prismatic	red	1	**9.236 742**
-38 ... +50	enclosed scale	transparent, prismatic	blue	1	**9.236 743**
-10 ... +50	enclosed scale	transparent, prismatic	blue	1	**9.236 750**
-10 ... +100	enclosed scale	transparent, prismatic	blue	1	**9.236 751**
-38 ... +50	stem form	white enameled, prismatic	red	1	**9.236 752**
-10 ... +100	stem form	white enameled, prismatic	red	1	**9.236 754**
-38 ... +50	stem form	white enameled, prismatic	blue	1	**9.236 755**
-10 ... +50	stem form	white enameled, prismatic	blue	1	**9.236 756**
-10 ... +100	stem form	white enameled, prismatic	blue	1	**9.236 757**

2   8-step irreversible temperature strips testoterm®

Strips for 8 temperatures. 5 types cover the measuring range +37 to +280 °C, each strip displays 8 different temperatures. Each strip measures 50 x 18mm.
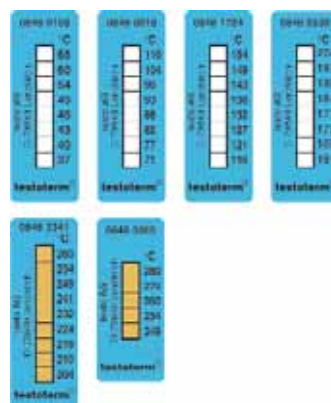
Type	Measuring range °C	Description	PK	Cat. No.
06460108	+37 ... +65	8 temperature changing points	10	**9.246 002**
06460916	+71 ... +110	8 temperature changing points	10	**9.246 003**
06461724	+116 ... +154	8 temperature changing points	10	**9.246 004**
06462532	+161 ... +204	8 temperature changing points	10	**9.246 005**
06463341	+204 ... +260	8 temperature changing points	10	**9.246 006**

3   Refrigerator thermometer

Plastic, with loop or hook clip mountings. Measuring range -40 to +40 °C. Graduated every 1 °C. Dimensions (L x dia.) 185 x 20 mm.

Type	PK	Cat. No.
Refrigerator thermometer	1	**9.242 340**

4   LLG Min/Max Thermometer with outdoor sensor

Digital thermometer with outdoor sensor.
- Two-tier LCD display
- Measuring temperature range -50 °C to +70 °C
- Display resolution 0.1 °C
- Accuracy ±1 °C
- Dimensions 110 x 70 x 20 mm
- Display size 40 x 30 mm
- AAA 1.5 V battery included
- Length of the cable 190 cm

Type	PK	Cat. No.
LLG Min/Max Thermometer with outdoor sensor	1	**9.243 165**

1   LLG-Digital pocket thermometer Type 12050

Measuring range -50 to +150 °C, accuracy ±1 °C. Probe made of stainless steel, 120 x 3.5 mm, with protective plastic sleeve and clip, with battery 1 x 1.5 V (LR44).
Overall dimensions (L x W): 75 x 20 mm.

Type	PK	Cat. No.
Type 12050	1	**9.236 706**

2   LLG-Digital pocket themometer Type 12060

Measuring range -50 to +150 °C, accuracy ±1 °C. With hold function. Probe made of stainless steel, 125 x 3.5 mm, with protective plastice sleeve and clip, with battery 1 x 1.5 V (LR44).
Dimensions (L x W): 60 x 20 mm.

Type	PK	Cat. No.
Type 12060	1	**9.236 701**

3   LLG-Digital pocket themometer Type 12070

Measuring range -50 to +300 °C, accuracy ±1 °C until 150 °C, above ±2 °C. With hold function. Probe 200 x 3.5 mm with tip made of stainless steel, with adjustable protective plastic sleeve and clip, with battery 1 x 1.5V (LR 44). Dimensions (L x W): 78 x 25 mm.

Type	PK	Cat. No.
Type 12070	1	**9.236 702**

4   LLG-Digital pocket themometer Type 12080

Waterproof. Measuring range -50 to +300 °C/-58 to +572 °F, accuracy ±1 °C until 150 °C, above ±2 °C. With hold function and Max/Min function. Probe made of stainless steel, 85 x 3.5 mm, with protective plastic sleeve, with battery 1 x 1.5 V (LR44).
Overall dimensions (L x W): 195 x 50 mm.

Type	PK	Cat. No.
Type 12080	1	**9.236 703**

5   LLG-Digital pocket themometer Type 12090

Waterproof. Measuring range -50 to +150 °C/-58 to +302 °F, accuracy ±1 °C. With hold function. Probe made of stainless steel, 85 x 3.5 mm, with protective plastic sleeve, with battery 1 x 1.5 V (LR 44). Overall dimensions (L x W): 185 x 30 mm.

Type	PK	Cat. No.
Type 12090	1	**9.236 707**

6   Thermometer Pocket-Digitemp

Waterproof instrument in plastic housing (food-grade).
Low budget, durable instrument for measuring temperature in air, gas, liquid and ductile substances (acc. to EN 13485).
Range of applications: Food (HACCP), industry and agriculture.
Features: waterproof, 1-second measuring frequency, Max-Min-Hold function, °C/°F-selectable.

Sensor:	NTC
Measuring range:	-40 °C to +200 °C
Resolution:	0.1 °C
Accuracy:	±0.8 °C (at 0 °C to 100 °C) others 1.5 °C
Dimensions:	202 x 20 x 16 mm (long version)
	150 x 20 x 16 mm (short version)
Probe dimensions:	126 x 3.5 mm (long version)
	75 x 3.5 mm (short version)
Weight:	40 g

9.851 028

Type	PK	Cat. No.
short version	1	**9.851 028** 6
long version	1	**9.851 029**

E & OE.

1   Infrared-Thermometer Slim Flash

Non-contact temperature measurement via infrared. Response time 1 second. Measuring range -33 to +199 °C, Accuracy ±2 °C or 2 %, incl. CR2032 button cell.

Type	PK	Cat. No.
Infrared-Thermometer Slim Flash	1	**9.851 998**

2   Infra-red thermometer ScanTemp 385

With IR thermometers you can measure surface temperature. A short response time and non-contact measurement are key advantages. ideal for monitoring applications such as:
- moving parts (running paper webs…)
- registering the surface temperature of gears and motors
- checking live electrical parts (components, transformers…)
- newly coated or painted parts
- food and corrosive substances

Specifications

Temperature range:	-35 °C to +365 °C
Precision:	±2 % or 2 °C, the higher value counts
Response time:	< 1 sec
Spectral sensitivity:	6 to 14µm
Operating temperature:	0 to 50 °C
Optical resolution:	12:1
Laser:	Spot laser
Dimensions (L x W x H):	147.9 x 112.6 x 41.4mm
Weight:	150g (incl. packaging)
Battery:	2 x 1.5V AAA Batteries

Type	PK	Cat. No.
ScanTemp 385	1	**9.851 996**

3   Data Logger LOG32T

-Memory size: 60 000 measurements
- Usable without software (default settings) (15-minute-interval, without alarm settings)
- Optional free of charge software download for alarm setting and free adjustable recording interval (30 sec to 24h)
- Automatic PDF creation
- Battery lifetime > 3 years (recording interval >15 minutes)
- Status and Alarm-LEDs, acoustic signal
- Includes wall mount
- HACCP (EN 12830) conform
- IP65 watertight

Specifications

Measuring range:	-40 … +70 °C
Accuracy:	±0.5 °C (-10 … +40 °C), otherwise ±1.0 °C
Resolution:	0.1 °C
Memory:	60 000 measurements
Interface:	USB (integr.)
Housing:	ABS
Dimensions (L x W x H):	100 x 19 x 19 mm
Weight:	70g
Battery:	1 x 3.6 Volt Lithium ½ AA

Type	PK	Cat. No.
LOG32T	1	**9.726 431**

E & OE.

1 LLG-Timer with Triple Alarms, 1-channel

Choice of vibration, sound and/or light alarms makes this timer perfect for high noise locations.
- Vibration, light and loud buzzer sound alarms can function at one time, or be independently turned off
- Switchable timing capacity: 19 hours: 59 minutes/99 minutes: 59 seconds
- Timer accuracy: ±5 seconds/day
- Count direction: up/down; displays elapsed time after countdown
- Last time set memory
- Key press confirmation feature gives an audible indication of data entry
- Lay it flat on a bench, use the flip-open stand for a vertical view, carry it on a lab coat with the convenient pocket clip, or use the magnetic back for metal surface attachment
- Requires two AAA batteries (included)
- Individually tested, inspected, and calibrated using NIST
- Includes Certificate of Calibration with unique report number, stated corrections and standard used for the calibration, and multi-language instructions (English, French, German, Italian, Portuguese and Spanish)
- CE-mark , RoHS compliant

Dimensions (WxDxH):   45 x 75 x 20 mm (without clip portion)

Type	PK	Cat. No.
LLG Timer with Triple Alarms, 1-channel	1	**6.266 707**

2 LLG Timer with White Board, 4 channel

This four channel timer has a built in white board that helps keep track of time and other critical information.
- Audible alarm for each channel
- Built in white board and dry erase marker with eraser tip (included) helps keep track of crucial information
- Programs: hours/minutes; Displays: hours/minutes/seconds
- Switchable timing capacity: 23 hours: 59 minutes/59 seconds
- Timer accuracy: ±5 seconds/day
- Count direction: up/down; displays elapsed time after countdown
- Last time set memory
- Key press confirmation feature gives an audible indication of data entry
- Lay flat on a bench, use the flip-open stand for a vertical view, or use the magnetic back for metal surface attachment
- Requires two AAA batteries (included)
- Individually tested, inspected, and calibrated using NIST
- Includes Certificate of Calibration with unique report number, stated corrections and standard used for the calibration, and multi-language instructions (English, French, German, Italian, Portuguese and Spanish)
- CE-mark, RoHS compliant

Dimensions (WxDxH):   114.3 x 25.4 x 88.9 mm

Type	PK	Cat. No.
LLG Timer with White Board, 4 channel	1	**6.266 706**

3 LLG-Short period timer with alarm

Timer and stopwatch at the same time, from/up to 99min. and 59 sec.
Easy-to-use, with large display and alarm function.
With magnet for easy fixing.
Battery LR 44 inclusive.
Dimensions (Ø x H):   54 x 16.5 mm
Weight: approx.40 g

Type	PK	Cat. No.
LLG-Short period timer with alarm	1	**9.260 150**

1   Interval timer with alarm

Benchtop mechanical timer. Suitable for standing, hanging and in addition on the back of two magnets, which allows the fitting of metal parts. Casing and rotary setting knob are white, the dial is black. Running time max. 60mins. Metal movement.

Dimensions (W x H x D):   70 x 70 x 40 mm

Type	PK	Cat. No.
Interval timer with alarm	1	**9.260 020**

2   Short period timer

Electronic timer and stopwatch with large display and 10-key setting. Counts up or down from 10 hours to 1 second. With pocket clip, bench stand, magnetic attachment and AAA 1.5V battery.

Dimensions (W x H x D):   60 x 70 x 25mm
Weight: 95 g

Type	PK	Cat. No.
Timer II	1	**9.851 027**

3   Laboratory Short Period Timer Compact

Compact.
Countdown/Countup.
Digital reading, with alarm and repeat function.
12hr. clock function.
Countdown and countup display: 23 hrs, 59 mins, 59 secs.
Battery SR 44 inclusive.
Dimensions (W x H x D):   64 x 60 x 16 mm
Weight: 40 g

Type	PK	Cat. No.
Compact	1	**9.262 071**

4   Dual short period timer WB 388 TR 118 OS

- Large, 6 digit, LCD readout
- 2 separate timers in one instrument
- Countdown/countup 99 hrs. 59 mins. 59 secs.
- Clock function switch
- Audible alarm sounds when 'zero' reached
- With pocket clip/bench stand and magnet
- Supplied with AAA 1.5V battery
Dimensions (W x H x D):   73 x 66 x 18 mm
Weight: 63 g

Type	PK	Cat. No.
TR 118 OS	1	**9.260 186**

5   Digital Anemometer

Digital Anemometer to measure wind speed and temperature. Useful for the functional check of fume hoods and safety cabinets.

- Wind speed range: 0 to 30 m/s
- Wind temperature range: -10 to +45 °C (14 to 113 °F)
- Current/MAX/Average wind speed reading
- Wind speed units: m/s, km/h, ft/min, knots, mph
- Temperature display in °C/°F
- LCD backlight display
- Auto/Manual power off
- Battery: 3V CR2032 (included)

Type	PK	Cat. No.
Digital Anemometer	1	**6.264 198**

1

1 LLG-Precison-Hydrometer, Saccharometers, calibratable

Measuring range, graduation: 0.1 % mas, with thermometer: 0 to +35 °C, graduation: 1 °C, calibrated at 20 °C. Filling: Hg. Overall length: 350 mm.
Optionally available with official calibration certificate, works certificate or DKD-calibation certificate. Please specify with order.

Type	Measuring range % mas	PK	Cat. No.
1	0 - 10	1	**9.236 770**
2	10 - 20	1	**9.236 771**
3	20 - 30	1	**9.236 772**
4	30 - 40	1	**9.236 773**
5	40 - 50	1	**9.236 774**
6	50 - 60	1	**9.236 775**
7	60 - 70	1	**9.236 776**
8	70 - 80	1	**9.236 777**
9	80 - 90	1	**9.236 778**

2

2 LLG-Precison-Hydrometer, Lactodensimeter, calibratable

Measuring range, graduation 0.0005 g/cm³.
Optionally available with official calibration certificate, works certificate or DKD-calibation certificate. Please specify with order.

Type	Measuring range g/cm³	Graduations °C	Measuring range thermometer °C	Charge	Overall length mm	PK	Cat. No.
0	1015 - 1040	1	0 to +35	blue	260	1	**9.236 830**
0	1025 - 1036	1	+5 to +40	Hg	370	1	**9.236 831**
1	1020 - 1040	0.5	+10 to +30	Hg	320	1	**9.236 832**
2	1025 - 1036	1	+5 to +40	Hg	370	1	**9.236 833**
3	1020 - 1040	without	without	without	230	1	**9.236 834**
0	1015 - 1040	without	without	without	210	1	**9.236 835**
1	1015 - 1040	1	0 to +40	blue	270	1	**9.236 836**
0	1020 - 1040	1	0 to +35	Hg	250	1	**9.236 837**

3

3 LLG-Precison-Hydrometer, Alcoholmeters, with thermometer, calibratable

Measuring range, graduation: 0.1 % vol, with thermometer 0 to +30 °C, graduation: 0.5 °C, calibrated at 20 °C. Filling: blue. Overall length: 380 mm
Optionally available with official calibration certificate, works certificate or DKD-calibation certificate. Please specify with order.

Type	Measuring range % vol	PK	Cat. No.
1	0 - 10	1	**9.236 810**
2	10 - 20	1	**9.236 811**
3	20 - 30	1	**9.236 812**
4	30 - 40	1	**9.236 813**
5	40 - 50	1	**9.236 814**
6	50 - 60	1	**9.236 815**
7	60 - 70	1	**9.236 816**
8	70 - 80	1	**9.236 817**
9	80 - 90	1	**9.236 818**
10	90 - 100	1	**9.236 819**

E & OE.

1 2 LLG-Melting point apparatus uniMELT

Ideal for determination of the melting point of powders and substances that do not have a clear transparent melting point.

Both models have the following properties:
- Digital temperature control
- Sample can be monitored through a magnifying glass with integrated light
- For capillaries with 1.4mm outer diameter
- Automatic fan cooling that activates to cool off the device after completion of the measurement
- Text display of error messages
- Keyboard covered with foil for easy cleaning
- With operating instructions in German and English; brief instructions right at the device
- With integrated printer for saving space (only HV2)

H2 for visual, semi-automatic measurement with magnifying glass, without printer:
In this model, the melting point is determined visually and then saved by pushing the "Save" key. The starting temperature (approx. 3 °C below the expected melting point) is set. A signal sounds when this temperature is reached. The sample is introduced and observed at a heating rate of 1 °C/min. after the "start" key is pushed again. When the melting point is determined, the value can be stored by pushing the memory button and read on the display until the device is switched off or a new measurement is performed.

HV2 for visual measurement with magnifying glass or automatic measurement, with printer:
Either fully automatic or visual measurements, 1 sample each.

With this version, you can specify whether you want to observe the melting process through the magnifying glass or have the melting point determined automatically after the pre-set starting temperature is reached (indicated by sound signal). The device starts the heating rate of 1 °C/min after introduction of the capillaries into the corresponding opening for automatic measurements. If you chose automatic measurement, a transparency progression is printed from the time the substance starts to become transparent (melting process) to absolute transparency (light-permeability). For visual measurement, only the melting point determined by you will be printed.

The scope of delivery contains 100 melting point determination capillaries and a device protection hood. Refill pack melting point tubes for LLG-Melting point apparatus please order Cat. No. 9.208 131.

Specifications

Measuring range:	25.0 °C to 360.0 °C
Resolution:	0.1 °C
Accuracy:	±0.5 °C (+25 °C to +200 °C)
	±0.5 % of measured value °C
Heating rate at fast heating:	to 200 °C, approx. 4 min
	to 350 °C, approx. 8 min
Heating rate when measuring:	1 °C/min
Magnifying glass:	10x
Lighting:	2 x LED
Dimensions (WxDxH):	230 mm x 220 mm x 315 mm
Dimensions capillaries:	1.4 mm x 80 mm
Weight:	4.5 kg
Power supply:	115-230 V, 50 Hz

Type	Description	PK	Cat. No.
MPM-H2	Visual measuring / magnifier	1	**9.208 120**
MPM-HV2	Visual or automatical measuring with printer	1	**9.208 121**

Melting point tubes

Capillary tubes for melting point analysis. Clear glass, different diameters and lengths. Other sizes on request.

Ext. diam. mm	Int. diam. mm	Length mm	Type	Material	PK	Cat. No.
1.00	0.80	80	Sealed one end	Duran®	100	**9.208 081**
1.00	0.80	80	Open both ends	Duran®	100	**9.208 080**
1.00	0.80	100	Sealed one end	Duran®	100	**9.208 101**
1.00	0.80	100	Open both ends	Duran®	100	**9.208 100**
1.35	0.95	120	Open both ends	Soda glass	250	**6.229 232**
1.40	1.00	80	Sealed one end	Soda glass	100	**9.208 131**
1.55	1.15	75	Sealed one end	Soda glass	100	**9.208 076**

1   LLG magnetic stirrer uni*Stirrer* 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_2O):	1000 ml
Speed range:	0 to 2000 rpm
Permissible ambient temperature:	0 to 50 °C
Permissible relative moisture:	85%
Material:	ABS case
Dimensions (WxDxH):	150 x 135 x 53 mm
Weight:	0.5kg
Power supply:	100 - 230 V, 50/60 Hz
Protection class:	IP 21
Guarantee:	3 years

Type	PK	Cat. No.
uni*STIRRER*2 with EU-plug	1	**6.263 430**
uni*STIRRER*2 with UK-plug	1	**6.263 431**
Support rod, 25 cm, aluminum	1	**6.263 435**

2   LLG magnetic stirrer uni*STIRRER* 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, infinetly)
- 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_2O):	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 (WxDxH):	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.
uni*STIRRER*1	1	**6.263 420**

E & OE.

1

LLG magnetic stirrer with heating uni*STIRRER* 3, complete set

1

Low-priced magnetic stirrer with all essential functions and equipment features. A LED display to control all parameters, an integrated temperature control as well as an enclosed design (IP 42) are integrated features. The included PT1000 sensor ensures an exact temperature control. A stand rod with a sensor holder is supplied with this instrument. The integrated HOT-sign warns the user of a hot plate even if the device is switched off. 3 years warranty.

- LED display to set the exact rotation speed and the temperature
- Digital controlled rotation speed and temperature
- 'HOT' warning sign, even if the device is switched off
- Sensor PT 1000 is included
- Integrated temperature control
- Stand rod and sensor holder is supplied

Delivery includes: magnetic stirrer with PT 1000, stand rod and fixing material

Specifications

Stirring quantity (H_2O):	3 l
Speed range:	100 to 1500 rpm
Setting accuracy:	±10 rpm
Magnetic bar:	max. 50 mm
Display:	LED
Heating plate:	135 mm diam./Stainless steel
Permissible ambient temperature:	5 to 40 °C
Temperature range:	RT to 280 °C
Setting accuracy:	±1 °C
Control accuracy:	±2 °C
Heat output:	500 W
Safety temperature:	320 °C
Dimensions (WxDxH):	155 x 215 x 100 mm
Weight:	1.5 kg
Power supply:	200 - 240 V, 50/60 Hz
Protection class:	IP 42
Guarantee:	3 years

Type	PK	Cat. No.
uni*STIRRER3* with EU-plug	1	**6.263 410**
uni*STIRRER3* with UK-plug	1	**6.263 411**
Stand and sensor holder for uni*STIRRER3*	1	**6.263 416**

2

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

2

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**

E & OE.

1

1 ## LLG-Magnetic stirrer with heating uni*STIRRER* 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 99h 59min. 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 PT 1000 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 RS 232 interface
- Hot surface indicator
- White ceramic-coated, stainless steel top plate
- Sturdy metal housing, IP 42-rated
- Powerful stirring
- Connection for PT 1000, integrated control function

Delivery includes: Magnetic stirrer with PT1000 probe, rod and holder, user manual.

Specifications

Stirring quantity (H_2O):	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 (WxDxH):	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.
uni*STIRRER*5 with EU-plug	1	**6.263 440**
uni*STIRRER*5 with UK-plug	1	**6.263 441**
LLG-Protective cover, silicone for uni*STIRRER*5	1	**6.263 445**

92

1 ## LLG-Magnetic stirrer with heating uni*STIRRER* 7, 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. An integrated control function offers precise control of the heated fluid temperature via a remote PT1000 temperature probe. The device is equipped with a 184 x 184 mm ceramic plate. 3 years warranty.
- Latest generation magnetic stirrer/hotplate
- Maintenance-free, brushless DC motor
- Digital control and backlit display
- Stirrer and display can be controlled remotely via an RS 232 interface
- Hot surface indicator
- White ceramic-coated, stainless steel top plate
- Sturdy metal housing
- Powerful stirring
- Connection for PT1000, integrated control function
- Mountable rod on the left and right side of the stirrer

Delivery includes: Magnetic stirrer with PT1000 probe, rod and holder, user manual.

Specifications

Stirring quantity (H_2O):	20 l
Speed range:	100 to 1500 rpm
Accuracy:	±1 rpm
Magnetic bar:	80 mm
Display:	LCD
Heating plate:	184 x 184 mm/stainless steel with ceramic surface
Permissible ambient temperature:	5 to 40 °C
Temperature range:	Ambient to 550 °C
Setting accuracy:	±0.1 °C
Control accuracy:	±0.2 °C
Heat output:	1000 W
Safety temperature:	100 to 580 °C
Dimensions (WxDxH):	215 x 360 x 112 mm
Weight:	5.3 kg
Power supply:	200 - 240V, 50/60 Hz
Protection class:	IP 42
Guarantee:	3 years

Type	PK	Cat. No.
LLG-uni*STIRRER* 7 with EU plug	1	6.263 450
LLG-uni*STIRRER* 7 with UK plug	1	6.263 451

2 ## LLG-Magnetic Stirring Bar Retrievers, PTFE

PTFE-encapsulated stirring bar retriever with strong permanent magnet (Alnico 5), universal chemical resistance. For the removal of stirring bars from aggressive liquids, prevents loss of stirring bars. Lower end diameter 10 mm.

Length mm	Diam. mm	PK	Cat. No.
150	8	1	9.197 717
250	8	1	9.197 725
300	8	1	4.008 501
350	8	1	9.197 735

LLG-RCT standard *safety control*

Magnetic stirrer with new technology and new functions:
- integrated temperature control
- incl. PT 1000 temperature sensor (PT 1000.60)
- exact temperature and speed setting via digital display, even when switched off
- digital display of set safety temperature limit
- hot top indicator, hot surface warning to prevent burns
- digital error code display
- with adjustable safety circuit of heating plate temperature (+50 to +360 °C)
- safety magnetic stirrer with heating, suitable for unsupervised operation
- DIN 12878 connector for attaching a contact thermometer, e.g. ETS-D5; enables precise
  temperature control directly in the heated medium
- enhanced safety due to improved heat control technology
- enclosed assembly (IP 42) guarantees long service life
- highly polished, aluminium hotplate for optimal heat transfer
- improved magnetic coupling
- supplied with housing protection cover H 98

Specifications
Drive unit

Stirring quantity (H_2O):	20 L
Motor rating input/output:	16/9 W
Speed display:	digital
Speed range:	50 to 1500 rpm
Max. magnetic bar (L x dia.):	80 x 10 mm

Heating function

Speed display:	digital
Heat output:	600 W
Heating rate (1 litre H_2O in H 15):	6.5 K/min
Temperature range:	RT to 310 °C
Setting accuracy:	±1 K
Temp. variation without temp. sensor:	±2 K
Adjustable safety circuit:	50 to 360 °C
Control accuracy with sensor:	PT 1000/± 1K
	ETS-D5/±0.5 K
	ETS-D6/±0.2 K

Heating plate

Material:	aluminium alloy
Dimensions:	135 mm dia.

General data

Dimensions (WxDxH):	160 x 270 x 85 mm
Weight:	2.5 kg
Operating temperature range:	5 to 40 °C
Operating humidity range:	80 % R.H.
Protection class acc. to DIN EN 60529:	IP 42

Tested to DIN EN IEC 61010-1.

Type	Connector	PK	Cat. No.
RCT Standard safety control incl. PT 1000	CEE	1	**9.720 250**
RCT Standard safety control incl. PT 1000	UK	1	**6.242 087**
RCT Standard safety control incl. PT 1000	CH	1	**4.008 142**

Optional accessories: Electronic contact thermometer ETS-D5, Ikaflon® stirring bars, Trika® stirring bars, RS 1 stirring bar set, RSE Stirring bar remover, Quarter System, Reaction block System

E & OE.

1 2 3 LLG-Universal reaction block system for magnetic stirrers

Universal alternative to oil bath

The reaction block allows syntheses to be carried out in round flasks at temperatures of up to 250 °C. As a result oil as a heat transfer media is made redundant and your lab is a safer place with this system. The reaction block ensures safety at work and prevents oil baths and heating mantles from overheating in your lab. The messy oil clean-ups that results from changing oil or removing flasks from an oil bath will be eliminated. Injuries and burns from hot oil will never happen again. Uniform mixing is also guaranteed because there is no interference to the magnetic field from the aluminium blocks. This system ensures optimal heat transfer from the heating plate directly into the medium.

- **Universal model**
- **For round plates of 135 to 145 mm diameter**
- **With adapter plate for all square plates of min. 145 mm length side**

- Reaction blocks are available in six standard sizes.
- Delivered adapter allows the use with either IKA or Heidolph magnetic stirrers.
- Syntheses in round flasks without oil bath up to 250 °C.
- Uniform and constant mixing
- High-precision thermal conduction directly into the reaction block
- Safe and clean working
- Made in Germany

Description	PK	Cat. No.
LLG-Universal reaction block system 50 ml	1	**9.728 890**
LLG-Universal reaction block system 100 ml	1	**9.728 891**
LLG-Universal reaction block system 250 ml	1	**9.728 892**
LLG-Universal reaction block system 500 ml	1	**9.728 893**
LLG-Universal reaction block system 1000 ml	1	**9.728 897**
LLG-Universal reaction block system 2000 ml	1	**9.728 898**
Spare adapter ring for reduction from 145 mm to 135 mm, for attachment 50 to 500 ml	1	**9.728 894**
Spare adapter ring for reduction from 145 mm to 135 mm, for attachment 1000 and 2000 ml	1	**9.728 899**
Adapter plate for rectangular hotplates, for attachment 50 to 500 ml	1	**9.728 895**
Adapter plate for rectangular hotplates, for attachment 1000 and 2000 ml	1	**9.728 900**
2 spare screws and 1 wrench, for attachment 50 to 500 ml	1	**9.728 896**
2 spare screws (countersunk), for attachment 1000 and 2000 ml	1	**9.728 901**

4 5 Safety cover for LLG-Universal reaction block system for magnetic stirrers

Safety cover for LLG-Reaction block system to protect against broken glass and for heat insulation.

For	PK	Cat. No.
Round flask attachement 250 ml	1	**9.728 885**
Round flask attachement 500 ml	1	**9.728 886**
Round flask attachement 1000 ml	1	**9.728 887**
Round flask attachement 2000 ml	1	**9.728 902**

1 2 3 LLG-Vortexer 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 (WxDxH):	173 x 198 x 198 mm
Weight:	3.8kg
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 LLG-Test tube shaker 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 (WxDxH):	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.
uniTEXER1 with EU-plug	1	**6.263 490**
uniTEXER1 with UK-plug	1	**6.263 491**
Silicone cap for uniTEXER1	1	**6.263 492**

E & OE.

1 2 LLG-Orbital shaker 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 5 clamps for vessels from 125 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

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:	250VA
Permissible ambient temperature:	4 to 75 °C
Dimensions (WxDxH):	600 x 550 x 150 mm
Weight:	48 kg
Power supply:	230V, 50 Hz

Type	PK	Cat. No.
LLG-uniSHAKER25 with EU plug	1	**6.263 590**
LLG-uniSHAKER 25 with UK plug	1	**6.263 599**
Universal attachment, 610 x 460 mm	1	**6.263 591**
Universal attachment, 610 x 460 mm, with securing bars	1	**6.263 589**
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**

3 LLG-Tumbling Shaker 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:	1.6kg
Ambient Temperature:	4 to 45 °C
Platform Dimensions (W x D):	202.5 x 152.5 mm
Dimensions (WxDxH):	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**
LLG-uniSHAKER2 with UK plug	1	**6.263 641**

1 2 Sampling scoops and spoons, PS, sterile

- White or red high-impact polystyrene plastic.
- Individually sealed and sterilised in a polyethylene bag ready for one time use and disposal
- Long handle increases the distance between the hand and the sample
- Scoop stays vertical when packed or unpacked for use as weighing boat
- Red colored scoops reduces the chance of residual sample staying in the scoop or the scoop being accidently left behind in a sample
- Colour can serve as a code to avoid cross contamination
- Made from FDA grade materials
- Lot stamped for accurate lot tracing; shipped with a Certificate of Processing for Sterilization

Type	Capacity ml	Colour	PK	Cat. No.
Scoop	60	white	1	**9.150 461**
Scoop	125	white	1	**9.150 462**
Scoop	250	white	1	**9.150 463**
Scoop	60	red	1	**9.150 464**
Scoop	125	red	1	**6.242 234**
Scoop	250	red	1	**9.150 465**
Spoon	1.25	white	1	**9.150 639**
Spoon	2.46	white	1	**9.150 640**
Spoon	4.93	white	1	**9.150 641**
Spoon	14.79	white	1	**9.150 642**

Other sampling devices are available on request.

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

Blue sample container with PP lid (30ml) 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	**6.265 643**
100	385	PS	metal	50	**6.265 644**
250	330	PS	metal	50	**6.265 645**

4 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.
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.

7.080 208

Filling volume approx ml	Thickness mm	Dimensions (D x W) mm	PK	Cat. No.
30	0.057	65 x 125*	500	**7.080 208** 4
60	0.057	75 x 125*	500	**7.058 005**
120	0.057	75 x 185*	500	**7.077 212**
530	0.064	115 x 230*	500	**7.058 120**
710	0.076	150 x 230*	500	**6.242 083**
5400	0.102	380 x 508	100	**6.257 989**
2720	0.102	254 x 380*	250	**6.266 304**
3637	0.102	254 x 508	250	**6.266 305**
60	0.057	75 x 125*	500	**6.091 055**
120	0.057	75 x 185	500	**9.404 234**
207	0.076	95 x 180	500	**7.981 345**
1240	0.076	150 x 380	500	**6.266 302**
530	0.064	115 x 230	500	**9.404 235**
710	0.076	150 x 230	500	**6.228 639**
1060	0.076	125 x 380	500	**9.404 236**
2040	0.076	190 x 380	500	**6.305 117**

* with label

E & OE.

1 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	**6.265 667**
10	16	80	100	**6.265 668**
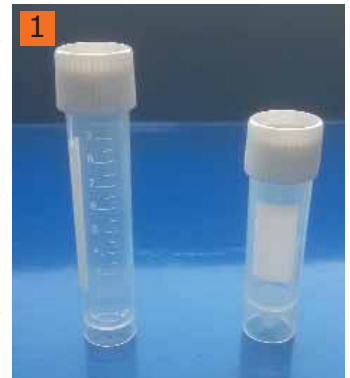
2 3 Sample bottles, PP, for water sampling, sterile

These sterile bottles are specifically designed for taking, handling, transporting and storing water samples. Manufactured either as clear or amber colour from low density polypropylene. Clear bottles are manufactured from glass-like transparent special grade polypropylene. Amber bottles are manufactured from an amber coloured clear polypropylene which is higly translucent but still preventing the UV light penetrating inside the bottle. Square body form offers easy handling, and optimum space saving solutions during storage period. Wide bottle neck (GL 50) provides easy filling and pouring. Cap is made from high density polypropylene with self sealing lock with integral security ring. Unique cap inner design ensures hermetical closure and guarantees an excellent leak and contamination proof bottle. Embossed graduation (presicion of ±2%) on side wall enables volume verifications. Each bottle is labelled specifying e.g. sample and source descriptions, code and lot numbers and expiry date.
Bottles with liquid sodium thiosulfate (20 mg/lt - acc to ISO/FDIS 19458:2006) are ideal to analyse water meant for human consumption, swimming pools, and any other water where chlorine may modify the composition of the sample.
Empty bottles, without sodium thiosulfate ; ideal to sample water for physical and chemical analysis, as well as for other sample requirements that demands sterile bottles.
Single packed bottles available on request.

Capacity ml	Description	PK	Cat. No.
250	clear, sterile R, without sodium thiosulfate	108	**9.001 075**
500	clear, sterile R, without sodium thiosulfate	84	**9.001 076**
1000	clear, sterile R, without sodium thiosulfate	30	**9.001 077**
250	amber, sterile R, without sodium thiosulfate	108	**9.001 078**
500	amber, sterile R, without sodium thiosulfate	84	**9.001 079**
1000	amber, sterile R, without sodium thiosulfate	30	**9.001 080**
250	clear, sterile R, with sodium thiosulfate	108	**9.001 081**
500	clear, sterile R, with sodium thiosulfate	84	**9.001 082**
1000	clear, sterile R, with sodium thiosulfate	30	**9.001 083**
250	amber, sterile R, with sodium thiosulfate	108	**9.001 084**
500	amber, sterile R, with sodium thiosulfate	84	**9.001 085**
1000	amber, sterile R, with sodium thiosulfate	30	**9.001 086**

1 LLG-Mortars only, porcelain

Capacity	Ext. diam.	Height	DIN	Description	PK	Cat. No.
ml	mm	mm				
25	51	32		rough inside	1	**9.164 410**
70	63	41	12906	rough inside	1	**6.227 149**
75	76	45		rough inside	1	**9.164 411**
110	83	50		rough inside	1	**6.232 577**
160	90	56	12906	rough inside	1	**6.243 865**
220	105	64		rough inside	1	**9.164 412**
400	125	71	12906	rough inside	1	**9.164 413**
2250	224	127		rough inside	1	**6.252 383**
110	83	50		glazed inside	1	**6.227 289**
220	105	64		glazed inside	1	**6.234 591**

2 LLG- Pestle only, porcelain

Head diam.	Length	DIN	Description	PK	Cat. No.
mm	mm				
14	54		rough	1	**6.227 150**
24	115	12906	rough	1	**9.164 420**
30	135	12906	rough	1	**6.232 574**
36	150	12906	rough	1	**9.164 421**
42	175	12906	rough	1	**9.164 422**
74	250	12906	rough	1	**6.252 384**
42	175	12906	glazed	1	**6.227 292**
36	150	12906	glazed	1	**6.234 592**

3 Mortars and pestles, Agate

Agate. Polished. Standard quality. Other sizes available on request.

Capacity	Ext. diam.	Int. diam.		PK	Cat. No.
ml	mm	mm			
9	50	40		1	**9.164 050**
25	75	60		1	**9.164 075**
50	100	85		1	**9.164 100**
100	125	100		1	**9.164 125**

E & OE.

1   Evaporator flask, pear shape, borosilicate glass 3.3

Manufactured from borosilicate glass 3.3, according to DIN 12383.
Pear shaped Evaporator flask with NS 29/32, suitable for all Rotary evaporators.

Capacity ml	NS	PK	Cat. No.
100	29/32	1	**6.237 167**
250	29/32	1	**6.237 711**
500	29/32	1	**6.243 664**
1000	29/32	1	**6.236 112**

2   Receiving flasks, with spherical ground glass joint, borosilicate glass 3.3

Manufactured from borosilicate glass 3.3 and meeting quality standards according to DIN 12383 standards.
Receiving flasks with spherical ground glass joint KS35 suitable for all Rotary evaporators.

Capacity ml	Spherical ground glass joint KS	Flask diam. mm	PK	Cat. No.
100	35	64	1	**6.243 665**
250	35	85	1	**6.243 666**
500	35	105	1	**6.243 667**
1000	35	131	1	**6.243 668**
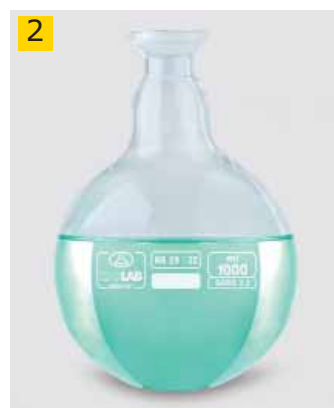
3   Round bottom flasks, borosilicate glass 3.3

Manufactured from borosilicate glass 3.3. Resistant to heat and almost all chemicals. According to DIN 12394. Reinforced rims are used to prevent breaking during washing and transportation.

Capacity ml	Socket NS	Flask diam. mm	Height mm	Neck diam. approx. mm	PK	Cat. No.
50	14/23	51	105	22	1	**6.236 508**
50	19/26	51	100	22	1	**4.008 379**
50	24/29	51	100	30	1	**4.008 380**
50	29/32	51	105	34	1	**6.238 345**
100	14/23	64	115	22	1	**6.236 346**
100	19/26	64	110	22	1	**4.008 381**
100	24/29	64	110	30	1	**4.008 382**
100	29/32	64	115	34	1	**6.236 774**
250	19/26	85	140	22	1	**4.008 383**
250	24/29	85	140	30	1	**4.008 384**
250	29/32	85	145	34	1	**6.236 303**
500	24/29	105	170	30	1	**4.008 385**
500	29/32	105	175	34	1	**6.240 426**
1000	24/29	131	210	42	1	**6.237 702**
1000	29/32	131	200	42	1	**6.242 240**
2000	29/32	166	260	34	1	**6.238 472**

1

1 Round bottom flasks with two necks, angled arm, borosilicate glass 3.3

Manufactured from borosilicate glass 3.3. Conformed to DIN 12394. The side arms are 45 degree angled with each other. NS necks are in compliance with DIN 12242 standards. Two-necked round-bottomed flask available with parallel side arm on request.

Capacity	Centre neck	Angled side necks		PK	Cat. No.
ml	NS	NS			
50	14/23	14/23		1	**9.140 320**
100	14/23	14/23		1	**9.140 321**
250	14/23	14/23		1	**9.140 322**
100	24/29	14/23		1	**9.140 323**
250	24/29	14/23		1	**9.140 324**
500	24/29	14/23		1	**9.140 325**
1000	24/29	19/26		1	**9.140 326**
100	24/29	19/26		1	**9.140 327**
250	24/29	19/26		1	**9.140 328**
500	24/29	19/26		1	**9.140 329**
1000	24/29	14/23		1	**9.140 330**
100	29/32	14/23		1	**6.243 616**
250	29/32	14/23		1	**4.008 386**
500	29/32	14/23		1	**4.008 387**
1000	29/32	14/23		1	**4.008 388**
2000	29/32	14/23		1	**9.140 331**
100	29/32	19/26		1	**9.140 332**
250	29/32	19/26		1	**9.140 333**
500	29/32	19/26		1	**9.140 334**
1000	29/32	19/26		1	**9.140 335**
2000	29/32	19/26		1	**9.140 336**
100	29/32	29/32		1	**9.140 337**
250	29/32	29/32		1	**6.243 617**
500	29/32	29/32		1	**6.243 618**
1000	29/32	29/32		1	**6.243 619**
2000	29/32	29/32		1	**6.243 620**

2

2 Round bottom flasks with three necks, NS joints, angled arms, borosilicate glass 3.3

Manufactured from borosilicate glass 3.3. Conformed to DIN 12394. The side arms are at 45 degree angles with the centre neck. The NS necks are in compliance with DIN 12242 standards.

Capacity	Centre neck	Angled side necks	Flask diam.	PK	Cat. No.
ml	NS	NS	mm		
250	29/32	14/23	85	1	**4.008 390**
250	29/32	19/26	85	1	**4.008 393**
250	29/32	29/32	85	1	**6.240 976**
500	29/32	14/23	105	1	**4.008 391**
500	29/32	19/26	105	1	**4.008 394**
500	29/32	29/32	105	1	**6.240 977**
1000	29/32	14/23	131	1	**4.008 392**
1000	29/32	19/26	131	1	**4.008 395**
1000	29/32	29/32	131	1	**6.240 978**
2000	29/32	29/32	166	1	**4.008 396**

E & OE.

1 Round bottom flasks with ground glass joint, three neck, angled, DURAN®

DIN 12394 and in addition to standard (*). Central neck with 2 x 20° angled side necks.

Capacity ml	Centre neck NS	Side necks NS	Flask diam. mm	PK	Cat. No.
50	19/26	14/23*	51	1	**6.202 804**
100	24/29	19/26*	64	1	**6.204 321**
100	29/32	14/23*	64	1	**9.011 953**
100	29/32	19/26*	64	1	**6.204 852**
100	29/32	29/32*	64	1	**7.019 272**
250	24/29	19/26*	85	1	**6.204 322**
250	29/32	14/23	85	1	**9.011 955**
250	29/32	19/26	85	1	**9.011 957**
250	29/32	29/32	85	1	**9.011 956**
500	29/32	14/23*	105	1	**9.011 958**
500	29/32	19/26	105	1	**9.011 960**
500	29/32	29/32	105	1	**9.011 959**
1000	29/23	14/23	131	1	**9.011 961**
1000	29/32	19/26	131	1	**9.011 964**
1000	29/32	29/32*	131	1	**9.011 962**
1000	45/40	29/32*	131	1	**9.011 963**
2000	29/32	14/23	166	1	**9.011 965**
2000	29/32	29/32*	166	1	**9.011 966**
2000	45/40	29/32*	166	1	**9.011 967**
3000	29/32	29/32*	185	1	**6.203 014**
4000	29/32	29/32*	207	1	**7.615 379**
4000	45/40	29/32*	207	1	**9.011 968**
5000	45/40	29/32*	223	1	**9.011 971**
6000	45/40	29/32*	236	1	**9.011 969**
10000	45/40	29/32*	279	1	**9.011 970**

2 Flask rings, pressed cork

Height 30 mm.

For flasks ml	Ext. diam. mm	Int. diam. mm	PK	Cat. No.
10 / 100	80	30	1	**9.143 003**
250 / 500	110	60	1	**9.143 006**
1000 / 2000	140	90	1	**9.143 009**
3000	170	120	1	**9.143 012**
4000	210	150	1	**9.143 015**

3 Flat bottom flasks, NS joint neck, borosilicate glass 3.3

Borosilicate glass 3.3. Resistant to heat and almost all chemicals. According to DIN 12394.

Capacity ml	Socket NS	Height mm	PK	Cat. No.
50	19/26	100	1	**6.243 607**
50	24/29	100	1	**6.243 608**
50	29/32	100	1	**4.008 377**
100	14/23	110	1	**6.243 609**
100	19/26	110	1	**6.243 610**
100	24/29	110	1	**6.243 611**
100	29/32	110	1	**6.236 773**
250	19/26	140	1	**6.243 612**
250	24/29	140	1	**6.243 613**
250	29/32	140	1	**6.238 346**
500	24/29	170	1	**6.243 614**
500	29/32	170	1	**6.240 425**
1000	24/29	200	1	**6.243 615**
1000	29/32	200	1	**4.008 378**
2000	29/32	250	1	**6.237 704**

E & OE.

1 Dropping funnels, cylindrical, with or without pressure equalizing tube, Borosilicate glass 3.3

Borosilicate glass 3.3. PTFE stopcock, PP stoppers. cylindrical shape, with or without pressure equalising tube. DIN 12451 and DIN 12567.

Capacity	Cone	Socket	PK	Cat. No.
ml	NS	NS		
50*	29/32	19/26	1	9.140 415
100*	29/32	19/26	1	4.008 428
250*	29/32	29/32	1	6.240 982
500*	29/32	29/32	1	6.240 983
1000*	29/32	29/32	1	9.140 416
50	29/32	19/26	1	9.140 410
100	29/32	19/26	1	9.140 411
250	29/32	29/32	1	9.140 412
500	29/32	29/32	1	9.140 413
1000	29/32	29/32	1	9.140 414

*with relief tube

2 Condensers, ground glass joint, Dimroth, borosilicate glass 3.3.

Made of borosilicate glass 3.3. Resistant to heat and almost all chemicals. According to DIN 12591. Supplied with glass side arms. The side arms accept tubing with 8/9 mm bore size.

Effective length	Cone	Socket	PK	Cat. No.
mm	NS	NS		
160	14/23	14/23	1	9.012 525
160	29/32	29/32	1	9.012 526
250	14/23	14/23	1	9.012 527
250	29/32	29/32	1	6.258 228
400	14/23	14/23	1	9.012 528
400	29/32	29/32	1	6.243 670

3 Spiral condensers, borosilicate glass 3.3

Made of borosilicate glass 3.3 which is resistant to heat and almost all chemicals. They meet the highest quality standards according to DIN 12592. Supplied with either glass side arm or polypropylene side arm. Polypropylene side arm has a screw thread connector for easy and safe fitting of the tubing. The side arms accept tubings with 8/9mm bore size.

Effective length	NS	Description	PK	Cat. No.
mm				
160	14/23	with glass side arm	1	9.012 548
250	29/32	with glass side arm	1	6.257 821
400	29/32	with glass side arm	1	4.008 411
160	14/23	with PP side arm	1	4.008 412
250	29/32	with PP side arm	1	6.257 820
400	29/32	with PP side arm	1	4.008 414

4 Condensers, ground glass joint, Liebig, borosilicate glass 3.3

Made of borosilicate glass 3.3 which is resistant to heat and almost all chemicals. They meet the highest quality standards according to DIN 12576. Polypropylene side arm has a screw thread connector for easy and safe fitting of the tubing. The side arms accept tubings with 8/9mm bore size.

Effective length	NS	Description	PK	Cat. No.
mm				
250	29/32	with PP side arm	1	9.012 546
400	29/32	with PP side arm	1	4.008 405
250	29/32	with glass side arm	1	7.970 278
400	29/32	with glass side arm	1	6.236 239
160	14/23	with glass side arm	1	9.012 535
250	14/23	with glass side arm	1	9.012 536
400	14/23	with glass side arm	1	9.012 537

E & OE.

1 Separating funnels, Squibb-pattern, borosilicate glass 3.3

Supplied with PTFE stopcock, graduated or ungraduated. According to DIN 12452. With PP conical stopper.

Capacity	NS	Description	Bore	PK	Cat. No.
ml			mm		
50	19/26	ungraduated	2.5	1	4.008 422
100	19/26	ungraduated	2.5	1	6.241 670
250	29/32	ungraduated	4.0	1	6.238 526
500	29/32	ungraduated	4.0	1	6.238 527
1000	29/32	ungraduated	6.0	1	6.241 669
2000	29/32	ungraduated	6.0	1	6.241 668
50	19/26	graduated	2.5	1	6.236 317
100	19/26	graduated	2.5	1	6.236 318
250	29/32	graduated	4.0	1	6.236 319
500	29/32	graduated	4.0	1	6.236 320
1000	29/32	graduated	6.0	1	6.236 321
2000	29/32	graduated	6.0	1	6.240 412

2 Soxhlet extractors, without stopcock

Borosilicate glass 3.3 which is resistant to heat and almost all chemicals. They meet the highest quality standards according to DIN 12602.

Capacity	Cone	Socket	PK	Cat. No.
ml	NS	NS		
30	29/32	29/32	1	4.008 417
70	29/32	34/35	1	4.008 418
100	29/32	45/40	1	4.008 419
150	29/32	45/40	1	4.008 420
250	29/32	45/40	1	4.008 421
500	29/32	45/40	1	6.243 673

3 LLG-Extraction thimbles, cellulose

Made of cellulose.

Diam.	Length	PK	Cat. No.
mm	mm		
19	90	25	9.045 705
20	80	25	9.045 701
22	80	25	9.045 700
25	100	25	9.045 709
26	60	25	9.045 707
28	80	25	9.045 711
30	80	25	9.045 708
33	80	25	9.045 702
33	94	25	9.045 703
33	100	25	9.045 704
33	118	25	9.045 706
37	130	25	6.256 301
43	123	25	9.045 710
58	170	25	6.263 174

4 Gas washing bottle, PP

Graduated 250 ml polypropylene cylinder with a stable extended base for use in precipitating elements from gas.
- Gas is dispersed through a removable fitting that has a coarse grade porosity, polyethylene dispersion disc
- Silicone stopper holds 6.3 mm O.D. tubes for entrance and exit of gas
- 0.5 psi maximum pressure

Description	Capacity	Height	PK	Cat. No.
	ml	mm		
Gas washing bottle	250	273	1	9.110 290

E & OE.

1 Gas wash bottle reservoirs, Drechsel, borosilicate glass 3.3

Manufactured from borosilicate glass 3.3 according to DIN 12596. Manufactured from borosilicate glass 3.3 which is resistant to heat and almost all chemicals. Bottle heads are supplied with or without sintered glass support (of porosity 0) which enables efficient gas dispensing. Bottle and selected head should be ordered seperately.

Description	NS	Capacity ml	Porosity	PK	Cat. No.
Gas wash bottle reservoirs	29/32	125	-	1	9.140 530
Gas wash bottle reservoirs	29/32	250	-	1	9.140 531
Gas wash bottle reservoirs	29/32	500	-	1	9.140 532
Gas wash bottle head, without frit disk, with glass-olive	29/32		-	1	4.008 376
Gas wash bottle head, without frit disk, with PP side-olive	29/32		-	1	9.140 533
Gas wash bottle head, with frit disk, with glass side-olive	29/32		0	1	9.140 534
Gas wash bottle head, with frit disk, with PP side-olive	29/32		0	1	9.140 535

2 3 Expansion and reduction adapters, borosilicate glass 3.3

Manufactured from borosilicate glass 3.3 which is resistant to heat and almost all chemicals. They meet the highest quality standards according to DIN 12257. They have excellent grinding to prevent airleaks. The bottom part of the ground joints are fire polished.

Socket NS	Cone NS	PK	Cat. No.
14/23	19/26	1	6.243 581
14/23	24/29	1	6.243 582
14/23	29/32	1	9.011 740
19/26	14/23	1	4.008 341
19/26	24/29	1	4.008 342
19/26	29/32	1	4.008 343
19/26	34/35	1	6.243 583
24/29	29/32	1	6.241 533
24/29	34/35	1	6.243 584
24/29	45/40	1	6.243 585
29/32	14/23	1	6.235 966
29/32	19/26	1	4.008 344
29/32	24/29	1	4.008 345
29/32	34/35	1	6.243 586
29/32	45/40	1	4.008 346

4 Adapter for thermometer, borosilicate glass 3.3

Manufactured from borosilicate glass 3.3 according to DIN 12257 standard, ideal to use for thermometers with Ø 6 - 8 mm. Screw joint provides easy depth adjustment of thermometer. Seal material: NBR

Neck thread GL	Cone NS	Adapter bore diam. mm	PK	Cat. No.
14	14/23	6 - 8	1	4.008 360
14	29/32	6 - 8	1	6.244 589

E & OE.

1 NS stoppers, PP

NS	PK	Cat. No.
10/19	1	**4.008 495**
12/21	1	**4.008 496**
14/23	1	**4.008 497**
19/26	1	**4.008 498**
24/29	1	**4.008 499**
29/32	1	**4.008 500**

2 Stoppers, hollow , PE

Fits standard conical joints. Supplied singly.

NS	PK	Cat. No.
7/16	1	**9.230 107**
10/19	1	**9.230 110**
12/21	1	**9.230 112**
14/23	1	**9.230 114**
19/26	1	**9.230 119**
24/29	1	**9.230 124**
29/32	1	**9.230 129**
45/40	1	**9.230 145**
60/46	1	**9.230 160**

3 NS-Glass stoppers, hollow borosilicate glass 3.3

Manufactured from borosilicate glass 3.3 which is resistant to heat and almost all chemicals. They meet the highest quality standards according to DIN 12252. Lower closed end of stopper features a "drip-tip" to ensure adhered liquid is returned to the flask. Hexagonal flat head prevents the stopper from rolling and allows stopper to be stood on end preventing contamination of the ground surface.

NS	Description	PK	Cat. No.
10/19	clear	1	**7.900 483**
12/21	clear	1	**6.242 396**
14/23	clear	1	**9.229 990**
19/26	clear	1	**9.229 991**
24/29	clear	1	**6.240 333**
29/32	clear	1	**9.229 992**
34/35	clear	1	**6.240 060**
10/19	amber	1	**7.900 484**
12/21	amber	1	**6.258 416**
14/23	amber	1	**7.900 486**
19/26	amber	1	**7.970 573**
24/29	amber	1	**6.258 415**
29/32	amber	1	**7.629 440**
34/35	amber	1	**6.258 417**

4 Clips for joints, POM

Manufactured from POM and has excellent chemical resistance as well as a very good mechanical strength. They are perfect tools to join two ground joints.

NS	Colour	PK	Cat. No.
10/19	black	1	**4.008 347**
12/21	purple	1	**4.008 348**
14/23	yellow	1	**4.008 349**
19/26	blue	1	**4.008 350**
24/29	green	1	**4.008 351**
29/32	red	1	**4.008 352**
34/35	orange	1	**4.008 353**
45/40	brown	1	**4.008 354**

E & OE.

1   Conical joint clips for joints, POM, connections, plastic

POM. Melting point 175 °C. For conical ground joints.
Excellent chemical resistance. Rigid.

NS	Colour	PK	Cat. No.
10/19	green	1	9.011 773
12/21	violet	1	9.011 774
14/23	yellow	1	9.011 775
19/26	blue	1	9.011 776
24/29	green	1	9.011 777
29/32	red	1	9.011 778
34/35	orange	1	9.011 779
40/42	yellow	1	9.011 780
45/40	brown	1	9.011 781

2   Ground joint clips for sleeve connections, wire, Chrome-nickel steel

Chrome-nickel steel.

NS	PK	Cat. No.
10/19	1	9.011 703
12/21	1	9.011 704
14/23	1	9.011 705
19/26	1	9.011 706
24/29	1	9.011 707
29/32	1	9.011 708
45/40	1	9.011 710

3   Sleeves with ribs, PTFE

For use with ground glass joints. Suitable for vacuums up to 0.1 mbar. Reusable and long lasting. The sealing ribs grip on the inside wall of the glass socket, sealing without the need for grease and enabling the cone to be freed easily when required.

NS	PK	Cat. No.
7/16	1	9.011 651
10/19	1	9.011 652
12/21	1	9.011 653
14/23	1	9.011 655
19/26	1	9.011 656
24/29	1	9.011 657
29/32	1	9.011 658
34/35	1	9.011 659
45/40	1	9.011 660
60/46	1	9.011 661
70/51	1	9.011 662

4   Sleeves, cone joint, PTFE

With knurled gripping ring at the top of the cone for easy removal. For gas, liquid and vacuum-tight cone joint connections with sizes as outlined below. Reusable. With reinforced external ribs for a high-vacuum tight seal (leakage rate: < 1×10^{-4} mbar x I x s^{-1}). No joint sealant or grease required.

NS	PK	Cat. No.
14/23	1	9.011 642
19/26	1	9.011 643
24/29	1	9.011 644
29/32	1	9.011 645
45/40	1	9.011 647

E & OE.

1   BUDDE - joint grease

For all glass joints. Transparent, vacuum tight, water washable and water soluble. Maintains practically the consistency between -30 °C and +200 °C, non-solidifying. Compatible with most elastomers. Biodegradable. Tube of 80 g.

Weight	PK	Cat. No.
g		
80	1	**9.116 950**

Laboratory greases glisseal® N and glisseal® HV

Laboratory grease without silicone. For sealing and greasing ground and spherical glass joints, plastic and metal connections, as well as for solving the most demanding lubricating problems, e.g. in precision engineering and in the optical industry. Apply only a very thin layer. Glisseal® can be easily removed with Deconex® cleaners. 60 g tube.

9.116 934

Normal quality, with red cap:

Colour:	translucent
Dripping point:	without
Working temperature ranges:	
In air:	-40 °C to 200 °C
Under vacuum:	-40 °C to 300 °C
For short periods, up to:	350 °C

High vacuum quality, with blue cap:

Colour:	dark brown
Dripping point:	without
Working temperature range:	
In air:	-40 °C to 220 °C
Under vacuum:	-40 °C to 320 °C
For short periods, up to:	400 °C

9.116 935

Type	PK	Cat. No.
glisseal®N	1	**9.116 934** 2
glisseal®HV	1	**9.116 935** 3

4   Boiling stones, Type A

Developed for use in preparatory work. For distillation and reflux in aqueous, neutral and alkaline solvents, even under a vacuum. Effective in even the smallest volumes of liquid and after multiple interruptions. Prevents any bumping. Natural product.

Capacity	PK	Cat. No.
g		
250	1	**9.012 306**

5   Boiling stones, Type B

Specifically for analytical work. Can be used for distillation in a clean, neutral and basic environment. Not suitable for vacuum distillation. Effective in the smallest amounts of liquid, also after multiple distillations. Prevents " bumping". Ceramic product with relatively high level of purity and abrasion resistance.

Capacity	PK	Cat. No.
g		
200	1	**9.012 307**

Distillation, separation, filtration
Separating, centrifuging/Minicentrifuges

1   LLG mini centrifuge uni*CFUGE* 2 and uni*CFUGE* 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-stripes
- Rotor for 4 x 5 ml tubes

Specifications

Max. RCF:	1200 xg and 2000 xg
Max. speed:	4000 rpm and 6000 rpm
Max. load:	6 x 0.5/1.5/2 ml or 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-uni*CFUGE* 2 with universal rotor, with EU-plug	1	**6.263 510**
LLG-uni*CFUGE* 2 with universal rotor, with UK-plug	1	**6.263 511**
LLG-uniCFUGE 2/5, with rotor for 5ml Tubes, with EU plug	1	**6.263 515**
LLG-uniCFUGE 2/5, with rotor for 5ml Tubes, with UK-plug	1	**6.263 516**

2 3 4   LLG mini centrifuge uni*CFUGE* 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 xg
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.
uni*CFUGE*3 with EU-plug	1	**6.263 520**
uni*CFUGE*3 with UK-plug	1	**6.263 521**

    E & OE.

1 2 3 LLG mini centrifuge uni*CFUGE* 5 with timer and digital display

Compact microcentrifuge with excellent price-performance ratio and a performance of up to 15.595 xg. 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 xg
Max. speed:	variable from 500 up to 15.000 rpm
Accuracy speed:	±100rpm
Motor:	brushless DC motor
Max. load:	12x2ml PCR tubes
Dimensions (WxDxH):	262 x 230 x 131 mm
Weight:	4 kg
Power supply:	100 - 240 V, 50/60 Hz
Guarantee:	3 years

Type	PK	Cat. No.
uni*CFUGE*5 with EU-plug	1	**6.263 530**
uni*CFUGE*5 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**

4 5 Centrifuge tubes, round bottom, AR glass®

Round bottom. Graduated or ungraduated. Maximum loading: 3500 xg rcf.

Volume ml	Diam. mm	Height mm	Graduations	PK	Cat. No.
10 - 15	17	98	no	1	**9.315 201**
10 - 15	17	107	no	1	**9.315 203**
10 - 15	17	98	yes	1	**9.315 217**
10 - 15	17	107	yes	1	**9.315 220**
25	25	100	yes	1	**9.315 225**
50 - 55	35	98	no	1	**9.315 207**
70 - 100	40	115	no	1	**9.315 210**

1 LLG-Microcentrifuge tubes, PP

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 1.5ml 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 xg
Swing out rotor:	70000 xg

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**

2 Reaction tubes CapLock®, PP

The new CapLock® cap closure guarantees optimum tube sealing for all applications. CapLock® tubes provide enhanced sample security and stay safely closed, even in boiling water baths.
- Pyrogen-/RNase-/DNase-free, non-sterile and cleanroom-manufactured ISO Class 8
- moulded in transparent, medical grade, PP
- can be centrifuged up to 30000 x g
- autoclavable: at 1 bar, 121 °C for 15 min
- with labelling area on cap and tube
- high chemical resistance
- graduation for an easy volume identification

Certificate of Conformity according to DIN EN 10204 2.1

Capacity ml	PK	Cat. No.
1.5	1000	**9.407 700**

LLG-Centrifuge tubes, 5ml, PP, unsterile

The LLG-Centrifuge tubes 5ml, 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

Description	Package contents	PK	Cat. No.
Clear	1 bag of 250 pieces	250	**6.281 113** 3
Colour assortment green, yellow, red, blue	4 bags of 50 pieces (1 colour per bag)	200	**6.281 114** 4
Amber	1 bag of 250 pieces	250	**6.281 115** 5

6.281 113

6.281 114

6.281 115

1 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 capacitiy (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
50	30.0	120	with rim	non-sterile,4 x 50 in rack	200	4.008 508

2 3 4 LLG-Test and centrifuge tubes rimmed, PS or PP

- Made of ultra clear virgin polypropylene or virgin polystyrene
- Polystyrene tubes are transparent. Polypropylene tubes are opaque, break-resistant
- Tubes with cap are ethylene oxide sterilized
- With label

LLG-Dual-Position Caps for test- and centrifuge tubes, PE
- For culture tubes with an O.D. of 12 mm and 17 mm
- 2 locking positions possible
- Closed, but gas exchange is still possible for aerobic growth conditions
- Hermetically sealed for anaerobic growth conditions, for storage or despatch of samples or for centrifugation

Capacity ml	Diam. mm	Height mm	Description	Material	Max. temp. °C	Max. rcf	PK	Cat. No.
4.0	12.0	75	with rim	PS	80	1400	500	6.265 657
4.0	12.0	75	with rim	PP	120	3000	500	6.265 658
12.0	17.0	100	with rim	PS	80	3000	250	6.265 659
12.0	17.0	100	with rim	PP	120	5500	250	6.265 660
4.0	12.0	75	with dual-position-cap, sterilized	PS	80	1400	500	6.265 661
4.0	12.0	75	with dual-position-cap, sterilized	PP	120	3000	500	6.265 662
12.0	17.0	100	with dual-position-cap, sterilized	PS	80	3000	500	6.265 663
12.0	17.0	100	with dual-position-cap, sterilized	PP	120	5500	500	6.265 664
	12.0		dual-position-cap	PE		-	1000	6.265 665
	17.0		dual-position-cap	PE		-	1000	6.265 666

LLG-Filter paper, qualitative grades

Made from 100 % cellulose, ash content 0.06 %.
Filtration speed according to DIN 53137, Capacity of separation according to DIN 53135.

1 LLG-Qualitative filter paper, circles

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	**9.045 830**
110	10	100	**9.045 831**
125	10	100	**9.045 832**
150	10	100	**9.045 833**
185	10	100	**9.045 834**

2 LLG-Qualitative filter paper, circles

Medium fast, pore size 5 to 8 µm or 5 to 13 µm, for fast filtration with fine particles.

Diam. mm	Filtration time secs.	Pore size µm	PK	Cat. No.
42.5	50	5 - 8	100	**9.045 820**
90.0	50	5 - 8	100	**9.045 821**
110.0	50	5 - 8	100	**9.045 822**
125.0	50	5 - 8	100	**7.970 266**
150.0	50	5 - 8	100	**7.970 269**
185.0	50	5 - 8	100	**6.242 668**
240.0	50	5 - 8	100	**6.242 631**
42.5	88	5 - 13	100	**9.045 800**
47.0	88	5 - 13	100	**9.045 801**
55.0	88	5 - 13	100	**9.045 802**
70.0	88	5 - 13	100	**9.045 803**
90.0	88	5 - 13	100	**9.045 804**
110.0	88	5 - 13	100	**9.045 805**
125.0	88	5 - 13	100	**9.045 806**
150.0	88	5 - 13	100	**9.045 807**
185.0	88	5 - 13	100	**9.045 808**
240.0	88	5 - 13	100	**9.045 809**

3 LLG-Qualitative filter paper, folded filters

Medium fast, pore size 5 to 8 µm, for fast filtration with fine particles.

Diam. mm	Filtration time secs.	PK	Cat. No.
70.0	50	100	**7.659 027**
125.0	50	100	**9.045 825**
150.0	50	100	**9.045 826**
185.0	50	100	**9.045 827**
240.0	50	100	**6.242 632**

4 LLG-Qualitative filter paper, circles

Slow, pore size 2 to 3 µm, for $BaSO_4$, SnO_4, CuO, Cu_2O

Diam. mm	Filtration time secs.	PK	Cat. No.
70.0	180	100	**7.970 267**
90.0	180	100	**7.970 268**
110.0	180	100	**6.242 672**
125.0	180	100	**7.970 134**
150.0	180	100	**7.970 139**
185.0	180	100	**6.242 671**

5 LLG-Qualitative filter paper, sheets

Medium fast, pore size 5 to 13 µm, for analytical works in laboratories.

Dimensions mm	Filtration time secs.	PK	Cat. No.
460 x 570	88	100	**9.045 810**

E & OE.

LLG-Filter papers for quantitative analysis

Made from 100 % cellulose, Ash content 0.007 %.
Filtration speed according to DIN 53137, capacity of separation according to DIN 53135.

1   LLG-Quantitative filter paper, circles

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
- for $Fe(OH)_2$, $Al(OH)_3$, $NaSO_4$
- ashless, equivalent black tape

Diam.	Filtration time		PK	Cat. No.
mm	secs.			
70	10		100	**9.045 840**
90	10		100	**9.045 841**
110	10		100	**9.045 842**
125	10		100	**9.045 843**
150	10		100	**9.045 844**
185	10		100	**9.045 845**

2   LLG-Quantitative filter paper, circles

Medium fast/fast, pore size 8 to 12 µm.
- most frequently used quantitative filter
- for PbS, Ag_2S, FeS, carbonates
- ashless, equivalent white tape

Diam.	Filtration time		PK	Cat. No.
mm	secs.			
90	20		100	**7.970 057**
110	20		100	**7.970 000**
125	20		100	**7.970 058**
150	20		100	**7.970 001**
185	20		100	**7.970 002**
200	20		100	**6.242 179**

3   LLG-Quantitative filter paper, circles

Medium fast, pore size 5 to 8 µm.
- for NH_4MgPO_4, CaC_2O_4, $BaSO_4$
- ashless, equivalent red tape

Diam.	Filtration time		PK	Cat. No.
mm	secs.			
55	50		100	**6.256 437**
70	50		100	**7.970 571**
90	50		100	**7.970 032**
110	50		100	**6.242 748**
125	50		100	**7.970 045**
150	50		100	**6.252 765**
185	50		100	**6.242 747**
240	50		100	**7.970 591**

4   LLG-Quantitative filter paper, circles

Slow, pore size 2 to 3 µm.
- for very fine precipitates and small particles
- for soil analysis
- for $BaSO_4$ (hot precipitate), $PbSO_4$, Cu_2O, ZnS, NiS
- ashless, equivalent blue tape

Diam.	Filtration time		PK	Cat. No.
mm	secs.			
70	180		100	**7.970 271**
90	180		100	**9.045 850**
110	180		100	**6.242 670**
125	180		100	**9.045 851**
150	180		100	**9.045 852**
185	180		100	**6.242 669**
320	180		100	**7.970 611**

1 LLG-Glass microfibre filters, filter circles

Glass microfibre filters have a fast filtration and a high loading capacity and particle retention rate. Manufactured without chemical binder from high grade borosilicate glass. (Exception: GF6, GF9). They are suitable for gravity or low suction filtration. Filtration speeds generally very much higher than conventional cellulose papers. Efficient retention of micron size particles. Must be used flat. Ideal for use in flat perforated plate Buchner type funnels (not sintered glass models). Can be used up to 500 °C
Wide range of applications including:
- retention of fine analytical precipitates
- retention of biochemical gelatinous precipitates
- water/air pollution analyses
- as prefilters for membranes
- scintillation counting
- radioimmunoassay

Diam.	Filtration time	Weight	Thickness		PK	Cat. No.
mm	secs.	g / m²	mm			
25	60*	52	0.26		100	**9.045 860**
37	60*	52	0.26		100	**7.970 790**
47	60*	52	0.26		100	**9.045 861**
55	60*	52	0.26		100	**6.242 633**
90	60*	52	0.26		100	**6.252 072**
110	60*	52	0.26		100	**7.970 339**
125	60*	52	0.26		100	**7.970 033**
150	60*	52	0.26		100	**9.045 862**
25	100*	52	0.26		100	**9.045 865**
47	100*	52	0.26		100	**6.243 711**
55	100*	52	0.26		100	**6.251 383**
70	100*	52	0.26		100	**9.045 866**
90	100*	52	0.26		100	**9.045 867**
110	100*	52	0.26		100	**9.045 868**
47	310*	75	0.45		100	**7.970 106**
55	310*	75	0.45		100	**7.970 742**
70	310*	75	0.45		100	**6.253 553**

*filtration velocity according to Herzberg

LLG-Syringe Filters

We offer a line of syringe filters especially designed to provide efficient filtration of a broad variety of fluids, solvents, aqueous or inorganic solutions. 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

2 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.

9.055 500

9.055 503

Filter diam.	Pore size	Housing	Type	PK	Cat. No.
mm	µm				
13	0.20	Acrylic, blue	non sterile	500	**9.055 500** 2
13	0.45	Acrylic, yellow	non sterile	500	**9.055 502**
13	0.80	Acrylic, green	non sterile	500	**9.055 504**
25	0.20	Acrylic, blue	non sterile	500	**9.055 501**
25	0.45	Acrylic, yellow	non sterile	500	**9.055 503** 3
25	0.80	Acrylic, green	non sterile	500	**7.970 389**
13	0.20	Acrylic, blue	sterile	50	**9.055 510**
13	0.45	Acrylic, yellow	sterile	50	**9.055 512**
25	0.20	Acrylic, blue	sterile	50	**9.055 511**
25	0.45	Acrylic, yellow	sterile	50	**9.055 513**

E & OE.

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	9.055 520
13	0.45	PP	non sterile	500	9.055 522
25	0.20	PP	non sterile	500	9.055 521
25	0.45	PP	non sterile	500	9.055 523

9.055 520

LLG Syringe Filter PE, Polyethylene

Universal Filter membrane for all analytical requirements. For aqueous and aggressive organic solvent filtration.
Wide application in sample preparation, Ion chromatography.

Filter diam.	Pore size	Housing	Type	PK	Cat. No.
mm	µm				
13	0.20	PP	non sterile	500	9.055 540
13	0.50	PP	non sterile	500	9.055 542
25	0.20	PP	non sterile	500	9.055 541
25	0.50	PP	non sterile	500	9.055 543

9.055 541

LLG Syringe Filter RC, Regenerated cellulose

Hydrophilic membrane features very low adsorption. It is recommended for filtration of aqueous and organic/aqueous liquids.
For filtration of polar and medium polar liquids.

Filter diam.	Pore size	Housing	Type	PK	Cat. No.
mm	µm				
13	0.20	PP	non sterile	500	9.055 530
13	0.45	PP	non sterile	500	9.055 532
25	0.20	PP	non sterile	500	9.055 531
25	0.45	PP	non sterile	500	9.055 533

9.055 530

LLG Syringe Filter PTFE, Polytetrafluorethylene

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	PP	non sterile	500	7.970 402
13	0.45	PP	non sterile	500	7.970 385
25	0.20	PP	non sterile	500	9.055 535
25	0.45	PP	non sterile	500	6.255 331

6.255 331

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	9.055 524
13	0.45	Acrylic	non sterile	500	9.055 526
25	0.20	Acrylic	non sterile	500	9.055 525
25	0.45	Acrylic	non sterile	500	7.970 213

7.970 213

E & OE.

1

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	7.970 258
13	0.45	PP	non sterile	500	9.055 534
25	0.20	PP	non sterile	500	7.970 387
25	0.45	PP	non sterile	500	7.970 286 **1**

2

9.055 552

LLG Syringe Filter GF, Glass-fibre

Hydrophilic membrane suitable for pre-filtration. They can be used for solutions with high particulate loads or for highly viscous solutions (e.g. soil samples, fermentation broths) either alone or in combination with other filters.

Filter diam.	Pore size	Housing	Type	PK	Cat. No.
mm	µm				
25	0.70	PP	non sterile	500	9.055 550
25	1.00	PP	non sterile	500	9.055 551
25	1.20	PP	non sterile	500	9.055 552 **2**
25	3.10	PP	non sterile	500	9.055 553

3

3 ## 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

4

4 ## LLG-Inline-filters

The 50 mm inline filter with it's ultra pure Polypropylene housing (ultrasonic welded) is designed to contain 47 mm membranes. The filter comes with 6-12 mm hose connectors (tapered) at the inlet and the outlet side. The PTFE-membrane can be used for filtration of aggressive chemicals including acids and non-aqueous solutions. Due to its high filter area of 1735 mm² the filter is suitable for long term gas filtration /venting applications, it could be used for filtration of higher volumes of liquid (up to approximately 500 ml, depending on the particle load of the filtrated suspension) or for filtration of aggressive non aqueous liquids.
- hydrophobic PTFE-membrane
- Housing polypropylene
- autoclavable at 121 °C for 20 minutes at 2 bar, max. 3 cycles
- stepped hose connector of 6-10mm on either sides
- high throughput with low pressure drop
- max. operating pressure 4.0 bar

Pore size	Diam.		PK	Cat. No.
µm	mm			
0.20	50		5	9.059 513
0.45	50		5	9.059 514

E & OE.

1 LLG-Porcelain filter crucibles, with porous bottom, DIN 12909

Glazed.

Capacity ml	Ext. diam. mm	Height mm	Pore size μm	PK	Cat. No.
8	25	28	6	1	9.052 080
8	25	28	7	1	9.052 081
8	25	28	8	1	9.052 082
15	30	35	6	1	9.052 083
15	30	35	7	1	9.052 084
15	30	35	8	1	9.052 085
25	35	40	6	1	6.233 176
25	35	40	7	1	6.233 748
25	35	40	8	1	9.052 086
35	40	43	6	1	9.052 087
35	40	43	7	1	9.052 088
35	40	43	8	1	9.052 089
50	45	50	6	1	9.052 090
50	45	50	7	1	9.052 091
50	45	50	8	1	9.052 092

2 Gooch crucibles, porcelain

Made from porcelain with perforated bottoms. They need filter paper for filtering process.

Capacity ml	Diam. mm	Height mm	PK	Cat. No.
15	29	33	1	6.267 350
25	36	45	1	6.267 351
40	40	50	1	6.267 352

3 Filter crucibles, borosilicate glass 3.3

Borosilicate glass 3.3. With sintered disc filter as outlined below.

Capacity ml	Porosity	Diam. mm	PK	Cat. No.
15	1	23	1	9.052 060
15	2	23	1	9.052 061
15	3	23	1	9.052 062
15	4	23	1	9.052 063
15	5	23	1	9.052 064
30	1	30	1	9.052 036
30	2	30	1	9.052 037
30	3	30	1	9.052 038
30	4	30	1	9.052 039
30	5	30	1	9.052 040
50	1	40	1	9.052 041
50	2	40	1	9.052 042
50	3	40	1	9.052 043
50	4	40	1	9.052 044
50	5	40	1	9.052 065

4 Filter funnels, Borosilicate glass 3.3

Borosilicate glass 3.3, with sintered disc filter as outlined below. Autoclavable.

Capacity ml	Porosity	Diam. mm	Stem diam. mm	PK	Cat. No.
50	1	36	10	1	9.052 367
50	2	36	10	1	9.052 368
50	3	36	10	1	9.052 369
50	4	36	10	1	9.052 370
75	1	48	10	1	9.052 371
75	2	48	10	1	9.052 372
75	3	48	10	1	9.052 373
75	4	48	10	1	9.052 374
125	1	60	10	1	9.052 375
125	2	60	10	1	9.052 376
125	3	60	10	1	9.052 377
125	4	60	10	1	9.052 378
250	1	80	18	1	9.052 066
250	2	80	18	1	9.052 067
250	3	80	18	1	9.052 068
250	4	80	18	1	9.052 069
500	1	95	22	1	9.052 379
500	2	95	22	1	9.052 380
500	3	95	22	1	9.052 381
500	4	95	22	1	9.052 382

E & OE.

1 LLG Buchner funnels, porcelain

For filterpaper diam.	Capacity		PK	Cat. No.
mm	ml			
45	35		1	**6.239 903**
55	70		1	**6.237 328**
70	120		1	**6.231 541**
90	240		1	**9.252 500**
110	400		1	**9.252 501**
125	600		1	**9.252 502**
150	1000		1	**9.252 503**
185	2000		1	**9.252 504**
240	4000		1	**9.252 505**
295	7000		1	**9.252 506**
325	10000		1	**9.252 507**

2 Gaskets

Grey, filter gaskets made of natural rubber (NR). Conical, to fit filter funnels or crucibles into suction flasks.

Top diam.	Bottom diam.	Height	Wall thickness	PK	Cat. No.
mm	mm	mm	mm		
21	12.0	18	2.5	1	**9.052 412**
27	17.0	20	3.0	1	**9.052 417**
33	21.0	24	3.0	1	**9.052 423**
41	27.5	27	4.0	1	**9.052 427**
53	33.0	34	5.0	1	**9.052 432**
68	48.0	35	5.5	1	**9.052 436**
78	58.0	35	6.0	1	**9.052 439**
89	66.0	40	6.5	1	**9.052 443**

3 Filter flasks, Erlenmeyer shape, borosilicate glass 3.3

Borosilicate glass 3.3 with thick walls according to ISO 6556 and DIN 12476 standards. The glass side arm or the Polypropylene side arm is suitable to work with 6 mm to 10 mm hose diameters. The Polypropylene side arm has a screw thread connector for easy and safe fitting of the tubing.

Capacity	lateral connection		PK	Cat. No.
ml				
100	glass		1	**4.008 437**
250	glass		1	**6.241 652**
500	glass		1	**6.241 291**
1000	glass		1	**6.239 008**
2000	glass		1	**4.008 438**
100	PP		1	**4.008 439**
250	PP		1	**6.237 706**
500	PP		1	**6.237 707**
1000	PP		1	**6.237 708**
2000	PP		1	**6.242 170**

E & OE.

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	Ext. diam.	Description	Thread	Height		PK	Cat. No.
ml	mm			mm			
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**

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 LLG-Cryogenic storage boxes, plastic coated, 136 x 136

Freezer and cryogenic storage boxes (CryoBoxes). Made of cardboard, **plastic coated** without divider. Dimensions: 136 x 136 mm square. For the storage of samples. With lid. Further colours available on request.

Int. height mm	Colour	PK	Cat. No.
50	white	1	**6.080 130**
50	yellow	1	**6.077 876**
50	blue	1	**6.077 875**
50	green	1	**6.081 021**
50	red	1	**6.081 022**
75	white	1	**6.802 726**
75	blue	1	**6.260 006**
75	red	1	**6.260 007**
75	green	1	**6.260 008**
75	yellow	1	**6.260 009**
100	blue	1	**6.260 010**
100	red	1	**6.260 011**
100	green	1	**6.260 012**
130	white	1	**6.083 519**

E & OE.

1   LLG-Partition inserts for LLG-Cryoboxes, 136 x 136

For cryoboxes 136 x 136 mm. With compartment heights and formats as indicated. Other sizes available on request.

Height mm	Array	PK	Cat. No.
22	10 x 10	1	4.654 555
22	9 x 9	1	4.654 556
22	12 x 12	1	4.654 554
22	16 x 16	1	6.257 202
30	4 x 4	1	6.305 840
30	5 x 5	1	9.401 055
30	6 x 6	1	6.090 419
30	7 x 7	1	7.617 877
30	8 x 8	1	6.243 752
30	9 x 9	1	9.405 871
30	10 x 10	1	9.405 875
30	12 x 12	1	9.401 050
30	14 x 14	1	6.260 016
30	16 x 16	1	9.405 883
40	4 x 4	1	6.401 505
40	5 x 5	1	6.260 020
40	6 x 6	1	6.202 839
40	7 x 7	1	6.802 215
40	8 x 8	1	6.900 361
40	9 x 9	1	9.405 872
40	10 x 10	1	9.405 876
40	12 x 12	1	9.405 880
65	4 x 4	1	9.405 870
65	5 x 5	1	6.079 677
65	6 x 6	1	6.201 071
65	8 x 8	1	6.801 789
65	9 x 9	1	9.405 873
65	10 x 10	1	9.405 877

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. Further colours available on request.

Int. height mm	Colour	PK	Cat. No.
32	white	1	6.260 029
32	red	1	6.234 735
32	blue	1	6.802 431
50	white	1	6.082 701
50	red	1	6.081 654
50	green	1	6.084 538
50	blue	1	6.700 568
75	white	1	6.801 707
75	red	1	6.260 030
75	yellow	1	6.260 031
75	green	1	6.803 056
75	blue	1	9.698 776
100	white	1	6.260 032
100	red	1	9.698 787
100	yellow	1	9.698 789
100	blue	1	9.698 786
100	green	1	9.698 788
130	white	1	6.260 033

Special sizes and colours available on request!

E & OE.

1 Partition inserts for LLG-Cryoboxes, 133 x 133

For cryoboxes 133 x 133mm. With compartment heights and formats as indicated. Other sizes available on request.

Height mm	Array	PK	Cat. No.
22	9 x 9	1	6.265 799
22	10 x 10	1	6.265 800
22	12 x 12	1	4.653 626
30	4 x 4	1	6.260 038
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	14 x 14	1	6.260 039
30	7 x 7	1	9.698 773
30	8 x 8	1	9.698 772
40	5 x 5	1	6.260 044
40	6 x 6	1	6.260 043
40	7 x 7	1	9.698 783
40	8 x 8	1	9.698 782
40	9 x 9	1	9.698 781
40	10 x 10	1	9.698 780
65	4 x 4	1	6.079 079
65	5 x 5	1	6.260 046
65	6 x 6	1	6.206 129
65	7 x 7	1	9.698 793
65	7 x 7	1	6.260 045
65	8 x 8	1	9.698 792
65	9 x 9	1	9.698 791
65	10 x 10	1	9.698 790

2 LLG-Cryobox for 5ml centrifuge tubes with partition insert, white, 133 x 133mm

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 for 5ml centrifuge tubes	5 x 5	1	6.281 179

3 LLG-Cryogenic storage boxes, PP, autoclavable

With 81 places, 9x9 grid and numerical coded. Robust hinge with safe snap-on lid, stackable for safe transport. Minimised liquid retention. Guaranteed metal free. Temperature resistant from -130 °C to +90 °C, autoclavable at 121 °C, 20 minutes.
Dimensions: 140 mm x 140 mm x 60 mm

Colour	Array	PK	Cat. No.
Magenta/clear	9 x 9	1	9.405 800
Black	9 x 9	1	9.405 801

4 Cryogenic boxes, PP, 81 well, autoclavable

No. of cells 9 x 9 = 81 cryovials.

Type	Dimensions (l x w x h) mm	PK	Cat. No.
Blue	130 x 130 x 50	1	9.698 708
Green	130 x 130 x 50	1	9.698 709
Natural	130 x 130 x 50	1	9.698 710
Red	130 x 130 x 50	1	9.698 711
Yellow	130 x 130 x 50	1	9.698 712

E & OE.

1

1 Cryogenic boxes, PP, 81 well, autoclavable

Polypropylene box fits in standard freezer racks. Locating tubes is easy with moulded grid lines and a moulded reference point on the lid. Stores 1.5 ml to 2.0 ml microtubes under easy-open, friction-fit lid. Dimensions: 130 mm x 130 mm x 47 mm. Autoclavable.

Colour	PK	Cat. No.
natural	1	**9.193 983**
blue	1	**7.078 821**
green	1	**7.058 103**
pink	1	**7.058 102**
yellow	1	**7.078 822**
orange	1	**7.083 522**
blue, green, pink, yellow, orange	5	**9.193 984**

2

2 Microtube Storage Boxes, 50-/100-Well, PP

Autoclavable. Compact storage box has angled front slot for easy access to tubes. Rugged, polypropylene box has durable three-point hinges, snapping clasp for secure closure, moulded grid lines on lid, imprinted coordinates on bottom of base and imprinted and raised coordinates on tube wells. Ideal for sample or case study storage.Holds 1.5 ml to 2.0 ml microtubes. Resist storage temperatures from -80 °C up to +121 °C.

no. of wells	Dimensions (l x w x h) mm	Colour	PK	Cat. No.
50	141 x 92 x 56	blue, green, purple, yellow, orange	5	**9.193 985**
50	141 x 92 x 56	natural	1	**6.243 162**
100	141 x 151 x 57	blue, green, purple, yellow, orange	5	**9.193 981**
100	141 x 151 x 57	natural	1	**6.206 710**
100	141 x 151 x 57	black	1	**6.253 894**

3

9.409 015

4

9.409 017

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.

Description	PK	Cat. No.
LLG-aluminum block, 96 x 0.2 ml PCR tubes + 6 x 1.5 ml tubes	1	**9.409 015** 3
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** 4
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**

E & OE.

1 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**

2 Floating Tube Racks, PE

Polyethylene foam. Resist water absorption so racks can be washed and reused. Ideal for floating tubes in water baths, tubs, or beakers. Racks include detachable carrying handles, to easily lift samples out of baths.

Type	For tubes ml	Array	Colour	PK	Cat. No.
Diamond	50	4	green	5	**6.238 546**
Parallelogram	15	8	blue	5	**6.238 547**
Rectangle	1.5 to 2.0	24	yellow	5	**6.238 545**
Round	0.2/0.5/1.5 to 2	18	blue	5	**6.240 378**

3 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.

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)

4 LLG-Laboratory Power Failure Detector

- Alarm is reported immediately visually and acoustically
- Reports alarm even for short power outages or for a period of at least 12 hours (can be switched off manually)
- Plug safety cover offers protection against accidentally pulling the plug
- Maximum total power of connected devices. 3500 W power supply 230 V 50 Hz
- Suitable for European plugs
- Max. Rating 16 A
- With built-in battery

Scope of supply:
1 x power failure detector
2 x plug safety caps
2 x screws

Type	PK	Cat. No.
LLG-Laboratory Power Failure Detector	1	**6.255 819**

E & OE.

1   Heating bath liquid, BASF

Use:
BASF heating bath liquid can be used continuously as a heating medium up to approx. 170 °C. Higher temperatures (below flash point) are possible, but will result in rapid darkening. The low pour point allows the bath liquid also to be used as a cooling medium. Mixtures with 10 % to 30 % water have proved best for this.

The crucial advantages of BASF heating bath liquid compared to the oils or other organic liquid mainly used are:
- accidental spillage of water into the bath does not lead to dangerous spitting at temperatures over 100 °C, as the water dissolves in the heating bath liquid and subsequently evaporates safely
- BASF heating bath liquid can easily be rinsed away with water which eases cleaning of laboratory equipment, e.g. distillation flasks, bench or floor if the bath liquid is accidentally spilled.
- BASF heating bath liquid does not foam when mixed with water.

Viscosity on addition of water:
BASF heating bath liquid is quite viscous at ambient or low temperatures, and therefore sometimes difficult to dispense. The addition of 10-20 % water reduces the viscosity and enables easier handling. If the mixture is then heated to 100 °C, the water evaporates without boiling. Further heating is only shortly delayed by this. Before next heating, water can be added again.

Water solubility: BASF heating bath liquid can be mixed with water in any ratio. The hardness of the water has no effect on the bath liquid.

Chemical character:	Modified, polyvalent, aliphatic alcohol
Appearance:	Clear, colourless or lightly coloured liquid
Storage time:	When stored for long periods the product may become darker.
(unlimited at present knowledge)	This does not affect the performance of the product.
Density:	approx. 1.15 g/cm³
Flashpoint	
to DIN 51758:	> 200 °C
to DIN 51794:	approx. 255 °C
Water solubility:	Heating bath liquid, BASF is miscible with water in each ratio. No susceptibility to water hardness in mixed water.

Container	PK	Cat. No.
5 litres	1	**9.906 200**

2   LLG-Floating pellets, PP

Pellets with 20mm diameter. Can cover 0.1 m².
Protect against evaporation and fast temperature loss. Decrease hazardous vapors.
Resistant against most acids, bases, solvents and mineral oils.
Temperature stable up to +100 °C.

Description	PK	Cat. No.
Floating pellets	250	**6.266 611**

E & OE.

1 Measuring cylinders, borosilicate glass 3.3, tall form, class A, blue graduated

Borosilicate glass 3.3. Conformity certified with batch ID. To DIN EN ISO 4788, DIN 12680. High form, hexagonal foot with spout. Calibrated to contain (IN) and all the tolerances are according to DIN/ISO Class A standards.

Capacity	Tolerance	Height	PK	Cat. No.
ml	± ml	mm		
5	0.050	115	1	**9.274 170**
10	0.100	140	1	**9.274 171**
25	0.250	170	1	**9.274 172**
50	0.500	200	1	**9.274 173**
100	0.500	260	1	**9.274 174**
250	1.000	335	1	**9.274 175**
500	2.500	390	1	**9.274 176**
1000	5.000	470	1	**9.274 177**
2000	10.000	570	1	**9.274 178**

2 Measuring cylinders, borosilicate glass 3.3, tall form, class A, white graduated

High form, hexagonal with spout, foot PP. Borosilicate glass 3.3.
Conformity certified with batch ID.To DIN EN ISO 4788, DIN 12680.

Capacity	Grad.	Tolerance	Height	PK	Cat. No.
ml	ml	± ml	mm		
10	0.200	0.100	135	1	**4.008 307**
25	0.500	0.250	160	1	**4.008 308**
50	1.000	0.500	195	1	**6.238 840**
100	1.000	0.500	240	1	**6.237 709**
250	2.000	1.00	320	1	**6.237 710**
500	5.000	2.50	380	1	**4.008 309**
1000	10.00	5.00	465	1	**4.008 310**

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

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		
10	0.200	135	1	**9.274 080**
25	0.500	160	1	**9.274 081**
50	1.000	195	1	**9.274 082**
100	1.000	240	1	**9.274 083**
250	2.000	320	1	**9.274 084**
500	5.000	380	1	**9.274 085**
1000	10.000	465	1	**9.274 086**

E & OE.

1 **1** Measuring cylinders, PP, tall form, class B, moulded graduations

- Manufactured from ultra clear, virgin polypropylene and its thick walls eliminate distortion.
- They offer high transperency, chemical resistance and remarkable heat tolerance.
- They meet the highest quality standards according to DIN 12681 and ISO 6706.
- Individually calibrated through automatic calibration process carried out by robots.
- Permanent quality control through all steps eliminate possible deviations from nominal values.
- Cylinders are calibrated to contain (In) and the tolerances are according to DIN/ISO Class "B" standards.
- Graduations are embossed and specially designed for plastic and resistant to 60 °C.
- For consistent accurracy, polypropylene measuring cylinders should not be used with liquids over 60°C and should not be kept under direct sunlight or overheated conditions.

Capacity	Tolerance	Grad.	Height		PK	Cat. No.
ml	± ml	ml	mm			
10	0.200	0.200	135		1	**6.243 541**
25	0.500	0.500	160		1	**6.243 542**
50	1.000	1.000	195		1	**6.243 543**
100	1.000	1.000	240		1	**6.243 544**
250	2.000	2.000	320		1	**6.243 545**
500	5.000	5.000	380		1	**6.243 546**
1000	10.000	10.000	465		1	**6.243 547**

2 **2** Measuring cylinders, PP, tall form, class B, blue moulded graduations

Highly transparent.
With easily readable, raised, embossed blue scale and ring marks at the primary scale points.
Calibrated 'In'. Class B tolerances according to DIN 12681/ISO 6706.
Hexagonal base with bottom studs provides high stability. Thermal stress up to 80ºC does not cause tolerance limits to be permanently exceeded. To preserve markings, do not clean at temperatures exceeding 60 ºC.
Food-safe (suitable for contact with foodstuff in accordance with Regulation (EC) No. 10/2011).

Capacity	Grad.	Height	Tolerance	Diam.		PK	Cat. No.
ml	ml	mm	± ml	mm			
10	0.20	145	0.2	15		1	**9.274 408**
25	0.50	170	0.5	22		1	**9.274 409**
50	1.00	200	1.0	27		1	**9.274 410**
100	1.00	250	1.0	33		1	**9.274 411**
250	2.00	315	2.0	44		1	**9.274 412**
500	5.00	360	5.0	58		1	**9.274 413**
1000	10.00	440	10.0	69		1	**9.274 414**
2000	20.00	482	20.0	97		1	**9.274 415**

3 **3** Measuring cylinders, PP, tall form, class B, moulded graduations

Tall form. Highly transparent. With a raised scale and ring marks at the primary scale points, calibrated 'In'.
Class B tolerances according to DIN 12681/ISO 6706.
Hexagonal base with bottom studs provides high stability. Thermal stress up to 80 ºC does not cause tolerance limits to be permanently exceeded. Food-safe (suitable for contact with foodstuff in accordance with Regulation EC No. 10/2011).

Capacity	Grad.	Height	Tolerance	Diam.		PK	Cat. No.
ml	ml	mm	± ml	mm			
10	0.20	145	0.2	15		1	**7.075 031**
25	0.50	170	0.5	22		1	**9.274 420**
50	1.00	200	1.0	27		1	**9.274 428**
100	1.00	250	1.0	33		1	**9.274 438**
250	2.00	315	2.0	44		1	**9.274 448**
500	5.00	360	5.0	58		1	**9.274 454**
1000	10.00	440	10.0	69		1	**9.274 462**
2000	20.00	482	20.0	97		1	**9.274 464**

E & OE.

1 Graduated cylinders, PP, class B, low form, raised scale

Highly transparent. With a raised scale and ring marks at the primary scale points, calibrated 'In'. Products individually packaged in PE bags, labelled with the article number, description and EAN code.
Thermal stress up to 80 °C does not cause tolerance limits to be permanently exceeded.
Food-safe products according to EC Directive No. 10/2011.

Capacity	Grad.	Height	Tolerance	Diam.	PK	Cat. No.
ml	ml	mm	± ml	mm		
25	0.50	122	0.50	22	1	**9.274 820**
50	1.00	142	1.00	27	1	**9.274 828**
100	2.00	163	2.00	37	1	**9.274 838**
250	5.00	192	5.00	51	1	**9.274 848**
500	10.00	218	10.00	67	1	**9.274 854**
1000	20.00	285	20.00	78	1	**9.274 862**

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

Borosilicate glass 3.3. Tall form. Conformity certified, with certified batch number. PP stoppers and hexagonal foot. To DIN EN ISO 4788, DIN 12680.

Capacity	Tolerance	Height	PK	Cat. No.
ml	± ml	mm		
10	0.100	160	1	**9.275 070**
25	0.250	195	1	**9.275 071**
50	0.500	230	1	**9.275 072**
100	0.500	290	1	**9.275 073**
250	1.000	370	1	**9.275 074**
500	2.500	395	1	**9.275 075**
1000	5.000	510	1	**9.275 076**

3 Volumetric trapezoidal flasks, Borosilicate glass 3.3, class A, blue graduated

Borosilicate glass 3.3. Conformity certified, with batch certificate. Trapezoidal. With NS and PP stoppers, to DIN 12664, to DIN EN ISO 1042.

Capacity	Joint size (NS)	Tolerance	PK	Cat. No.
ml		± ml		
1	07/16	0.025	1	**6.237 705**
2	07/16	0.025	1	**6.236 426**
3	07/16	0.025	1	**7.930 290**
4	07/16	0.025	1	**7.930 291**

4 Volumetric flasks, borosilicate glass 3.3, class A, blue graduated, with PP stoppers

Borosilicate glass 3.3. Conformity certified, with batch certificate. With NS and PP stoppers, to DIN 12664, to DIN EN ISO 1042. Calibrated to contain (IN) and all the tolerances are according to DIN/ISO Class A standards.

Capacity	Joint size (NS)	Tolerance	PK	Cat. No.
ml		± ml		
5	10/19	0.025	1	**9.276 600**
10	10/19	0.025	1	**9.276 601**
20	10/19	0.040	1	**9.276 602**
25	12/21	0.040	1	**4.008 300**
25	10/19	0.040	1	**9.276 603**
50	12/21	0.060	1	**9.276 604**
50	14/23	0.060	1	**9.276 605**
100	12/21	0.100	1	**9.276 606**
100	14/23	0.100	1	**9.276 607**
200	14/23	0.150	1	**9.276 608**
250	14/23	0.150	1	**9.276 609**
400	19/26	0.200	1	**4.008 302**
500	19/26	0.250	1	**9.276 610**
1000	24/29	0.400	1	**9.276 611**
2000	29/32	0.600	1	**9.276 612**
5000	34/35	1.200	1	**9.276 613**
10000	45/40	2.000	1	**9.276 614**
1000*	29/32	0.400	1	**9.276 615**

E & OE.

1 Volumetric flasks, borosilicate glass 3.3 amber, class A, white graduated, with PP stoppers

Amber Borosilicate glass 3.3 with PP stoppers, DE-M marking, with batch certificate and white enamel graduations. To DIN EN ISO 1042, to DIN 12644. Calibrated to contain (IN) and all the tolerances are according to DIN/ISO Class A standards.

Capacity ml	Joint size (NS)	Tolerance ± ml	PK	Cat. No.
5	10/19	0.025	1	**9.276 620**
10	10/19	0.025	1	**9.276 621**
20	10/19	0.040	1	**9.276 622**
25	10/19	0.040	1	**9.276 623**
25	12/21	0.040	1	**4.008 303**
50	12/21	0.060	1	**9.276 624**
50	14/23	0.060	1	**9.276 625**
100	12/21	0.100	1	**9.276 626**
100	14/23	0.100	1	**9.276 627**
200	14/23	0.150	1	**9.276 628**
250	14/23	0.150	1	**9.276 629**
500	19/26	0.250	1	**9.276 630**
1000	24/29	0.400	1	**9.276 631**
2000	29/32	0.600	1	**4.008 306**

2 Volumetric flasks, PMP, class A

With NS stoppers, PP. Crystal clear. With ring mark individually calibrated to (IN). Class A tolerances according to DIN EN ISO 1042. With printed lot number and batch certificate. Thermal stress up to 121 ºC (autoclaving) does not permanently exceed the tolerance limit. To preserve markings, do not clean at temperatures exceeding 60 ºC

Capacity ml	Tolerance ± ml	Height mm	Stopper NS	PK	Cat. No.
10	0.04	90	10 / 19	1	**9.276 949**
25	0.04	115	10 / 19	1	**9.276 950**
50	0.06	150	12 / 21	1	**9.276 951**
100	0.10	180	14 / 23	1	**9.276 952**
250	0.15	235	19 / 26	1	**9.276 953**
500	0.25	270	19 / 26	1	**9.276 954**
1000	0.40	310	24 / 29	1	**9.276 955**

3 Volumetric flasks, plastic, class B, PP NS-stoppers

To DIN EN ISO 1042, with individually adjusted, blue printed graduation and inscriptions, with PP standard ground joint stoppers. Autoclavable.

Capacity ml	Tolerance ± ml	Joint size (NS)	PK	Cat. No.
25	0,08	10/19	1	**9.276 590**
50	0,12	12/21	1	**9.276 591**
100	0,20	14/23	1	**9.276 592**
250	0,30	14/23	1	**9.276 593**
500	0,50	19/26	1	**9.276 594**
1000	0,80	24/29	1	**9.276 595**

4 Volumetric pipettes, soda glass, class AS, 1 mark

Soda glass. Conformity-certified. With batch date identification. DIN EN ISO 648, DIN 12691 and BS 700 - 1583. Calibrated to deliver (EX). Ring mark and inscriptions in permanent blue enamel.

Volume ml	Tolerance ± ml	Length mm	PK	Cat. No.
1	0.007	310	1	**9.272 260**
2	0.010	330	1	**9.272 261**
3	0.010	360	1	**9.272 262**
4	0.015	360	1	**9.272 263**
5	0.015	400	1	**9.272 264**
10	0.020	440	1	**9.272 265**
15	0.030	455	1	**9.272 267**
20	0.030	510	1	**9.272 268**
25	0.030	520	1	**9.272 269**
50	0.050	540	1	**9.272 270**

E & OE.

1   Graduated pipettes, soda glass, class AS, type 3

Soda glass. Conformity-certified. With batch date identification. DIN EN ISO 835, DIN 12697 and BS700 - 1583. Calibrated to deliver (EX). Ring marks and graduations in permanent blue enamel.

Volume	Graduations	Tolerance	Length	PK	Cat. No.
ml	ml	± ml	mm		
1	0.01	0.007	360	1	**9.272 250**
2	0.02	0.010	360	1	**9.272 251**
5	0.05	0.030	360	1	**9.272 252**
10	0.1	0.050	360	1	**9.272 253**
20	0.1	0.100	450	1	**9.272 254**
25	0.1	0.100	450	1	**9.272 255**
50	0.1	0.200	720	1	**9.272 256**

2   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	PK	Cat. No.
mm		
150	1000	**9.411 015**
230	1000	**9.411 020**

3   LLG-Pasteur Pipettes, PE

Manufactured from transparent PE. Sterile or non-sterile. Graduated.

Capacity	Type	Length	PK	Cat. No.
ml		mm		
1.0	non-sterile	150	500	**9.401 081**
3.0	non-sterile	150	500	**9.401 080**
1.0	sterile, single wrapped	150	1000	**9.401 085**
3.0	sterile, single wrapped	150	1000	**9.401 084**

9.401 080

9.401 081
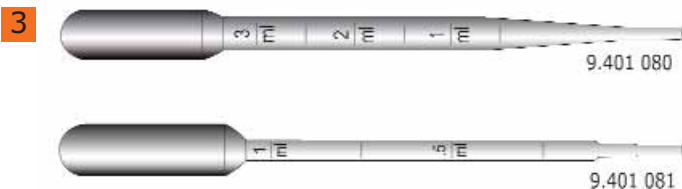
4   Pipette teats

Choice of materials as indicated.
Natural rubber/Latex (NR)
Silicone (VMQ)
Styrene-butadiene-rubber (SBR)

Capacity	Material	Colour	PK	Cat. No.
ml				
1.8	NR	transparent	1	**9.072 681**
1.8	NR	transparent	10	**6.265 727**
2.0	VMQ	transparent/white	10	**9.072 682**
2.0	NR/SBR	red	1	**9.072 683**
5.0	NR	transparent	5	**9.072 684**
10.0	NR	transparent	3	**9.072 685**

E & OE.

1 Pipette bulbs

Rubber. For quick and easy pipetting. Colour coding to prevent confusion.

Capacity ml	Colour	PK	Cat. No.
1	Green	1	**9.115 501**
2	Grey	1	**9.115 502**
5	Yellow	1	**9.115 505**
10	Blue	1	**9.115 506**
15	Red	1	**9.115 507**

2 Safety pipette bulb Howorka-Ball®

Advantages:
- no rigid connection with tube
- no valves or side vent on tubes
- suitable for all standard tube diameters, including pipettes, burettes, filter tubes etc.
- no unstable air pockets
- long operational life due to durable components
- Easily cleaned and steam sterilized if contaminated with liquids

Capacity ml	PK	Cat. No.
20	1	**9.273 826**
50	1	**9.273 827**

3 4 5 LLG-Safety pipette bulb, rubber

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

1

2

3

Type	Figure	PK	Cat. No.
Standard, for pipettes up to 8mm diameter	1	1	**6.270 265**
Universal, for most pipettes	2	1	**6.270 266**
Standard, multicolor black/red/yellow	-	1	**6.270 267**

E & OE.

1 Pipette stand, horizontal, PP

Pipette stand for 12 pipettes, horizontal is made from moulded polypropylene which is autoclavable. On each side, 6 pipettes (longer than 22 cm) can be stored horizontally. Easy to clean.

Dimensions mm	PK	Cat. No.
240 x 180 x 290	1	**9.273 896**

2 Pipette stand, vertical, PP

Pipette stand, vertical is made from moulded polypropylene.
This stand can hold up to 94 pipettes and rotates on a central vertical axis for easy selection of any particular pipette. The base plate has a raised edge which catches dripping liquids.

Type	PK	Cat. No.
Pipette stand, vertical	1	**9.273 895**

3 Macropipette controllers

The handwheel allows precise suction of the liquid into the pipette with one hand. This handwheel enables the suction piston and is designed for ease of operation by using only the thumb. When the wheel stops, the piston remains in the desired position. The liquid can be blown out by pressing the piston back or allowed to flow out by setting the lateral switch to "Ex". A slight pressure applied to the discharge lever opens the valve and lets the liquid flow out easily

For	PK	Cat. No.
Pipette volume up to 2 ml	1	**4.008 322**
Pipette volume up to 10 ml	1	**4.008 323**
Pipette volume up to 25 ml	1	**4.008 324**

4 Maxi pipette filler, 1 to 100 ml

Large capacity bulb which works perfectly with all pipette sizes from 1ml up to 100 ml. First squeeze the silicone bulb and the thumb lever controls both the aspirate and dispense modes. Incorporates central button to blow out the residual liquid into the pipettes

Type	PK	Cat. No.
Maxi pipette filler	1	**6.238 525**

1	2	3	4	5	6	LLG-Digital single channel microliter pipettes

Available as 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 of 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.

0**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	Increments	Accuracy max. vol.	Precision max. vol.	Colour code	PK	Cat. No.
µl	µl	(≤ ± R%)	(≤ CV%)			
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**

* 10000µl pipette does not have a tip ejector

LLG-Digital single channel microliter pipettes, variable

Capacity	Increments	Accuracy max. vol.	Precision max. vol.	Colour code	PK	Cat. No.
µl	µl	(≤ ± R%)	(≤ CV%)			
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.
** 10000µl pipette does not have a tip ejector

E & OE.

1 LLG-Digital single channel microliter pipettes, Packages, variable

Package 1 Micro contains:
3 Microlitre pipettes with the volumes
- LLG-microlitre pipette 0.5 to 10 µl
- LLG-microlitre pipette 10 to 100 µl
- LLG-microlitre pipette 100 to 1000 µl

and for each pipette one bag of tips
- crystal (0.1 to 10 µl) 1000 tips
- yellow (10 to 100 µl), 1000 tips
- blue (100 to 1000 µl), 1000 tips

Package 2 Macro contains:
3 Microliter pipettes with the volumes
- LLG-microlitre pipette 100 to 1000 µl
- LLG-microlitre pipette 500 to 5000 µl
- LLG-microlitre pipette 1000 to 10000 µl

and for each pipette one bag of tips
- blue (100 to 1000 µl), 1000 tips
- clear (100 to 5000 µl), 250 tips
- clear (1000 to 10000 µl), 100 tips
Package 1 Micro and 2 Macro are also available as packages with 4-place or 6-place pipette stand, made of PMMA.

Type	PK	Cat. No.
Package 1 Micro	1	**9.280 008**
Package 2 Macro	1	**9.280 009**
Package 1 Micro + 4-place-pipette stand	1	**6.237 000**
Package 1 Micro + 6-place-pipette stand	1	**6.237 001**
Package 2 Macro + 4-place-pipette stand	1	**6.237 002**
Package 2 Macro + 6-place-pipette stand	1	**6.237 003**

2 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 kind of pipettes.

Description	PK	Cat. No.
for 4 pipettes	1	**9.280 014**
for 6 pipettes	1	**9.280 011**

1

2

1 2 3 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.

Capacity µl	Increments µl	Accuracy max. vol. (≤ ± R%)	Precision max. vol. (≤ CV%)	PK	Cat. No.
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.

4 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, even multi-channel 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 µl	Colour	Package contents	PK	Cat. No.
0.1 - 10	clear	1 bag of 1000	1000	**9.409 099**
0.1 - 10	clear	10 racks of 96	960	**9.409 045**
1 - 200	yellow	1 bag of 1000	1000	**9.409 046**
1 - 200	clear	10 racks of 96	960	**6.253 577**
1 - 200	yellow	10 racks of 96	960	**9.409 047**
100 - 1000	blue	2 bags of 500	1000	**9.409 048**
100 - 1000	blue	10 racks of 96	960	**9.409 049**
100 - 5,000*	clear	1 bag of 250	250	**9.409 097**
100 - 5,000**	clear	1 bag of 250	250	**6.254 364**
1,000 - 10,000	clear	1 bag of 100	100	**9.409 098**

*for manual pipettors
**for electronic pipettors

E & OE.

1   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 %. Liquid handling accuracy and precision are crucial to success in today's molecular biology laboratories, especially for DNA analysis and protein handling. A significant culprit of pipette inaccuracy is binding of sample. The LLG pipette tips "*Premium*" reduces the binding, thus increasing sample delivery accuracy. Tests demonstrate that LLG pipette tips "*Premium*" significantly reduces the amount of DNA and protein bound by the tip. Furthermore LLG pipette tips "*Premium*" offer a marked improvement over the best low retention technologies.
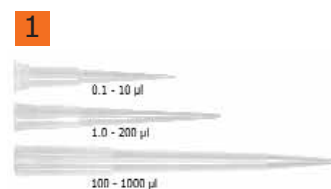
Capacity µl	Colour	Package contents	PK	Cat. No.
0.1 - 10	Clear	1 bag of 1000	1000	**9.409 038**
0.1 - 10	Clear	10 racks of 96	960	**9.409 039**
1 - 200	Clear	1 bag of 1000	1000	**9.409 041**
1 - 200	Clear	10 racks of 96	960	**9.409 042**
100 - 1000	Clear	2 bags of 500	1000	**9.409 043**
100 - 1000	Clear	10 racks of 96	960	**9.409 044**

2   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.
Also liquid handling accuracy and precision are crucial to success in today's molecular biology laboratories, especially for DNA analysis and protein handling. A significant culprit of pipette inaccuracy is binding of sample. The LLG-Filter tips reduce the binding, thus increasing sample delivery accuracy. Tests demonstrate that LLG-Filter tips *"Premium"* significantly reduce the amount of DNA and protein bound by the tip. Furthermore LLG-Filter tips *"Premium"* offer a marked improvement over the best low retention technologies.
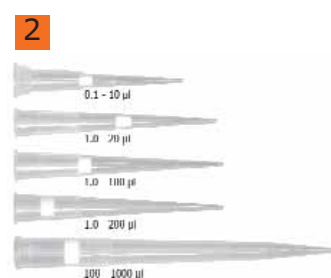
Capacity µl	Colour	Package contents	PK	Cat. No.
0.1 - 10	Clear	10 racks of 96	960	**9.409 033**
1 - 20	Clear	10 racks of 96	960	**9.409 034**
1 - 100	Clear	10 racks of 96	960	**9.409 035**
1 - 200	Clear	10 racks of 96	960	**9.409 036**
100 - 1000	Clear	10 racks of 96	960	**9.409 037**

3 4   LLG-Disposable Reagent reservoirs, with clearly visible volume markings

LLG-Reagent reservoirs offer a convenient solution for the temporary storage of non-solvent based liquids during any pipetting application. 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.
- Pour-back spouts moulded into the corners of each reagent reservoir control liquid flow and enable the easy, spill-free return of reagent to its original container.

Delivery: 4 packs of 50 pcs., sterile wrapped, 1 base per case.

Capacity ml	PK	Cat. No.
25	200	**9.409 731**
100	200	**9.409 732**

1

1 LLG-uni*DISPENS* manual Serial Dispenser

The ergonomically designed manual dispenser LLG-uni*DISPENS* 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-uni*DISPENS*	1	**9.284 238**
Spare adapter for 50 ml	1	**6.266 072**
Spare adapter for 25 ml	1	**6.266 071**

2 **3**

Dispenser tips, ritips®

- Three sizes, standard and bioclean® (sterile).
- Maximum of safety and repeatability as all tips are individually and mechanically tested.
- Guaranteed purity under the logo bioclean® is tested and confirmed by independent testing laboratories. Ritter bioclean® stands for sterile, pyrogen free, DNA-, RNase- and ATP-free.
- CE-marking according to IVD-directive 98/79 EG on each box.
- A quality certificate per lot can be obtained upon request.

Suitable for use together with Ritter ripette®, Multipette® 4780, HandyStep®, Minilab 100/101, Stepmate, EasyStep, Distriman® and HandyStep® electronic.

Please note: Dispenser tips ritips® 25 ml and 50 ml cannot be used without adapter. If necessary, please order Cat.-No. 6.266 071 or 6.266 072 separately.

6.265 688   6.265 689

4

Type	PK	Cat. No.
0.05ml/ standard	100	**6.265 688** 2
1.25ml / standard	100	**6.265 689** 3
12.5ml / standard	100	**9.284 225** 4
0.05ml/ sterile	25	**6.265 690**
1.25ml / sterile	100	**6.265 691**
12.5ml / sterile	100	**6.265 692**

9.284 225

E & OE.

1   LLG-Bottletop dispenser uni*TOPDISPENS* with glass piston and clear glass cylinder

The LLG-uni*TOPDISPENS* is a reasonably priced bottle-top dispenser with PTFE-coated glass piston available in 2 volumes: 10 ml and 50 ml. Precise, reliable and robust. The PTFE-coating of the glass piston is ideal when dispensing of crystallizing media. 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-uni*TOPDISPENS*	2 - 10	0.5	0.6	0.2	1	**9.283 806**
LLG-uni*TOPDISPENS*	10 - 50	1.0	0.6	0.2	1	**9.283 808**

2   LLG-Bottletop dispenser

- Definitely the best choice to provide high precision with consistent delivery. Reliable measuring results with bubble-free dispensing.
- Individually calibrated in accordance with ISO 8655 standards and each unit is supplied with an individual calibration certificate.
- Highest degree of chemical resistance is provided due to the use of high quality materials in contact with dispensed liquids.
- Springless PTFE valve manifold ensures excellent chemical compatibility and leak proof valve functioning reapoducibility.
- Specially designed PTFE piston with silicone O-ring ensures smooth, effortless piston movement.
- Dosing cylinder is protected against breaking by a polypropylene sleeve which prevents any glass splitting in case of any accidental breaking.
- The telescopic extractable intake tube can be adjusted easily and smoothly to the varying heights of the bottles.
- Nozzle cap reduces contact with air and prevents drying. No drips when the tip cover is attached.
- Each dispenser comes with five adaptors (28 mm, 32 mm, 37 mm, 40 mm and 45 mm) to fit in most of the laboratory reagent bottles. Standard thread: 30 mm.

Quick volume settings with the practical sets screw. After loosening the locking screw, desired volume can be set, then locking screw is fixed.

Volume ml	Grad. ml	Accuracy max. vol. ($\leq \pm$ R%)	Precision max. vol. ($\leq$ CV%)	PK	Cat. No.
0.3 - 2.5	0.05	0.6	0.2	1	**9.284 180**
0.5 - 5	0.10	0.5	0.1	1	**9.284 181**
1.0 - 10	0.20	0.5	0.1	1	**9.284 182**
2.5 - 30	0.50	0.5	0.1	1	**9.284 183**
5.0 - 60	1.00	0.5	0.1	1	**9.284 184**
10.0 - 100	2.00	0.5	0.1	1	**9.284 185**

3   Burettes, with straight stopcock, borosilicate glass 3.3, class AS

With class AS, conformity certified, with batch identification, blue graduations, DIN EN 385.
PTFE spindle.

Capacity ml	Grad. ml	Tolerance $\pm$ ml	PK	Cat. No.
10	0.02*	0.020	1	**4.008 311**
25	0.05*	0.030	1	**9.270 100**
50	0.10*	0.050	1	**9.270 101**
10	0.02	0.020	1	**9.270 102**
25	0.05	0.030	1	**9.270 103**
50	0.10	0.050	1	**9.270 104**

* with Schellbach line

4.008 314   4.008 316

Automatic burettes, schilling pattern, borosilicate glass 3.3/PE-LD

- Described as automatic burettes with fast titration and practical usage.
- Especially suitable for field analysis where there is a risk of breaking.
- The entire system consists of a burette tubing with automatic zeroing system together with a valve stopcock, a reservoir bottle and a bottle stand.
- Rapid filling by squeezing the bottle and fast titration by valve stopcock
- Inscriptions and graduations are printed either with blue enamel or with white enamel which is specially designed for glass use.
- Clear burettes are manufactured with schellbach stripe.
- Amber burettes are manufactured without schellbach stripe.
- 10ml burette has a polyethylene reservoir bottle of 500ml volume whereas 25 and 50 ml burettes are used with bottles of 1000 ml volume.

Capacity ml	Grad. ml	Tolerance ± ml	Glass	Description	Graduations	PK	Cat. No.
10	0.05	0.030	clear	schellbach	blue	1	4.008 314 [1]
25	0.10	0.050	clear	schellbach	blue	1	6.241 904
50	0.10	0.050	clear	schellbach	blue	1	4.008 315
10	0.05	0.030	amber	without schellbach	white	1	4.008 316 [2]
25	0.10	0.050	amber	without schellbach	white	1	4.008 317
50	0.10	0.050	amber	without schellbach	white	1	4.008 318
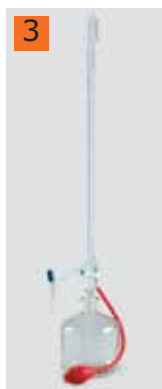
4.008 312   6.238 473

Automatic burettes, borosilicate glass 3.3, class AS

- Manufactured from pre-vacuum calibrated borosilicate glass. They meet the highest quality standards according to DIN EN ISO 385 and DIN 12700.
- Permanent quality control through all steps eliminates possible deviations from nominal values.
- Calibrated to deliver (Ex) and the tolerances are according to DIN/ISO Class "AS" standards.
- Conformity ("H") certified, with a batch number printed on the body. Batch certificate can be downloaded from the suppliers website.
- Supplied with an automatic zeroing system, VALVE stopcock and also an intermediate PTFE stopcock to recirculate the remaining liquid.
- Clear burettes are manufactured with schellbach stripe.
- Inscriptions and graduations are printed with special blue enamel. For amber burettes, white enamel is used to maximise visibility and durability.

Glass bottle - Please order separately.

Capacity ml	Graduations ml	Tolerance ± ml	Glass	Description	Graduations	PK	Cat. No.
10	0.02	0.020	clear	schellbach	blue	1	4.008 312 [3]
25	0.05	0.030	clear	schellbach	blue	1	6.241 216
50	0.10	0.050	clear	schellbach	blue	1	6.237 627
10	0.02	0.020	amber	without schellbach	white	1	6.238 473 [4]
25	0.05	0.030	amber	without schellbach	white	1	6.242 463
50	0.10	0.050	amber	without schellbach	white	1	6.241 116

6.237 628   6.238 474

Burette bottles, borosilicate glass 3.3

Burette bottle for automatic burettes is made from heat resistant glass. Each bottle has a NS 29/32 neck grinding that fits to burette.

Capacity ml	Diam. mm	Height mm	Colour	PK	Cat. No.
1000	110	200	clear	1	9.270 905
2000	160	200	clear	1	6.237 628 [5]
2000	160	200	brown	1	6.238 474 [6]

7   Hand bellows

Single spray. Without net. Size 3. Burette bellows for automatic burettes is made out of best quality natural rubber.

Type	PK	Cat. No.
Hand bellows	1	9.270 995

1 Laboratory peristaltic pumps, PLP

Compact laboratory peristaltic pumps with stepless, adjustable flow rate, pump rotor, two compression and four guide rollers. Changing pump tubing is easy, no tools or other aids are required. For 220V 50Hz a.c. supplies.

Type	Flow rate ml/min.	Weight g		PK	Cat. No.
PLP 33	7 - 33	1300		1	**9.700 420**
PLP 66	17 - 66	1300		1	**9.700 421**
PLP 330	66 - 400	1300		1	**9.700 422**
PLP 1000	250 - 1000	1440		1	**9.700 423**

2 Peristaltic Multichannel Pump PLP 380

Flow rates from 0.0002 to 380 ml/min. The speed can be adjusted manually or automatically through optional external control. Easy to operate.
- Accepts various pump heads
- Prime key for fast filling and emptying
- Adjust speed manually or automatically through optional external control
- Memory function, storing the running parameters automatically
- Membrane keypad, easy to operate
- Good performance and low price

Specifications:

Speed:	0.1 to 100rpm, reversible
Speed precision:	0.1 rpm
Speed control:	Membrane keypad
Display:	3-digit LED displays current rpm
Communication interface:	RS485
Power supply:	90 bis 260 V_{ac} 50/ 60 Hz
Power consumption:	< 30 W
Operating condition:	0 to 40 °C
Relative humidity:	< 80 %
Dimensions (L x W x H in mm):	232 x 142 x 149
Drive weight (without Pump Head):	2.3 kg
IP rating:	IP 31

Type	Description	Flow rate ml/min.	PK	Cat. No.
PLP 380	Peristaltic pump	0.00025 - 380	1	**9.700 430**

Pump Heads for PLP 380

Type	Flow rate L / min.	Max. speed rpm	Rollers	Channels	Weight kg		PK	Cat. No.
PPH 103	2200	600	3	1	0.40		1	**9.700 435**
PPH 303	1600	600	3	1	0.35		1	**9.700 436**
PPH 5061	48	100	6	1	0.21		1	**9.700 437**
PPH 5062	48	100	6	2	0.27		1	**9.700 438**

1

1   Water jet pumps, PP

With constant ultimate vacuum, high suction flow rate and very low water consumption. Can be connected to mains water system in a number of different ways using the adapter supplied and reducing adapters that are available as accessories. For continuous use at temperatures up to 80 °C max. High chemical resistance as the media being pumped only comes into contact with PP, FKM and PTFE. Integral non-return valve increases safety.

Comprises:
Water jet pump, including:
Mains water connections: R ¾" sleeve nut, R ½" reducing adapter and flexible tubing connection (nozzle) with external diameter from 10 mm to 12 mm.
Vacuum connection: Detachable nozzle with external diameter from 6 mm to 9 mm and GL 14 screw cap.

Performance characteristics at 3.5 bar water
supply pressure at 12 °C
Water consumption: 190L/hr.
Ultimate vacuum: 16 mbar
Flow rate at atmospheric pressure: 400L/hr. free air

Type	PK	Cat. No.
Water jet pump	1	**9.303 125**

2

2   LLG-uni*VACUUPUMP* 1

The portable piston pump uni*VACUUPUMP* 1 has been developed for low vacuum applications in the laboratory, in particular in the field of Life Science. Typical applications for this low-cost vacuum pump are the single funnel filtration of aqueous and buffered solutions, SPE, as well as any applications where no harmful gases are conveyed. The uni*VACUUPUMP* 1 operates oil-free and can also be used as a compressor to a pressure up to 3.3 bar. This allows you, for example, pressure filtration, if vacuum filtration is not sufficient.
Not recommended for pumping organic, acidic, or basic vapours.

Advantages:
- Dry-running technology for physical applications
- Can be used as a vacuum pump and compressor
- Cost-effective alternative for water pumps
- Sound suppressor for quiet operation
- Compact, light weight and portable
- 3 Years warranty.

Scope of delivery: Pump, incl. 2 hose clamps, EU + UK plug power cord.

Specifications
Pump speed 50/60 Hz at atmospheric pressure: 9.2 l/min
Final pressure: 292 mbar
Overpressure, max.:   3.3 bar
Suction/pressure connection: hose nozzle DN 6 for hose inner
                                                     diameter 6 mm
Ambient temperature: + 10 to + 40 °C
Max. Operating gas temperature: + 60 °C
Noise DIN EN ISO 2151:   dB (A) $\leq$ 45
Voltage/frequency: 230 V/50 Hz
Motor power: 25 W
Protection DIN EN 60529:   IP 20
Weight: 2.0 kg

Dimensions (W/D/H):   194x114x191 mm

Type	PK	Cat. No.
LLG-uni*VACUUPUMP*1	1	**6.263 580**

E & OE.

1 LLG-Vacuum measuring instrument DVR 2

Versatile vacuum gauge for vacuum measurement between atmospheric pressure and 1 mbar. With integral, alumina ceramic, pressure transducer providing excellent corrosion resistance and long-term stability.

DKD initial delivery calibration (Cat. No. 7.059 540) please order separately.

Specifications

Measuring range:	1080 to 1 mbar (hPa), 810 to 1 Torr
Measurement principle:	Capacitive; gas type-independent absolute pressure measurement
Measuring accuracy:	< 1mbar (0.75 Torr) ±1 digit
Power supply/battery:	9V Lithium battery/1.2 Ah Ultralife U9VL
Dimensions (WxDxH):	115 x 115 x 66 mm
Weight:	0.40 kg

Type	PK	Cat. No.
DVR 2	1	**9.882 209**

2 LLG-Desiccators, soda-lime glass, with lid, stopcock and porcelain plate

Desiccator made of soda-lime glass with lid, porcelain plate and stopcock. The stopcock has an outer diameter of about 9 mm. Not suitable for vacuum-tight applications.

Ext. diam. mm	Plate diam. mm	Height mm	PK	Cat. No.
215	140	224	1	**9.042 740**
262	190	239	1	**9.042 741**
293	235	278	1	**9.042 742**
380	280	414	1	**9.042 743**

3 Vacuum-Desiccators with tubes, borosilicate glass 3.3, stopcock SJ 24/29 and porcelain plate

Desiccators borosilicate glass 3.3, vacuum-tight. The stopcock has an outer diameter of approx. 9 mm.

DN	Ext. diam. mm	Plate diam. mm	PK	Cat. No.
100	151.0	90	1	**9.042 815**
150	210.0	140	1	**6.226 934**
200	269.0	190	1	**6.226 935**
250	329.0	240	1	**6.226 936**
300	392.0	290	1	**6.227 443**

4 LLG-Plate for desiccator, porcelain

Perforated. Without feet. To DIN 12911. 20 mm diameter central hole and 5mm diameter outer holes.

Diam. mm	For DN	PK	Cat. No.
90	100	1	**9.042 801**
140	150	1	**9.042 802**
190	200	1	**9.042 803**
235	250	1	**9.042 804**
280	300	1	**9.042 805**
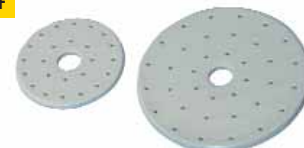
LLG-Vacuum desiccators, polycarbonate, round form, "Heavy Duty"

Cost effective alternative to glass desiccators. Highly transparent, lightweight, shatterproof, made of polycarbonate.
Silicon O-ring and specially designed 'locking clip' allows use without grease and ensures an airtight seal. Flange lock holds the
bottom and the lid together during non-vacuum conditions. Three-way stopcock provides great convenience for consistent
vacuum draw, vacuum release or gas exchange e.g. inert gas. Maximum vacuum of 1.3 mbar (1.3 x 10^{-4} MPa) for more than
72 hours. Wide base provides superior stability.
Also available in brown with UV-blocking effect for light sensitive samples.
G Models will be delivered with a vacuum gauge.

Included in delivery: Drying agent tray, perforated sample tray, O-ring and flange locker.

Type	Ext. diam. mm	Height mm	Capacity litres	PK	Cat. No.
VDR-20 Vacuum Desiccator	242	279	6	1	**9.042 751**
VDR-20U Vacuum Desiccator with ultraviolet block effect	242	279	6	1	**9.042 752**
VDR-20G Vacuum Desiccator with gauge	242	354	6	1	**9.042 753**
VDR-20UG Vacuum Desiccator with ultraviolet block effect and gauge	242	354	6	1	**9.042 754**
VDR-25 Vacuum Desiccator	308	325	10	1	**9.042 755**
VDR-25U Vacuum Desiccator with ultraviolet block effect	308	325	10	1	**9.042 756**
VDR-25G Vacuum Desiccator with gauge	308	400	10	1	**9.042 757**
VDR-25UG Vacuum Desiccator with ultraviolet block effect and gauge	308	400	10	1	**9.042 758**
VDR-30 Vacuum Desiccator	385	399	20	1	**9.042 759**
VDR-30U Vacuum Desiccator with ultraviolet block effect	385	399	20	1	**9.042 760**
VDR-30G Vacuum Desiccator with gauge	385	475	20	1	**9.042 761**
VDR-30UG Vacuum Desiccator with ultraviolet block effect and gauge	385	475	20	1	**9.042 762**

Accessories for LLG-Vacuum desiccators VDR Series

Description	PK	Cat. No.
Drying Agent Tray for VDR-20 Series	1	**9.042 771**
Drying Agent Tray for VDR-25 Series	1	**9.042 772**
Drying Agent Tray for VDR-30 Series	1	**9.042 773**
Perforated Sample Tray for VDR-20 Series	1	**9.042 776**
Perforated Sample Tray for VDR-25 Series	1	**9.042 777**
Perforated Sample Tray for VDR-30 Series	1	**9.042 778**
Lock ring for VDR-20 series	1	**9.042 781**
Lock ring for VDR-25 series	1	**9.042 782**
Lock ring for VDR-30 series	1	**6.260 351**
Vacuum gauge for VDR series	1	**9.042 783**
Vacuum seal for VDR-20 series	1	**9.042 785**
Vacuum seal for VDR-25 series	1	**9.042 786**
Vacuum seal for VDR-30 series	1	**6.260 350**
Stopcock for VDR series	1	**6.260 353**

1

E & OE.

1 2 LLG-Vacuum desiccator cabinets, polycarbonate, square form, "Heavy Duty"

High-quality and stable construction made of polycarbonate. Highly transparent, lightweight, shatterproof and stackable.
The Silicon O-ring and specially designed locking clip allow use without grease. Three-way stopcock provides great convenience
for consistent vacuum draw, vacuum release or gas exchange e.g. inert gas.
Maximum vacuum of 1.3 mbar (1.33 x 10^{-4} MPa) for more than 72 hours, with built-in vacuum gauge.
Also available in brown with UV-blocking effect for light sensitive samples.
Included in delivery: Vacuum gauge, O-ring, drying agent tray, 2 x perforated sample trays (VDC-11 and VDC-21) or
3 x perforated sample trays (VDC-31 and VDC-41).

Type	External dimensions (W x D x H) mm	Internal dimensions (W x D x H) mm	Capacity litres	Max. number shelves	PK	Cat. No.
VDC-11	322 x 285 x 271	248 x 254 x 238	11	4	1	**9.042 769**
VDC-21	420 x 392 x 281	346 x 365 x 246	23	4	1	**9.042 767**
VDC-31	420 x 397 x 381	355 x 375 x 345	35	5	1	**9.042 765**
VDC-41	420 x 397 x 491	355 x 374 x 445	45	6	1	**9.042 763**
VDC-11U (amber, UV-block effect)	322 x 285 x 271	248 x 254 x 238	11	4	1	**9.042 770**
VDC-21U (amber, UV-block effect)	420 x 392 x 281	346 x 365 x 246	23	4	1	**9.042 768**
VDC-31U (amber, UV-block effect)	420 x 397 x 381	355 x 375 x 345	35	5	1	**9.042 766**
VDC-41U (amber, UV-block effect)	420 x 397 x 491	355 x 374 x 445	45	6	1	**9.042 764**
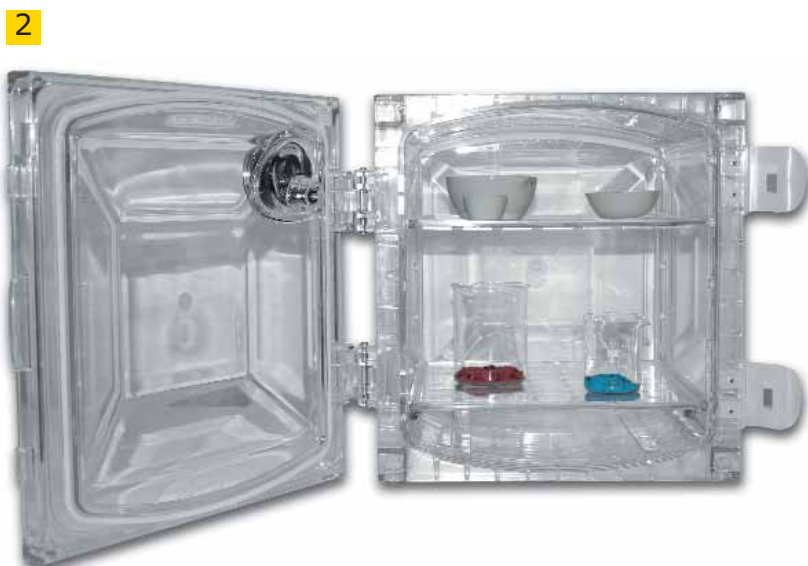
2 Accessories for LLG-Vacuum desiccator cabinets VDC Series

Description	PK	Cat. No.
Drying Agent Tray for VDC-41/31/21 Series	1	**9.042 774**
Drying Agent Tray for VDC-11 Series	1	**9.042 775**
Perforated Sample Tray for VDC-41/31/21 Series	1	**9.042 779**
Perforated Sample Tray for VDC-11	1	**9.042 780**
Vacuum gauge for VDC series	1	**9.042 784**
Vacuum seal for VDC-11/11U	1	**9.042 790**
Vacuum seal for VDC-21/21U	1	**9.042 789**
Vacuum seal for VDC-31/31U	1	**9.042 788**
Vacuum seal for VDC-41/41U	1	**9.042 787**
Stopcock for VDC series	1	**6.262 107**

1 2 Portable Desiccator DURAPorter™, PC

Ideal for transporting biological and clinical samples, as well as instruments and products that you want to keep clean and dry under testing environmental conditions. Are light weight and easy to carry; they are ideal for moving samples that must be protected from humidity, dust and other environmental influence. The clarity of the DURAPorter™ enables the user to visibly check sample integrity, so that it can be opened using the right precautions.
- Polycarbonate construction are available in three colours for use/owner identification
- Silicone water-tight seal and three lid clasps provide secure closure
- Carry handle folds neatly into body space allowing the units to be stacked
- Lid opens a full 180°, allowing total access to contents and making it easier to clean
- Will accommodate 13 and 16 mm tubes in a 72-place one rack®, or similar sized/brand of rack
- Use the separators provided to create your own compartment sizes, or use empty to transport larger products and equipment
- Autoclavable
- Dimensions (WxDxH): 380 x 160 x 196 mm

Matching rack (e.g. Cat. No. 9193 997, 9193 998) please order separately. Further colours available on request.

Type	Colour	For tubes diam. mm	Array	Dimensions (l x w x h) mm	Material	PK	Cat. No.
DURAPorter™	Clear with blue handles			380 x 196 x 160	PC	1	**9.194 005**
DURAPorter™	Yellow with yellow handles			380 x 196 x 160	PC	1	**9.194 006**
DURAPorter™	Red with red handles			380 x 196 x 160	PC	1	**9.194 007**
one rack®	Blue	13 (5 - 10 ml)	72	104 x 202 x 59	POM	1	**6.266 916**
one rack®	Blue	16 (5 - 10 ml)	72	127 x 250 x 70	POM	1	**6.266 917**
one rack®	Blue	20 (10 - 18 ml)	40	100 x 252 x 83	POM	1	**6.266 918**
one rack®	Blue	25 (10 - 18 ml)	40	120 x 300 x 92	POM	1	**6.266 919**
one rack®	Blue	30 (15 - 50 ml)	24	110 x 282 x 85	POM	1	**6.266 920**

3 LLG-Desiccant drying agents, silica gel, self-indicating

With orange indicator colour. Grain size 1 to 3 mm or 2 to 5 mm. Self-indicating drying agent free from any heavy metals and therefore environmentally compatible. The gel is naturally orange when active and at a 6 weight-% saturation level. As the gel adsorbs moisture, the colour changes into green.
The range of application is identical with that of white silica gel. The colour change, however, represents a great advantage since it allows monitoring of the saturation level. The gel can be regenerated when heated at a temperature of maximum 120 °C until it turns to its original orange colour.

Adsorption capacity	RH 20 % 12 weight %
(RH : residual moisture)	RH 35 % 20 weight %
	RH 50 % 27 weight %
	RH 90 % 40 weight %

Granulation	Package contents	PK	Cat. No.
2 to 5 mm	Tin, 1 kg	1	**9.042 581**
2 to 5 mm	Bucket, 3 kg	1	**9.042 582**
2 to 5 mm	Bucket, 8 kg	1	**9.042 583**
1 to 3 mm	Tin, 1 kg	1	**9.042 584**
1 to 3 mm	Bucket, 3 kg	1	**9.042 585**
1 to 3 mm	Bucket, 8 kg	1	**9.042 586**
1 to 3 mm	Carton box, 25 kg	1	**9.042 587**

E & OE.

1   LLG-Torch

Sturdy torch with 12 energy saving LED lights for ultra-bright light. Made from metal with practical hand strap incl. 3 x 1.5V AAA batteries.

Dimensions (Dia. x L):   30 x 120 mm

Type	PK	Cat. No.
LLG-Torch	1	**9.961 000**

2   Pocket magnifier

- Suitable for reading small prints with a magnification of 2X.
- 3 LED bulbs with on/off control.
- Ergonomic design
- Protective bag included

Description	PK	Cat. No.
2X magnification	1	**6.267 408**

3   Illuminated magnifying lens Lux-50

Orange body colour, with illuminator and plastic lens. Requires 2 x 1.5 V AA batteries for operation (not included).

Mag-nification	Lens diam. mm	PK	Cat. No.
50x	2.5x to 5x	1	**9.151 817**

4   Handheld magnifier with illumination

- Hand held magnifier with magnification of 3X and 5X (depending of the view location)
- Ergonomic handle design
- Aspherical lens provides spherical aberration and distortion free images with edge-to-edge sharpness.
- LED bulb with on/off control.
- Adjustable angle of illumination.

Description	PK	Cat. No.
3X / 5X magnification	1	**6.267 407**

Magnifying lens, economic

With practical additional lens in the handle. Particularly suitable for those who require a low level of magnification. An additional high-magnification lens enables small details to be read. Transparent plastic frame ensures easy orientation on the reading material. With eyelet in the end of the handle for round-the-neck cord which is supplied. The biconvex reading magnifiers offer a large visual field in a medium magnification range. Plano-convex additional lens with 5x magnification in handle.

9.151 680

Mag-nification	Lens diam. mm	PK	Cat. No.
3x/7,4 dpt	Ø 65	1	**9.151 680** 5
2,25x/5,1 dpt	Ø 80	1	**9.151 682**
2,25x/5,0 dpt	80 x 40	1	**9.151 688** 6

9.151 688

1 LLG-Table-top magnifier

- Multifunctional table-top magnifier with magnification power of 2x and 4x depending of the view location.
- Can be operated with one hand
- 4 LED bulbs with on/off control.
- Magnifying lens position and illumination angle can be individually adjusted via the flexible gooseneck system
- Flicker free illumination without heat development
- Aspherical lens provide spherical aberration and distortion free images with edge-to-edge sharpness.

Description	PK	Cat. No.
2X / 4X magnification	1	**6.267 406**

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/20mm
- 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 lowposition coaxial mechanical stage
- Focusable 1.25 N.A. Abbe condenser with iris diaphragm and filter holder
- Halogen illumination 12V/20W with intensity control
- Power supply 100V-240V (CE)
- Blue, yellow and green filters, dust cover and immersion oil

Type	Description	PK	Cat. No.
B1-220ASC	Binocular	1	**9.727 002**
B1-220ASC UK	Binocular	1	**9.727 003**
B1-223ASC	Trinocular	1	**7.900 085**

7.900 085

3 Hand tally counter

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**

E & OE.

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. 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
Cut	orange	50	9.161 166
Cut	purple	50	6.206 284
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
Ground 45°	orange	50	9.161 176
Ground 45°	purple	50	6.233 646

2 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

3 Square cover slips

Made of clear white glass. Accurate cutting free of flaws and blisters.
Further thicknesses are available on request.

Width mm	Length mm	Thickness mm	PK	Cat. No.
15	15	0.13-0.16	200	9.161 015
18	18	0.13-0.16	200	9.161 018
20	20	0.13-0.16	200	9.161 020
22	22	0.13-0.16	200	9.161 022
24	24	0.13-0.16	200	9.161 024
26	21	0.13-0.16	100	9.161 021
32	24	0.13-0.16	100	9.161 032
40	24	0.13-0.16	100	9.161 040
46	24	0.13-0.16	100	9.161 042
48	24	0.13-0.16	100	9.161 041
50	22	0.13-0.16	100	9.161 028
50	24	0.13-0.16	100	9.161 050
60	24	0.13-0.16	100	9.161 060

4 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	9.163 250
Hellendahl Staining Jar	61	63	102	1	9.163 251
"Macro" Staining Jar	88	105	78	1	9.163 252
Rack, Stainless Steel, for "Macro" jar				1	9.163 253
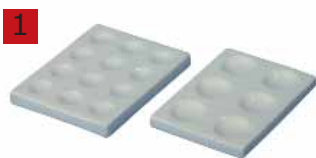
1 LLG-Cavity tiles, porcelain

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	**6.232 575**
12	17	2	91	115	17.0	1	**6.265 001**

2 Microscope slide folders

Cardbord. Available with, or without, gatefold cover. For 76 mm x 26 mm slides as outlined below.

To hold microscope slides	Cover type	PK	Cat. No.
20	without	1	**9.161 230**
20	with	1	**9.161 235**

3 20- and 30-place Cardboard Slide Trays

Features thumb cut for easy slide removal.

Cardboard slide trays hold standard slides (76mm x 26mm 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**

4 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**

5 Slide mailers

For transporting 76 mm x 26 mm specimen slides, as outlined below.

To hold microscope slides	Cover type	PK	Cat. No.
2	Without	1	**9.161 270**
6	Without	1	**9.161 272**

E & OE.

1 2 Precision refractometers, basic model

Simple and precise optical instruments to analyse liquids and their solid contents. Models are equipped with an automatic temperature compensation device (ATC). Supplied with a plastic box and comfortable leather-type case.

Type	For	Measuring range	Accuracy	PK	Cat. No.
RGA/ATC	Alcohol	0 - 80% Vol	1% Vol	1	**9.801 256**
RBB/ATC	Wine	0 - 25% Vol 0 - 22° Be' 0 - 40% Brix	0,2% Vol 0,2° Be' 0,2% Brix	1	**9.801 255**
RBO/ATC	Wine	0 - 140° Oe 0 - 25° Babo 0 - 32% Brix	1° Oe 0,2° Babo 0,2% Brix	1	**9.801 254**
RMB/ATC	Wine	0 - 25% Vol 0 - 20° Be'	0,2% Vol 0,2° Be'	1	**9.801 253**
RMA/ATC	Wine	0 - 25% Vol, 0 - 40% Brix	0,2% Vol, 0,2% Brix	1	**9.801 252**
RPC/ATC	Freezing point, batteries	-50 - 0 °C 1,10 - 1,40	5 °C 0,1	1	**9.801 251**
RCS/ATC	Salinity	0 - 28%	0,2%	1	**9.801 250**
RSM/ATC	Salinity	0 - 100‰	1‰	1	**9.801 249**
RCZ/ATC		0 - 32% Brix	0,2%	1	**9.801 200**
RTS		0 - 90% Brix	0,2%	1	**9.801 201**
RPI/ATC	Biological fluids: urine, serum	0 - 12 g/dl, 1,000 - 1,050 sg 1,3330 - 1,3600 nD	0,2 g/dl, 0,002 sg, 0,00025 nD	1	**9.801 202**
RBC/ATC		0 - 10% Brix	0,1%	1	**9.801 241**
RLC/ATC		0 - 18% Brix	0,1%	1	**9.801 242**
RFC/ATC		28 - 62% Brix	0,2%	1	**9.801 244**
RPD/ATC		45 - 82% Brix	0,5%	1	**9.801 245**
RPU		0 - 80% Brix	1%	1	**9.801 246**
RMM/ATC	Honey and jam	58 - 90% Brix 38 - 43° Be' 17 - 27 water	0,5% Brix 0,5° Be' 1% water	1	**9.801 247**

3 LLG-Digital hand-held refractometer uni*REFRACTO* 1 and 2

LLG-uni*REFRACTO* 1 and 2 are compact digital 2-scale hand refractometers for measuring the sugar content and refractive index of liquids. Easy switch from Brix to RI scale. Calibrate simply with distilled water. Easily to clean under running water due to waterproof housing (IP65). Automatic temperature correction and sample plate made of stainless steel, on both models.

Two models with different measuring ranges are available:
uni*REFRACTO* 1 from 0-54 %Brix and 1.33-1.42 RI
uni*REFRACTO* 2 from 0-95 %Brix and 1.33-1.54 RI

Specifications
Resolution:	0.1 % Brix/0.0001RI
Accuracy:	±0.2 % Brix/±0.0003RI
Operating temperature:	5 to 40 °C
Measuring temperature:	5 to 60 °C
Rel. Humidity:	<95 %
Protection class:	IP65

Type	PK	Cat. No.
LLG-uni*REFRACTO* 1	1	**6.263 630**
LLG-uni*REFRACTO* 2	1	**6.263 631**

1 | 1 | ## Sucrose (Brix) Standards

Certified stabilized Sucrose (Brix) Standards.
- Test results are ISO 17025 accredited with an uncertainty of measurement of 0.11 % for all Brix values
- Nominal Refractive Index values are taken from the ICUMSA published tables
- The Brix value of the standard is verified using a high performance calibrated, temperature controlled refractometer
- Can be used with any brand of Refractometer
- Extended shelf life of 1 year
- Convenient high quality dropper bottle

Brix %	Refractive Index at 20 °C	PK	Cat. No.
0	1.332986	1	**6.264 212**
5	1.340264	1	**6.265 876**
10	1.347824	1	**6.257 923**
15	1.355679	1	**6.263 260**
20	1.363842	1	**6.264 889**
30	1.381149	1	**6.258 368**
40	1.399860	1	**7.660 408**
50	1.420087	1	**6.258 369**
60	1.441928	1	**6.265 875**

2 | 2 | ## Refractive Index standards

Certified standards with values expressed in Refractive Index (R.I) units nD.
- Test results are ISO 17025 accredited with an uncertainty of measurement up to ±0.00014 nD units for all Refractive Index values.
- Nominal Refractive Index values are taken from the ICUMSA published tables.
- Extended shelf life of 1 year.
- Can be used with any brand of Refractometer.
- Convenient high quality dropper bottle.

Refractive Index at 20 °C	PK	Cat. No.
1.34325	1	**6.265 877**
1.34782	1	**7.658 877**
1.37233	1	**6.265 878**
1.38115	1	**6.258 375**
1.39032	1	**6.265 879**
1.40978	1	**6.265 142**
1.42009	1	**6.258 376**
1.44193	1	**6.265 880**

E & OE.

1   LLG Photometers PrimeLab 1.0

The new PrimeLab 1.0 photometer is the first and only photometer using just one LED and one (JENCOLOR) sensor, simultaneously covering 400 wavelengths in one go. More than 100 test methods are available on the PrimeLab 1.0 to be individually selected when device is purchased. Additional parameters can be activated after initial purchase by entering a code. Step-by-step guidance through each test method in 4 different languages (7 languages when using the App) are displayed on the screen. User can choose to either use tablet, liquid or powder reagents. Wireless Bluetooth technology combined with powerful PC-software (PrimeLab Desktop Assistant) and App for Android, iOS and Windows with free Cloud-Service, make the PrimeLab a powerful tool for on-spot-testing (battery) also for each lab (DC-connected). Each measurement can be connected to an individual "account", identifying the water source, to always keep track of test results. Measuring points of history are available.

PrimeLab 1.0 Multitest Photometer BASIC-KIT 3-in-1 (Chlorine/pH/Chlorine dioxide):
4 x 24 mm/10 ml Glass-vials, light shield, stirring rod, 10 ml syringe, cleaning brush, Bluetooth-USB-dongle for non-bluetooth PC, 4 x AAA-batteries, DC-adapter, CD-ROM "PrimeLab Desktop Assistant", full printed manual.
Pre-activated parameters:
ID11 - Chlorine (free/combined/total) usning DPD tablets
ID16 - Chlorine dioxide using DPD tablets
ID38 - pH using Phenol Red tablets
Reagent tablets to do 50 tests of the above mentioned parameters

PrimeLab 1.0 Multitest Photometer ALL-IN-KIT (all current and future parameters activated):
4 x 24 mm/10 ml Glass-vials, light shield, stirring rod, 10ml syringe, cleaning brush, filter-kit containg 20 ml luer-lock-syringe, filter-adapter as well as 50 filter papers each of GF/C and 0.45µ, 100 ml dilution tube, Bluetooth-USB-dongle for non-bluetooth PC, 4 x AAA-batteries, CD-ROM "PrimeLab Desktop Assistant", full printed manual,
All available parameters are activated on the device. Parameters released in the future will be automatically added and activated while performing an update through PC-software or App.

Specifications:

Optic:	JENCOLOR Multispectral sensor for 380-780 nm
Power:	4 x AAA batteries/5.0 V DC-adapter with international plugs
Size:	180 x 90 x 60 mm
Weight:	160 g
Communication:	Wireless via Bluetooth
Connection:	Free PC software (windows) "PrimeLab Desktop Assistant" and free Android/iOS/Windows App
Time/date:	RTC (real time clock) with date
Display:	LCD (monochrome)
Calibration:	Auto-calibration function due to JENCOLOR sensor
One-Time-Zero:	Intelligent OTZ, based on chosen method
Memory:	On device: 20 accounts/100 test results. Unlimited via software and App
Languages:	English, Spanish, French, German. Software/App: English, Spanish, French, aGerman, Italian, Russian, Chinese
Environment:	30-80 % RH (non-condensing), ca. 5 °C-45 °C

Description	Measuring range	PK	Cat. No.
BASIC-KIT 3-in-1	View a full range of available test methods and ranges on www.primelab.org	1	**6.268 024**
ALL-IN-KIT		1	**6.268 025**

Accessories for Photometers PrimeLab 1.0

Description	PK	Cat. No.
Set of 10 x 10 ml glass-vials	10	**6.268 026**
adapter to use 16 mm vials on PrimeLab (e.g.: for COD vials)	1	**6.268 033**
Adapter-kit "Turbidity"	1	**6.268 038**
Adapter-kit "PTSA"	1	**6.268 039**
Adapter-kit "Fluorescein"	1	**6.268 040**
Reference solution "ZERO, Chlorine, pH, Cyanuric Acid (tablet reagents)"	1	**6.268 041**
Reference solution "ZERO, Chlorine, pH, Cyanuric Acid (liquid reagents)"	1	**6.268 042**
Reference solution (10ml each) 0,5 / 10 / 1000 NTU	1	**6.268 043**
Reference solution (100ml each) "100 µg/l PTSA" and aqua dest	1	**6.268 044**
Reference solution (100ml each) "100 µg/l Fluorescein" and aqua dest	1	**6.268 045**

1   LLG Spectrophotometer uni*SPEC* 2

uni*SPEC* 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. Both lamps can be individually turned on/off to extend the durability. A pre-adjusted lamp design allows a fast and easy lamp replacement. 3 years warranty.
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:	-0.3-3 A, 0-200 %T, 0-9999C
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 (WxDxH):	460 x 360 x 225 mm
Weight:	18 kg
Power supply:	220 V/50 Hz or 110 V/60 Hz
Guarantee:	3 years

Type	PK	Cat. No.
uni*SPEC*2, with EU-plug	1	**6.263 610**
uni*SPEC*2, with UK-plug	1	**6.263 611**

E & OE.

1 LLG Spectrophotometer uni*SPEC* 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. The software can be updated through the internet (for stand-alone instruments). It is possible to store and save 200 calibration curves. A Real-time clock to help state date and time of results. Both lamps can be individually turned on/off to extend the durability. A pre-adjusted lamp design allows a fast and easy lamp replacement. 3 years warranty.
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:	-0.3-3 A, 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 10mm 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

Type	PK	Cat. No.
uni*SPEC*4 with EU-plug	1	**6.263 620**
uni*SPEC*4 with UK-plug	1	**6.263 621**

1 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 10mm
- 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	**9.406 011**
Semi-micro	1.6	10.0	PS	340 to 900	100	**9.406 012**

2 Cuvette rack, PP

Grey. 16 numbered positions.
Autoclavable (121 °C).

Width mm	Length mm	Height mm	PK	Cat. No.
70	210	38	1	**9.145 020**

3 Cuvette rack with attached lid, PP

For safe handling and holding up to 12 cuvettes with a 10 mm light path. These racks consist of hinged lids with secure clasps and removable inserts for easy cleaning. The height of the lid is designed to accommodate all spectrophotometer cells - even those with covers or stoppers.

Description	PK	Cat. No.
Cuvette rack with attached lid	1	**6.267 353**

E & OE.

LLG-Dispenser system for moist cloths Wiper Bowl® Safe & Clean

9.413 216

The economical "building block solution" for thorough disinfection and cleaning of sensitive areas in the medical and foodstuff industries. Can be filled with all commercial disinfectant and cleaning agents.
The fine perforated structure of Multitex® moist cloths ensures an even distribution of the surface disinfectant. These moist towels are also ideally suited to the cleaning of grossly soiled surfaces. Easy handling thanks to tear-off perforation. After cleaning the lid can be closed and the tissues stay moistured for more than 30 days ensuring a constant cleaning and disinfection performance.

LLG Dispenser bin Wiper Bowl® Safe & Clean:
Empty. For 1 roll Multitex® DR. Made of plastic, dia. approx. 21 cm, resealable and reusable.

LLG-Cleaning tissues Multitex® DR:
Viscose fleece for Wiper Bowl® Safe & Clean dispenser bucket.
White, fine, tear-resistant, absorbent and lint free.
Dimensions: 300 mm x 320 mm.
1 roll of 90 tissues
Please order separately.

9.413 215

Type	PK	Cat. No.
LLG-Dispener bin	1	**9.413 216** 1
LLG-Cleaning tissues Multitex® DR	1	**9.413 215** 2

3 4 Cleaning Office, technical cleaning cloths with alcohol

Moist, non-woven cloths in a re-sealable dispensing pack. For the cleaning of, and caring for, all office equipment. With antistatic and disinfectant action.
Dimensions: 138 mm x 190 mm
Shelf life: unopened, 30 months without loss of quality

Package contents	PK	Cat. No.
Dispensing pack of 100 tissues	1	**9.190 977**
Refill pack of 100 tissues	1	**9.190 976**

5 Dust remover spray DRUCKLUFT 67

Compressed air spray for contact-free removal of dust and dirt in hard-to-reach places using the capillary tube nozzles attached. Safe, clean, oil-free. Acc. to Aerosol policy 75/324/EWG no danger of inflammation or explosion when using as intended. DRUCKLUFT 67 contains pure and dry compressed gas and is very efficient.

Examples of use:
photography, precision electronics, watchmaking, cameras, medical technology, microscopy, research.

Pressure: 4.2 bar (20 °C)
Density: 1.00g/cm³ (20 °C)

Capacity ml	PK	Cat. No.
200	1	**9.412 800**
400	1	**9.412 801**

1 2 3 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

Carton of 30 boxes with 150 wipes

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

Package contents	PK	Cat. No.
Carton of 30 boxes with 150 wipes	30	**9.413 220**
Wall Mount for Laboratory and hygienic tissues	1	**9.405 371**

4 5 6 7 Universal dishwashing

Universal cloth:
Made from 80 % viscose and 20 % polyester. The universal cloth has a finely structured surface. It provides a cleaning result without streaks, is nearly lintfree and washable up to 95 °C. Please wash in lukewarm water before first use.
Washing up liquid:
HS citro is a dish washing detergent for universal implementation with a fresh fragrance for porcelain, glass, plastic, and metal. Professional recipe with high grease dissolving strength and plant-based skin protecting additives. 1 L
Sponge:
For cleaning any kind of incrustration.
Gloves:
Natural rubber. Excellent finger sensitivity, high flexibility. Flock-lined for optimal comfort. Special surface finish provides a firm hold.Good resistance to ketones and many acids. L 305 mm.

Description	Dimensions mm	Colour	PK	Cat. No.
Universal cloth	380 x 380	blue/white	10	**6.266 668**
Universal cloth	380 x 380	red/white	10	**6.266 669**
Universal cloth	380 x 380	green/white	10	**6.266 670**
Universal cloth	380 x 380	yellow/white	10	**6.266 671**
Sponge	150 x 90 x 40	green/yellow	10	**6.266 672**
Sponge	95 x 70 x 45	green/yellow	10	**6.266 673**
Washing up liquid, 1L			1	**6.266 678**

8 Wipes Unitex®

Made from cellulose and polyester fibers, turquoise.
- Without binders, chemicals or adhesives
- Resistant to solvents and silicone free
- Particularly tear-resistant and lintfree
- Useable dry and wet, high absorption capacity
- Excellent for cleaning and degreasing surface

Package contents	Width mm	Length mm	Weight g / m²	Thickness mm	PK	Cat. No.
pack of 4 x 50 tissues	380	300	68	0.28	4	**6.266 676**

E & OE.

1 LLG-Laboratory tissues, roll, 102 sheets 3-ply

Roll with 102 sheets (220 x 260 mm).
- strong when wet
- absorbent
- low lint

Package contents	PK	Cat. No.
roll of 102 tissues	2	**9.413 224**
roll of 102 tissues (advantage pack)	28	**9.413 225**

2 Wipes Multitex® Ultra z 70

The high-quality viscose fleece with textile characteristics is suitable for wet and dry cleaning thanks to its incredible strength. The cloths are very soft and yet lint-free, they can absorb large amounts of liquid and remain tear-resistant, they are solvent-resistant and they meet food safety requirements. Multitex® cloths can be washed out after cleaning, wrung out, and reused.

Package contents	Width	Length	Weight	Thickness	PK	Cat. No.
	mm	mm	g / m²	mm		
12 bags of 76 tissues	350	300	80	0.36	12	**6.266 674**

3 Wipes Multiclean®, 3-ply

Multiclean® cloths are always on hand when surfaces must be thoroughly cleaned. Multiclean® plus is high-volume and thus even more absorbent. The appropriate holder, whether as floor stand or for wall mounting are available on request.

Package contents	Width	Length	Weight	PK	Cat. No.
	mm	mm	g / m²		
2 rolls with 500 tears	220	380	60	2	**7.618 013**
2 rolls with 500 tears	380	380	54	2	**7.618 212**
Roll with 1000 tears	360	360	54	1	**7.671 903**

4 Multitex® roll Ultra z 70, white, disposable tissues

The high-quality viscose fleece with textile characteristics is suitable for wet and dry cleaning thanks to its incredible strength. The cloths are very soft and yet lint-free, they can absorb large amounts of liquid and remain tear-resistant, they are solvent-resistant and they meet food safety requirements. Multitex® cloths can be washed out after cleaning, wrung out, and reused.

Package contents	Width	Length	Weight	Thickness	PK	Cat. No.
	mm	mm	g / m²	mm		
roll with 500 tears	410	380	80	0.36	1	**6.266 675**

Floor stand

Description	PK	Cat. No.
Floor stand with waste bag holder for rolls up to 42 cm width	1	**6.266 990**
Wall bracket with waste bag holder for rolls up to 42 cm width	1	**6.266 991**

6.266 990

6.266 991

E & OE.

1 Unitex® roll, turquoise disposable tissues

Unitex® cleaning cloth from cellulose and polyester fibers.
- Without binders, chemicals or adhesives
- Resistant to solvents and silicone free
- Particularly tear-resistant and lintfree
- Useable dry and wet, high absorption capacity
- Excellent for cleaning and degreasing surface

Package contents	Width mm	Length mm	Weight g / m²	Thickness mm	PK	Cat. No.
roll with 500 tears	390	325	68	0.28	1	6.266 677

2 LLG-Hand towels, 3-ply

Bright white, extra absorbent, completely unfolding, compatible with most dispenser systems, economic use by high absorbancy and comfortable size. Suitable for LLG-Dispenser for hand towels, Cat No 7.618 375.

Package contents	Width mm	Length mm	PK	Cat. No.
20 Packs with 100 tissues	220	420	20	6.266 568

3 LLG-Hand towel dispenser

White plastic, easy to refill, with window to observe the filling level, suitable for towel up to 245mm width, e.g. Cat. No. 6.266 568.

Height mm	Width mm	Depth mm	PK	Cat. No.
375	280	137	1	7.618 375

4 LLG-Cellulose tissue, supplied in stacks

- Unbleached or highly bleached
- Pack quantity: 1 x 5kg

Description	Width mm	Length mm	PK	Cat. No.
unbleached	600	400	1	9.413 210
highly bleached	600	400	1	9.413 211

5 Cotton wool roll

- 100 % Cotton
- White cotton - non chlorine-bleached
- according to European Pharmacopoeia & Ecotex 100 Certificate
- Width - Max. 25 cm, length ±7 m

For absorbent cotton roll:
- highly absorbent
- Tenacity of water : appr. 23 ml/g of cotton

Description	PK	Cat. No.
Cotton roll 500g, absorbent	1	9.413 155
Cotton roll 500g, non-absorbent	1	9.413 156

E & OE.

Brushes, natural bristle

Type	Length mm	Diam. mm		PK	Cat. No.
Pipette brush	480	5		1	**9.019 010** 1
Pipe cleaner	150	4		100	**9.019 005** 2
Reagent bottle brush with wool tip	190	10		1	**9.019 020**
Reagent bottle brush with head bundle	250	10		1	**9.019 030** 3
Reagent bottle brush with wool tip	280	15		1	**9.019 035** 4
Reagent bottle brush with wool tip	270	30		1	**9.019 040**
Erlenmeyer flask and bottle brush with head bundle	340	50		1	**9.019 050**
Erlenmeyer flask and bottle brush with head bundle	470	63		1	**9.019 060**
Beaker brush with wooden handle	390	85		1	**9.019 070** 5
Beaker brush with wooden handle	430	85		1	**9.019 080**
Beaker brush with wooden handle	430	80		1	**9.019 090**
Beaker brush with extra long wooden handle	630	80		1	**9.019 092**
Rinsing brush**	220	60		1	**9.019 110** 6
Set*				1	**9.019 002**
Hinge glasses brush bristled falb, with hinge	440			1	**6.237 788**
Replacement head for Hinge glasses brush	43			1	**6.266 904**
Burette brush with 1 m long wire handle	1000	30		1	**9.019 100**

* Set consisting of order numbers 9.019 010, 9.019 020, 9.019 030, 9.019 040, 9.019 050, 9.019 060, 9.019 070, 9.019 080, 9.019 090 and 9.019 092.
**Nylon

1	2	3	4	5	6
9.019 010	9.019 005	9.019 030	9.019 035	9.019 070	9.019 110
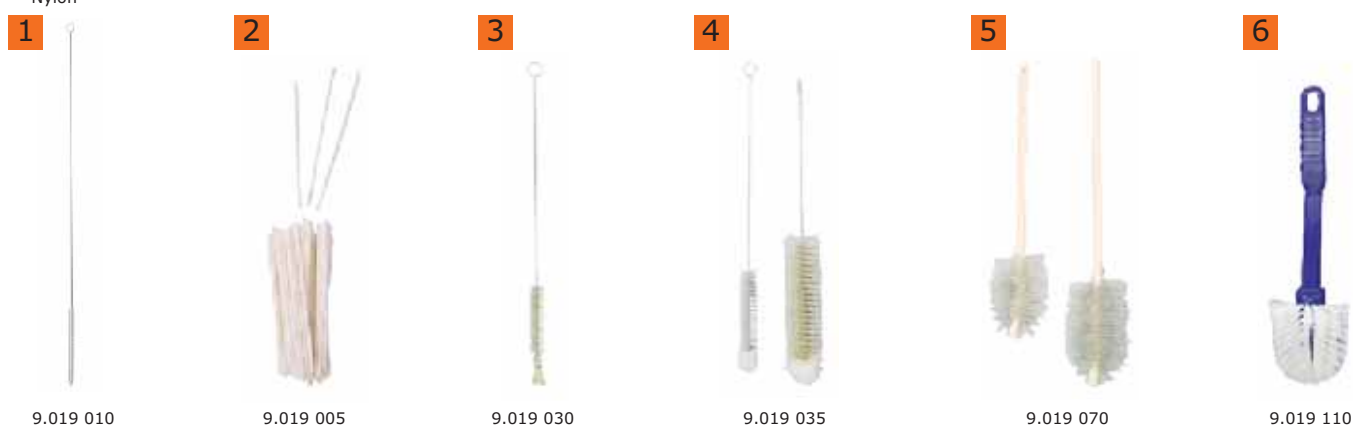
7 Cleaning brushes

Pack of 10.
Brush with swivel head, head 21 mm x 44 mm x 24 mm for vessels with NS 29/32 or diam. 24 mm, Lenght: 330 mm

Description	PK	Cat. No.
Joint brush	10	**6.242 423**

8 LLG-Cleaning brushes

Excellent tools for washing and cleaning of all type of laboratory bottles, flasks, tubes, condensers, burettes, etc. Brush material is manufactured from highest quality of fibre/perlon for long life cycle. Brush stem is manufactured from corrosion proof twisted steel wire. Brush handle is manufactured from polyproylene and offers extreme easy handling and use of the brush. Unique handle design enables hanging of the brush to a convenient place for easy reach. Spherical sponge top part enables access to every corner of the labware and guarantees perfect cleaning results.

Description	Length mm	For	Figure	PK	Cat. No.
LLG-Cleaning brush 20 x 125 mm	845	burettes and tubings	a	10	**6.267 293**
LLG-Cleaning brush 70 x 130 mm	460	large size bottles	b	10	**6.267 294**
LLG-Cleaning brush 50 x 110 mm	460	medium size bottles	c	10	**6.267 295**
LLG-Cleaning brush 40 x 110 mm	380	small size bottles	d	10	**6.267 296**
LLG-Cleaning brush 25 x 100 mm	295	test tubes	e	10	**6.267 297**
LLG-Cleaning brush 12 x 80 mm	235	narrow test tubes	f	10	**6.267 298**

9 Hair brushes, oval

Black goat hair. In metal mounts on round wood handle.

Size	Diam. mm		PK	Cat. No.
0	6		1	**9.172 025**
1	7		1	**9.172 026**
2	8		1	**9.172 027**

E & OE.

1 Hair brushes, broad

Bear bristle. Blunt head. Flat stem.

Width mm	Wall thickness mm	Hair length mm	PK	Cat. No.
12.5	3.9	16	1	9.172 042
19.0	3.9	18	1	9.172 043
25.4	4.1	22	1	9.172 044

2 Red marten-hair brushes

Silver ferrule. Black enamelled round handle.

Size	Hair length mm	PK	Cat. No.
0	8	1	9.172 050
1	9	1	9.172 051
2	11	1	9.172 052
3	13	1	9.172 053
4	15	1	9.172 054
5	18	1	9.172 055
6	19	1	9.172 056

3 Balance brush

Oval, size 2/6 mm, size 4/9 mm and size 6/12 mm

Type	Size	Diam. mm	PK	Cat. No.
Brush	2	6	1	6.266 807
Brush	4	9	1	6.074 169
Brush	6	12	1	6.266 808
Brush set*			1	6.266 825

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

4 LLG-Draining racks, PE-coated wire

Wall or bench mounting for 50 reagent bottles and 5 flasks
With drip channel and plastic covered feet.
Dimensions (L x W x H): 360 x 130 x 650 mm.

Description	PK	Cat. No.
Draining racks	1	6.281 619

E & OE.

Products made of PFA

Products made of PFA are chemically inert and highly suitable for applications requiring high purity, such as for environmental and trace analysis. They are heat resistant and have a non-stick, easy to clean surface. Due to the extremely hydrophobic, anti-adhesive and smooth surfaces, it has no carry-over, no cross contamination and no memory effects. High thermal stability from -200 °C to + 260 °C. Products made of PFA are ideal for storage of almost all corrosive chemicals, including hydrofluoric, nitric and perchloric acid.

Features
- Very low level of metal ions
- High mechanical strength and dimensional stability
- Can be used in the microwave
- Unbreakable, transparent
- Can be used for cryogenic applications down to -200 °C
- Heat resistant up to 260 °C

1 Test Tubes, PFA

These unbreakable test tubes are excellent for trace metal analysis. They are inert, non-contaminating, and transparent for easy viewing of contents. They withstand temperature extremes. Can be sterilized repeatedly. Without stopper.
- Made from fluoropolymer PFA resin
- Low metal ion content
- Inert

Capacity ml	Int. diam. mm	Ext. diam. mm	Length mm	PK	Cat. No.
5	8	10	120	1	6.267 607
15	14	16	150	1	6.267 608
25	16	19	170	1	6.267 609
50	19	22	220	1	6.267 610
60	19	22	230	1	6.267 611

2 Evaporating Dish, PFA

The PFA Evaporating Dish design promotes evaporation of excess fluids to produce a concentrated solution or solid precipitate. The flat bottom provides good surface contact with a heat source, while the non-stick angled walls direct fluids to the base, which limits condensation on the dish wall. This PFA dish can be used in a wide range of temperatures, from cryogenics to 260 °C. The dish is also ideal for holding solid samples or small volumes of liquid. Features a broad spout for easy pouring.
- Chemically inert
- Ideal for trace metal analysis
- Transparent for easy viewing
- Perfect for microwave use
- Smooth, non-stick surface

Capacity ml	Height mm	PK	Cat. No.
100	29.5	1	6.267 447

3 Evaporating Dish, PTFE

This PTFE Evaporating Dish can be used to concentrate a solution or to create solid precipitates. The evaporating dish can also be used as a shallow bath, as a drying dish or as a beaker cover to protect contents from dust and other contaminants. PTFE material is unbreakable, chemically inert, and withstands temperatures up to 288 °C. The non-stick surface is stain resistant and easy to clean. Features a broad spout for easy pouring.
- Chemically inert
- Ideal for ultra-pure samples
- Withstands temperatures up to 288 °C

Capacity ml	Height mm	PK	Cat. No.
100	37.3	1	6.267 448
400	45.2	1	6.267 449

1 Petri Dish, PFA

The non-stick, chemically inert surface of PFA petri dishes is non-contaminating and ideal for high-purity biological applications that range in temperature from -200 °C to 260 °C. Each petri dish is shallow, cylindrical and translucent with a flat bottom that allows for easy observation and uniform specimen growth. Ideal for cell culture or drying applications. Stackable one-piece design does not require a separate lid. Can be autoclaved for repeat use.
- Inert surface
- Non-stick
- Non-protein binding
- Transparent
- Uniform flat bottom

Capacity	Ext. diam.	Height		PK	Cat. No.
ml	mm	mm			
20	50	10		1	6.267 436
100	100	15		1	6.267 437

2 LLG- Beakers, low form, PTFE

Manufactured from high quality PTFE with excellent resistance to all chemicals. Manufactured from molded, pure PTFE with a smooth internal finish. Flat base enables a flat contact to the surface for effective heat transfer. PTFE beakers have excellent resistance to chemicals and temperature stability from -200 °C to +260 °C.

Capacity	Diam.	Height		PK	Cat. No.
ml	mm	mm			
50	43	55		1	6.267 346
100	54	68		1	6.267 347
250	66	97		1	6.267 348

3 Beakers, low form, PTFE

With reinforced rim and spout. Ungraduated.
Excellent chemical and temperature resistance.

Capacity	Diam.	Height		PK	Cat. No.
ml	mm	mm			
5	20	26		1	9.013 722
10	24	33		1	9.013 723
25	32	47		1	9.013 724
50	43	55		1	9.013 725
100	54	68		1	9.013 726
150	59	75		1	9.013 727
250	66	97		1	9.013 728
400	80	125		1	9.013 729
500	100	125		1	9.013 731
1000	105	155		1	9.013 734
2000	125	205		1	9.013 735

4 Griffin beakers, ETFE

Transparent. With easily readable, printed black scale.
Very good chemical resistance and very high thermal stability from -100 °C to +150 °C.
To preserve markings, cleaning at greater than 60 °C is not recommended.

Capacity	Grad.	Diam.	Height		PK	Cat. No.
ml	ml	mm	mm			
25	5	32	50		1	9.013 702
50	10	39	59		1	9.013 703
100	20	50	72		1	9.013 704
250	50	67	96		1	9.013 706
400	50	77	109		1	9.013 707
500	100	88	122		1	9.013 192
600	100	91	125		1	9.013 708
1000	100	105	143		1	9.013 710

E & OE.

1 Griffin beakers, PFA

Transparent. With a raised scale. Excellent chemical resistance and very high thermal stability from -200 °C to +260 °C
Autoclavable at 120 °C (2 bar) according to DIN EN 285.
The advantages of PFA
- Specially suitable for use in trace analysis
- Ideal for sensitive and valuable samples
- Long-term maintenance of low-concentration reference materials in PFA containers
- No memory effects
- Practically no carryover, no contamination due to the extremely hydrophobic, anti-adhesive and smooth surfaces
- High thermal stability, from -200 °C to +260 °C
- Chemical inertness against nearly all chemicals
- Good transparency and dimensional stability
- Easy to clean
- Use of high purity raw materials

Material	Capacity	Grad.	Diam.	Height	PK	Cat. No.
	ml	ml	mm	mm		
PFA	25	5	32	50	1	**9.013 210**
PFA	50	10	39	59	1	**9.013 211**
PFA	100	20	50	72	1	**9.013 212**
PFA	250	50	67	96	1	**9.013 213**
PFA	500	100	88	122	1	**9.013 214**
PFA	1000	100	109	141	1	**9.013 215**

2 Round-bottom flasks, PFA

Transparent, neck with NS 29/32. Can be used as a safety flask with a rotary evaporator. High thermal stability and chemical resistance.

The advantages of PFA:
- Especially suitable for use in trace analysis
- Long-term maintenance of low-concentration reference materials in PFA containers
- No memory effects
- Practically no carryover, no cross-contamination due to the extremely hydrophobic, anti-adhesive and smooth surfaces
- High thermal stability, from -200 °C to +260 °C, autoclavable.
- Chemical inertness against nearly all chemicals
- Good transparency and dimensional stability
- Easy to clean
- Use of high purity raw materials

Capacity	Diam.	Height	PK	Cat. No.
ml	mm	mm		
100	65	117	1	**9.011 896**
250	88	147	1	**9.011 897**
500	107	177	1	**9.011 898**

3 Erlenmeyer flasks, graduated, PFA

Erlenmeyer flasks, PFA are chemically inert for ultra-pure applications. The neck of each flask is slightly rounded for pouring and can be plugged with a stopper. The conical shape and neck design allow contents to be mixed or stirred with reduced risk of splashing. The narrow neck also helps limit evaporation and contamination. PFA material has the lowest metal ion content of any fluoropolymer. Ideal for use in titration and for the preparation of microbial cultures.
- Chemically inert for ultra-pure applications
- Graduated
- Transparent for easy viewing
- Non-stick PFA surface-easy to clean
- Can be used in a microwave

Capacity	Height	Neck diam.	PK	Cat. No.
ml	mm	mm		
100	97	18	1	**6.267 465**
200	123	23	1	**6.267 466**
300	130	23	1	**6.267 467**

E & OE.

1 Narrow-mouth bottles with screw thread

PFA. Transparent, with tightly sealing screw closure (saw-tooth thread). High temperature resistance from -200 to +250 °C. With PFA screw cap equipped with built-in sealing lip specially developed to enable use as mailing bottles for high-purity chemicals and samples. Autoclavable.

Capacity	Thread	Diam.	Height	PK	Cat. No.
ml	S	mm	mm		
50	28	37	86	1	**9.073 740**
100	28	45	120	1	**9.102 420**
250	28	61	160	1	**9.102 422**
500	28	76	190	1	**9.102 424**
1000	28	96	240	1	**9.102 426**

2 Wide-mouth bottles with cap, graduated, PFA

These PFA graduated bottles have a convenient wide-mouth opening for easy filling and pouring. These unbreakable, chemically inert bottles can be used for storage of virtually all corrosive chemicals. PFA material is heat resistant, non-stick and easy-to-clean. Each includes a PFA cap with an inert fluoropolymer cap liner to ensure leak-proof sealing. Ideal for environmental sampling, or for storage in pharmaceutical and intermediate-stage semiconductor processing applications.
- Wide-mouth for easy filling
- Ultra pure and chemically inert
- Non-stick and easy-to-clean

Capacity	Height with cap	Neck diam.		PK	Cat. No.
ml	mm	mm			
20	60.3	16.4		1	**6.267 442**
100	106.5	25.7		1	**6.267 443**
250	136.8	25.7		1	**6.267 444**
500	173.8	33.9		1	**6.267 445**
1000	207.2	36.8		1	**6.267 446**

3 Wash bottles, PFA

These wash bottles feature a wide-mouth opening for convenience in filling and pouring of all types of liquids. Non-stick and easy to clean, fluoropolymer construction provides superior flex life and mechanical strength. As PFA contains the lowest concentration of trace metal ions of all fluoropolymers, these bottles are ideal for ultra-pure applications and environmental work.
- Wide-mouth for easy filling
- Chemically inert and leak-proof
- Flexible nozzle with 360° swivel; small orifice allows accurate content dispensing
- Transparent and break resistant
- Molded-in graduation marks

Capacity	Height with cap	Neck diam.		PK	Cat. No.
ml	mm	mm			
100	159.5	25.5		1	**6.267 480**
250	195.3	25.6		1	**6.267 481**
500	293.7	33.9		1	**6.267 482**
10000	317.5	36.9		1	**6.267 483**

4 Measuring cylinders, graduated, PFA

These graduated cylinders offer all the advantages of non-stick inert fluoropolymers. PFA is temperature resistant from -196 °C to 260 °C and has the lowest metal ion content. As a result, Chemware® cylinders are excellent for trace metal analysis.
- Easy-to-read graduations
- Smooth pouring, drip-free spout
- Broad base for stability

Capacity	Height	PK	Cat. No.
ml	mm		
10	118.5	1	**6.267 450**
30	165.9	1	**6.267 451**
50	216.7	1	**6.267 452**
100	231.8	1	**6.267 453**
200	281.8	1	**6.267 454**
300	295.3	1	**6.267 455**
500	352.4	1	**6.267 456**
1000	316.7	1	**6.267 457**

E & OE.

1 Volumetric flasks, PFA, class A, with screw cap

Highly transparent.
Ring mark individually calibrated to Iná.
Class A tolerances according to DIN EN ISO 1042.
The PFA screw cap guards against contamination.
Outstanding chemical resistance, can be used with strong oxidants, highly concentrated acids and alkalis, hydrocarbons, and ketones.
With laser-engraved lot number and batch certificate. Thermal stress up to 121 ºC (autoclaving) does not permanently exceed the tolerance limit.
To preserve the ring mark, do not clean at temperatures exceeding 60 ºC.

The advantages of PFA
- Long-term maintenance of low-concentration reference materials in PFA containers
- No memory effects
- Practically no carryover, no cross-contamination due to the extremely hydrophobic, anti-adhesive and smooth surfaces
- High thermal stability, from -200 °C to +260 °C
- Chemical inertness against nearly all chemicals
- Good transparency and dimensional stability, suitable for volumetric instruments
- Easy to clean
- Use of high purity raw materials

Capacity ml	Height mm	Neck thread GL	Tolerance ± ml		PK	Cat. No.
10	90	18	0.04		1	**9.276 919**
25	115	18	0.04		1	**9.276 920**
50	150	18	0.06		1	**9.276 921**
100	180	18	0.10		1	**9.276 922**
250	235	25	0.15		1	**9.276 923**
500	270	25	0.25		1	**9.276 924**

2 Spatulas, PTFE fluoropolymer, coated

These spatulas are designed for use in the most severe laboratory conditions. They are made of nickel-plated stainless steel and fluoropolymer coating. The coating eliminates surface buildup or loss of valuable sample due to sticking. Will not scratch or damage delicate surfaces.
- Extra heavy-duty PTFE coatings
- Resistant to low and high temperatures
- Use for handling chemically active materials

Description	Length mm	Figure		PK	Cat. No.
Double-ended spatula	200	a		1	**9.220 940**
Spoon spatula	225	b		1	**9.220 945**
Tapered pallet	102	c		1	**9.220 950**

LLG-PCR Tubes and Plates, PP

- Premium quality
- Produced in a cleanroom environment
- RNase-, DNase-, Human DNA- and Pyrogen-free
- Virgin Polypropylene
- Compatible with all major thermal cyclers

1

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	**9.407 501**
0.2 ml, single, domed cap	1000	**9.407 502**
0.5 ml, single, flat cap	1000	**9.407 504**
0.5 ml, single, domed cap	1000	**9.407 505**

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 stripswith individually attached flat snap caps	250	**9.407 515**
8 PCR tube stripswith individually attached domed ultra clear snap caps	250	**9.407 516**

2

9.407 515

3

9.407 516

4

9.407 503

5

9.407 514

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 stripsplus detached cap strips	250	**9.407 503**
8 PCR tube stripsplus detached cap strips	250	**9.407 514**
8 PCR detached cap strips, flat caps	120	**6.254 729**
8 PCR detached cap strips,domed caps	120	**9.407 522**
8 PCR detached cap strips,domed caps	250	**7.656 858**

E & OE.

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

9.407 507

6.238 061

Description	Capacity µl	PK	Cat. No.
96 Well Plate, skirted, low profile, PP	200	25	**9.407 507** 1
96 Well Plate, non-skirted, PP	300	25	**6.238 061** 2

3   LLG-384-well PCR plates, PP

- maximum well volume: 40 µl
- working well volume: 25 µl
- cut-away corners for plate orientation
- fully skirted for use with automated systems
- holes in the skirt for easy handling
- compatible with all leading 384 block thermal cyclers
- 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**

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.
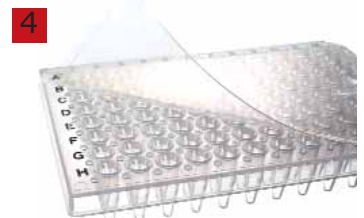
6.238 132

9.407 506

Description	Temp. range °C	PK	Cat. No.
PCR film	-20 to +120	100	**6.238 132** 4
PCR foil	-80 to +150	100	**9.407 506** 5
QPCR foil	-40 to +120	50	**6.240 725**

6   96-Well PCR Rack, PP

Removable hinged lid lies flat. Perfect for pre- or post-PCR sampling. Sturdy polypropylene rack accommodates individual 0.2ml 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.

For tubes ml	Colour	PK	Cat. No.
0.2	blue, green, pink, yellow, orange	5	**9.409 661**
0.2	green	1	**6.256 114**

E & OE.

1

1 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 of 125 mg/cm²

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

2

2 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/cm²
.

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

3

3 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/cm².

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

4

4 5 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 battary, 5 coloured nose pieces, 3 membrane filters, adapter for 1ml 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 attachement:	Polypropylene, autoclavable
Dimensions (W x D x H):	15 x 152 x 41 mm
Weight:	approx. 200 g
Power supply:	rechargeable Li-Ion battery, 8 h continous operation
Warranty:	1 year

5

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

E & OE.

1 2 3 4 5 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 cleanrooms
- Colour coded for easy volume identification
- Single packed in easy-to-open plastic/plastic packaging

Type	Volume ml	Grad. ml	Colour code	Negative graduations up to	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

E & OE.

1 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 cm². 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 sheer 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 cm²	Working volume ml	Cover type	Neck	Neck thread mm	PK	Cat. No.
12.5	20	standard	angled	45	10	**6.267 172**
12.5	20	vented	angled	45	10	**6.267 173**
25.0	40	standard	angled	45	10	**6.267 174**
25.0	40	vented	angled	45	10	**6.267 175**
75.0	75	standard	angled	45	5	**6.267 176**
75.0	75	vented	angled	45	5	**6.267 177**
182.0	400	standard	angled	45	5	**6.267 178**
182.0	400	vented	angled	45	5	**6.267 179**

2 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 cm²	Working volume ml	PK	Cat. No.
6	10.00	17.00	100	**6.267 166**
12	4.20	6.80	100	**6.267 167**
24	2.00	3.50	100	**6.267 168**
48	0.85	1.55	100	**6.267 169**
96	0.38	0.39	100	**6.267 170**
96	0.38	0.32	100	**6.267 171**

E & OE.

1   LLG-Aspirator uniVACUUSYS

LLG-uni*VACUUSYS* Vacuum Aspiration System with integrated vacuum pump and vacuum controller is ideally suited for aspirating liquids in Life Science applications, such as 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.
- 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-uni*VACUUSYS*, with EU plug	1	**6.263 585**
LLG-uni*VACUUSYS*, with UK plug	1	**6.263 586**

2   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	**6.268 093**
70	white	50	**6.268 092**
100	yellow	50	**6.268 091**

3   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	**6.268 090**

1 2 3 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 are for example general microbiology, molecular biology as well as diagnostic analysis involving the cultivation of microorganisms.

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

Media for bacteria
Luria Bertani (Miller):
- Standard high salt content media for *E. coli* cultivation
- Ideal for plasmid preparation
Terrific Broth:
- Rich content media for the high density cultivation of *E.coli*
- Ideal for protein expression and plasmid preparation
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 formulations of bacterial, fungal, mammalian and insect cell culture media.
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**

E & OE.

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.

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**

Petri dish holder

3

Constructed in steel wire, as outlined below. Suitable for dish diameters of 100 mm, Internal diameter approx. 102 mm, Internal height approx. 230 mm. For approx. 10 petri dishes.

Description	PK	Cat. No.
Electropolished, grade 1.4301 stainless steel	1	**9.908 127**
White nylon-coated	1	**9.908 128**

9.908 127

4   LLG-Inoculation loops, PS, sterile

4

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**
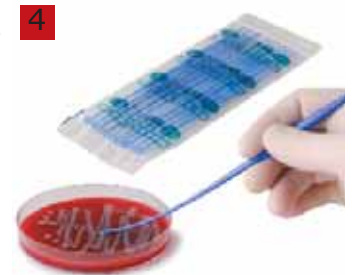
LLG-spatulas, sterile

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** 1
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** 2
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** 3

1 — 6.265 638   2 — 6.265 640   3 — 6.265 642

4 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**

5 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.
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**

LLG-Dry swabs, sterile

Description	Length mm	Ext. diam. mm	PK	Cat. No.
with Cotton tip and wooden stick, in PP test tube	150	12	400	**9.404 002**
with Rayon tip and plastic stick, in PP test tube	150	12	400	**9.404 003**
with Cotton tip and wooden stick, individually wrapped	150		1000	**9.404 004**
with Rayon tip and plastic stick, in PP test tube, individually wrapped	150	12	150	**9.404 005** 6
with Rayon tip and plastic stick, individually wrapped	150		1000	**9.404 006** 7
with clear Amies medium, Rayon tip and plastic stick,in PP test tube	150	12	150	**9.404 007**
with clear Amies medium with Charcoal, Rayon tip and plastic stick, in PP test tube	150	12	150	**9.404 008**

6 — 9.404 005   7 — 9.404 006

1 Cotton Applicator, Wood

Ideal for sampling in laboratories, thickness x length: 2.2 x 150 mm, head size: Ø 4 to 5.5 mm

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, enclosure V for medical products, sterilised with ETO gas

Package	Sterile	PK	Cat. No.
bag	no	100	9.413 160
single, Peel-Pack	yes	100	9.413 161

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

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

LLG-Micropestles, stainless steel

Polished stainless steel, micropestles. 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 13 ml tubes:
Primarily used with food analysis with highly processed samples in which little DNA, protein or allergen is present.

For bottle ml	Pestle length mm	PK	Cat. No.	
0.5	94	1	**9.314 500**	1
1.5	124	1	**9.314 501**	2
2.0	120	1	**9.314 502**	3
13.0	190	1	**9.314 503**	4

9.314 500

9.314 501

9.314 502

9.314 503

5 Micro pestles, accessory drive motor

Description	PK	Cat. No.
Complete with two batteries	1	**9.314 496**
Spare pestle adapter	1	**9.314 497**

6 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
- 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 ml	Pore size µm	Neck thread mm	PK	Cat. No.
250	0.22	45	12	**6.267 180**
250	0.45	45	12	**6.267 181**
500	0.22	45	12	**6.267 182**
500	0.45	45	12	**6.267 183**
1000	0.22	45	12	**6.267 184**
1000	0.45	45	12	**6.267 185**

E & OE.

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	**6.268 176**
100	47	0.45	white / black*	50	**6.268 177**
100	47	0.20	white / black	50	**6.268 178**
100	47	0.20	white / black*	50	**6.268 181**
100	47	0.45	black / white	50	**6.268 179**
100	47	0.45	black / white*	50	**6.268 180**

*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	**6.268 182**
100	56	0.45	black / white	50	**6.268 183**
100	56	0.80	black / white	50	**6.268 184**
100	56	0.20	white / black	50	**6.268 185**
100	47	0.45	white / black	50	**6.268 186**
100	47	0.45	white / black*	50	**6.268 187**
100	47	0.45	black / white	50	**6.268 188**
100	47	0.80	black / white	50	**6.268 189**

*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 and tubing adaptor for microbiological monitors and analytical funnels.

Description	PK	Cat. No.
3-place stainless steel manifold	1	**6.269 118**
6-place stainless steel manifold	1	**6.269 119**

6.269 118

E & OE.

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 °C 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 3 Scalpels, disposable Cutfix®

Sterile. For cleaner, smoother, more accurate incisions.

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**

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** 4
96 Deep Well Storage Plate, round caps, with U-Bottom	1200	transparent	50	**9.407 509** 5
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** 6

9.407 508

9.407 509

9.407 511

E & OE.

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   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   LLG-Microtitre shaker uni*PLATESHAKER* 1

The LLG-uni*PLATESHAKER* 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 99min 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 (WxDxH):	127 x 85 x 86 mm
Weight:	1.4 kg
Power supply:	100-230 V, 50/60 Hz

Type	PK	Cat. No.
uni*PLATESHAKER* 1 with EU-plug	1	**6.263 488**
uni*PLATESHAKER* 1 with UK-plug	1	**6.263 489**

<div style="background:#fdf0d5">

1 LLG-Thermo shaker uni*THERMIX*

</div>

The LLG-uni*THERMIX* is ideal for shaking and temperature control of a variety of tubes or plates (depending on the block used). With its high temperarture uniformity, fast heating rate and excellent mixing results the LLG-uni*THERMIX* 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

- Temperature accuracy of ±0.5 °C (20 to 45 °C)
- Temperatures up to 100 °C
- Efficient mixing up to 1500 rpm (depending on the heating block)
- Up to 9 storable programs
- Many block options available (see accessories)

LLG-uni*THERMIX* 1: with shaking and heating function, Temperature range: RT +5 °C to approx. +100 °C
LLG-uni*THERMIX* 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-uni*THERMIX* 1:	RT +5 °C to approx. +100 °C
LLG-uni*THERMIX* 2:	15 °C below RT to approx. +100 °C
Control accuracy:	± 0.5 °C (at 20 to 45 °C)
Uniformity:	Max. ± 0.5 °C (at 20 to 45 °C)
Max. heating rate:	5.5 °C/min
Max. cooling rate (LLG-uni*THERMIX* 2 only):	5 °C/min (100 °C to RT)
	0.5 °C/min (below RT)
Speed range:	300 to 1500 rpm
Orbit:	3 mm
Display:	LCD
Programs:	6 stages, 9 programs
Dimensions (WxDxH):	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, 50Hz/60 Hz

Type	PK	Cat. No.
LLG-uni*THERMIX* 1, with EU plug	1	**6.263 470**
LLG-uni*THERMIX* 1, with UK plug	1	**6.263 471**
LLG-uni*THERMIX* 2, with EU plug	1	**6.263 472**
LLG-uni*THERMIX* 2, with UK plug	1	**6.263 473**

*Exchangeable blocks are not included in delivery.

6.263 476

<div style="background:#fdf0d5">

Heating blocks for LLG-Thermo shaker uni*THERMIX* 1 and 2

</div>

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	1	**6.263 478**
4 tubes, 50 ml	1	**6.263 479**

*with lid

E & OE.

1 **2** LLG-Mini-Incubator uni*INCU* 20 and LLG-Tumbling Shaker uni*SHAKER* 2

LLG-Mini-Incubator uni*INCU* 20
The portable LLG-uni*INCU* 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-uni*INCU* 20 incubator features a large internal chamber with a capacity of 20 liters, capable of storing flasks and bottles up to 2 liters. 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 uni*SHAKER* 2 which can be positioned inside the incubator, can also be ordered separately.

LLG-Tumbling Shaker uni*SHAKER* 2
Multi-functional shaker, uni*SHAKER* 2, with dimpled mat, perfect for foam-free mixing of blood in centrifuge tubes. Suitable for a variety of tubes and dishes.

Specifications LLG-uni*INCU* 20

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

Specifications LLG-uni*SHAKER* 2

Tumbling angle:	20°
Speed:	Fixed, 20 rpm
Max. Load:	1.6 kg
Platform Dimensions (W x D):	152.5 x 202.5 mm
Warranty:	3 Years

Type	PK	Cat. No.
LLG-uni*INCU*20 with EU plug	1	**6.263 570**
LLG-uni*INCU*20 with UK plug	1	**6.263 571**
LLG-uni*SHAKER*2 with EU plug	1	**6.263 640**
LLG-uni*SHAKER*2 with UK plug	1	**6.263 641**

1

2

LLG-Crimp Neck Micro-Vials ND8

Capacity	ml	0.20	0.30	0.80	0.60	0.60	0.70	0.70	1.20	1.20
o.d. x Height	mm	5.5 x 31.5	5.5 x 31.5	8.2 x 30	7 x 40	7 x 40	7 x 40	7 x 40	8.2 x 40	8.2 x 40
Colour		clear	clear	clear	clear	amber	clear	amber	clear	amber
Form		conical	round bottom	flat bottom	conical	conical	flat bottom	flat bottom	flat bottom	flat bottom
PK		100	100	100	100	100	100	100	100	100
Cat. No.		**6.235 606**	**4.001 554**	**9.003 427**	**4.001 515**	**6.902 044**	**4.008 202**	**4.008 203**	**4.008 206**	**6.266 864**

LLG-Aluminium Crimp Caps ND8, ready assembled

	Caps	Septa	Hardness	Thickness mm	PK	Cat. No.
	Aluminium, silver, center hole	PTFE virginal, white	53° shore D	0.25	100	**4.001 558**
	Aluminium, silver, center hole	Natural rubber, red-orange / TEF transparent	60° shore A	1.00	100	**9.003 443**
	Aluminium, silver, center hole	Red Rubber / PTFE beige	45° shore A	1.00	100	**4.008 200**
	Aluminium, silver, center hole	Silicone white / PTFE red	45° shore A	1.30	100	**9.003 444**
	Aluminium, silver, center hole	PTFE red / Silicone white / slit	45° shore A	1.30	100	**6.266 865**
	Aluminium, silver, center hole	PTFE red / Silicone white / PTFE red	45° shore A	1.00	100	**4.008 198**
	Aluminium, silver, center hole (no liner)				100	**4.001 552**

LLG-Screw Neck Vials ND8, small opening

Capacity	ml	1.50	1.50	1.50	1.50	1.10
o.d. x Height	mm	11.6 x 32	11.6 x 32	11.6 x 32	11.6 x 32	11.6 x 32
Colour		clear	clear, labeling field	amber	amber, labeling field	clear
Form		flat bottom	flat bottom	flat bottom	flat bottom	conical
PK		100	1000	100	1000	100
Cat. No.		**9.003 481**	**7.613 087**	**9.003 480**	**7.613 388**	**4.001 563**

LLG-Micro Inserts for Screw Vials ND8, small opening

Capacity	ml	0.10	0.10	0.10	0.20
o.d. x Height	mm	5 x 31	5 x 31	5 x 29	5 x 31
Colour		clear	clear	clear	clear
Form		conical, 15mm tip	conical, 9mm tip	with plastic spring	flat bottom
PK		100	100	100	100
Cat. No.		**7.401 066**	**9.003 435**	**4.001 556**	**4.008 194**

E & OE.

LLG-PP Screw Seals ND8, ready assembled, and empty Screw Caps ND8

		Caps	Septa	Hardness	Thickness mm	PK	Cat. No.
		black, centre hole	Natural rubber, red-orange / TEF transparent	60° shore A	1.30	100	**6.266 866**
		black, closed	Natural rubber, red-orange / TEF transparent	60° shore A	1.30	100	**6.266 867**
		black, centre hole	Red Rubber / PTFE beige	45° shore A	1.00	100	**4.008 209**
		black, closed	Red Rubber / PTFE beige	45° shore A	1.00	100	**4.008 210**
		black, centre hole	Silicone white / PTFE red	45° shore A	1.30	100	**9.003 484**
		black, closed	Silicone white / PTFE red	45° shore A	1.30	100	**4.008 208**
		black, centre hole	Silicone white / PTFE red / slit	45° shore A	1.30	100	**6.232 178**
		black, centre hole	PTFE red / Silicone white / PTFE red	45° shore A	1.00	100	**4.008 207**
		black, centre hole	no liner	-		100	**7.060 421**
		black, closed	no liner	-		100	**7.075 960**

LLG Septa for Screw Caps ND8

	Septa	Hardness	Thickness mm		PK	Cat. No.
	PTFE virginal, white	53° shore D	0.25		100	**7.085 238**
	Red Rubber / PTFE beige	45° shore A	1.00		100	**4.008 197**
	Silicone white / PTFE red	45° shore A	1.30		100	**7.060 419**
	Silicone white / PTFE blue, slit	55° shore A	0.90		100	**7.085 892**

1 LLG - 2in1 and 3in1 Kits with Screw Neck Vials ND8 (small opening)

2in1 KITs contain 100 vials and 100 closures in a blue 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. 2in1 KITs are available for any type of 1.5 ml (32 x 11.6 mm), 4 ml (45 x 14.75 mm) or 20 ml Headspace Vial (75.5 x 23 mm) with an appropriate seal. All advantages of the individual components (cleanroom packaging of the vials, recloseability of the packaging, etc.) remain unchanged.

Any other combination of vial and seal as a 2in1 KIT available.

Type	Description	Cover type	PK	Cat. No.
2in1 Kit	clear	black, Silicon white / PTFE red	100	**6.238 965**
2in1 Kit	amber	black, Silicon white / PTFE red	100	**9.003 557**
2in1 Kit	amber, labelling field	black, Silicon white / PTFE red	100	**9.003 558**
2in1 Kit	clear, labelling field	black, Silicon white / PTFE red	100	**9.003 559**
3in1 Kit	clear	black, Silicon white /PTFE blue, slitted (Septa unassembled)	100	**6.223 506**

LLG-Short Thread Vials ND9, wide opening

Capacity	ml	1.50	1.50	1.50	1.50	0.20
o.d. x Height	mm	11.6 x 32	11.6 x 32	11.6 x 32	11.6 x 32	6 x 31
Colour		clear	clear, labelling field	amber	amber, labelling field	clear
Form		flat bottom	flat bottom	flat bottom	flat bottom	flat bottom
PK		100	1000	100	1000	100
Cat. No.		**9.003 448**	**6.803 174**	**4.008 247**	**6.088 871**	**4.008 196**

LLG-Short Thread Vials ND9, wide opening, Micro-Vials

Capacity	ml	1.10	0.20	0.20	0.20	0.30
o.d. x Height	mm	11.6 x 32	11.6 x 32	11.6 x 32	11.6 x 32	11.6 x 32
Colour		clear	clear	clear	amber	transparent
Form		flat bottom, 15µl funnel in solid glas bottom	flat bottom with integrated 0.2 mL insert	TPX®, flat bottom with integrated 0.2 mL insert	flat bottom with integrated 0.2 mL insert	PP, with inner cone
PK		100	100	100	100	100
Cat. No.		**4.008 249**	**4.008 250**	**6.266 868**	**4.008 252**	**4.008 262**

Inserts for LLG-Short Thread Vials ND9, wide opening

Capacity	ml	0.10	0.10	0.10
o.d. x Height	mm	6 x 31	6 x 31	5.7 x 29
Colour		clear	clear	clear
Form		conical 15mm tip	conical 12mm tip	with plastic spring
PK		100	100	100
Cat. No.		**7.401 744**	**4.001 547**	**6.093 247**

E & OE.

LLG-Short Thread Vials ND9, wide opening, SureStop™

The short thread vials ND9 SureStop™ are the best available on the market in terms of seal tightness and reliability. The vials have an additional stopper ring at the end of the thread which clearly marks the end point in the screwing-in process. This ensures that the tightness of the seal is independent of the touch or feel of the user screwing the stopper in. This ensures the lowest possible number of standard deviations and high reproducibility of analysis results.
- Stopper ring as protection against over-tightening
- 1st hydrolytic class glass
- In clear and amber glass
- Wide opening requires matching micro-inserts

Capacity	ml	1.50	1.50	1.50
o.d. x Height	mm	11.6 x 32	11.6 x 32	11.6 x 32
Colour		clear	clear, labeling field	amber,labeling field
Form		flat bottom	flat bottom	flat bottom
PK		100	100	100
Cat. No.		**6.266 869**	**6.260 742**	**6.260 743**

LLG-Short thread screw caps ND9, magnetic

These short thread screw seals have a magnetic sleeve and are more convenient and secure to handle than 11 mm magnetic crimp seals. They have been officially tested and approved for CTC.
- Screw cap with short thread and 6mm hole
- Mounted magnetic metal sleeve (gold colour)
- Temperature resistant from -60 °C to 200 °C
- Very low particle formation during penetration

	Caps	Septa	Hardness	Thickness mm	PK	Cat. No.
	Gold / blue, with center hole	Silicone white / PTFE red, UltraBond	55° shore A	1.00	100	**6.266 870**

LLG-Septa for Thread Screw Caps ND9

	Septa	Hardness	Thickness mm		PK	Cat. No.
	Silicone white / PTFE red	55° shore A	1.00		100	**4.008 212**
	PTFE virginal, white	53° shore D	0.25		100	**4.008 211**
	Red Rubber / PTFE beige	45° shore A	1.00		100	**4.008 213**

LLG-PP UltraBond*Short Thread Seals ND9

	Caps	Septa	Hardness	Thickness mm	PK	Cat. No.
	Ultrabond* Seal blue, center hole	Red Rubber / PTFE beige	45° shore A	1.00	100	**4.008 216**
	Ultrabond* Seal blue, center hole	Silicone beige / PTFE white	45° shore A	1.30	100	**4.008 214**
	Ultrabond* Seal blue, center hole	Silicone beige / PTFE white, slit	45° shore A	1.30	100	**4.008 215**

*Cap+Liner form an inseparable unit, so that the liner cannot be pushed into the vial even with a blunt needle

LLG-PP Short Thread Seals ND9, ready assembled

		Caps	Septa	Hardness	Thickness mm	PK	Cat. No.
		transparent, centre hole	Natural rubber, red-orange / TEF transparent	60° shore A	1.00	100	**6.266 872**
		blue, centre hole	Natural rubber, red-orange / TEF transparent	60° shore A	1.00	100	**6.266 883**
		transparent, centre hole	Red Rubber / PTFE beige	45° shore A	1.00	100	**4.008 229**
		blue, centre hole	Red Rubber / PTFE beige	45° shore A	1.00	100	**4.008 228**
		blue closed	Red Rubber / PTFE beige	45° shore A	1.00	100	**4.008 230**
		transparent, centre hole	Silicone white / PTFE red	55° shore A	1.00	100	**7.076 778**
		blue, centre hole	Silicone white / PTFE red	55° shore A	1.00	100	**9.003 451**
		black, centre hole	Silicone white / PTFE red	55° shore A	1.00	100	**4.008 225**
		green, centre hole	Silicone white / PTFE red	55° shore A	1.00	100	**4.008 224**
		blue closed	Silicone white / PTFE red	55° shore A	1.00	100	**4.008 227**
		transparent, centre hole	Silicone white / PTFE blue, slit	55° shore A	1.00	100	**7.200 809**
		blue, centre hole	Silicone white / PTFE blue, slit	55° shore A	1.00	100	**4.001 521**
		black, center hole	Silicone white / PTFE blue, slit	55° shore A	1.00	100	**4.008 226**
		blue, centre hole	PTFE red / Silicone white / PTFE red	45° shore A	1.00	100	**4.008 218**
		blue, centre hole	PTFE virginal, white	53° shore D	0.25	100	**4.008 221**
		blue closed	PTFE virginal, white	53° shore D	0.25	100	**7.930 366**
		transparent, centre hole	PTFE virginal, white	53° shore D	0.25	100	**4.008 220**
		red, centre hole	Silicone white / PTFE red	55° shore A	1.00	100	**4.008 222**
		red, centre hole	Silicone white / PTFE blue, slit	55° shore A	1.00	100	**4.008 223**
		transparent, centre hole	PTFE red / Silicone white / PTFE red	45° shore A	1.00	100	**6.225 427**

E & OE.

1 LLG-2in1 KITs with Short Thread Vials ND9 (wide opening)

2in1 KITs contain 100 vials and 100 closures in a blue 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.

Any other combination of vial and seal as a 2in1 KIT available.

Description	Cover type	PK	Cat. No.
clear	transparent, natural rubber / PP red-orange	100	**7.620 724**
clear	blue, Silicon white / PTFE red	100	**9.003 560**
clear	blue, Silicon white / PFE blue, slitted	100	**7.621 765**
clear	transparent, Silicon white / PTFE red	100	**9.003 561**
clear, labelling field	blue, Silicon white / PFE blue, slitted	100	**9.003 562**
clear, labelling field	UltraClean, blue, Silicon white / PFE red	100	**7.970 892**
amber, labelling field	UltraBond, blue, Silicon beige / PTFE white, slitted	100	**9.003 563**
amber, labelling field	UltraClean, blue, Silicon white / PFE red	100	**6.266 871**

LLG-Screw Neck Vials ND10, wide opening and Micro-Inserts

Capacity	ml	1.50	1.50	1.50
o.d. x Height	mm	11.6 x 32	11.6 x 32	11.6 x 32
Colour		clear	clear, labeling field	amber, labeling field
Form		flat bottom	flat bottom	flat bottom
PK		100	1000	100
Cat. No.		**6.242 103**	**7.615 715**	**6.280 951**

LLG-PP Screw Seals ND10

	Caps	Septa	Hardness	Thickness mm	PK	Cat. No.
	black, center hole	Natural Rubber red-orange / TEF transparent	60° shore A	1.30	100	**6.267 111**
	black, closed	Natural Rubber red-orange / TEF transparent	60° shore A	1.30	100	**6.267 112**
	black, center hole	Red rubber / PTFE beige	45° shore A	1.00	100	**6.242 104**
	black, center hole	Silicone white / PTFE beige	45° shore A	1.50	100	**4.008 234**
	black, center hole	Silicone white / PTFE red	45° shore A	1.30	100	**4.008 235**
	black, center hole	Silicone white / PTFE blue, slit	55° shore A	1.50	100	**4.008 237**
	black, center hole	PTFE red / Silicone white / PTFE red	45° shore A	1.00	100	**4.008 236**
	black, center hole (no liner)				100	**4.008 231**

LLG Crimp Neck Vials ND11, small and wide opening (flat bottom)

Capacity	ml	1.50	1.50	1.50	1.50
o.d. x Height	mm	11.6 x 32	11.6 x 32	11.6 x 32	11.6 x 32
Colour		clear	clear	clear, labeling field	amber, labeling field
Form		small opening	wide opening	wide opening	wide opening
PK		100	100	1000	1000
Cat. No.		**7.085 511**	**7.086 520**	**7.608 160**	**7.620 828**

LLG-Micro Crimp Neck Vials ND11

Capacity	ml	1.10	1.10	1.10	1.10	0.20
o.d. x Height	mm	11,6 x 32	11,6 x 32	11,6 x 32	11,6 x 32	11,6 x 32
Colour		clear	clear	clear	amber	amber
Form		flat bottom, 15 µl funnel in solid glass bottom	conical	conical with a round pedestal glass plate	conical with a round pedestal glass plate	flat bottom, with integrated 0.2 mL insert
PK		100	100	100	100	100
Cat. No.		**4.001 565**	**4.001 516**	**4.008 253**	**4.008 254**	**4.008 251**

E & OE.

LLG-Aluminium Crimp Seals ND11, ready assembled

		Caps	Septa	Hardness	Thickness mm	PK	Cat. No.
		aluminium, silver, centre hole	Natural rubber red-orange / TEF transparent	60° shore A	1.30	100	**9.003 441**
		aluminium, silver, centre hole	Natural rubber red-orange / TEF transparent (corresponds to Agilent quality)	60° shore A	1.00	100	**4.008 239**
		aluminium, silver, centre hole	Natural rubber / Butyl red-orange / TEF transparent	45° shore A	1.00	100	**7.060 469**
		aluminium, green, centre hole	Natural rubber / Butyl red-orange / TEF transparent	45° shore A	1.00	100	**4.001 522**
		aluminium, blue, centre hole	Natural rubber / Butyl red-orange / TEF transparent	45° shore A	1.00	100	**6.900 233**
		aluminium, silver, centre hole	Red Rubber / PTFE beige	45° shore A	1.00	100	**4.008 243**
		aluminium, silver, centre hole	Silicone white / PTFE red	45° shore A	1.30	100	**9.003 446**
		aluminium, silver, entre hole	Silicone white / PTFE blue, cross-slit	55° shore A	1.50	100	**4.001 555**
		magnetic, gold, centre hole	Silicone white / PTFE red	45° shore A	1.30	100	**4.001 564**
		aluminium, silver, centre hole	PTFE virginal, white	53° shore D	0.25	100	**4.001 559**
		aluminium, silver, centre hole	PTFE red / Silicone white / PTFE red	45° shore A	1.00	100	**7.050 759**
		aluminium, red, centre hole	Natural rubber / Butyl red-orange / TEF transparent	45° shore A	1.00	100	**7.300 348**
		aluminium, silver, centre hole (no liner)				100	**7.510 176**
		aluminium, gold, centre hole	Natural rubber / Butyl red-orange / TEF transparent	45° shore A	1.00	100	**9.003 459**

LLG-Septa for Crimp Caps ND11

	Septa	Hardness	Thickness mm		PK	Cat. No.
	PTFE virginal, white	53° shore D	0.25		100	**4.001 535**
	Red Rubber / PTFE beige	45° shore A	1.00		100	**4.008 238**
	Silicone white / PTFE red	45° shore A	1.30		100	**7.054 037**
	PTFE red / Silicone white / PTFE red	45° shore A	1.00		100	**6.801 244**

E & OE.

LLG-Aluminium Crimp Seals ND11, ready assembled

Crimp seals ND11 with aluminium septa
Septa made from aluminium are suitable for storing standards or reactive substances that can attack normal septum materials. There is also no risk of contamination of the samples with plasticisers, silicone or butyl rubbers or by PTFE, FEP or TEF components. A ring placed above the aluminium septum achieves an excellent seal on the stopper system.
Properties
- Plain lacquered cap with 5.5 mm hole
- Elastomer- and halogen-free
- Excellent seal tightness thanks to additional ring
- Packaged in plasticiser-free packaging (glass container)

Application areas
- Elastomer and plastomer analysis
- Phthalate analysis
- Analysis of fluorinated/halogenated organic compounds
- VOC analysis (volatile organic compounds)
- Analysis of polymerisation catalysts

		Caps	Septa	Hardness	Thickness mm	PK	Cat. No.
		Aluminium, clear lacquered, center hole	Aluminium liner	-	0.06	100	**6.267 113**
		Aluminium, clear lacquered, center hole	PTFE virginal	53° shore D	0.25	100	**6.267 114**

LLG-2in1 KITs with Crimp Neck Vials ND11 (wide opening)

2in1 KITs contain 100 vials and 100 closures in a blue 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. 2in1 KITs are available for any type of 1.5 ml (32 x 11.6 mm), 4 ml (45 x 14.75 mm) or 20 ml Headspace Vial (75.5 x 23 mm) with an appropriate seal. All advantages of the individual components (cleanroom packaging of the vials, recloseability of the packaging, etc.) remain unchanged.

Any other combination of vial and seal as a 2in1 KIT available.

Description	Cover type	PK	Cat. No.
clear	Natural Rubber red-orange / TEF transparent	100	**6.257 139**
clear	Natural Rubber / Butyl red-orange / TEF transparent	100	**9.003 564**
clear, labelling field	Natural Rubber / Butyl red-orange / TEF transparent	100	**9.003 565**
amber, labelling field	Naturual Rubber red-orange / TEF transparent	100	**9.003 566**
clear	Silicon white / PTFE red	100	**6.238 979**

E & OE.

LLG-Snap Ring Vials ND11, wide opening and Micro-Inserts

As an alternative to snap ring seals, snap ring vials and micro-vials ND11 can also be sealed with crimp seals ND11 since the two snap ring lips have the same height as a crimp neck.

Capacity	ml	1.50	1.50	1.50	0.30	0.30
o.d. x Height	mm	11.6 x 32	11.6 x 32	11.6 x 32	11.6 x 32	11.6 x 32
Colour		clear	clear,	amber,	clear	clear, PP
Form		flat bottom	labeling field flat bottom	labeling field flat bottom	flat bottom, integrated 0.3 mL insert	flat bottom, integrated 0.3 mL insert
PK		100	100	100	100	100
Cat. No.		**6.073 833**	**6.270 176**	**6.270 177**	**4.008 255**	**6.267 115**

LLG-PE Snap Ring Seals ND11, ready assembled

	Caps	Septa	Hardness	Thickness mm	PK	Cat. No.
	transparent, PE centre hole	Naturual Rubber red-orange / TEF transparent	60° shore A	1.00	100	**6.267 116**
	transparent, centre hole	Red Rubber / PTFE beige	45° shore A	1.00	100	**4.008 261**
	blue, centre hole	Red Rubber / PTFE beige	45° shore A	1.00	100	**4.008 257**
	transparent, centre hole	Silicone white / PTFE red	45° shore A	1.30	100	**4.001 544**
	blue, centre hole	Silicone white / PTFE red	45° shore A	1.30	100	**4.008 258**
	transparent, centre hole	Silicone white / PTFE blue, cross-slit	55° shore A	1.00	100	**4.008 256**
	snap ring cap, blue, centre hole	Silicone white / PTFE blue, cross-slit	55° shore A	1.00	100	**6.242 212**
	transparent, centre hole	PTFE red / Silicone white / PTFE red	45° shore A	1.00	100	**6.073 555**
	blue, centre hole	PTFE red / Silicone white / PTFE red	45° shore A	1.00	100	**4.008 259**

LLG Crimp neck vials ND13

Capacity	ml	1.00	2.00	2.00	2.00	4.00
o.d. x Height	mm	11 x 40	11 x 43	16 x 32	32 x 16	14,7 x 45
Colour		clear	clear	clear	clear	clear
Form		conical	flat bottom	flat bottom	flat bottom	flat bottom
PK		100	100	1000	100	1000
Cat. No.		**4.001 530**	**7.080 866**	**6.228 969**	**9.003 422**	**9.003 535**

E & OE.

LLG-Aluminium Crimp Seals ND13, ready assembled and empty Crimp Caps ND13

	Caps	Septa	Hardness	Thickness mm	PK	Cat. No.
	aluminium crimp cap, silver, centre hole	Pharma-Fix-Septa (Butyl/PTFE)	50° shore A	2.00	100	**7.060 475**
	aluminium centre tear off cap, silver	Butyl dark grey / Pharma-Fix-Septa (Butyl/PTFE)	50° shore A	2.00	100	**9.003 442**
	aluminium complete tear off cap, silver	Butyl dark grey Pharma-Fix-Septa (Butyl/PTFE)	50° shore A	2.00	1000	**9.003 548**
	aluminium crimp cap, silver, entre hole (no liner)				100	**6.801 727**

LLG-Screw Neck Vials and appropriate Micro-Insert

Capacity	ml	4.00	4.00	4.00	4.00	0.30	
o.d. x Height	mm	14.7 x 45	14.7 x 45	14.7 x 45	14.7 x 45	6 x 40	7.5 x 50
Colour		clear	clear, labelling field	amber	amber, labelling field	clear	
Form		flat bottom	flat bottom	flat bottom	flat bottom	conical, metal spring necessary (6.267 118)	metal spring
PK		100	100	100	1000	100	100
Cat. No.		**9.003 482**	**6.267 117**	**7.058 142**	**9.003 549**	**7.055 486**	**6.267 118**

E & OE.
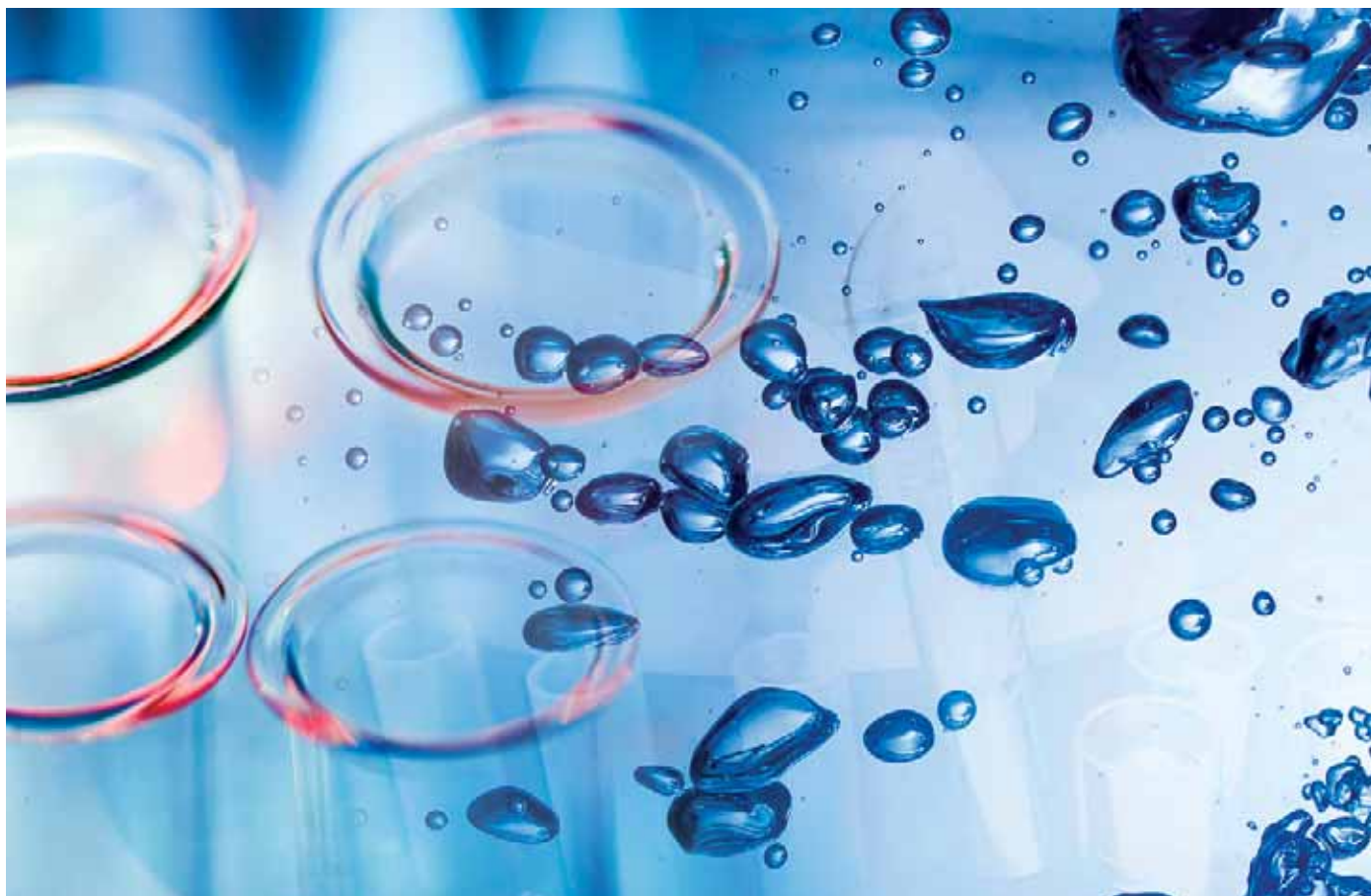
LLG-PP Screw Seals ND13, ready assembled and empty Screw Caps ND13

		Caps	Septa	Hardness	Thickness mm	PK	Cat. No.
		black, closed top	Butyl red / PTFE grey	55° shore A	1.30	1000	**6.240 135**
		black, centre hole	Red Rubber / PTFE beige	45° shore A	1.00	100	**6.242 468**
		black, closed top	Red Rubber / PTFE beige	45° shore A	1.00	100	**4.008 267**
		black, centre hole	Silicone creme / PTFE red	55° shore A	1.50	100	**7.510 053**
		black, closed top	Silicone creme / PTFE red	55° shore A	1.50	100	**6.242 267**
		black, centre hole	Silicone white / PTFE blue, cross-slitted	55° shore A	1.50	100	**6.267 119**
		black, centre hole	PTFE red / Silicone white / PTFE red	45° shore A	1.00	100	**6.267 120**
		black, centre hole				100	**7.071 151**
		black, closed top				100	**7.060 437**

LLG-Septa for Screw Caps ND13

	Septa	Hardness	Thickness mm		PK	Cat. No.
	Butyl red / PTFE grey	55° shore A	1.30		1000	**9.003 536**
	Red Rubber / PTFE beige	45° shore A	1.00		100	**4.008 264**
	Silicone creme / PTFE red	55° shore A	1.50		100	**4.008 263**
	PTFE virginal, white	53° shore D	0.25		100	**7.058 143**

LLG-Screw Neck Vials for Storage Purposes ND 15, ND 18

Capacity	ml	8.00	12.00	16.00
o.d. x Height	mm	16,6 x 61	18,5 x 66	20,6 x 71
Colour		clear	clear	clear
Form		ND15, flat bottom	ND15, flat bottom	ND18, flat bottom
PK		100	100	100
Cat. No.		**6.280 953**	**6.280 952**	**6.280 954**

E & OE.

LLG-Screw Seals for Screw Neck Vials ND 15, ND 18

		Caps	Septa	Hardness	Thickness mm	PK	Cat. No.
		ND15 cap, black, closed top	Butyl red / PTFE grey	55° shore A	1.60	1000	**7.616 653**
		ND18 cap, black, closed top	Butyl red / PTFE grey	55° shore A	1.60	1000	**7.910 125**

LLG-Replacement Septa for Screw Caps ND15, ND18

	Description	Hardness	Thickness mm		PK	Cat. No.
	ND15, Butyl red / PTFE grey	55° shore A	1.60		1000	**9.003 537**
	ND18, Butyl red / PTFE grey	55° shore A	1.60		1000	**9.003 538**

LLG-Shell Vials with PE cap (fire-polished neck) ND8, ND12, ND15

Capacity	ml	1.00	1.00	1.00	2.00	2.00	4.00	4.00
o.d. x Height	mm	7,8 x 35	8,2 x 40	8,2 x 40	11,6 x 31,5	11,6 x 31,5	14,65 x 44,60	14,65 x 44,60
Colour		clear	clear	amber	clear	amber	clear	amber
Form		ND8, flat bottom	ND8, flat bottom	ND8, flat bottom	ND12, flat bottom	ND12, flat bottom	ND15, flat bottom	ND15, flat bottom
PK		1000	100	100	100	1000	100	1000
Cat. No.		**7.612 017**	**7.300 174**	**4.008 205**	**4.008 248**	**6.226 501**	**6.280 950**	**6.227 544**

LLG Plugs, PE

	For	PK	Cat. No.
	ND8	100	**7.300 175**
	ND12	100	**4.008 265**
	ND15	1000	**9.003 540**

LLG-Snap Cap Vials ND18 and ND22, without lid

Capacity	ml	5.00	10.00	15.00	25.00
o.d. x Height	mm	20 x 40	22 x 50	26 x 48	26 x 65
Colour		clear	clear	clear	clear
Form		ND18, flat bottom	ND18, flat bottom	ND22, flat bottom	ND22, flat bottom
PK		100	100	100	100
Cat. No.		**7.051 404**	**6.803 717**	**4.008 282**	**7.090 616**

E & OE.

LLG-Snap Caps, PE, ND18 and ND22

	For	PK	Cat. No.
	ND18	100	**6.051 403**
	ND22	100	**7.090 617**

LLG-Headspace Precision Thread Vials ND18

Capacity	ml	10.00	10.00	20.00	20.00
o.d. x Height	mm	22,5 x 46	22,5 x 46	22,5 x 75,5	22,5 x 75,5
Colour		clear	amber	clear	amber
Form		rounded bottom	rounded bottom	rounded bottom	rounded bottom
PK		100	1000	100	1000
Cat. No.		**9.003 466**	**6.227 874**	**4.008 270**	**6.237 909**

LLG-Magnetic Universal Screw Seals ND18 for Precision Thread Vials ND18

	Caps	Septa	Hardness	Thickness mm	PK	Cat. No.
	silver, center hole	Butyl red / PTFE grey	55° shore A	1.60	100	**4.008 269**
	silver, center hole	Silicone blue transparent / PTFE white	45° shore A	1.30	100	**6.241 111**
	silver, center hole	Silicone white / PTFE blue	55° shore A	1.50	100	**4.008 268**
	silver, without hole	Butyl red / PTFE grey	55° shore A	1.60	100	**6.262 513**
	silver, without hole	Silicone white / PTFE red UltraClean	45° shore A	1.30	100	**6.267 122**

LLG-Headspace Vials ND20 (5ml and 10ml)

Capacity	ml	5.00	5.00	6.00	5.00	10.00	10.00	10.00	10.00
o.d. x Height	mm	20 x 38	20 x 38	22 x 38,20	21,7 x 38,20	20,0 x 54,5	20,0 x 54,5	22,5 x 46	22,5 x 46
Colour		clear	amber	clear	clear	clear	amber	clear	clear
Form		flat bottom flat DIN crimp neck	flat bottom flat DIN crimp neck	rounded bottom bevelled HS crimp neck	flat bottom bevelled HS crimp neck	flat bottom flat DIN crimp neck	flat bottom flat DIN crimp neck	flat bottom flat DIN crimp neck	rounded bottom bevelled HS crimp neck
For		Varian	Varian	Perkin Elmer	Metrohm	Varian	Varian	DANI, Agilent	CTC, Varian
PK		100	100	100	100	100	100	100	100
Cat. No.		**9.003 425**	**7.060 457**	**7.052 186**	**4.008 285**	**9.003 426**	**7.080 947**	**7.050 285**	**7.850 009**

LLG Headspace Vials ND20 (20ml and 50 ml)

Capacity	ml	20.00	20.00	20.00	20.00	20.00	20.00	50.00
o.d. x Height	mm	23.25 x 75.5	23.25 x 75.5	22.5 x 75.5	22.5 x 75.5	23 x 75.5	23 x 75.5	31 x 101
Colour		clear	amber	clear	clear	clear	clear,	clear
Form		flat bottom	flat bottom	flat bottom	rounded bottom	rounded	with label	flat bottom
		flat DIN crimp	flat DIN crimp	flat DIN crimp	flat DIN crimp	bottom	rounded	flat DIN crimp
		neck	neck	neck	neck	bevelled HS	bottom	neck
						crimp neck	bevelled HS	
							crimp neck	
For				DANI, Agilent	CTC, Varian	PerkinElmer	PerkinElmer	
PK		100	100	100	100	100	100	100
Cat. No.		**7.401 840**	**7.080 450**	**9.003 452**	**9.003 453**	**7.060 463**	**4.008 281**	**7.060 459**

LLG-Crimp Seals ND20, Aluminium, ready assembled

	Caps	Septa	Hardness	Thickness mm	PK	Cat. No.
	silver, center hole	Butyl red / PTFE grey	50° shore A	3.00	100	**9.003 454**
	silver, center hole	Butyl grey / PTFE grey	50° shore A	3.00	100	**4.001 549**
	silver, center hole	Pharma-Fix-Septa Butyl/PTFE	50° shore A	3.00	100	**9.003 430**
	gold, center hole	Pharma-Fix-Septa Butyl/PTFE	50° shore A	3.00	100	**4.008 275**
	silver, center hole	Silicone blue / PTFE colourless	45° shore A	3.00	100	**9.003 434**
	silver, center hole	Silicone white / PTFE beige	45° shore A	3.20	100	**9.003 460**
	silver, center hole				100	**7.060 477**

LLG-Crimp Seals ND20 (Center Tead Off Caps), Aluminium, ready assembled

	Caps	Septa	Hardness	Thickness mm	PK	Cat. No.
	gold	Pharma-Fix-Septa Butyl/PTFE	50° shore A	3.00	100	**9.003 445**
	silver	Butyl stopper, grey only unassembled	37° shore A		100	**7.087 863**

E & OE.

LLG-Headspace Seals ND20 (Pressure Release Caps), Aluminium, ready assembled

		Caps	Septa	Hardness	Thickness mm	PK	Cat. No.
		silver, centre hole	Butyl red / PTFE grey	50° shore A	3.00	100	**9.003 455**
		silver, centre hole	Butyl grey / PTFE grey	50° shore A	3.00	100	**4.001 557**
		silver, centre hole	Pharma-Fix-Septa Butyl/PTFE	50° shore A	3.00	100	**4.008 276**
		silver, centre hole	Silicone blue transp. / PTFE transparent	45° shore A	3.00	100	**7.050 286**
		silver, centre hole	Silicone white / PTFE beige	45° shore A	3.20	100	**9.003 456**
		silver, entre hole (no liner)				100	**4.008 271**

LLG-Crimp Seals ND20 (Complete Tear Off Caps), Aluminium, ready assembled

		Caps	Septa	Hardness	Thickness mm	PK	Cat. No.
		silver	Pharma-Fix-Septa Butyl/PTFE	50° shore A	3.00	100	**7.060 471**
		silver	Butyl stopper, grey only unassembled	37° shore A		100	**7.060 479**
		silver (no liner)				100	**7.056 751**

LLG-Bimetal Crimp Seals ND20, ready assembled, magnetic

		Caps	Septa	Hardness	Thickness mm	PK	Cat. No.
		red/silver, centre hole	Butyl grey / PTFE grey	50° shore A	3.00	100	**9.003 457**
		red/silver, centre hole	Silicone blue transp. PTFE transparent	45° shore A	3.00	100	**6.234 541**
		red/silver centre hole	Silicone white / PTFE beige	45° shore A	3.20	100	**9.003 458**
		red/silver, centre hole (no liner)				100	**4.008 272**

LLG-Steel Crimp Seals ND20, ready assembled, magnetic

		Caps	Septa	Hardness	Thickness mm	PK	Cat. No.
		gold, center hole 8 mm	Butyl grey / PTFE grey	50° shore A	3.00	100	**6.229 635**
		gold, center hole 8 mm	Pharma-Fix-Septa Butyl/PTFE	50° shore A	3.00	100	**6.902 419**
		gold, center hole 8 mm	Silicone blue transp./ PTFE transparent	45° shore A	3.00	100	**7.850 010**
		gold, center hole 8 mm (no liner)				100	**7.625 012**

LLG-PE Caps ND20, transparent and appropriate Septa ND19

	Caps	Septa	Thickness mm	Hardness	PK	Cat. No.
	PE cap, transparent 22.00 x 8.40 mm for HS crimp neck 4.3mm centre hole	Natural rubber red-orange/ TEF transparent	1.30	60° shore A	1000	**9.003 543**
	PE cap, transparent 22.00 x 9.10 mm for DIN crimp neck 4.3mm centre hole	Natural rubber red-orange/ TEF transparent	1.30	60° shore A	1000	**6.234 902**
	PE cap, transparent 22.00 x 8.40 mm for HS crimp neck 4.3mm centre hole	Butyl red / PTFE grey	1.30	55° shore A	1000	**9.003 544**
	PE cap, transparent 22.00 x 9.10 mm for DIN crimp neck 4.3mm centre hole	Butyl red / PTFE grey	1.30	55° shore A	1000	**9.003 545**
	height 8.4 mm, for HS crimp neck, 4.3mm centre hole (no liner)				100	**6.227 768**
	height 9.1 mm, for DIN crimp neck, 4.3 mm centre hole (no liner)				100	**7.052 184**
		Butyl red / PTFE grey	1.30	55° shore A	100	**7.060 425**
		Natural rubber red-orange / TEF transparent	1.30	45° shore A	100	**7.051 039**

LLG-Septa for Crimp Caps ND20

	Septa	Hardness	Thickness mm		PK	Cat. No.
	Butyl red / PTFE grey	50° shore A	3.00		100	**7.060 427**
	Butyl grey / PTFE grey	50° shore A	3.00		100	**4.008 273**
	Pharma-Fix-Septa Butyl/PTFE	50° shore A	3.00		100	**7.071 063**
	Silicone blue transp. PTFE transparent	45° shore A	3.00		100	**4.008 274**
	Silicone white / PTFE beige	45° shore A	3.20		100	**7.050 202**
	Silicone white / Aluminium foil silver	50° shore A	3.00		100	**4.001 550**

LLG Stoppers ND20

	Description	PK	Cat. No.
	butyl grey	100	**7.060 433**
	bromine butyl red	100	**6.900 963**

1 LLG-Crimp Neck Vial ND20

100 mL crimp neck vial, 51.6 x 94.5 mm, clear, flat bottom, flat DIN crimp neck

Description	PK	Cat. No.
Vials only	88	**6.231 858**
Vials only	60	**7.060 465**

E & OE.

LLG-Screw Neck Vials ND24 (EPA Vials)

Capacity	ml	20.00	20.00	30.00	30.00	40.00	40.00	60.00	60.00
o.d. x Height	mm	27.5 x 57	27.5 x 57	27.5 x 72.5	27.5 x 72.5	27.5 x 95	27.5 x 95	27.5 x 140	27.5 x 140
Colour		clear	amber	clear	amber	clear	amber	clear	amber
Form		flat bottom	flat bottom	flat bottom	flat bottom	flat bottom	flat bottom	flat bottom	flat bottom
PK		100	100	100	100	100	100	100	100
Cat. No.		**4.008 204**	**4.008 298**	**6.267 124**	**6.267 125**	**4.008 297**	**4.008 299**	**6.267 126**	**6.267 127**

LLG-PP Screw Seals ND24 (UltraBond Seals and ready assembled Seals ND24), PP Screw Caps ND24 (empty) and Septa ND22

	Caps	Septa	Hardness	Thickness mm	PK	Cat. No.
	white, perforated	Butyl red / PTFE gray (mounted)	55° shore A	2.50	1000	**7.633 064**
	white, closed	Butyl red / PTFE gray (mounted)	55° shore A	2.50	1000	**7.615 156**
	Ultrabond*, white, center hole	Silicone white / PTFE beige	45° shore A	3.20	100	**4.008 293**
	Ultrabond*, white, closed top	Silicone white / PTFE beige	45° shore A	3.20	100	**4.008 292**
	white, perforated	Silicone white / PTFE beige (mounted)	45° shore A	3.20	1000	**6.233 339**
	white, closed	Silicone white / PTFE beige (mounted)	45° shore A	3.20	1000	**9.003 541**
	white, center hole	no liner			100	**4.008 295**
	white, closed top	no liner			100	**4.008 296**
		Silicone white / PTFE beige	45° shore A	3.20	100	**4.008 291**
		Butyl red / PTFE gray	55° shore A	2.50	1000	**9.003 542**
	Ultrabond*, white, center hole	Red Rubber / PTFE beige	45° shore A	2.50	100	**4.008 294**

*Cap+Liner form an inseparable unit, so that the liner cannot be pushed into the vial even with a blunt needle

1 LLG-Crimping Tools ND8/ND11/ND13/ND20

Stainless steel crimping Tools ND11, ND13, ND20. Crimping tools for cleanroom use are also available on request.

Description	Size	PK	Cat. No.
Manual crimper for 8 mm aluminium caps	ND8	1	**9.003 470**
Manual decapper for 8 mm aluminium caps	ND8	1	**9.003 511**
Manual crimper, height adjustable, for 11 mm aluminium crimp caps	ND11	1	**9.003 471**
Manual decapper for 11 mm aluminium crimp caps	ND11	1	**9.003 367**
Manual crimper, height adjustable, for 13 mm aluminium crimp caps	ND13	1	**9.003 473**
Manual crimper, height adjustable, for 13 mm flip top/flip off caps	ND13	1	**4.008 266**
Manual decapper for 13 mm aluminium crimp caps	ND13	1	**9.003 368**
Manual crimper, height adjustable, for 20mm aluminium crimp caps	ND20	1	**9.003 475**
Manual crimper, height adjustable, for 20mm flip top/flip off caps	ND20	1	**4.008 278**
Manual decapper for 20mm aluminium crimp caps	ND20	1	**9.003 369**

7.970 861

3 LLG-Rack for Vials, PP

For all 1.5 and 2 ml vials. For up to 50 vials, blue, stackable.

For vials	Dimensions (W x D x H)	PK	Cat. No.
ml	mm		
1.5	200 x 105 x 17	1	**7.970 861**
4.0	230 x 117 x 28	1	**6.280 873**

9.405 750

LLG-Storage Boxes, PP

9.405 750-751-753-754-756: With alphanumeric coding on the edge and the bottom of each cavity. Suitable for storage in the fridge.

Dimensions (l x w x h)	Colour	Array	For	Bottle size	PK	Cat. No.
mm				ml		
130 x 130 x 45	blue	9 x 9	ND8, 9, 10, 11	1.5 / 2.0	1	**9.405 750**
130 x 130 x 45	orange	9 x 9	ND8, 9, 10, 11	1.5 / 2.0	1	**9.405 751**
130 x 130 x 45	yellow	9 x 9	ND8, 9, 10, 11	1.5 / 2.0	1	**9.405 753**
130 x 130 x 45	green	9 x 9	ND8, 9, 10, 11	1.5 / 2.0	1	**9.405 754**
130 x 130 x 52	red	7 x 7	ND13	4.0	1	**9.405 756**
130 x 130 x 102	blue	5 x 5	ND20	5 / 10 / 20	1	**4.001 528**
67 x 67	neon-green	4 x 4	ND8, 9, 10, 11	1.5 / 2.0	1	**9.405 760**
67 x 67	neon-pink	4 x 4	ND8, 9, 10, 11	1.5 / 2.0	1	**9.405 761**
67 x 67	blue	4 x 4	ND8, 9, 10, 11	1.5 / 2.0	1	**9.405 762**

E & OE.

1   NMR tubes, 3 and 5 mm borosilicate glass 3.3, standard

The NMR tubes have precise tolerances for consistent high accuracy. Most suitable for autosampling NMR systems and high-throughput NMR.
- Borosilicate glass 3.3
- Economy quality
- One end closed, rim fire polished
- Applicable until 600 MHz
Please order closing caps separately.

Outer diam. mm	Int. diam. mm	Wall thickness mm	Length mm	PK	Cat. No.
2.95 ± 0.03	2.36 ± 0.03	0.29	178	50	**6.281 792**
2.95 ± 0.03	2.36 ± 0.03	0.29	203	50	**6.281 793**
4.95 ±0.05	4.19 ±0.05	0.38	178	100	**9.400 310**
4.95 ±0.05	4.19 ±0.05	0.38	203	100	**9.400 311**

2   Closing caps for 3 and 5 mm NMR tubes

Description	Colour	PK	Cat. No.
NMR closing caps for 3 mm tubes	red	50	**6.282 148**
NMR closing caps for 3 mm tubes	green	50	**6.282 149**
NMR closing caps for 3 mm tubes	yellow	50	**6.282 150**
NMR closing caps for 3 mm tubes	blue	50	**6.282 151**
NMR closing caps for 5 mm tubes	red	100	**9.400 312**
NMR closing caps for 5 mm tubes	green	100	**9.400 313**
NMR closing caps for 5 mm tubes	yellow	100	**9.400 314**
NMR closing caps for 5 mm tubes	black	100	**9.400 315**
NMR closing caps for 5 mm tubes	blue	100	**9.400 316**

3   NMR Tube Rack, polypropylene

Polypropylene rack with carrying handles features an upper deck with holes and a lower deck support for tube ends. Stackable.
For 72 tubes with 3 or 5 mm diameter. Dimensions: 213 x 115 x 222 mm (L x W x H)

Type	PK	Cat. No.
NMR Tube Rack	1	**9.301 065**

E & OE.
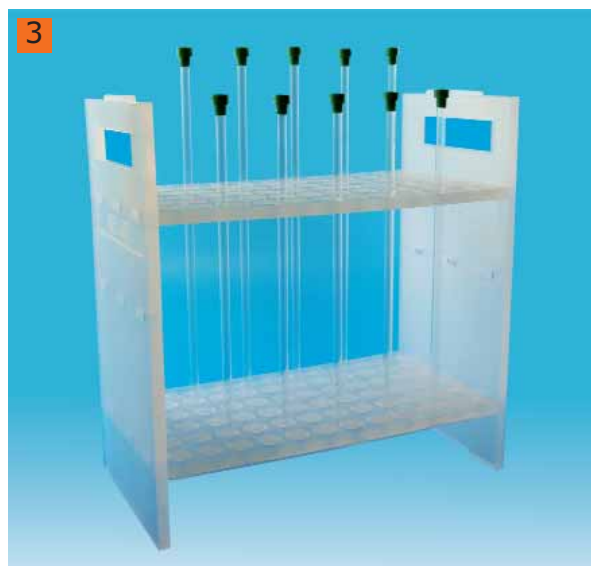
1 Chromatographic columns with Frit, PTFE- /or Valve Stopcock

Chromatography columns with socket and with frit.
Manufactured from borosilicate glass 3.3 which is resistant to heat and almost all chemicals.
NS necks are in compliance with DIN 12242 standards.

Length	Int. diam.	Capacity	Description	PK	Cat. No.
mm	mm	ml			
200	10	15	without frit NS 14/23	1	**4.008 398**
400	20	125	without frit NS 29/32	1	**4.008 399**
600	30	430	without frit NS 29/32	1	**4.008 400**
200	10	15	with frit (P=0) NS 14/23	1	**4.008 401**
300	10	25	with frit (P=0) NS 14/23	1	**4.008 402**
200	15	35	with frit (P=0) NS 14/23	1	**4.008 403**

2 Glass wool

Extra fine. In packs as outlined below.

Capacity	PK	Cat. No.
g		
30	1	**9.114 303**
1000	1	**9.114 310**

3 Quartz wool

Silica. Fibre thickness 4 µm to 12 µm.

Capacity	PK	Cat. No.
g		
500	1	**9.114 331**

E & OE.

For your notes

LLG
LABWARE®
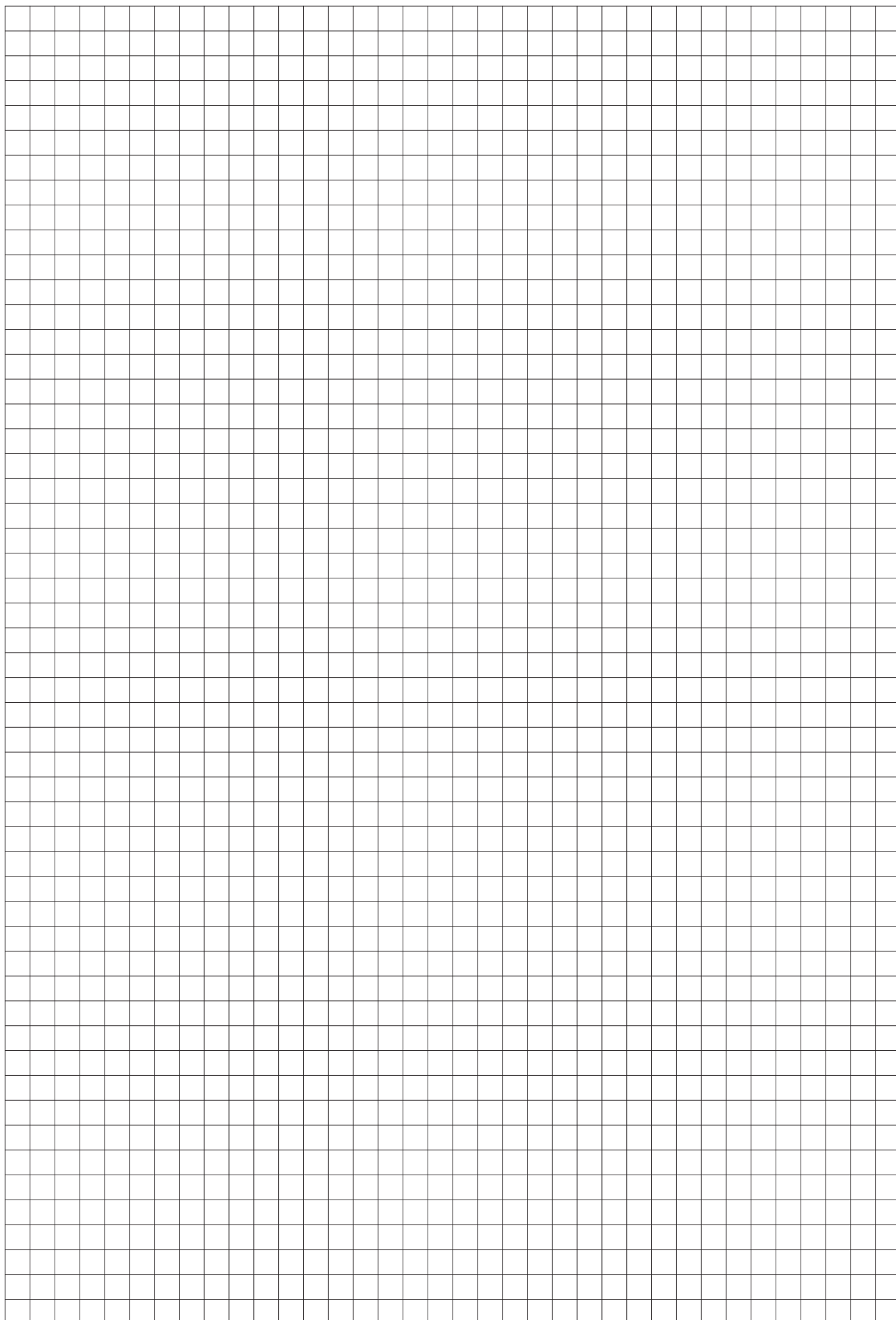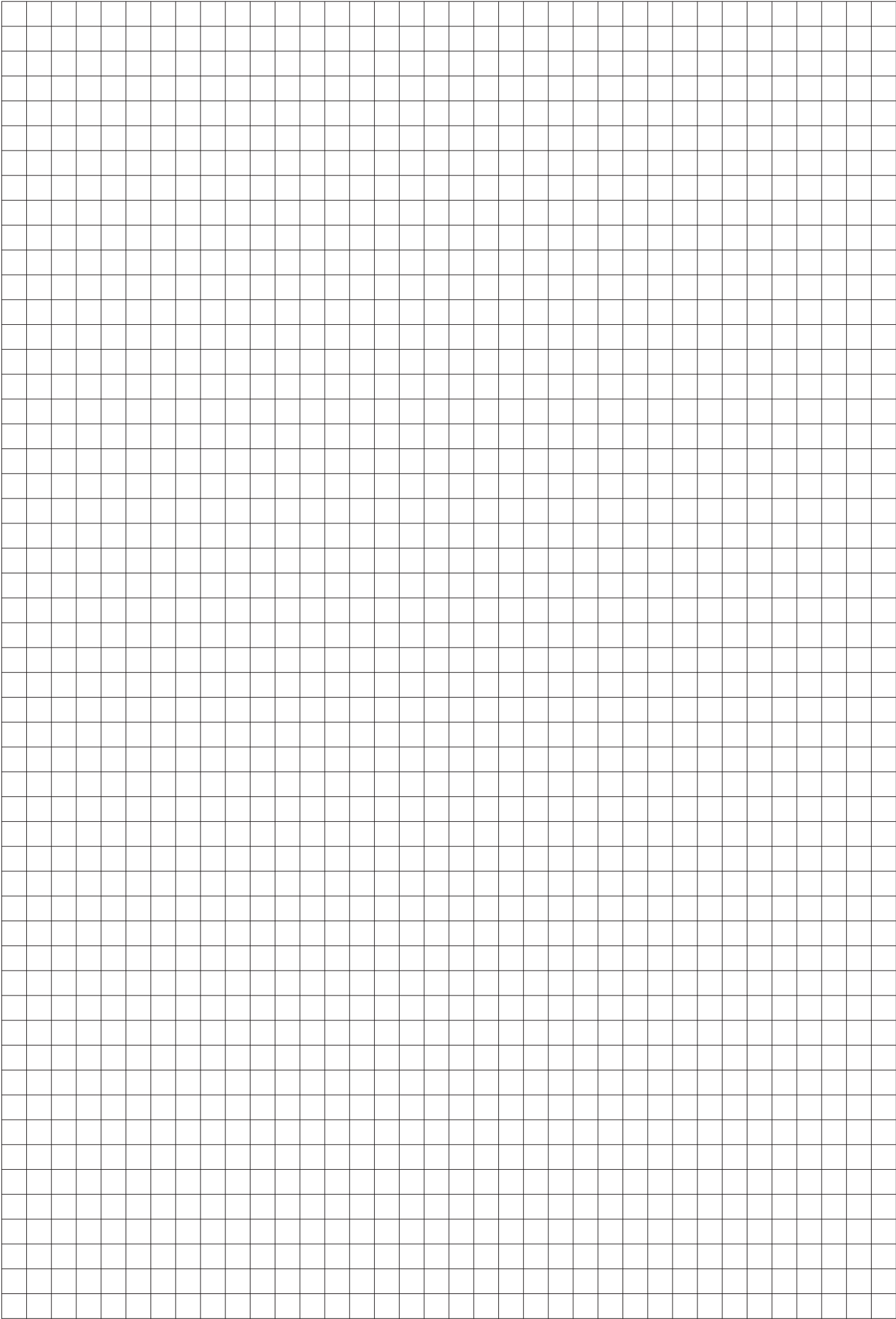
Great Quality! Excellent Value!

Page 134

Page 136

Page 18

Page 33
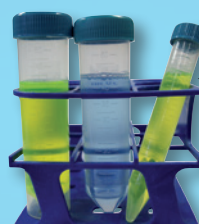
Page 78

Page 56

Page 183

Page 113

Page 97

Page 57

Page 96

Page 58

Page 151

Page 91

Page 97

Lab Unlimited
CARL STUART GROUP
A CALIBRE SCIENTIFIC COMPANY

Carl Stuart UK Limited
Calibre Scientific UK
Unit 5A, R-Evolution @
The Advanced Manufacturing Park
Selden Way, Rotherham, S60 5XA
United Kingdom

Phone: 08452 30 40 30
Fax: 08452 30 50 30
E-mail: onlinestore@labunlimited.co.uk
Web: www.labunlimited.co.uk

LLG®
LABWARE