

Lenz Laborglas GmbH & Co. KG

Am Ried 8 | 97877 Wertheim | Germany

Telefon +49 (0) 93 42-96 09-0

Fax +49 (0) 93 42-96 09-30

info@lenz-laborglas.de

www.lenz-laborglas.de



Lenz® – The Specialist for Ground Joints

The Lenz® range of laboratory glassware

- Ground joints
- Stopcocks
- Flasks
- Separating/dropping funnels, chromatography
- Components and condensers
- Extractors
- General laboratory accessories
- Water stills
- Reaction vessels and accessories



1 Distillation adapters (plain bends), ground glass joint

Made of DURAN® tubing.
With socket and outlet tube angled at 105°, 12mm diameter.

Lenz

Length*	Socket	PK	Cat. No.
	NS		
65	29/32	1	9.012 603
200	29/32	1	9.012 606

* Outlet tube length (mm)

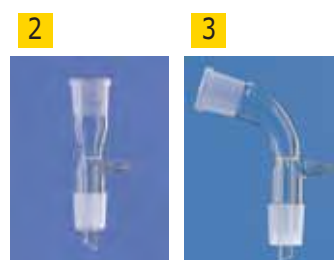


2 3 Receiver adapters

Made of DURAN® tubing. With vent/vacuum connection. Straight or angled (105°), with nozzle.

Lenz

Socket	Cone	Form	PK	Cat. No.
NS	NS			
14/23	14/23	straight	1	9.012 611
14/23	14/23	angled	1	9.012 613
29/32	29/32	straight	1	9.012 621
29/32	29/32	angled	1	9.012 623



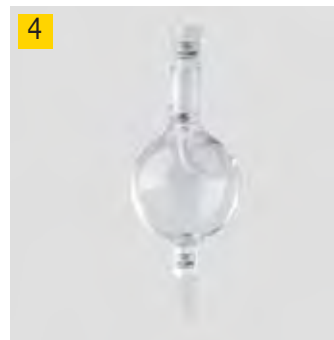
4 Splash head adapter, ground glass joint

Borosilicate glass 3.3 which is resistant to heat and almost all chemicals. Suitable to be used in distillation assemblies to prevent raw liquid step over from flask to condenser.

NEW!

Isolab

Socket	Cone	Description	PK	Cat. No.
NS	NS			
14/23	14/23	straight	1	4.008 373
29/32	29/32	straight	1	4.008 374



We can supply this
manufacturer's
whole
product range !

partner of the
LLG
Lab Logistics Group

Lenz
Laborglas GmbH & Co. KG

**1 2** Splash head adapter, ground glass joint

Made of DURAN® tubing.

Two versions available:

- straight, with cone and socket
- bent with two cones at 75°.

Splash heads are directly placed onto distillation flasks for separation of drops.

Lenz

Socket	Cone	Description	PK	Cat. No.
NS	NS			
29/32	29/32	straight	1	9.012 193
29/32	29/32	bent	1	9.012 138

**3** Stillheads, plain, ground cone joints

Made of DURAN® tubing. DIN 12594. Medium neck. Inlet (flask) cone with thermometer socket and 75° angled outlet (condenser) cone.

Lenz

Socket	Cone	PK	Cat. No.
NS	NS		
14/23	29/32	1	9.012 173

**4** Adapters, ground glass joint, multiple, 2 neck

Made of DURAN® tubing. Side neck parallel with centre neck. 2 x sockets 1 x cone.

Lenz

Socket	Cone	PK	Cat. No.
NS	NS		
14/23	14/23	1	9.012 121
29/32	29/32	1	9.012 123

**5** Stillheads, ground glass joint, Claisen type, sloping

Made of DURAN® tubing. DIN 12594. Claisen type, sloping. Stillhead with central and parallel side necks and vapour outlet cone at 75°. 2 x sockets NS 14/23, 2 x cones, for distillation thermometers of 55mm built-in length.

Lenz

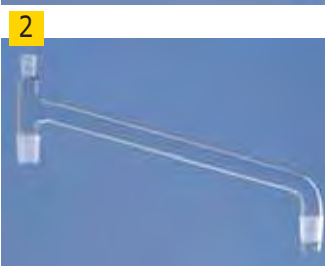
Socket	Cone	PK	Cat. No.
NS	NS		
14/23	29/32	1	9.012 183

1 2 Distilling Links

Made of DURAN® tubing. Distilling links without condenser, with two vertical cones. With, or without NS14/23 socket for distillation thermometers, 55mm immersion.

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Socket	Cone	Length	PK	Cat. No.
NS	NS	mm		
-	29/32	350	1	9.012 203
14/23	29/32	350	1	9.012 213



3 Stillheads, ground glass joint, with integral liebig condenser

Made of DURAN® tubing. DIN 12596. With Liebig condenser at 75° and vertical outlet with vacuum connection.

Lenz

Socket	Cone	Effective length	PK	Cat. No.
NS	NS	mm		
14/23	29/32	250	1	9.012 266
14/23	29/32	400	1	9.012 268



4 Distillation assemblies

Made of DURAN® tubing. Claisen-type. To DIN 12596. With Liebig condenser, angled 75° and vertical outlet with vacuum adapter.

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Socket	Cone	Effective length	PK	Cat. No.
NS	NS	mm		
14/23	14/23	160	1	9.012 271
14/23	29/32	250	1	9.012 276



5 Distillation assemblies Claisen-type

Made of DURAN® tubing. DIN 12596. With Liebig condenser and NS cone outlet.

Lenz

Socket	Cone	Effective length	PK	Cat. No.
NS	NS	mm		
14/23	14/23	250	1	9.012 282
14/23	29/32	250	1	9.012 285



6 Delivery Adapters, Angled

Made of Duran® tubing.

Lenz

NS	PK	Cat. No.
24/29	1	6.204 509
14/23	1	9.012 625
29/32	1	9.012 626



7 Condensers, ground glass joint, Dimroth

Borosilicate glass 3.3 which is resistant to heat and almost all chemicals and they meet the highest quality standards according to DIN 12591. Supplied with polypropylene side arm, which has a screw thread connector for easy and safe fitting of the tubing. The side arms accept tubings with 8/9mm bore size.

Isolab

Description	NS	Effective length	PK	Cat. No.
		mm		
with PP side arm	29/32	300	1	4.008 415
with PP side arm	29/32	400	1	9.012 545


NEW!

1

**1** Condensers, ground glass joint, Dimroth, for soxhlet**NEW!**

Borosilicate glass 3.3 which is resistant to heat and almost all chemicals. They meet the highest quality standards. Supplied with 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.

Isolab

NS	Effective length mm	PK	Cat. No.
45/40	300	1	4.008 416

2

**2** Condensers, ground glass joint, Dimroth

DURAN® tubing. DIN 12591. Socket and cone NS. Water connection by nozzles or GL14 threads with two threaded plastic nozzles.

Lenz

Socket	Cone	Effective length mm	PK	Cat. No.
NS	NS			
14/23	14/23	160	1	9.012 530
29/32	29/32	250	1	9.012 533
29/32	29/32	400	1	9.012 534

3

**3** Condensers, ground glass joint, Dimroth

DURAN® tubing. For extractors and for condensing vapours. With cone. Water connection with thread GL 14, with two threaded plastic nozzles.

Lenz

Cone	Capacity	PK	Cat. No.
NS	ml		
45/40	100 - 250	1	9.043 023
60/46	300 - 500	1	9.043 026
71/51	1000	1	9.043 027

4

**4** Condensers, ground glass joint, Liebig**NEW!**

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.

Isolab

Description	NS	Effective length mm	PK	Cat. No.
with PP side arm	29/32	300	1	4.008 404
with PP side arm	29/32	400	1	4.008 405
with glass side arm	29/32	300	1	6.236 238
with glass side arm	29/32	400	1	6.236 239

5

**5** Condensers, ground glass joint, Liebig

DURAN® tubing. DIN 12576 with nozzle or GL14 thread. Water connection, tubing nozzle or GL14 thread, with two threaded, plastic, tubing nozzles.

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Socket	Cone	Ext. diam. mm	Int. dia. mm	Effective length mm	PK	Cat. No.
NS	NS					
14/23	14/23	20	12	160	1	9.012 502
19/26	19/26	24	16	160	1	9.012 501
29/32	29/32	24	16	250	1	9.012 505
29/32	29/32	24	16	400	1	9.012 506

1 Condensers, ground glass joint, Allihn

NEW!

Isolab

Borosilicate glass 3.3 which is resistant to heat and almost all chemicals. They meet the highest quality standards according to DIN 12581. 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.



Description	NS	Effective length mm	PK	Cat. No.
with PP side arm	29/32	160	1	4.008 406
with PP side arm	29/32	300	1	4.008 407
with PP side arm	29/32	400	1	4.008 408

2 Condensers, ground glass joint, Allihn

DURAN® tubing. DIN 12581. For condensing vapours. With cone and socket, GL14 threaded water connections with two threaded, plastic, tubing nozzles.

Lenz

Socket	Cone	Bulbs	Ext. diam.	Effective length	PK	Cat. No.
NS	NS		mm	mm		
14/23	14/23	4	30	160	1	9.012 511
19/26	19/26	4	30	160	1	9.012 516
29/32	29/32	5	40	250	1	9.012 517
29/32	29/32	8	40	400	1	9.012 515



3 4 Condensers, ground glass joint, Allihn

NEW!

Duran® tubing DIN 12581. For condensing vapours. With cone, water connection with nozzle or GL 14 thread and two threaded plastic tubing nozzles.

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Cone	Bulbs	Ext. diam.	Effective length	Connection	PK	Cat. No.
NS		mm	mm			
29/32	5	28	160	nozzle	1	6.204 890
45/40	5	40	250	nozzle	1	7.200 489
29/32	5	28	160	thread GL 14	1	6.242 774
45/40	5	40	250	thread GL 14	1	6.224 397





1

1 Spiral condensers

NEW!

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.

Isolab

Description	NS	Effective length mm	PK	Cat. No.
with glass side arm	29/32	160	1	4.008 409
with glass side arm	29/32	300	1	4.008 410
with glass side arm	29/32	400	1	4.008 411
with PP side arm	29/32	160	1	4.008 412
with PP side arm	29/32	300	1	4.008 413
with PP side arm	29/32	400	1	4.008 414



2

2 Spiral condensers

DURAN® tubing. For cooled distillate. Water connections, complete with two GL14 threaded plastic nozzles. External diameter: 40mm

Lenz

Socket	Cone	Effective length mm	PK	Cat. No.
NS	NS			
14/23	14/23	160	1	9.012 522
29/32	29/32	400	1	6.225 557
29/32	29/32	250	1	9.012 523
29/32	29/32	500	1	9.012 524



3

3 Intensive condensers, jacketed coil, ground glass joint

DURAN® tubing. DIN 12593. With jacketed cooling coil. Water connection with nozzle or GL14 thread, with two threaded, plastic, tubing nozzles.

Lenz

Socket	Cone	Effective length mm	PK	Cat. No.
NS	NS			
29/32	29/32	160	1	9.012 542
29/32	29/32	250	1	9.012 543
29/32	29/32	400	1	9.012 544



4

4 Air condensers, ground glass joint

DURAN® tubing. For easily condensable vapours.

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Cone	Length	PK	Cat. No.
NS	mm		
14/23	700	1	9.012 470
29/32	1000	1	9.012 471



6. Distillation, Separation, Filtration

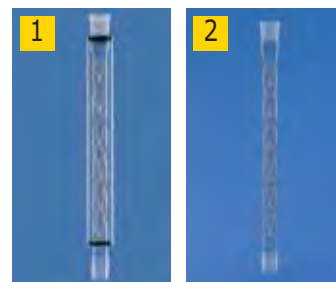
Distillation/Condensers-Jointed glassware

1 2 Columns, ground glass joint, Vigreux

DURAN® tubing. Vigreux type. Cone and socket NS29/32.

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Points	Effective length mm	Length mm	Description	PK	Cat. No.
64	300	450	with sleeve	1	9.012 330
64	300	450	without sleeve	1	9.012 336
124	600	750	without sleeve	1	9.012 337



3 Columns, ground glass joint, Hempel

DURAN® tubing. With packing material support, ground glass cone and socket

Lenz

Socket	Cone	Fill height mm	Tube dia. mm	PK	Cat. No.
NS	NS				
14/23	14/23	300	17.0	1	9.012 321
29/32	29/32	300	32.0	1	9.012 322



4 Flat ground flange reaction vessels, jacketed

Flange with groove in accordance with DIN 12214.

Flask with thermostatic jacket and type "T" 10mm bore PTFE drain valve.

Form

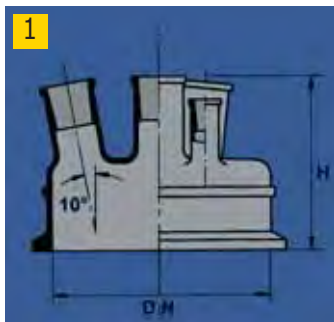
A = cylindrical form

B = short form



Capacity ml	DN mm	Form	Widest A.-Ø mm	Flange dia. mm	Height mm	Fill height mm	PK	Cat. No.
250	100	A	140	138	140	50	1	9.142 037
500	100	A	140	138	165	75	1	9.142 038
1000	100	A	140	138	230	140	1	9.142 039
1000	120	A	160	158	210	110	1	9.142 040
2000	120	A	160	158	300	200	1	9.142 041
3000	120	A	160	158	390	290	1	9.142 042
2000	150	A	200	184	230	130	1	9.142 043
3000	150	A	200	184	295	190	1	9.142 045
4000	150	A	200	184	355	250	1	9.142 046
5000	150	A	200	184	400	300	1	9.142 047
6000	150	A	200	184	450	350	1	9.142 048
6000	150	B	250	184	360	260	1	9.142 049
10000	150	A	200	184	675	575	1	9.142 050
10000	150	B	300	184	450	290	1	9.142 051
15000	150	B	300	184	510	380	1	9.142 052
20000	150	B	300	184	605	400	1	9.142 053
6000	200	A	250	242	320	210	1	9.142 055
10000	200	A	250	242	445	340	1	9.142 056
10000	200	B	300	242	415	290	1	9.142 057
15000	200	B	300	242	510	380	1	9.142 058
20000	200	B	300	242	605	400	1	9.142 059

Further accessories and spare parts available on request.



1 Flat flange lids

Flange in accordance with DIN 12214.

Flange dia.	Central socket	Angled side necks	Parallel side necks	Height	PK	Cat. No.
mm	NS	NS	NS	mm		
100	29	2 x 29	-	125	1	9.142 120
100	29	-	2 x 29	125	1	9.142 121
100	29	2 x 29	1 x 14	125	1	9.142 122
100	29	2 x 29	2 x 29	125	1	9.142 123
100	45	2 x 29	-	150	1	9.142 124
100	45	2 x 29	1 x 14	150	1	9.142 126
100	45	2 x 29	2 x 29	150	1	9.142 127
120	29	2 x 29	-	125	1	9.142 128
120	29	-	2 x 29	125	1	9.142 129
120	29	2 x 29	1 x 14	125	1	9.142 130
120	29	2 x 29	2 x 29	125	1	9.142 131
120	45	2 x 29	-	150	1	9.142 132
120	45	-	2 x 29	150	1	9.142 133
120	45	2 x 29	1 x 14	150	1	9.142 134
120	45	2 x 29	2 x 29	150	1	9.142 135
150	29	2 x 29	-	125	1	9.142 136
150	29	-	2 x 29	125	1	9.142 137
150	29	2 x 29	1 x 14	125	1	9.142 138
150	29	2 x 29	2 x 29	125	1	9.142 139
150	45	2 x 29	-	150	1	9.142 140
150	45	-	2 x 29	150	1	9.142 141
150	45	2 x 29	1 x 14	150	1	9.142 142
150	45	2 x 29	2 x 29	150	1	9.142 143
200	29	2 x 29	-	145	1	9.142 144
200	29	-	2 x 29	145	1	9.142 145
200	29	2 x 29	1 x 14	145	1	9.142 146
200	29	2 x 29	2 x 29	145	1	9.142 147
200	45	2 x 29	-	170	1	9.142 148
200	45	-	2 x 29	170	1	9.142 149
200	45	2 x 29	1 x 14	170	1	9.142 150
200	45	2 x 29	2 x 29	170	1	9.142 151



2 Reaction vessel accessories

PTFE drain valves, complete:

Model "T" (Standard for vessels with NW 100 to NW 200 flanges):

PTFE, 10mm bore drain valve with no dead volume, key plug that seals on the base of the vessel, with maximum opening 35mm, self-adjusting, centring hub, visible wear indication and integral glass angled outlet. For standard applications with liquids of different viscosity.

Model "H"

generally as Model "T", but with 20mm bore and max. opening 70mm.

Model "H/PT 100"

generally as Model "H", but with integral Pt100 sensor to enable easy measurement of sump temperature.

Type	PK	Cat. No.
Model "T"	1	9.142 001
Model "H"	1	9.142 002
Model "H/Pt 100"	1	9.142 003

Further accessories and spare parts available on request.



3 Reaction flasks, flat flange DURAN®

Flanged neck with groove for vacuum use. 500ml and 1000ml vessels are completely cylindrical. Capacities indicated are brim-full volumes. Glass Type I/neutral glass as per USP, EP and JP. Autoclavable.

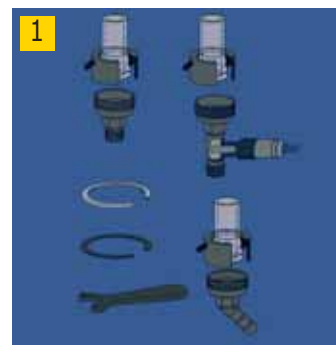
DURAN Group

Capacity	DN	Capacity	Flange dia.	Body dia.	Height	Pressure	PK	Cat. No.
ml		ml	mm	mm	mm	bar		
500	100	740	138	106	120	1.5 *	1	9.142 044
1000	100	1395	138	106	205	1.5 *	1	9.142 054
2000	100	2620	138	140	270	1.5 *	1	9.142 063
4000	150	5765	184	200	290	1.0 *	1	9.142 071
6000	150	7320	184	215	320	1.0 *	1	9.142 076

* Maximum permissible operating pressure measured at 250°C.

1 Tubing adapters for heating and cooling connection

For metal or standard tubing connectors with secure, quick attachment/release, using spring insert technology.



Type	PK	Cat. No.
For DN 15, M 16 x 1 thread	1	9.142 004
For DN 15, M 24 x 1.5 thread	1	9.142 005
For DN 15, M 16 with integral Pt100	1	9.142 006
For DN 15, D11 olive-shaped connection	1	9.142 007
For DN 15, D13 olive-shaped connection	1	9.142 008
PTFE comb seal DN 15	1	9.142 009
Graphited flat seal for temperatures above +150°C	1	9.142 010
Pin spanner for DN 15 metal adapter to ensure secure mounting	1	9.142 011

2 Flat flange beakers DURAN®

Flanged neck with groove for vacuum use. Maximum 0.5bar working pressure at 250°C. Capacities indicated are brim-full volumes. We recommend that these beakers are heated in water or oil baths. Glass Type I/neutral glass as per USP, EP and JP. Autoclavable.

DURAN Group

Flange diameter: 158mm
Beaker diameter: 130mm

Capacity ml	DN	Capacity ml	Height mm	PK	Cat. No.
1000	120	1360	125	1	9.142 271
2000	120	2200	200	1	9.142 272
3000	120	3220	290	1	9.142 273



3 Flat ground flange lids DURAN®

With four ground joint necks as outlined below. Centre neck NS 29/32. 1bar max. operating pressure at 250°C. Glass Type I/neutral glass as per USP, EP and JP. Autoclavable.

DURAN Group

DN	Flange dia.	Height	Side necks	PK	Cat. No.
	mm	mm	NS		
100	138	125	3 x 29/32 angled	1	9.142 246
100	138	105	2 x 29/32 angled, 1 x 14/23 parallel	1	9.142 476
150	184	130	3 x 29/32 parallel	1	9.142 257
150	184	130	2 x 29/32 angled, 1 x 14/23 parallel	1	9.142 259



4 Quick-acting closures

Stainless steel. With three-part caliper clamps.

Lenz

For flange DN	PK	Cat. No.
60	1	9.142 934
100	1	9.142 946
120	1	9.142 951
150	1	9.142 957
200	1	9.142 964



5 O-rings

VMQ silicone. With, or without, FEP coating.

Lenz

Type	For flange DN	Dia. mm	Thickness mm	PK	Cat. No.
VMQ	60	75	4	1	9.142 834
VMQ	100	110	4	1	9.142 846
VMQ	150	150	5	1	9.142 857
VMQ + FEP	60	75	4	1	9.142 866
VMQ + FEP	100	110	4	1	9.142 867
VMQ + FEP	150	150	5	1	9.142 868
VMQ + FEP	200	215	5	1	9.142 869



Distillation/Jointed glassware

1



1 Three-way holder

Holding mechanism for Schott laboratory flanges to allow alternating removal of container and lid. 18/10 steel. Shaft 15mm and 26.9mm diameter. Without accessories: Stands, bossheads, centring holders, vessel, cap.

Bochem

Jaw opening	Dia.	PK	Cat. No.
mm	mm		
100	15.0	1	9.224 851
120	15.0	1	9.224 852
150	15.0	1	9.224 853
200	26.9	1	9.224 854

2



2 Round bottom flasks, narrow neck, DURAN®

To DIN ISO 1773. Narrow neck. With beaded rim. Glass Type I/neutral glass as per USP, EP and JP. Autoclavable.

DURAN Group

Capacity	Dia.	Neck dia.	Height	PK	Cat. No.
ml	mm	mm	mm		
50	51	26	95	1	9.141 417
100	64	26	110	1	9.141 424
250	85	34	144	1	9.141 436
500	105	34	168	1	9.141 444
1000	131	42	200	1	9.141 454
2000	166	42	260	1	9.141 464
3000	185	50	260	1	9.141 468
4000	207	52	290	1	9.141 471

3



3 Flask, ground glass joint, Engler, DURAN®

Due to the wall thickness distribution, it is suitable for use as a heating vessel and for distillation. Glass Type I/neutral glass as per USP, EP and JP. 19/26 socket. With 7mm diameter side arm, length 100mm. Autoclavable.

DURAN Group

Capacity	Dia.	Height	PK	Cat. No.
ml	mm	mm		
125	68	215	1	9.030 128

4



4 Kjeldahl flasks DURAN®

To DIN 12360. With beaded rim.

DURAN Group

Capacity	Dia.	Neck dia.	Height	PK	Cat. No.
ml	mm	mm	mm		
100	60	22	200	1	9.141 824
250	81	34	270	1	9.141 836
500	101	34	300	1	9.141 844
750	115	34	340	1	9.141 851
1000	126	34	350	1	9.141 854

Note: special sizes available on request.

1 Round bottom flasks, borosilicate glass 3.3

NEW!

- manufactured from borosilicate glass 3.3 which is resistant to heat and almost all chemicals.
- meets the highest quality standards according to DIN EN ISO 4797.
- reinforced rims are used to prevent breaking during washing and transportation.

Isolab

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



2 Round bottom flasks, ground glass joint, DURAN®

NEW!

To DIN 4797. Cone taper 1:10.

Lenz

Capacity	Flask external dia.	NS	PK	Cat. No.
ml	mm			
5	30	14/23	1	6.201 199
10	35	14/23	1	9.011 801
25	41	14/23	1	9.011 802
50	51	14/23	1	9.011 805
100	64	14/23	1	9.011 810
250	85	14/23	1	9.011 815
50	51	19/26	1	6.302 116
100	64	19/26	1	6.200 675
250	85	19/26	1	6.800 202
25	41	19/26	1	7.021 797
50	51	24/29	1	7.019 181
100	64	24/29	1	7.019 182
250	85	24/29	1	6.800 214
500	105	24/29	1	6.800 215
1000	131	24/29	1	6.800 235
50	51	29/32	1	9.011 835
100	64	29/32	1	9.011 840
250	85	29/32	1	9.011 845
500	105	29/32	1	9.011 850
1000	131	29/32	1	9.011 855
2000	166	29/32	1	9.011 860
3000	185	29/32	1	6.077 738
4000	207	29/32	1	9.011 865
5000	223	29/32	1	9.011 864
6000	236	29/32	1	9.011 866
250	85	45/40	1	9.011 867
500	105	45/40	1	9.011 868
1000	131	45/40	1	9.011 869
2000	166	45/40	1	9.011 870
3000	185	45/40	1	6.901 617
4000	207	45/40	1	9.011 875
5000	223	45/40	1	9.011 877
6000	236	45/40	1	9.011 880
10000	279	45/40	1	9.011 885





1 Round bottom flasks, DURAN®

NEW!

Amber glass. With NS 29/32. To DIN EN ISO 4797.

Lenz

Capacity ml	PK	Cat. No.
100	1	9.011 827
250	1	9.011 828
500	1	9.011 829



2 Round bottom flasks with two necks, borosilicate glass 3.3

NEW!

Borosilicate glass 3.3 which is resistant to heat and almost all chemicals. They have thick walls, heavy bases and reinforced rims which prevent breaking. They meet the highest quality standards according to DIN 12394. Side arms are either parallel or 45 degree angled with each other. NS necks are in compliance with DIN 12242 standards.

Isolab

Central socket (NS): 29/32
Side necks (NS): 14/23 or 29/32

Capacity ml	Flask external dia. mm	Central neck NS	Parallel side necks NS	Description	PK	Cat. No.
250	85	29/32	14/23	angled side arm	1	4.008 386
500	105	29/32	14/23	angled side arm	1	4.008 387
1000	131	29/32	14/23	angled side arm	1	4.008 388
250	85	29/32	29/32	parallel side arm	1	6.240 973
500	105	29/32	29/32	parallel side arm	1	6.240 974
1000	131	29/32	29/32	parallel side arm	1	6.240 975



3 Round bottom flasks with two necks, DURAN®.

DIN 12394. Two-neck, side neck parallel.

Lenz

Central socket (NS): 29/32
Side necks (NS): 14/23 or 29/32

Capacity ml	Flask external dia. mm	Central neck NS	Parallel side necks NS	PK	Cat. No.
100	64	29/32	14/23	1	9.011 924
250	85	29/32	14/23	1	9.011 926
500	105	29/32	14/23	1	9.011 928
1000	131	29/32	14/23	1	9.011 931
2000	166	29/32	14/23	1	7.019 207
250	85	29/32	29/32	1	9.011 927
500	105	29/32	29/32	1	9.011 930
1000	131	29/32	29/32	1	9.011 932
2000	166	29/32	29/32	1	6.306 990

1 Round bottom flasks with two necks, DURAN®

NEW!

DIN 12394. With one central and one 20° side angled ground joint necks as outlined below.

Lenz

Capacity	Flask external dia.	Central neck	Side necks	PK	Cat. No.
ml	mm		NS		
25	41	14/23	14/23	1	9.011 901
50	51	14/23	14/23	1	9.011 902
100	64	14/23	14/23	1	9.011 903
250	85	14/23	14/23	1	9.011 905
250	85	24/29	19/26	1	6.206 139
100	64	29/32	14/23	1	9.011 904
250	85	29/32	14/23	1	9.011 906
500	105	29/32	14/23	1	9.011 908
1000	131	29/32	14/23	1	9.011 915
2000	166	29/32	14/23	1	6.072 288
100	64	29/32	19/26	1	6.233 114
250	85	29/32	19/26	1	6.225 989
500	105	29/32	19/26	1	6.233 091
1000	131	29/32	19/26	1	6.231 953
100	64	29/32	29/32	1	6.204 819
250	85	29/32	29/32	1	9.011 907
500	105	29/32	29/32	1	9.011 910
1000	131	29/32	29/32	1	9.011 920
2000	166	29/32	29/32	1	6.056 856
4000	207	29/32	29/32	1	6.201 298



2 Round bottom flasks with three necks, borosilicate glass 3.3

NEW!

Borosilicate glass 3.3 which is resistant to heat and almost all chemicals. They have thick walls, heavy bases and reinforced rims which prevent breaking. They meet the highest quality standards according to DIN 12394. Side arms are at a 45 degree angle to each other. NS necks are in compliance with DIN 12242 standards.

Isolab

Capacity	Flask external dia.	Central neck	Side necks	PK	Cat. No.
ml	mm		NS		
250	85	29/32	14/23	1	4.008 390
500	105	29/32	14/23	1	4.008 391
1000	131	29/32	14/23	1	4.008 392
250	85	29/32	29/32	1	6.240 976
500	105	29/32	29/32	1	6.240 977
1000	131	29/32	29/32	1	6.240 978
2000	166	29/32	29/32	1	4.008 396
100	64	29/32	14/23	1	4.008 389
250	85	29/32	19/26	1	4.008 393
500	105	29/32	19/26	1	4.008 394
1000	131	29/32	19/26	1	4.008 395



3 Flasks, plastic, round bottom with conical joint socket, PFA

Transparent. Excellent temperature and chemical resistance. With NS 29/32 conical joint. For rotary evaporators and ultra-pure chemical distillation.

VITLAB

Capacity	Dia.	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





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



DIN 12392. All necks are parallel.

Lenz

Capacity	Central socket	Side necks	Flask external dia.	PK	Cat. No.
ml	NS	NS	mm		
100	24/29	19/26	64	1	6.205 694
250	24/29	19/26	85	1	7.021 838
500	24/29	19/26	105	1	7.021 840
100	29/32	14/23	64	1	9.011 933
250	29/32	14/23	85	1	9.011 935
500	29/32	14/23	105	1	9.011 938
1000	29/32	14/23	131	1	9.011 941
2000	29/32	14/23	166	1	9.011 945
4000	29/32	14/23	207	1	6.238 532
6000	29/32	14/23	236	1	6.803 543
100	29/32	19/26	64	1	6.306 275
500	29/32	19/26	105	1	7.019 244
1000	29/32	19/26	131	1	6.203 572
2000	29/32	19/26	166	1	6.203 571
250	29/32	29/32	85	1	9.011 936
500	29/32	29/32	105	1	9.011 939
1000	29/32	29/32	131	1	9.011 942
2000	29/32	29/32	166	1	9.011 946
3000	29/32	29/32	185	1	6.203 569
4000	29/32	29/32	207	1	7.200 347
5000	29/32	29/32	223	1	6.306 286
6000	29/32	29/32	236	1	6.072 558
1000	45/40	29/32	131	1	9.011 943
2000	45/40	29/32	166	1	9.011 947
4000	45/40	29/32	207	1	9.011 950
5000	45/40	29/32	223	1	9.011 949
6000	45/40	29/32	236	1	9.011 951
10000	45/40	29/32	279	1	9.011 952



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

NEW!

DIN 12394. Central neck with 2 x 15° angled side necks.

Lenz



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

2 Lenz laboratory glass instruments are also available with PU coating, autoclavable.



3 Receiving flasks, DURAN®

NEW!

Spherical. With S35 spherical ground joint.

Lenz

Capacity	Type	PK	Cat. No.
ml			
100	spherical, S35	1	9.196 224
250	spherical, S35	1	9.196 236
500	spherical, S35	1	9.196 244
1000	spherical, S35	1	9.196 254
2000	spherical, S35	1	9.196 263
500	spherical, S35, plastic coated	1	7.653 714
1000	spherical, S35, plastic coated	1	9.812 217
2000	spherical, S35, plastic coated	1	6.200 782



**1 Rotary evaporator flasks, ground glass joint**

Pear shape. Single, central neck.

Lenz

Capacity	Socket	PK	Cat. No.
ml	NS		
50	29/32	1	9.196 020
100	29/32	1	9.196 024
250	29/32	1	9.196 036
500	29/32	1	9.196 044
1000	29/32	1	9.196 054
2000	29/32	1	9.196 063

**2 PUR Coating, autoclavable**

Lenz

Physical Properties

Autoclavable

Transmission

Long-term heat resistance

Max. heat resistance

Suitable for freezing

Suitable for microwave use

Chemical Properties (Resistance)

Water

Organic solvents

- alcohol

- acetone

- tetra

Inorganic acids, bases

- hydrochloric acid (up to 20%)

- nitric acid (up to 20%)

- sulphuric acid (up to 20%)

- caustic soda (up to 20%)

Cleaning resistance

- industrial washers/clinic

- household dishwashers

121°C/2.05 bar/20 minutes - max. 100 cycles

absorption up to 380nm

up to 135°C

up to 190°C for a short time

-30°C

up to 100°C/5 min. constant exposure

room temperature/5 min. constant exposure

room temperature/5 min. constant exposure

Standard disinfectants and detergents

up to 50 cycles/ max. 95°C

up to 50 cycles/ max. 65°C

**3 Nitrogen Round-bottom Flasks (Schlenk-Flasks), DURAN®****NEW!**

With conical joint and NS stopcock

Lenz

Capacity	NS	Stopcock type	PK	Cat. No.
ml		NS		
25	14/23	2.5 mm	1	6.800 337
50	14/23	2.5 mm	1	6.307 820
100	14/23	2.5 mm	1	6.307 327
250	14/23	2.5 mm	1	6.206 524
50	29/32	2.5 mm	1	6.802 978
100	29/32	2.5 mm	1	6.307 821
250	29/32	2.5 mm	1	6.073 481
500	29/32	2.5 mm	1	6.307 822
1000	29/32	2.5 mm	1	6.307 823

**4 Vacuum sublimation apparatus**

Enables effective cleaning of chemicals and substances that turn from solids to vapours directly without liquidifying first and solidifying again on cooling. The cleaned sublimate can be fully recovered from the conical cooler without difficulty once the sublimation process is complete.

Type	PK	Cat. No.
Micro apparatus, complete, sublimate quantity 1g to 2g	1	9.305 367
Semi-micro apparatus, complete, sublimate quantity 5g to 7g	1	9.305 368
Macro apparatus, complete, sublimate quantity 10g to 25g	1	9.305 369

6. Distillation, Separation, Filtration

Distillation/Round bottom flasks and accessories

1 Flask rings

Pressed cork. Height 30mm.

For flasks ml	Ext. diam. mm	Int. dia. 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



2 Flask ring, PP.

Provides a secure base for round bottom flasks from 10ml to 10000ml capacity.

Kartell

Dia. mm	Height mm	PK	Cat. No.
170	50	1	9.143 040



3 Flask support rings, "BiBase".

Double sided. Sits firmly on the bench to support round-bottomed flasks.

- Very soft and easy to clean
- Resistant to chemicals
- Good thermal and electric insulation
- Excellent adhesion with glass
- Non-slip

Available in two qualities:

Black rubber, good adhesion to glass.

Blue silicone elastomer, resistant to oxidation and temperatures from -60 to +200°C.

For flasks: Narrow dia./Wide dia. /Height:

50 to 500ml: 46mm/80mm/30mm

500 to 2000ml: 80mm/120mm/40mm

2000 to 6000ml: 120mm/162mm/45mm

Material	For flasks ml	Max. kg	PK	Cat. No.
Rubber	50 to 500	13	1	9.143 031
Rubber	500 to 2000	18	1	9.143 032
Rubber	2000 to 6000	30	1	9.143 033
Silicone elastomer	50 to 500	13	1	9.143 035
Silicone elastomer	500 to 2000	18	1	9.143 036
Silicone elastomer	2000 to 6000	30	1	9.143 037



4 LAB rings

NEW!

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 ml	Int. dia. mm	PK	Cat. No.
O-Shape	5 to 10	18	1	7.072 085
O-Shape	125 to 500	48	1	6.243 010
O-Shape	250 to 1000	51	1	6.242 742
O-Shape	500 to 2000	57	1	6.243 011
O-Shape	1000 to 4000	70	1	7.054 161
C-Shape	125 to 500	42	1	9.149 902
C-Shape	250 to 1000	51	1	9.149 905
C-Shape	500 to 2000	54	1	9.149 906
C-Shape	1000 to 4000	66	1	9.149 907
Lead Ring Stand, holds up to 8 rings			1	6.243 012



1



1 Lab sleeves

Lead. Cylindrical, with opening. Provides a stable bench support for a variety of vessels, or used to sink flasks in waterbaths. Sealed in strong PVC. Flexible. Can be opened, closed or adapted to the diameter of the laboratory flask.

For dia. mm	Int. dia. mm	Weight g	PK	Cat. No.
48 to 59	53	240	1	9.149 916
59 to 73	66	460	1	9.149 917
73 to 90	80	600	1	9.149 918
90 to 110	100	750	1	9.149 919

2



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

NEW!

Isolab

- Borosilicate glass 3.3 which is resistant to heat and almost all chemicals.
- Meets the highest quality standards according to DIN EN ISO 4797.
- Reinforced rims are used to prevent breaking during washing and transportation.

Capacity ml	Height approx. mm	NS	PK	Cat. No.
50	100	29/32	1	4.008 377
100	110	29/32	1	6.236 773
250	140	29/32	1	6.238 346
500	170	29/32	1	6.240 425
1000	200	29/32	1	4.008 378
2000	250	29/32	1	6.237 704

3



3 Flat bottom flasks, ground glass joint, DURAN®

DIN EN ISO 4797. With standard ground sockets to DIN 12242. Cone taper 1:10.

Lenz

Capacity ml	Neck dia. mm	Flask external dia. mm	NS	PK	Cat. No.
50	34	51	29/32	1	9.011 982
100	34	64	29/32	1	9.011 983
250	34	85	29/32	1	9.011 984
500	34	105	29/32	1	9.011 985
1000	42	131	29/32	1	9.011 986

Up to 100ml made of DURAN® tubing.



6. Distillation, Separation, Filtration

Distillation/Round bottom flasks and accessories

1 Flat bottom flasks DURAN®

DIN ISO 24450 (wide mouth), DIN ISO 1773 (narrow mouth). With beaded rim. Glass Type I/neutral glass as per USP, EP and JP. Uniform wall thickness distribution makes these beakers ideal for heating applications. Flat base means flasks can be set down without a supporting ring. Autoclavable.

DURAN Group



Capacity	Dia.	Neck dia.	Height	Description	PK	Cat. No.
ml	mm	mm	mm			
50	51	35	100	wide mouth	1	9.141 717
100	64	34	110	wide mouth	1	9.141 724
250	85	50	140	wide mouth	1	9.141 736
500	103	50	170	wide mouth	1	9.141 744
1000	131	50	200	wide mouth	1	9.141 754
2000*	166	76	250	wide mouth	1	9.141 763
2000	166	50	250	wide mouth	1	9.141 764
250	85	35	140	narrow mouth	1	9.141 636
500	105	34	171	narrow mouth	1	9.141 644
1000	131	42	200	narrow mouth	1	9.141 654
2000**	166	42	250	narrow mouth	1	9.141 664
4000	207	50	300	narrow mouth	1	9.141 671
5000	223	50	290	narrow mouth	1	9.141 673
6000	237	65	340	narrow mouth	1	9.141 676
10000	280	65	400	narrow mouth	1	9.141 686

* Non to DIN, with reinforced rim.

**Not to ISO.

2 Erlenmeyer flasks, NS neck, borosilicate glass 3.3

NEW!

Borosilicate glass 3.3. Resistant to heat and almost all chemicals. They meet the highest quality standards according to DIN 12387. NS necks are in compliance with DIN 12242 standards. Inscriptions are in white enamel which is specially designed for glass use.

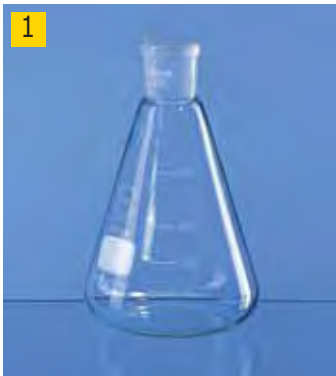
Isolab

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



6. Distillation, Separation, Filtration

Distillation/Round bottom flasks and accessories



1 Erlenmeyer flasks, ground glass joint, DURAN®

NEW!

DIN EN ISO 4797. With standard ground sockets.

Lenz

Capacity	Height	NS	Flask external dia.	PK	Cat. No.
ml	mm		mm		
25	70	14/23	42	1	9.012 001
50	85	14/23	51	1	9.012 002
50	85	29/32	51	1	9.012 012
100	100	14/23	64	1	9.012 003
100*	100	29/32	64	1	9.012 013
200	125	29/32	79	1	9.012 017
250*	140	29/32	85	1	9.012 014
250	140	45/40	85	1	9.012 006
300	150	29/32	87	1	9.012 018
500*	175	29/32	105	1	9.012 015
500	175	45/40	105	1	9.012 008
1000	210	29/32	131	1	9.012 016
10	60	14/23	42	1	6.200 447
100	100	19/26	64	1	6.200 676
250	140	24/29	85	1	6.200 677
3000	270	45/40	185	1	6.900 828
250	140	19/26	85	1	6.900 834
500	175	19/26	105	1	6.900 835
50	85	19/26	51	1	6.900 839
25	70	19/26	42	1	7.019 150
50	85	24/29	51	1	7.019 155
100	100	24/29	64	1	7.019 156
300	150	19/26	87	1	7.019 163
200	125	24/29	76	1	7.019 164
300	150	24/29	87	1	7.070 022
500	175	24/29	105	1	7.400 404
5000	360	45/40	220	1	7.607 913
300	150	45/40	87	1	9.012 007
1000	210	45/40	131	1	9.012 009
2000	270	45/40	166	1	9.012 010
2000	270	29/32	166	1	9.012 019

* Can be used as iodine flasks.



6. Distillation, Separation, Filtration
Distillation/Round bottom flasks and accessories-Distillation-Accessories

1 2 Iodine determination Flasks, Duran®

NEW!

Lenz

Two types available:
- With overflow collar and NS29/32 iodine stopper.
- Without overflow collar, with NS29/32 hollow hexagonal stopper.

Type	Capacity ml	NS	PK	Cat. No.
without collar	100	29/32	1	6.072 077
without collar	250	29/32	1	6.401 428
without collar	300	29/32	1	7.614 642
without collar	500	29/32	1	6.226 757
without collar	1000	29/32	1	6.230 605
with collar	100	29/32	1	6.230 826



3 Pear shape flasks, ground glass joint, DURAN®

DIN 12383. With conical joint and inscription label.

Lenz

Capacity ml	NS	Flask external dia. mm	PK	Cat. No.
10	14/23	30	1	9.012 021
25	14/23	40	1	9.012 022
50	14/23	50	1	9.012 023
100	14/23	64	1	9.012 024



4 Air regulator Type HM-2

For tubes:
8mm to 15mm diameter, 6mm to 12.5mm diameter
For air-leak capillary tubes. Acts as a fine regulation valve (needle valve). Plastic body. Brass needle with fine thread.

Type	PK	Cat. No.
HM-2	1	9.194 011



1

**1 Air leak capillary tubes, ground glass joint**

DURAN® tubing. DIN 12404. For cutting off, or drawing out, to required length.
Cone size: 14/23.

Lenz

Dia. mm	Length mm	PK	Cat. No.
6	200	1	9.012 301

2

**2 Air leak rod, DURAN®**

With bulb.

Width mm	Length mm	PK	Cat. No.
4	180	1	9.012 302

3

**3 Glass beads**

Type AR soda lime glass. Supplied in packs of approx. 1kg.

Lindner

Dia. mm	PK	Cat. No.
2	1	9.012 402
3	1	9.012 403
4	1	9.012 404
5	1	9.012 405
6	1	9.012 406
8	1	9.012 407
10	1	9.012 408
14	1	9.012 410

4

**4 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.

Type	Capacity g	PK	Cat. No.
B	200	1	9.012 307

5

**5 Boiling chips, type Resistent**

Developed for preparatory and analytical purposes. Suitable for biochemistry, biotechnology, microbiology, microanalysis. Can even be used in strong acids and alkalis, and in all solvents and oxidants. Suitable for vacuum and high-vacuum distillation. Reduces distillation times in rotary evaporators. No abrasion, absorption of substances or solvents. Softening (evaporation) occurs at 2500°C. Can be sterilised by dry heating. Effective in even the smallest volumes of liquid, even after multiple interruptions. Prevents any bumping. Highly resistant.

Type	Capacity g	PK	Cat. No.
Resistent	50	1	9.012 308

6

**6 Boiling chips, 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.

Type	Capacity g	PK	Cat. No.
A	250	1	9.012 306

6. Distillation, Separation, Filtration

Distillation/Distillation-Accessories-Glass components

1 Boiling stones, PTFE

Protects against overheating. Minimises bubbling during reflux. Speeds up the distillation process. Remains inert when boiling acids, hydrocarbons, ketones, esters, alcohol or alcohol solutions in any concentration. Unlimited life span. Easy to clean. Does not scratch glass or leave any powdery residue.

Capacity g	PK	Cat. No.
450	1	9.012 310



Connectors with NS joint

NEW!

Resistant to heat and almost all chemicals. They meet the highest quality standards according to DIN 12242. They have excellent grinding to prevent airleaks. The bottom part of the ground joints are fire polished.

Isolab

Description	NS	Length mm	PK	Cat. No.
socket	10/19	120	1	4.008 330
socket	12/21	120	1	4.008 331
socket	14/23	120	1	4.008 332
socket	19/26	120	1	4.008 333
socket	24/29	120	1	4.008 334
socket	29/32	120	1	4.008 335 2
socket	45/40	120	1	4.008 336
cone	14/23	120	1	4.008 337
cone	19/26	120	1	4.008 338
cone	24/29	120	1	4.008 339
cone	29/32	120	1	4.008 340 3



4.008 335



4.008 340

4 5 6 Connectors with NS joint

DURAN® tubing, DIN 12249. Annealed edges. Joint rims slightly rounded.
Cone shape B. Socket shape E.
Cone with extension shape G.

Lenz



4



5



6

Description	NS	Ext. diam. mm	Length mm	PK	Cat. No.
Cone	10/19	8	120	1	9.011 503
Cone	12/21	11	120	1	9.011 504
Cone	14/23	13	120	1	9.011 505
Cone	19/26	17	120	1	9.011 506
Cone	24/29	22	135	1	9.011 507
Cone	29/32	26	135	1	9.011 508
Cone	45/40	40	150	1	9.011 510
Socket	10/19	13	125	1	9.011 523
Socket	12/21	15	135	1	9.011 524
Socket	14/23	17	135	1	9.011 525
Socket	19/26	22	135	1	9.011 526
Socket	24/29	28	135	1	9.011 527
Socket	29/32	33	135	1	9.011 528
Socket	45/40	50	150	1	9.011 530
Cone with outlet	14/23	13	120	1	9.011 545
Cone with outlet	19/26	17	120	1	9.011 546
Cone with outlet	24/29	22	135	1	9.011 547
Cone with outlet	29/32	26	135	1	9.011 548
Cone with outlet	45/40	40	150	1	9.011 550

Distillation/Glass components



1 2 Spherical ground glass joints

NEW!

DURAN® tubing. DIN 12224. With ground glass ball (male) and cup (female) joints. Cup joints have a beaded reinforcement rim.

Lenz

Type	Grinding	Tube dia. mm	PK	Cat. No.
Cup	S 13/2	8.0	1	9.011 602
Cup	S 13/5	8.0	1	9.011 603
Cup	S 19	13.0	1	9.011 605
Cup	S 29	19.0	1	9.011 609
Cup	S 35	28.0	1	9.011 613
Cup	S 40	30.0	1	9.011 610
Cup	S 65	48.0	1	9.011 615
Ball	S 13/2	8.0	1	9.011 622
Ball	S 13/5	8.0	1	9.011 623
Ball	S 19	13.0	1	9.011 625
Ball	S 29	19.0	1	9.011 629
Ball	S 35	28.0	1	9.011 630
Ball	S 40	30.0	1	9.011 632
Ball	S 65	48.0	1	9.011 635



3 Threaded tube connectors, borosilicate glass 3.3

NEW!

Borosilicate glass 3.3 according to DIN 12257 standard.

Isolab

Neck thread	Cone	PK	Cat. No.
GL	NS		
14	14/23	1	4.008 355
14	29/32	1	4.008 358
18	14/23	1	4.008 356
18	29/32	1	4.008 357
25	29/32	1	6.241 693



4 Threaded tube connectors

Made of DURAN® tubing. DIN 12257. Double ended.

Lenz

With GL thread at one end and ground glass at the other. NS cone at the other, as outlined below.

Neck thread	Cone	PK	Cat. No.
GL	NS		
14	14/23	1	9.209 514
14	29/32	1	9.209 517
18	14/23	1	9.209 518
18	29/32	1	9.209 529
25	14/23	1	6.300 168
25	29/32	1	9.209 559
32	24/29	1	9.209 581
32	29/32	1	9.209 582



5 Adapter for thermometer, borosilicate glass 3.3

NEW!

Manufactured from borosilicate glass 3.3 according to DIN 12257 standard, ideal to use for thermometers with joint glassware. Screw joint provides easy depth adjustment of thermometer.

Isolab

Neck thread	Cone	Adapter bore Ø mm	PK	Cat. No.
GL	NS			
14	14/23	6 - 8	1	4.008 360

1 Adapter for tubing, borosilicate glass 3.3

NEW!

Manufactured from borosilicate glass 3.3 in two different forms, straight or 90° angled. Supplied with PTFE stopcock which has of 2.5mm diameter bore key. Tubing adapter is suitable for up to 10mm tubings.

Isolab

Cone	Description	PK	Cat. No.
NS			
14/23	straight form, with stop cock	1	4.008 365
14/23	straight form, without stop cock	1	4.008 363
14/23	bent form, with stop cock	1	4.008 367
14/23	bent form, without stop cock	1	4.008 362
29/32	straight form, with stop cock	1	4.008 366
29/32	straight form, without stop cock	1	4.008 361
29/32	bent form, with stop cock	1	4.008 369
29/32	bent form, without stop cock	1	4.008 364

1



2 Cone: flexible tubing adapter

DURAN® tubing. Adapter, NS cone to 10mm bore tubing connector. Straight or angled (90°). Available with, or without, size 3 NS stopcock, with 2.5mm bore key.

Lenz

NS	Form	Stopcock	PK	Cat. No.
14/23	straight	with	1	9.012 316
14/23	straight	without	1	9.012 312
14/23	bent	with	1	9.012 315
14/23	bent	without	1	9.012 311
29/32	straight	with	1	9.012 319
29/32	straight	without	1	9.012 314
29/32	bent	with	1	9.012 317
29/32	bent	without	1	9.012 313

2



3 Adapters, ground glass joint, expansion/reduction

NEW!

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.

Isolab

Socket	Cone	PK	Cat. No.
NS			
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	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
24/29	34/35	1	6.243 586

3



4 Adapters, ground glass joint, expansion

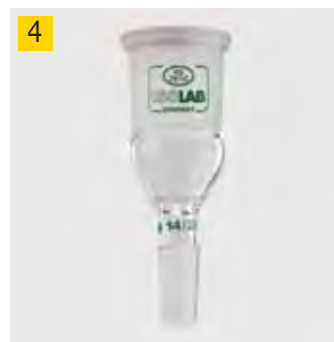
NEW!

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. Expansion adapters have socket sizes larger than their cone sizes.

Isolab

Socket	Cone	PK	Cat. No.
NS			
19/26	14/23	1	4.008 341
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	45/40	1	4.008 346

4



Distillation/Glass components



1 Adapters, ground glass joint, expansion/reduction

DURAN® tubing. DIN 12257. Reduction and Expansion Adapters with Ground joint.

Lenz

Socket	Cone	PK	Cat. No.
NS	NS		
14/23	29/32	1	9.011 755
19/26	14/23	1	9.011 766
29/32	14/23	1	9.011 750
29/32	19/26	1	9.011 767
29/32	45/40	1	9.011 765
45/40	29/32	1	9.011 760

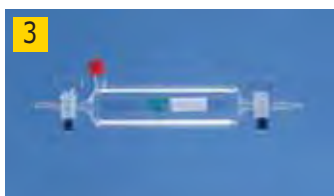


2 Threaded tubes

DURAN® tubing. DIN 12216. For tubing extension and connection. With DIN screwthread.

Lenz

Neck thread	Dia.	Length	PK	Cat. No.
GL	mm	mm		
14	12	100	1	9.209 714
18	16	100	1	9.209 718
25	22	100	1	9.209 725
32	28	140	1	9.209 732
45	40	180	1	9.209 735



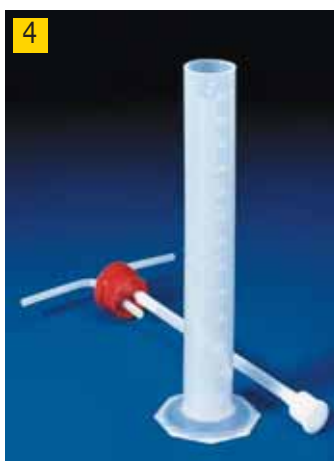
3 Gas sampling tubes, glass

DURAN® tubing. To DIN 12473. With 2.5mm bore stopcocks . Stopcocks are provided with elastic key retainers. With, or without, sampling connections. PU protective coating available on request.

Lenz

Capacity	Length*	External body dia.	Type	PK	Cat. No.
ml		mm			
350	200	54	Without sampling connections	1	9.110 220
500	220	65	Without sampling connections	1	9.110 225
1000	260	85	Without sampling connections	1	9.110 230
150	155	42	With sampling connections	1	9.110 235
350	200	54	With sampling connections	1	9.110 236
500	220	65	With sampling connections	1	9.110 237

* Body length (mm)



4 Gas washing bottle, PP

250ml graduated cylinder with Vikem vinyl stopper. With insert and 70µm PE frit .

Type	PK	Cat. No.
Gas washing bottle	1	9.110 290

1 Gas wash bottle reservoirs

DURAN®. In accordance with Drechsel. Ground joint 29/32. DIN 12463. Overall height 200mm. With or without foot. For 1000ml capacity requirement, please use the burette flask, order no. 9.270 905.

BRAND

Capacity ml	Type	PK	Cat. No.
100	with foot	1	9.110 330
250	with foot	1	9.110 335
500	without foot	1	9.110 340

1



2 Gas wash bottle reservoirs

In accordance with Drechsel. Ground joint 29/32. DIN 12463. Overall height 200mm.

NEW!
Rettberg

Description	PK	Cat. No.
Gas wash bottle reservoirs 500 ml	1	6.240 962
Without frit	1	6.240 963
With frit	1	9.110 472

2



3 4 Caps for gas washing bottles

DURAN® tubing. Ground joint 29/32. With or without diffuser frit

Lenz

Type	Porosity	Description	PK	Cat. No.
Without frit	0	nozzle	1	9.110 380
With frit	0	nozzle	1	9.110 390
With frit	1	nozzle	1	9.110 391

3



4





1 Gas washing bottles, Borosilcate glass 3.3

Head with fritted disc, standard taper joint.

Capacity ml	Porosity	NS	Int. dia. mm	Height mm	PK	Cat. No.
100	1	34/35	25	250	1	9.110 450
250	1	45/40	34	250	1	9.110 451



2 Gas washing bottles and columns

Tall, slim scrubber column made of FEP. Inlet and outlet tube as well as riser tube are made of FEP (5.6 x 8mm), bottom and top are made of pure PTFE. The standard PTFE frit has a pore size of approx. 3µm and is screwed onto the riser tube with an M8x1 thread. Temperature resistance: from -200°C to +205°C

- transparent
- unbreakable
- intense mixing of gas due to tall riser tube
- frit easily exchangeable

BOLA

Type	Capacity ml	Height mm	For external tube/pipe mm	PK	Cat. No.
Column	500	400	8	1	9.110 306
Column	1000	700	8	1	9.110 308



3 Scrubber Bottles Vitrum, borosilicate glass/PTFE

NEW!

Consisting of PTFE body with screw cap and two lateral GL 18 threaded necks, suitable borosilicate glass bottle as well as a FEP inlet tube and a gas distributor with finest bores. Easy inlet and outlet of gas by means of hard-walled tubing (e. g. PTFE) which can be connected to the threaded necks with BOLA Laboratory Screw Joints. Elastic tubing can be connected by means of hose connectors. The special feature - the body of the distributor can be turned independently from the screw cap, thus the completely assembled distributor can be removed and fixed onto another bottle without the risk of disarranging the tubing. Suitable for Vacuum.

BOLA

Specifications

Material:	borosilicate glass 3.3
Temperature resistance:	from -200°C to +250°C
Chemical resistance:	universal
Autoclave:	121°C
Thread of screw cap GL:	2 x 18

Capacity ml	Height mm	Thread	PK	Cat. No.
500	207	GL 45	1	9.110 312
1000	256	GL 45	1	9.110 313
500	186	GLS 80	1	9.110 314
1000	256	GLS 80	1	9.110 315



4 Drying tubes

DURAN® tubing. Angled to 75°.

Lenz

Cone	PK	Cat. No.
NS		
14/23	1	9.012 701
29/32	1	9.012 703



5 Drying tubes

LDPE. Removable stoppers at both tube ends. With tubing nozzles, 4mm to 9mm o.d.

Kartell

Length mm	PK	Cat. No.
100	1	9.253 131
150	1	9.253 135
200	1	9.253 140

1 2 Drying tubes, U-pattern

DURAN® tubing. DIN 12616. With or without interchangeable ground joint stopcocks.
U-shape, tube diameter 12mm. Hose connectors 8mm in diameter.

Lenz

Length mm	NS	PK	Cat. No.
100	14/23	1	9.253 110
125	14/23	1	9.253 112
150	19/26	1	9.253 115
130	without	1	6.802 223



3 Bubble counter

DURAN®.

Height mm	PK	Cat. No.
100	1	9.014 100

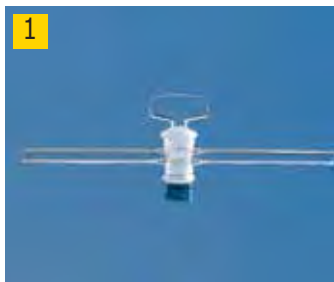
4 Bubble counter

DURAN® borosilicate glass. Modified, with NS 14.5/23 cone for direct mounting onto apparatus assemblies, screw neck and cap for filling with oil and tubing connector.

Type	PK	Cat. No.
Bubble counter	1	9.305 381



Distillation/Glass components

**1 Stopcocks, straight bore with solid glass key stopcock****NEW!**

Duran® tubing. DIN 12541-1. With solid glass key stopcock and retaining device.
Straight bore. Leakage rate acc. to DIN 12540-1.

Lenz

Description	NS	Bore mm	DIN	PK	Cat. No.
With solid glass key	12.5	1.5	12541-1	1	9.115 611
With solid glass key	12.5	2.5		1	9.115 642
With solid glass key	14.5	2.5	12541-1	1	6.079 648
With solid glass key	14.5	4.0		1	9.115 614
With solid glass key	18.8	4.0	12541-1	1	9.115 644
With solid glass key	18.8	6.0		1	9.115 615
With solid glass key	21.5**	6.0	12541-1	1	9.115 617
With solid glass key	24**	8.0		1	9.115 618
With solid glass key	29.2**	10.0	12541-1	1	9.115 619
With solid glass key	12.5*	1.5	12541-1	1	9.115 612
With solid glass key	14.5*	2.5	12541-1	1	9.115 613
Spare key, solid glass	12.5	1.5		1	7.018 947
Spare key, solid glass	12.5	2.5		1	7.018 936
Spare key, solid glass	14.5	2.5		1	7.018 948
Spare key, solid glass	14.5	4.0		1	6.093 232
Spare key, solid glass	18.8	4.0		1	6.800 209
Spare key, solid glass	21.5	6.0		1	7.510 838

* with capillary side arms

**with rubber retaining device

**2 Vacuum stopcocks, glass, Vendura-Nova**

DURAN Group

Vendura-Nova DURAN®. With PP safety device. Adjustable seal. Comprises of glass stopcock body, PTFE needle with sealing ring and FKM O-rings. Fine control gives precise flow metering.

Available in straight or 90° angle patterns.

Leak rate: $<1 \times 10^{-6}$ mBar l/s

Temperature resistant to
with safety device: 140°C
without safety device: 180°C

Type	Tube dia. mm	Flow rate ml / min.	PK	Cat. No.
straight	9.0	0 to 2.5	1	9.117 002
straight	10.0	0 to 4.0	1	9.117 003
straight	10.0	0 to 6.0	1	9.117 004
90° angle	9.0	0 to 2.5	1	9.117 012
90° angle	10.0	0 to 4.0	1	9.117 013
90° angle	10.0	0 to 6.0	1	9.117 014

**3 PTFE sealing rings for jointed glassware****NEW!**

An effective alternative to common PTFE joint sleeves and PTFE stoppers:

- Air leakage $<10^{-8}$ to 10^{-6} mBar *l/s (vacuum and pressure).
- Solvent leakage from containers < 0.1 to 0.03 mg/day. Temperature range: -196 to 300°C

Rings can be matched to "Keck" plastic joint clamps. Reuseable, do not deform.

NS	PK	Cat. No.
10	50	9.011 663
12	50	7.622 596
14	50	9.011 664
19	50	9.011 665
24	50	9.011 666
29	50	9.011 667
34	50	7.700 004
45	50	9.011 668

1 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: $< 1 \times 10^{-4}$ mbar x l x s⁻¹). No joint sealant or grease required.

BOLA

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



2 Sleeves with ribs, PTFE

For use with ground glass joints. Suitable for vacuums up to 0.1mbar. 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.

BOLA

NS	PK	Cat. No.
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
45/40	1	9.011 660



3 Sleeves, PTFE, disposable

Seals without grease - no grease residues are left in the analysis. Excellent chemical resistance. Can be used in temperatures from -200 to +260°C. Wall thickness only 0.05mm. Wide range of applications, also suitable for vacuums down to 0.1mbar, e.g. for rotary evaporators.

BRAND

NS	PK	Cat. No.
7/16	1	9.011 316
10/19	1	9.011 317
12/21	1	9.011 318
14/23	1	9.011 319
19/26	1	9.011 320
24/29	1	9.011 321
29/32	1	9.011 322
34/35	1	9.011 323
40/38	1	9.011 330
45/40	1	9.011 324
50/42	1	9.011 325
55/44	1	9.011 326
60/46	1	9.011 327



4 Silicone high vacuum grease

Silicone high vacuum grease are used for ground joints and taps at low ultimate pressure. Like vacuum grease LOSOID is very stable during temperature changes, though its lubricating properties at high and low temperature are not as good. At temperatures above 200°C the silicone grease continue to be polymerized and begins to outgas. 100g tube.

Type	PK	Cat. No.
Silicone high vacuum grease	1	9.116 901



5 Silicone high vacuum grease

For use up to 10⁻⁶ mbar. Temperature range from -40 to +150°C. 100g tube.

Type	PK	Cat. No.
Silicone high vacuum grease	1	9.116 911



**1 Baysilone silicone high vacuum grease**

For use up to 10^{-6} mbar. -50 to +200°C. Supplied in 35g tube.

Type	PK	Cat. No.
Low viscosity	1	9.116 902
Medium viscosity	1	9.116 903
High viscosity	1	9.116 904

**2 Silicone oil high vacuum grease, Wacker**

For use up to 10^{-8} mbar. Temperature range from -40 to +200°C. Supplied in 90ml tube.

Grade	PK	Cat. No.
Heavy	1	9.116 906

**3 Joint grease, K.W.S**

Without silicone. Suitable for use with foodstuffs. Designed as vacuum and high vacuum grease. No silicone derivatives, polymerisation or gumming. Excellent adhesion and viscosity. Acid/alkaline resistant. Locked joints can be loosened by brief, gentle heating. Can be used to make temporary glassware repairs. Biodegradable. Non-toxic in normal use.

Working temperature range: -40 to +200°C
Vapour pressure: 0.00001 mbar.

Capacity ml	PK	Cat. No.
30	1	9.116 924

**4 Stopcock and ground joint greases, GLISSEAL**

For sealing and lubricating fixed, and rotating, ground glass joints, stopcocks, plastic or metal connections and for solving even the most difficult lubrication problems, e.g. in fine mechanisms and the optics industry. Only a very thin application is required, and it is easy to remove, by using deconex® cleaning concentrates. Supplied in tubes of 60g.

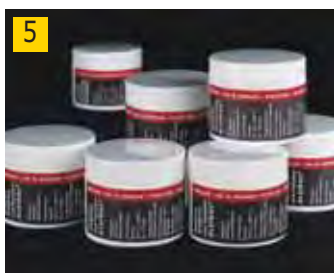
Normal quality, with red cap:

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

High vacuum quality, with blue cap:

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

Type	PK	Cat. No.
Normal quality GLISSEAL	1	9.116 934
High vacuum quality GLISSEAL	1	9.116 935

**5 Rotating joint grease, silicone-free, Alsirol**

Silicone-free stopcock grease. Suitable for use with foodstuffs. No silicone derivatives, polymerisation or gumming. Excellent adhesion and viscosity. Stable grease film enables safe, long term use. Low heat-up occurs during rotation even if operation is continuous. When sealing glassware systems with glass and metal stirrers and shafts Alsirol protects rotating, precision-ground sockets and stirring shafts against glass abrasion. Also suitable for lubricating rotating metal and glass components. Acid and alkali resistant. For use under vacuum and high vacuum. Biodegradable. Non-toxic in normal use.

Working temperature range: -40 to +200°C
Vapour pressure: 0.00001 mbar

Capacity ml	PK	Cat. No.
50	1	9.116 925

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 80g.

Buddeberg

Weight g	PK	Cat. No.
80	1	9.116 950



2 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.

Isolab

Joint size 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



3 Conical joint clips for sleeve connections, plastic

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

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



4 Ground joint clips for sleeve connections, wire

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



5 Clipox® NS Clips

For conical joints, can also be used to secure flasks with ground joints & glass stoppers

Clipox

- increases the safety of glass vessels; the symmetric, slim and aligned design solves various application problems of common clips and clamps (can be used with retort clamps)
- secure horizontal and vertical connection with security in the event of pressure overload
- two-sided handles enable easy mounting and removal
- spring steel wire provides long working life and firm grip
- will not break or age because of outstanding thermal, chemical and acid resistance, due to stainless steel AISI 316 Ti, Cr-Ni-Mo 17-12-2
- reduced abrasion due to polished surface of material
- made in Germany, with production certified according to ISO9001.

Joint size NS	PK	Cat. No.
10	5	9.011 400
12	5	9.011 401
14	5	9.011 402
19	5	9.011 403
24	5	9.011 404
29	5	9.011 405
34	5	9.011 406
40	5	9.011 407
45	5	9.011 408
60	5	9.011 409



Distillation/Glass components



1 Joint clips for conical joint sleeve connections

Chrome-nickel steel. For tapered ground joints as outlined below. With, or without, locking screw.

Axel von Gunten

NS	Type	PK	Cat. No.
14/23	with locking screw	1	9.011 675
19/26	with locking screw	1	9.011 676
24/29	with locking screw	1	9.011 677
29/32	with locking screw	1	9.011 678
45/40	with locking screw	1	9.011 680
14/23	without locking screw	1	9.011 685
19/26	without locking screw	1	9.011 686
24/29	without locking screw	1	9.011 687
29/32	without locking screw	1	9.011 688
45/40	without locking screw	1	9.011 690



2 Spherical joint clips, plastic

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

NS	PK	Cat. No.
13	1	9.011 793
19	1	9.011 794
29	1	9.011 795



3 Clipox® KS Clip

Clipox® KS Clip for Spherical Joints

NEW!

Clipox

- secure horizontal and vertical clamping with security in the event of pressure overload
- two-sided handles enable easy mounting and removal
- spring steel wire provides long working life and firm grip
- will not break or age because of outstanding thermal, chemical and acid resistance, due to stainless steel AISI 316 Ti, Cr-Ni-Mo 17-12-2
- reduced abrasion due to polished surface of material
- made in Germany, with production certified according to ISO9001.

Size	PK	Cat. No.
S12-13	5	9.011 420
S18-19	5	9.011 421
S28-29	5	9.011 422
S34-35	5	9.011 423
S40-41	5	9.011 424



4 Ground joint clips, metal

Chrome-nickel steel. For spherical ground joint connections. With locking screw.

Lenz

Size	PK	Cat. No.
13	1	9.011 693
19	1	9.011 694
29	1	9.011 695
35	1	9.011 698
40	1	9.011 696
65	1	9.011 697



1 Clipox® SB Clip

NEW!

For narrow and wide neck reagent bottles

Clipox

- new clip to secure reagent bottles
- secures stopper in the event of pressure overload
- two-sided handles enable easy mounting and removal
- spring steel wire provides long working life and firm grip
- will not break or age because of outstanding thermal, chemical and acid resistance, due to stainless steel AISI 316 Ti, Cr-Ni-Mo 17-12-2
- reduced abrasion due to polished surface of material
- made in Germany, with production certified according to ISO9001.

Joint size NS	PK	Cat. No.
14	5	9.011 430
19	5	9.011 431
24	5	9.011 432
29	5	9.011 433
34	5	9.011 434
45	5	9.011 435
60	5	9.011 436



2 Clipox® HS Retaining Device for Stopcocks

NEW!

For all glass- or PTFE-keyed burette and vacuum stopcocks

Clipox

- one-piece replaces three-piece retaining device
- retaining device operates irrespective of screwthread
- will not break or age due to outstanding thermal, chemical and acid resistance, manufactured in polished stainless steel AISI 316 Ti, Cr-Ni-Mo 17-12-2
- spring steel wire provides long working life and firm grip
- two-sided handles enable easy mounting and removal
- made in Germany, with production certified according to ISO9001.

Joint size NS	PK	Cat. No.
12.5	5	9.011 440
14.5	5	9.011 441
18.8	5	9.011 442
21.5	5	9.011 443
24	5	9.011 444
29.2	5	9.011 445



3 NS-Glass stoppers, hollow Borosilicate glass 3.3

NEW!

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.

Isolab

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
14/23	amber	1	7.900 486



4 NS stoppers, PE-HD

NEW!

Isolab

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





1 2 NS-Glass stoppers, DURAN® and Borosilicate glass

DIN 12252. Hexagonal-hollow or octagonal-solid.

NS	Description	PK	Cat. No.
7/16	Borosilicate glass 3.3, hollow, hexagonal	1	9.230 002
10/19	Borosilicate glass 3.3, hollow, hexagonal	1	9.230 003
12/21	Borosilicate glass 3.3, hollow, hexagonal	1	9.230 004
14/23	Borosilicate glass 3.3, hollow, hexagonal	1	9.230 006
19/26	Borosilicate glass 3.3, hollow, hexagonal	1	9.230 007
29/32	Borosilicate glass 3.3, hollow, hexagonal	1	9.230 009
45/40	Borosilicate glass 3.3, hollow, hexagonal	1	9.230 012
10/19	DURAN®, solid, octagonal	1	9.230 053
12/21	Borosilicate glass 3.3, solid, octagonal	1	9.230 054
14/23	Borosilicate glass 3.3, solid, octagonal	1	9.230 056
19/26	Borosilicate glass 3.3, solid, octagonal	1	9.230 057
24/29	Borosilicate glass 3.3, solid, octagonal	1	9.230 058
29/32	Borosilicate glass 3.3, semi solid, octagonal	1	9.230 059
34/35	Borosilicate glass 3.3, semi solid, octagonal	1	9.230 061
45/40	DURAN®, semi solid, octagonal	1	9.230 062



3 Conical stoppers

Polyethylene. Stoppers manufactured to DIN standard 12242 ensuring an effective seal, even on non-standard surfaces.

NS	Bottom dia. mm	Colour	PK	Cat. No.
7/16	5.9	violet	1	9.230 161
10/19	8.1	blue	1	9.230 162
12/21	10.4	green	1	9.230 163
14/23	12.2	brown	1	9.230 164
19/26	16.4	yellow	1	9.230 165
24/29	21.1	red	1	9.230 166
29/32	25.8	black	1	9.230 167
34/35	30.9	white	1	9.230 168



4 Stoppers

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



1 Rubber stoppers

DIN 12871. Solid.

Deutsch & Neumann

Bottom dia. mm	Top dia. mm	Height mm	PK	Cat. No.
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

1



2 Silicone stoppers

Airtight seal.

Lightweight, very flexible, autoclavable.

Temperature resistant from -60 to +200°C. Colour-coded sizing, odourless and non-toxic. Water-repellent. Easy to bore, as with cork stoppers.

Bottom dia. mm	Top dia. mm	Height mm	Colour	PK	Cat. No.
8.0	12.0	20.0	White	1	9.230 461
11.0	15.0	22.0	Pink	1	9.230 462
13.0	17.5	25.0	Yellow	1	9.230 463
15.5	20.0	27.0	Green	1	9.230 464
19.0	25.0	30.0	Blue	1	9.230 466
23.0	30.0	33.0	White	1	9.230 467
28.0	35.0	35.0	Pink	1	9.230 468
33.0	40.0	40.0	Yellow	1	9.230 469
38.0	46.0	42.0	Green	1	9.230 471
44.0	52.0	48.0	Blue	1	9.230 472
49.0	58.0	52.0	White	1	9.230 473

2



3 Silicone rubber stoppers

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

Deutsch & Neumann

Bottom dia. mm	Top dia. 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

3





1 Stoppers with turn-over flange

Silicone or natural rubber. 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.

Material	Dia. mm	PK	Cat. No.
Silicone	7.1	1	9.230 481
Silicone	10.2	1	9.230 482
Silicone	12.7	1	9.230 483
Silicone	14.9	1	9.230 484
Silicone	15.9	1	9.230 485
Silicone	19.4	1	9.230 486
Silicone	23.7	1	9.230 487
Silicone	30.7	1	9.230 488
Rubber	7.1	1	9.230 650
Rubber	10.2	1	9.230 651
Rubber	12.7	1	9.230 652
Rubber	14.9	1	9.230 653
Rubber	15.9	1	9.230 654
Rubber	19.4	1	9.230 655
Rubber	23.7	1	9.230 656
Rubber	30.7	1	9.230 657



2 Cork stoppers

A1 superb quality. Non-porous.

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



Parallel Synthesisers Synthesis 1

Time-saving Synthesising

Heidolph

Three methods - all in one

Depending on volume and reaction vessel size, you can choose from 3 possible options for the solid phase, liquid phase or multiple evaporator reaction system

- One base unit only accepts 3 reaction blocks for solid phase applications with gentle vortexing that does not damage resin
- Reaction block features four heating zones which allow you to apply selectively different temperatures and facilitate reaction optimization
- Exceptional visual control of reaction in each vessel and immediate access to every sample due to circular design
- Optional temperature sensor positioned in the reaction vessel enables the most accurate temperature control and reproducibility
- Exceptional chemical resistance due to PTFE and PFA material, resin will not stick to inner walls of reaction vessel and provides clear visibility of the sample
- Perform reactions at temperatures as low as -80°C via external chiller
- Fast heat transfer from the heating zone allows for sample temperature settings up to 160°C

Specifications

Reaction tubes for solid phase	Transparent, PTFE/PFA
Reaction tubes for liquid phase	Glass (locks made out of PTFE)
Reaction tubes for multivapour	Glass (locks made out of PTFE)
Vibration frequency	100 to 1000rpm
Orbit	3mm
Rotation drive	brushless, electronic d.c. motor
Heating	aluminum block with 4 heating zones featuring separate temperature control and display
Heating power	approx. 1000W
Temperature range	up to 160°C down to -80°C by external chiller
Control accuracy	±1°C in aluminum block
Temperature display	digital
Temperature ramp	program 4 different temperature settings with max. 9 ramps per heating zone
Connection for vacuum/inert gas atmosphere	via distributor block
Injection of solvent for rinsing:	via septa
Waste Cube vessel (solid phase synthesis)	approx. 1000ml
Interface:	RS232 for monitoring and controlling temperature, vibration frequency, pressure
Protection class:	IP 20
Operation conditions:	0 to 40°C at max. 80% relative humidity
Footprint (W x D):	310 x 500mm
Voltage:	230V 50/60Hz or 115V 50/60Hz

1 Parallel Solid Phase Synthesis - Synthesis 1 Solid

For solid phase reactions and processes by immobilisation of the material with a resin. Synthesis 1 allows for adding samples, splitting off or cleaving from the resin, filtration of by-products and purification of the product.

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- Exceptional chemical resistance due to PTFE and PFA material, resin will not stick to inner walls of reaction vessel and provides clear visibility of the sample
- Easy and quick refilling of vessels via needle through septa
- The bottom part of the reaction vessel accommodates the filter, valve and tube connector for vacuum filtration
- Reaction vessel screw fitting allows for easy and immediate access for filter replacement
- All vessels can be fully disassembled in just seconds and allow for easy cleaning



Type	Description	PK	Cat. No.
Synthesis 1 Solid 16	16 reaction vessels of 42ml each	1	9.812 438
Synthesis 1 Solid 20	20 reaction vessels of 25ml each	1	9.812 439
Synthesis 1 Solid 24	24 reaction vessels of 8ml each	1	9.812 440

Distillation/Rotary evaporators



1 Parallel Liquid Phase Synthesis - Synthesis 1 Liquid

The Synthesis 1 Liquid is best for reactions and processes without the use of resins. Synthesis 1 allows for synthesis and work up of solution phase chemical synthesis.

Heidolph

- The vessel and septa have been specifically engineered to ensure for optional septa fixing, even at high speeds and in a robust environment
- The PTFE cap accommodates the septa, valve and connection for vacuum and inert gas
- To avoid any damage to the silicone septa and protect you from solvents or aggressive media such as acids. A PTFE coating gives the septa additional resistance
- Transparent glass vessels allow for visibility of samples and they are chemically resistant
- Vessels come with standard GL theards. Finished samples can be stored with conventional screw caps
- Easy and quick refilling of vessels via needle through septa

Type	Description	PK	Cat. No.
Synthesis 1 Liquid 12	12 x 50ml reaction vessels	1	9.812 441
Synthesis 1 Liquid 16	16 x 25ml reaction vessels	1	9.812 442
Synthesis 1 Liquid 24	24 x 10ml reaction vessels	1	9.812 443



2 Parallel Synthesis Multiple Evaporator - Synthesis 1 Multiple Evaporator

Most appropriate for simultaneous evaporation or concentration of up to 24 samples. The multiple evaporator is an ideal addition to the liquid phase Synthesis.

Heidolph

- This model is identical with Synthesis 1 liquid and features
- Glassware assembly for the Synthesis 1 allows for solvent recovery
- Guard and temperature hood to avoid a loss of heat and ensures fast heat up under constant sample temperature. In addition, the hood serves for added safety to the operator
- the heating zones on each reaction block allow you to evaporate solvents with different boiling points simultaneously

Type	Description	PK	Cat. No.
Synthesis 1 Multi-evaporator 12	12 x 50ml reaction vessels, with glassware set and guard hood	1	9.812 473
Synthesis 1 Multi-evaporator 16	16 x 25ml reaction vessels, with glassware set and guard hood	1	9.812 474
Synthesis 1 Multi-evaporator 24	24 reaction vessels of 10ml each, with glassware set and guard hood	1	9.812 475

Inert gas box for Synthesis 1

Ideal for operation with the Synthesis 1 while working at temperatures below 0°C. The box prevents the formation of ice on the Synthesis 1 unit by exchanging moisture containing air with a dry inert gas. Inert gas box is made of transparent PMMA panels to provide clear visibility of all samples and for added safety.

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Type	PK	Cat. No.
Inert gas box for Synthesis 1	1	9.812 448

We can supply this
manufacturer's
whole
product range !

partner of the
LLG
Lab Logistics Group

Heidolph
Research made easy

Accessories for Synthesis 1

NEW!

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Type	PK	Cat. No.
Adapter multiple evaporation	1	6.230 317
VAC control automatic RS	1	9.812 447
Reaction Block Solid 16	1	9.812 481
Reaction Block Solid 20	1	9.812 482
Reaction Block Solid 24	1	9.812 483
Reaction Vessel Solid 16	1	9.812 484
Reaction Vessel Solid 20	1	9.812 485
Reaction Vessel Solid 24	1	9.812 486
Filter 16	1	9.812 489
Filter 20	1	9.812 490
Filter 24	1	9.812 491
Septa Solid	1	9.812 487
PTFE Tube (1/16")	1	9.812 493
Clamp Ring for PTFE Tubes (1/16")	1	9.812 495
PTFE Vacuum Tube	1	9.812 496
Temperature sensor for reaction block Solid 16/20/24 and Liquid 24	1	9.812 444
Guard hood	1	9.812 446
Waste Cube 16	1	9.812 497
Waste Cube 20	1	9.812 498
Waste Cube 24	1	9.812 499
Insert for Waste Cube 16	1	9.812 719
Insert for Waste Cube 20	1	9.812 720
Insert for Waste Cube 24	1	9.812 721
Test Tube Rack 16 for Waste Cube 16	1	9.812 722
Test Tube Rack 16 for Waste Cube 20	1	9.812 723
Test Tube Rack 16 for Waste Cube 24	1	9.812 724
Test Tube for Waste Cube Rack 16	1	9.812 725
Test Tube for Waste Cube Rack 20	1	9.812 726
Test Tube for Waste Cube Rack 24	1	9.812 727
Waste Cube Vessel	1	9.812 728
Blanking Screw Cap	1	6.239 362
Reaction Block Liquid 12	1	9.812 729
Reaction Block Liquid 16	1	9.812 730
Reaction Block Liquid 24	1	9.812 731
Reaction Vessel Liquid 12	1	7.920 026
Reaction Vessel Liquid 16	1	9.812 732
Reaction Vessel Liquid 24	1	9.812 733
Glass Vessel Liquid 12	1	9.812 734
Glass Vessel Liquid 16	1	9.812 735
Glass Vessel Liquid 24	1	9.812 736
Temperature Sensor (170mm)	1	9.812 445
PTFE Connecting Tube 12 and 16	1	9.812 737
PTFE Connecting Tube 24	1	9.812 738
Glassware set Synthesis 1	1	9.812 739
Septa Liquid	1	7.920 025

1 Complete Package Synthesis 1 Solid

Heidolph

- Base unit Synthesis 1
- Reaction block and reaction vessels
- Waste Cube with test tube rack, test tubes and Waste Cube vessel
- Guard hood
- 4 external sensors for sample temperature measuring
- Tubing connection for vacuum and inert atmosphere
- PTFE connection tubing for Waste Cube

Type	PK	Cat. No.
Synthesis 1 Solid System 16	1	9.812 470
Synthesis 1 Solid System 20	1	9.812 471
Synthesis 1 Solid System 24	1	9.812 472

1



2 Complete Package Synthesis 1 Liquid

Heidolph

- Base unit Synthesis 1
- Reaction block and reaction vessels
- Guard hood
- 4 external sensors for sample temperature measuring
- Tube connection for vacuum and inert atmospheres

Type	PK	Cat. No.
Synthesis 1 Liquid System 12	1	9.812 404
Synthesis 1 Liquid System 16	1	9.812 408
Synthesis 1 Liquid System 24	1	9.812 409

2





1 Systems for multiple evaporation

The systems are identical to the Synthesis 1 Liquid Systems but additionally include glassware set 1.

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Type	PK	Cat. No.
Synthesis 1 Multiple Evaporator System 12	1	9.812 375
Synthesis 1 Multiple Evaporator System 16	1	9.812 376
Synthesis 1 Multiple Evaporator System 24	1	9.812 403



Intelligent Evaporation





1 Rotary Evaporators Hei-VAP Series

Intelligent Evaporation

Heidolph

For your safety

- Two independent safety circuits avoid an overheat situation of your heating bath: If bath temperature overshoots by 5°C and if your water bath runs dry heating will be switched off automatically
- To avoid an over temperature situation and potential thermal damage to your sample, you can pre-program on the Precision model a max. SET temperature individually at which the bath shuts off
- In case of a power-cut, all motor lift models will remove the flask from the heating bath preventing safety hazards and potential thermal damage to your sample
- To protect you from splashes and scalding, the Hei-VAP heating bath features a pour spout to remove bath fluid safely
- Heating bath is constructed with a double wall for your protection against burns and scalding
- The guard hood covers the entire bath completely even if the heating bath is adjusted horizontally to its most extreme limit
- To prevent short-circuits and systematic corrosion from your heating bath, the electrical cable coupling complies with the high protection class IP 67
- For your protection the operating panel is located near the base and keeps your hands out of the dangerous zone of rotating flasks, steam and splashing bath fluids
- All heating baths feature non-slip handles with safety grip to protect you from scalding bath liquids and allow for easy installation/removal of the bath
- A separate on/off switch for heating prevents an unintentional heat up. If heating is switched on the on/off button is illuminated for visual control
- In case of an overshoot of any parameter setting, all models will show a warning on the operating panel
- Glassware assemblies are optionally available with transparent plastic safety coating ensuring ultimate protection while allowing visual control at all times

For your ease of use

- The detachable operating panel can be attached via Velcro or with a special suspension at eye level for your convenience outside of closed fume hoods
- The evaporating flask clamp can not be lost due to a connection to the vapor tube coupling ring
- A flask ejector feature of the vapor tube coupling ring allows you to remove sticking evaporating flasks from the vapor tube just in seconds in a safe manner
- The universal heating bath can be adjusted horizontally up to 200mm and offers efficient space to accommodate even 5 liter flasks
- For your convenience the height of 160mm and the angle of the evaporating flask can be adjusted easily from 20° to 80°

Reduced cost of ownership

- Reduce your process times depending on your model and periphery up to 30%
- The chemically resistant vacuum seal reduces your spare parts budget up to 75% with prolonged operational lifespan
- Savings at the same high level are possible due to the long service life vapor tube
- Increase your range of applications by using 5 liter flasks in the universal bath at no added costs
- A new coating formula prevents corrosion effectively
- The flange on the condenser side of the drive is made of PPS (Poly Phenylene Sulfide), a robust industrial designer resin with superior chemical resistance, and thus provides more chemical resistance than stainless steel or milled aluminum. That reduces corrosion to a minimum which results in additional savings on maintenance and replacement components associated with corrosion effects of moisture condensation from condenser coupled with common corrosive reagents used in daily laboratory activities
- Only Hei-VAP heating baths reach a temperature of 210°C which is 30°C higher than other evaporators on the market and allow for a broader range of applications which previously could not be performed on any rotary evaporator (for example bitumen distillation). Thus increasing the range of applications eliminates the need for investments in other equipment.
- Reduce your maintenance costs. The sealed housing protects your rotary evaporator from aggressive fumes, liquids and vapors to prevent internal corrosion. This results in an increased lifespan of 10 years on average at a reduced maintenance and repair cost

Specifications

Hei-VAP's

Size for hand lift models (WxDxH):

393 x 427 x 449mm

Size for motor lift models (WxDxH):

393 x 427 x 411mm

Weight (without glass assembly):

approx. 17kg

Hei-VAP Water bath

Temperature range:

from +20°C to +210°C

Temperature accuracy:

< ±1K

Heating capacity:

1300W

Volume heating bath:

4.5L

Sample size/Use of glassware:

flasks up to 5L

1 Hei-VAP Value

Intelligent Evaporation

Heidolph

Affordable model with hand lift for all standard applications

- Includes all standard Hei-VAP features for safety, ease of use and reduced cost of ownership
- The convenience of large dial controls for adjustment of rotation speed and bath temperature
- For precise vacuum control and reproducible results we recommend the optional digital vacuum controller
- For limited budgets we recommend the optional Manual vacuum controller
- Hei-VAP Value models have no digital display

Description	Glassware set	PK	Cat. No.
G1 Angled condenser	standard	1	9.812 410
G1 Angled condenser UK	standard	1	9.812 751
G1 Angled condenser	coated	1	9.812 411
G3 Vertical condenser	standard	1	9.812 412
G3 Vertical condenser UK	standard	1	9.812 753
G3 Vertical condenser	coated	1	9.812 413
G3 Vertical condenser UK	coated	1	9.812 755
G5 Condensate trap	standard	1	9.812 414
G5 Condensate trap	coated	1	9.812 415
G6 Vertical condenser for reflux distillation	standard	1	9.812 416
G6 Vertical condenser for reflux distillation	coated	1	9.812 417



2 Hei-VAP Advantage

Intelligent Evaporation

Heidolph

For your routine distillation applications and reproducible results

- Includes all standard Hei-VAP features for safety, ease of use and reduced cost of ownership
- Available in hand lift or motor lift configurations
- Experience the advantages of our large digital 3.5" LCD display which indicates rotation speed, heating bath and vapor temperature
- We recommend the optional Manual vacuum controller
- Experience the advantages of the automatic process timer which turns off your evaporator at a pre-programmed time and removes evaporator flasks from bath on motor lift models
- Upgrade your Hei-VAP Advantage to a Hei-VAP Precision: Upgrade-KIT Advantage Precision - ML; Upgrade-KIT Advantage Precision - HL

Description	Glassware set	PK	Cat. No.
G1 Angled condenser, Manual lift	standard	1	9.812 420
G1 Angled condenser, Manual lift	coated	1	9.812 421
G3 Vertical condenser, Manual lift	standard	1	9.812 422
G3 Vertical condenser, Manual lift	coated	1	9.812 423
G5 Condensate trap, Manual lift	standard	1	9.812 424
G5 Condensate trap, Manual lift	coated	1	9.812 425
G6 Vertical condenser for reflux distillation, Manual lift	standard	1	9.812 426
G6 Vertical condenser for reflux distillation, Manual lift	coated	1	9.812 427
G1 Angled condenser, Motor lift	standard	1	9.812 430
G1 Angled condenser, Motor lift	coated	1	9.812 431
G3 Vertical condenser, Motor lift	standard	1	9.812 432
G3 Vertical condenser, Motor lift	coated	1	9.812 433
G5 Condensate trap, Motor lift	standard	1	9.812 434
G5 Condensate trap, Motor lift	coated	1	9.812 435
G6 Vertical condenser for reflux distillation, Motor lift	standard	1	9.812 436
G6 Vertical condenser for reflux distillation, Motor lift	coated	1	9.812 437



1



1 Hei-VAP Precision

Intelligent Evaporation

Heidolph

- Includes all standard Hei-VAP features for safety, ease of use and reduced cost of ownership
- Available in hand lift or motor lift configurations
- Experience the advantages of our large 4.3" color graphic display which features all parameters, integrated vacuum controller and includes programs for automated distillations
- Make your life easier by utilizing the integrated software support which leads you through the capabilities of the evaporator
- For data management Hei-VAP precision models feature a USB interface
- Save time by configuring the unit; all connected components and periphery devices will be recognized by the evaporator which eliminates the need to configure the unit manually
- Now you can manage even the most common applications easily and prevent foaming, excessive bubbling or bumping
- Save time with your individualized pre-programmed parameter settings for your 30 most common applications used on a daily basis by saving them as a ramp in Favorites section. Each ramp offers 20 separate steps for demanding applications
- Apply an individual name for those ramps to avoid a mix-up
- Experience the advantages to the automatic process timer which turns off your evaporator at a pre-programmed time by raising the flask on motor lift models and releasing vacuum
- Control your process individually by pre-programming vacuum gradients
- Hei-VAP Precision models feature a built-in vacuum controller as standard

Programs facilitate process control

Reduce your process times significantly by using these three programs for automated distillation.

SETpressure Program for solvent separations. This program holds a pre-set vacuum constant. During the evacuation you have the full flexibility to choose any other level of vacuum by the press of a button.

AUTOeasy Supports the automatic pressure control for solvent separations. The pressure level for the first boiling point is found automatically. This program can be used with all Heidolph glassware assemblies and does not require any accessories.

AUTOaccurate Supports very precise automatic pressure control for solvent separations. This program works similar to AUTOeasy but in addition is able to identify multiple boiling points automatically by reducing vacuum accordingly. Also the AUTOaccurate program delivers the finest and most precise vacuum control. To take advantage of this program the optional AUTOaccurate-sensor is required. Also this program can not be used on Heidolph G1 and G5 glassware assemblies. Leading parameter of this program is the vapor temperature (AUTOaccurate is a combination of the previous programs Tauto and Pauto).

Reduce your process times via automated distillation programs.

Description	Glassware set	PK	Cat. No.
G1 Diagonal condenser, Hand lift	standard	1	9.812 450
G1 Diagonal condenser, Hand lift	coated	1	9.812 451
G3 Vertical condenser, Hand lift	standard	1	9.812 452
G3 Vertical condenser, Hand lift	coated	1	9.812 453
G5 Condensate trap, Hand lift	standard	1	9.812 454
G5 Condensate trap, Hand lift	coated	1	9.812 455
G6 Vertical condenser for reflux distillation, Hand lift	standard	1	9.812 456
G6 Vertical condenser for reflux distillation, Hand lift	coated	1	9.812 457
G1 Diagonal condenser, Motor lift	standard	1	9.812 458
G1 Diagonal condenser, Motor lift	coated	1	9.812 459
G3 Vertical condenser, Motor lift	standard	1	9.812 460
G3 Vertical condenser, Motor lift	coated	1	9.812 461
G5 Condensate trap, Motor lift	standard	1	9.812 462
G5 Condensate trap, Motor lift	coated	1	9.812 463
G6 Vertical condenser for reflux distillation, Motor lift	standard	1	9.812 464
G6 Vertical condenser for reflux distillation, Motor lift	coated	1	9.812 465



1 Accessories for Rotary Evaporators Hei-VAP Series

NEW!
Heidolph



Description	PK	Cat. No.
Guard hood for evaporating flasks	1	6.236 805
Guard shield for attaching to bath	1	9.812 476
Boiling temperature sensor	1	7.651 893
Temperature sensor for controller function AUTOaccurate	1	9.812 479
Vacuum valve	1	6.237 305
Heating bath fluid, 5L	1	9.906 200
Tube set, 5m vacuum tube and 6m water tube	1	7.078 667
Manual vacuum controller	1	9.812 388
Upgrade-Kit advantage precision motor lift	1	9.812 395
Upgrade-Kit advantage precision manual lift	1	9.812 398
Spare PTFE vacuum seal	1	7.055 667
Spare clamping sleeve	1	7.076 245
Switchbox, connects up to 3 rotary evaporators to one pump and control vacuum individually	1	9.812 480

Chiller

Rotacool

High cooling capacity; minimal bench space

- The only chiller designed specifically for rotary evaporators
- Minimal bench space due to unique L-shape design
- Long-lasting service life
- Footprint of chiller (L x W x H): 470 x 580 x 443mm
- Provides space of (L x W): 470 x 405mm for evaporator
- Temperature range: -10°C to +40°C
- Small quantity of circulating coolant required due to innovative technology
- Precise temperature control of $\pm 0.5^\circ\text{C}$
- Display for setting temperature and reading out actual temperature

Rotacool mini

Ideal for routine applications

- Chiller for all bench top evaporators
- Small footprint of chiller (L x W x H): 225 x 450 x 400mm
- Cooling temperature: 7°C (not adjustable)
- Cooling capacity at 7°C, 370W
- No digital display

RotaChill

The affordable model

- Temperature range: -20°C to +100°C
- Temperature control: $\pm 0.2^\circ\text{C}$
- Footprint of chiller: 210 x 450 x 570mm
- No digital display

Type	PK	Cat. No.
Rotacool	1	9.812 399
Rotacool mini	1	6.230 365
RotaChill	1	9.812 400

2

Heidolph



9.812 399

3



6.230 365

4



9.812 400



1 Bladder for rotary evaporators

Football bladder

Type	PK	Cat. No.
Bladder for rotary evaporators	1	9.115 515



2 Large Scale Evaporator LR 20 series

Intelligent Evaporation

Heidolph

Your advantages

- A guard hood consisting of a metal frame and safety glass, covers the bath completely while providing clear visible monitoring
- Features water level regulation system to prevent water from spilling over and potential flooding your lab
- Unique integrated evaporating flask support system allows for "one person operation" to remove the flask in just moments
- A temperature sensor powers off the bath in case of any uncontrolled heat-up event. In case of over pressure or glassware breakage the unit powers off entirely
- No hassle or safety concerns due to low fluid levels: self-filling water bath takes the worry out of running dry
- Automatic models allow for continuous unattended operation overnight and weekend applications to work off large quantities, great alternative to 50L or 100L evaporator
- Receiver cassettes guard against glassware breakage while providing a self standing support
- Excellent user safety with high impact transparent PMMA door guard glassware and receiving cassettes

Type	i	ii	iii	iv	PK	Cat. No.
LR 20 compact R	1			1	1	9.812 520
LR 20 compact RC	1			2	1	9.812 521
LR 20 compact A		1	1	1	1	9.812 522
LR 20 compact AC		1	1	2	1	9.812 523
LR 20 compact A2	1	1	1	1	1	9.812 524
LR 20 compact A2C	1	1	1	2	1	9.812 525
LR 20 safety R	1			1	1	9.812 526
LR 20 safety RC	1			2	1	9.812 527
LR 20 safety A		1	1	1	1	9.812 528
LR 20 safety AC		1	1	2	1	9.812 529
LR 20 safety A2	1	1	1	1	1	9.812 530
LR 20 safety A2C	1	1	1	2	1	9.812 531
LR 20 compact R shorty					1	9.812 539
LR 20 compact R shorty					1	9.812 540
LR 20 compact RC shorty					1	9.812 553
LR 20 compact R shorty					1	9.812 554
LR 20 control economy R shorty*					1	9.812 555
LR 20 control safety R shorty*					1	9.812 556
LR 20 control economy RC shorty*					1	9.812 557
LR 20 control safety RC shorty*					1	9.812 558

i = upward condenser, ii = downward condenser, iii = expansion vessel, iv = receiving flask

All variants, upon request, are available with an oil bath instead of a water bath.

* Oil bath

1 Laborota 20 automatic

Automated 24 hr Distillation:

Large scale evaporator designed for unattended use. The required solvent is automatically refilled and condensate continuously drained off. The automatic water bath refill system along with an additional control panel for filling and electronics allow for use over an extended period of time.

- Designed for 24 hr continuous use
- For continuous operation overnight and at the weekend
- Affordable alternative to common 50L and 100L evaporators
- Particularly suitable for solvent processing
- Reduces exposure to solvent vapour and spills

Heidolph



Type	PK	Cat. No.
Safety version, water bath, glassware kit A	1	9.812 535
Safety version, oil bath, glassware kit A	1	9.812 537
Safety version, water bath, glassware kit A2	1	9.812 549
Safety version, oil bath, glassware kit A2	1	9.812 550
Economy version, water bath, glassware kit A	1	9.812 536
Economy version, oil bath, glassware kit A	1	9.812 538
Economy version, water bath, glassware kit A2	1	9.812 559
Economy version, oil bath, glassware kit A2	1	9.812 534





6.232 855



6.237 535



4.008 136

Rotary evaporators RV 10 basic

NEW!

IKA

The RV 10 basic rotary evaporator with integrated HB 10 heating bath is the base model of IKA's new rotary evaporator line. The RV 10 basic comes as standard with vertical glassware, either coated or uncoated.

- Analog heating bath with adjustable safety circuit, "stand alone" operation is possible, pivoting safety hood as an accessory
- Safe and simple operation by means of ergonomically shaped control unit in the front
- Motorized lift (stroke 140mm) with "safety stop" function, if the power cuts out the evaporator flask is automatically lifted out of the heating bath
- Adjustable end position recognition to protect the glass from breaking
- Speed range from 20rpm to 280rpm
- Smooth start from 100rpm
- Digital speed display
- Rotates clockwise and counterclockwise in interval operation for the drying process
- Timer function for time lapse control
- Water/oil heating bath with integrated carrying handles for safe handling
- Heats up quickly because of optimised bath volumes
- Push-off mechanism to loosen tightly fitting flasks
- Suitable for DIN EN 12697-3 (Asphalt test for hot asphalt)
- 5 year warranty after registration

RV 10 basic standard package includes:

- Drive
- Heating bath
- Vertical glassware, coated and uncoated (1L receiving and distilling flask)
- Vapor tube NS 29/32
- Vacuum seal
- Woulff bottle

Specifications:

Drive:

50W

Motor rating input:

20 to 280 rpm

Speed range:

digital

Speed display:

0 to 45°

Head angle adjustable:

140mm, motorised

Stroke displacement:

60mm, contact-free

Setting of lower end stop:

Heating bath:

Ambient up to 180°C

Temperature range:

Heating power:

1.300W

Type	Description	PK	Cat. No.
RV 10 basic V	with heating bath HB 10 basic and vertical glassware, RV 10.1	1	6.232 855 1
RV 10 basic V-C	with heating bath HB 10 basic and vertical glassware, coated RV 10.10	1	6.234 546
RV 10.70	Vapor tube made of borosilicate glass, NS 29/32	1	6.237 535 2
RV 10.8001	Lip-seal from a PTFE compound with a built-in stainless steel spring	1	4.008 136 3

We can supply this
manufacturer's
whole
product range !

partner of the
LLG
Lab Logistics Group

IKA®

Rotary evaporators RV 10 digital

NEW!

1

IKA®s RV 10 digital is a combination of performance, reliability and versatility and offers users the precision of an accurate digitally controlled heating bath. The perfectly coordinated data transfer between the heating bath and the drive unit as well as the option of remote operation from a PC ensure results that can be reproduced any time.

Same properties as RV 10 basic, with the following additional functions:

- Digital water/oil heating bath with integrated carrying handles, "stand alone" operation is possible
- Temperature control of the heating bath by a micro controller
- Digital temperature display
- Infrared interface for data transfer from the heating bath to the drive unit
- RS 232 interface for PC remote operation with labworldsoft®
- Timer function shuts off heating bath at completion of timer sequence
- 5 year warranty after registration

IKA



6.233 581

Type	Description	PK	Cat. No.
RV 10 digital V	with heating bath HB 10 digital and vertical glassware RV 10.1	1	6.233 581
RV 10 digital V-C	with heating bath HB 10 digital and vertical glassware, coated RV 10.10	1	6.237 318
RV 10 digital FLEX	with heating bath HB 10 digital, incl. Woulff bottle, glassware - please order separately	1	6.238 388

Rotary evaporator RV 10 control

NEW!

2

The RV 10 control is the flagship of the new rotary evaporator series by IKA®. It offers all the functions of the RV 10 digital. But the IKA® RV 10 control goes one step further. Like the RV 10 digital, it can be precisely controlled via the RS 232 interface for remote PC operation with IKA®s labworldsoft® and is thus ideal for automatic operation, but that's not all; the control functions also enable completely automatic distillation both for volumebased processes and full drying depending on the area of application. The expandable solvent library also allows you to incorporate new processes.

Same properties as RV 10 digital, with the following additional functions:

- Integrated vacuum controller with central display for automatic distilling and ramp programming
- Integrated solvent library, which can be extended by the user
- Distillation specific parameters stored for standard distillations
- Automatic transfer of measurements and distillation type with one key press
- Programmable volume controlled distillation
- Color graphic display for safe and comfortable operation
- Display of distillation curves
- Multiple languages
- Automatic ventilation at the end of each test
- Cooling water switched off automatically at the end of the test
- Integrated cooling water monitoring
- Heating bath safety management; automatic heating bath monitoring with distillation stop in case of temperature errors
- Heating bath switched off automatically at the end of the test
- USB interface
- 5 years warranty after registration
- New: Now RV 10.4002 Magnetic valve included in delivery

IKA



6.234 885

Type	Description	PK	Cat. No.
RV 10 control V	with heating bath HB 10 control, vertical glassware RV 10.1 and RV 10.4002 Magnetic valve laboratory vacuum	1	6.234 885
RV 10 control V-C	with heating bath HB 10 control, vertical glassware, coated RV 10.10 and RV 10.4002 Magnetic valve laboratory vacuum	1	6.237 319
RV 10 control FLEX	with heating bath HB 10 control, incl. Woulff bottle and RV 10.4002 Magnetic valve laboratory vacuum, glassware - please order separately	1	6.239 267