

## Crossflow-Microfiltration (suitable for PRS).

In crossflow microfiltration a high fluid velocity sweeps particles and emulsions tangentially across the membrane surface. The high velocity minimizes the solids layer buildup and maintains high permeate fluxes compared to static filtration. Particularly favourable and easily controllable flow conditions are found in tubular membranes. Under these conditions only thin filter cakes will be formed.

### Variety of applications:

- Pharmaceutical industry:  
Sterile filtration of nutritive solutions. Concentration of cell suspensions.  
Production of vaccines, amino acids, antibiotics, etc. Sterile plasma filtration.
- Food-processing industry:  
Degreasing and sterile filtration of protein solutions. Seed oil filtration before distillation.  
Clarifying filtration of glucose solutions. Sterile filtration of process water. Vinegar filtration.  
Recovery of valuable suspended or emulsified substances.
- Beverage industry:  
Single-stage sterile filtration of wine, beer and juices before bottling.
- Chemical industry:  
Purification of acid and alkaline solutions and chemicals. Recovery of catalysts from organic liquids.
- Laboratory dialising:  
Deviding of gases, De-ioising, De-alcoholising.

### Advantages:

- Efficiency:  
Complete solid-liquid separation in one operation, low energy consumption, continuous process, capacity easy to adjust, high specific filtration rate through compact modules suited for PBW.
- Safety:  
Closed system - therefore no emissions, complete separation of particles larger than 0.1  $\mu\text{m}$ , no aerosol formation, non particle release membrane, dissolved components pass unhampered.



**BIOGEN-Crossflow-Microfiltration-Modules** for laboratories and pilot plants. Acids- and alkaline solutions, as well as variety of organic solvents can be filtered. Potting-material: Polyurethane. Length of Modul 350 mm, pump volume: (1m/s: 1.5 l/min.). Other types of modules or housings made of PPN with PPN potting material as well as stainless steel housings (with interchangeable filter cartridges) are available upon request.

Type	Membrane cm <sup>2</sup>	Membrane	No. of resp. capillaries	Capillaries I. D./O. D. mm	
Housings, made of PC, limited autoclavable					
WDO602	2000	Cuprophan	1280	0.2/0.22	2.340.003
Housings, made of DURAN, with interchangeable housing-fittings, autoclavable					
WG2PO6	400	PP hydrophobe	85	0.6/1.0	2.340.101
WG062	2000	Cuprophane	1280	0.2/0.22	2.340.103
Spare parts:					
Flange adapter with water connection					2.340.004
Viton-O-Ring					2.340.005
Screw cap with hole GL 32					2.340.006



## Glass filters, DURAN.

### Porosity:

Glass filters are divided into porosity grades from 00 to 5. The table shows the porosity ranges and their main fields of application. The pore sizes indicated always refer to the largest pore in the disc. This also indicates the diameter of the particles which are only retained during filtration. Many „passage“ pores as possible mark out our glass filters. An essential condition for successfully working with glass filters is the selection of the correct porosity. The nominal maximum pore size should be slightly less than the size of the smallest particles to be separated. It also permits highest possible flow rates without making cleaning unnecessary difficult. Glass filter apparatus of porosities 3 or 4 are used almost exclusively in quantitative analysis.

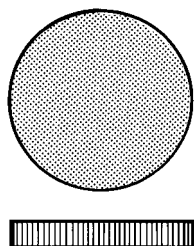
Porosity	New identification marks	Pore size $\mu\text{m}$	Applications
00	P 500	250-500	- Liquid and gas distribution, Substrates for solids in fluid systems
0	P 250	160-250	- Gas distribution, gas distribution in liquids at low pressure, filtration of coarsest precipitates
1	P 160	100-160	- Coarse filtration, filtration of coarse precipitates, gas distribution in liquids, liquid distribution, coarse gas filtration, extraction apparatus for coarse-grain materials, loose filter layer substrates for gelatinous precipitates
2	P 100	40-100	- Preparative fine filtration, preparative work with crystalline precipitates, mercury filtration
3	P 40	16-40	- Analytical filtration, analytical work with medium-fine precipitates, preparative work with fine precipitates, filtration in cellulose chemistry, fine gas filtration, extraction apparatus for fine-grained materials
4	P 16	10-16	- Analytical fine filtration, analytical work with very fine precipitates (e. g. $\text{BaSO}_4$ , $\text{Cu}_2\text{O}$ ), preparative work with precipitates of appropriate fineness, non-return and stop valve for mercury
5	P 1.6	1.0-1.6	- Bacteria filtration, sterile filtration

### Cleaning new Sintered Glassware:

Before using sintered glass filter apparatus for the first time, hot hydrochloric acid followed by several rinses of distilled water should be sucked through the filter disc under a good vacuum. This removes dust particles and powdered glass. It is important that each successive water rinse be started only after the preceding one has been completely flushed through. This method must only be used for cleaning filters. It should never be adopted for preparative or analytical filtration. The sintered glassware should remain in the oven or sterilizer at a temperature of 110 °C - 150 °C.

### Sintered discs, DURAN. Edge not fused, centred, surfaces untreated.

Sintered disc up 125 mm O. D. to 400 mm O. D.



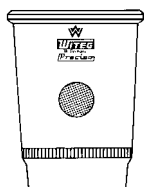
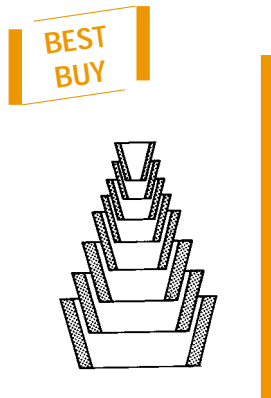
Dia. mm	P00	P0	P1	P2	P3	P4	P5
5	2.350.049	2.350.050	2.350.051	2.350.052	2.350.053	2.350.054	2.350.055
10	2.350.099	2.350.100	2.350.101	2.350.102	2.350.103	2.350.104	2.350.105
20	2.350.199	2.350.200	2.350.201	2.350.202	2.350.203	2.350.204	2.350.205
25	2.350.249	2.350.250	2.350.251	2.350.252	2.350.253	2.350.254	2.350.255
30	2.350.299	2.350.300	2.350.301	2.350.302	2.350.303	2.350.304	2.350.305
40	2.350.399	2.350.400	2.350.401	2.350.402	2.350.403	2.350.404	2.350.405
50	2.350.499	2.350.500	2.350.501	2.350.502	2.350.503	2.350.504	2.350.505
60	2.350.599	2.350.600	2.350.601	2.350.602	2.350.603	2.350.604	2.350.605
70	2.350.699	2.350.700	2.350.701	2.350.702	2.350.703	2.350.704	2.350.705
80	2.350.799	2.350.800	2.350.801	2.350.802	2.350.803	2.350.804	2.350.805
90	2.350.899	2.350.900	2.350.901	2.350.902	2.350.903	2.350.904	2.350.905
120	2.350.919	2.350.920	2.350.921	2.350.922	2.350.923	2.350.924	2.350.925



1. Gukos, rubber gaskets, conical, for filter funnels.

2. Rubber rings, new, with rim for improved placement.

O. D. Size top mm	O. D. Bottom mm	I. D. Bottom mm	Height mm	1.	2.
21	11	7	21	2.356.022	–
27	16	11	22	2.356.028	2.364.011
37	22	16	25	2.356.035	2.364.012
46	29	22	29	2.356.050	2.364.013
58	38	30	35	2.356.063	2.364.014
69	60	36	40	2.356.076	2.364.015
86	75	46	45	2.356.089	–
Guko-Set					
7 Gukos, sizes 21 to 86				2.355.000	–

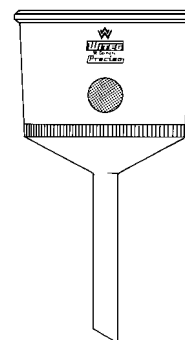


Crucibles with sintered disc, Gooch.

Capacity ml	P0	P1	P2	P3	P4	P5
8	2.360.080	2.360.081	2.360.082	2.360.083	2.360.084	2.360.005
15	2.360.150	2.360.152	2.360.152	2.360.153	2.360.154	2.360.155
30	2.360.300	2.360.301	2.360.302	2.360.303	2.360.304	2.360.305
50	2.360.500	2.360.501	2.360.502	2.360.503	2.360.504	2.360.505

Rubber sleeves for crucibles.

O. D. mm	For crucibles ml	For filter adapter I. D. mm	
26	8	26	2.364.026
33	15	33	2.364.033
41	30	41	2.364.041
48	50	48	2.364.048



Buechner filters, filter funnels.

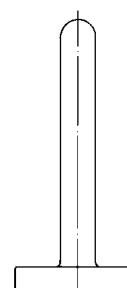
Capacity ml	Disc dia. mm	Stem O. D. mm	P0	P1	P2	P3	P4	P5
50	35	10	2.367.050	2.367.051	2.367.052	2.367.053	2.367.054	2.367.055
75	45	10	2.367.070	2.367.071	2.367.072	2.367.073	2.367.074	2.367.075
125	60	10	2.367.120	2.367.121	2.367.122	2.367.123	2.367.124	2.367.125
500	90	22	2.367.500	2.367.501	2.367.502	2.367.503	2.567.504	2.367.505
1000	120	22	2.367.900	2.367.901	2.367.902	2.367.903	2.367.904	2.367.905
4000	175	30	–	2.367.991	2.367.992	2.367.993	2.367.994	–
8000	200	30	–	2.368.001	2.368.002	2.368.003	2.368.004	–

Crucible adapters, stem O. D. 10 mm.

I. D. mm	For crucibles ml	For rubber sleeve O. D. mm	
26	8	26	2.365.026
33	15	33	2.365.033
41	30	41	2.365.041
48	50	48	2.365.050

Funnel insert.

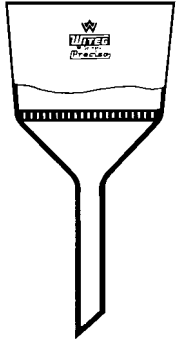
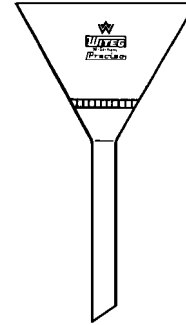
Disc O. D. mm	Overall length mm	Disc height mm	
35	118	8	2.368.013
50	135	10	2.368.015
70	154	14	2.368.017





## Filter funnels, Hirsch funnels. Dia. 55 mm.

Capacity ml	Disc dia. mm	Stem dia. mm	P3	P4
25	25	8	2.368.053	2.368.054

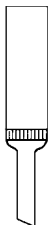
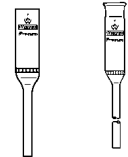


## Buechner funnels, with slit sieves.

Capacity ml	Disc dia. mm	Stem dia. mm	
70	48	10	2.369.070
125	60	10	2.369.125
220	73	18	2.369.220
500	95	22	2.369.500
1000	120	22	2.369.900

## Micro filter funnels.

Capacity ml	Disc dia. mm	Stem dia. mm	P0	P1	P2	P3	P4
0.8	10	6	2.370.080	2.370.081	2.370.082	2.370.083	2.370.084
2.0	10	6	2.370.090	2.370.091	2.370.092	2.370.093	2.370.094
<b>Acc. to Pregl</b>							
4.0	10	6	—	2.372.041	—	—	—

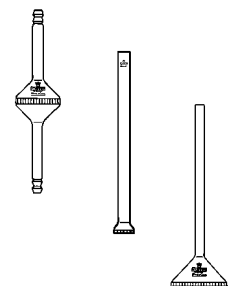


## Filter tube, Allihn. Height above disc 100 mm.

Capacity ml	Disc dia. mm	Stem dia. mm	P0	P1	P2	P3	P4
30	20	10	2.374.030	2.374.031	2.374.032	2.374.033	2.374.034

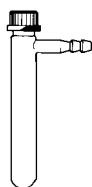
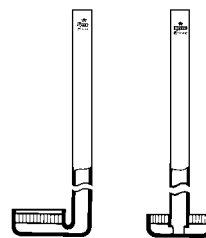
## Filters.

Disc dia. mm	Tube dia. mm	Length mm	P0	P1	P2	P3	P4
<b>Pipeline filters</b>							
30	14	—	2.375.030	2.375.031	2.375.032	2.375.033	2.375.034
60	15	—	2.375.060	2.375.061	2.375.062	2.375.063	2.375.064
90	20	—	2.375.090	2.375.091	2.375.092	2.375.093	2.375.094
<b>Immersion filters, for reverse filtration</b>							
35	10	210	2.376.030	2.376.031	2.376.032	2.376.033	2.376.034
<b>Micro immersion filters, for reverse filtration</b>							
10	6	100	2.380.061	2.380.062	2.380.063	2.380.063	2.380.064



## Gas distribution tubes.

Disc dia. mm	Tube dia. mm	Length mm	P0	P1	P2
22	6	250	2.378.060	2.378.061	2.378.062
25	9	250	2.378.090	2.378.091	2.378.092
34	11	250	–	2.378.101	–



**Suction tubes**, with side hose connection, complete with screw cap, top with hole and gasket, silicon rubber with PTFE-washer.

Length mm	Screw thread GL	Gasket mm	
100	14	12 x 6	2.385.014
160	18	16 x 8	2.385.018
180	25	22 x 10	2.385.025
200	32	29 x 10	2.385.032

**Filter flasks**, with screw-thread GL 32/10 and SVS-tubing connection GL 14, for vacuum use.

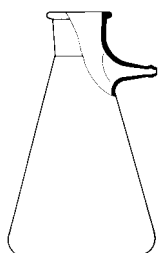
Capacity ml	Complete	Flask
100	2.386.100	2.386.101
250	2.386.250	2.386.251
500	2.386.500	2.386.501
1000	2.386.001	2.386.901
Screw cap, top with hole, GL 32		2.386.102
Gasket, silicon rubber, with PTFE-washer 29 x 10 mm		2.386.103
Screw cap, top with hole, GL 14		2.386.104
Hose connection, PP, bent, with gasket		2.386.105



**Filter flasks, Erlenmeyer shape**, with side tube, borosilicate glass. (If desired, up to 2000 ml capacity vacuum tested with 2 bar).

1. DURAN, non-coating.
2. Clear glass, non-coating.
3. Safety PROTEFAN coating as implosion and splinter protection.

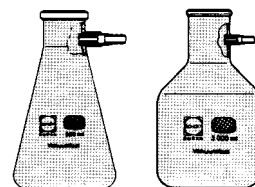
Capacity ml	Height mm	Dia. mm	1.	2.	3.
250	155	85	5.080.250	5.680.250 B	5.090.250
500	185	105	5.080.500	5.680.500 B	5.090.500
1000	230	135	5.080.001	5.680.001 B	5.090.001
2000	265	170	5.080.002	5.680.002 B	5.090.002
3000	305	200	5.080.003	5.680.003 B	–
5000	375	235	5.080.005	5.680.005 B	–
10000	465	315	5.080.010	5.680.010 B	–



**Filtration flasks**, with plastic hose connection and tubulature.

1. Clear glass, non-coating.
2. With safety LEVASINT coating. DURAN

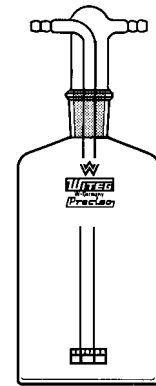
Capacity ml	1.	2.
<b>Erlenmeyer shape</b>		
100	5.070.110	5.071.010
250	5.070.125	5.071.025
500	5.070.150	5.071.050
1000	5.070.210	5.071.100
2000	5.070.220	5.071.200
<b>Bottle shape</b>		
3000	5.070.310	5.071.300
5000	5.070.350	5.071.500
10000	5.070.390	5.071.900
15000	5.070.395	5.071.915
20000	5.070.397	5.071.920





## Gas washing bottles, acc. to Drechsel. ST 29/32.

Capacity ml	Without sintered disc	Disc P0	Disc P1	Disc P2	Spare bottle ST 29/32
<b>With standrad head</b>					
100	2.400.100	2.402.100	2.402.101	2.402.102	2.401.100
250	2.400.250	2.402.250	2.402.251	2.402.252	2.401.200
500	2.400.500	2.402.500	2.402.501	2.402.502	2.401.500
1000	2.400.001	2.402.001	2.402.011	2.402.512	2.401.001
Head with sintered disc.	—	2.402.600	2.402.601	2.402.602	—
Without sintered disc.	2.400.101	—	—	—	—
<b>With security sintered disc. DIN 12596</b>					
100	2.403.100	2.404.100	2.404.101	2.404.102	—
250	2.403.250	2.404.250	2.404.250	2.404.252	—
500	2.403.500	2.404.500	2.404.501	2.404.502	—
1000	2.403.001	2.404.001	2.404.011	2.404.012	—
Head with sintered disc.	—	2.404.601	2.404.602	2.404.603	—
Without sintered disc.	2.403.101	—	—	—	—



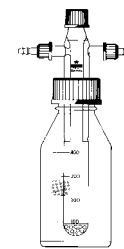
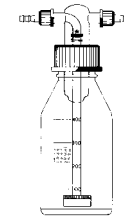
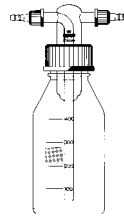
## Gas washing bottles, with sintered disc, with GL 45, screw thread cap and removeable tube, porosity 1, disc dia. 60 mm, with plastic base to avoid breakage 350 ml.

Type	
Complete	2.418.010
Spare parts:	
Bottle 350 ml, P1	2.418.011
Tube with stop	2.418.012



## Security washing bottles, with screw-thread, porosity 0, with 2 SVS-screw thread connecting GL 14, center neck GL 32, with septum.

Capacity ml	Washing intensity l/h	
200	80	2.418.200
300	100	2.418.230
500	130	2.418.250

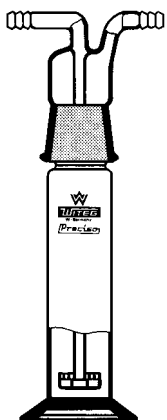


## Gas washing bottles, 500 ml, acc. to Drechsel, with sintered disc, GL 45 and screw-thread GL 14, complete.

Type	
Without sintered disc	2.410.500
With sintered disc	
P0	2.414.500
P1	2.414.501
P2	2.414.502
Spare parts:	
Flask	2.410.001
Screw cap, with hole, GL 45	2.410.002
Gasket Silicone rubber, with PTFE-washer	2.410.003
Head with 2 screw-threads GL 14	2.410.004
Head, sintered disc P0	2.414.001
Head, sintered disc P1	2.414.002
Head, sintered disc P2	2.414.003
Screw cap, with hole, GL 14	2.410.005
Hose connection, PP, straight, Ø 8 mm	2.410.006
Screw cap, top closed, GL 18, with PTFE-washer	2.414.004

## Security washing bottles 500 ml, with screw-thread GL 45 and tubing connection GL 14, complete.

Type	
Security washing bottle	2.412.500
Head, 2 x GL 14, 1 x GL 18	2.412.001



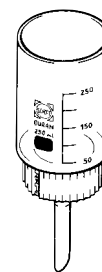
## Gas washing bottles, with sintered disc, complete.

Capacity ml	NS	Bowl dia. mm		P0	P1	P2
<b>Complete</b>						
100	34/35	25	—	2.416.100	2.416.101	2.416.102
250	45/40	34	—	2.416.250	2.416.251	2.416.252
<b>Bottle</b>						
100	—	—	2.416.001	—	—	—
250	—	—	2.416.002	—	—	—
<b>Top part</b>						
100	—	—	—	2.416.003	2.416.004	2.416.005
250	—	—	—	2.416.006	2.416.007	2.416.008

**Screw filters with interchangeable filterplates.** Simple and safe to handle. 3 filter heads and 4 filterplates of 4 varying porosities. Screw filters offer extraordinary advantages when compared with conventional filtration units:

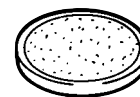
- Interchangeable filterplates.
  - Simple and safe removal of the filtration sediment.
  - Longer lifetime of the filter plates as the sediment can be removed without scraping them off.
  - Easy cleansing of the filterplates from both sides.
  - Filter plates can be used as holder for membrane filters.
  - Space-saving.
  - Cost-saving-as filter plates and other parts can be ordered separately acc. to user's requirements.
- Funnel. PP, up to 140 °C autoclavable.

Capacity ml	For plate dia. mm	Screw thread mm	Complete without plate	Head	Funnel	Viton O-ring
30	24	28	2.387.001	2.387.101	2.387.601	2.387.201
250	50	54	2.387.002	2.387.102	2.387.602	2.387.202
1000	90	95	2.387.003	2.387.103	2.387.603	2.387.203



**Filter discs**, with glass rim. Place the filterplates between 2 Viton seals.

Disc dia. mm	P1	P2	P3	P4
24	2.387.301	2.387.302	2.387.303	2.387.304
50	2.387.401	2.387.402	2.387.403	2.387.404
90	2.387.501	2.387.502	2.387.503	2.387.504



**Disposable vacuum filters**, PS, clarification and sterile filtration of nutrient solution, for cultures etc. gammasterile, packed 10 pcs. in bag.

Capacity ml	Pore µm	Applications	Filter dia. mm	
125	0.20	Sterilisation	50	5.484.501
125	0.45	Clarification	50	5.484.502
500	0.25	Sterilisation	47	5.484.503
500	0.45	Clarification	47	5.484.504



**Buechner funnels**, porcelain, DIN 12905, glazed for filter paper circles.



Filter dia. mm	Top dia. mm	Height mm	Capacity ml	
27	37	64	45	8.527.002
45	56	95	50	8.527.004
55	69	110	75	8.527.005
70	85	140	135	8.527.006
90	105	165	290	8.527.007
110	125	195	580	8.527.008
125	145	215	795	8.527.009
150	170	235	1250	8.527.010
185	220	280	1900	8.527.011
240	280	330	4300	8.527.012
320	380	350	10600	8.527.014

**Buechner funnels**, PP.

Filter dia. mm	Height mm	Holes dia. mm	
45	95	1.0	7.048.001
55	113	1.0	7.048.002
70	145	1.5	7.048.003
80	165	1.5	7.048.004
90	180	1.5	7.048.005
110	210	2.0	7.048.006
160	280	3.0	7.048.007
240	350	3.0	7.048.008





## Filter paper circles.

Please specify the filter size by your requirement as follows:

0. Extra rapid, thin. 1. Rapid. 2. Medium soft, medium speed. 3. Medium speed, medium soft, fat free. 4. Medium dense, medium rapid. 5. Dense, slow. 6. Extra dense, very slow.

1. Filter paper circles, for quantitative analysis, ash approx. 0.01 %. (Sorte 1-5)

2. Filter paper circles, for quantitative analysis, ash 0.1-0.2 %. (Sorte 1-6)

3. Filter paper circles, for quantitative analysis, ash 0.1-0.2 %. (Sorte 0-6)

Standard pack 100 pcs.

Dia. mm	1.	2.	3.
55	8.200.*05	8.201.*05	8.202.*05
70	8.200.*07	8.201.*07	8.202.*07
90	8.200.*09	8.201.*09	8.202.*09
110	8.200.*11	8.201.*11	8.202.*11
125	8.200.*12	8.201.*12	8.202.*12
150	8.200.*15	8.201.*15	8.202.*15
185	8.200.*18	8.201.*18	8.202.*18
240	—	8.201.*24	8.202.*24
270	—	8.201.*27	8.202.*27
320	—	8.201.*32	8.202.*32
385	—	8.201.*38	8.202.*38



**Universal and special indicator paper.** Only one strip is necessary for determining the pH value in the 0 to 14 range. Plastic box 200 strips.

pH strips 8.208.001

**Litmus papers.** General testing for acid or alkalic reaction, pH range 5.0 to 8.0. Booklets of 100 strips.

Blue to red (alkaline to acidic) 8.209.001

Red to blue (acidic to alkaline) 8.209.001



**Filter paper sheets**, for general laboratory work and for laying-out laboratory tables, medium fast. Standard pack 100 pcs.

Dimensions mm	Weight g/m <sup>2</sup>	Size	
580 x 580	65	grained	8.206.105
580 x 580	75	grained	8.206.205
580 x 580	61	smooth	8.206.305
580 x 580	74	smooth	8.206.405

**Drying blocks, lens paper,** 100 blocks per carton, 50 sheets per blocks.

37 x 100 8.205.137

**Cellulose paper** for chromatography.

580 x 600 120 7.050.444

**Filter papers**, rolls and sheets, PE-coated. For isotopes and bacteriological laboratories for absorbing spilled liquids. For laying-out animal research cages.

Dimensions mm x m	Weight g/m <sup>2</sup>	Water absorption ml/m <sup>2</sup>	Standard- pack pcs	
400 x 25	120	90	1	8.207.101
400 x 50	120	90	1	8.207.102
400 x100	120	90	1	8.207.103
600 x 25	120	90	1	8.207.104
600 x 50	120	90	1	8.207.105
600 x100	120	90	1	8.207.106
480 x 6	120	90	50	8.207.107
400 x 50	165	190	1	8.207.202
600 x 50	165	190	1	8.207.205
480 x 6	165	190	50	8.207.207



**Membrane filters, regenerated cellulose**, suitable for pharmaceutical applications, with an outstanding chemical resistance to organic solvents.

Pore µm	Dia. 25 mm	Dia. 47 mm	Dia. 50 mm
1.0	8.211.101	8.211.102	8.211.103
0.6	8.211.201	8.211.202	8.211.203
0.45	8.211.301	8.211.302	8.211.303
0.2	8.211.401	8.211.402	8.211.403





**Disposable filter holders.** Housing material PP.

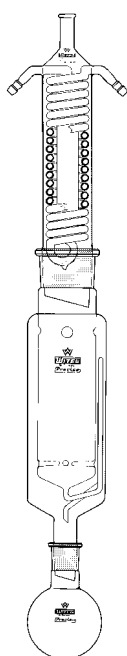
Pore µm	Filter Dia. mm	Standard pack pcs.	
0.2	13	100/500	8.212.001
0.2	30	100/500	8.212.002
0.45	13	100/500	8.212.003
0.45	30	50/100/500	8.212.004
Especially for the preparation of HPLC samples, suitable for aqueous and organic solutions Membrane material: regenerated cellulose			
For the preparation of HPLC samples, especially suitable for the filtration of gas and non-aqueous solutions. Membrane material: PTFE.			
0.2	30	50/100/500	8.213.001
0.45	30	50/100/500	8.213.002
1.0	30	50/100/500	8.213.003
For general laboratory work, aqueous solutions, individually sterile prepacked			
0.45	30	50	8.214.001
0.2	30	50	8.214.002


**Vacuum filtration equipment** made of borosilicate glass. With glass frit, without clamps.

Funnel content ml	Flask content ml	Filter-Ø mm	Complete	Bottle	Stopper with drilled hole	Clamps
60	ohne	24/25	8.215.001	–	–	8.217.060
60	250	24/25	8.215.002	8.215.006	8.216.001	8.217.060
250	ohne	47/50	8.215.003	–	–	8.217.250
250	1000	47/50	8.215.004	8.215.005	8.216.002	8.217.250

**Vacuum filtration equipment acc. to Swiegot,** made of borosilicate glass, with glass frit, porosity 0, complete with screw thread cap PP, complete with filtration flask 1000 ml with GL14 and plastic host connection, suitable for all standard filters, complete with seal elements PTFE/VITON.

Funnel content ml	Filter Dia. mm	Complete	Funnel	Lower part	Bottle	PTFE seal	Cap PP
60	24/25	8.390.101	8.390.201	8.390.301	8.390.400	8.390.501	8.390.601
300	47/50	8.390.102	8.390.202	8.390.302	8.390.400	8.390.502	8.390.602
1000	90	8.390.103	8.390.203	8.390.303	8.390.400	8.390.503	8.390.603


**Extraction.**

In general the extraction method with solvents is either used for the isolation of dissolved materials out of solutions or for the extraction of soluble components out of solid materials and for the removal of soil out of solid materials. There must not be any chemical reaction between the material and the solvent. The simplest forms of extraction are lixiviating and shaking out. Both methods can only be used in case of good solubility of the substance which must be extracted.

In the practice, however, there are mainly substances, the extraction of which is more difficult. For these substances continuously operating apparatuses are used. According to the state of aggregation of the substance which must be extracted, we distinguish between solid-liquid and liquid-liquid extraction. As far as the solid-liquid extraction is concerned, the solid material is washed out by pure solvent condensates or solvent vapours. The material can directly be put into the extractor or into a filter element. In case extraction is effected near the boiling point of the solvent, it is called a hot extraction. You can save 50 % of the time you have spent on this work up to now.

The liquid-liquid extraction is strictly speaking a separation process. In this process two liquid phases which cannot be mixed and which are only slightly soluble, are confronted with each other. The result is that one or more components of the one phase are solved in the other phase. The chemical properties of the solved materials and of the solvents have an influence on the affinities which represent the bases for the extraction processes. In general you either work with specifically light or heavy solvents. The light extraction agent rises from the distributor to the top and then it flows back into the flask with the extract, while the heavy extraction agent takes the reverse way and sinks through the liquid which must be extracted.

The „Allihn“ condenser has only a low capacity. Owing to its „comparatively high capacity of condensation the „Dimroth“ condenser can be universally used, even for the extraction.



## Technical data for Extractor apparatus, Soxhlet. Flasks ST 29/32.

Capacity of extractor ml	*30	70	*100	150	200	*250	300	*500	*1000	2000
Capacity of flask ml	100	100	250	250	250	500	500	1000	2000	2000
Suitable extraction thimbles:										
Socket length mm	80	100	94	130	123	205	145	230	315	330
Socket I. D. mm	22	25	33	33	43	33	48	48	57	75
Cone of condenser ST	29/32	34/35	45/40	45/40	45/40	45/40	60/46	60/46	71/51	45/40
Flat flanges NW	—	—	—	—	—	—	—	—	—	100

\* acc. to DIN 12602

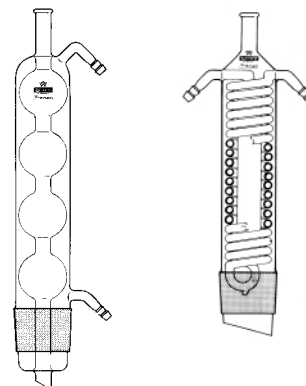
## Extraction apparatuses, solid, Soxhlet, complete, with stop-cock.



Capacity of extractor ml	Complete	Top
30	2.230.030	2.212.030
70	2.330.070	2.212.070
100	2.230.100	2.212.100
150	2.230.150	2.212.150
200	2.230.200	2.212.200
250	2.230.250	2.212.250
300	2.230.300	2.212.300
500	2.230.500	2.212.500
1000	2.230.001	2.212.001
2000	2.230.002	2.212.002

## Condensers. For Extraction apparatuses.

For capacity of extractor ml	Length mm	Cone ST	Allihn-Condenser	Dimroth-Condenser
30	250	29/32	2.200.029	2.202.029
70	250	34/35	2.200.034	2.202.034
100-250	250	45/40	2.200.045	2.202.045
300-500	250	60/46	2.200.060	2.202.060
1000	250	71/51	—	2.202.071
2000	300	45/40	—	2.202.145



\* \*\*S. Instead of the conventional hose connection made of glass we offer our SVS-hose connection Cat. No. 0.185.001 (Please add „S“ behind the article no., surcharge see price list).

## Extraction thimbles, made of fat-free filter paper. Suitable for extraction apparatus acc. to Soxhlet and similar systems. Other sizes on request.



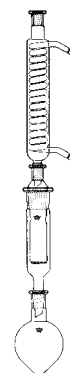
For Extractor capacity ml	O. D. mm	Height mm	
30	22	80	8.205.001
70	25	100	8.205.002
100	33	94	8.205.004
150	33	150	8.205.006
200	43	123	8.205.007
250	33	205	8.205.008
300	48	145	8.205.009
500	48	230	8.205.010
1000	57	315	8.205.011
2000	75	330	8.205.012

**Flasks, round bottom, medium neck ST 29/32.**

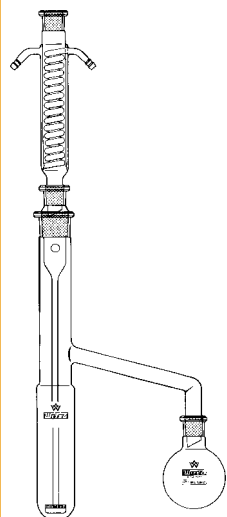
For capacity of extractor ml	Capacity	
	ml	
30-70	100	2.220.100
100-200	250	2.220.250
250-300	500	2.220.500
500	1000	2.220.001
1000-2000	2000	2.220.002


**Extraction apparatuses, Böhm, hot extraction, complete.**  
 Flask ST 29/32. Condenser St 45/40 acc. to DIN 12604.

Capacity of extractor ml	Condensers ST	Complete	Top
100	45/40	2.235.100	2.218.100
250	45/40	2.235.250	2.218.250
500	60/46	2.235.500	2.218.500


**Extraction apparatuses-semi-micro, Antlinger, 15 ml capacity of extractor.**

Type	
Complete	2.240.000
Spare parts:	
Flask, pear shaped 100 ml, ST 19/26	2.240.001
Center piece, cone ST 19/26, socket ST 29/32	2.240.002
Inset, cone ST 29/32, socket ST 19/26	2.240.003
Condenser, Graham, jacket length 160 mm, cone and socket ST 19/26	2.240.004


**Liquid-liquid extraction apparatuses.**

- For lighter solvents (DBGM), complete.
- For lighter and heavier solvents, with ST-COMPACT-stopcock, with hollow plug (DBGM), complete.  
 Flask ST 29/32, condenser ST 29/32.

Extractor capacity ml	Flask capacity ml	Jacket length mm	1. Complete	Extractor for 1.	2. Complete	Extractor for 2.
100	250	250	2.250.100	2.250.102	2.252.100	2.252.102
250	500	250	2.250.250	2.250.252	2.252.250	2.252.252
500	1000	250	2.250.500	2.250.502	2.252.500	2.252.502
1000	2000	400	2.250.001	2.250.012	2.252.001	2.252.012
Flask, round bottom, 250 ml –		–	2.250.101	–	2.252.101	
Flask, round bottom, 500 ml –		–	2.250.251	–	2.252.251	
Flask, round bottom, 1000 ml –		–	2.250.501	–	2.252.501	
Flask, round bottom, 2000 ml –		–	2.250.011	–	2.252.011	
Inset for lighter solvents, with sintered disc (P0), Cone ST 45/40, socket ST 29/32			–	2.250.103	–	2.252.103
Inset for heavier solvents, with sintered disc (P0), Cone ST 45/40, socket ST 29/32			–	–	–	2.252.204
Jacketed coil condenser, jacket length 250 mm, 2 ST 29/32			–	2.250.104	–	2.252.104
Jacketed coil condenser, jacket length 400 mm, 2 ST 29/32			–	2.252.014	–	2.252.014

