Membrane Filters and Filter Holders

Information Guide

Simplifying Progress

SARTORIUS


4201
X2.4200

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Membrane Filters

High Efficiency Membranes for Filtration and Venting Applications

Sartorius produces a wide variety of microporous membranes that are especially designed, developed and manufactured to meet differing needs of the biotechnology industry. Backed up by many decades of experience in membrane manufacturing and by utilizing the most state-of-the-art production equipment on the market, we guarantee excellent performance, consistent quality and a reliable supply of our membrane products.

Membrane processes are one of the most effective separation processes, and they are steadily under development leading to new prospects of their applications. Sartorius' membranes are available in a wide variety of different pore sizes and structures, as well as surface properties to serve nearly unlimited selectivity of separation.

Microporous membranes can be composed of various polymers that differ from one another in their chemical and physical properties. Together with the characteristics of the filter pores these polymer properties govern the results in many filtration applications. The table below provides an overview which polymeric matrices are available at Sartorius portfolio.

Polymer	Features	Typical Applications
Cellulose acetate (CA)	High flow rates Thermal stability Very low non-specific adsorption	Protein filtration Biological and clinical analysis
Cellulose nitrate (CN)	Very high protein and DNA binding	Cell retention Buffer filtration Microbiological testing
Regenerated cellulose (RC)	Strong chemical resistance Low protein binding	Particle removal from organic and aqueous media Ultracleaning of solutions for HPLC
Polyamide (PA)	Chemically resistant to alkaine solutions and organic solvents	Particle removal in solutions for HPLC Filtration of protein-free culture media
Polyethersulfone (PES)	Low content of extractables High flow rates	Mycroplasma retentive filtration – bioburden reduction
Polytetrafluoroethylene (PTFE)	Permanently hydrophobic membranes Broad chemical compatibility	Air and gas filtration Filtration of solvents with very high or low pH value

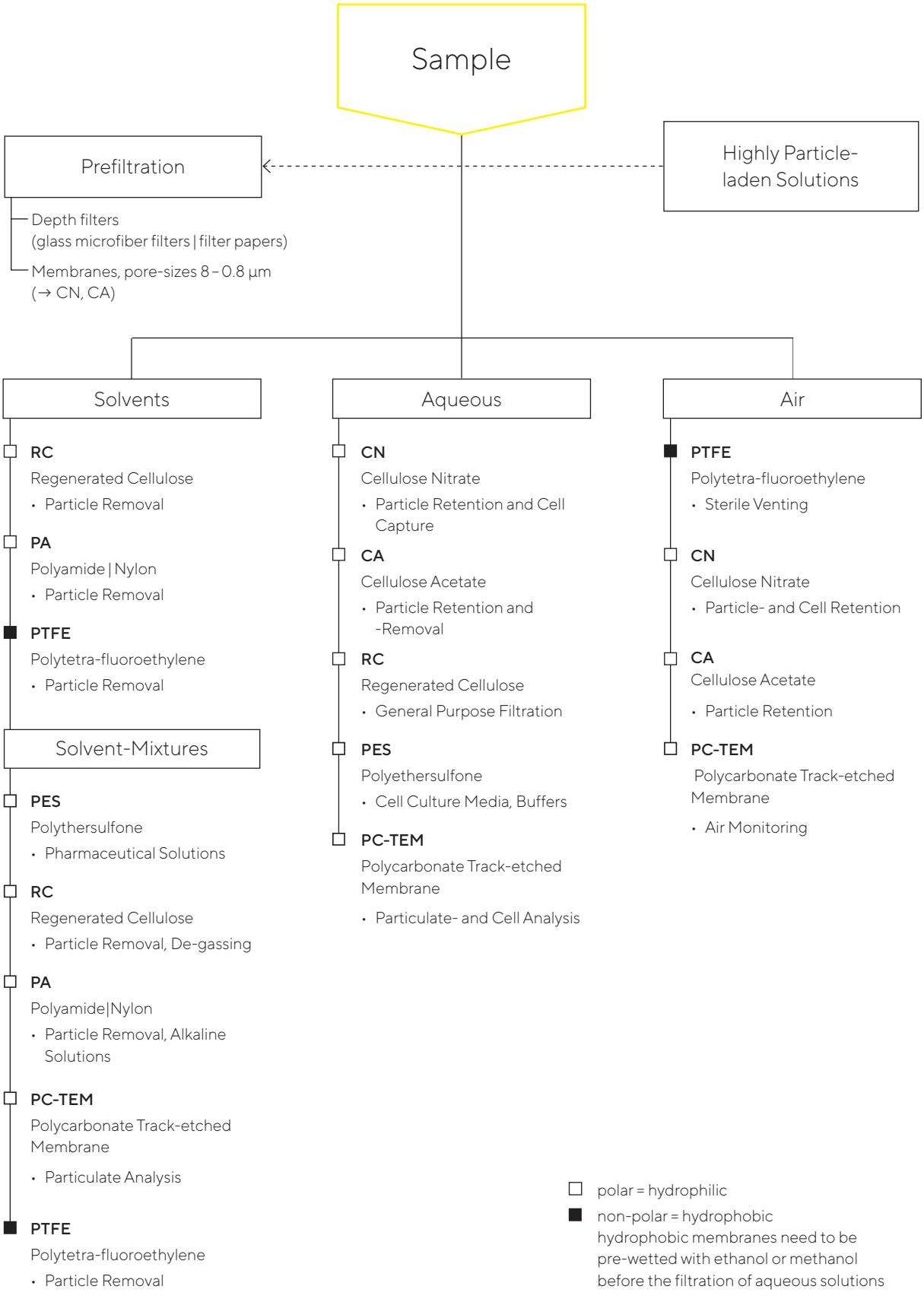
User Benefits

- Sartorius core competency
- Covers essential applications in the life science industry
- Highly individual product range
- Available in a wide range of diameters and membrane types


SARTORIUS
Göttingen, Germany

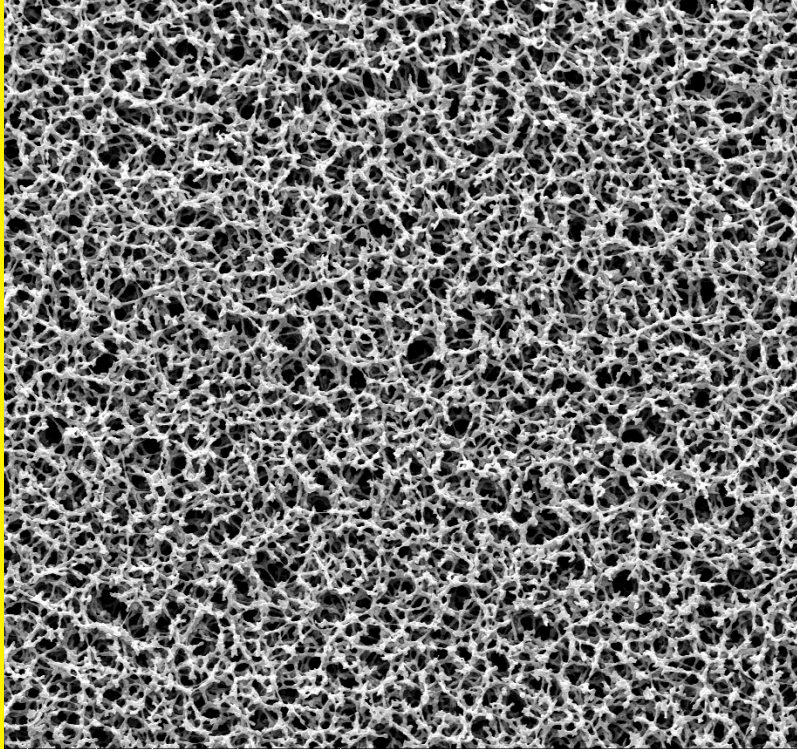
Membrane Filtration

Quick Selection Guide



Cellulose Nitrate (Mixed Cellulose Esters)

Cellulose nitrate membrane filters are hydrophilic, have high flow rates thanks to their symmetrical structure and are compatible with aqueous solutions (pH 4 – 8), hydrocarbons and several other organic solvents. These cellulose nitrate membranes are available in different pore sizes from 0.2 µm to 8 µm.



Typical Performance Characteristics

Pore Size (µm)	Type	Thickness (µm)	Water Flow Rate (mL | min | cm2 | bar)	Thermal Resistance max. (°C)	Bubble Point (bar)
0.2	11327	130	25	130	≥ 4.4
0.45	11306	120	68	130	≥ 2.4
0.65	11305	120	102	130	≥ 2.0
0.8	11304	130	5*	130	≥ 1.5
1.2	11303	130	7*	130	≥ 1.0
3	11302	140	16*	130	≥ 0.6
5	11342	140	25*	130	≥ 0.5
8	11301	140	37*	130	≥ 0.3

*Flow rate for air [L | (m^2s)]

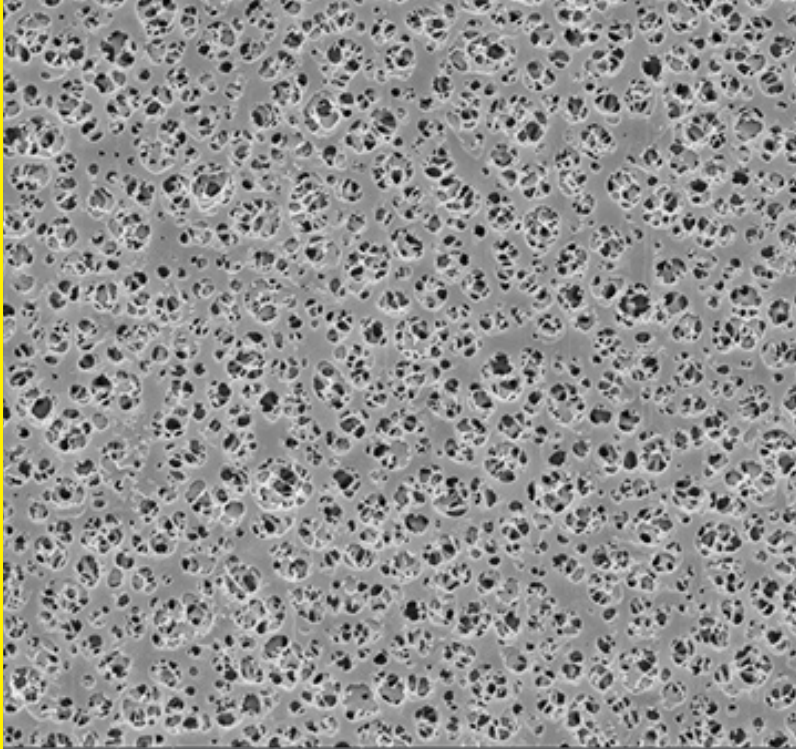
Ordering Information

Ø (mm)	0.2 µm	0.45 µm	0.65 µm	0.8 µm	1.2 µm	3 µm	5 µm	8 µm
13	11327--13------N	11306--13------N	11305--13------N	11304--13------N	11303--13------N	11302--13------N	11342--13------N	11301--13------N
25	11327--25------N	11306--25------N	11305--25------N	11304--25------N	11303--25------N	11302--25------N	11342--25------N	11301--25------N
47	11327--47------N	11306--47------N	11305--47------N	11304--47------N	11303--47------N	11302--47------N	11342--47------N	11301--47------N
50		11306--50------N	11305--50------N	11304--50------N	11303--50------N	11302--50------N	11342--50------N	11301--50------N
90		11306--90------N		11304--90------G	11303--90------G	11302--90------G		
100		11306-100------N	11306-100------N	11304-100------G	11303-100------G	11302-100------G		11301-100------N
142	11327-142------N	11306-142------N	11305-142------G	11304-142------G 11304-142------N	11303-142------G 11303-142------N	11302-142------G	11342-142------G 11342-142------N	11301-142------G
150						11302-150------G	11342-150------G	11301-150------G
293		11306-293------G 11306-293------N	11305-293------G	11304-293------G 11304-293------N	11303-293------G	11302-293------G	11342-293------G	11301-293------G

G = 25 filters, N = 100 filters | Other dimensions and quantities per package are available on request

Cellulose Acetate

Cellulose acetate membranes combine thermal stability with exceptionally low adsorption characteristics. They are hydrophilic, have high flow rates thanks to their symmetrical structure and are compatible with aqueous solutions (pH 4 – 8), oils, alcohols and other organic solvents. These cellulose acetate membranes are available in different pore sizes from 0.2 to 5 µm.



Typical Performance Characteristics

Pore Size (µm)	Type	Thickness (µm)	Water Flow Rate (mL | min | cm2 | bar)	Thermal Resistance max. (°C)	Bubble Point (bar)
0.2	11107	120	24	180	≥ 2.9**
0.45	11106	120	65	180	≥ 2.0
0.65	11105	120	116	180	≥ 1.3
0.8	11104	120	6*	180	≥ 0.8
1.2	12303	140	10*	180	≥ 0.6
5	12342	140	23*	180	≥ 0.3

*Flow rate for air [L | (m^2s)]

** with Sartocheck®

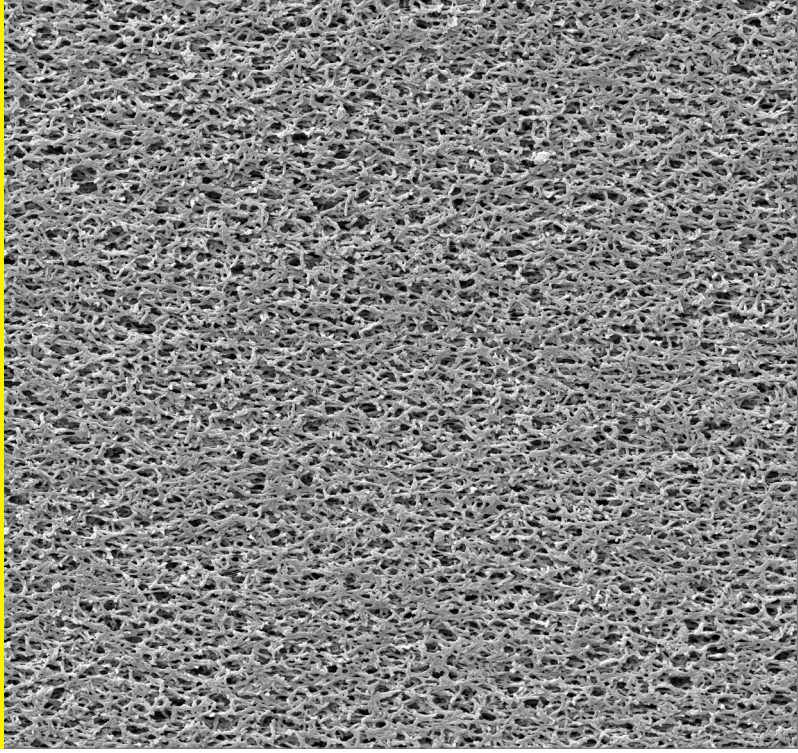
Ordering Information

Ø (mm)	0.2 µm	0.45 µm	0.65 µm	0.8 µm	1.2 µm	5 µm
13	11107--13------N	11106--13------N		11104--13------N		
25	11107--25------N	11106--25------N	11105--25------N	11104--25------N	12303--25------N	12342--25------N
30	11107--30------N					
47	11107--47------N	11106--47------N	11105--47------N	11104--47------N	12303--47------N	12342--47------N
50	11107--50------N	11106--50------N	11105--50------N	11104--50------N	12303--50------N	
90	11107--90------G	11106--90------G	11105--90------G	11104--90------N		
100	11107-100------N 11107-100------G	11106-100------N 11106-100------G			12303-100------G	
142	11107-142------G 11107-142------N	11106-142------G 11106-142------N	11105-142------G 11105-142------N	11104-142------G 11104-142------N	12303-142------G 12303-142------N	
293	11107-293------G 11107-293------N	11106-293------G 11106-293------N	11105-293------G	11104-293------G 11104-293------N		

G = 25 filters, N = 100 filters | Other dimensions and quantities per package are available on request

Polyamide

Polyamide membrane filters are hydrophilic and chemically resistant to alkaline solutions and organic solvents.



Typical Performance Characteristics

Pore Size (µm)	Type	Thickness (µm)	Water Flow Rate (mL | min | cm2 | bar)	Thermal Resistance max. (°C)	Bubble Point (bar)
0.2	25007	110	24	100	≥ 3.3
0.45	25006	110	46	100	≥ 2.3

*Max. continuous operating temperature in water

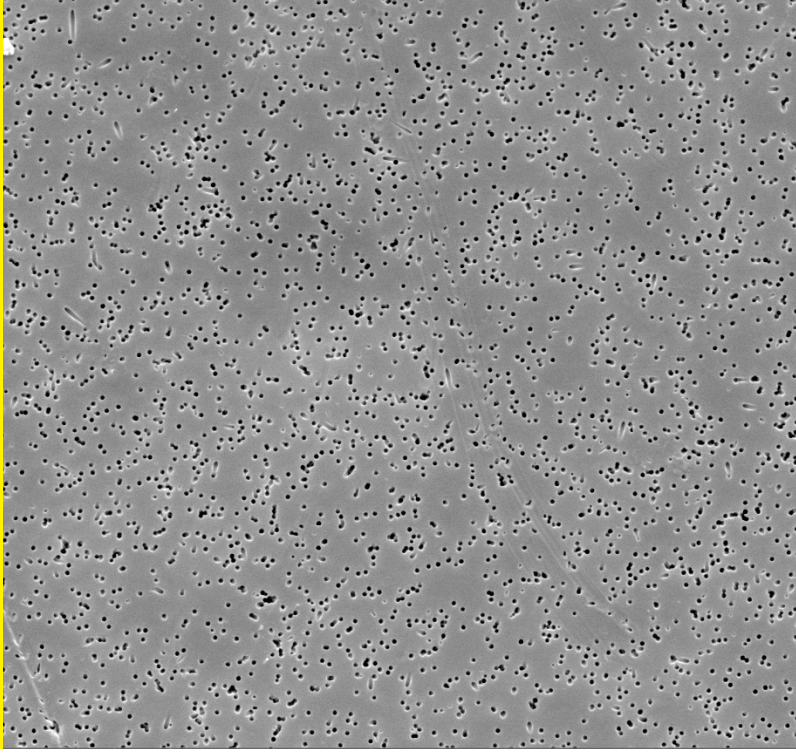
Ordering Information

Ø (mm)	0.2 µm	0.45 µm
13	25007--13------N	25006--13------N
25	25007--25------N	25006--25------N
47	25007--47------N	25006--47------N
50	25007--50------N	25006--50------N
90	25007--90------G	25006--90------G
142	25006-142------N	25007-142------N
293	25006-293------N	25007-293------N 25007-293------G

G = 25 filters, N = 100 units | Other dimensions and quantities per package are available on request

Polycarbonate Track-Etched

White and hydrophilic polycarbonate track-etched membranes are manufactured from high-grade polycarbonate film using track-etch technology. Their capillary pore structure is uniform and precise, with a narrow pore size distribution.



Typical Performance Characteristics

Pore Size (µm)	Type	Thickness (µm)	Water Flow Rate (mL | min | cm2 | 0,7 bar)	Thermal Resistance max. (°C)	Bubble Point (bar)
0.1	23058	25	0.5	140	≥7
0.2	23007	25	10	140	≥ 3.5
0.4	23006	25	30	140	≥ 2.0
0.8	23004	25	40	140	≥ 0.6
5	23A42	25	50*	140	N/A
15	23015	25	100*	140	N/A

*Flow rate for air [L | (m^2s)]

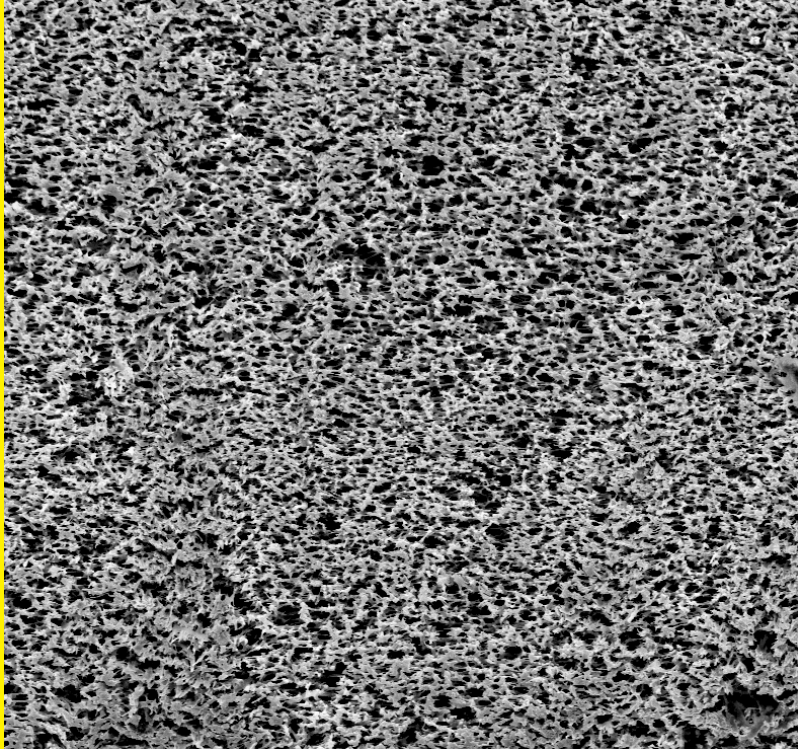
Ordering Information

Ø (mm)	0.1 µm	0.2 µm	0.4 µm	0.8 µm
25	23058--25------N	23007--25------N	23006--25------N	23004--25------N
47	23058--47------N	23007--47------N	23006--47------N	
50		23007--50------N		

G = 25 pieces, K=50 pieces, N = 100 pieces | Other dimensions and quantities per package are available on request

Polyethersulfone

Hydrophilic polyethersulfone membranes have high flow rates, a low non-specific protein adsorption and are chemically resistant over a pH range of 1–14. They are therefore recommended for the filtration of aqueous solutions as well for protein filtration.



Typical Performance Characteristics

Type	Pore Size (µm)	Thickness (µm)	Bubble Point (bar)	Water Flow Rate (mL | min | cm2 | bar)	Thermal Resistance max. (°C)
15458	0.1	150	≥ 2.5*	9	200
15407MI	0.2	140	≥ 3.2	30	200
15406	0.45	150	≥ 2.6	45	200
15404	0.8	150	≥ 1.1	125	200

* with isopropyl alcohol | water 60 vol% | 40 vol%

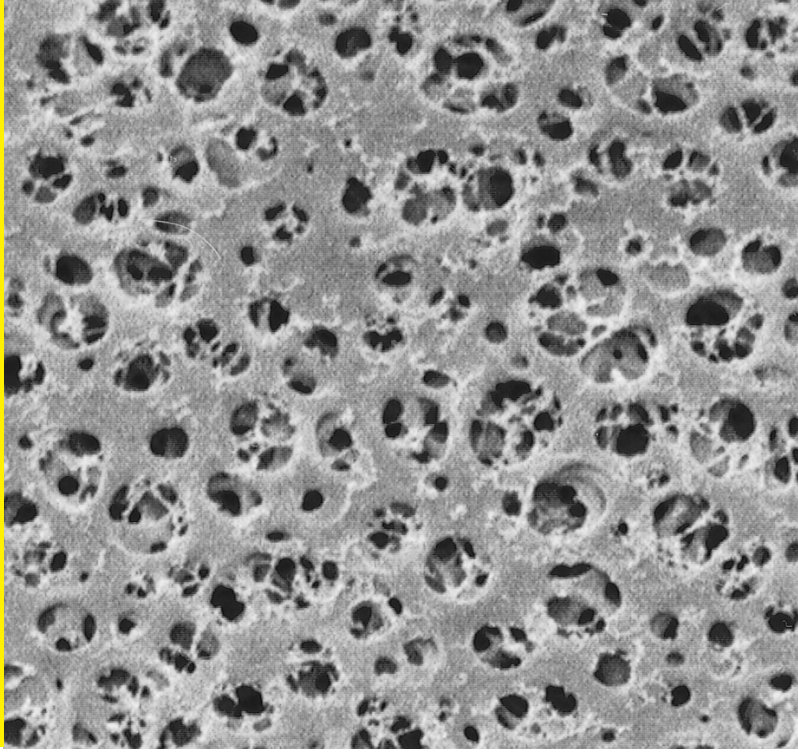
Ordering Information

Ø (mm)	0.1 µm	0.2 µm	0.45 µm	0.8 µm
25	15458--25------N	15407--25----MIN	15406--25------N	
47	15458--47------N	15407--47----MIN	15406--47------N	
50	15458--50------N	15407--50----MIN	15406--50------N	
142		15407-142----MIG	15406-142------G	
293	15458-293------G	15407-293----MIG		15404-293------G

G = 25 pieces, K=50 pieces, N = 100 pieces | Other dimensions and quantities per package are available on request

Regenerated Cellulose

The very low adsorption membranes are hydrophilic, solvent-resistant (pH 3 – 12) and, therefore, suited for the particle removal from solvents. The membrane is reinforced with nonwoven cellulose. They are available in two pore sizes: 0.45 µm and 0.2 µm.



Typical Performance Characteristics

Type	Pore Size (µm)	Thickness (µm)	Bubble Point (bar)	Water Flow Rate (mL | min | cm2 | bar)
18407	0.2	150	≥ 4.5	16
18406	0.45	150	≥ 2.9	32

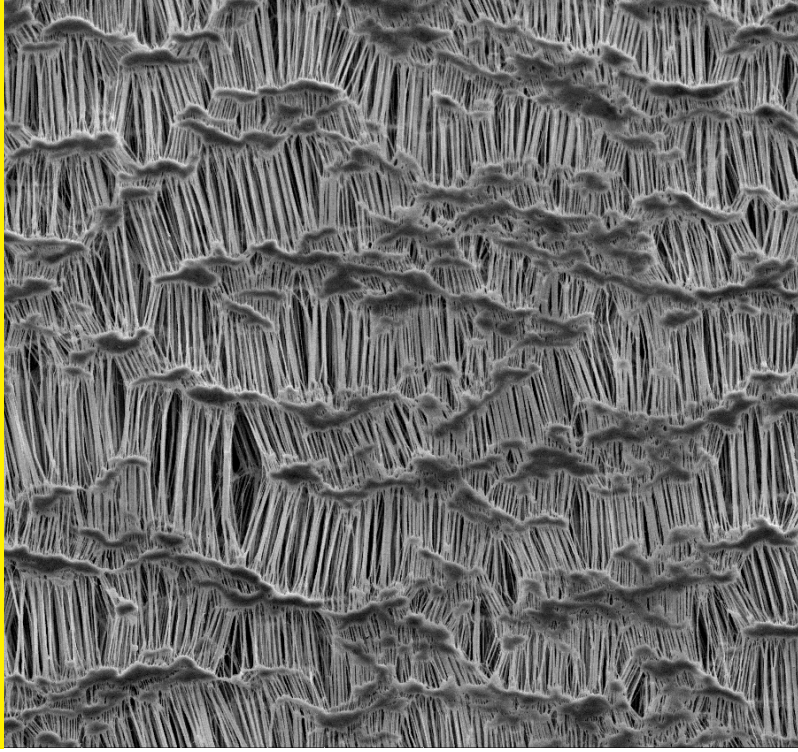
Ordering Information

Ø (mm)	0.2 µm	0.45 µm
13	18407--13------N	18406--13------N
25	18407--25------N	18406--25------N
47	18407--47------N	18406--47------N
50	18407--50------N	18406--50------N
100	18407-100------G	18406-100------G
142	18407-142------G 18407-142------N	18406-142------G
293	18407-293------G	18406-293------G

G = 25 pieces, N = 100 pieces | Other dimensions and packaging units are available on request

Polytetrafluoroethylene

PTFE filters are permanently hydrophobic. These membrane filters feature excellent chemical compatibility (pH 1 to 14) so they are also used for filtration of solvents and acids that cannot be filtered using other filter types due to a lack of or limited compatibility.



Typical Performance Characteristics

Pore Size (µm)	Type	Thickness (µm)	Isopropanol Flow Rate (mL | min | cm2 | bar)	Thermal Resistance max. (°C)	Bubble Point (bar)
0.2	11807	60	9	200	≥ 1.2
0.45	11806	80	20	200	≥ 0.9
1.2	11803	100	86	200	N/A
5	11842	100	250	200	N/A

Ordering Information

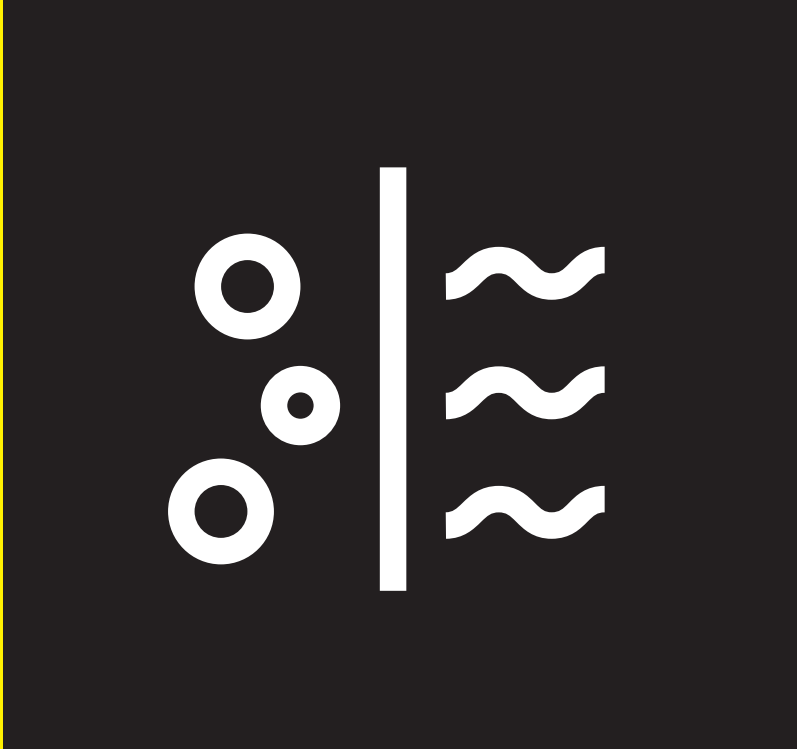
Ø (mm)	0.2 µm	0.45 µm	0.8 µm	1.2 µm	5 µm
13	11807--13------N	11806--13------N		11803--13------N	
25	11807--25------N	11806--25------N	11842--25------N	11803--25------N	
47	11807--47------N	11806--47------N	11842--47------N	11803--47------N	
50	11807--50------N	11806--50------N	11842--50------N	11803--50------N	
90	11807--90------G	11806--90------G		11803--90------G	
100	11807-100------G	11806-100------G	11842--100------N	11803-100------G	11842-100------G
142	11807-142------G	11806-142------G		11803-142------G	11842-142------G
293	11807-293------G	11806-293------G		11803-293------G	11842-293------G

G = 25 filters, N = 100 filters | Other dimensions and quantities per package are available on request


SARTORIUS
16277

Filter Holders

Robust and efficient filtration accessoires are required to ensure reliable removal of particles in every filtration run. Sartorius facilitates your filtration procedures by offering a wide selection of filter holders.



Sartorius offers a broad range of application based solutions that fits laboratory needs as well as analytical testing outside the laboratory. Filter holders are used to support membrane filters. They also provide sealing around the filter, to prevent contamination of the filtrate. To ensure best results different housings guarantee a burdenless workflow using various chemicals and solutions. Combined with the extraordinary quality of our membranes we make sure to simplify the progress of filtration steps in a convenient, easy-to-use manner that is highly individualized. In addition, convenience is achieved by tackling the huge volume of disposable products and eliminating the need to purchase new filter accessories for standardised laboratory procedures. Since the filter holders are made to be easily rinsed and autoclaved, they are excellently suited in repetitve analysis steps.

Our range of filter holders has recently been extended to include larger diameters (142 mm - 293 mm). Not only do we meet your need to filter over a larger area, but we also offer new applications that go hand in hand with this transfer. Sterile filtration, clarification and filtration of media are just a few. By providing an economical alternative to disposable filtration methods, it will lead to cost savings in the short term due to autoclavability of the devices.

Going through this informative guide you will gain detailed information on the specific set ups and learn how to properly adopt this product line into your laboratory portfolio.

Order No.	Material	Suitable membrane diameter
16309	Glass	47 mm | 50 mm
16306	Glass	25 mm
16315	Glass	25 mm
16307	Glass	47 mm | 50 mm
16316	Glass	47 mm | 50 mm
16574	PTFE	13 mm
16514----------E	Polycarbonate	13 mm
16517----------E	Polycarbonate	25 mm
16508----------B	Polycarbonate	50 mm (40 or 42 mm prefilter)
16214	Stainless Steel	25 mm

Order No.	Material	Suitable membrane diameter
16251	Stainless Steel	25 mm (20 mm prefilter)
16254	Stainless Steel	47 mm (40 or 42 mm prefilter)
16278	Stainless Steel	47 mm (40 or 42 mm prefilter)
16249	Stainless Steel	47 mm (40 or 42 mm prefilter)
16249-----3	Stainless Steel	47 mm (40 or 42 mm prefilter)
16274	Stainless Steel	143 mm (130 mm prefilter)
16275	Stainless Steel	142 mm (130 mm prefilter)
16276	Stainless Steel	143 mm (130 mm prefilter)
16277	Stainless Steel	293 mm (279 mm prefilter)

User Benefits

- Re-usabel
- Available in different materials and sizes
- Affordable alternative for retentate testing
- Time-saving due to parallel testing with a manifold

Selection of Filtration Accessories for Parallel Vacuum Filtration

Individual Filter Holders

All-Glass Filter Holder, 250 mL

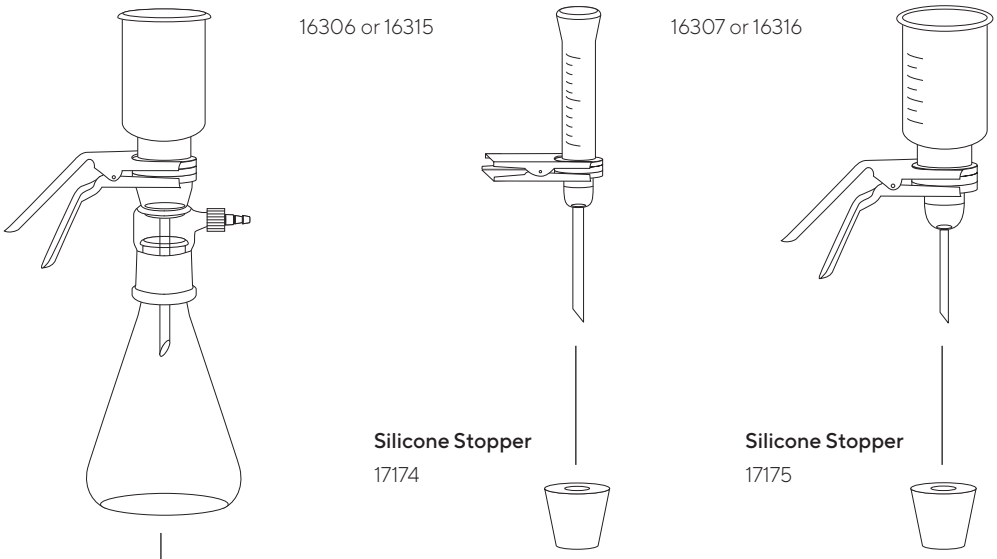
16309

Glass Filter Holder, 30 mL

16306 or 16315

Glass Filter Holder, 250 mL

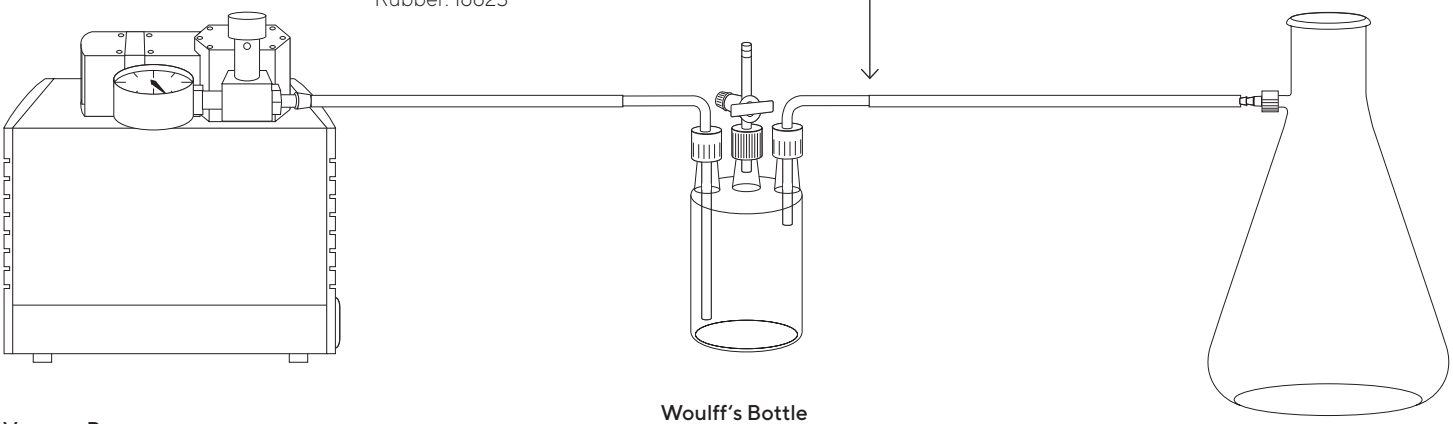
16307 or 16316



Silicone Stopper
17174

Silicone Stopper
17175

Vacuum Hose
Rubber: 16623



Vacuum Pumps
Recommended: Mini.vac for 1-branch manifold; others pumps for 3- and 6-branch manifolds

Microsart® Maxi.vac | Microsart® Mini.vac
Conventional pump, 13 mbar, 26 | L min
Conventional pump, 100 mbar, 20 | L min

Woulff's Bottle
500 mL: 16610 or Vacusart®
17804----------M

2 L Suction Flask
16672

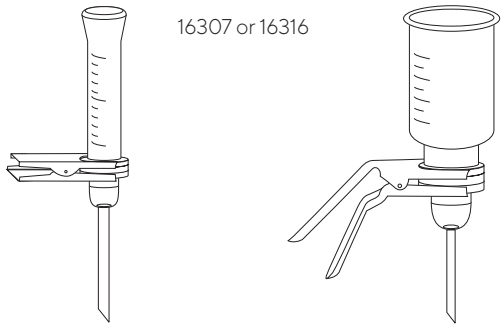
Multi-Branch Filter Holders

Glass Filder Holder , 30 mL

16306 or 16315

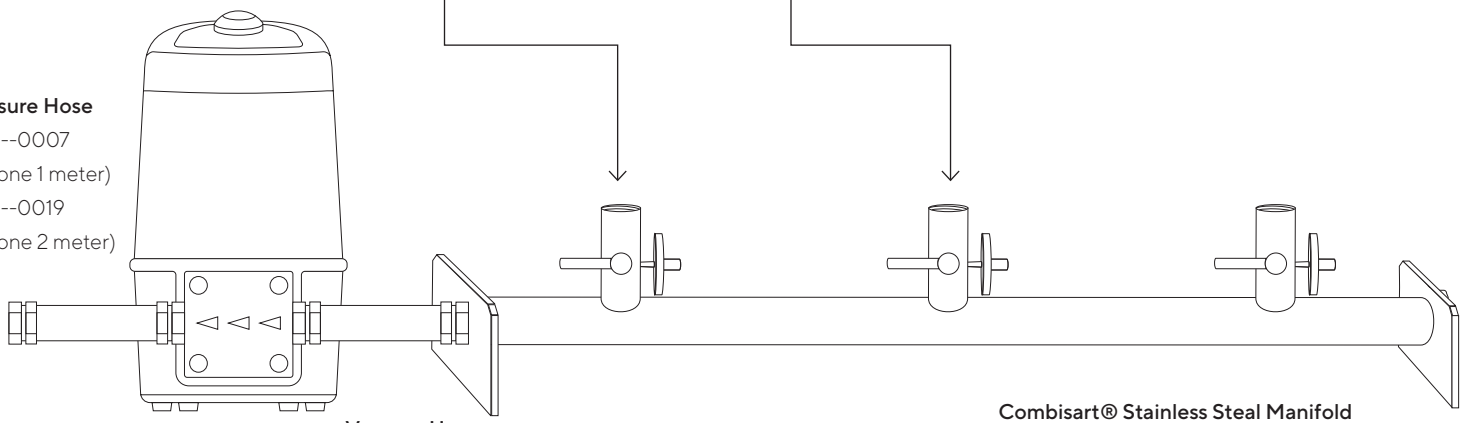
Glass Filter Holder, 250 mL

16307 or 16316



Adapter
16836

Adapter
16837



Pressure Hose
1ZAS--0007
(silicone 1 meter)
1ZAS--0019
(silicone 2 meter)

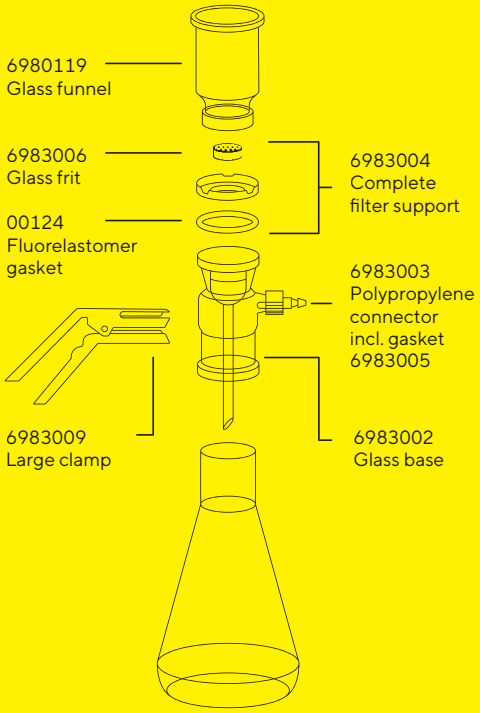
Vacuum Hose
1ZA---0006

Microsart e.jet Fluid Pump
4 L | min: 166MP-4

Combisart® Stainless Steal Manifold
TBA

All-Glass Vacuum Filter Holder

All areas where liquid and device can come into direct contact are made of glass or PTFE. Several features ensure convenient handling. A 6-mm-wide, non-ground rim above the ground glass neck of the suction flask prevents the filtrate from coming in contact with grease on the ground glass surface, thus preventing it from contamination while being poured out of the flask.



Specifications

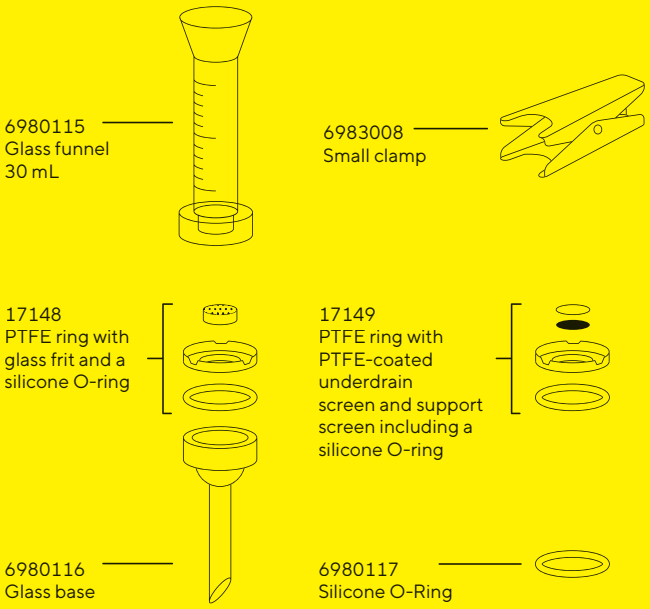
Parts and materials	Borosilicate glass funnel, base and flask; sintered glass frit in a PTFE ring and fluoroelastomer O-ring (45 × 3 mm) underneath; anodized aluminium clamp
Chemical compatibility	As for glass and PTFE
Funnel capacity	250 mL
Capacity of the filtrate flask	1 Liter
Filtration area	12.5 cm^2
Max. operating pressure	Only for vacuum
Suitable membrane filter diameter	47 mm | 50 mm
Sterilization (without connector)	By autoclaving (max. 134 °C) or by dry heat (max. 180 °C)

Ordering Information

Description	Order No.
All-glass vacuum filter holder for 50 mm (or 47 mm) membrane filter, with vacuum-resistant flask, capacity 1 Liter	16309

Glass Vacuum Filter Holders

This filter holder is available in two versions that differ from each other only in the type of the filter support. The filter holder with a glass frit ensures uniform distribution of retained particles and is therefore recommended if the residue on the filter surface is of interest. Because it is easy to clean, the filter holder with the PTFE-coated screen support is preferable if the filtrate is required or if liquids difficult to remove from the glass frit need to be examined.

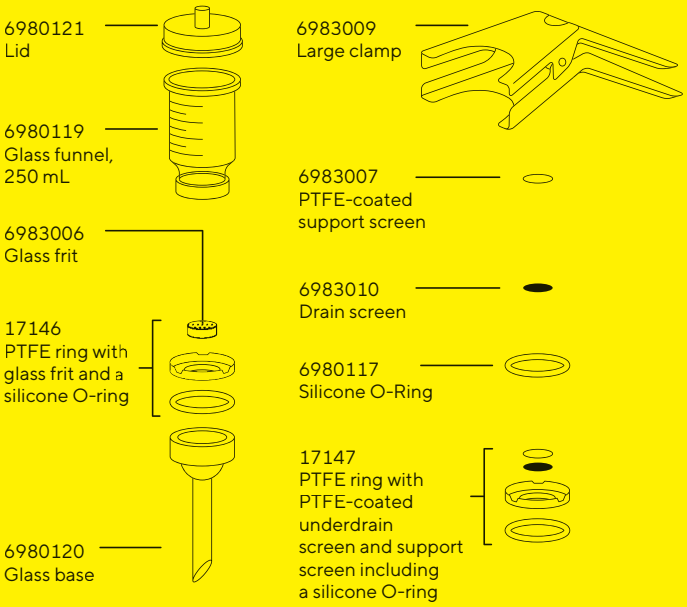


Note: PTFE rings in sets 17148 and 17149 have different dimensions and are not interchangeable.

25 mm Glass Vacuum Filter Holder

Specifications

Base outlet	12 mm diameter
Parts and materials	Borosilicate glass funnel and base; PTFE | glass filter support (type 16306) or PTFE | stainless steel filter support, coated with PTFE (type 16315) Silicone O-ring 25 × 3 mm Anodized aluminum clamp
Chemical compatibility	As for glass, PTFE and silicone. The silicone O-ring can be replaced by a fluoroelastomer O-ring (order no. 00118)
Funnel capacity	30 mL
Filtration area	3 cm^2
Max. operating pressure	Only for vacuum
Suitable membrane filter diameter	25 mm
Sterilization	By autoclaving (max. 134 °C) or by dry heat (max. 180 °C)



50 mm Glass Vacuum Filter Holder

Specifications

Base outlet	15 mm diameter
Parts and materials	Borosilicate glass funnel and base Silicone rubber lid PTFE | glass filter support (type 16307) or PTFE | stainless steel filter support, coated with PTFE (type 16316) | Silicone O-ring 45 + 3 mm | Anodized aluminum clamp
Chemical compatibility	As for glass, PTFE and silicone The silicone O-ring can be replaced by a fluoroelastomer O-ring (order no. 00124).
Funnel capacity	250 mL
Filtration area	12.5 cm^2
Max. operating pressure	Only for vacuum
Suitable membrane filter diameter	47 mm | 50 mm
Sterilization	By autoclaving (max. 134 °C) or by dry heat (max. 180 °C)

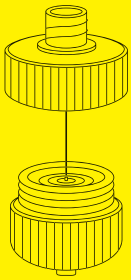
Ordering Information

Description	Order No.
Glass vacuum filtration holder for 25 mm membrane filter, with glass frit filter support	16306
Glass vacuum filtration holder for 25 mm membrane filter, with PTFE-coated screen filter support	16315
Glass vacuum filtration holder for 50 mm (or 47 mm) membrane filter, with glass frit filter support	16307
Glass vacuum filtration holder for 50 mm (or 47 mm) membrane filter, with PTFE-coated screen filter support	16316

Re-usable 13 mm Syringe Filter Holder (PTFE)

Made completely of PTFE, this holder is unaffected by chemicals and contains no trace elements which could be released into the liquid being filtered. It is, therefore, extremely well suited for particle removal from samples and reagents for analytical methods, such as NMR samples.

16574



Specifications

Connectors	Female Luer Lock inlet, luer slip outlet
Chemical compatibility	As for PTFE
Filtration area	0.5 cm2
Materials	PTFE top and bottom parts
Max. operating pressure	5 bar | 500 kPa | 72.5 psi
Membrane filter Ø	13 mm
Sterilization	By autoclaving (max. 134 °C) or by dry heat (max. 180 °C)
Hold-up volume	Less than 0.03 mL after overcoming the bubble point (0.3 mL before)

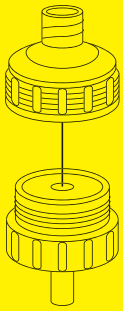
Ordering Information

Description	Order No.
13 mm PTFE Syringe Filter Holder	16574

Re-usable 13 mm Syringe Filter Holder (Polycarbonate)

Another inexpensive filter holder is made of clear, autoclavable polycarbonate. The silicone gasket enables a leak-free filtration at pressures of up to 7 bar by simply screwing it together manually. Filter supports in the top and bottom parts allow filtration in either direction.

16514----------E



Specifications

Connectors	Female Luer Lock inlet, luer slip outlet
Chemical compatibility	As for polycarbonate and silicone
Filtration area	0.5 cm2
Materials	Polycarbonate top and bottom part, silicone gasket
Max. operating pressure	7 bar | 700 kPa | 101.5 psi
Membrane filter Ø	13 mm
Sterilization	By autoclaving at 121 °C
Hold-up volume	Less than 0.2 mL after overcoming the bubble point (0.3 mL before)

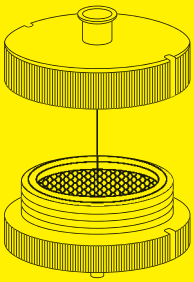
Ordering Information

Description	Order No.
13 mm Polycarbonate Syringe Filter Holder	16514----------E

Re-usable 25 mm Syringe Filter Holder (Steel)

Made of stainless steel, this holder is heat-resistant, and the chemical compatibility depends only on the inserted filter type. The top part can easily be mounted on the bottom part using the enclosed tightening tool. Filter supports in the top and bottom parts allow filtration in either direction.

16214



Specifications

Connectors	Female Luer Lock inlet, luer slip outlet
Chemical compatibility	As for stainless steel
Filtration area	3 cm2
Materials	Stainless steel (1.4305) top and bottom parts
Max. operating pressure	7 bar | 700 kPa | 101.5 psi
Membrane filter Ø	25 mm
Sterilization	By autoclaving (max. 134 °C) or by dry heat (max. 180 °C)
Hold-up volume	Less than 0.1 mL after overcoming the bubble point (0.3 mL before)

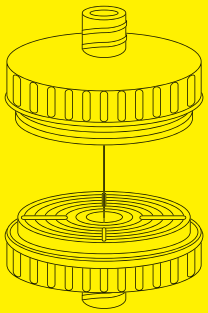
Ordering Information

Description	Order No.
25 mm Stainless Steel Holder	16214
Tightening tool, Polyman 24/5	6980595

Re-usable 25 mm Syringe Filter Holder (Polycarbonate)

Another inexpensive filter holder is made of clear, autoclavable polycarbonate. The silicone gasket enables a leak-free filtration at pressures of up to 7 bar by simply screwing it together manually. Filter supports in the top and bottom parts allow filtration in either direction.

16517----------E



Specifications

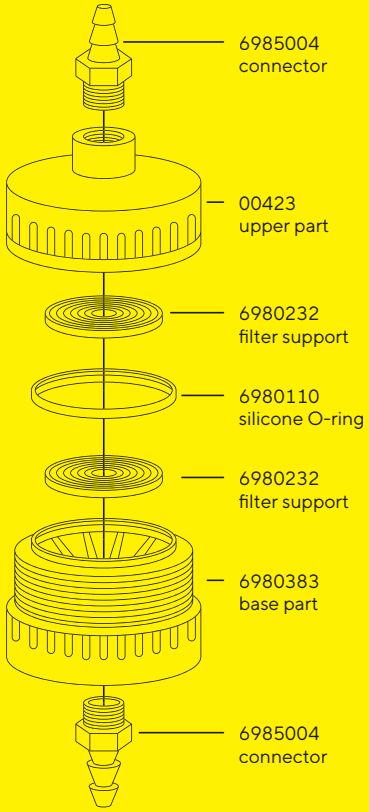
Connectors	Female Luer Lock inlet, luer slip outlet
Chemical compatibility	As for polycarbonate and silicone
Filtration area	3 cm2
Materials	Polycarbonate top and bottom parts, silicone gasket
Max. operating pressure	7 bar | 700 kPa | 101.5 psi
Membrane filter Ø	25 mm
Sterilization	By autoclaving at 121 °C
Hold-up volume	Less than 0.3 mL after overcoming the bubble point (0.6 mL before)

Ordering Information

Description	Order No.
25 mm Polycarbonate Syringe Filter Holder, pack of 12	16517----------E
Silicone gasket, 20.5 × 26.5 × 0.5 mm, pack of 10	6980570

50 mm Polycarbonate In-Line Filter Holder

This holder is made of stable, autoclavable polycarbonate. This practical holder is suitable for many simple laboratory filtrations. It can be connected to a peristaltic pump or a pressure container. The bell-shaped base protects the filtrate from repeated contamination while flowing in a receiver. The holder is characterized by an excellent resistance to pressure and density setting by simple hand-tightening. The transparent top part allows the visual control of the correct fit of the O-ring. The hose nipples can be replaced by luer connectors to use it as a large area syringe filter holder.



Specifications

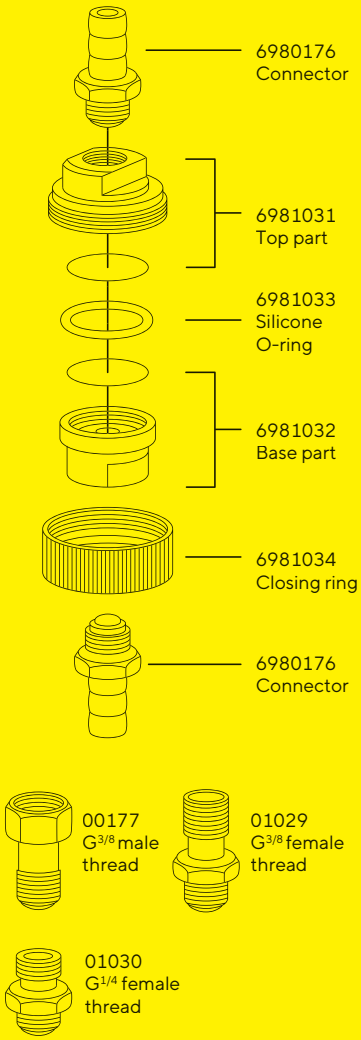
Chemical compatibility	As for polycarbonate, polypropylene and silicone
Filtration area	12.5 cm2
Weight	83 g
Connectors	M 12x1 male thread to hose barb DN10
Materials	Polycarbonate top part, base part and hose nipple, polypropylene filter support, silicone O-ring (40 × 5 mm)
Max. operating pressure	7 bar | 700 kPa | 101.5 psi
Suitable membrane filter Ø	50 mm (40 or 42 mm prefilter)
Sterilization	By autoclaving at 121 °C The material withstands repeated cycles, provided aggressive cleaning agents are completely washed off and that the boiler water does not contain anti-corrosive or anti-scaling additives.

Ordering Information

Description	Order No.
Polycarbonate in-line filter holder for 50 mm membrane filter, pack of 5.	16508----------B

25 mm Stainless Steel Filter Holder

The G¼ connection of the 25 mm filter holder threads with density barrel, guarantee leak-proof sealing of the hose nipple and the holder without sealing rings.



Specifications

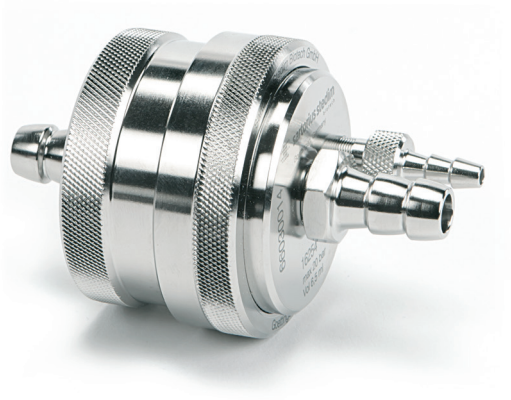
Connectors	M 12x1 male thread to hose barb DN10
Filtration area	3 cm2
Weight	ca. 170 g
Materials	Stainless steel, except silicone O-ring (21 × 2 mm) and aluminium closing ring
Max. operating pressure	5 bar | 500 kPa | 72.5 psi
Suitable membrane filter	25 mm (20 mm prefilter for the filtration of liquids only)
Sterilization	By autoclaving (max. 134 °C) or by dry heat (max. 180 °C)

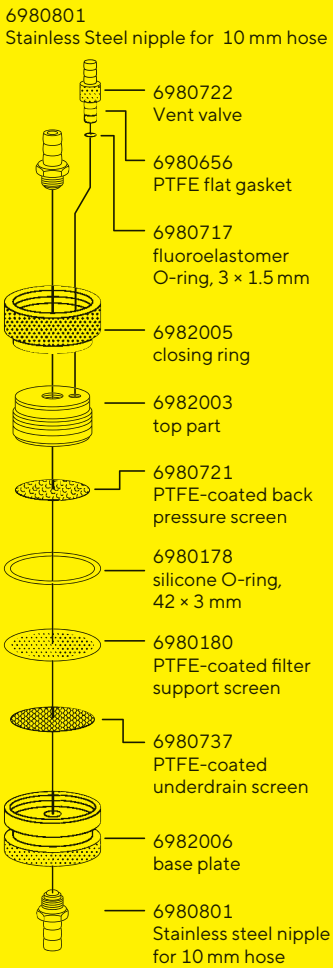
Ordering Information

Description	Order No.
Stainless steel pressure filter holder for 25 mm Ø membrane filter.	16251

47 mm Stainless Steel Filter Holder

The 47 mm filter holder is suitable for a pressure of up to 20 bar. The inlet side valve is convenient for the intermittent run-off of waste water.





Specifications

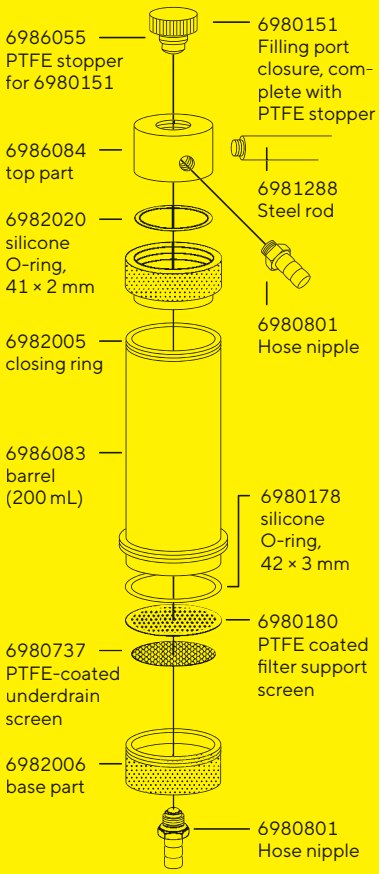
Connectors	M 12x1 male thread to hose barb DN10
Filtration area	13 cm2
Weight	ca. 490 g
Materials	Stainless steel, except silicone O-ring (42 × 3 mm), PTFE and fluoroelastomer valve seals
Max. operating pressure	20 bar | 2,000 kPa | 290 psi
Suitable membrane filter	47 mm (40 or 42 mm prefilter)
Sterilization	By autoclaving (max. 134 °C) or by dry heat (max. 180 °C)

Ordering Information

Description	Order No.
Stainless steel filter holder for 47 mm membrane filter (with adapter M12 × 1 male thread to hose barb DN10, Mat. 316, ref. 6980801) – Replacement parts are shown in the diagram	16254
Stainless steel filter holder for 47 mm membrane filter (with adapter M12 × 1 male thread to hose barb DN 4 to 5, Mat. 316, ref. 6981132)	16278
Stainless steel back pressure screen	6980721-----1
Stainless steel filter support screen	6980180-----1
Stainless steel underdrain screen	00181
Stainless steel connector M12 × 1 male thread to hose barb DN 4 – 5	6981132
Adapter Quick connect nipple length 60 mm male part to male thread M12 × 1, Mat 316	17090-----1

47 mm Stainlees Steel Pressure Filter Holder

A practical filter holder for many laboratory filtrations. It can be attached to a tripod with the help of a steel rod which can be screwed in. The hose nipple is screwed into the side of the top part, leaving room for a large filling opening. This makes pouring in the sample easier, and the sample can be refilled without removing the tube connection to the pressure source.



Specifications

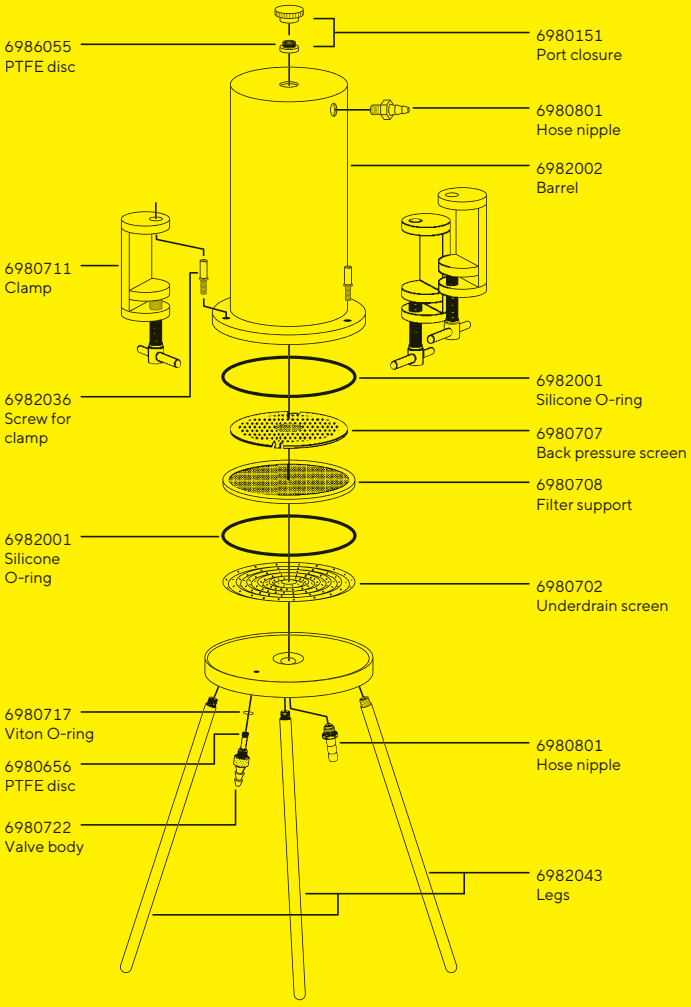
Chemical compatibility	As for stainless steel, PTFE and silicone. If required, the silicone O-ring in the filter support can be replaced by a fluoroelastomer O-ring 00179 or a PTFE O-ring 17038 (by reducing the max. operating pressure to 4 bar | 58 psi); the silicone O-ring in the top part can be replaced by a fluoroelastomer O-ring 17145.
Filtration area	13 cm2
Weight	960 g
Connectors	M 12x1 male thread to hose barb DN10
Materials	Top part, barrel, base part, corrugated iron, closing ring, closure cap, back pressure screen and stainless steel hose nipples 1.4401 (AISI 316), PTFE-coated stainless steel filter support, silicone O-rings, 41 × 2 mm (top part) and 42 × 3 mm (filter support), PTFE-sealing (cap).
Max. operating pressure	10 bar | 1,000 kPa | 145 psi
Suitable membrane filter Ø	47 mm (40 or 42 mm prefilter)
Sterilization	By autoclaving (max 134 °C) or by dry heat (180 °C)

Ordering Information

Description	Order No.
Stainless steel pressure filter holder	16249
Stainless steel pressure filter holder with double jacket	16249-----3

Large Stainless Steel Pressure Filter Holder

This holder is widely used in laboratories for particle removal and for sterile filtration of several liters of volume and can hold filter discs up to a diameter of 142 mm. It has a stable construction and is easy to operate. In addition, this filter holder has an integrated funnel with a capacity of 2 liters, eliminating the need for an additional pressure vessel. The large filtration area of 130 cm² ensures a high flow rate for the total filter volume.



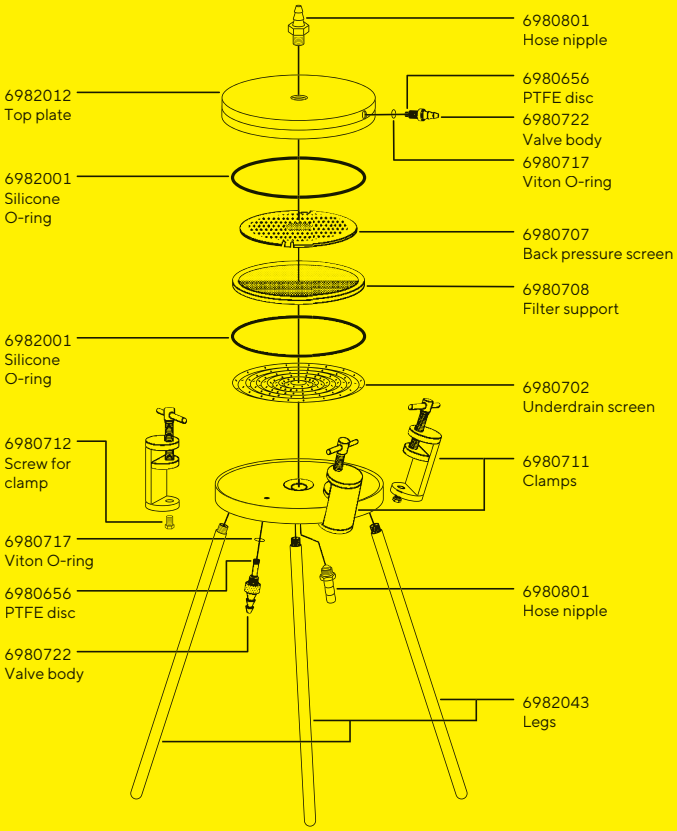
Stainless steel pressure filter holder (142 mm, 2000 mL)

Specifications

Connectors	M 12x1 male thread to hose barb DN10
Filtration area	130 cm²
Capacity	2000 mL
Weight	12 kg
Materials	Stainless steel 1.4401, except silicone O-ring (280 mm × 4 mm)
Max. operating pressure	7 bar
Suitable membrane filter Ø	142 mm (130 mm prefilter)
Sterilization	By autoclaving (max. 134 °C) or by dry heat (max. 180 °C)

Large Stainless Steel In-Line Filter Holder

This holder is widely used in laboratories for particle removal and for sterile filtration of several liters of volume and can hold filter discs up to a diameter of 142 mm.This in-line filter is installed directly in the fluid flow path, making it easy to integrate into your filtration system. The supplied unscrewable hose nipples can be replaced by G3/8 connectors, if systems with particularly practical handling are required.



Stainless steel in-line filter holder (142 mm)

Specifications

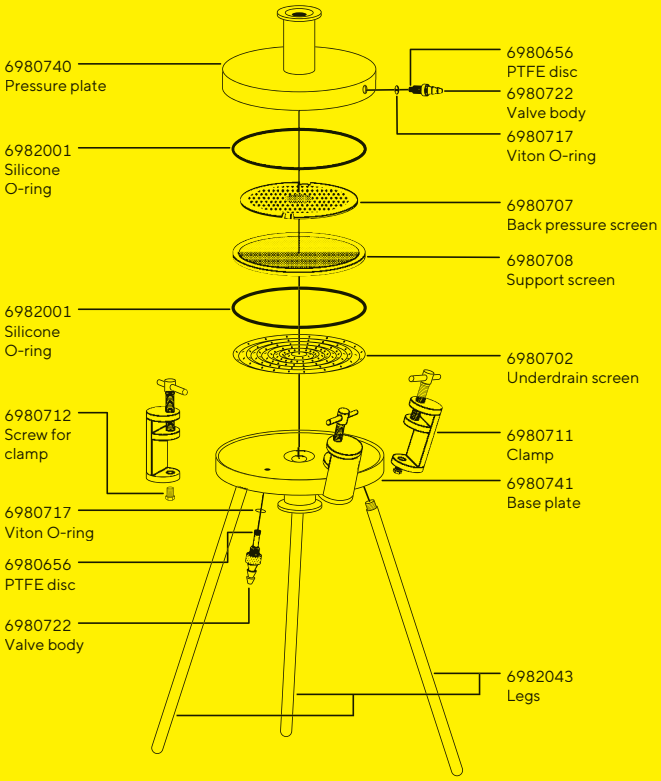
Connectors	M 12x1 male thread to hose barb DN10
Filtration area	130 cm²
Weight	12 kg
Materials	Stainless steel 1.4401, except silicone O-ring (130 mm × 4 mm)
Max. operating pressure	7 bar
Suitable membrane filter Ø	142 mm (130 mm prefilter)
Sterilization	By autoclaving (max. 134 °C) or by dry heat (max. 180 °C)

Ordering Information

Description	Order No.
Stainless steel pressure filter holder, 142 mm, 2000 mL	16274
Stainless steel in-line filter holder, 142 mm	16275
O-Ring EPDM 130.00 × 4.00 mm	6982071
O-Ring Fluoroelastomer 130.00 × 4.00 mm	6982070
Back pressure screen uncoated, Mat 316	6982017
Support screen uncoated, Mat 316	6982018

Large Stainless Steel In-Line Filter Holder

This holder is widely used in laboratories for particle removal and for sterile filtration of several liters of volume and can hold filter discs up to a diameter of 142 mm. It is supplied with a Tri Clamp (TC) connection, which is widely used in industries with stringent hygiene requirements because it is easy to clean and maintain. This in-line filter is installed directly in the fluid flow path, making it easy to integrate into your filtration system.



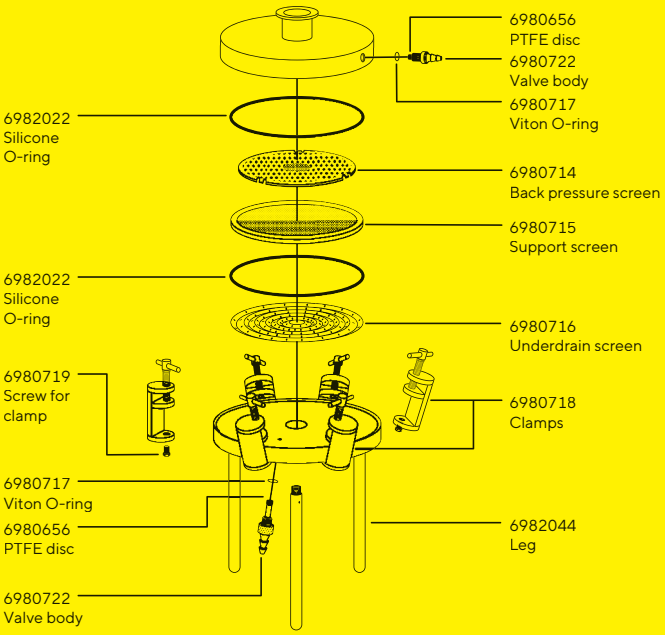
Stainless steel in-line filter holder (142 mm)

Specifications

Connection	TC 50.5
Filtration area	130 cm²
Weight	6 kg
Materials	Stainless steel 1.4401, except silicone O-ring (130 mm × 4 mm)
Max. operating pressure	7 bar
Suitable membrane filter Ø	142 mm (130 mm prefilter)
Sterilization	By autoclaving (max. 134 °C) or by dry heat (max. 180 °C)

Large Stainless Steel In-Line Filter Holder

This holder is widely used in laboratories for particle removal and for sterile filtration of several liters of volume and can hold filter discs up to a diameter of 293 mm. It is supplied with a Tri Clamp (TC) connection, which is widely used in industries with stringent hygiene requirements because it is easy to clean and maintain. This in-line filter is installed directly in the fluid flow path, making it easy to integrate into your filtration system.



Stainless steel in-line filter holder (293 mm)

Specifications

Connection	TC 50.5
Filtration area	560 cm²
Weight	20 kg
Materials	Stainless steel 1.4401, except silicone O-ring (280 mm × 4 mm)
Max. operating pressure	5 bar
Suitable membrane filter Ø	293 mm (279 mm prefilter)
Sterilization	By autoclaving (max. 134 °C) or by dry heat (max. 180 °C)

Ordering Information

Description	Order No.
Stainless steel in-line filter holder, 142 mm	16276
Stainless steel in-line filter holder, 293mm	16277
O-Ring EPDM 130.00 × 4.00 mm	6982071
O-Ring Fluoroelastomer 130.00 × 4.00 mm	6982070
Back pressure screen uncoated, Mat 316	6982017
Support screen uncoated, Mat 316	6982018
O-Ring EPDM 280.00 × 4.00 mm	6982077
O-Ring Fluoroelastomer 280.00 × 4.00 mm	6982078
Back pressure screen uncoated, Mat 316	6982027
Support screen uncoated, Mat 316	6980653

Chemical Compatibility
Filter Materials

	Cellulose Acetate	Cellulose Nitrate	Reg. Cellulose	PTFE	Polyamide	Glass Fiber	Polycar-bonate	Polyether-sulfone
Solvents	**111**	**113**	**184**	**118**	**250**	**134**	**230**	**154**
Acetone	–	–	■	■	–	■	■	–
Acetonitrile	?	?	■	■	–	?	?	■
Benzene	■	■	■	■	■	■	?	■
Benzyl alcohol	■	■	■	■	■	■	?	–
n-Butyl acetate	■	–	■	■	■	■	■	■
n-Butanol	■	■	■	■	■	■	■	■
Carbon tetrachloride	■	■	■	■	■	■	?	■
Cellosolve	■	–	■	■	?	■	–	■
Chloroform	–	■	■	■	■	■	–	–
Cyclohexane	■	■	■	■	?	■	■	–
Cyclohexanone	–	–	■	■	■	■	?	?
Diethylacetamide	–	–	■	■	■	■	?	?
Diethyl ether	■	–	■	■	■	■	■	?
Dimethyl formamide	–	–	■	■	■	■	–	?
Dimethylsulfoxide	–	–	■	■	■	■	–	–
Dioxane	–	–	■	■	■	■	–	■
Ethanol, 98%	■	■	■	■	■	■	■	■
Ethyl acetate	–	–	■	■	■	■	?	–
Ethylene glycol	■	■	■	■	?	■	■	■
Formamide	?	?	?	■	?	■	–	?
Gasoline	■	■	■	■	■	■	■	■
Glycerine	■	■	■	■	■	■	■	■
n-Heptane	■	■	■	■	?	■	?	?
n-Hexane	■	■	■	■	■	■	■	?
Isobutanol	■	■	■	■	■	■	■	?
Isopropanol	■	■	■	■	■	■	■	■
Isopropyl acetate	■	–	■	■	?	■	?	■
Methanol, 98%	■	–	■	■	?	■	■	■
Methyl acetate	–	–	■	■	■	■	?	–
Methylene chloride	–	■	■	■	■	■	–	–
Methyl ethyl ketone	–	–	■	■	■	■	?	–
Methyl isobutyl ketone	■	–	■	■	■	■	?	?
Monochlorobenzene	■	■	■	■	■	■	–	?
Nitrobenzene	■	■	■	■	■	■	–	?
n-Pentane	■	■	■	■	■	■	■	?
Perchloroethylene	■	■	■	■	■	■	■	?
Pyridine	–	–	■	■	■	■	–	–
Tetrahydrofuran	–	–	■	■	■	■	–	–

	Cellulose Acetate	Cellulose Nitrate	Reg. Cellulose	PTFE	Polyamide	Glass Fiber	Polycar-bonate	Polyether-sulfone
Solvents	**111**	**113**	**184**	**118**	**250**	**134**	**230**	**154**
Toluene	■	■	■	■	■	■	?	■
Trichloroethane	■	■	■	■	?	■	?	?
Trichloroethylene	■	■	■	■	■	■	–	■
Xylene	■	■	■	■	■	■	■	■
Acids								
Acetic acid, 25%	■	■	■	■	■	?	■	■
Acetic acid, 96%	–	–	■	■	–	?	?	■
Hydrochloric acid, 25%	–	■	–	■	–	?	■	■
Hydrochloric acid, 37%	–	–	–	■	–	?	■	■
Hydrofluoric acid, 25%	■	■	■	■	–	?	■	?
Hydrofluoric acid, 50%	■	■	–	■	–	?	■	?
Perchloric acid, 25%	–	■	■	■	–	?	?	?
Phosphoric acid, 25%	■	■	■	■	–	?	?	?
Phosphoric acid, 85%	■	■	■	■	–	?	–	?
Nitric acid, 25%	–	■	–	■	–	?	■	■
Nitric acid, 65%	–	–	–	■	–	?	■	■
Sulfuric acid, 25%	–	■	■	■	–	■	?	■
Sulfuric acid, 98%	–	–	–	■	–	?	–	?
Trichloroacetic acid, 25%	–	■	■	■	–	?	?	?
Bases								
Ammonium, 1N	■	■	■	■	■	■	–	■
Ammonium hydroxide, 25%	–	■	–	■	■	■	–	■
Potassium hydroxide, 32%	–	–	■	■	■	■	–	■
Sodium hydroxide, 32%	–	–	■	■	■	■	–	■
Sodium hydroxide, 1N	■	–	■	■	■	■	–	■
Aqueous Solutions								
Formaline, 30%	■	■	■	■	■	■	■	■
Hydrogen peroxide, 35%	■	■	■	■	■	?	?	?
Sodium hypochlorite, 5%	■	■	■	■	■	■	?	?

Key to Symbols
■ = Compatible ■ = Limited compatibility
– = Not compatible ? = Not tested

E = Compatible after replacing the silicone O-ring with an EPDM O-ring
V = Compatible after replacing the silicone O-ring with a fluoroelastomer O-ring

Contact time: 24 hours at 20 °C
Chemical compatibilities can be influenced by various factors.

Therefore, we recommend that you confirm compatibility with the liquid you wish to filter by performing a trial filtration run before you begin with actual filtration.

Chemical Compatibility

Filter Holder – O-Ring Materials

	Glass	Poly-carbonate	Poly-propylene	PTFE	Stain-less-Steel	EPDM O-Ring	PTFE O-Ring	Silicone O-Ring	Fluoro-elastomer O-Ring
Solvents									
Acetone	■	■	■	■	■	■	■	–	–
Acetonitrile	■	?	■	■	■	■	■	–	■
Benzene	■	–	–	■	■	–	■	–	■
Benzyl alcohol	■	–	■	■	■	■	■	■	■
n-Butyl acetate	■	–	■	■	■	■	■	–	–
n-Butanol	■	■	■	■	■	■	■	■	■
Carbon tetrachloride	■	–	■	■	■	–	■	–	■
Cellosolve	■	–	–	■	■	■	■	–	–
Chloroform	■	–	–	■	■	–	■	–	■
Cyclohexane	■	■	■	■	■	–	■	–	■
Cyclohexanone	■	–	■	■	■	–	■	–	–
Diethylacetamide	■	–	?	■	■	?	■	■	–
Diethyl ether	■	–	■	■	■	–	■	–	–
Dimethyl formamide	■	–	■	■	■	■	■	■	–
Dimethylsulfoxide	■	?	?	■	■	?	■	■	–
Dioxane	■	–	■	■	■	■	■	–	–
Ethanol, 98%	■	■	■	■	■	■	■	■	■
Ethyl acetate	■	–	■	■	■	■	■	–	–
Ethylene glycol	■	■	■	■	■	■	■	■	■
Formamide	■	–	■	■	■	■	■	–	■
Gasoline	■	■	■	■	■	–	■	–	■
Glycerine	■	■	■	■	■	■	■	■	■
n-Heptane	■	■	■	■	■	–	■	■	■
n-Hexane	■	■	■	■	■	–	■	–	■
Isobutanol	■	■	■	■	■	■	■	■	■
Isopropanol	■	■	■	■	■	■	■	■	■
Isopropyl acetate	■	■	■	■	■	■	■	–	–
Methanol, 98%	■	–	■	■	■	■	■	■	■
Methyl acetate	■	?	■	■	■	■	■	–	–
Methylene chloride	■	–	–	■	■	–	■	–	■
Methyl ethyl ketone	■	–	■	■	■	■	■	–	–
Methyl isobutyl ketone	■	–	?	■	■	–	■	–	–
Monochlorobenzene	■	–	■	■	■	–	■	–	■
Nitrobenzene	■	–	■	■	■	–	■	–	–
n-Pentane	■	■	■	■	■	–	■	–	■
Perchloroethylene	■	–	■	■	■	–	■	–	■
Pyridine	■	–	■	■	■	–	■	–	–

	Glass	Poly-carbonate	Poly-propylene	PTFE	Stain-less-steel	EPDM O-Ring	PTFE O-Ring	Silicone O-Ring	Fluoro-elastomer O-Ring
Solvents									
Tetrahydrofuran	■	–	■	■	■	–	■	–	-
Toluene	■	–	■	■	■	–	■	–	■
Trichloroethane	■	–	?	■	■	–	■	–	■
Trichloroethylene	■	–	–	■	■	–	■	–	■
Xylene	■	–	■	■	■	–	■	–	■
Acids									
Acetic acid, 25%	■	■	■	■	■	■	■	■	–
Acetic acid, 96%	■	–	■	■	■	■	■	?	–
Hydrochloric acid, 25%	■	■	■	■	–	■	■	–	■
Hydrochloric acid, 37%	■	–	■	■	–	■	■	–	■
Hydrofluoric acid, 25%	–	–	■	■	–	■	■	–	■
Hydrofluoric acid, 50%	–	–	■	■	–	■	■	–	■
Perchloric acid, 25%	■	■	■	■	–	■	■	–	■
Phosphoric acid, 25%	■	■	■	■	■	■	■	–	■
Phosphoric acid, 85%	■	■	■	■	■	■	■	–	■
Nitric acid, 25%	■	–	■	■	–	■	■	–	■
Nitric acid, 65%	■	–	–	■	–	–	■	–	■
Sulfuric acid, 25%	■	■	■	■	■	■	■	–	■
Sulfuric acid, 98%	■	–	–	■	–	–	■	–	■
Trichloroacetic acid, 25%	■	■	■	■	–	■	■	–	–
Bases									
Ammonium, 1N	■	–	■	■	■	■	■	–	–
Ammonium hydroxide, 25%	■	–	■	■	■	■	■	■	–
Potassium hydroxide, 32%	■	–	■	■	■	■	■	■	■
Sodium hydroxide, 32%	■	–	■	■	■	■	■	■	■
Sodium hydroxide, 1N	■	–	■	■	■	■	■	■	■
Aqueous Solutions									
Formaline, 30%	■	■	■	■	■	■	■	■	■
Hydrogen peroxide, 35%	■	■	■	■	■	■	■	■	■
Sodium hypochlorite, 5%	■	■	■	■	■	■	■	■	■

Key to Symbols
■ = Compatible ■ = Limited compatibility
– = Not compatible ? = Not tested

Contact time: 24 hours at 20 °C
Chemical compatibilities can be influenced by various factors.

Therefore, we recommend that you confirm compatibility with the liquid you wish to filter by performing a trial filtration run before you begin with actual filtration.

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