

Проточные фильтры N912, N1678, N1682, N1650, N1658

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BOLA Filtration



What you should know about porous PTFE.

For the production of porous rods, tubes and tiles, PTFE particles are melted together.

The pore size can be determined both by the selection of the PTFE granules and the process parameters.

Due to the non-adhesive surface, filtering devices made of fluoroplastics (PTFE/PFA) are easy to clean and have a long durability.

Microporous PTFE has the same unique properties like "normal" PTFE:

- » non-adhesive / dirt-repellent
- » hydrophobic / water-repellent
- » non-wettable
- » no release of trace elements in the filtrate (no plasticisers)
- » almost universal chemical resistance to acids, bases and solvents
- » excellent temperature resistance between -200°C and + 250°C (temporarily even +300°C)
- » autoclavable

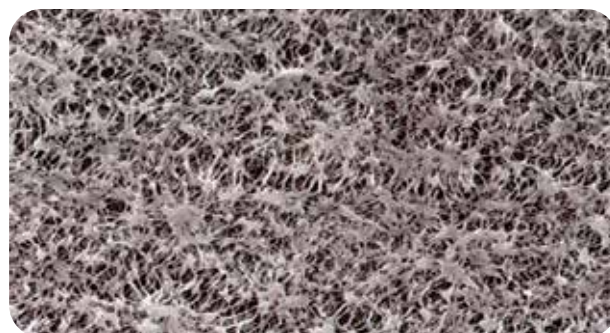
Information about pore sizes – what do these indications mean?

Class	Indication	Pore size in µm
00	P 500	250 - 500 *
0	P 250	160 - 250 *
1	P 160	100 - 160 *
2	P 100	40 - 100
3	P 40	16 - 40
4	P 16	10 - 16
5	P 1,6	1 - 1,6

* not feasible with PTFE at the moment

Typical applications – often asked.

Pore size	Application
50 µm	Filtration of coarse particles, distribution of gas in liquids
5 µm	Filtration of medium-sized particles, laboratory filtration, valve for packings (gas permeable, leak proof)
1 µm	Filtration of aqueous solvents, elimination of particles
0,45 µm	Prefiltration of aqueous solvents, HPLC solvents, protein solvents and alcohols, sterile filtration of air or other gases
0,2 µm	Ultracleaning of organic solvents and alcohols, sterile filtration of air or other gases
0,05 µm	Ultracleaning of solvents or gases (virus)



BOLA Flow Filters

Material: PTFE, PPS Temperature resistance: from -20°C to +160°C Chemical resistance: +++ universal Vacuum: suitable autoclave: 121°



FDA conform

Product description:

Suitable for overpressure or vacuum, usable for example as added filter or as large-area in-line apparatus in a line system. Suitable for temperatures up to +160°C. The optionally available filtering membranes (page 332) can be exchanged easily. Tubing can be connected to GL threads by means of the included laboratory screw joints.

The filters are produced without plasticisers and have an almost universal chemical resistance. They do not release any trace elements into the filtrate. Due to the non-adhesive surface, they are easy to clean and can be reused.

For membrane dia. mm	Filtration surface m ²	Connecting thread GL	For tubing O.D. mm	Cat. No.:
25	3,1	14	3,2 and 6,0	N 1670-08
47	13,8	18	6,0 and 8,0	N 1670-16
90	52,0	25	8,0 and 10,0	N 1670-24

Flow rate:

Flow capacity under vacuum of 100 kPa (1000 mbar) with Water / 1 kPa (10 mbar) with air using a PTFE filtering membrane with a thickness of 0,2 mm:

For membrane dia. mm	Pore size µm	Product	Flow ml/min.	For membrane dia. mm	Pore size µm	Product	Flow ml/min.
25	1,00	water	5	47	0,45	water	3
25	1,00	air	92	47	0,45	air	122
25	0,45	water	1	90	1,00	water	57
25	0,45	air	34	90	1,00	air	1.191
47	1,00	water	16	90	0,45	water	12
47	1,00	air	325	90	0,45	air	446



#SUITABLE PAGE 90
Ideally coordinated laboratory screw-joints



Spare parts for: Flow Filter

Description	Material	Packing Unit	For membrane dia. mm	suitable for: Cat. No.:	Cat. No.:	
Replacement Gasket with O-Ring	PTFE/ FKM	pack size: 3 pieces	25 47 90	N 1670-08 N 1670-16 N 1670-24	N 912-01 N 912-02 N 912-03	



BOLA Single-Stage Flow Filter

Material: PFA Temperature resistance: from -200°C to +250°C Chemical resistance: +++ universal Vacuum: suitable autoclave: 121°

FDA conform

Product description:

Filter made of PFA with connecting nut made of glass-fibre reinforced ETFE. Suitable for vacuum and overpressure up to max. 150 kPa (1.500 mbar) and for temperatures up to max. +160°C. Easy exchange of the optionally available filtering membrane (page 332). Couplings for connecting tubing (page 189) with O.D. 6,35 mm (1/4") are included.

For membrane dia. mm	Filtration surface cm ²	O.D. mm	For tubing O.D. mm	Cat. No.:
47	14,1	62	(1/4") 6,35	N 1678-08

Flow rate:

Flow capacity under vacuum of 100 kPa (1000 mbar) with Water / 1 kPa (10 mbar) with air using a PTFE filtering membrane with a diameter of 47 mm and a thickness of 0,2 mm:

Pore size µm	Product	Flow ml/min.
1,00	water	16
0,45	water	4
1,00	air	325
0,45	air	122



BOLA Three-Stage Flow Filter

Material: PFA Temperature resistance: from -200°C to +250°C Chemical resistance: +++ universal autoclave: 121° autoclave: 121°

FDA conform

Product description:

Filter made of PFA with connecting nut made of glass-fibre reinforced ETFE. Suitable for vacuum and overpressure up to max. 150 kPa (1.500 mbar) and for temperatures up to max. +160°C. Multi-stage filtrations with up to 3 different filtering membranes are possible. Easy exchange of the optionally available filtering membrane (page 332). Couplings for connecting tubing (page 189) with O.D. 6,35 mm (1/4") are included.

For membrane dia. mm	Filtration surface cm ²	O.D. mm	For tubing O.D. mm	Cat. No.:
47	3 x 14,1	62	(1/4") 6,35	N 1682-08

Flow rate:

Flow capacity under vacuum of 100 kPa (1000 mbar) with Water / 1 kPa (10 mbar) with air using a PTFE filtering membrane with a diameter of 47 mm and a thickness of 0,2 mm:

Pore size µm	Product	Flow ml/min.
1,00	water	6
0,45	water	1
1,00	air	418
0,45	air	231



BOLA Vacuum Filters

Material:
PTFE, PFA

Temperature resistance:
from -200°C to +250°C

Chemical resistance:
+++ universal

FDA conform

Product description:

Filtration unit made of PTFE, multi-stage hose connector with integrated lock screw for connecting vacuum tubing with I.D. 6 mm or 8 mm, PTFE supporting disc to fit optionally available filtering discs (page 332). Collecting vessel made of PFA, filling vessel with lid for protection against contaminations also made of PFA. The filters are produced without plasticisers and have an almost universal chemical resistance. They do not release any trace elements into the filtrate. Due to the non-adhesive surface, they are easy to clean and can be reused.

For membrane dia. mm	Filtration surface cm ²	Capacity of filling/collecting (vessel ml)	O.D. mm	Total height mm	Cat. No.:
47	13,8	240	86	250	N 1650-08
47	13,8	500	100	290	N 1650-16
90	55,4	1.000	130	370	N 1650-24

Flow rate:

Flow capacity for water under vacuum of 100 kPa (1000 mbar) using a PTFE filtering membrane with a thickness of 0,2 mm:

For membrane dia. mm	Pore size µm	Flow ml/min.	For membrane dia. mm	Pore size µm	Flow ml/min.
47	1,00	55	90	1,00	199
47	0,45	20	90	0,45	72
47	0,20	11	90	0,20	42



#SUITABLE PAGE 332
Dimensionally coordinated filtering membranes



BOLA Vacuum Filtering Funnels

Material:
PTFE, PFA

Temperature resistance:
from -200°C to +250°C

Chemical resistance:
+++ universal

FDA conform

Product description:

Filtration unit made of PTFE with cone size 29 for connection to a vessel (must be suitable for vacuum) with socket size 29. Multi-stage hose connector with integrated lock screw for vacuum tubing with I.D. 6 and 8 mm, filtration surface 13,8 cm², easily exchangeable filtering membrane dia. 47 mm (optionally available – page 332). Filling vessel made of PFA with PTFE lid for protection against contaminations.

Capacity of filling vessel mm	O.D. mm	Total height mm	Cat. No.:
125	62	188	N 1658-08

Flow rate:

Flow capacity for water under vacuum of 100 kPa (1000 mbar) using a PTFE filtering membrane with a diameter of 47 mm and a thickness of 0,2 mm:

Pore size µm	Flow ml/min.
1,00	61
0,45	15
0,20	8





BOLA Vacuum Adaptor GL

Material: PTFE Temperature resistance: from -15 °C to +200 °C Chemical resistance: +++ universal autoclave: 121° Vacuum: suitable

NEW

FDA conform

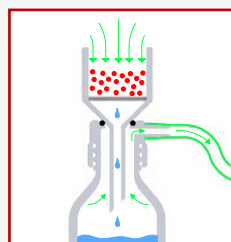
Product description:

Made of PTFE. Pass-through with o-ring made of FKM for safe assembly of standard filter funnels made of glass or plastic on flasks with thread GL 45. Lateral 2-step hose connector made of PTFE for connection to a vacuum pump by means of suitable tubing.

For thread GL	For funnel outlet max. Ø mm	2-Step hose connector		Cat. No.:
		A O.D. mm	B O.D. mm	
45	22	9	12	N 1656-45

Applications:

For vacuum filtration, the o-ring at the pass-through provides good sealing to the filter funnel. A slight vacuum is sufficient.



BOLA Vacuum Adaptor with Ground Joint

Material: PTFE Temperature resistance: from -15 °C to +200 °C Chemical resistance: +++ universal autoclave: 121° Vacuum: suitable

NEW

FDA conform

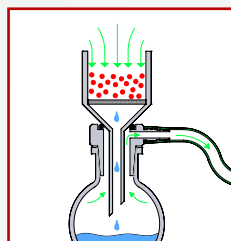
Product description:

Made of PTFE. Pass-through with o-ring made of FKM for safe assembly of standard filter funnels made of glass or plastic on vessels and round-bottom flasks with ground joint. Lateral 2-step hose connector made of PTFE for connection to a vacuum pump by means of suitable tubing.

Cone size GL	For funnel outlet max. Ø mm	2-Step hose connector		Cat. No.:
		A O.D. mm	B O.D. mm	
14/23	8	9	12	N 1655-01
19/26	11	9	12	N 1655-02
29/32	22	9	12	N 1655-04
45/40	22	9	12	N 1655-06

Applications:

For vacuum filtration, the o-ring at the pass-through provides good sealing to the filter funnel. A slight vacuum is sufficient.



BOLA **Buchner Funnels**

Material:	Temperature resistance:	Chemical resistance:	Vacuum:	autoclave:
PTFE	from -200 °C to +250 °C	+++ universal	suitable	121°

NEW

FDA conform

Product description:

Made of PTFE. Two-part version demountable in upper and lower part for easy cleaning and removal of filter cake. Suitable for vacuum filtration. Nominal sizes and dimensions as per DIN 12 905. Suitable for commercial filter papers (not included in the scope of delivery). Universal chemical resistance, the medium is only exposed to PTFE.

Nominal size As per DIN 12 905	Volume ml	For filter paper dia. mm	Total height mm	Cat. No.:
45	50	45	94	N 1654-02
55	75	55	117	N 1654-04
70	135	70	142	N 1654-06
90	290	90	165	N 1654-08

Applications:

For suspension of solids.



BOLA **Vacuum Traps**

Material:	Temperature resistance:	Chemical resistance:	autoclave:	Vacuum:
PP, PBTB	from 0 °C to +110 °C	++ very good	121 °C	suitable

FDA conform

Product description:

Consisting of a screw cap red made of PBTP for thread GL 45, distributor body made of PP with 2-step hose connectors for connection of elastic tubing (such as silicone, Viton® or Tygon®) as well as a gas inlet tube made of FEP. With arrow on the top side of the distributor body to display the flow direction. The gas inlet tube can be cut to length on request. Limited chemical resistance, for working temperatures up to max. +110 °C.

A	2-Step hose connector		Length gas inlet tube mm	Width including necks mm	Cat. No.
	O.D. a	O.D. b mm			
	9	12	150	80	D 810-05

Applications:

Protection of pumps or vacuum systems from damages through vapour or condensate.

Material:	Temperature resistance:	Chemical resistance:	autoclave:	Vacuum:
PTFE, PPS	from -20 °C to +200 °C	+++ universal	121 °C	suitable

Product description:

Consisting of a screw cap black made of PPS for thread GL 45, distributor body made of PTFE with 2-step hose connectors for connection of elastic tubing (such as silicone, Viton® or Tygon®) as well as a gas inlet tube made of FEP. With arrow on the top side of the distributor body to display the flow direction. The gas inlet tube can be cut to length on request. Universal chemical resistance, for working temperatures up to max. +200 °C.

B	2-Step hose connector		Length gas inlet tube mm	Width including necks mm	Cat. No.
	O.D. a	O.D. b mm			
	9	12	150	80	D 810-10

Applications:

Protection of pumps or vacuum systems from damages through vapour or condensate.





BOLA Filter Adaptors for Syringes

Material: **PTFE** Temperature resistance: **from -200°C to +250°C** Chemical resistance: **+++ universal** Pressure: **2 bar** autoclave: **121°**

FDA conform

Product description:

Adaptors can be screwed together into multi-stage filters (prefilter, main filter). The low weight of only 14 g or 44 g allows easy exchange of the optionally available filtering membranes (page 332).

For membrane dia. mm	Filtration surface cm ²	O.D. mm	Total height mm	Cat. No.:
13	0,78	21	35	N 1666-08
25	3,80	34	40	N 1666-16

Flow rate:

Flow capacity for water under vacuum of 100 kPa (1000 mbar) using a PTFE filtering membrane with a thickness of 0,2 mm:

For membrane dia. mm	Pore size µm	Flow ml/min.
13	1,00	1
13	0,45	0,3
25	1,00	5
25	0,45	2



BOLA Pressure Pre-Filters

Material: **PTFE** Temperature resistance: **from -200°C to +250°C** Chemical resistance: **+++ universal** Pressure: **10 bar** autoclave: **121°**

FDA conform

Product description:

For direct fine filtration in front of HPLC columns. For filtering membranes (available optionally – page 332) with a diameter of 13 mm and a thickness between 0,2 µm, filtration surface of 132 mm² for filtration with nearly no dead volume. The membrane can be exchanged by hand. Connection threads on both sides UNF 1/4" 28 G, suitable flanged tubing can be found on page 299.

For tubing I.D. mm	For filtering membrane with dia. mm	Cat. No.:
(1/32") 0,8	13	F 780-08
(1/16") 1,6	13	F 780-16





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