

Polycap AS

Whatman™ disposable filter

Instructions for Use

Introduction

Important

Read these instructions carefully before using the products.

Intended use

The products are intended for research use only, and shall not be used in any clinical or *in vitro* procedures for diagnostic purposes.

Background

Description

Polycap AS is a disposable in-line filter designed to provide pure filtration of aqueous solution. This product contains a glass micro-fiber (GMF) prefilter over hydrophilic nylon membrane filtration to maximize throughput while maintaining low hold-up volume.

Polycap AS is intended for single use. Reuse is not recommended and can lead to cross contamination of solutions filtered.

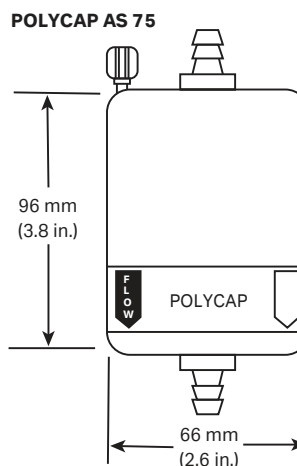
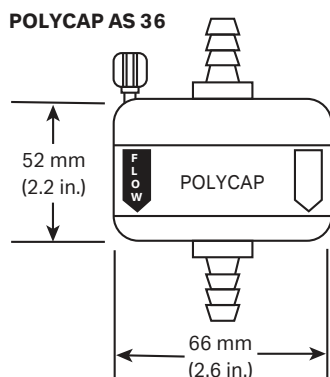
Typical applications

Polycap AS is intended for filtration of aqueous solutions in the flow direction of inlet to outlet. This product is suitable for preparing the following solutions:

- Tissue culture and growth media
- Salt and buffer solutions
- Reagents
- Cleaning and rinse solutions
- High quality water

Technical information

Illustration of Polycap AS

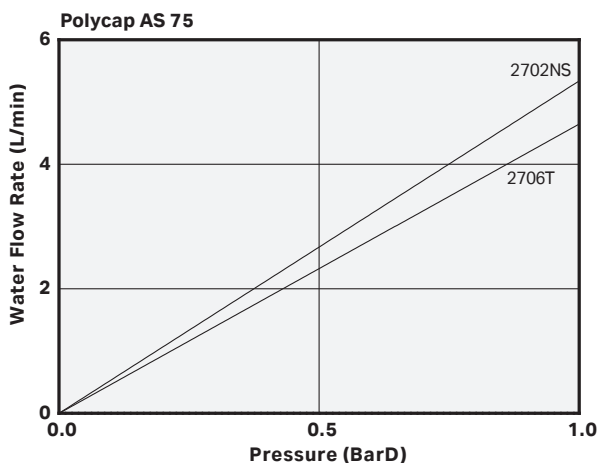
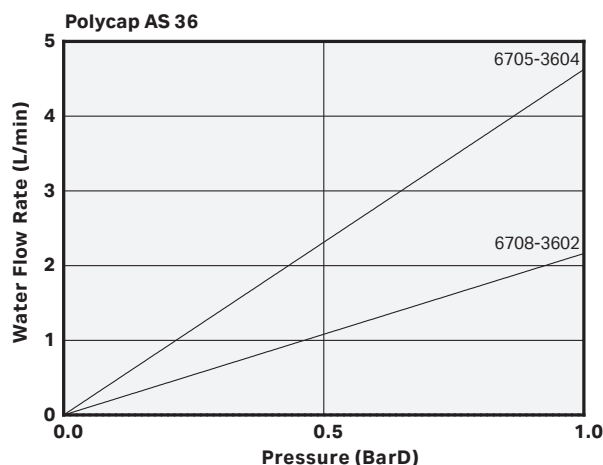


Technical data

Housing and support:	Polypropylene
Filter media:	GMF/nylon
Pore size:	See <i>Ordering information</i> for details
Hold-up volume:	Polycap AS 36 – 10 mL with air purge Polycap AS 75 – 22 mL with air purge
Effective filtration area:	Polycap AS 36 – 340 cm ² Polycap AS 75 – 740 cm ²
Inlet/outlet connections:	See <i>Ordering information</i> for details
Total length with connections:	See <i>Ordering information</i> for details
Sealing method:	Heat-fused
Autoclavable:	Autoclavable at 121°C (250°F) for 20 minutes at 0.1 MPa (1.0 bar, 15 psi)
Maximum operating pressure:	0.41 MPa (4.1 bar, 60 psi)
Operating temperature:	Ambient
Minimal bubble point (isopropyl alcohol):	0.2 μm – 0.11 MPa (1.10 bar, 16 psi) 0.45 μm – 0.07 MPa (0.70 bar, 10 psi)

Minimal bubble point (water):	0.2 µm – 0.29 MPa (2.90 bar, 42 psi) 0.45 µm – 0.20 MPa (2.00 bar, 30 psi)
Flow direction:	Inlet to outlet
Non-pyrogenic:	< 0.5 EU/mL
Bacterial retention:	0.2 µm retains 1.0×10^7 cfu/cm ² <i>B. diminuta</i> per modified ASTM F-838
Biosafety:	Materials pass USP Class VI

Water flow rate



Operating Instructions

Safety

When considering the specific factors of your application, see *Technical data* for correct use. Make sure not to exceed the Maximum operating pressure and follow temperature or chemical compatibility recommendations.



CAUTION

If the Maximum operating pressure is exceeded, bursting of the device can occur resulting in loss of sample or personal injury.

Preparing integrity test (bubble point test)

Step	Action
1	Securely connect the filter to the test stand. <ol style="list-style-type: none"> For filters with stepped barb connections, secure connections using band clamps. For filters with threaded connections, hand-tighten the connections.
2	Fill and flush the filter with the test fluid. <ol style="list-style-type: none"> Open the flush valve and initiate flow into the filter at low pressure, ≤ 0.03 MPa (0.3 bar, 5 psi). Remove vent trapped upstream air through the loosened cap. Tighten the cap when trapped air has been completely expelled from the system. Gently ramp up the pressure and allow the filter to flush for 2-3 minutes at approximately 0.03 MPa (0.3 bar, 5 psi), or flush minimum 2 L. Close the flush valve.
3	Start the bubble point test.

Performing bubble point test

Step	Action
1	Immerse the outlet or tubing connected to the outlet below the test fluid surface in a suitable container for viewing a stream of bubbles.
2	Open the gas valve and slowly ramp the pressure to 0.03 MPa (0.3 bar, 5 psi) and hold for 30 seconds.
3	Slowly increase the pressure at a rate of 0.14 MPa (1.4 bar, 20 psi) per minute until you reach the minimum bubble point and hold for another 30 seconds. A steady stream of bubbles at or during the 30 second hold indicates an integral product.

Note:

The bubble point is the pressure at which you observe a steady stream of bubbles forming out of the end of the outlet. If you observe a rush of tiny bubbles that cease during the pressure hold or during the pressure ramp up, that may not be the bubble point but some residual trapped air downstream of the wetted membrane. Continue the procedure, observing for a steady stream of bubbles.

Note:

If you observe a steady stream of bubbles below the anticipated bubble point, the filter may not have wet properly. Return to step 2 in *Preparing integrity test* to flush the filter. If using water, it may aid wetting to warm the water to 79°C (175°F).

Note:

If a steady stream of bubbles is not observed and it is desired to take the filter to the bubble point, resume increasing the pressure at a rate of 0.14 MPa (1.4 bar, 20 psi) per minute until a steady stream of bubbles is observed and record that pressure.

Filtering solution

Step	Action
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- | | |
|---|--|
| 1 | Securely connect both ports of the filter into the flow stream using flow arrows to guide orientation of the filter system.
<ul style="list-style-type: none">a. For filters with stepped barb connections, secure tubing to the capsule ports using band clamps.b. For filters with threaded connections, hand-tighten the connections of both ports. |
| 2 | Fill the filter slowly and at a low pressure, allowing air to escape through the loosened vent valve until the filter is filled with fluid. |
| 3 | Tighten the vent valve. |
| 4 | Ramp the pressure slowly until the desired flow rate is achieved, taking care not to exceed the Maximum operating pressure of the filter. |
| 5 | When filtration is complete, make sure to release all pressure from the test stand before loosening band clamps or fittings, and removing tubing from the filter. |
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Ordering information

Product Code	Product Name	Pore Size (µm)	Inlet/Outlet Connections		Total length with connections	Qty./Pk.
			Inlet	Outlet		
6706-3602	Polycap AS 36, sterile	0.2	SB ¹	SB with filling bell	123 mm (4.8 in.)	1
6705-3602	Polycap AS 36, sterile	0.2	SB	SB	90 mm (3.5 in.)	1
6708-3602	Polycap AS 36, sterile	0.2	½ SB ²	½ SB	98 mm (3.8 in.)	1
6709-3602	Polycap AS 36, sterile	0.2	MNPT ³	SB	94 mm (3.7 in.)	1
6705-3604	Polycap AS 36, sterile	0.45	SB	SB	90 mm (3.5 in.)	1
2606T	Polycap AS 36, non-sterile	0.2	FNPT ⁴	FNPT	59 mm (2.3 in.)	5
2706T	Polycap AS 75, non-sterile	0.45	FNPT	FNPT	103 mm (4.0 in.)	5
2707NS	Polycap AS 75, non-sterile	0.45	SB	SB	138 mm (5.4 in.)	5

¹ SB: 6 to 10 mm (¼ to ¾ in.) stepped barb

² ½ SB: 10 to 12 mm (¾ to ½ in.) stepped barb

³ MNPT: ¼ in. male NPT threaded connection

⁴ FNPT: ¾ in. female NPT threaded connection



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