

The industry's broadest portfolio of vent filters makes it easy to match filter performance to application requirements

- Self-contained, compact filter devices provide high efficiency removal of airborne bacteria and particulate under dry or moist conditions.
- Hydrophobic membranes prevent passage of aerosols, protecting equipment and staff. Hydrophobic membrane choices include:
 - PTFE** – Offers the a high level of hydrophobicity and assures the best system performance when used as a sterile barrier in venting or particulate control. PTFE will not absorb moisture that can cause premature reduction of air flow.
 - PVDF** – Can be gamma irradiated.
 - Glass Laminate** – The most economical choice also provides the highest air flow rates.
- Air flow is a critical performance parameter. Effective Filtration Areas (EFAs) range from 7.5 to 300 cm², allowing users to select the appropriate vent size for their application.

Vent Filters

Acro® 37 TF Vents, Bacterial Air Vents, Acro 50 Vents, and AcroPak™ 300 Vent Capsule



- Rugged polypropylene housings have broad chemical compatibility.
- AcroPak 300 capsule is 100% integrity tested to provide the high level of confidence you require.
- Acro 50 vent devices with Emflon® II membrane are stable up to 5 mRads gamma irradiation.

Applications

For the safety of the workers and your equipment, always use a vent filter. These devices act as barriers on air lines. They contain hydrophobic media, which prevent the entry of water and aerosols into sensitive equipment and also protect the lab environment from aerosolized pathogens. Vent filters can also enable air to enter and exit vessels such as bioreactors, while maintaining the sterility of the interior environment.

Use vent filters from Pall Life Sciences for venting receiving vessels, isolation or environmental chambers, bioreactors, fermentation tanks, carboys, and other small containers. Use in-line for low-pressure sterile air/gas delivery to instruments and culture vessels, bioisolation of a vacuum source, flushing instruments, and cleaning parts.




The most important considerations when selecting a gas or vent filter are air flow rate and particulate/microorganism retention. The membrane material in the filter must provide sufficient flow rate at appropriate differential pressure to accommodate the air flow required by the system.

The filter also should efficiently retain particles and aerosol droplets, and, if sterile air or gas is required, retain bacteria. The Acro 37 TF, Acro 50, and AcroPak 300 vent filters are integrity testable, making them ideal in applications where sterility is a concern.

The Bacterial Air Vent, with its glass laminate filter media, exhibits higher temperature and pressure ratings, and higher air flow rates.

Filter Area	Vent Filter
Low	Acro 37 TF Vents, Bacterial Air Vents
Medium	Acro 50 Vents
High	AcroPak 300 Capsule with PTFE Membrane

Specifications

	Acro® 37 TF Vent Devices with PTFE Membrane	Bacterial Air Vents with Glass Laminate	Acro 50 Vent Devices with Emflon® II Membrane
			
Key Features	<ul style="list-style-type: none"> • Ideal for small-volume venting, solvent and gas filtration • Broad chemical compatibility • Economical; available in bulk packaging 	<ul style="list-style-type: none"> • Hydrophobic, glass laminate media prevents the passage of aerosols • Economical, with high air flow rates • High pressure rating ensures product integrity during pressure surges 	<ul style="list-style-type: none"> • Made with proprietary, low pressure drop hydrophobic PVDF membrane • Stable up to 5 mRads gamma irradiation • Light weight (< 27 grams) prevents crimping of tubing • Available 100% integrity tested
Materials of Construction	PTFE on a polypropylene support	Hydrophobic glass laminate (polyester/glass fiber/polyester)	Hydrophobic polyvinylidene fluoride (PVDF)
Filter Media:			
Housing:	Polypropylene	Polypropylene	Polypropylene
Pore Size	0.2 µm	1 µm (nominal)	0.2 µm
Effective Filtration Area	7.5 cm ²	7.5 cm ²	20 cm ²
Dimensions (nominal)	Overall Length: Diameter:	Overall Length: Diameter:	Overall Length: Diameter:
	5.3 cm (2.1 in.) 4.5 cm (1.8 in.)	5.3 cm (2.1 in.) 4.5 cm (1.8 in.)	8.2 cm (3.2 in.) 6.8 cm (2.7 in.)
Inlet/Outlet Connections	Stepped hose barbs, 6.4 – 9.5 mm (1/4 – 3/8 in.)	Stepped hose barbs, 6.4 – 9.5 mm (1/4 – 3/8 in.)	Stepped hose barbs, 6.4 – 12.7 mm (1/4 – 1/2 in.) diameter with slip luer ID in the hose barb
Maximum Operating Temperature	100 °C (212 °F) at 1 bar (100 kPa, 15 psi)	121 °C (250 °F) at 1 bar (100 kPa, 15 psi)	60 °C (140 °F) at 1 bar (100 kPa, 15 psi)
Maximum Operating Pressure	4.1 bar (410 kPa, 60 psi) at ambient temperature	5.2 bar (520 kPa, 75 psi) at ambient temperature	4.1 bar (410 kPa, 60 psi) at ambient temperature
Recommended Integrity Test	Minimum Bubble Point (Methanol): 0.9 bar (90 kPa, 13 psi) Minimum Water Breakthrough: 2.1 bar (210 kPa, 30 psi), bi-directional	N/A	Minimum Bubble Point [60% IPA/40% Water (v:v)]: 0.8 bar (80 kPa, 12 psi)
Typical Air Flow Rate	3.58 L/min at 0.2 bar (20 kPa, 3 psi)	40 L/min at 0.4 bar (40 kPa, 5.5 psi)	27 L/min at 1 bar (100 kPa, 15 psi)
Endotoxin	N/A	N/A	< 0.25 EU/mL using Limulus Amoebocyte Lysate (LAL) test
Typical Retention	N/A	99.97% 0.3 µm (aerosolized DOP) at 32 L/min/100 cm ² following ASTM D 2986-95A	Lot samples retain 10 ⁷ cfu/cm ² of <i>B. diminuta</i> per modified ASTM F838-83
Biological Safety	N/A	N/A	Materials of Construction Pass USP Biological Reactivity Tests, <i>In Vivo</i> <88>
Sterilization	Provided non-sterile; autoclavable if desired at 121 – 123 °C (250 – 253 °F) for a maximum of 15 min	Provided non-sterile; autoclavable if desired at 121 – 123 °C (250 – 253 °F) for a maximum of 15 min (PN 4308 sterilized by gamma irradiation)	Provided non-sterile; can be gamma irradiated up to 5 mRads (50 kilograys); autoclavable if desired, can withstand 3 cycles at 131 °C (268 °F) for a maximum of 30 min

Acro® 50 Vent Devices with PTFE Membrane



AcroPak™ 300 Capsule with PTFE Membrane



- Available in a variety of inlet/outlet connections and pore sizes to best match your application requirements
- Industry standard for venting bioreactors and fermentors
- Broad chemical compatibility

- Large EFA gives high air flow rates
- 100% integrity tested
- Broad chemical compatibility

PTFE on a polypropylene support	PTFE on a polypropylene support
Polypropylene	Polypropylene
0.2 µm, 0.45 µm, 1 µm	0.2 µm
19.6 cm ²	300 cm ²
8.2 cm (3.2 in.) 7.3 cm (2.9 in.)	10.4 cm (4.1 in.) with adapters 5.0 cm (2.0 in.)
Stepped hose barbs, 6.4 – 12.7 mm (1/4 – 1/2 in.) diameter 1/8 in. MNPT 9.5 mm (3/8 in.) straight pipe	Stepped hose barbs, 6.4 – 12.7 mm (1/4 – 1/2 in.) diameter
130 °C (266 °F) at 1 bar (100 kPa, 15 psi)	60 °C (140 °F) at 2.1 bar (210 kPa, 30 psi)
4.1 bar (410 kPa, 60 psi) at ambient temperature	4.1 bar (410 kPa, 60 psi) at ambient temperature
Minimum Bubble Point (Methanol): 0.2 µm: 0.9 bar (90 kPa, 13 psi) 0.45 µm: 0.5 bar (50 kPa, 7 psi) 1 µm: 0.2 bar (20 kPa, 3 psi)	Minimum Bubble Point [60% IPA/40% Water (v:v)]: 1.2 bar (120 kPa, 18 psi)
L/min at 0.2 bar (20 kPa, 3 psi): 0.2 µm: 8; 0.45 µm: 12; 1 µm: 15	32 L/min at 0.07 bar (17 kPa, 1 psi)
N/A	< 0.25 EU/mL using Limulus Amoebocyte Lysate (LAL) test
N/A	Lot samples retain 10 ⁷ cfu/cm ² of <i>B. diminuta</i> per modified ASTM F838-83
Materials of Construction Pass USP Biological Reactivity Tests, <i>In Vivo</i> <88>	Materials of Construction Pass USP Biological Reactivity Tests, <i>In Vivo</i> <88>
Provided non-sterile, individually packaged; autoclavable if desired at 121 – 123 °C (250 – 253 °F) for a maximum of 20 min; integrity should be verified after each autoclave cycle and before use	Provided non-sterile; autoclavable if desired at 121 – 123 °C (250 – 253 °F) for a maximum of 20 min; integrity should be verified after each autoclave cycle and before use

Complementary Products

Vacushield™ Vent Device (Product No. 4402)

Protects valves and pump components from damage due to liquids

- Features 0.45 µm hydrophobic PTFE membrane.
- Allows air and gases to pass through freely while blocking aqueous solutions and aerosol contaminants.
- Highly effective retention of bacteria with minimal restriction of pump performance.
- Meets OSHA regulations for protection of vacuum lines (29 CFR Part 1910.1030 for bloodborne pathogens).



Vacuum/Pressure Pumps (Product Nos. 13157, 13158)

Small, lightweight, reliable pumps

- Reduce the risk of contamination. An air seal between the pump and cylinder provides oil-free and dust-free vacuum/pressure delivery.
- Compact design saves laboratory space.
- Pumps feature a diaphragm for cleaner, quieter operation.



Integrity Test Kit (Product No. 4252)

Kit includes pressure gauge, three-way stopcock, and 10 mL syringe to assist in testing the Acro 50 vent filter.



Ordering Information

Acro® 37 TF Vent Devices

Product No.	Description	Packaging
4464	0.2 µm, 37 mm	24/pkg
4465	0.2 µm, 37 mm	200/pkg

Bacterial Air Vents

Product No.	Description	Packaging
4210	1 µm (nominal), 37 mm	24/pkg
4308	1 µm (nominal), 37 mm, sterile	10/pkg

Acro 50 Vent Devices with Emflon® II Membrane

Product No.	Description	Packaging
A50V002P2	Hose barb with vent, 0.2 µm	3/pkg
A50V002P2NV	Hose barb, no vent, 0.2 µm 100% integrity tested during manufacturing	100/pkg
4252	Integrity test kit (includes pressure gauge, 3-way stopcock, and 10 mL syringe)	1/pkg

Acro 50 Vent Devices with PTFE Membrane

Product No.	Description	Packaging**
4251	0.2 µm, hose barb	18/pkg
4400	0.2 µm, 1/8 in. MNPT	18/pkg
4401	0.2 µm, 9.5 mm (3/8 in.) straight pipe	18/pkg
4250	0.2 µm, hose barb	72/pkg
4256	0.45 µm, hose barb	18/pkg
4258	1 µm, hose barb	18/pkg
4003	1 µm, 1/8 in. MNPT	18/pkg

**Individually bagged, except PN 4250.

AcroPak™ 300 Capsule with PTFE Membrane

Product No.	Description	Packaging
12082	0.2 µm, stepped hose barb	3/pkg



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