

Memtrex* FE

FACT SHEET

Pleated Filters with PTFE Membrane



Figure 1: Memtrex FE Filters

Description and Use

Memtrex FE (MFE) filters (Figure 1), with absolute rated Polytetrafluoroethylene (PTFE) membranes, offer broad chemical compatibility with minimal extractables in a wide range of fluids and applications. The inherently hydrophobic PTFE membrane is ideally suited for the filtration of compressed air and other process gases. Constructed in a clean room environment using thermal welding techniques, the MFE filters do not contain any adhesives or additives. As part of the manufacturing process, the MFE filters are individually integrity tested. The effectiveness and purity of your filtration process is preserved.

The MFE filter is just one example of our dedicated commitment to fluid filtration. Our extensive portfolio includes filters for every stage of processing, and we can offer custom solutions for your unique applications. Veolia Water Technologies is your complete source for filters, housings, and other filtration equipment.

Typical Applications

MFE filters offer exceptional filtration characteristics, including reliable particle retention, and high purity in harsh process conditions. Typical applications include filtration of:

- Aggressive solvents such as alcohols, esters and ketones
- Corrosive acids and bases
- Vents/exhausts for autoclaves, fermenters, and storage tanks
- High purity chemicals and water used in electronics manufacturing

General Properties

Memtrex FE filters are available the following absolute pore size micron ratings: 0.1, 0.2, 0.45, and 1.0 μm . Tables 1, 2, 3, 4, 5, and 6 shows further details on materials of construction, dimensions, operational limits, integrity testing, and flow performance in air and water.

Table 1: Materials of Construction

Filtration Media	Hydrophobic PTFE
Support Layers	Polypropylene Microfiber
Core and Cage	Polypropylene
End Caps and Adapters	Polypropylene

Table 2: Dimensions

Nominal O.D.	Nominal I.D.	Effective Filtration Area
2.75" (70 mm)	1.25" (31 mm)	5.9 ft ² (0.55 m ²)

Table 3: Operational Limits

Max. Forward Differential Pressure	60 psi (4.1 bar) at 70°F (21°C)
Max. Reverse Differential Pressure	30 psi (2.1 bar) at 70°F (21°C)
Max. Operating Temperature	180°F (82°C) at 10 psid (0.7 bar) in water

Table 4: Integrity Testing

Pore Size Rating	Specification
0.1 µm	≤ 5 cc/min at 40 psig (2.76 bar)
0.2 µm	≤ 5 cc/min at 30 psig (2.07 bar)
0.45 µm	≤ 5 cc/min at 20 psig (1.38 bar)
1.0 µm	≤ 5 cc/min at 15 psig (1.03 bar)
Water intrusion per 10"	

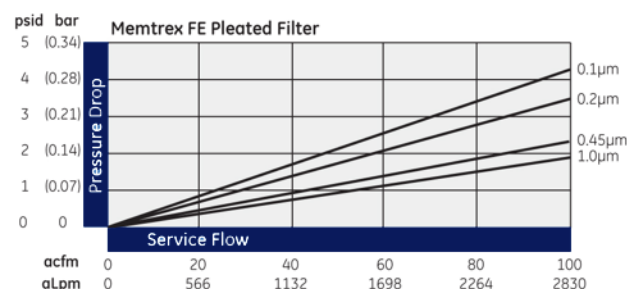
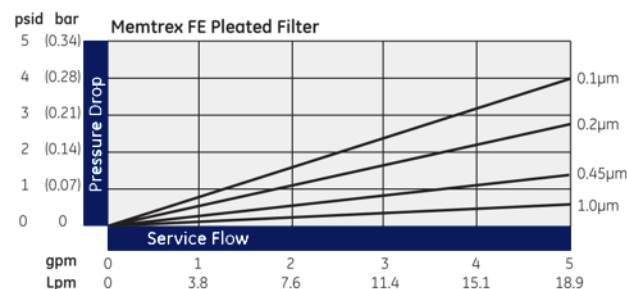
Table 5: Flow Performance in Clean Air¹

Table 6: Flow Performance in Clean Water¹

¹ Data based on 10" length filter

Table 7: Ordering Information

Type	Absolute Micron Rating	Nominal Cartridge Length	End #1 Adapter	End #2 Adapter	Elastomer Material
MFE	91 = 0.1 µm 92 = 0.2 µm 94 = 0.45 µm 01 = 1.0 µm 85 = 0.05 µm	1 = 10 inch (25 cm) 2 = 20 inch (51 cm) 3 = 30 inch (76 cm) 4 = 40 inch (102 cm)	A = Open End Gasket B = 120 O-Ring C = 213 O-Ring E = 222 O-Ring F = 226 O-Ring J = 020 O-Ring Q = 222 O-Ring Stainless Steel Support Ring Z = 226 O-Ring Stainless Steel Support Ring	A = Open End Gasket B = 120 O-Ring C = 213 O-Ring G = Closed End Cap H = Fin Adapter	B = Buna-N E = EPDM S = Silicone T = Teflon ² Encapsulated (Only in 222 and 226 Sizes) V = Viton ²

²Teflon and Viton (trademarks of The Chemours Company)

Additional Information

- Memtrex FE filters may be autoclaved or in situ steam sterilized (up to 257°F [125°C], 30-minute cycles) for a maximum accumulated exposure of 10 hours. Filters which are steam sterilized must have stainless steel insert supported o-ring adaptors. Alternatively, the filters may be sanitized with compatible chemical agents.
- Veolia certifies that the material contained in its Memtrex FE pleated filters meet U.S. FDA requirements for food contact under the applicable regulations in 21 CFR. For further information, contact Veolia technical services. Memtrex FE filters meet the test criteria for USP class VI-121°C Plastics.
- Aqueous extracts from Memtrex FE filters contain less than 0.25 EU/ml. The filters typically exhibit low levels of non-volatile residues.
- Veolia filter cartridges are designed and manufactured for resistance to a wide range of chemical solutions. Conditions will vary with each application and users should carefully verify chemical compatibility. Please contact your Veolia distributor for more information.

Table 7 provides additional ordering information.