

Memtrex* FE-S

Pleated Filters with PTFE Membrane



Figure 1: Memtrex FE-S Filters

Description and Use

Memtrex FE-S (MFE-S) filters (Figure 1) are sterilizing grade cartridge filters for use in validated applications. The commitment to validation by GE Water & Process Technologies is based upon the FDA Guidelines that we “establish documented evidence of assurance that a specific process will consistently produce a product meeting its predetermined specification and quality attributes.”

A detailed Validation Guide is available from GE to document our rigorous testing for your records and reviews. The guide includes all the data necessary to assist the user with compliance to regulatory requirements.

The inherently hydrophobic MFE-S filter is just one example of our strong commitment to the pharmaceutical industry. Our complete portfolio includes filters for every stage of processing, and we offer custom solutions for your unique applications. GE is your complete source for filters, crossflow membranes, housings and other filtration equipment.

Typical Applications

MFE-S filters are specifically designed for sterile chemical, air, gas and vent filtration. Typical applications include:

- Tank Venting
- Fermentation Air Supply
- WFI Tanks
- Autoclaves
- Chemicals
- Bioreactors

General Properties

Memtrex FE-S filters are available in the following absolute pore size micron rating: 0.2 μm . Tables 1, 2, 3, 4 and 5 show further details on materials of construction, dimensions, operational limits, and flow performance in air and water.

Table 1: Materials of Construction

Media	Hydrophobic PTFE
Support Layers	Polypropylene Microfiber
Core and Cage	Polypropylene
Endcaps and Adapters	Polypropylene with Stainless Steel Insert

Table 2: Dimensions

Nominal O.D.	Nominal I.D.	Effective Filtration Area
2.75" (70mm)	1.25" (31mm)	8.7 ft ² (0.8 m ²)

Table 3: Operational Limits

Maximum Forward Differential Pressure	60 psi (4.14 bar)
Maximum Reverse Differential Pressure	30 psi (2.07 bar)
Maximum Operating Temperature	180°F (82°C) at 10 psid (0.69 bar) in water



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Table 4: Flow Performance in Clean Air¹

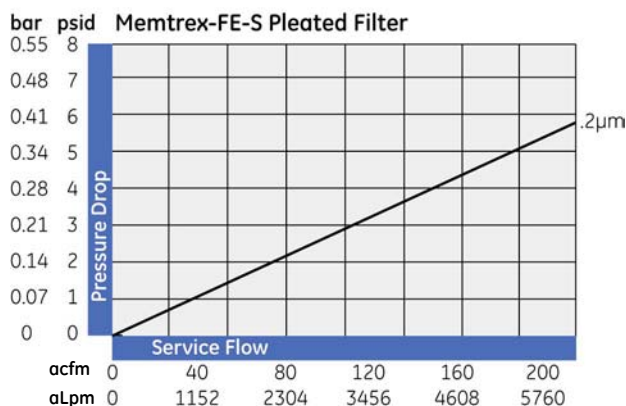
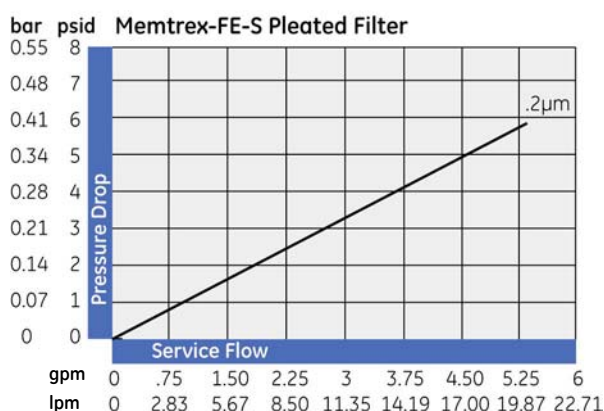


Table 5: Flow Performance in Clean Water¹



¹ Data based on 10" length filter

Integrity Testing

Air diffusion per 10" module after saturation with 60% IPA/40% water (by volume) solution. $\leq 10\text{cc/min}$ at 13 psig (0.90 bar). Memtrex FE-S filters meeting this specification have been demonstrated to provide sterile effluent based on B. Diminuta Challenge Testing using ASTM F838-83 methodology.

Table 6: Ordering Information

Type	Absolute Micron Rating	Nominal Cartridge Length	End #1 Adapter	End #2 Adapter	Elastomer Material	Grade
MFE	92 = 0.2 μm	1 = 10 Inch (25 cm) 2 = 20 Inch (51 cm) 3 = 30 Inch (76 cm) 4 = 40 Inch (102 cm)	Q = 222 O-Ring Adapter Stainless Steel Insert Z = 226 O-Ring Adapter Stainless Steel Insert	G = Closed End Cap H = Fin Adapter	S = Silicone	S = Sterilizing

Resistance to Oxidation*

Temperature	Test Duration
145 C	14 days
136 C	26 days
120 C	90 days

* GE MFE-S cartridge filters tested and passed for integrity under bubble point test method ASTM F-316-03. Exposure to circulating air at above temperatures.

Additional Information

- Memtrex-FE-S filters may be autoclaved at 249.8°F (121°C) or in-situ steam sterilized at 275°F (135°C) for up to 100 one-hour cycles. Steam resistance was determined using clean filters in controlled conditions; actual steam resistance may be affected by application conditions. Alternatively, the filters may be sanitized with compatible chemical agents.
- GE certifies that the material contained in its Memtrex FE-S pleated filters meet U.S. FDA requirements for food contact under the applicable regulations in 21 CFR. For further information, contact GE technical services. Memtrex FE-S filters meet the test criteria for USP class VI-121°C Plastics.
- Aqueous extracts from Memtrex FE-S filters contain less than 0.25 EU/ml. The filters typically exhibit low levels of non-volatile residues.
- GE 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 GE distributor for more information.
- Table 6 provides additional ordering information.

