

High Flow Rate Capability With Polyethersulfone Membrane Filter Cartridges

Mega-Pure polyethersulfone membrane cartridges provide superior flow rates over the competition. The unique construction features a high-surface area design that allows for excellent flow rates and high particle removal efficiency. Hydrophilic polyethersulfone membrane cartridges require no prewetting and are ready to use. The Mega-Pure Polyethersulfone Membrane Series of filter cartridges meets or exceeds requirements for the filtration of UHP liquids used in the fabrication of state-of-the-art microelectronic devices.

The Mega-Pure Polyethersulfone Membrane Series is available in 0.03µm, 0.1µm and 0.2µm pore sizes.

Applications

UHP Water

- Central PAD
- Polishing Stations
- Point-of-Use

UHP Chemical

- Specialty Chemicals
- Point-of-Use
- Bulk Photoresists and Solvents

Microelectronics

- Semiconductor
- Optical Disks
- Printed Circuits
- Hard Disks



Features and Benefits

Superior Polyethersulfone Membrane Yields Maximum Filtration Results

- High surface area design provides excellent flow rates and extended filter life while maintaining high particle removal efficiency.
- Rinsed to 18 megohm-cm resistivity with UHP water.
- Spunbonded polypropylene support materials eliminate sites for potential shedding and increased particle counts.
- Provides broad chemical compatibility.

Parker's TQM System Assures Consistent Performance and Reliable Filtration

- Strict quality control measures include rigorous testing for rinse up, shedding, flow rate and extractable levels.
- Integrity-tested and testable *in situ*.
- Thermally welded, eliminating adhesive extractables.
- Biosafe in accordance with USP Class VI-121° Plastics Tests.
- Specifically designed to ensure cleanliness.
- All materials of construction are FDA listed as acceptable for potable and edible liquid contact according to CFR Title 21.

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Mega-Pure Membrane Series

Specifications

Materials of Construction:

Membrane: hydrophilic polyethersulfone
 Membrane Support/Drainage: polypropylene
 Core/Cage: polypropylene
 End Fittings: polyester
 O-Ring Material: various
 Sealing Method: thermal welding

Dimensions:

Diameter: 2.7 in (6.8 cm)
 Lengths: 10-40 in (25-102 cm)

Surface Area (10 in cartridge):

Minimum 6.5 ft² (0.6 m²)

Integrity Test:

Bubble Point (in UHP water):
 0.03µm ≥ 90 psig (6.2 bar)
 0.1µm ≥ 70 psig (4.8 bar)
 0.2µm ≥ 45 psig (3.1 bar)

Diffusion Rate (10 in cartridge):

0.03µm ≤ 20cc/min at 50 psig (3.4 bar)
 0.1µm ≤ 50cc/min at 50 psig (3.4 bar)
 0.2µm ≤ 50cc/min at 30 psig (2.1 bar)

Recommended Operating Conditions:

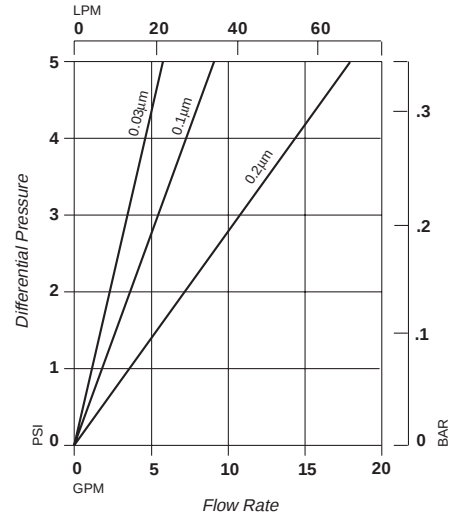
- ? Maximum Temperature:
 176°F (80°C) @ 30 ΔP (2.1 bar)
- ? Maximum Differential Pressure:
 Forward:
 70 psi (4.8 bar) @ 77°F (25°C)
 30 psi (2.1 bar) @ 176°F (80°C)
 Reverse:
 50 psi (3.4 bar) @ 77°F (25°C)

Sterilization/Sanitization Methods:

- ? Isopropyl Alcohol
- ? Sodium Hydroxide
- ? Hydrogen Peroxide
- ? 176°F (80°C) Water

Polyethersulfone Cartridges:

Flow rate vs. ΔP for a 1 cps liquid @ 73°F (23°C)**



Flow Factors:

Pore Size (µm)	GPM/ 1 PSID	LPM/ 1 Bar	PSID/ 1 GPM	Bar/ 1 LPM
0.03	1.2	66	0.85	0.015
0.1	1.8	99	0.56	0.010
0.2	3.5	192	0.29	0.005

Ordering Information

PS	T	B	10	E	TC	E
Cartridge Code	Pore Size (µm)	Diameter (in)	Length (in)	O-Ring Material	End Cap Configuration	Grade
PS = Polypropylene/ Polyethersulfone	T = 0.03 S = 0.1 F = 0.2	B = 2.7	10 = 10 20 = 20 30 = 30 40 = 40	B = Buna N C = CR 503 D = CR 570 E = EPR L = KR 8201 S = Silicone T = PFA/Viton* V = Viton* X = No O-Ring	SC = 2-226/Flat SF = 2-226/Fin TC = 2-222/Flat TF = 2-222/Fin HH = DOE (Gaskets) AC = 020/Flat (Gelman) LC = 120/Flat (Nuclepore; Gelman G Style) LL = 120/120 (Filterite LMO and Nuclepore Polymeric Housings; Gelman N Style) PC = 213/Flat (Ametek and Parker LT Polymeric Housings; Gelman H Style)	E = Electronics

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 ** Consult Process Filtration Division for gas flow data.