LENNTECH

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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

Polishing

Stations

Point-of-Use

Central PAD

UHP Chemical

Chemicals

Point-of-Use

and Solvents

Specialty

Microelectronics

- Semiconductor
 - Optical Disks
 - Printed Circuits
- Bulk Photoresists Hard Disks

Advantage[™] PS Filter Cartridges

Polyethersulfone Membrane

Mega-Pure Membrane Series



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.

Process Filtration Division

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 WARNING! FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

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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): $0.03\mu m \ge 90 \text{ psig } (6.2 \text{ bar})$ $0.1\mu m \ge 70 \text{ psig } (4.8 \text{ bar})$ $0.2\mu m \ge 45 \text{ psig } (3.1 \text{ bar})$

Diffusion Rate (10 in cartridge): $0.03\mu m \le 20cc/min at 50 psig (3.4 bar)$ $0.1\mu m \le 50cc/min at 50 psig (3.4 bar)$ $0.2\mu m \le 50cc/min at 30 psig (2.1 bar)$

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 | Т | В | 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) | E = Electronics |

- PC = 213/Flat (Ametek and Parker LT Polymeric
 - Housings; Gelman H Style)

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Filtration

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** Consult Process Filtration Division for gas flow data.

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