

# UPMS Filter Cartridges

■ Polyethersulfone Membrane

**Mem-Pure Membrane Series**

## High Flow Rate Capability With Polyethersulfone Membrane Filter Cartridges

Mem-Pure polyethersulfone membrane cartridges provide superior flow rates and stand up to a wide variety of chemicals in applications including chemical, food and beverage, and pharmaceutical. Unique polyethersulfone construction features a high-surface area design which allows for excellent flow rates and high particle removal efficiency. Hydrophilic polyethersulfone membrane cartridges are ready for use and do not require prewetting.

The Mem-Pure Polyethersulfone Membrane Series is available in 0.1µm, 0.2µm, 0.45µm and 0.65µm pore sizes.

### Applications

#### Food & Beverage

- Bottled Water
- Wine
- Beer
- Process Water
- Vinegar
- Aseptic Packaged Liquids
- Edible Oils

#### Information Storage

- Optical Disk Manufacturing
- Hard Disk Manufacturing
- Optical Coatings
- Photographic Films

#### Chemicals

- Bulk Chemicals
- Process Water
- Pharmaceutical Intermediates
- Diagnostics & Reagents
- Electroless Nickel Plating
- Point-of-Use & Distribution



### Features and Benefits

#### Superior Polyethersulfone Membrane Yields Maximum Filtration Results

- High surface area design provides excellent flow rates and life while maintaining high particle removal efficiency.
- Rinsed with 18 megohm-cm UHP water for high purity.
- Excellent resistance to most sanitizing agents such as hot water, concentrated hydrogen peroxide and active chlorine compounds.
- Low pressure drops improve filtration efficiency and extend filter life.
- Spunbonded polypropylene support materials eliminate sites for potential shedding and increased particle counts.

#### Clark-Reliance Filtration Group 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°C 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.



**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.**  
This document and other information from Clark-Reliance Corporation, its subsidiaries and authorized distributors provide product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application and review the information concerning the product or system in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection for the products and systems and assuring that all performance, safety and warning requirements of the application are met.

# Mem-Pure Membrane Series

## Specifications

### Materials of Construction:

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

### Dimensions:

- Diameter: 2.70 in (6.8 cm)
- Lengths: 10-40 in (25-102 cm)

### Surface Area (10 in cartridge):

- Minimum 6.5 ft<sup>2</sup> (0.6 m<sup>2</sup>)

### Endotoxins:

- < 0.25 EU/ml

### Integrity Test:

- Bubble Point (in UHP water):
  - 0.1µm: ≥ 70 psig (4.8 bar)
  - 0.2µm: ≥ 45 psig (3.1 bar)
  - 0.45µm: ≥ 24 psig (1.7 bar)
  - 0.65µm: ≥ 16 psig (1.1 bar)
- Diffusion Rate (10 in cartridge):
  - 0.1µm: ≤ 33cc/min at 40 psig (2.7 bar)
  - 0.2µm: ≤ 33cc/min at 30 psig (2.1 bar)
  - 0.45µm: ≤ 33cc/min at 15 psig (1.0 bar)
  - 0.65µm: ≤ 33cc/min at 10 psig (0.7 bar)

### Recommended Operating Conditions:

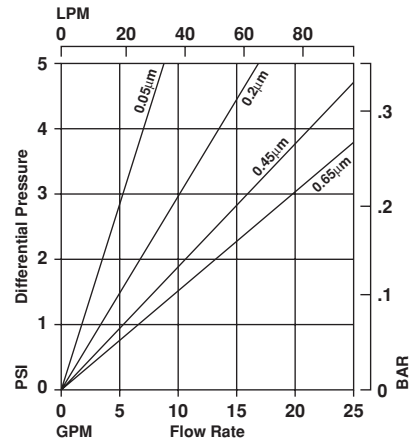
- Maximum Temperature: 176°F (80°C) at 30 ΔP (2.1 bar)
- Maximum Differential Pressure:
  - Forward: 70 psi (4.8 bar) at 77°F (25°C)
  - 30 psi (2.1 bar) at 176°F (80°C)
  - Reverse: 50 psi (3.4 bar) at 77°F (25°C)

### Sterilization/Sanitization Methods:

- Hot Water: 190°F (88°C)
- Autoclave: 250°F (121°C) for 30 minutes at 15 psi (1.0 bar)
- In situ* Steam: 284°F (140°C) for 60 minutes at 15 psi (1.0 bar)
- Chlorine
- Hydrogen Peroxide
- Sodium Hypochlorite
- Sanitizing Agents (see Materials Selection Guide)

### 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
0.1	1.8	99	0.56	0.010
0.2	3.5	192	0.29	0.005
0.45	5.5	301	0.18	0.003
0.65	6.5	356	0.15	0.003

## Ordering Information

UPMS	F	A	10	T	TC	W
Cartridge Code	Pore Size	Diameter	Length	Seal Material	End Cap Configuration	Grade
UPMS = Polyethersulfone	S = 0.1 µm F = 0.2 µm R = 0.45 µm H = 0.65 µm	B = 2.7"	10 = 10" 20 = 20" 30 = 30" 40 = 40"	B = Buna-N E = EPR S = Silicone T = PFA/Viton V = Viton X = No O-Ring	HH = DOE gaskets SC = 226/Flat SF = 226/Fin TC = 222/Flat TF = 222/Fin	U = Ultra-Pure

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\*\* Consult factory for gas flow data.