



- 0.2 micron absolute dual layered polyethersulfone (PES) membrane
- 100% integrity tested
- Optimized for retention and excellent flow rates
- Biologically inert and low protein binding
- Heavy-duty components protects pleated media and strengthens structural stability
- Manufactured in our state-of-the-art clean room environment for high purity and bio-pharmaceutical applications
- Complies with the Food & Drug Administration's CFR criteria for food & beverage contact
- Meets USP Class VI Biological Test for plastics
- Available in a variety of end cap configurations to fit most filter housings
- Thermal bonded and produced in standard lengths up to 40 inches

### **Applications**

WFI & CIP Water

Diagnostics

Buffer Solutions

Parenteral Solutions

Vaccines

### **Specifications and Operating Parameters**

#### **Pore Sizes**

0.2 microns absolute retention validated

#### **Nominal Lengths**

10" (25.4 cm), 20" (50.8 cm), 30" (76.2 cm), 40" (101.6 cm)

#### **Outside Diameter**

2.67" (6.78 cm)

#### **Media Surface Area**

7.0 sq.ft. (0.65 m<sup>2</sup>) per 10 inches filter length

#### **Gaskets/O-rings**

Silicone, EPR, Viton, Buna, Teflon Encapsulated Viton,  
Teflon Encapsulated Silicone

#### **Materials of Construction**

Filter Media: Polyethersulfone Membrane  
Outer Cage Polypropylene  
Inner Core: Polypropylene  
End caps: Polypropylene  
Support Layers: Polypropylene  
Reinforcing Ring: Encapsulated 316 SS

#### **Maximum Operating Temperature**

180°F ( 82°C) @ 10 psid (0.69 bard) in water

#### **Recommended Change-out Differential Pressure**

35 psid (2.4 bar)

#### **Maximum Differential Pressure**

Forward: 70 psid @ 70°F (4.8 bar @ 21° C)  
40 psid @ 176°F (2.7 bar @ 80° C)  
Reverse: 40 psid @ 70°F (2.7 bar @ 21° C)

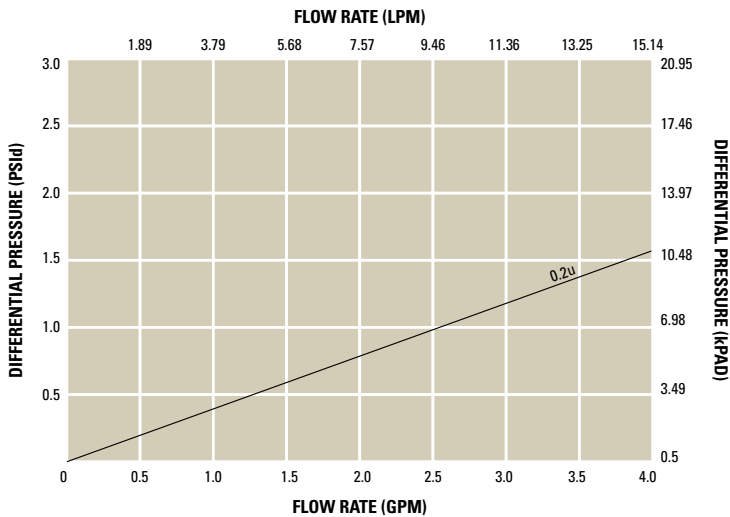
#### **Sanitization and Sterilization**

Hot water at 194°F (90°C) @ max 3 psid for 30 minutes  
In-line steam at 275°F (135°C) @ max 5 psid for 30 minutes  
Autoclavable at 257°F (125°C) for 30 minutes

#### **Chemical Sanitization**

Cartridges may also be chemically sanitized in place using common sanitizing agents

## Flow vs. Pressure Drop



PORE SIZE	DIFFUSION PRESSURE	MAX. DIFFUSION RATE	BUBBLE POINT (PSIG)
0.2	36 psig	≤ 18 cc/min	≥ 46 psig

Per 10" Length Water Wetted Membrane

## Retention Validation

Testing was performed in compliance with US FDA (GMP) regulations 21 CFR parts 210,211 and 820. Testing was also performed based on ASTM F838-05 standard test method and HIMA protocols for the determination of bacterial retention in filters used for liquid filtration. The challenge level is  $10^7$  Organisms per  $\text{cm}^2$  of filter media: 0.2  $\mu\text{m}$  challenged with *Brevundimonas diminuta*. Validation guide available upon request.

## Biological Safety

The MVS filters have undergone extensive testing to assure they meet the demands of the critical biopharmaceutical market. MEM elution, Bacterial Endotoxins, Oxidizable Substances, Microbial Retention, USP Physicochemical and USP Class VI. This information is documented and MVS elements have passed all the above testing.

## Quality Assurance

MVS MicroVantage filter cartridges are manufactured using Good Manufacturing Practices under a quality management system. Each filter is assembled, flushed, tested, dried and packaged in the appropriate clean room and assigned a lot code to ensure traceability of data and material.

## Ordering Guide (Example: MVS0.2-10S5S)

MVS	0.2	–	10	S5	S
PRODUCT CODE	MICRON		LENGTH	END CAP CONFIGURATION	GASKET/O-RING
MVS	0.2		10" 20" 30" 40"	S3 = 222 w/ Fin End S4 = 222 w/ Flat End S5 = 226 w/ Fin End S6 = 226 w/ Flat End	S = Silicone E = EPR V = Viton B = Buna T/V = Teflon Encapsulated Viton T/S = Teflon Encapsulated Silicone

## Sanitary Filter Housings & Accessories

Shelco offers a full line of sanitary filter housings to meet your most critical applications.

