

# MicroVantage™ MAT Series

PTFE Membrane Filter Cartridges

# MicroVantage Ultra Premium Filter Series



- Absolute retention ratings from 0.1 to 1.0 microns
- High surface area provides superior flow rates and minimizes system size requirements
- Constructed of Inherently hydrophobic PTFE membrane and polypropylene components
- Ideal for gas / vent applications and filtering of aggressive solvents and chemicals
- PTFE membrane and polypropylene component construction offers excellent chemical compatibility and cost effectiveness versus all fluoropolymer filters
- Complies with Food & Drug Administration's CFR criteria for food & beverage contact
- Meets USP Class VI Biological Test for plastics.
- Available in standard lengths and end cap configurations to fit most filter housings

## Applications

Tank Ventilation  
Process Gases  
Compressed Air  
Alcohols  
Bases

Specialty Chemicals  
Photoresists  
Solvents  
Acids  
Esters

## Specifications & Operating Parameters

**Pore Sizes** 0.1, 0.2, 0.45, 1.0 microns

**Nominal Lengths** 9.75" (24.7 cm), 10" (25.4 cm),  
20" (50.8 cm), 30" (76.2 cm), 40" (101.6 cm)

**Outside Diameter** 2.67" (6.78 cm)

**Inside Diameter** 1.0" (2.54 cm)

**Media Surface Area** 8.5 sq.ft. (0.79 m<sup>2</sup>)  
per 10 inches filter length

### Gaskets/O-rings

Silicone, Buna N, EPR, Viton, Teflon Encapsulated Viton (O-rings only)

### Materials of Construction

Filter Media: PTFE  
Outer Cage: Polypropylene  
Inner Core: Polypropylene  
End caps: Polypropylene

**Maximum Operating Temperature** 176°F ( 80°C)

**Recommended Change-out Differential Pressure**  
35 psid (2.4 bar)

### Maximum Differential (Collapse) Pressure

Forward: 70 psid @ 70°F (5.2 bar @ 21°C), 40 psid @ 176°F (2.8 bar @ 80°C)  
Reverse: 40psid @ 70°F (2.7 bar @ 21°C)

### Sanitization and Sterilization

Hot water at 175°F (80°C) at 5 psid for 30 minutes  
In-line steam at 257°F (125°C) @ 1 psid (0.7 bar) for 30 minutes  
Autoclavable at 257°F (125°C) for 30 minutes

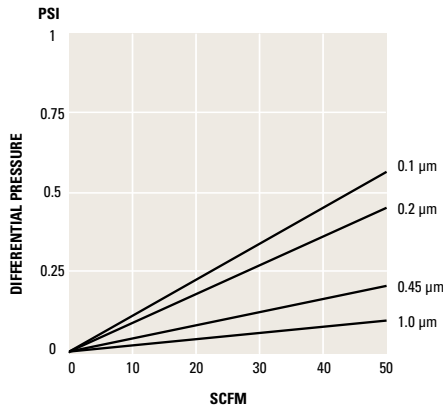
### FDA and USP Compliance

All filters are manufactured of virgin polypropylene materials with no additives or other manufacturing agents. All polypropylene materials comply with the requirements of Food and Drug Administration Title 21 of The Code of Federal Regulations 174.5, 177.1520 and 177.1630. All components meet current USP Class VI biological tests for plastics

## Flow vs. Pressure Drop

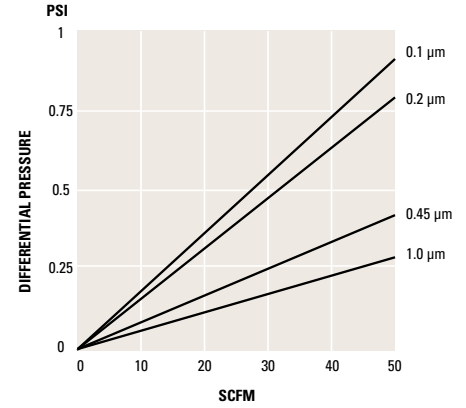
### Air Flow Rate

System pressure at 30 psig, 65°F (18°C)



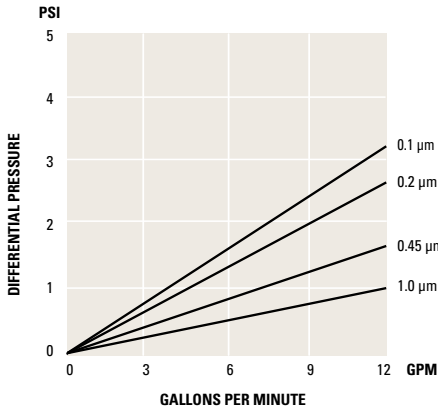
### Air Flow Rate

System pressure at < 10 psig (vent), 65°F (18°C). Outlet open to atmosphere



### Water Flow Rate

This chart represents the typical water flow per 10" cartridge length. Cartridges are tested in water at ambient temperature. Data may be extrapolated for multiple lengths, but as flow rate increases, ΔP of the housing becomes more apparent.



### Integrity Testing

PORE SIZE	AIR DIFFUSION RATE
0.1 µm	<50cc/min@18 psig (1.2 bar)
0.2 µm	<20cc/min@12 psig (0.8 bar)
0.45 µm	<15cc/min@5 psig (0.34 bar)
1.0 µm	<15cc/min@3 psig (0.2 bar)
<b>Per 10" length with 60/40 IPA/water wetted membrane</b>	

### Ordering Guide (Example: MAT0.2-10S4S-G)

MAT	0.2	—	10	S4	S	—	G	
PRODUCT CODE	MICRON		LENGTH	END CAP CONFIGURATION	GASKET/O-RING		GRADE	OPTION
MAT	0.1 0.2 0.45 1.0		9.75" 10" 19.75" 20" 29.25" 30" 40"	S1 = DOE S3 = 222 w/ Fin End S4 = 222 w/ Flat End S5 = 226 w/ Fin End S6 = 226 w/ Flat End S7 = Internal O-ring with Recessed Plug S9 = Internal O-ring on both ends	B = Buna N E = EPDM S = Silicone V = Viton T = Teflon encapsulated Viton (O-ring only)		G = General E = Electronic	HT = High Temperature*

\* High Temperature construction (cage, core, end caps): Maximum Temperature 200°F (93.3°C) - Available only in 222 or 226 with Fin or Flat end caps.

Note: For vent applications, always use a rupture disc on the tank to prevent against potential collapse.

### Filter Housings

Shelco manufactures a full line of filter housings. From our rugged single cartridge housings to our heavy duty multi-cartridge housings. Shelco is the perfect choice for your filtration solutions.



### Shelco Filters

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