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	Specialty Chemicals
Process Gases	Photoresists
Compressed Air	Solvents
Alcohols	Acids
Bases	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 m2) 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)

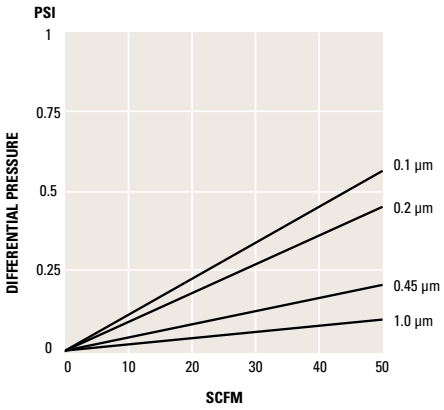
Sanitization and Sterilization
Hot water at 175°F (80°C) at 5 psid for 30 minutes
In-line steam at 257°F (125°C) @ 1 psid (0.7 bar) for 30 minutes
Autoclavable at 257°F (125°C) for 30 minutes

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

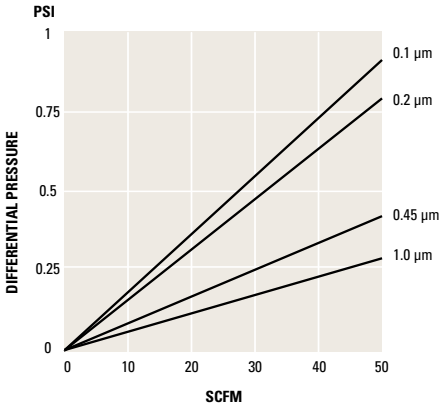
Air Flow Rate

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



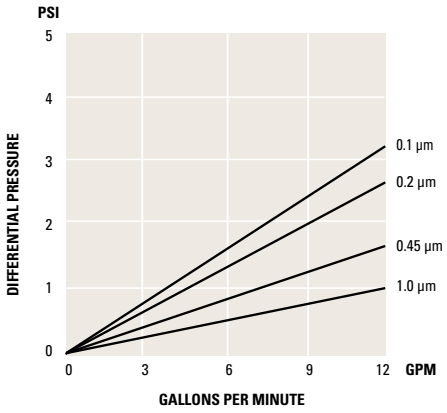
Air Flow Rate

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)**
Per 10" length with 60/40 IPA/water wetted membrane	

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.