

## **MicroVantage™ MA Series - General Grade**

*Polyethersulfone, Polypropylene and Nylon  
Membrane Filter Elements*

Shelco's new MicroVantage™ pleated membrane cartridges are designed to meet the high standards of today's industry. These cartridges are manufactured to the most stringent production standards making them the new benchmark of the industry. Manufactured in an ISO 9002 environment, each general grade cartridge has its own lot code for traceability. Each operation including assembly, testing, cleaning, drying and packaging is done in an appropriately rated and certified clean room.

### **Features**

- The MicroVantage™ General Grade Series is available in a wide range of pore sizes.
- Each cartridge is rinsed with 17+ megohm water to flush away any manufacturing debris.
- All materials of construction meet requirements of the FDA Title 21 of The Code of Federal Regulations.
- Cartridges are designed for maximum throughput and particle retention at the lowest pressure drop.
- Polyethersulfone, Nylon, and Polypropylene construction offers a wide range of compatibility.
- Each cartridge is individually tested for integrity and is absolute at the rated pore size.

### **Applications**

Bottled Water	Process Air & Gases
Wine	DI Water
Beer	Solvents
Soft Drinks	Rinse Stations
Juices	Chemicals
Biological Filtration	Acids & Bases
Tank Ventilation	Etchants



### **Media Definitions**

**PES** Asymmetric polyethersulfone membranes are designed for general purpose use wherever a cost effective membrane filter is required. Priced below special purpose cartridges, general grade cartridges are still manufactured with the same careful attention to both quality and performance as the special purpose cartridges. Filtration of bottled water and beverages for reliable microbial control. Electronics: DI water, acids, bases, oxidants and etch baths. Advantages are low protein-binding and broad chemical compatibility with excellent throughput and low  $\Delta P$  characteristics.

**NYLON** Nylon membrane has a broad range of applications. Filtration for chemicals, beverages, cosmetics, DI water and process water. General grade cartridges are still manufactured with the same careful attention to both quality and performance as the special purpose cartridges. Nylon does not tolerate heavy concentrations of common sanitization agents. Please consult the factory with your application to determine compatibility and selection.

**POLY** Polypropylene membrane cartridges can be used in place of PTFE for vent filters when the CFM of air is in the proper range. Ideal for air, tank ventilation and gases. Consult factory for proper sizing. (Hydrophobic membrane) Also suited for acids, bases, alcohols, solvents, etchants and photoresists.

**Airflow: 0.1** = (24 SCFM/psid/10 inch cartridge length) **0.2** = (34 SCFM/psid/10 inch cartridge length)

# Product Specifications

## Pore Size Retention Ratings

Polyethersulfone available in 0.03, 0.1, 0.22, 0.45, 0.65, 0.8, 1.0, 1.2 Microns

Polypropylene available in 0.1 and 0.22 pore sizes only

Nylon available in 0.03, 0.1, 0.22, 0.45, 0.65 micron

## Materials of Construction

Filtration Media:	Polyethersulfone	Nylon	Polypropylene
Filtration Media Support:	Polypropylene	Polypropylene	Polypropylene
End Caps:	Polypropylene	Polypropylene	Polypropylene
Center Core:	Polypropylene	Polypropylene	Polypropylene
Outer Support Cage:	Polypropylene	Polypropylene	Polypropylene
Method of Construction:	Thermally Bonded	Thermally Bonded	Thermally Bonded
Gaskets and O-Rings:	Buna, Viton, Silicone, Ethylene Propylene, Teflon Encapsulated Viton		

## Sanitization/Sterilization

Filtered Hot Water: 90°C

Chemical Sanitation: Industry standard concentrations of hydrogen peroxide, paracetic acid, sodium hypochlorite and other selected chemicals are designed to extend the life of the cartridge.

## Maximum Differential Pressures

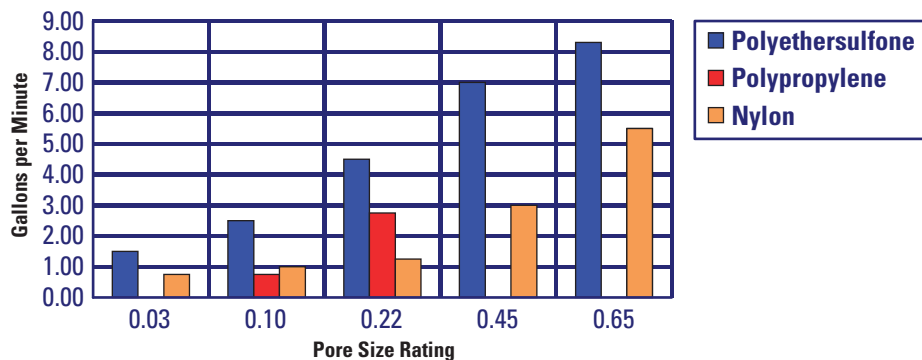
Forward: 50 psi (3.4 bar) at 20°C

Reverse: 40 psi (2.7 bar) at 20°C

## Integrity Testing: G Grade

Pore Size	Air Diffusion Rate
0.03µm	≤ 55 cc/min @ 60 PSI
0.1µm	≤ 55 cc/min @ 48 PSI
0.1µm MAP	≤ 55 cc/min @ 40 PSI
0.22µm	≤ 55 cc/min @ 35 PSI
0.45µm	≤ 55 cc/min @ 20 PSI
0.65µm	≤ 55 cc/min @ 15 PSI
0.8µm	≤ 55 cc/min @ 12 PSI
1.0µm	≤ 55 cc/min @ 8 PSI

Per 10" Length - Water Wetted Membrane



This chart represents typical water flow @ 1 PSID per 10" cartridge length. The test fluid is water at ambient temperature. Extrapolation for multiple elements tends to be linear, but as flows increase the ΔP of the housing becomes more apparent.

## ORDERING GUIDE

MAS	0.22	-	10	S1	E	S
Product Code	Pore Size	Length	End Cap Configuration	Gasket/O-Ring	Grade	Insert
MAN = Nylon	0.03	5 = 4 7/8"	S1 = DOE w/ Flat Gaskets	B = Buna	Blank = General	Blank = None
MAP = Polypropylene	0.1	975 = 9 3/4"	S3 = 222 w/Fin End	E = EPR	B = Beverage	S = Stainless Steel
MAS = Polyethersulfone	0.22	10 = 9 7/8"	S4 = 222 w/Flat End	S = Silicone	E = Electronic	
	0.45	20 = 20"	S5 = 226 w/Fin End	V = Viton	P = Pharmaceutical	
	0.65	30 = 30"	S6 = 226 w/Flat End	T = Teflon		
	0.8	40 = 40"	S7 = *Internal O-Ring w/Recessed Plug	Encapsulated Viton		
	1.0		S9 = *Internal O-Ring Both Ends			
	1.2		S10 = 222 w/Recessed Plug			
			S11 = SOE Flat w/Recessed Plug			
			S13 = 020 O-Ring			
			S20 = 223/Flat End			

\*Choose O-Ring Size: 119, 120 or 213 available. Please add to end of part number. Example: MAS0.2-10S7S-213



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# SHELCO FILTERS

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