

BIO - PRO

Filtration For Bioprocessing

Omni-Clear™ SM Series

High Flow Sterilizing Grade PES Cartridges



DESCRIPTION

Purolator's **BIO-PRO** Omni-Clear™ SM Series PES filter cartridges are manufactured to conform with the stringent quality standards required by filters that come in contact with biologicals, pharmaceuticals, and other critical processes. The filter cartridges are non-cytotoxic per MEM Elution Test, ISO 10993-5, meet the requirements of USP Biological Test for Plastics, Class VI, 121 °C, and are manufactured using components that are FDA listed as appropriate for food contact. To ensure the purity of the assembled filter components, all cartridges are assembled in a Class 10,000 Clean Room and are constructed and sealed using an advanced thermal bonding process with no bonding agents, resins, or glues. **Omni-Clear SM Series** filter cartridges are supported by a validation guide* prepared specifically for manufacturers requiring product documentation as part of their qualification process.

*available for 0.2 and 0.45 µm

APPLICATIONS

- Pharmaceuticals
- High Purity Chemicals
- Ophthalmic Solutions
- Acids, Bases, and Oxidants
- Large and Small Volume Parentals
- Purified Protein
- High Purity Water
- Diagnostics
- Biological Fluids
- MAB's

FEATURES AND BENEFITS

- High surface area filter cartridges, constructed of pleated polyethersulfone membranes, provide absolute retention and long on-stream life cycles.
- Each filter cartridge is 100% integrity tested prior to release.
- Quantitative retention of 10^7 CFU/cm² *Brevundimonas diminuta* ATCC 19146 per ASTM F838-05.
- Cartridges are sealed using an advanced thermal bonding process and flushed with ultrapure water to ensure the lowest level of extractables.
- Each cartridge is stamped with product and lot number for identification and 100% traceability.
- Materials of construction are FDA listed for food and beverage contact according to CFR Title 21, meet the requirements under USP Class VI, and are non-cytotoxic per MEM Elution Test ISO 10993-5.
- Absolute removal ratings available from 0.1 to 1.2 µm.

MATERIALS OF CONSTRUCTION

Filter Membrane	Asymmetric Polyethersulfone
Support Media	Polypropylene
Cage, Core, Endcaps	Polypropylene
O-Rings, Gaskets	EPR, Silicone, PTFE, Nitrile, Viton
Internal Support Ring	Stainless Steel

OPERATING CONDITIONS

Maximum Operating Pressure	60 psid (4 bar) 68 °F (20 °C)
Maximum Operating Pressure	30 psid (2 bar) 140 °F (60 °C)

FLOW RATE AND INTEGRITY

	SM001	SM002	SM004	SM006	SM008	SM009	SM022	SM094	SM096
Flow at 1 psid (gpm)	0.6	2.8	5.5	7.3	7.5	8.3	1.0	2.8	5.5
Diffusive Flow Pressure (psi)	50	36	20	14	12	10	45	20	14
Max. Diffusive Flow Volume (mL)	20	20	20	20	20	20	12	20	20
Minimum Bubble Point (psi)	60	45	24	16	14	12	45	24	16

NOMINAL DIMENSIONS

	A	B	C	D
Diameter (in)	2.7	2.7	2.7	2.7
Diameter (cm)	6.9	6.9	6.9	6.9
Length (in)	10	20	30	40
Length (cm)	25	51	76	102
Filtration Area (ft ²)*	7.5	15	22.5	30
Filtration Area (m ²)	0.7	1.4	2.1	2.8

*single layer

STERILIZATION

Autoclave	30 Minutes, 259 °F (126 °C)
In-line Steam	30 Minutes, 275 °F (135 °C)

CARTRIDGE SELECTION GUIDE

S	M	O	O	2	P	1	A	3	O	3	S
Media		Grade			Series		Length		Gasket/O-Ring		Utilization
SM = Polyethersulfone Membrane		001 = 0.1 µm 002 = 0.2 µm 004 = 0.45 µm 006 = 0.65 µm 008 = 0.8 µm 009 = 1.2 µm 022 = 0.2/0.2 µm 094 = 1.2/0.45 µm 096 = 1.2/0.65 µm			M = Microbial Grade B = Biological Grade (Cert. Available upon Request) P = Pharmaceutical Grade (Cert. Provided, 0.2 and 0.45 µm Validation Guide Available upon Request)		A = 10" B = 20" C = 30" D = 40" 5 = 5"		01 = EPR 03 = Silicone 04 = Nitrile 08 = Viton 11 = PTFE/Viton		N = Non Steam-Sterilizable S = Steam Sterilizable (Encapsulated SST Steam Ring)
						Layer		Cartridge Style			
						1 = Single 2 = Double		2 = DOE 3 = 222/Flat 7 = 226/Fin 7A = 226/Flat 8 = 222/Fin			

FLOW RATE

