

WBM Polyethersulfone Membrane Cartridge Filters

Pleated Polyethersulfone (PES) Membrane for Bioburden Reduction in Beverages and Biopharmaceuticals

WBM Bioburden Reduction grade membrane cartridges provide consistent performance for bioburden reduction and particle removal across a wide range of beverage, pharmaceutical and biological fluids. The naturally hydrophilic PES membrane filters provide exceptional flow rates, long on-stream life, broad chemical compatibility and have no added surfactants to contribute to extractables. The cartridges are integrity testable and steamable to assure reliable service in critical applications.

Filter Features – Benefits

- Manufactured in an ISO Class 7 cleanroom environment
- 100% flushed with 18 MΩ-cm DI water and integrity tested
- Meets USP Class VI biological test for plastics
- All materials are FDA listed for food and beverage contact
- Repeatably steamable/sanitizable
- High retentions up to $10^7/\text{cm}^2$ challenged for bacteria and yeast
- Pore size, lot and serial number are stamped on each filter element for identification and traceability

FILTER SPECIFICATIONS

Membrane media:	Asymmetric Polyethersulfone
Inner core, end caps, cage:	Polypropylene
Support layers:	Spunbonded polypropylene
Gaskets/o-rings:	Buna-N, EPDM, Silicone, Viton, Teflon Encaps. Viton (o-rings)
Micron ratings:	0.2, 0.45, 0.65µ

Performance Specifications:

Hot DI Water: Filter cartridge will withstand temperatures of 185°F (85°C) for up to 30 consecutive minutes

Cleaning/Sanitization: Compatible with most common chemical cleaning, sanitizing and sterilizing agents and with pH range from 1 – 14. Consult factory for specific compatibility information.

Steam/Autoclave: Cartridges may be steamed or autoclaved for at least 50 thirty minute cycles @ 275° F (135°C)



Applications:

- bottled water
- ophthalmic solutions
- buffers
- culture media
- LVPs
- juices
- reagent chemicals

DIMENSIONS AND OPERATING PARAMETERS

Nominal Lengths:	9.75", 10", 20", 30", 40" (24.7, 25.4, 50.8, 76.2, 101.6 cm)
Outside Dia.:	2.7" (6.9 cm)
Inside Dia:	1" (2.54 cm)
Surface Area:	7.6 ft ² (0.7 cm ²) per 10" element
Max. Sustained Op. Temp:	180° F (82°C) at 20 psid (1.38 bar)
Maximum Differential Pressure (DP):	60 psid@80°F (4.14 bar@27°C) 30 psid@160°F (2.07 bar@71° C) 15 psid@200°F (1.03 bar@93.3°C)
Max. Reverse DP:	40 psid @ 70°F (2.8 bar @ 21°C)
Recommended Changeout:	35 psid (2.4 bar)

Typical Bacterial Retention Performance

0.2µ: LRV for *B. Diminuta* ≥ 7.8

0.45µ: LRV for *S. Marcenscens* ≥ 8.5

0.65µ: LRV for *S. Cerevisiae* ≥ 11 LRV for *L.brevis* ≥ 7.6

Integrity Test Specifications

Minimum Bubble Point values and maximum Diffusive Air Flow (per 10" cartridge) values for WBM filters wet with water:

Pore Size	Bubble Point	Diffusive Air Flow
0.2μ:	≥38 psig (2.6 bar)	≤35cc/min@30 psig (2.1 bar)
0.45μ:	≥25 psig (1.7 bar)	≤35cc/min@20 psig (1.4 bar)
0.65μ:	≥18 psig (1.2 bar)	≤35cc/min@15 psig (1.0 bar)

FDA Listed Materials:

All materials comply with FDA title 21 of the Code of Federal Regulations Sections 174.5, as applicable for food and beverage contact.

WBM Nomenclature Information			
WBM Filter type WBM Series	-0.2	-20 Nominal Length (inches)	P2 End Configuration
Retention Rating (micron) 0.2 0.45 0.65		-9.75	P Double Open End
		-10	P2 226/Flat single open end
		-20	P3 222/Flat single open end
		-30	P7 226/Fin single open end
		-40	P8 222/Fin single open end
			AM Single open end, internal o-ring
			Gasket or O-ring S Silicone B Buna-N E EPDM V Viton T Teflon encap. Viton (o-rings only)
			E

Example: WBM0.2-20P2E

