M·FILTER

ZTEC™ B Series Filter Cartridges

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

ZTEC B Bioburden Reduction grade membrane cartridges provide highly 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.

Product Specifications

Media: Asymmetric Polyethersulfone Membrane

Inner core, end caps, cage: Polypropylene

Support layers: Spunbonded Polypropylene

Gaskets/O-Rings: Buna-N, EPDM, Silicone, Teflon Encapsulated Viton (O-Rings only), Teflon (gaskets), Viton

Micron ratings: 0.2, 0.45, 0.65 µm

Dimensions

Nominal lengths:

9.75"	10"	20"	30"	40"
24.8	*25.4*	*50.8*	*76.2*	*101.6 cm*

Outside diameter: 2.7" (6.9 cm)

Inside diameter: 1.0" (2.54 cm)

Surface area: 7.6 ft^2 (0.7 m^2) per 10" element

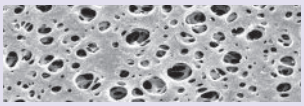
Operating Parameters

Maximum sustained operating temperature: 176°F (80°C) at 20 psid (1.38 bar)

Maximum differential pressure: 80 psid @ 70°F (5.5 bar @ 21°C) 40 psid @ 160°F (2.8 bar @ 71°C)

Maximum reverse differential pressure: 40 psid @ 70°F (2.8 bar @ 21°C)

Recommended change-out pressure: 35 psid (2.4 bar)



FEATURES & BENEFITS

- Manufactured in an ISO Class 7 Cleanroom Environment
- 100% flushed with ultrapure DI water and integrity tested
- Repeatably steamable/sanitizable
- High retentions up to $10^7/cm^2$ challenged for bacteria and yeast
- Pore size, lot and serial number are stamped on each filter element for identification and traceability
- Complete qualification guide available

CERTIFICATIONS

- USP Class VI: Meets USP Class VI Biological Test for Plastics
- FDA Listed Materials: All materials comply with FDA Title 21 of the Code of Federal Regulations Sections 174.5, 177.1520, and 177.2440 as applicable for food and beverage contact.
- European Directive for Food Contact: European Regulation No. 1935/2004 and European Regulation 10/2011: Tested for migration behavior and is suitable for contact with all kinds of foodstuffs with minimal rinse-up. Data available upon request.

TYPICAL APPLICATIONS

- Bottled Water
- Ophthalmic Solutions
- Culture Media
- Reagent Chemicals
- LVPs
- Buffers
- Juices

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).

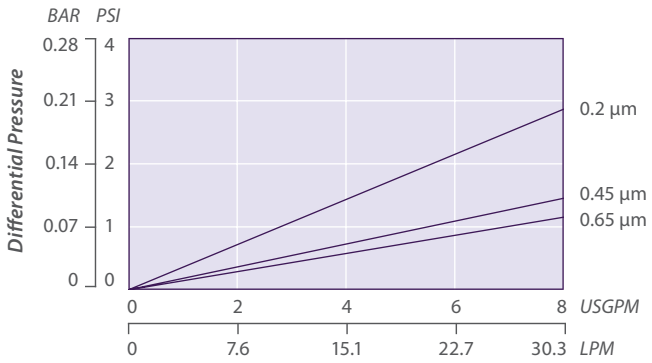
ZTEC B NOMENCLATURE INFORMATION

Filter Type	Retention Rating (microns)	Nominal Length (inches)		End Configuration		Gasket or O-Ring	
ZTEC B Series	**0.2**	**–5**	**–20**	**P**	Double Open End	**B**	Buna-N
	0.45	**–9.75***	**–30**	**P2**	226/Flat Single Open End	**E**	EPDM
	0.65	**–10**	**–40**	**P3**	222/Flat Single Open End	**S**	Silicone
				P7	226/Fin Single Open End	**T**	Teflon encap. Viton (O-Rings only)
				P8	222/Fin Single Open End		
				AM	Single Open End, Internal O-Ring	**T**	Teflon (gaskets)
Example: ZTEC B 0.2–20P2E				**NPC**	Double Open End, Internal O-Ring	**V**	Viton
ZTEC B	0.2	–20		P2		E	

*Available only for DOE (P) configuration

ZTEC B FLOW RATE

Typical Flow Rate Clean Water at Ambient Temperature
(per 10" cartridge)



For liquids other than water, multiply pressure drop by the fluid viscosity in centipoise

INTEGRITY TEST SPECIFICATIONS

Minimum Bubble Point values and maximum Diffusive Air Flow (per 10-inch cartridge) values for ZTEC B filters wet with water:

Pore Size	Bubble Point	Diffusive Air Flow
0.2 µm	≥ 38 psig (2.8 bar)	≤ 35 cc/min @ 30 psig (2.0 bar)
0.45 µm	≥ 25 psig (1.7 bar)	≤ 35 cc/min @ 20 psig (1.4 bar)
0.65 µm	≥ 18 psig (1.2 bar)	≤ 35 cc/min @ 15 psig (1.0 bar)

TYPICAL BACTERIAL RETENTION

0.2 µm	LRV for B. *diminuta* ≥ 7.8
0.45 µm	LRV for S. *marcescens* ≥ 8.5
0.65 µm	LRV for S. *cerevisiae* ≥ 11