



BioSafe PTFE



**High-Purity Hydrophobic
PTFE Membrane Filter Cartridges**



Sterilizing Grade Gas Purification Advanced Moisture Exclusion 100% Integrity Tested



Universal Chemical Resistance (pH 1-14) High-Temperature Process Validation



ULTIMATE HYDROPHOBIC BARRIER FOR STERILE AIR AND GAS PROCESSES

The BioSafe PTFE Series membrane filter cartridges are engineered to deliver sterile, particle-free air and gases under the most demanding industrial environments. Utilizing an inherently hydrophobic Polytetrafluoroethylene (PTFE) membrane, these elements aggressively repel aqueous liquids while enabling unimpeded, high-velocity gas flux. This prevents water logging and condensation-induced blockages, ensuring smooth, continuous process safety.



Inherent Hydrophobicity: Maintains a stable moisture barrier even under high differential pressures and extreme humidity, completely eliminating the risk of liquid breakthrough and downstream cross-contamination.



Thermal Bonded Construction: Manufactured using state-of-the-art thermal fusion welding without any glues, chemical binders, or surfactants. This guarantees a clean, robust weld seam between the membrane pack and the reinforced polypropylene hardware.



Universal Chemical Resilience: Compatible with nearly all aggressive acids, bases, photoresists, etching solutions, and organic solvents across the entire pH spectrum (pH 1-14).



Rugged Thermal Performance: Designed to withstand heavy-duty operation up to **90°C** and qualified to endure up to 100 continuous steam sterilization/autoclave cycles at 121°C.



TYPICAL CRITICAL APPLICATIONS

Application coverage and working characteristics for demanding sterile gas, vent, and corrosive fluid processes.



Sterile Gas Processing:

Sterile filtration for compressed air, technical CO₂ carbonation lines, fermentation air supply, and aseptic packaging blow molding.



Vessel Protection (Tank Vent):

Sterile air breathing barriers for atmospheric and pressurized storage tanks, protecting raw ingredients from microbial ingress.



Aggressive Fluids:

Clarification of corrosive industrial acids, bases, ketones, alcohols, and semiconductor photoresists.

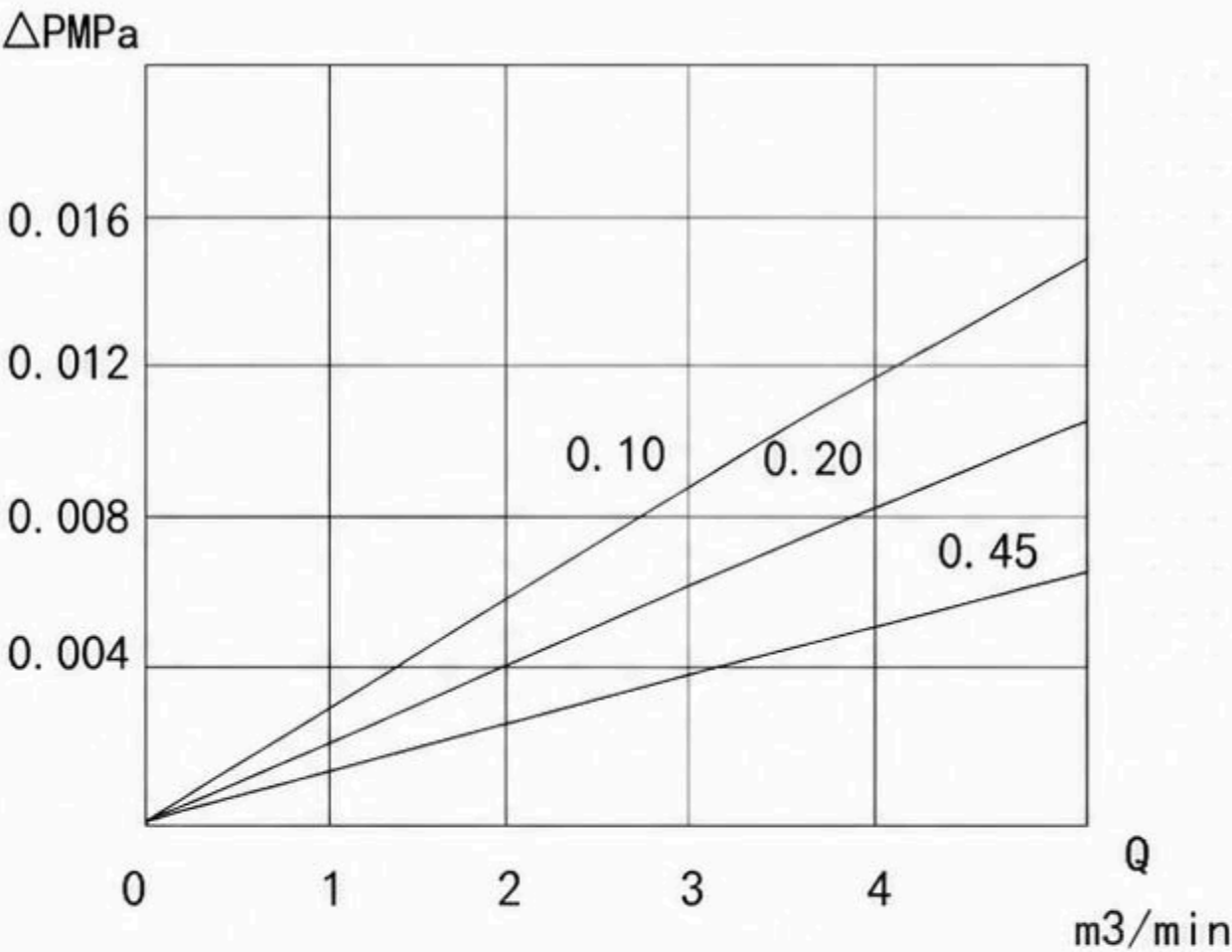
Technical Working Characteristics

Normal Operating Temperature:	Up to 65°C (140°F)
Maximum Operating Temperature:	90°C (194°F) at ΔP ≤ 5.1.0 bar (14 psi)
Maximum Forward Differential Pressure:	4.2 bar (60 psi) at 25°C
Maximum Reverse Differential Pressure:	2.1 bar (30 psi) at 25°C
Endotoxin Safety Level:	< 0.25 EU/ ml (Pharmaceutical Grade standard)
Total Extractables:	≤ 0.03 g per 10° element



FLOW RATE VS. DIFFERENTIAL PRESSURE

Balanced pleat geometry provides a large effective filtration area and supports high throughput with low clean resistance.



SELECTION MATRIX

Series & Grade	Micron Rating	Length	End-Cap Configuration	Seal Material
PTFE-P (Pharma)	010 = 0.1 µm	05 = 5"	DOE = Double Open End	S = Silicone
PTFE-F (Food/Bev)	020 = 0.2 µm	10 = 10"	C2 = 226 / Flat Closed	E = EPDM
	045 = 0.45 µm	20 = 20"	C3 = 222 / Flat Closed	V = Viton
	065 = 0.65 µm	30 = 30"	C7 = 226 / Fin End	N = NBR
	100 = 1.0 µm	40 = 40"	C8 = 222 / Fin End	T = Encapsulated Viton
	300 = 3.0 µm			

Ordering example: PTFE-P-020-10-C7-S (0.2 µm rating, 10-inch length, 226/Fin adapter, silicone seals).

REGULATORY COMPLIANCE

Manufactured under strict pharmaceutical-grade quality systems. Materials conform to FDA regulations for food contact and comply with USP Class VI Biological Test standards for plastics.



For multi-cycle steam validation protocols, specific chemical resistance charts, or air compressor housing sizing, please contact our process validation desk.

COMMERCIAL CONTACTS



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