TECHNO FILTER

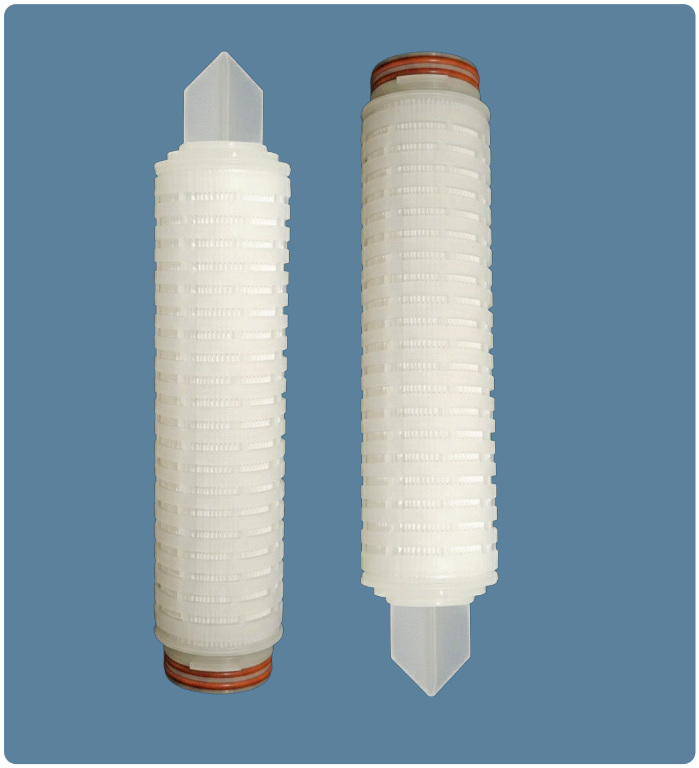
Datasheet TechPleat PES

TechPleat PES Membrane Filter Cartridges

TechPleat PES filter cartridges utilize a high-performance, inherently hydrophilic polyethersulfone (PES) membrane engineered for demanding and critical filtration applications. The membrane is integrated into a 100% polypropylene hardware assembly, including end caps, core, and protective cage, ensuring broad chemical compatibility and mechanical integrity.

The PES membrane delivers superior flow rates per unit area compared to many alternative membrane materials, while maintaining efficiency. The manufacturing process excludes the use of adhesives, binders, and surfactants. Each cartridge is thoroughly flushed with high-purity water to minimize extractables, reduce system contamination risk, and shorten startup time.

Due to the hydrophilic nature of the PES membrane, pre-wetting with isopropyl alcohol (IPA) and subsequent DI water flushing are not required. This eliminates a common contamination risk and reduces hazardous waste generation.



Filtration Performance

TechPleat PES membrane filter cartridges are designed for applications requiring high flow capacity and reliable particle and bacterial removal efficiency.

Available pore sizes include:

0.04µm	0.45 µm	1.2 µm
0.1 µm	0.65 µm	0.80 µm
0.2 µm		

Validated with liquid bacterial challenge with Serratia marcescens (ATCC 19146) for sterilizing grade filters and 100% integrity tested prior to packing and dispatch.

Typical Applications

- Bottled water
- Process water
- Vinegar
- Aseptically packaged liquids
- Beer, wine, and distilled spirits
- Juices and soft drinks
- Edible oils
- Optical disc manufacturing
- Hard disk manufacturing
- Optical coating processes
- Bulk chemical processing
- Pharmaceutical intermediates

Maximum Operating Conditions

Differential Pressure Limits

- Forward flow: 50 psid (3.4 bar) at 20°C (68°F)
- Reverse flow: 40 psid (2.7 bar) at 20°C (68°F)

Operating Temperature

- Maximum continuous temperature: 82°C (180°F) at 10 psid (0.69 bar) in water

Recommended Cartridge Changeout

- 35 psid (2.4 bar)

Regulatory & Safety Compliance

Biological Safety

All materials meet biological safety requirements in accordance with USP Class VI, tested at 121°C for plastic components.

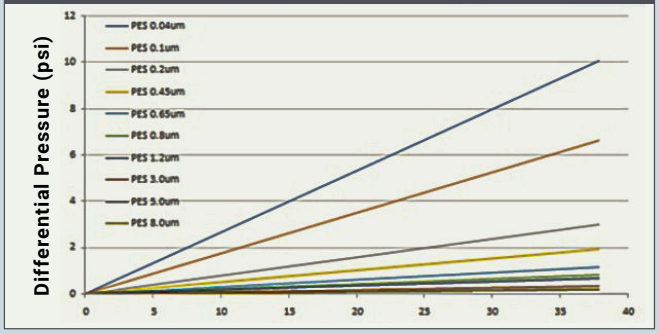
Food Contact Compliance

- Materials of construction comply with FDA regulations for food and beverage contact per 21 CFR (U.S. Code of Federal Regulations).
- Filter media and hardware materials conform to EU Regulation EC1935:2004 incorporating 10/2011 for food-contact applications.

Sanitization & Sterilization Compatibility

- Hot water sanitization: 90°C (194°F) for 30 minutes, multiple cycles, maximum 3 psid forward differential pressure
- Autoclave sterilization: 121°C (250°F) for 30 minutes, multiple cycles
- In-line steam sterilization: 135°C (275°F) for 30 minutes, multiple cycles

Typical Flow Rate - 10"



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Integrity		
Pore size (µm)	Minimum Bubble Point (psig)	(bar)
0.05 µm	31.9 psig	2.2 bar , IPA
0.1 µm	24.7 psig	1.5 bar , IPA
0.2 µm	45 psig	3.1 bar
0.45 µm	24 psig	1.7 bar
0.65 µm	19 psig	1.3 bar
0.8 µm	17 psig	1.2 bar
1.2 µm	11.6 psig	0.8 bar

Construction Materials

- **Membrane** Polyethersulfone (PES)
- **Support Layers** Polypropylene
- **End Caps** Polypropylene
- **Inner Core** Polypropylene
- **Outer Cage** Polypropylene
- **Construction method** Thermal bonding (no adhesives)

Disclaimer
Information provided is based on standard product data and is subject to change. Techno Filter B.V. is not liable for incorrect application or improper use of the product.

Ordering information				
Code	**Micron rating** (µm)	**Length** (inch)	**End cap**	**O-ring**
TF-PES	004	5"	FH - Code 7	S - Silicone
	010	10"	FG - Code 2	E - EPDM
	020	20"	EH - Code 8	N - Nitrile
	045	30"	EG - Code 3	V - Viton
	065	40"	AA - DOE	T - FEP
	080		ZH - Amazon Style	
	120			

Example article code: TF-PES0045FHS
Example article description: TechPleat PES 4µm 5" Code 7 Silicone o-ring

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