

FHFVES High-Flow Capacity PES Pleated Filter Cartridge



The FHFVES High-Flow PES Pleated Filter Cartridge is designed for high-purity liquid filtration in pharmaceutical, biotechnology, and microelectronics industries. Composed with hydrophilic Polyethersulfone (PES) membrane, it features a unique asymmetric gradient pore structure. This design combines a tight inner layer for high retention efficiency ($\geq 99.99\%$ @ $0.22\mu\text{m}$) with a loose outer layer for high dirt-holding capacity. The FHFVES series is designed to integrate pre-filtration and final filtration into a single stage, significantly reducing system complexity and operational costs. With a large filtration area ($\geq 0.6\text{ m}^2$ per $10''$), it offers high flux, low protein binding, and low extractables, ensuring product purity and process efficiency.

Product Features

- ❖ High Efficiency & Low Adsorption: Hydrophilic PES membrane provides high flow rates and low protein adsorption ($< 5\ \mu\text{g}/\text{cm}^2$), minimizing product loss in bioprocessing.
- ❖ High Dirt-Holding Capacity: The gradient pore structure (loose-to-tight) prevents surface blinding and extends service life compared to symmetric membranes.
- ❖ Excellent Chemical Compatibility: Resistant to a wide range of aqueous solutions, acids, and alkalis (pH 1–13).
- ❖ Steam Sterilizable: Capable of withstanding multiple cycles of steam sterilization ($121\ ^\circ\text{C}$, 30 min) for aseptic applications.
- ❖ High Purity: Thermally bonded construction with no adhesives or anti-fouling agents, preventing contamination.

Product Parameters

Parameters	Specification			
Length(inch/mm)	10(254)	20(508)	30(762)	40(1016)
Specifications	Pleated			
Connection	End Caps: 222/226, Fin, Flat, etc.			
Filtration Accuracy (μm)	0.1/0.22/0.45/0.65/1.2			

Diameter (mm)	Outer Diameter: 68–69 ; Inner Diameter: 32
Filtrating Area (m ² /10")	≥0.6
Design Pressure (MPa)	0.4
Maximum Temperature (°C)	80

Applications



Fine Chemicals



Equipment Manufacturing



Biomedicine



Food and Beverage



New Energy



Water Treatment

Precautions

Selection & Operation Guide

- ❖ Filtration Accuracy Selection:
 - 0.1 μm: High-purity water terminal filtration (Electronics).
 - 0.22 μm: Sterile filtration (Pharma/Biotech).
 - 0.45 μm / 0.65 μm: Clarification filtration (Beverage/Life Science).
 - 1.2 μm: Pre-filtration / Particle removal.
- ❖ Sterilization:
 - Steam (SIP): 121°C for 30 minutes (Ensure proper housing spacing).
 - Chemical: Compatible with CIP solutions (NaOH, HNO₃, etc.).
- ❖ Flow Direction: Strictly Inside-Out flow direction to maintain structural integrity.

Maintenance & Replacement

- ❖ Disposable Design: The FHPES filter cartridge is designed for single-use or batch-use only.
- ❖ No Backwashing: Do not backwash the cartridge. The pleated membrane structure is not designed to withstand reverse pressure, which will cause permanent damage.
- ❖ Replacement Criteria:
 - When the pressure differential (ΔP) reaches 0.20 MPa (or as per system requirements).
 - At the end of a production batch or sterilization cycle.
 - If integrity testing fails.

*For specialized applications or customized solutions, please contact FFM Inc. directly.