SepraPor[®]

Hollow Fiber Filter Cartridges

60000



SepraPor[©] Hollow Fiber Filter Cartridges

SepraPor[®] XFM is a tangential flow filtration cartridge containing hollow fibers. The SepraPor[®] hollow fiber filter cartridge is available for both microfiltration and ultrafiltration applications and is offered in a variety of lengths and diameters to provide ease of scalability.



Features and Benefits

- Discrete separation between retention ratings and narrow pore size distribution ensures distinct performance for each retention rating, making filter testing and selection unambiguous
- Fiber characterization for ultra filtration membranes follow a novel and scientifically rigorous 3 Mw marker MWCO assignment method that allow for peak processing performance.
- Consistent dimensional and structural filter properties with low cross-sectional hollow fiber asymmetry deliver repeatable performance, allowing end user process control parameters to remain constant

- Seamlessly scales from benchtop evaluation through full scale production to offer maximum flexibility in manufacturing operations
- Retention rating confirmed by bubble point and flux analysis for every membrane lot ensures excellent lotto-lot consistency
- Each individual filter is integrity tested before release to ensure quality
- Autoclave and steam-in-place (SIP) parameters allow for maximum flexibility in user-specified sterilization requirements. Sterility validation currently is available for microfiltration filters only.

Typical Applications

SepraPor[®] XFM filters are ideal for use in a variety of biopharmaceutical applications including bacterial cell concentration, mammalian cell concentration, and yeast cell concentration, high productivity harvest, and continuous cell culture perfusion. The filters also are ideal for ultrafiltration applications, including diafiltration and purification of plasmid DNA. Detailed Application Notes can be found at www.meissner.com/seprapor.

Materials of Construction

Hollow fibers:	Polysulfone
Fiber bundle netting:	Polypropylene
Outer sleeve:	Polysulfone
Fiber encapsulation:	Ероху
O-ring seal:	Silicone

A range of SepraPor[®] XFM cartridge filter sizes is available from lab scale to production scale. Low surface area lab scale filters can be used for process testing and validation, then scaled up to larger surface area filters for pilot and manufacturing operations. The SepraPor[®] filter portfolio is designed to easily scale for maximum flexibility to meet manufacturing requirements.

SepraPor[©] Operating Characteristics

Operating Temperature Range:32 °F to 100 °F (0 °C to 38 °C)Maximum Operating Temperature:122 °F (50 °C), for short-term operation such as cleaning

Retention Rating	Maximum Transmembrane Pressure (TMP)	Maximum Feed Pressure	Normalized Water Flux* LMH/bar @ 24 °C	
0.4 µm	10 psig @ 77 °F (0.7 bar @ 25 °C)	10 psig @ 77 °F (0.7 bar @ 25 °C) 15 psig @ 77 °F (1.0 bar @ 25 °C)		
0.2 µm	15 psig @ 77 °F (1.0 bar @ 25 °C)	⊉ 77 °F (1.0 bar @ 25 °C) 25 psig @ 77 °F (1.7 bar @ 25 °C)		
0.1 µm	20 psig @ 77 °F (1.4 bar @ 25 °C)	30 psig @ 77 °F (2.1 bar @ 25 °C)	≥1,800	
750 kDa			840 - 1,300	
500 kDa		65 psig @ 77 °F (4.5 bar @ 25 °C)	465 - 1,200	
300 kDa	45 psig @ 77 °F (3.1 bar @ 25 °C		325 - 600	
100 kDa			215 - 550	
50 kDa			100 - 480	
30 kDa	50 ppig @ 77 °E (2 5 bor @ 25 °C		80 - 265	
10 kDa	50 psig @ // F (5.5 bai @ 25 C		50 - 165	

* Measured on a 1" diameter filter, 24" length. Part No. XFCXXXC224-FFCC at low transmembrane pressure.

Sterilization Conditions

SepraPor[®] XFM filters are designed to withstand the rigors of steam-in-place (SIP) or autoclave sterilization. In either method, gentle and gradual temperature and pressure gradients should be used for heating and cooling the filter, recommended not to exceed 1 °C (1.8 °F)/minute.

The filter should be sterilized at 121 °C (249.8 °F) at 1 bar (15 psi), for a minimum of 30 minutes. A validated procedure that appropriately ramps temperature and pressure to and from sterilization conditions is recommended.

Quality

SepraPor[®] filters are supplied with a Certificate of Conformance. To ensure product compliance to specifications, Meissner's Quality Assurance staff continually audits the manufacturing process for conformance to its Quality Management System.





SepraPor[©] Dimensions & Ordering Information

Retention Rating			
M10 = 0.1 μm			
M20 = 0.2 μm			
M40 = 0.4 μm			
010 = 10 kDa			
030 = 30 kDa			
050 = 50 kDa			
100 = 100 kDa			
300 = 300 kDa			
500 = 500 kDa			
750 = 750 kDa			

Fiber I.D.: 1.0 mm Fiber O.D.: 1.5 mm

To specify the correct part number, please choose a Retention Rating from the chart at left and insert the code in the spaces indicated with underscore marks in the Part Number field in the chart below.

Part	Number	Filter Diameter	Fluid Path Length (Nominal)	Effective Filtration Area	Housing Seal Configuration ¹	O-ring Seal Material
XFM	C412-AAS	- 2" (5.1 cm)	12" (30 cm)	4.3 ft ² (0.4 m ²)		
XFM	C424-AAS		24" (60 cm)	8.6 ft ² (0.8 m ²)		
XFM	C512-AAS	- 3" (7.6 cm)	12" (30 cm)	9.7 ft ² (0.9 m ²)	AA	
XFM	C524-AAS		24" (60 cm)	22.6 ft ² (2.1 m ²)		Silicone
XFM	C612-CCS ²	4" (10.2 cm)	12" (30 cm)	24.8 ft ² (2.3 m ²)		
XFM			24" (60 cm)	45.2 ft ² (4.2 m ²)	CC	
XFM	C824-AAS ²	5.9" (15 cm) ³	24" (60 cm)	89.3 ft ² (8.3 m ²)	AA	

¹ AA and CC configured cartridges are fitted with an O-ring at each open-face end that engage and seal the cartridge in the filter housing.

² Cartridges with these diameter sizes are only available for microfiltration (0.1, 0.2, and 0.4 μm retentions) and are not offered for ultrafiltration retentions.

Additional information about this filter product is available in the SepraPor® Green Docs document at www.meissner.com/green-docs.

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