

Extreme™ Hydrophilic PVDF Capsule/Cartridge Filters

The Extreme™ Hydrophilic PVDF Capsule/Cartridge Filters is a series of high-performance polyvinylidene fluoride (PVDF) membrane filtration products, specifically designed for liquid filtration applications in the biopharmaceutical industry. With its highly symmetrical structure, high porosity, low surface adsorption, low TOC/leachables, and chemical stability, it provides exceptional filtration performance and broad applicability. Whether for high viscosity liquids or applications under extreme pH conditions, it meets the high standards required by customers.



Typical Applications

- The highly symmetrical structure and extremely low surface adsorption characteristics make it less prone to clogging during the filtration process, thereby extending the service life of the filter.
- High porosity ensures that its flux is comparable to that of asymmetric membranes, enabling efficient filtration while reducing filtration time.
- High flux and strong anti-clogging capability make it suitable for filtering high viscosity liquids.
- The membrane material is clean, with low total organic carbon (TOC) and leachables, making it suitable for applications requiring high purity, such as culture medium filtration.
- We offer single-layer membranes and double-layer membranes with different pore sizes, allowing customers to choose the most suitable option for their specific applications.

Product Advantages

- Proteins: Various proteins, amino acids, peptides, antibodies, enzymes, hormones, serum, blood products, etc.
- Polysaccharides: Hyaluronic Acid Category, Drug Carrier/-Sustained-Release Agent, Biological Fluid Stabilizer, etc.
- Vaccine Category: Virus Category, Bacterial Category, various Antigens, etc.
- Nucleic Acids: various DNA/RNA.
- Factors: Growth Factor, Coagulation Factor, Stem Cell Factor, etc.

Technical Parameters of Disc and Capsule Filters

	D6	S1	S5	L02	L04	L05	L10	L20
Area	17.3cm ²	180cm ²	550cm ²	0.13m ²	0.23m ²	0.33m ²	0.66m ²	1.32m ²
Composition Material								
Filter Membrane	Polyvinylidene Fluoride (PVDF)							
Supports	Polypropylene (PP)							
Housing	Polypropylene (PP)							
Sealing Ring	Silicone							
Maximum Operating Pressure Difference								
Forward	0.5 MPa@25°C		0.4 MPa@25°C		0.5 MPa@25°C; 0.4 MPa@60°C;0.2 MPa@80°C			
Reverse	/		0.2 MPa@25°C		0.3 MPa@25 °C; 0.1 MPa @ 80°C			
Sterilization Conditions								
Radiation Sterilization	25-40 kGy Gamma Radiation Sterilization (Secondary Radiation Sterilization Not Supported)							
Autoclave Sterilization	126°C, 60 min, 25 cycles							
Integrity parameter *								
	ES series BP _{min} = 3200mbar 46.4psi @20°C, water							
	EM series BP _{min} = 5000mbar 72.5psi @20°C, water							
Regulatory Compliance								
pH and Conductivity	Complies with USP<645> specified limit <1.3 μS/cm@25°C							
TOC	Complies with USP<643> TOC specified limit <0.5 mg/L							
Endotoxin	Complies with USP Endotoxin Content < 0.25 EU/mL							
Non-Fiber Releasing	Complies with the 'Non-Fiber Shedding' standard as defined in 21 CFR 210.3 (b) (6)							
Oxides	The washing solution meets the requirements of USP Sterile Water for Injection							
Particulate matter	The filtrate after filtration meets the requirements of USP<788> for particle release							
Biocompatibility	Complies with USP<87> and USP<88> Complies with ISO 10993-4,5,6,10,11							
Physicochemical Testing	The polymer materials used in the filter comply with the standards for physicochemical testing in USP<661>							

*The integrity parameters of the EB series are detailed in the COA.

Note: There are differences in model, specification and performance parameters among various series of products. Specific product parameters vary by series. It is recommended to contact the technical support team of LePure Biotech's for detailed product technical information based on actual application requirements.

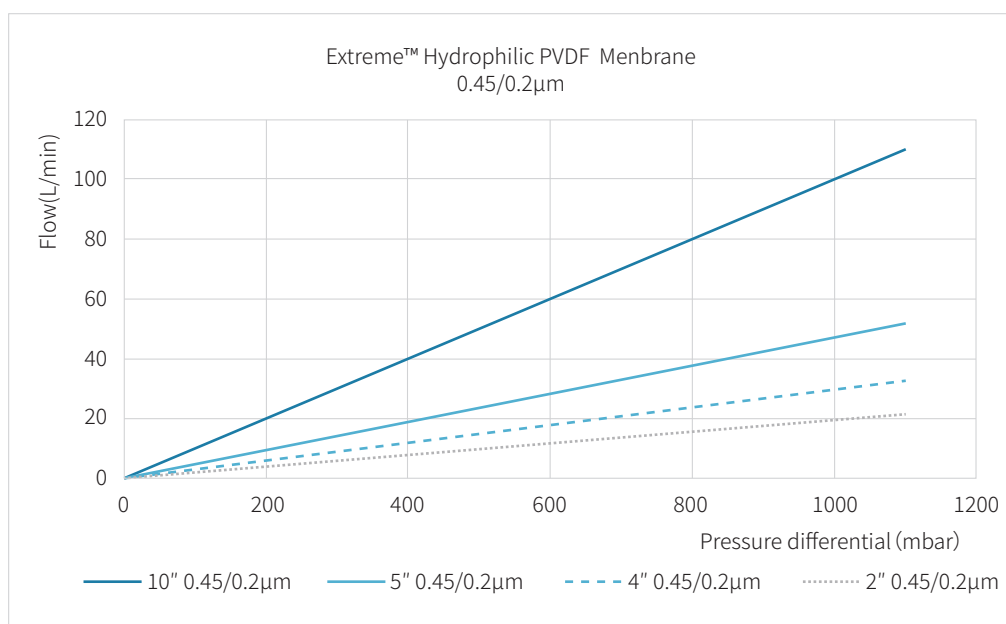
Technical Parameters of Cartridge Filters

	G02	G05	G10	G20	G30	G40
Area	0.17 m²	0.33 m²	0.66 m²	1.32 m²	1.98 m²	2.64 m²
Composition Material						
Filter Membrane	Polyvinylidene Fluoride (PVDF)					
Support Layer	Polypropylene (PP)					
Housing	Polypropylene (PP)					
Sealing Ring	Silicone					
Maximum Operating Pressure Difference						
Forward	0.5 MPa@25°C; 0.4 MPa@60°C; 0.2 MPa@80°C					
Reverse	0.3 MPa@25°C; 0.1 MPa@80°C					
Sterilization Conditions						
Autoclave Sterilization	134°C, 30 min, 30 cycles					
SIP	134°C, 30 min, 30 cycles					
Integrity parameter *						
	ES series BP _{min} = 3200mbar 46.4psi @20°C, water					
	EM series BP _{min} = 5000mbar 72.5psi @20°C, water					
Regulatory Compliance						
pH and Conductivity	Complies with USP<645> specified limit <1.3 µS/cm@25°C					
TOC	Complies with USP<643> TOC specified limit <0.5 mg/L					
Endotoxin	Complies with USP Endotoxin Content < 0.25 EU/mL					
Non-Fiber Releasing	Complies with the 'Non-Fiber Shedding' standard as defined in 21 CFR 210.3 (b) (6)					
Oxides	The washing solution meets the requirements of USP Sterile Water for Injection					
Particulate matter	The filtrate after filtration meets the requirements of USP<788> for particle release					
Biocompatibility	Complies with USP<87> and USP<88> Complies with ISO 10993-4,5,6,10,11					
Physicochemical Testing	The polymer materials used in the filter comply with the standards for physicochemical testing in USP<661>					

*The integrity parameters of the EB series are detailed in the COA.

Note: There are differences in model, specification and performance parameters among various series of products. Specific product parameters vary by series. It is recommended to contact the technical support team of LePure Biotech's for detailed product technical information based on actual application requirements.

Water Flow Rates



Ordering Information

Extreme™ Disc and Capsule Filters

L02	ESDA	A	O	O	4
FilterType	Pore Size	Sterilization Type	Connector		Packaging
D6:17.3cm ²	ESS:0.2	S: Pre-sterilized	N:1/4 -1/2" Multi-barb inlet / Outlet (Disc)		1:1piece / box
S1:180cm ²	ESDA:0.2/0.2	D: Suitable for Irradiation Sterilization	F:3/4" SanitaryTC Inlet/Outlet		3:3pieces / box
S5:550cm ²	ESDB:0.45/0.2	A: Suitable for High-Temperature Steam Sterilization	O:1/4-1/2" Multi-barb Inlet/Outlet (Capsule)		4:4pieces /box
L02:2"	ESDC:0.65/0.2		H: 1/2" Barb Inlet/Outlet		6:6pieces / box
L04:4"	EMD:0.2/0.1		T:1.5" SanitaryTC Inlet/Outlet		
L05:5"	EBS:0.45		B: 3/4" Barb Inlet/Outlet		
L10:10"	EBDA:0.65/0.45		L:Luer Connector		
L20:20"	EBDB:1.0/0.45				
	EBDC:1.0/0.65				

Disc and Capsule Filter Connector Information

	N	O	H	F	T	B
Filter Type	1/4"-1/2" Multi Hose barb	1/4"-1/2" Multi Hose barb	1/2" (12.7mm) Hose barb	3/4"(19.1mm) Sanitary Flange TC25	3/2"(38.1mm) Sanitary Flange TC50	3/4" (12.7mm) Hose barb
D6	●	n.a.	n.a.	●	n.a.	n.a.
S1	n.a.	●	n.a.	●	n.a.	n.a.
S3	n.a.	●	n.a.	●	n.a.	n.a.
S5	n.a.	●	●	●	●	n.a.
2"	n.a.	●	●	●	●	n.a.
4"	n.a.	●	●	●	●	n.a.
5"	n.a.	n.a.	●	n.a.	●	n.a.
10"	n.a.	n.a.	●	n.a.	●	n.a.
20"	n.a.	n.a.	n.a.	n.a.	●	●

*Note:

● Indicates that the product of the size has this corresponding interface.

n.a. Indicates that the product of the size does not have this corresponding interface.

Ordering Information

Extreme™ Capsule (with perfusion bell) Filters

L2A	ESDA	A	O	O	4
FilterType	Pore Size	Sterilization Type	Connector		Packaging
D6A:17.3 cm ²	ESS:0.2	S: Pre-sterilized	O:1/4-1/2" Multi-barbInlet/Outlet		3: 3pieces / box
S1A:180 cm ²	ESDA:0.2/0.2	D: Suitable for Irradiation Sterilization			4:4pieces /box
S5A:550 cm ²	ESDB:0.45/0.2	A: Suitable for High-Tem- perature Steam Sterilization			
L2A:2"	ESDC:0.65/0.2				
	EMD:0.2/0.1				
	EBS:0.45				
	EBDA:0.65/0.45				
	EBDB:1.0/0.45				
	EBDC:1.0/0.65				

Extreme™ Cartridge Filters

G02	ESDA	5	S	1
FilterType	Pore Size	Connector type	Gasket	Packaging
G02:2.5"	ESS:0.2	5-226 /Flat	S:Silicone rubber	1:1piece/box
G04:4"	ESDA:0.2/0.2	6-222/ Flat		
G05:5"	ESDB:0.45/0.2	7-226 /Fin		
G10:10"	ESDC:0.65/0.2	8-222 /Fin		
G20:20"	EMD:0.2/0.1			
	EBS:0.45			
	EBDA:0.65/0.45			
	EBDB:1.0/0.45			
	EBDC:1.0/0.65			

*Note:

1. Each letter and number in the item number represents a specific meaning. This coding rule is only for explanation and not all combinations can form a valid product model.
2. For more product models, please contact technical support.