

LeSiever® Hydrophilic PES Filter

Applied to liquid filtration and sterilization filtration in pharmaceutical processes

Polyether sulfone (PES) filter is a widely used filter in pharmaceutical processes. PES material has excellent chemical stability and high temperature resistance, which can effectively filter impurities such as microorganisms and particles, ensuring the high purity of the product. LePure Biotech provides PES filters in needle, disc, bag, and filter forms to meet different application needs.



Product Features

- High throughput, low diffusion flow, highly asymmetric pore single-layer and doublelayer membrane structures
- Verified and reliable bacterial retention capability
- 100% Integrity testing
- 100% pressure holding test* capsule filter
- 100% pre rinse

Typical applications

LeSiever® PES filter adopts a high-throughput filter membrane, which improves the economy of the process and is suitable for a wide range of chemical and biological reagents, including acidic reagents and sodium hydroxide solutions. It is particularly suitable for the following applications:

- Cell and tissue culture medium
- Culture medium additives
- Serum
- High concentration protein solution
- Virus suspension
- Column protection
- Buffer preparation

LeSiever® Specification and parameter table of cartridges

Size	2.5"	5"	10"	20"	30"	40"	10"WTT	20"WTT
Filter area(m²)	0.17	0.33	0.66	1.32	1.98	2.64	0.9	1.8
Material composition								
Membranes	Hydrophilic Polyether Sulfone (PES)							
Structural components	polypropylene (PP)							
O- Ring	Silicone/Fluorine rubber/EPDM (optional)							
Capping form	Cylindrical sharp corner 、 Triangularfin、Blunt head、Flat at both ends							
Center pole and under interface type	Stainless steel center rod、High temperature resistant central tube、Type222、Type226、222Inner lining steel ring、226Inner lining steel ring							
Aperture and aperture combination /μm	0.2, 0.45, 0.65, 0.8, 1.2, 3, 5,0.2/0.1, 0.45/0.1, 0.45/0.2, 0.65/0.2,0.8/0.2,1.2/0.2,1.2/0.45,0.8/0.45,0.65/0.45,1.2/0.65,0.8/0.65							
Maximum operating pressure								
Temperature °C	25		40		60		80	
Positive pressure mbar, ambient	5000		4500		4000		2000	
Reverse pressure mbar, ambient	3000		/		/		1000	
SIP	134 °C, 30min, 30cycle (Differential pressure no more than 350mbar)							
No fiber release	Complies with the provisions of 21 CFR 210.3 (b) (6) regarding"No fiber release"							
Endotoxin	Compliant with USP, endotoxin content<0.25 EU/mL							
NVR	≤1.0 mg in 70/30 % IPA/water							
Biocompatibility	Complies with USP<87>, USP<88>Class VI biocompatibility requirements							

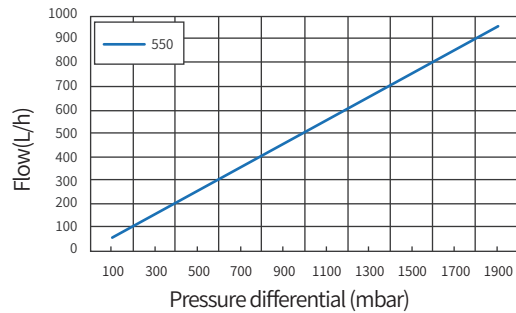
LeSiever® Specification and parameter table of capsules

Size	S1/S2	S3/S4	S5	2"	4"	5"	10"	20"	10"-P	20"-P
Height /mm	88(FF) 104(OO) 91(FO)	108(FF) 111(FO)	129	151	210	202	332	622	332	622
Maximum contour width /mm	62	62	107	107	107	127	127	128	127	128
Filter area /m²	0.018	0.030	0.055	0.13	0.23	0.33	0.66	1.32	0.8	1.6
Material composition										
Membranes	Hydrophilic Polyether Sulfone (PES)									
Housing	polypropylene (PP)									
O-ring	Silicone, Fluorine rubber (optional) , EPDM (optional)									
Filter membrane protective layer	polypropylene (PP)									
Aperture and aperture combination /µm	0.2, 0.45, 0.65, 0.8, 1.2, 3, 5, 0.2/0.1, 0.45/0.1, 0.45/0.2, 0.65/0.2, 0.8/0.2, 1.2/0.2, 1.2/0.45, 0.8/0.45, 0.65/0.45, 1.2/0.65, 0.8/0.65									
Maximum operating pressure										
Positive pressure mbar, ambient	4000	5000	5000	5000	5000	5000	5000	5000	5000	5000
Reverse pressure mbar, ambient	2000	2500	2500	2500	2500	2500	2500	2500	2500	2500
Sterilization method										
Gamma	25-40 kGy									
Autoclavable	126°C, 60min, 25cycle(Not applicable to SIP)									
Bacterial interception (0.1 and 0.2µm)	According to ASTM ® The testing method can be used to detect 10 ⁷ CFU/cm² of defective short wave bacteria (ATCC) [®] 19146) Interception test									
No fiber release	Complies with the provisions of 21 CFR 210.3 (b) (6) regarding "No fiber release"									
Endotoxin	Compliant with USP, endotoxin content<0.25 EU/mL									
NVR	≤1.0 mg in 70/30 % IPA/water									
Biocompatibility	Complies with USP<87>, USP<88>Class VI biocompatibility requirements									

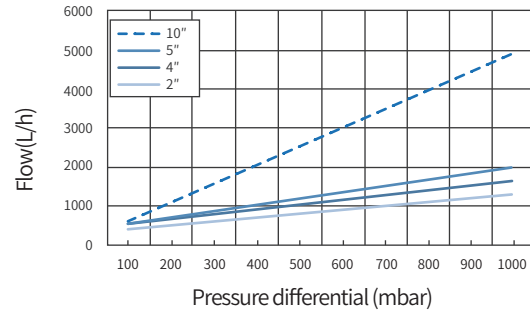
Note: For more technical parameters, please consult our technical personnel

LeSiever® PES filter flow chart (23°C)

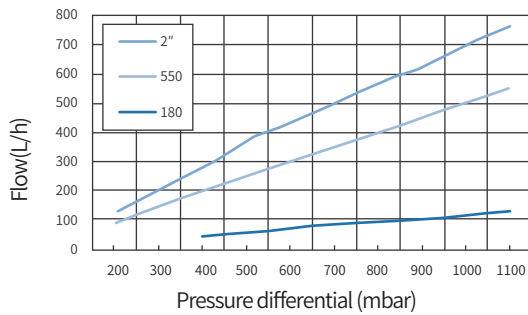
Lesiever Hydrophilic PES 0.1µm



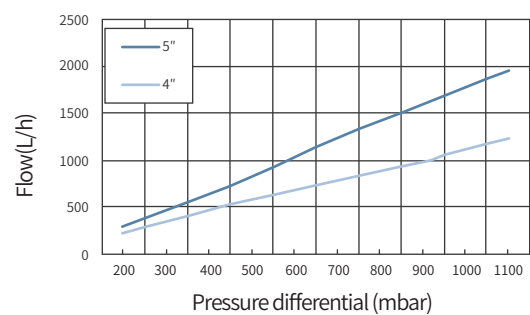
Lesiever Hydrophilic PES 0.2µm



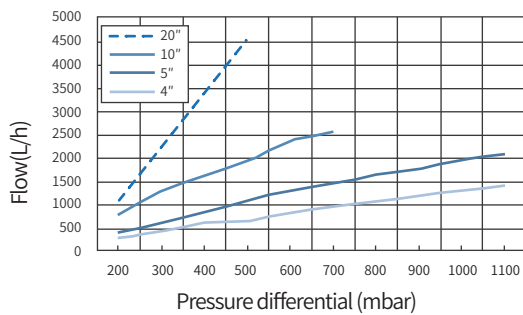
Lesiever Hydrophilic PES 0.2/0.1µm



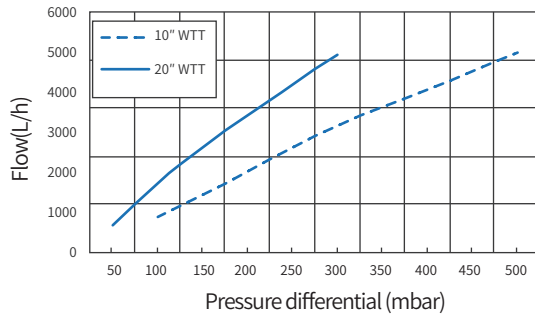
Lesiever Hydrophilic PES 0.2/0.1µm



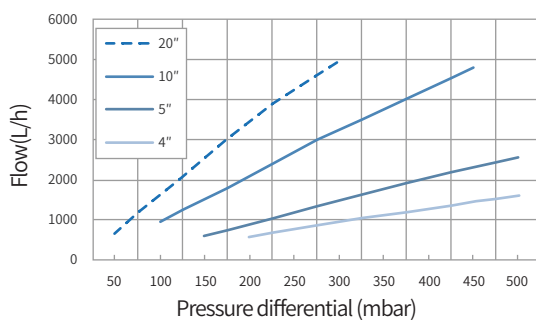
Lesiever Hydrophilic PES 0.45/0.2µm



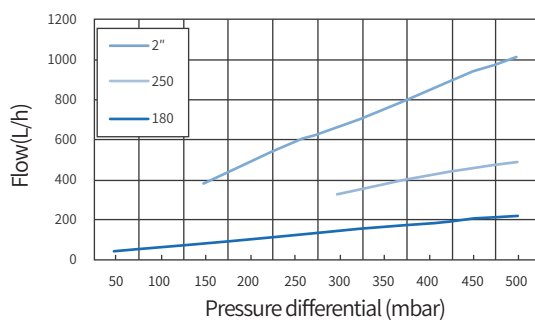
Lesiever Hydrophilic PES 0.45/0.2µm

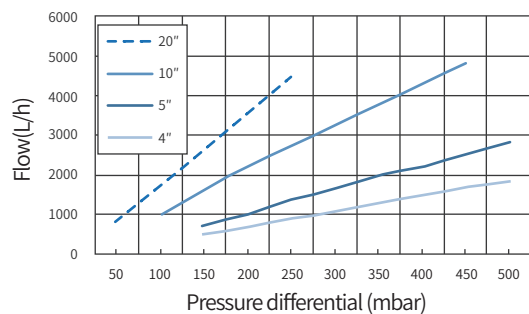
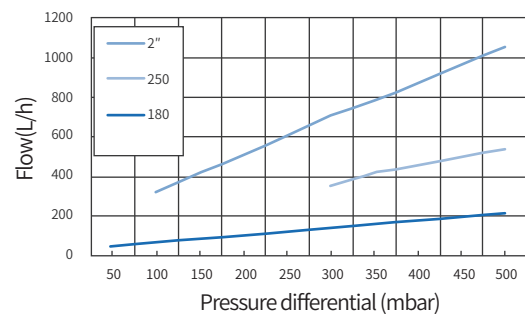
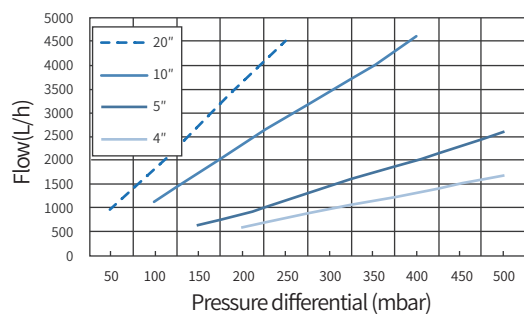
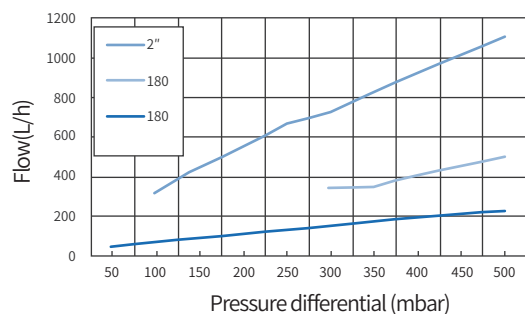
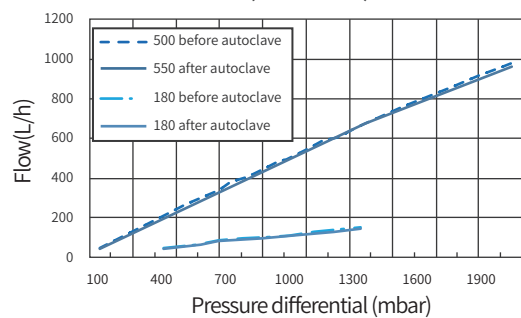
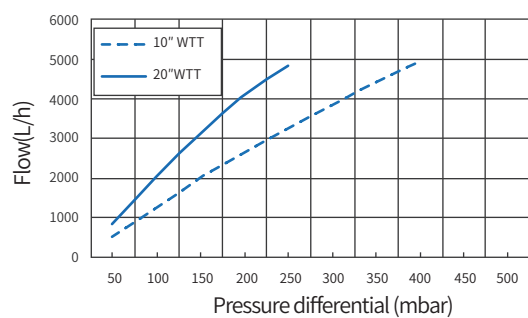


Lesiever Hydrophilic PES 0.65/0.2µm



Lesiever Hydrophilic PES 0.65/0.2µm



LeSiever Hydrophilic PES 0.8/0.2 μ mLeSiever Hydrophilic PES 0.8/0.2 μ mLeSiever Hydrophilic PES 1.2/0.2 μ mLeSiever Hydrophilic PES 1.2/0.2 μ mLeSiever Hydrophilic PES 0.2/0.1 μ m (Autoclave)LeSiever Hydrophilic PES 0.2 μ m

Ordering Information

LeSiever® Cartridge filter

N	1	D	E	D	1	S	1	0	E	N	S
Area	Industry	Filter Type	Membrane Material	Pore Diameter		Up endcap	Filter Size		Center tube and Connector		Gasket
N:Oversea	1:Pharmaceutical Industry	D:Cartridge	E:PES	SA: 0.1µm Single layer		S: Triangular fin	25: 2.5 inch		D: 222		S: Silicone rubber
	2:Electronic Industry			SB: 0.2µm Single layer		Z: Cylindrical sharp corner	05: 5 inch		E: 226		V: Fluorine rubber
	3:F&B Industry			SD: 0.45µm Single layer		P: Flatend cap	10: 10 inch		DN: Stainless Stealin 222		Y: EPDM rubber
				SF: 0.65µm Single layer		LP: Two flat port	20: 20 inch		EN: Stainless Stealin 226		F: Nitrile butadiene rubber (NBR)
				SG: 0.8µm Single layer			30: 30 inch				WV: Outer tetrafluoro-ethylene rubber
				SH: 1.0µm Single layer			40: 40 inch				
				SS: 1.2µm Single layer							
				C1: 0.2/0.2µm							
				D1: 0.45/0.2µm							
				E1: 0.65/0.2µm							
				J1: 0.65/0.45µm							
				K1: 0.8/0.45µm							
				L1: 0.8/0.65µm							
				M1: 1.2/0.45µm							
				N1: 1.2/0.65µm							
				P1: 1.2/0.8µm							

LeSiever® Capsule filter

N	P	1	S	1	S	1	0	T	T	1
Area	Classify	Filter Type	Membrane Material	Pore Diameter	Sterilization Methods	Filter Size		Connector		Package Specification
N: Overseas	P: Liquid Filter	1: Capsule	S: PES	1: 0.2µm	D: Gamma Reistant, non sterilized	D2: 25mm Syringe		T=38mm(1.5") TC connector		1: 1 piece/ package
		2: Disc Type		2: 0.1µm	A: Autoclavable, non sterilized	D6: 50mm disc (with valve)		F=19.1mm(3/4") TC connector		3: 3 pieces/ package
				3: 0.45µm	S: Gamma sterilized	S1: 180 cm ²		H=12.7mm(1/2") hose barb connector		4: 4 pieces/ package
				5: 0.45/ 0.2 µm		S2: 180cm ² (Valve with a hydro-phobic membrane)"		B=19.1mm(3/4") hose barb connector		6: 6 pieces/ package
				6: 0.2/ 0.1 µm		S3: 300cm ²		O=1/4~1/2" (6.4~12.7mm) Multiple stepped hose barb (Capsule)		X: 10 pieces/ package
				8: 0.65/ 0.2 µm		S4: 300cm ² (Valve with a hydro-phobic membrane)"		N=1/4~1/2" (6.4~12.7mm) Multiple stepped hose barb (Disc)		Y: 50 pieces/ package
				9: 0.65 µm		S5: 550cm ²		L=Luer connector		M: For Assembly
				A: 0.8 µm			02: 2"			
				B: 1.2 µm			04: 4"			
				D: 1.0µm			05: 5"			
				H: 0.45/ 0.1 µm			10: 10"			
				K: 0.8/ 0.2 µm			20: 20"			
				L: 1.2/ 0.2 µm						
				N: 0.65/ 0.45 µm						
				P: 0.8/ 0.45 µm						
				Q: 0.8/ 0.65 µm						
				S: 1.2/ 0.45 µm						
				T: 1.2/ 0.65 µm						
				U: 1.2/ 0.8 µm						

*Connector and dimension matching instructions: F, O (D5-4 inches); B (20)

**Package specifications and dimension matching instructions, pieces/package: D2 (50), D5(10), S1-S4(6), S5/02(4), 04(3), 05/10/20(1)

***Add '-P' to the end of the part number for Super Folding

Connector type of Capsules

Size VS Connector	N	O	H	F	T	B
	1/4"-1/2" Hose Barb	1/4"-1/2" Hose Barb	1/2"(12.7mm) Hose Barb	3/4"(19.1mm) TC25	3/2"(38.1mm) TC50	3/4"(12.7mm) Hose Barb
S1/S2	n.a.	●	n.a.	●	n.a.	n.a.
S3/S4	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.	●	●

LeSiever® Capsule filter

Filter Size	Package Information
D6	6/PK
D6 (without filling bell)	4/PK
S1/S2	6/PK
S1/S2 (without filling bell)	4/PK
S3/S4	4/PK
S3/S4 (without filling bell)	4/PK
S5	4/PK
S5 (without filling bell)	4/PK
2"	4/PK
2" (without filling bell)	3/PK
4"	3/PK
5"	1/PK
10"-P	1/PK
20"-P	1/PK

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