

Alisafe® TCHF Sterilizing-Grade Hydrophobic PTFE Gas Filter

Hydrophobic Polytetrafluoroethylene (PTFE)

Sterilizing-grade gas filters

Non-aqueous liquid filtration



Product Introduction

The Alioth Alisafe® TCHF Series utilizes a hydrophobic and chemically inert PTFE (polytetrafluoroethylene) membrane. Through rigorous liquid bacteria retention validation, this product effectively retains microorganisms and particles in wet or humid gas streams. Engineered for high strength, it withstands multiple steam-in-place (SIP) sterilization cycles. The TCHF Series is ideal for sterile gas filtration and the filtration of organic solvents with stringent quality requirements in pharmaceutical applications.

Key Features and Benefits

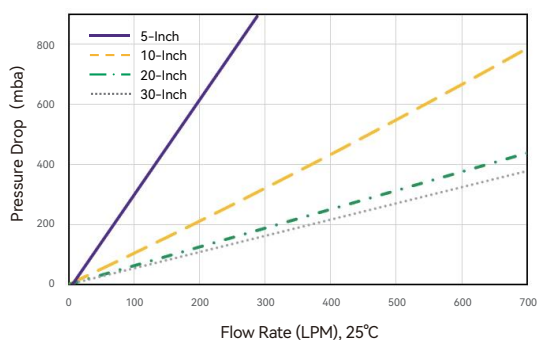
- Natural hydrophobic material
- High gas flux and low-pressure drop
- Reliable bacterial/particles removal efficiency
- Excellent chemical compatibility
- Resistance to multiple steam sterilization

Typical Applications

- Bioreactors (inlet | outlet)
- Storage tank venting
- Filling equipment venting
- Lyophilizer
- Autoclave venting
- Sterile filtration of organic solvents

Typical Flow Characteristics

Air Flow Rate and Pressure Drop–Alisafe® TCHF 0.2 μ m Cartridge Filters



Alipore® TCHF Sterilizing-Grade Hydrophobic PTFE Gas Filter

⊕ Product Specifications - Alicap® Capsule Filters

		L300	L600	L02	L04	L3	L5	L10	L20	L30	T10	T20	T30
Product Specifications	Body Diameter	67 mm	67 mm	72 mm	72 mm	97 mm	92 mm	92 mm	92 mm	92 mm	92 mm	92 mm	92 mm
	Maximum Width	75 mm	75 mm	97 mm	97 mm	128 mm	132 mm	132 mm	132 mm	132 mm	132 mm	132 mm	132 mm
	Maximum Length	98.5 mm	120 mm	161 mm	214 mm	170 mm	211 mm	330 mm	575 mm	830 mm	350 mm	596 mm	851 mm
Materials of Construction	Membrane	Polytetrafluoroethylene (PTFE)											
	Supporting Layer	Polypropylene (PP)											
	O-rings	Silicone											
	Core/Cage/End caps/Housing	Polypropylene (PP)											
Integrity Testing	Bubble Point	≥1300 mbar (18.9 psi) (wetted with 60% IPA, 20°C, compressed air)											
	Diffusion Flow(mL/min)	Test pressure 1040 mbar (15 psi) (wetted with 60% IPA, 20°C, compressed air)											
		≤ 0.75	≤ 1.5	≤ 3	≤ 4	≤ 4.5	≤ 6.5	≤ 13	≤ 26	≤ 39	≤ 13	≤ 26	≤ 39
	Water Intrusion(mL/min)	Test pressure 2500 mbar (36 psi) (20°C, compressed air)											
		≤ 0.03	≤ 0.05	≤ 0.1	≤ 0.15	≤ 0.17	≤ 0.25	≤ 0.5	≤ 1	≤ 1.5	≤ 0.5	≤ 1	≤ 1.5
Working Characteristics	Maximum Differential Pressure	Forward: 5.5 bar (79.8 psi) @ 25°C/3.0 bar (43.5 psi) @ 80°C Reverse: 4.0 bar (58.0 psi) @ 25°C/1.0 bar (14.5 psi) @ 80°C											
	Sterilization Resistance	Alicap® L300/L600/L02/L04/L3: Autoclave(A): 135°C, 30 min, 30 cycles *Capsule filters can't be sterilized by SIP, sterile type capsule filters can't be sterilized again						Alicap® L5/L10/L20/L30/T10/T20/T30: Autoclave(A): 135°C, 30 min, 50 cycles *Capsule filters can't be sterilized by SIP, sterile type capsule filters can't be sterilized again					
	Effective Filtration Area	260 cm ²	480 cm ²	0.1 m ²	0.2 m ²	0.22 m ²	0.33 m ²	0.65 m ²	1.3 m ²	1.95 m ²	0.65 m ²	1.3 m ²	1.95 m ²
	Pore Size	0.2 µm											
	Bacterial Retention	>10 ⁷ cfu/cm ² B. <i>diminuta</i> (ATCC® 19146™)											
	Biological Safety	All construction components meet the biological safety requirements referring to USP<88> Class VI plastic and USP<87>											
	Indirect Food Additive	All component materials meet the requirements of Indirect Food Additive cited in EU 1935/2004/EC and FDA 21 CFR 177-182											
	Cleanliness	Meets the requirements for a 'non-fiber releasing' filter defined in FDA 21 CFR 211.72 and 210.3 (b) (5) (6), and particulate matter meets the requirements of USP<788>											
	Endotoxin	Endotoxin<0.25 EU/mL by LAL test method, which complies with the requirements of USP<85>											
	Manufacturing Integrity	100% integrity test passed											
	Manufacturing Environment	Manufactured in conformance with cGMP											

⊕ Ordering Information

Format	Membrane material	Membrane series	Pore size	Length	Capsule connector
K=L-type Capsule T=T-type Capsule	T=PTFE	C=C series	02=0.2 µm	S2: Alicap® L300 S3: Alicap® L600 M1: Alicap® L02 M3: Alicap® L04 L3: Alicap® L3 5: Alicap® L5 1: Alicap® L10 2: Alicap® L20 3: Alicap® L30	T1: 38 mm(1 1/2") Sanitary flange inlet and outlet T3: 19 mm(3/4") Sanitary flange inlet and outlet B4: 13 mm(1/2") Single-stage hose inlet and outlet B5: 9.6 mm(3/8") Multistage hose inlet and outlet B6: 7-13 mm(1/4"-1/2") Hose barb inlet and outlet B7: 6 mm(1/4") Multistage hose inlet and outlet
O-ring	Package	Sterilization			
S = Silicone	1=1/PK	A=Autoclavable			

• Connector:

Alicap® L300/L600, available with B6 Connector; Alicap® L02/L04, available with T1, T3, B5, B7 Connector; Alicap® L3/L5/L10/L20/L30, available with B4, T1 Connector; Alicap® T10/T20/T30, available with T1 Connector.

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⊕ Product Specifications - Cartridge Filters

Product Specifications		5inch	10inch	20inch	30inch
	Diameter	69 mm	69 mm	69 mm	69 mm
	Maximum Length	155 mm	318 mm	566 mm	813 mm
Materials of Construction	Membrane	Polytetrafluoroethylene (PTFE)			
	Supporting Layer	Polypropylene (PP)			
	O-rings	Silicone, Ethylene propylene diene monomer (EPDM), FEP/PFA encapsulated O-rings			
	Core/Cage/End caps/Adaptor	Polypropylene (PP)			
Integrity Testing	Bubble Point	≥1300 mbar (19 psi) (wetted with 60% IPA, 20°C, compressed air)			
	Diffusion Flow	Test pressure 1040 mbar (15 psi) (wetted with 60% IPA, 20°C, compressed air)			
		≤6.5 mL/min	≤13 mL/min	≤26 mL/min	≤39 mL/min
	Water Intrusion	Test pressure 2500 mbar (36 psi) (20°C, compressed air)			
		≤0.25 mL/min	≤0.5 mL/min	≤1.0 mL/min	≤1.5 mL/min
Working Characteristics	Maximum Differential Pressure	Forward: 7.0 bar (101.5 psi) @ 25°C/3.0 bar (43.5 psi) @ 80°C			
		Reverse: 4.0 bar (58.0 psi) @ 25°C/1.0 bar (14.5 psi) @ 80°C			
	Sterilization Resistance	Steam-In-Place at 142°C for 30 min, 150 cycles (100 forward cycles plus 50 reverse cycles)			
		Autoclave at 135°C for 30 min, 200 cycles			
	Effective Filtration Area	0.33 m ²	0.65 m ²	1.30 m ²	1.95 m ²
	Pore Size	0.2 µm			
	Bacterial Retention	>10 ⁷ cfu/cm ² <i>B. diminuta</i> (ATCC® 19146™)			
	Biological Safety	All construction components meet the biological safety requirements referring to USP<88> Class VI plastic and USP<87>			
	Indirect Food Additive	All component materials meet the requirements of Indirect Food Additive cited in EU 1935/2004/EC and FDA 21 CFR 177-182			
	Cleanliness	Meets the requirements for a 'non-fiber releasing' filter defined in FDA 21 CFR 211.72 and 210.3 (b) (5) (6), and particulate matter meets the requirements of USP<788>			
	Endotoxin	Endotoxin<0.25 EU/mL by LAL test method, which complies with the requirements of USP<85>			
	Manufacturing Integrity	100% integrity test passed			
	Manufacturing Environment	Manufactured in conformance with cGMP			

⊕ Ordering Information

Format	Membrane material	Membrane series	Pore size	Length	Cartridge adaptor
C=Cartridge	T=PTFE	C=C series	02=0.2 µm	5=5 inch 1=10 inch 2=20 inch 3=30 inch	7=226, Spearhead with fins 2=226, Flat end with fins(5 inch)
O-ring	Package				
S=Silicone T=EPDM B=FEP/PFA encapsulated O-rings	1=1/PK 3=3/PK(20&30 inch)				