Industrial filtration

Liqui-Cel EXF 10×28 membrane contactors

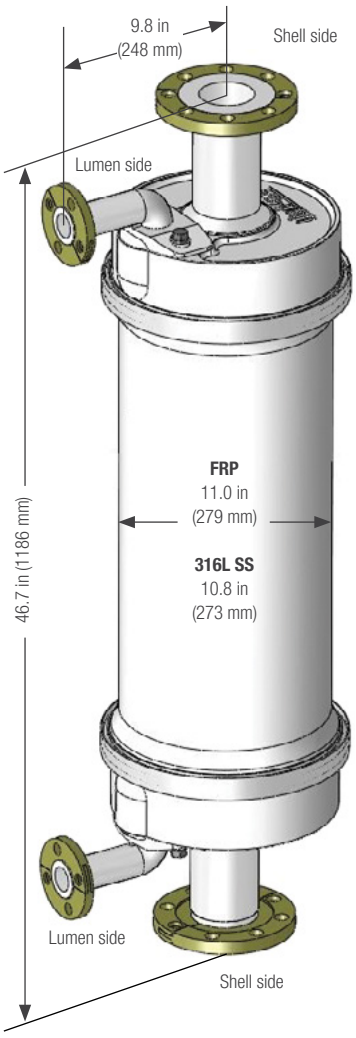
Thermo Scientific™ Liqui-Cel™ Membrane Contactors provide high-performance dissolved gas control in a compact design. Utilizing hollow fiber membrane technology, Thermo Scientific membrane contactors remove dissolved gases from or add gases to compatible liquid streams in-line and without chemicals to help facilities around the world improve operating efficiency and protect product quality in many industrial processes.

Typical properties

Membrane characteristics						
Cartridge configuration	Extra-flow with center baffle					
Liquid flow guidelines	44 - 250 gpm (10 - 57 m^3/hr)					
Membrane/potting material	Polypropylene/epoxy					
Membrane type	X50 fiber			X40 fiber		
	Recommended for CO_2 removal from compatible liquid streams			Recommended for O_2 removal from compatible liquid streams		
Priming volume (approximate)	FRP Housing		316 SS Sanitary		316 SS ANSI/JIS	
	X50 fiber	X40 fiber	X50 fiber	X40 fiber	X50 fiber	X40 fiber
Shell side	6.9 gal (26.1 L)	7.0 gal (26.3 L)	6.42 gal (24.3 L)	6.47 gal (24.5 L)	6.58 gal (24.9 L)	6.76 gal (25.6 L)
Lumen side	2.8 gal (10.6 L)	2.5 gal (9.5 L)	1.98 gal (7.5 L)	1.69 gal (6.4 L)	2.64 gal (10.0 L)	2.51 gal (9.5 L)
Operating parameters						
Pressure guidelines*	FRP Housing		316 SS Housing			
	X50 fiber	X40 fiber	Sanitary flange X50 fiber	Sanitary flange X40 fiber	ANSI/JIS flange X50 fiber	ANSI/JIS flange X40 fiber
Maximum shell side LIQUID operating temperature/pressure						
41 - 77°F (5 - 25°C)	105 psig (7.2 barg)	135 psig (9.3 barg)	105 psig (7.2 barg)	135 psig (9.3 barg)	105 psig (7.2 barg)	135 psig (9.3 barg)
122°F (50°C)	78 psig (5.4 barg)	78 psig (5.4 barg)	105 psig (7.2 barg)	105 psig (7.2 barg)	105 psig (7.2 barg)	105 psig (7.2 barg)
158°F (70°C)	30 psig (2.1 barg)	30 psig (2.1 barg)	30 psig (2.1 barg)	30 psig (2.1 barg)	30 psig (2.1 barg)	30 psig (2.1 barg)
Maximum lumen side GAS operating temperature/pressure						
77°F (25°C)	78 psig (5.4 barg)		90 psig (6.2 barg)		81 psig (5.6 barg)	

*Note: Liquid pressure should always exceed gas pressure in operation.

Housing characteristics		
Material	Fiber Reinforced Plastic (FRP) with PVDF for all wetted surfaces and FRP flanges	316L SS Vessel/CF3M SS End Caps ≤ 32RA (0.8µm SI) on schedule 10S pipe per ASTM A312



Note: All dimensions are nominal values for contactors with FRP housing. See product drawings for additional dimensional details.

Not for consumer sale or use.

Typical properties

Flange connections		
Shell side (liquid inlet/outlet)	FRP Housing	316 SS Housing
	• 3-inch class 150 raised face flange per ANSI B16.5 • 80A 10K flat face flange per JIS B2238	• 3-inch class 150 raised face flange per ANSI B16.5 • 80A 10K flat face flange per JIS B2238 • 3-inch sanitary
Lumen side (inlet/outlet)	FRP Housing	316 SS Housing
	• 1-inch class 150 raised face flange per ANSI B16.5 • 50A 10K flat face flange per JIS B2238	• 1-inch class 150 raised face flange per ANSI B16.5 • 25A 10K flat face flange per JIS B2238 • 1.5-inch sanitary

Seal material options for shell side wetted parts
EPDM
FKM only available with FRP housings

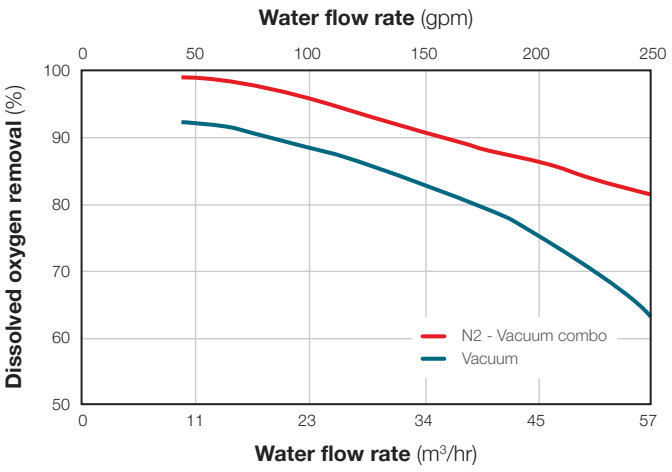
Mounting kit
Contains 2 cradles and 2 straps sold separately and will hold the contactor horizontally or vertically

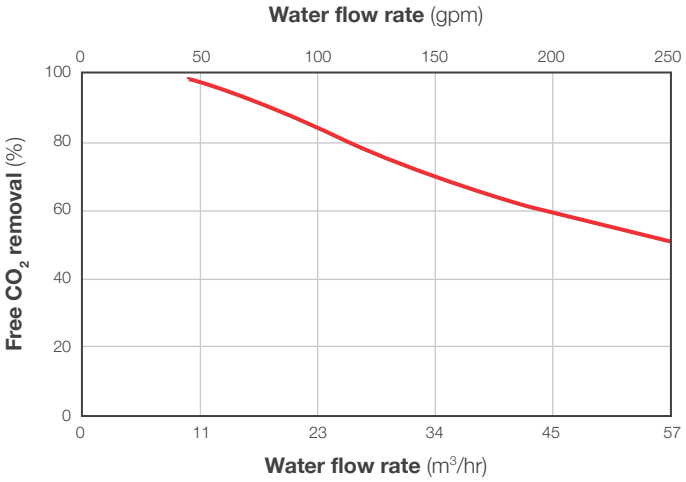
Weight (approximate)			
	FRP housing	Stainless steel housing	
	ANSI/JIS	ANSI/JIS	Sanitary
Dry	73 lbs (33 kg)	151 lbs (69 kg)	111 lbs (50 kg)
Water-filled (shell side)	126 lbs (57 kg)	205 lbs (96 kg)	163 lbs (74 kg)
Cartridge only - Dry	23 lbs (10 kg)	23 lbs (10 kg)	23 lbs (10 kg)

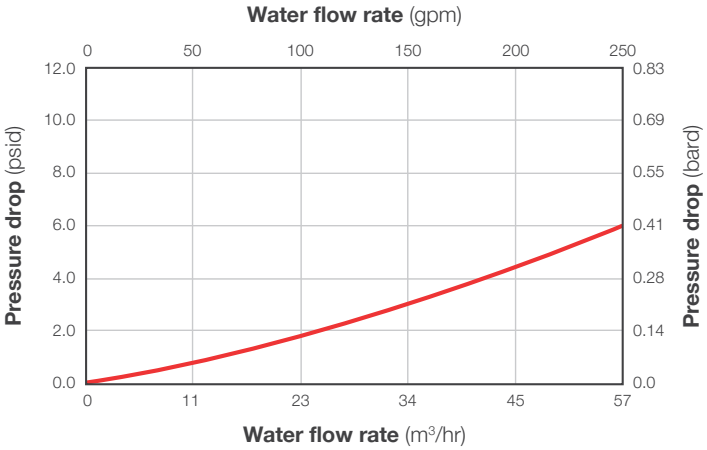
Regulatory
Certain Thermo Scientific™ Liqui-Cel™ EXF 10×28 Membrane Contactor products in stainless steel housings are compliant with US FDA 21 CFR, EU Food Contact Regulation (EC) 1935/2004, EU Regulation 10/2011, Japan MHLW - Food Sanitization Act, and other food contact regulations. Contact your Thermo Fisher Scientific representative for detailed declaration of compliance information for food contact applications.

Not for consumer sale or use.

Typical properties







Notes

- Curves represent nominal values using water at 68ºF (20ºC) for O_2 removal and water at 77ºF (25ºC) for CO_2 removal. Characteristics may change under different operating conditions.
- Test condition O_2 removal with X40 membrane: N_2-vacuum combo mode: 50 mm Hg vacuum, N_2 sweep 0.40 Nm^3/hr (0.25 SCFM).
- Test condition CO_2 removal with X50 membrane: Air-vacuum combo mode: 75 mm Hg vacuum, air sweep 1.6 Nm^3/hr (1 SCFM).
- These charts should not be used to design systems.

Intended Use: Liqui-Cel membrane contactors are intended to remove dissolved gases and bubbles from liquids or to add gases to a liquid stream. Liqui-Cel membrane contactors are for use in industrial separation applications of industrial fluids only, in accordance with the applicable product instructions, specifications, and where materials of construction are compatible. Liqui-Cel membrane contactors may further be used in the production of water for various pharmaceutical products upstream of the final water sterilization step.

Certain Liqui-Cel membrane contactors are compliant for use in Food and Beverage applications. For specific details regarding use or limitations for food contact applications please refer to the Liqui-Cel product's data sheet or contact your Thermo Fisher Scientific Inc. representative for more information.

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