



Liqui-Cel™
Membrane Contactors

LENNTECH
WATER TREATMENT Solutions

3M™ Liqui-Cel™ EXF-6×28 Series Membrane Contactor

Typical Properties

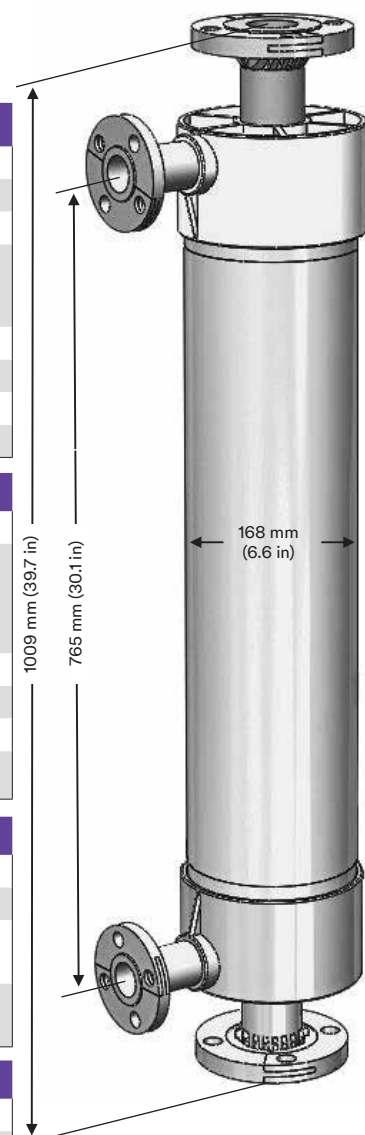
Membrane Characteristics		
Cartridge Configuration	Extra-Flow with Center Baffle	
Liquid Flow Guidelines	1 – 11 m ³ /hr (5 – 50 gpm)	
Membrane Type	X50 Fiber	X40 Fiber
	Recommended for CO ₂ removal from liquid and other gas transfer applications	Recommended for O ₂ removal from liquid and other gas transfer applications
Membrane/Potting Material	Polypropylene/Epoxy	
Priming Volume (approximate)	X50 Fiber	X40 Fiber
Shellside	6.7 L (1.8 gal)	6.7 L (1.8 gal)
Lumenside	2.6 L (0.7 gal)	2.3 L (0.6 gal)

Pressure Guidelines*		
	X50 Fiber	X40 Fiber
Maximum Shellside <u>LIQUID</u> Working Temperature/ Pressure	5-25°C, 7.2 barg (41-77°F, 105 psig) 60°C, 2.1 barg (140°F, 30 psig)	5-25°C 7.2 barg (41-77°F, 105 psig) 70°C, 2.1 barg (158°F, 30 psig)
If no vacuum is used, 1 barg (15 psig) can be added to pressures above.		
Maximum Applied Gas Pressure	4.1 barg at 25°C (60 psig at 77°F)	
Maximum applied gas pressure is for integrity testing at ambient temperatures. Normal operating pressures are typically lower.		
* See Operating Guide for complete temp/pressure limits for housings and membrane.		
Note: Liquid pressure should always exceed gas pressure.		

Housing Options and Characteristics	
Material	ABS
Flange Connections	
Shellside (Wetted surface)	2 inch class 150 raised face flange per ANSI B16.5 50A at 10K flat face flange per JIS B2238
Lumenside	1 inch class 150 raised face flange per ANSI B16.5 25A at 10K flat face flange per JIS B2238

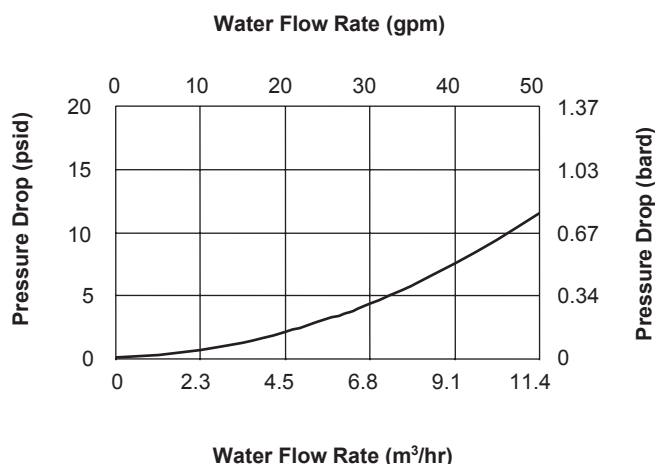
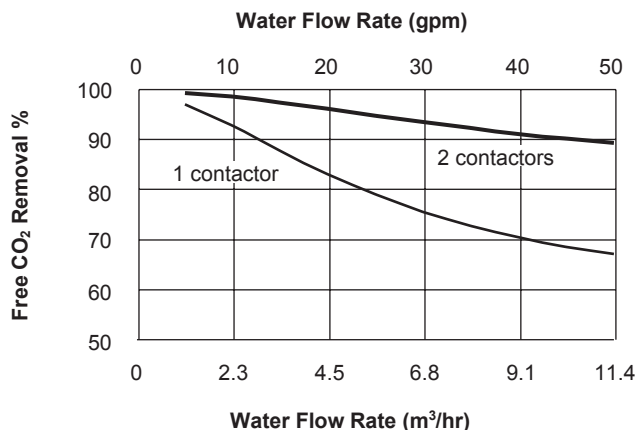
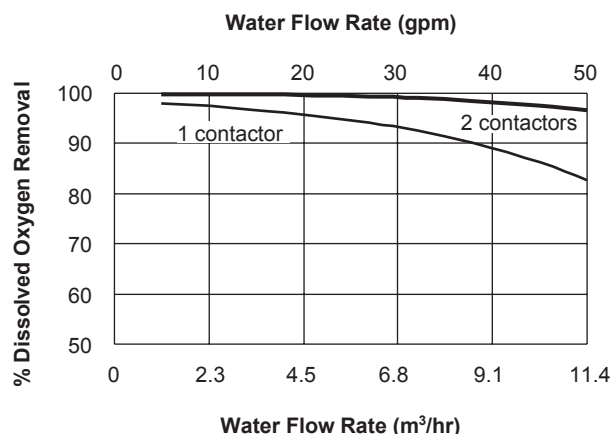
Weight (approximate)	
Dry	10 kg (23 lbs)
Water-filled (shellside)	17 kg (38 lbs)

Regulatory
Complies with the limits as set by RoHS Directive 2011/65/EU Annex II; recasting 2002/95/EC. Constructed of FDA CFR title 21 compliant materials for wetted parts only with non alcoholic liquids at ambient temperatures.



All dimensions are nominal values. See full housing drawing on 3M.com/Liqui-Cel for additional details.

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Curves represent nominal values. Characteristics may change under different operating conditions.

Test condition O₂ Removal with X40 membrane at 20°C (68°F):
N₂ Combo mode, vacuum 75 mm Hg, N₂ sweep: 1.4 L/min (0.05 scfm).

Test condition CO₂ Removal with X50 membrane at 20°C (68°F):
Air Combo mode, air sweep: 0.25 G/L, vacuum: 150 torr

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