

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

## Typical Properties

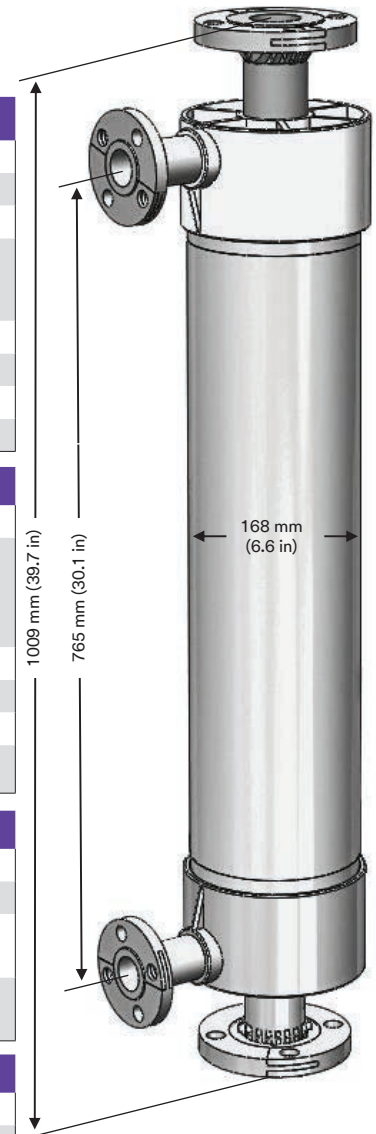
Membrane Characteristics		
Cartridge Configuration	Extra-Flow with Center Baffle	
Liquid Flow Guidelines	1 – 11 m <sup>3</sup> /hr (5 – 50 gpm)	
Membrane Type	X50 Fiber	X40 Fiber
	Recommended for CO <sub>2</sub> removal from liquid and other gas transfer applications	Recommended for O <sub>2</sub> removal 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 LIQUID 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. <b>Note:</b> 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)

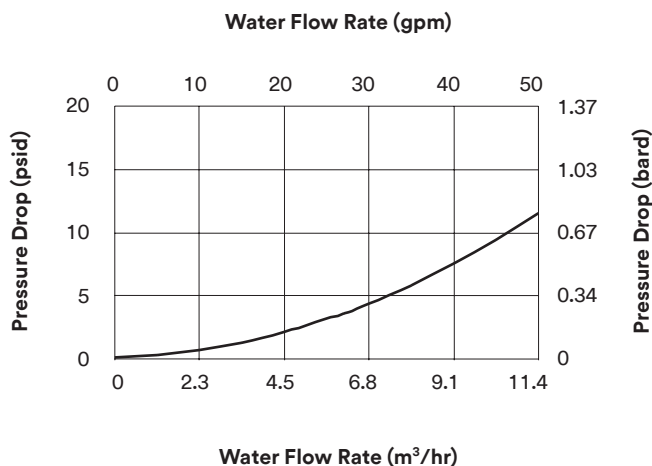
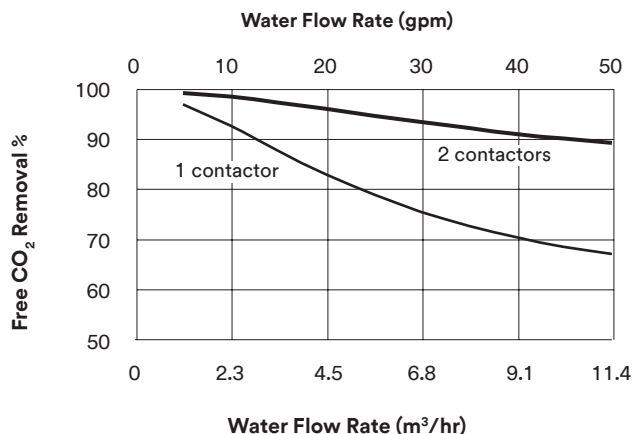
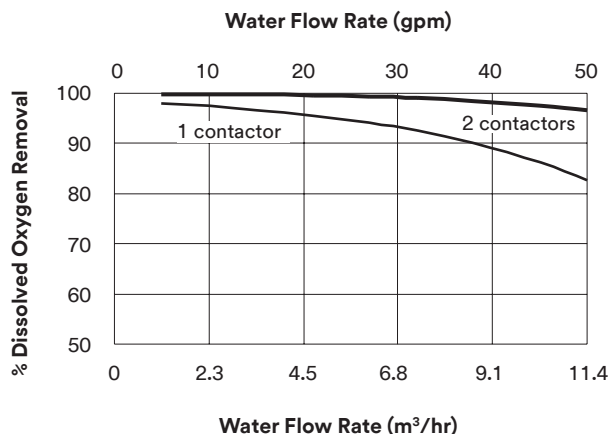
Regulatory	
Complies with the limits as set by (EU) 2015/863 amending Annex II to the Restriction on Hazardous Substances (RoHS) Directive (2011/65/EU). Constructed of FDA Title 21 CFR § 170-190 compliant materials for wetted parts only with non-alcoholic liquids at ambient temperatures.	



All dimensions are nominal values. See full housing drawing on [3M.com/Liqui-Cel](http://3M.com/Liqui-Cel) for additional details.

**Not for consumer sale or use.**

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

Test condition O<sub>2</sub> Removal with X40 membrane at 20°C (68°F):  
N<sub>2</sub> Combo mode, vacuum 75 mm Hg, N<sub>2</sub> sweep: 1.4 L/min (0.05 scfm).

Test condition CO<sub>2</sub> 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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