



3M™ Liqui-Cel™ EXF-2.5×8 Series Membrane Contactor

Typical Properties

Membrane Characteristics	
Cartridge Configuration	Extra-Flow with Center Baffle
Liquid Flow Guidelines	0.1 – 0.7 m ³ /hr (0.5 – 3.0 gpm)
Membrane Type	X50 Fiber Recommended for CO ₂ removal from liquid and other gas transfer applications
	X40 Fiber Recommended for O ₂ removal from liquid and other gas transfer applications
Membrane/Potting Material	Polypropylene / Polyethylene
Priming Volume (approximate)	
Shellside	0.40 L (0.11 gal)
Lumenside	0.15 L (0.04 gal)

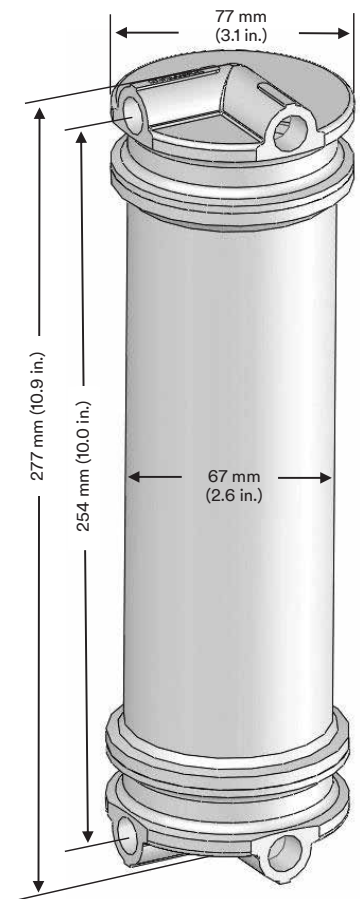
Pressure Guidelines*	
	X50 or X40 Fiber
Maximum Shellside LIQUID Working Temperature/ Pressure	5–40°C, 7.2 barg (41–104°F, 105 psig) 70°C, 2.1 barg (158°F, 30 psig)
If no vacuum is used, 1 barg (15 psig) can be added to pressures above.	
Maximum Applied Gas Pressure	4.8 barg at 25°C (70 psig at 77°F)
Maximum applied gas pressure is for integrity testing at ambient temperatures. Normal operating pressures are typically lower.	
Maximum Lumenside Liquid Temperature/Pressure of Semibody Contactor	5°C, 6.2 barg (41°F, 90 psig) 15–25°C, 4.8 barg (59–77°F, 70 psig) 70°C, 1.0 barg (158°F, 15 psig)
* See Operating Guide for complete temp/pressure limits for housings and membrane. Note: Liquid pressure should always exceed gas pressure, including during start-up and shut-down procedures.	

Housing Options and Characteristics	
Material	Polypropylene
Flange Connections	
Shellside (Liquid Inlet/Outlet)	¼ inch NPT female ⅜ inch Flaretek® (nut included) ½ inch Flaretek® (nut included)
Lumenside	¼ inch NPT female

Seal Material Options	Applications
K - UPW	Ultra Pure Water
Viton	General Purpose
K - EXT	Chemical Extraction (Clamped version only)

Weight (approximate)	
Dry	0.5 kg (1.1 lbs)
Water-filled (shellside)	0.9 kg (2.0 lbs)

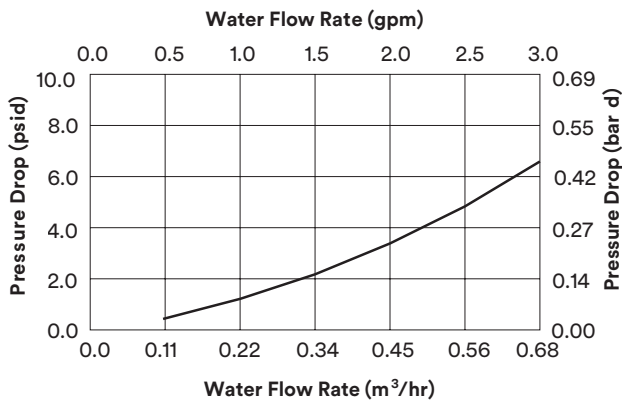
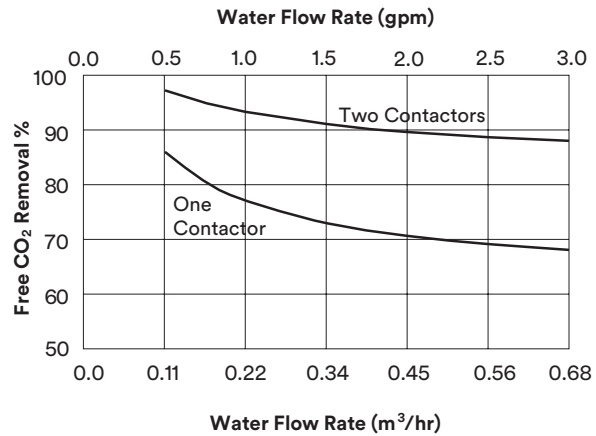
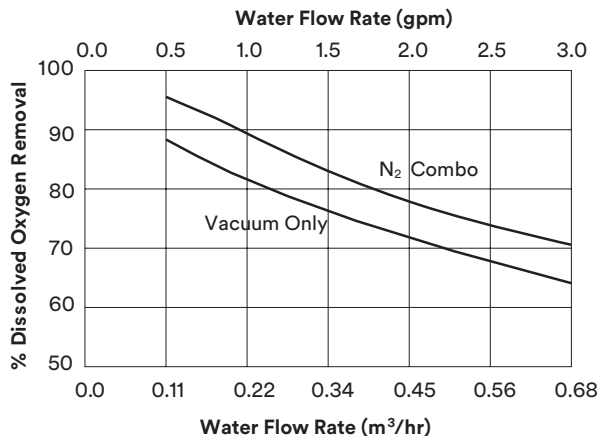
Regulatory
Complies with the limits as set by RoHS Directive 2011/65/EU Annex II; recasting 2002/95/EC. Constructed of FDA CFR title 21 compliant materials for wetted parts only at ambient temperatures.



Clamp-free version with NPT connections

All dimensions are nominal values for contactors with NPT connections. Overall length with Flaretek® connections increases. See full housing drawing on 3M.com/Liqui-Cel for additional details.

3M™ Liqui-Cel™ EXF-2.5×8 Series Membrane Contactor



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

Test condition O₂ Removal with X40 membrane 20°C: N₂ vacuum combo mode, N₂ sweep flow rate: 0.05 scfm and 50 mm Hg vacuum
 Vacuum mode: 50 mm Hg

Test condition CO₂ Removal with X50 membranes 25°C: Air-combo, vacuum 150 mm Hg, air sweep G/L 0.5.

Pressure drop curves using NPT connection. Flaretek® connection will have lower pressure drop.

Technical Information: The technical information, recommendations and other statements contained in this document are based upon tests or experience that 3M believes are reliable, but the accuracy or completeness of such information is not guaranteed.

Product Use: Many factors beyond 3M's control and uniquely within user's knowledge and control can affect the use and performance of a 3M product in a particular application. Given the variety of factors that can affect the use and performance of a 3M product, user is solely responsible for evaluating the 3M product and determining whether it is fit for a particular purpose and suitable for user's method of application.

Warranty, Limited Remedy, and Disclaimer: Unless an additional warranty is specifically stated on the applicable 3M product packaging or product literature, 3M warrants that each 3M product meets the applicable 3M product specification at the time 3M ships the product. 3M MAKES NO OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY IMPLIED WARRANTY OR CONDITION ARISING OUT OF A COURSE OF DEALING, CUSTOM OR USAGE OF TRADE. If the 3M product does not conform to this warranty, then the sole and exclusive remedy is, at 3M's option, replacement of the 3M product or refund of the purchase price.

Limitation of Liability: Except where prohibited by law, 3M will not be liable for any loss or damage arising from the 3M product, whether direct, indirect, special, incidental or consequential, regardless of the legal theory asserted, including warranty, contract, negligence or strict liability.

3M and Liqui-Cel are trademarks of 3M Company. All other trademarks are the property of their respective owners. © 2017 3M Company. All rights reserved.



ISO 9001



LENNTECH

info@lennotech.com Tel. +31-152-610-900
 www.lennotech.com Fax. +31-152-616-289

LC-1043
 Rev. 01/2017