



# 3M™ Liqui-Cel™ EXF-8×80 Series Membrane Contactor

## Typical Properties

Membrane Characteristics	
Cartridge Configuration	Extra-Flow with Center Baffle
Liquid Flow Guidelines	7 – 28 m <sup>3</sup> /hr (30 – 125 gpm)
Membrane Type	<b>X40 Fiber</b>
	Recommended for high pressure O <sub>2</sub> removal and other gas transfer applications
Membrane/Potting Material	Polypropylene / Epoxy
Priming Volume (approximate)	
Shellside	30.3 L (8.0 gal)
Lumenside	19.7 L (5.2 gal)

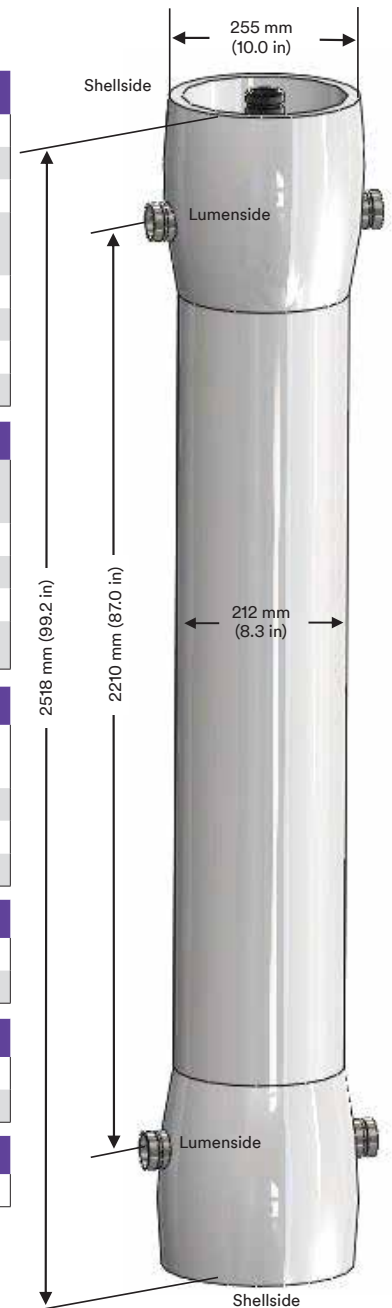
Pressure Guidelines*	
Maximum Shellside LIQUID Working Temperature/ Pressure	5-25°C, 19.7 barg (41-86°F, 285 psig) 60°C, 12.0 barg (140°F, 175 psig)
If no vacuum is used, 1.0 barg (15 psig) can be added to pressures above.	
Maximum Applied Gas Pressure	2.1 barg at 25°C (30 psig at 77°F)
Maximum applied 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 Characteristics	
Material	Fiber Reinforced Plastic (FRP) FRP Vessel Code-rated to ASME BPVC Section X
Connections	
Shellside (Liquid Inlet/Outlet)	1.5 Inch Grooved pipe fitting
Lumenside	1.5 Inch Grooved pipe fitting

Seal Options	
Material	Applications
EPDM	All Purpose

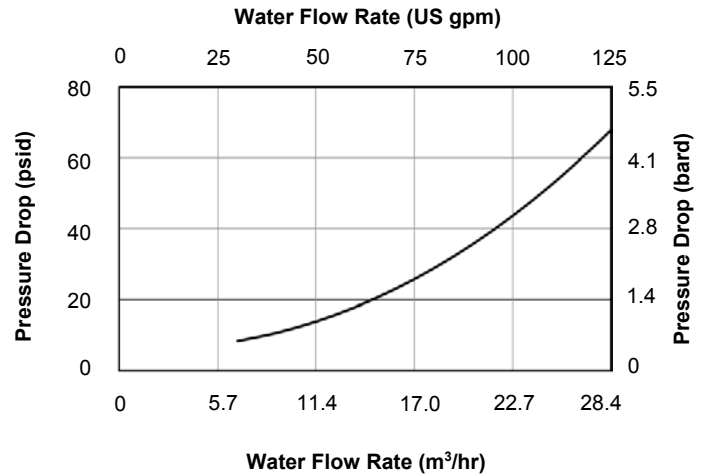
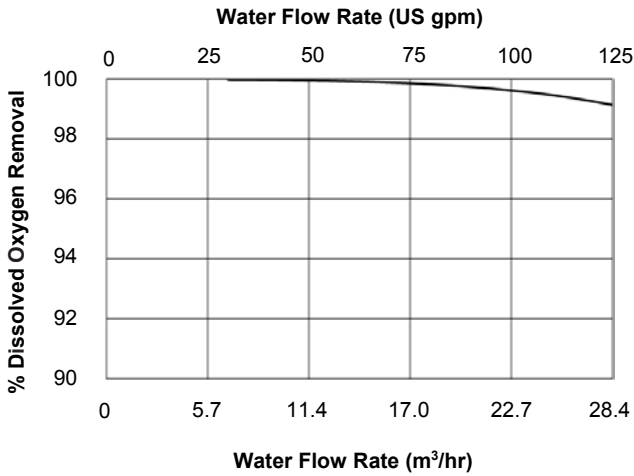
Weight (approximate)	
Dry	52 kg (115 lbs)
Water-filled (shellside)	89 kg (196 lbs)

Regulatory	
Complies with the limits as set by RoHS Directive 2011/65/EU Annex II; recasting 2002/95/EC.	



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

# 3M™ Liqui-Cel™ EXF-8×80 Series Membrane Contactor



Curves represent nominal values with FRP vessel using water at 20° C. Characteristics may change under different operating conditions.

Test condition O<sub>2</sub> Removal with X40 membrane: N<sub>2</sub>-vacuum combo mode, vacuum: 50 mm Hg N<sub>2</sub> sweep: 0.5 SCFM.

**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



**Separation and Purification Sciences Division**  
13840 South Lakes Drive  
Charlotte, North Carolina  
28273 USA  
Phone: +1 980 859 5400

**3M Deutschland GmbH**  
**Separation and Purification Sciences Division**  
Öhder Straße 28  
42289 Wuppertal Germany  
Phone: +49 202 6099 - 0  
Fax: +49 202 6099 - 241

LC-1038  
Rev. 01/2017

[3M.com/Liqui-Cel](http://3M.com/Liqui-Cel)