Liqui-Cel™ Membrane Contactors

# 3M™ Liqui-Cel™ EXF-8×40 Series Membrane Contactor

## Typical Properties

| Membrane Characteristics | |
|---|---|
| **Cartridge Configuration** | Extra-Flow with Center Baffle |
| **Liquid Flow Guidelines** | 7 – 28 $m^3$/hr (30 – 125 gpm) |
| **Membrane Type** | **X40 Fiber** |
| | Recommended for high pressure $O_2$ removal and other gas transfer applications |
| **Membrane/Potting Material** | Polypropylene / Epoxy |
| **Priming Volume** (approximate) | |
| **Shellside** | 15.4 L (4.1 gal) |
| **Lumenside** | 13.6 L (3.6 gal) |

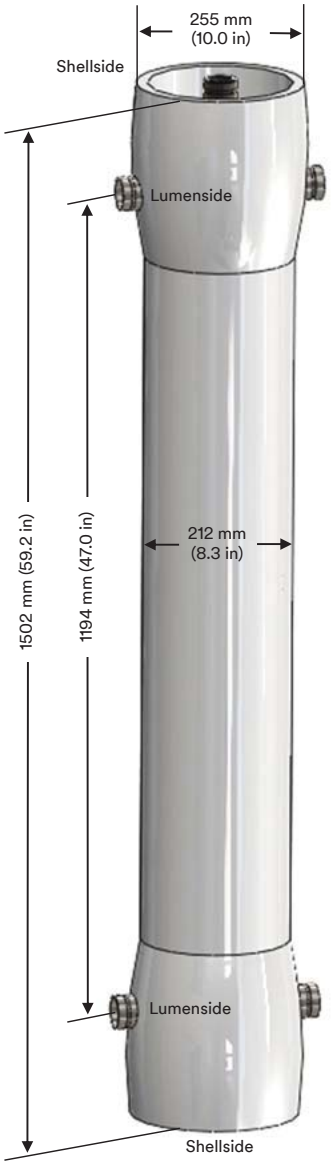
| Pressure Guidelines* | |
|---|---|
| **Maximum Shellside LIQUID Working Temperature/ Pressure** | 5-25°C, 19.7 barg (41-86°F, 285 psig)<br>60°C, 12.0 barg (140°F, 175 psig)<br>85°C, 1 barg (185°F, 15 psig) |
| If no vacuum is used, 1.0 barg (15 psig) can be added to pressures above. | |
| **Maximum 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.<br>**Note:** Liquid pressure should always exceed gas pressure. | |

| Housing Characteristics | |
|---|---|
| **Material** | Fiber Reinforced Plastic (FRP)<br>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** | 35 kg (78 lbs) |
| **Water-filled** (shellside) | 50 kg (110 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 for additional details.**

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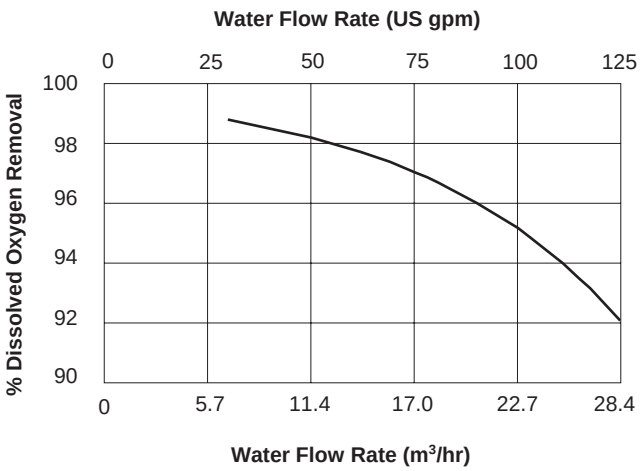


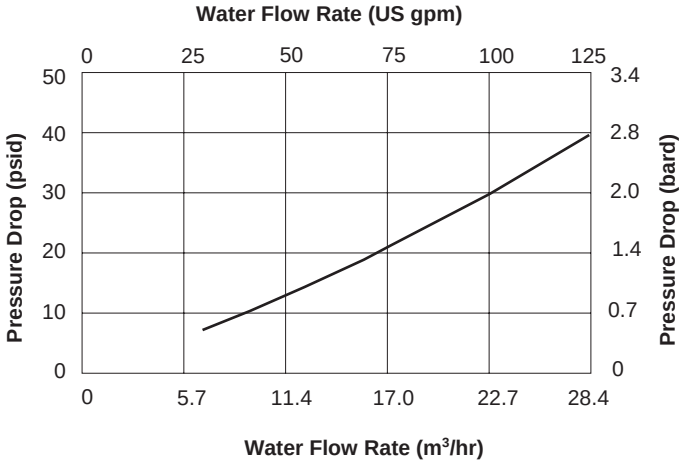


Curves represent nominal values with FRP housing using water at 20˚C. Characteristics may change under different operating conditions.

Test condition $O_2$ Removal with X40 membrane: $N_2$-vacuum combo mode, vacuum: 50 mm Hg $N_2$ sweep: 0.5 SCFM.

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