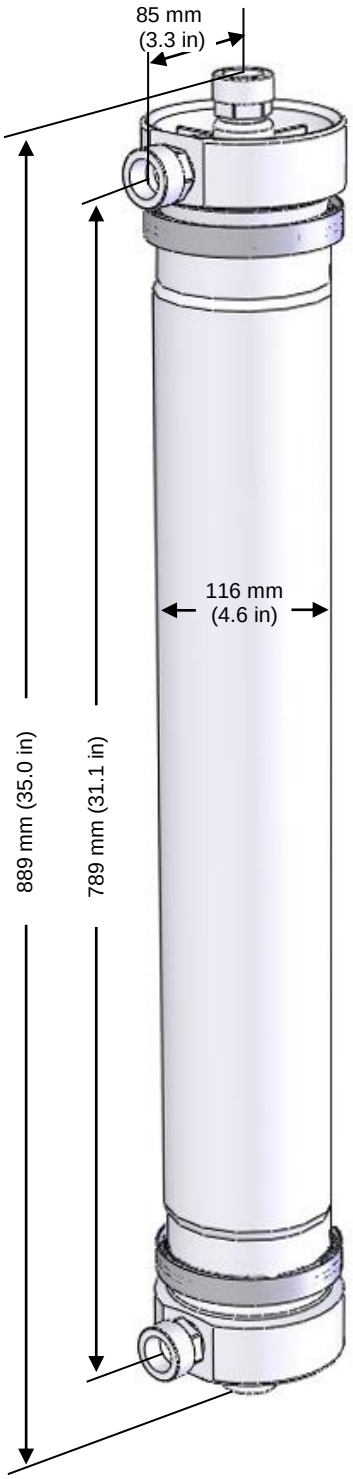
4 x 28 EXTRA-FLOW PRODUCT DATA SHEET



Membrane Characteristics		
Cartridge Configuration	Extra-Flow with Center Baffle	
Liquid Flow Guidelines	0.9 – 6.8 m^3/hr (4 – 30 gpm)	
Membrane Type	**X50**	**X40**
	Recommended for CO_2 removal from water	Recommended for all other gas transfer applications
Membrane / Potting Material	Polypropylene / Polyethylene	
Typical Membrane Surface Area	20 m^2 (215 ft^2)	
Priming Volume (approximate)		
Shellside X40 or X50	4.2 L (1.1 gal) PP housing, 3.0 L (0.8 gal) SS housing	
Lumenside X50	1.3 L (0.4 gal) PP housing, 1.0 L (0.3 gal) SS housing	
Lumenside X40	1.1 L (0.3 gal) PP housing, 0.9 L (0.2 gal) SS housing	

Pressure Guidelines*			
	PP X50 or X40	**316L SS X50**	**316L SS X40**
Maximum Shellside <u>LIQUID</u> Working Temperature/ Pressure	5-30° C, 7.2 barg (41-86° F, 105 psig) 40° C, 5.2 barg (104° F, 75 psig)	5-50° C, 7.2 barg (41-122° F, 105 psig) 70° C, 2.1 barg (158° F, 30 psig)	5-50° C, 9.3 barg (41-122° F, 135 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)	6.2 barg at 25° C (90 psig at 77° F)	
Max 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	Polypropylene	316L SS Surface Finish: ≤ 0.8µm SI (32 RA).
Flange Connection		
Shellside (Liquid Inlet/Outlet)	• 1 inch Sanitary • ¾ inch NPT Female • 1 inch George Fisher • Rc ¾ per JIS B0203	• 1 inch Sanitary
Lumenside (gas/vacuum)	• 1 inch 90° Sanitary • ¾ inch 90° NPT Female • Rc ¾ per JIS B0203	• 1 inch Sanitary

Seal Options	
Material	**Applications**
Viton	General Purpose
K - UPW	Ultra Pure Water
K - EXT	Chemical Extraction
Buna-N	Beverage

Weight (approximate)	**PP**	**316L SS**
Dry (cartridge and housing)	4 kg (9 lbs)	7 kg (15 lbs)
Liquid Full (shellside)	7 kg (15 lbs)	10 kg (21 lbs)
Cartridge only – dry	X50: 1 kg (2 lbs) X40: 1 kg (3 lbs)	
Shipping Weight	Additional 1 kg (2 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.

Note: *All dimensions are nominal values.*

Liqui-Cel®
MEMBRANE CONTACTORS

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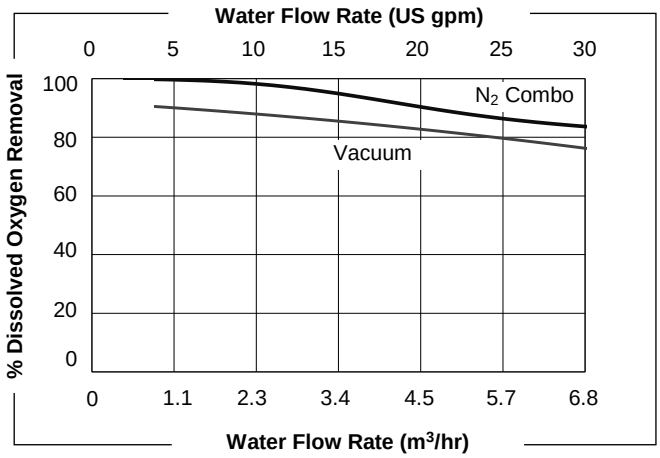

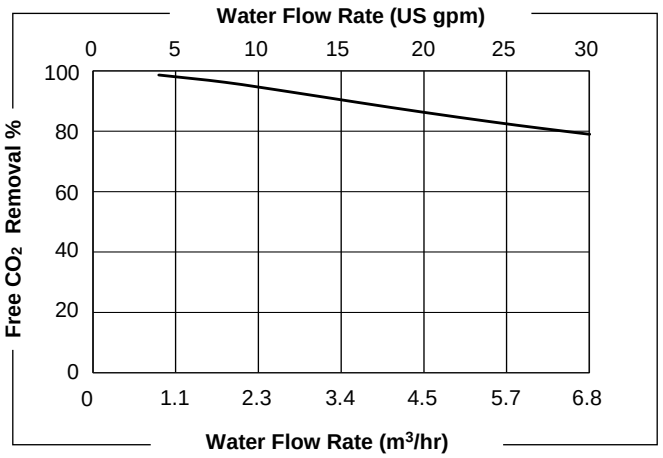

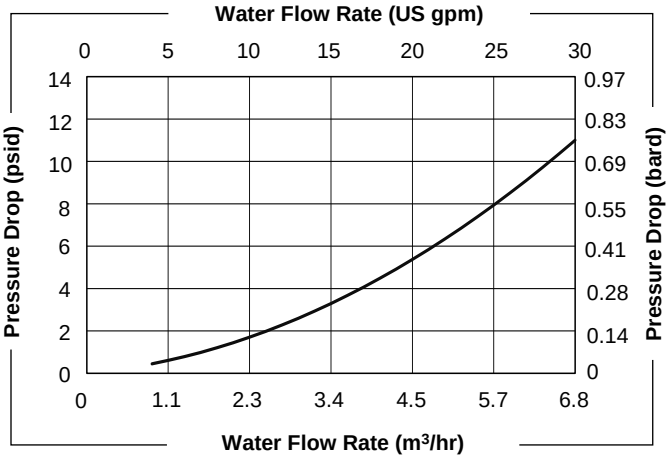

Curves represent nominal values. Characteristics may change under different operating conditions.

Test condition O_2 Removal with X40 membrane 20°C (68°F): N_2-vacuum combo mode, vacuum: 50 mm Hg N2 sweep flow 1.4 L/min (0.05 scfm). Vacuum mode: 50 mm Hg.

Test condition CO_2 Removal with X50 membrane 20°C (68°F): Air-vacuum combo mode, air sweep: 4 G/L, vacuum: 150 mm Hg.

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3M

Industrial Business Group
Membranes Business Unit
13840 South Lakes Drive
Charlotte, North Carolina 28273
USA

Phone: +1 704 587 8888
Fax: +1 704 587 8610

3M Deutschland GmbH
Membranes Business Unit
Öhder Straße 28
42289 Wuppertal
Germany

Phone: +49 202 6099 - 658
Fax: +49 202 6099 - 750

3M Japan Ltd.
Membranes Business Unit
6-7-29, Kita-Shinagawa,
Shinagawa-ku, Tokyo | 141-8684
Japan

Phone: +81 3 6409 5732
Fax: +81 3 6409 5827

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