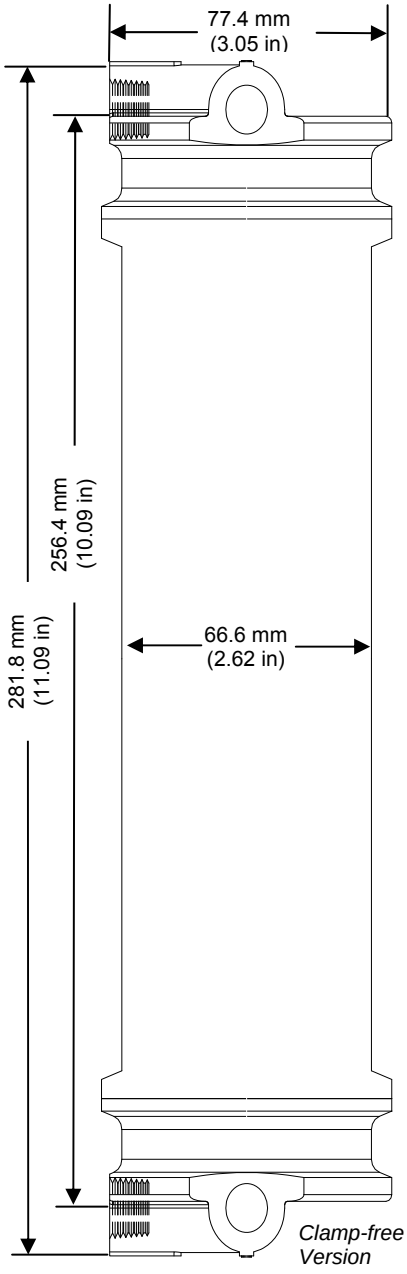
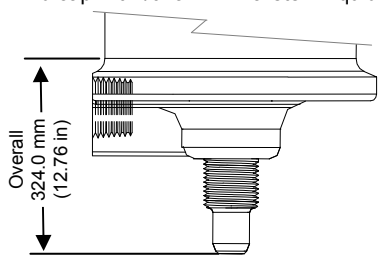
2.5 x 8 EXTRA-FLOW PRODUCT DATA SHEET



Below: End cap with ⅜" or ½ " Flaretek® liquid ports



Membrane Characteristics		
Cartridge Configuration	Extra-Flow with Center Baffle	
Liquid Flow Guidelines	0.1 – 0.7 m^3/hr (0.5 – 3 gpm)	
Membrane Type	**X50 Fiber**	**X40 Fiber**
	Recommended for CO_2 removal from liquid and other gas transfer applications	Recommended for O_2 removal from liquid and other gas transfer applications
Membrane/Potting Material	Polypropylene / Polyethylene	
Typical Membrane Surface Area	1.4 m^2 (15.1 ft^2)	
Priming Volume (approximate)		
Shellside	0.40 liters (0.11 gal.)	
Lumenside	0.15 liters (0.04 gal.)	

Pressure Guidelines*	
	X50 or X40 Fiber
Maximum Shellside <u>LIQUID</u> Working Temperature/ Pressure	5-40° C, 7.2 bar (41-104° F, 105 psig) 70° C, 2.1 bar (158° F, 30 psig)
If no vacuum is used, 1.05 bar (15 psig) can be added to pressures above.	
Maximum Applied Gas Pressure	4.8 bar (70 psig)
Max 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 bar (41° F, 90 psig) 15-25° C, 4.8 bar (59-77° F, 70 psig) 70° C, 1.0 bar (158° F, 15 psig)
*Pressures are based on non-dangerous liquids and gasses per the European Union Pressure Equipment Directive /97/23/EC. See Operating Guide for pressure limits in the European Union with dangerous liquids and gasses. Also, 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
Flange Connections	
Shellside (Liquid Inlet/Outlet)	• ¼ inch NPT female • ⅜ inch Flaretek® (nut included) • ½ inch Flaretek® (nut included)
Note: Overall length with Flaretek connections increases. See website for all housing drawings.	
Lumenside	• ¼ inch NPT female

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

Weight	
Dry	0.5 kg. (1.1 lbs.)
Liquid full (shellside)	0.9 kg. (2 lbs.)
Shipping weight	1.2 kg. (2.4 lbs.)

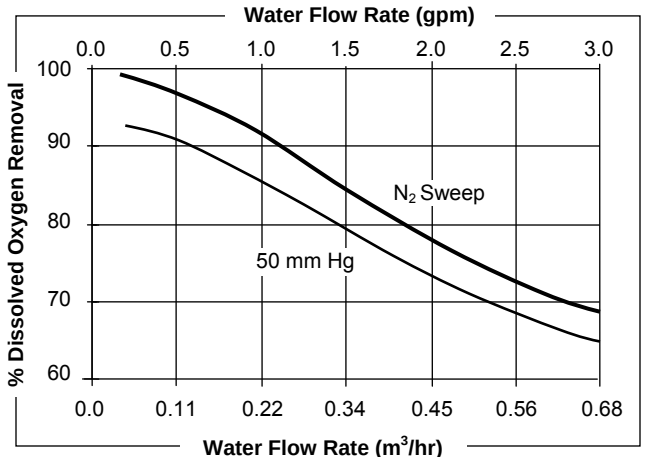
Regulatory

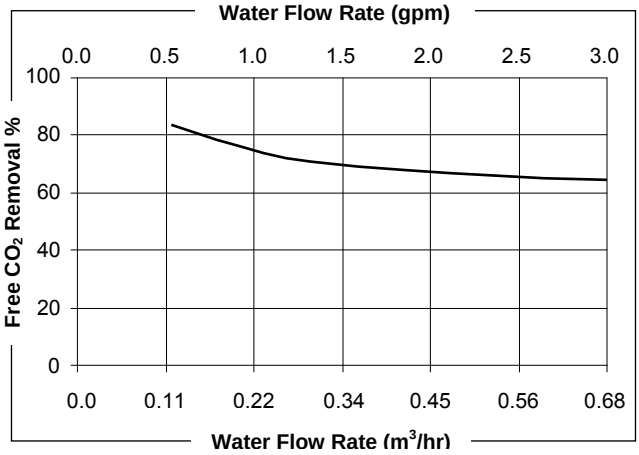
Meets RoHS threshold limits. Complies with the PED 97/23/EC and is manufactured with sound engineering practice. CFR Title 21 compliant.

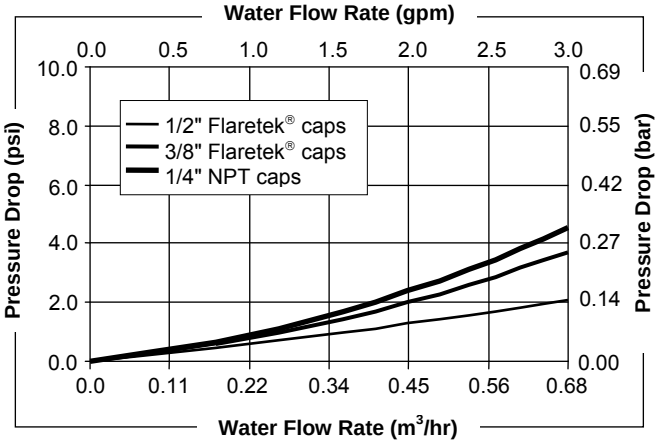
Note: Overall length with Flaretek® fittings increases. See website for all housing option drawings

Liqui-Cel®
MEMBRANE CONTACTORS

2.5 x 8 EXTRA-FLOW PRODUCT DATA SHEET





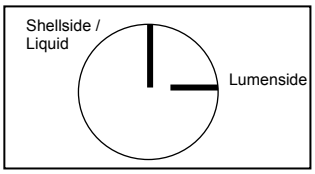


Cartridge Specifications		
Characteristics	**Test Conditions**	**Specifications**
		X50 and X40
Performance 0_2 Removal	Shellside water flow: 3 gpm, 20°C (68°F) Lumenside N_2 Flow: 1.0 ft^3/min, 1.0 atm at 20°C	64% minimum
Pressure Drop, psi maximum	Shellside water flow: 3 gpm, 20°C	NPT: 6.8 psi ½ inch Flaretek®: 2.2 psi ⅜ inch Flaretek®: 3.9 psi

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

Test condition O_2 Removal with X40 membrane 20°C: N_2 sweep mode, N2 sweep flow rate: 1 scfm. Vacuum mode: 50 mm Hg

Test condition CO_2 Removal with X50 membrane 25°C: Air-combo, vacuum 150 mm Hg, air sweep G/L 0.4.



2.5 x 8 end cap ports for NPT connections

Certified System™
ISO 9001
ISO 14001

Membrana - Charlotte
A Division of Celgard, LLC
13800 South Lakes Drive
Charlotte, North Carolina 28273
USA
Phone: (704) 587 8888
Fax: (704) 587 8610

Membrana GmbH
Oehder Strasse 28
42289 Wuppertal
Germany
Phone: +49 6126 2260 - 658
Phone: +49 6126 2260 - 41
Fax: +49 202 6099 - 750

Japan Office
Shinjuku Mitsui Building, 27F
1-1, Nishishinjuku 2-chome
Shinjuku-ku, Tokyo 163-0427
Japan
Phone: 81 3 5324 3361
Fax: 81 3 5324 3369

MEMBRANA
A POLYPORE COMPANY

www.liqui-cel.com