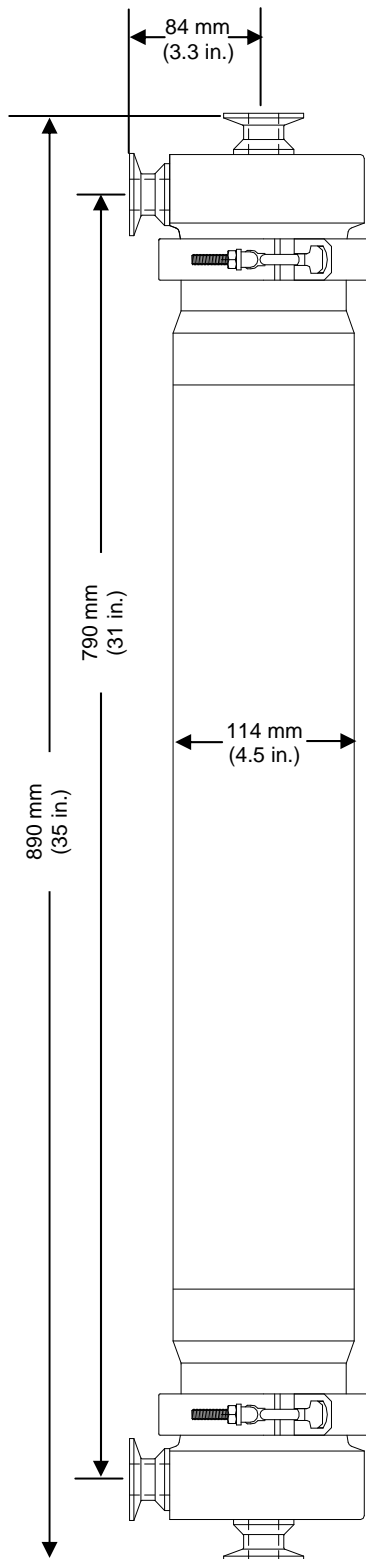


4 x 28 EXTRA-FLOW PRODUCT DATA SHEET



Cartridge Characteristics

Cartridge Configuration	Extra-Flow with Center Baffle	
Liquid Flow Guidelines	1 – 6.8 m ³ /hr (4.4 – 30 gpm)	
Membrane	X50	X40
	Recommended for CO ₂ removal from water	Recommended for all other gas transfer applications
Porosity	~40%	~25%
OD / ID	300 / 220 micron	300 / 200 micron
Membrane / Potting Material	Polypropylene / Polyethylene	
Typical Membrane Surface Area	20 m ² (215 ft ²)	
Maximum Shellside Working Temperature/Pressure of fiber*	50°C, 7.4 kg/cm ² or 7.3 bar 70°C, 2.1 kg/cm ² or 2.0 bar (122°F, 105 psig) (158°F, 30 psig)	
Priming Volume	Shellside	4.2 liters (1.1 gal.)
	Lumenside X50	1.3 liters (0.35 gal.)
	Lumenside X40	1.1 liters (0.29 gal.)

Housing Characteristics

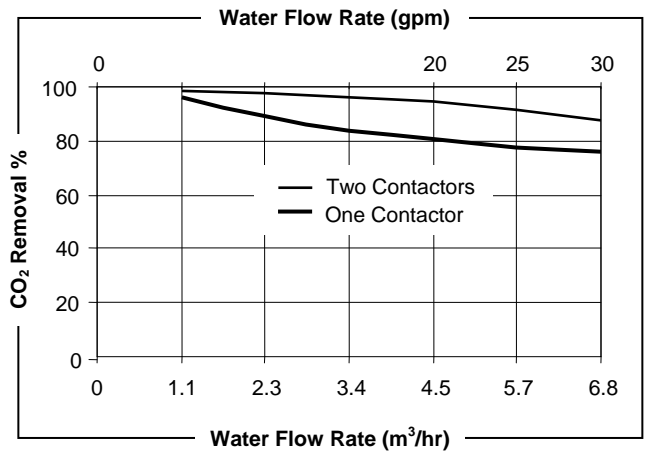
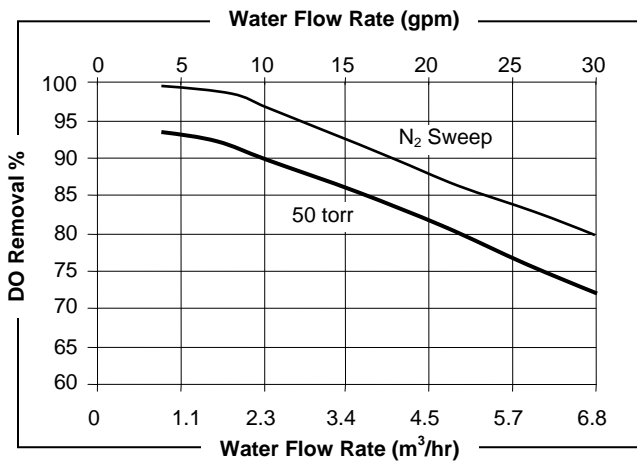
Material	Polypropylene	PP Lined FRP	316L SS
Flange Connection			
Shellside (Liquid Inlet/Outlet)	<ul style="list-style-type: none"> 1 inch Sanitary ¾ inch NPT Female 1 inch George Fisher Rc ¾ per JIS B0203 		<ul style="list-style-type: none"> 1 inch Sanitary
Lumenside (gas/vacuum)	<ul style="list-style-type: none"> 1 inch 90° Sanitary ¾ inch 90° NPT Female Rc ¾ per JIS B0203 		<ul style="list-style-type: none"> 1 inch Sanitary
Maximum Shellside Working Temp/ Pressure of Vessel	30°C, 7.4 kg/cm ² or 7.3 bar 40°C, 4.9 kg/cm ² or 4.8 bar (86°F, 105 psig) (104°F, 70 psig)	50°C, 8.4 kg/cm ² or 8.3 bar 70°C, 3.2 kg/cm ² or 3.1 bar (122°F, 120 psig) (158°F, 45 psig)	70°C, 10.5 kg/cm ² or 10.3 bar (158°F, 150 psig)

Seal Options

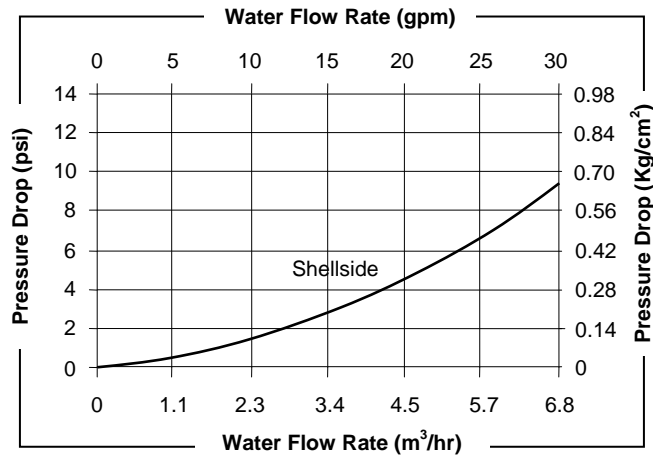
Material	Applications
Viton	General Purpose
K-UPW	Ultra Pure Water
K-EXT	Chemical Extraction
Buna-N	Beverage

Weight	PP	PP Lined FRP	316L SS
Dry (cartridge and housing)	4.1 kg (9 lbs)	4.8 kg (10.6 lbs)	6.4 kg (14 lbs)
Liquid Full (shellside)	Additional 2.7 kg (6 lbs)		
Cartridge only – dry	X50: 0.99 kg (2.2 lbs) X40: 1.2 kg (2.7 lbs)		
Shipping Weight	Additional 0.9 kg (2 lbs)		

Note: All dimensions are nominal values for the Polypropylene vessel. Dimensions for other housings are at www.liqui-cel.com



Test Conditions: Air Vacuum Combo. 150 torr at 25 °C



Cartridge Specifications		
Characteristics	Test Conditions	Specifications
		X50 and X40
Performance O ₂ Removal	Shellside water flow: 27 gpm, 20°C (68°F). Lumenside N ₂ Flow: 1 ft ³ /min, 1.0 atm at 20°C	78% minimum
Pressure Drop	Shellside water flow: 27 gpm, 20°C (68°F)	7.7 psi maximum

Curves represent nominal values, generated using water 20-25^o C. Characteristics may change under different operating conditions.

All components of the Liqui-Cel® Extra Flow Membrane Contactor, when used in accordance with recommendations given in our product literature for treatment of processing water, alcoholic and non-alcoholic beverages, and aqueous, acid and non-acid food products at and below ambient temperatures, are in compliance with all relevant FDA regulations as specified in Title 21 of the Code of Federal Regulations.

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