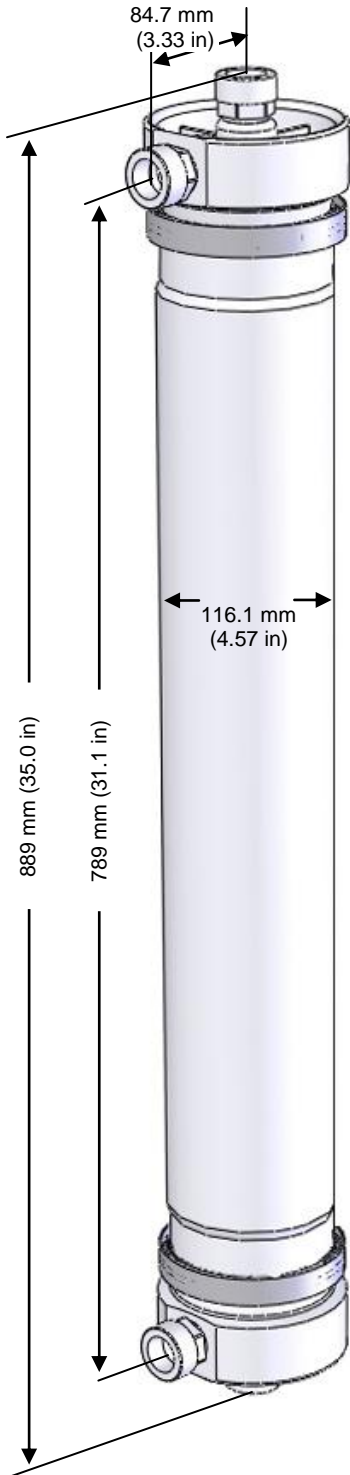


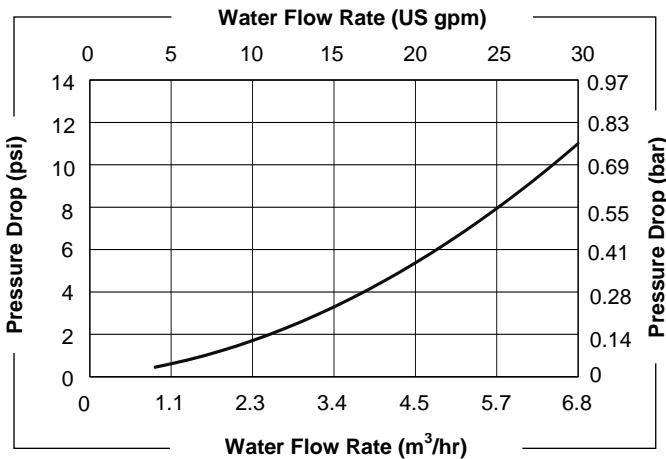
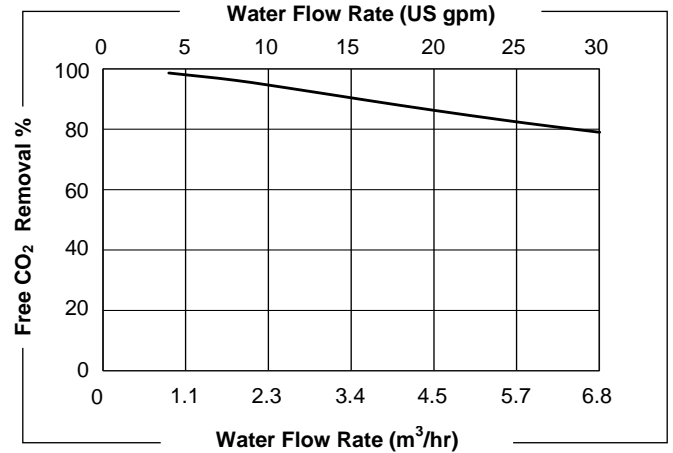
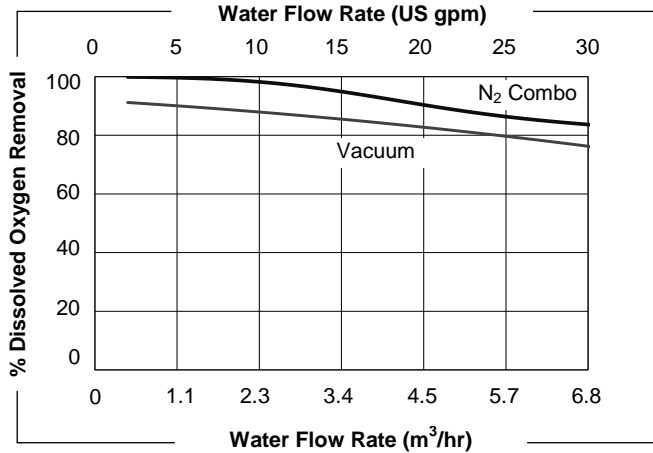
## 4 x 28 EXTRA-FLOW PRODUCT DATA SHEET



<b>Membrane Characteristics</b>			
<b>Cartridge Configuration</b>	Extra-Flow with Center Baffle		
<b>Liquid Flow Guidelines</b>	1 – 6.8 m <sup>3</sup> /hr (4.4 – 30 gpm)		
<b>Membrane Type</b>	<b>X50</b>	<b>X40</b>	
	Recommended for CO <sub>2</sub> removal from water	Recommended for all other gas transfer applications	
<b>Membrane / Potting Material</b>	Polypropylene / Polyethylene		
<b>Typical Membrane Surface Area</b>	20 m <sup>2</sup> (215 ft <sup>2</sup> )		
<b>Priming Volume (approximate)</b>			
Shellside X40 or X50	4.2 liters (1.1 gal) PP housing, 3.0 liters (0.8 gal) SS housing		
Lumenside X50	1.3 liters (0.35 gal) PP housing, 1.0 liter (0.3 gal) SS housing		
Lumenside X40	1.1 liters (0.29 gal) PP housing, 0.9 liters (0.2 gal) SS housing		
<b>Pressure Guidelines*</b>			
	<b>PP X50 or X40</b>	<b>316L SS X50</b>	<b>316L SS X40</b>
<b>Maximum Shellside LIQUID Working Temperature/ Pressure</b>	5-30° C, 7.2 bar (41-86° F, 105 psig) 40° C, 5.2 bar (104° F, 75 psig)	5-50° C, 7.2 bar (41-122° F, 105 psig) 70° C, 2.1 bar (158° F, 30 psig)	5-50° C, 9.3 bar (41-122° F, 135 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.			
<b>Maximum Applied Gas Pressure</b>	4.1 bar (60 psig)	6.2 bar (90 psig)	
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.			
<b>Housing Options and Characteristics</b>			
<b>Material</b>	Polypropylene	316L SS Surface Finish: ≤ 0.8µm SI (32RA).	
<b>Flange Connection</b>			
Shellside (Liquid Inlet/Outlet)	<ul style="list-style-type: none"> <li>• 1 inch Sanitary</li> <li>• ¾ inch NPT Female</li> <li>• 1 inch George Fisher</li> <li>• Rc ¾ per JIS B0203</li> </ul>	<ul style="list-style-type: none"> <li>• 1 inch Sanitary</li> </ul>	
Lumenside (gas/vacuum)	<ul style="list-style-type: none"> <li>• 1 inch 90° Sanitary</li> <li>• ¾ inch 90° NPT Female</li> <li>• Rc ¾ per JIS B0203</li> </ul>	<ul style="list-style-type: none"> <li>• 1 inch Sanitary</li> </ul>	
<b>Seal Options</b>			
<b>Material</b>	<b>Applications</b>		
Viton	General Purpose		
K-UPW	Ultra Pure Water		
K-EXT	Chemical Extraction		
Buna-N	Beverage		
<b>Weight</b>	<b>PP</b>	<b>316L SS</b>	
Dry (cartridge and housing)	4.1 kg (9 lbs)	6.9 kg (15 lbs)	
Liquid Full (shellside)	6.8 kg (15 lbs)	9.6 kg (21 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)		
<b>Regulatory</b>			
Meets RoHS threshold limits. Complies with the PED 97/23/EC and is manufactured with sound engineering practice. CFR Title 21 compliant at and below ambient temperatures.			

**Note:** All dimensions are nominal values for the Polypropylene vessel with NPT connections. Dimensions for other housings are at [www.liqui-cel.com](http://www.liqui-cel.com).

## 4 x 28 EXTRA-FLOW PRODUCT DATA SHEET



Cartridge Specifications		
Characteristics	Test Conditions	Specifications
Performance O <sub>2</sub> Removal	Shellside water flow: 6.1 m <sup>3</sup> /hr (27 gpm), 20°C (68°F). Lumenside N <sub>2</sub> Flow: 1.7 m <sup>3</sup> /hr (1 ft <sup>3</sup> /min), 1.0 atm at 20°C (68°F)	78% minimum
Pressure Drop	Shellside water flow: 6.1 m <sup>3</sup> /hr (27 gpm), 20°C (68°F)	0.69 bar (9.7 psi) maximum

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

Test condition O<sub>2</sub> Removal with X40 membrane 20°C (68°F): N<sub>2</sub>-vacuum combo mode, vacuum: 50 mm Hg N<sub>2</sub> sweep flow 1.4 L/min (0.05 scfm). Vacuum mode: 50 mm Hg.

Test condition CO<sub>2</sub> 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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