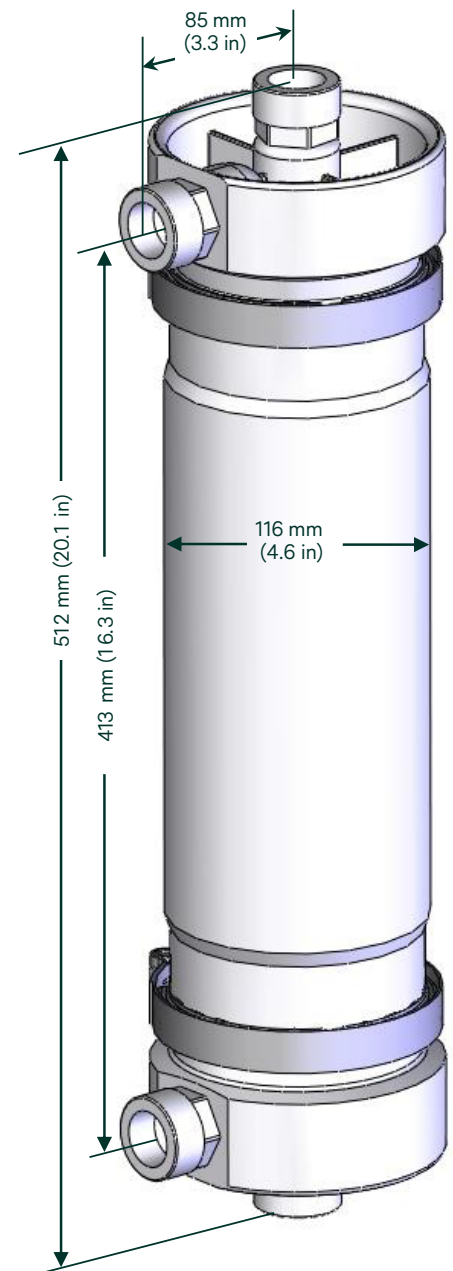


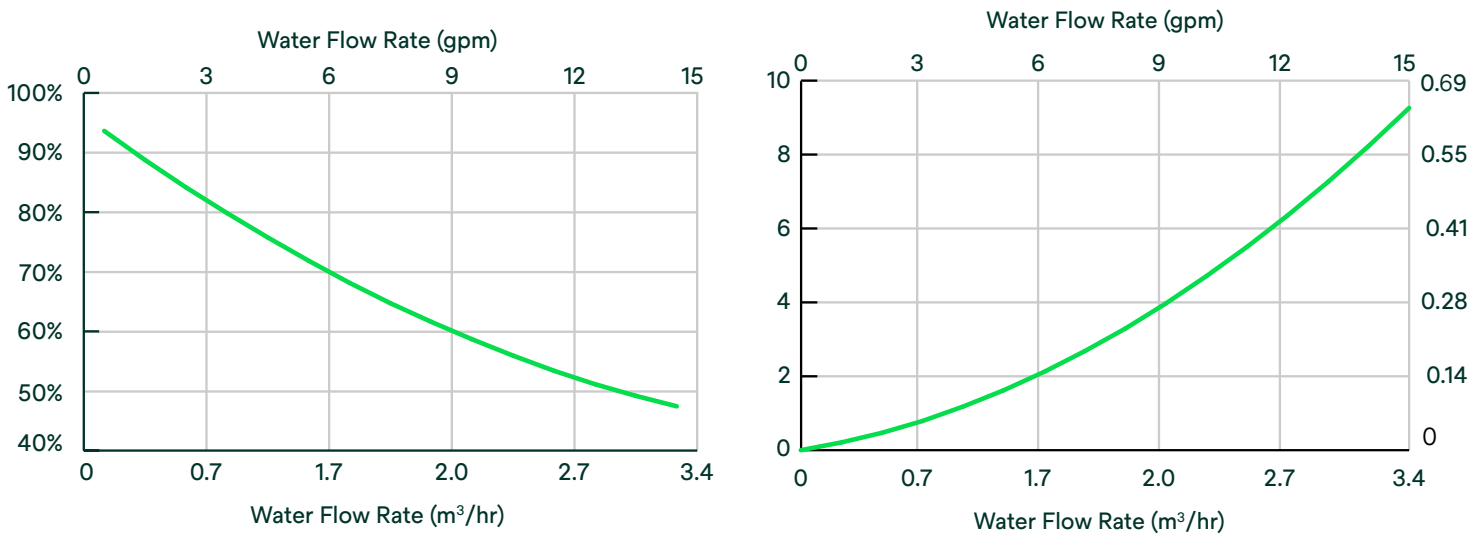
3M™ Liqui-Cel™ SP-4×13 Series Membrane Contactor

Typical properties

Membrane characteristics	
Cartridge configuration	Extra-flow with center baffle
Liquid flow guidelines	0.2 – 3.4 m ³ /hr (1–15 gpm) Liquid must flow on the shell side
Membrane/potting material	Polyolefin/Polyethylene
Membrane type	UP-X
Priming volume (approximate)	Polypropylene
Shell side	1.2 L (0.3 gal)
Lumen side	0.6 L (0.16 gal)
Pressure guidelines	
Maximum shell side LIQUID operating temperature/pressure	
5–25°C (41–77°F)	5.1 barg (75 psig)
40°C (104°F)	2.0 barg (30 psig)
Maximum lumen side GAS operating temperature/pressure	
25°C (77°F)	4.1 barg (60 psig)
Note: Liquid pressure should always exceed gas pressure in operation.	
Seal material options for shell side wetted parts	
FKM	
Housing characteristics	
Material	Polypropylene
Flange connections	
Shell side (Liquid Inlet/Outlet)	3/4 inch NPT female
Lumen side (Inlet/Outlet)	3/4 inch NPT female
Weight (approximate)	
Dry	3 kg (7 lbs)
Water-filled (shell side)	4 kg (9 lbs)
Regulatory	
Complies with the limits as set by (EU) 2015/863 amending Annex II to the Restriction on Hazardous Substances (RoHS) Directive (2011/65/EU). 3M™ Liqui-Cel™ SP-4×13 Series Membrane Contactors with FKM seals and UP-X fiber are constructed of FDA Title 21 CFR § 170-186 compliant materials for wetted parts only at ambient temperatures.	



Note: All dimensions are nominal values for the polypropylene housing with NPT connections. See full housing drawing on 3M.com/Liqui-Cel for additional details.



Curves represent nominal values using water. Characteristics may change under different operating conditions. These charts should not be used to design systems.

Test condition O₂. Removal with UP-X membrane 25°C (77°F):
Vacuum mode, vacuum: 50 mm Hg absolute.

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