Nitto
Innovation for Customers

HYDRANAUTICS

PRO-XR1

Low Fouling High Rejection Reverse Osmosis

The PRO-XR1 is a unique spiral wound membrane customized specifically for industrial process applications. This membrane is based on existing Hydranautics high performance membrane products which have been specially designed to treat a variety of challenging industrial feed streams.

Specified Performance*

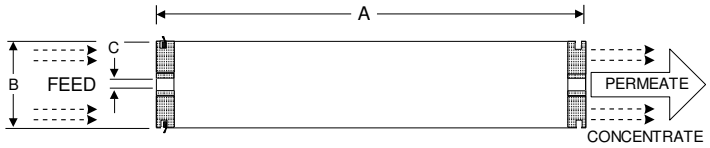
Permeate Flow (Nominal):	11,500 gpd (43.5 m^3/d)
Salt Rejection:	99.8% (99.5% minimum)
Test Conditions:	2,000 ppm NaCl solution 225 psig (1.55 MPa) Applied Pressure 77°F (25°C) Operating Temperature 15% Permeate Recovery 6.5 - 7.0 pH Range

*The Specified Performance is based on data taken after a minimum 10 minutes of operation. Actual testing of elements may be done at conditions which vary from these exact values; in which case, the performance is normalized back to these standard conditions. Permeate flow for individual elements may vary ±15 percent from the value specified.

General Product Description**

Configuration:	Low Fouling Spiral Wound
Membrane Polymer:	Composite Polyamide Neutrally Charged Surface
Membrane Active Area**:	400 ft^2 (37.2 m^2)
Feed Spacer:	34 mil (0.86 mm)

Packaging: All membrane elements are supplied with a brine seal, interconnector, and O-rings. Elements are enclosed in a sealed polyethylene bag containing less than 1.0% sodium meta-bisulfite solution, and then packaged in a cardboard box.



Element Details**

A, inches (mm)	B, inches (mm)	C, inches (mm)
40.0 (1016)	7.89 (200)	1.125 (28.6)

**Values listed are indicative, not specified. For more detailed specifications, see our Technical Service Bulletin documents or contact Hydranautics Technical Department.

Product Use and Restrictions^

Maximum Applied Pressure:	600 psig (4.14 MPa)
Maximum Chlorine Concentration:	< 0.1 ppm
Maximum Operating Temperature:	113°F (45°C)
pH Range, Continuous (Cleaning):	2-11 (1-13) at T <25˚C 2-11 (1-12) at T= 25 to <35˚C 3-10.5 (2-11) at T= 35 to 45˚C
Maximum Feedwater Turbidity:	1.0 NTU
Maximum Feedwater SDI (15 mins):	5.0
Maximum Feed Flow:	85 gpm (19.3 m^3/h)
Minimum Brine Flow:	12 gpm (2.7 m^3/h)
Maximum Pressure Drop for Each Element:	15 psi (0.10 MPa)

^ The limitations shown here are for general use. For specified projects, operation at more conservative values may ensure the best performance and longest life of the membrane. See Hydranautics Technical Bulletins for more details.

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