Nitto
Innovation for Customers

HYDRANAUTICS

NANO-SW MAX

Specified Performance*

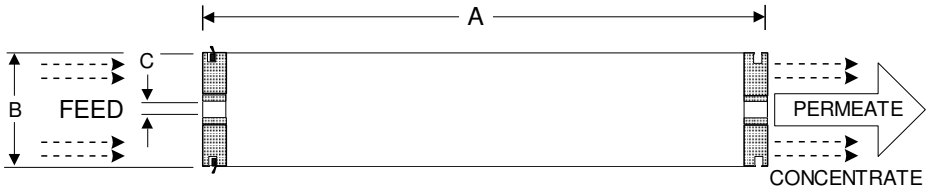
Permeate Flow:	12,000 gpd (45.4 m^3/d)
$MgSO_4$ Rejection:	99.8% (99.6% minimum)
Test Conditions:	2000 ppm $MgSO_4$
	110 psig (0.76 MPa) Applied Pressure
	77 °F (25 °C) Operating Temperature
	15% Permeate Recovery
	6.5 - 7.0 pH Range
Typical Seawater Performance†:	
Nominal Permeate Flow:	7,150 gpd (27.0 m^3/d)
Nominal Chloride Rejection:	25%
Nominal Sulfate Rejection:	99.8%

* The Specified Performance is based on data taken after a minimum of 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 ± 20 percent from the value specified.
† Typical Synthetic Seawater Test Condition: 35,000 ppm NaCl + 8,000 ppm $MgSO_4$, 200 psi (1.4 MPa), 77 °F (25°C), 15% Permeate Recovery, 6.5 – 7.0 feed pH.

General Product Description**

Configuration:	Spiral Wound
Membrane Polymer:	Composite Polyamide
Membrane Active Area**:	440 ft^2 (40.9 m^2)

Packaging: All membrane elements are supplied with a brine seal, interconnector, and O-rings. Elements are enclosed in a sealed polyethylene bag containing 2% Safeguard® 100 as a preservation solution (or 10-20% $CaCl_2$ as anti-freezing solution for cold climates), and then packaged in a cardboard box. For more Safeguard® 100 flushing instructions, please refer to Hydranautics TSB118. For proper storage and handling, including storage temperature limitations, please refer to Hydranautics TSB 508.



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):	3-9 (1-11.5)
Maximum Feedwater Turbidity:	1.0 NTU
Maximum Feedwater SDI (15 mins):	5.0
Maximum Feed Flow:	75 gpm (17.0 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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