Nitto

HYDRANAUTICS
Nitto Group Company

SanRO-HS

SanRO-HS Heat Sanitizable, High Rejection RO Composite Membrane Elements are designed specifically for High Performance in USP and other high purity water systems. Elements with Sanitary, Full-fit outer-wraps eliminate “dead flow” areas for maximum bacteria control. SanRO-HS components conform to FDA regulation CFR Title 21.

Products:

Membrane Type	Description	Element Performance* Permeate Flow and Rejection			System Performance**	
		GPD (m^3/day) 8040	4040	% Rej	Applied Pressure psig (MPa)	Permeate TDS, PPM
SanRO-HS	Heat Sanitizable, High Rejection Composite	8800 (33.3) SANRO HS-8	2200 (8.4) SANRO HS-4	99.7	180 (1.24)	6.6
SanRO-HS2	Heat Sanitizable, High Flux, High Rejection Composite	14,000 (53) SANRO HS2-8	3000 (11.4) SANRO HS2-4	99.6	129 (0.89)	12.5

*** Element Performance is at 225 psig (1.55 MPa), 1500 mg/L NaCl, 15% Recovery, 77°F (25 °C).**

**** Applied Pressure and Permeate TDS are projected values for a 2:2:1 array system operating at 15 GFD (26 LMH) average flux with 500 mg/L TDS feed (NaCl), 80% Recovery, pH 7, 77°F (25 °C).**

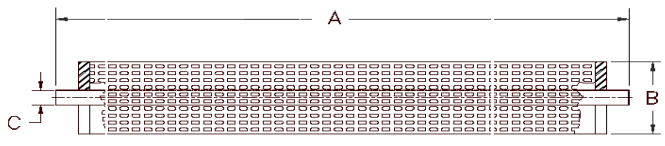
Type

Configuration:	Sanitary (Full-Fit) Spiral Wound
Membrane Polymer:	Composite Polyamide

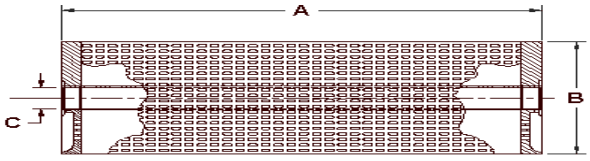
Application Data†

Maximum Applied Pressure	600 psig (4.14 MPa)
Maximum Chlorine Concentration	< 0.1 PPM
Maximum Operating Temperature	131 °F (55 °C)
Sanitizing Temperature/Pressure Max.	185/25 °F/psig (85/0.17 °C/MPa)
Operating pH Range:	2.0 - 10.0
Cleaning pH Range:	1.0 - 12.0
Maximum Pressure Drop for a vessel	60 psig (0.41 MPa)

† The limitations shown here are for general use. The values may be more conservative for specific projects to ensure the best performance and longest life of the membrane. See Hydranautics Technical Bulletins for more detail on operation limits, cleaning pH, and cleaning temperatures.



4040



8040

Size	A in (cm)	B in (cm)	C in (cm)	Area ft^2 (m^2)
4040	40.0 (102)	3.98 (10.1)	0.750 (1.9) O.D.	90 (8.3)
8040	40.0 (102)	7.90 (20.1)	1.125 (2.9) I.D.	380 (35.2)

Notice: Elements are enclosed in a sealed polyethylene bag containing less than 1.0% sodium meta-bisulfite solution, and then packaged in a cardboard box. All SanROHS elements are heat set at the factory with a one hour vacuum rinse at 85 C. Elements include interconnector assembly, ATDs, and one brine seal. Hydranautics believes the information and data contained herein to be accurate and useful. The information and data are offered in good faith, but without guarantee, as conditions and methods of use of our products are beyond our control. Hydranautics assumes no liability for results obtained or damages incurred through the application of the presented information and data. It is the user's responsibility to determine the appropriateness of Hydranautics' products for the user's specific end uses. 5/13/14