Nitto
Innovation for Customers

HYDRANAUTICS

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, Part 177 and NSF 61. Kosher certified. Halal certified.

General Product Description and Specified Performance

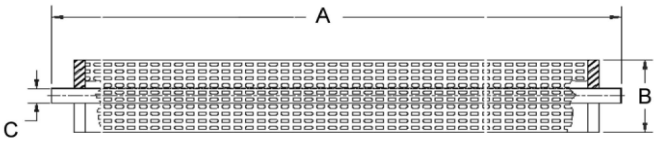
Configuration	Sanitary (Full-Fit) Spiral Wound
Membrane Polymer	Composite Polyamide

Membrane Type	Description	Element Performance*			System Performance**	
		Nominal Permeate Flow gpd (m^3/d)		Nominal Rejection	Applied Pressure	Permeate TDS
		4040 model	8040 model			
SanRO®-HS	Heat Sanitizable, High Rejection Composite	2,200 (8.3) SanRO®-HS-4	10,000 (37.9) SanRO®-HS-8	99.7% (99.4% min.)	161 psig (1.11 MPa)	7.8 ppm
SanRO®-HS2	Heat Sanitizable, High Flux, High Rejection Composite	3,000 (11.4) SanRO®-HS2-4	14,000 (53.0) SanRO®-HS2-8	99.6% (99.4% min.)	124 psig (0.85 MPa)	10.6 ppm

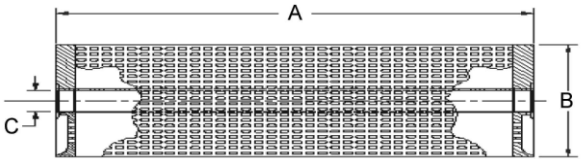
* Test Conditions: Element Performance is at 225 psig (1.55 MPa), 1500 mg/l NaCl, 15% Recovery, 77°F (25°C)

** 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)

Product Use and Restrictions^



4040 Style with ATDs
Core tube extension = 1.05” (26.7 mm)



8040 Style with ATDs

Size	A, inches (mm)	B, inches (mm)	C, inches (mm)	Area, ft^2 (m^2)
4040	40.0 (1016)	3.98 (101.1)	0.750 (19.1) O.D.	90 (8.4)
8040	40.0 (1016)	7.90 (200.7)	1.125 (28.6) I.D.	380 (35.3)

Maximum Applied Pressure	600 psig (4.14 MPa)
Maximum Chlorine Concentration	< 0.1 ppm
Maximum Operating Temperature	131°F (55°C)
Maximum Sanitization Temperature	185°F (85°C)
Maximum Sanitization Pressure	25 psig (0.17 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.

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 SanRO®-HS 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.

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