

4 x 21 INCH TAPE WRAP BRACKISH ELEMENT

MODEL TR70-4021-HF & TRH-4021

Membrane Type	Crosslinked Aromatic Polyamide, Negative Charge
Element Configuration	Spiral Wound, Tape Wrap

Performance Specification

	TR70-4021-HF	TRH-4021
	High Flow	Low Pressure, High Flow
Salt Rejection avg.^{1,2}	99.4 %	99.0 %
Product Flow Rate^{1,2}	5'400 l/d (1'425 gpd)	4'700 l/d (1'240 gpd)
	Testconditions: A	Testconditions: B

Notes:

¹ Test Conditions	<u>A</u>	<u>B</u>	
Temperature	25	25	°C
Feed Solution, Concentration	1500	500	ppm NaCl
Feed Pressure	15	7.5	bar
Brine : Permeate ratio	5 : 1	5 : 1	
Feed pH	6.5 - 7.5	6.5 - 7.5	

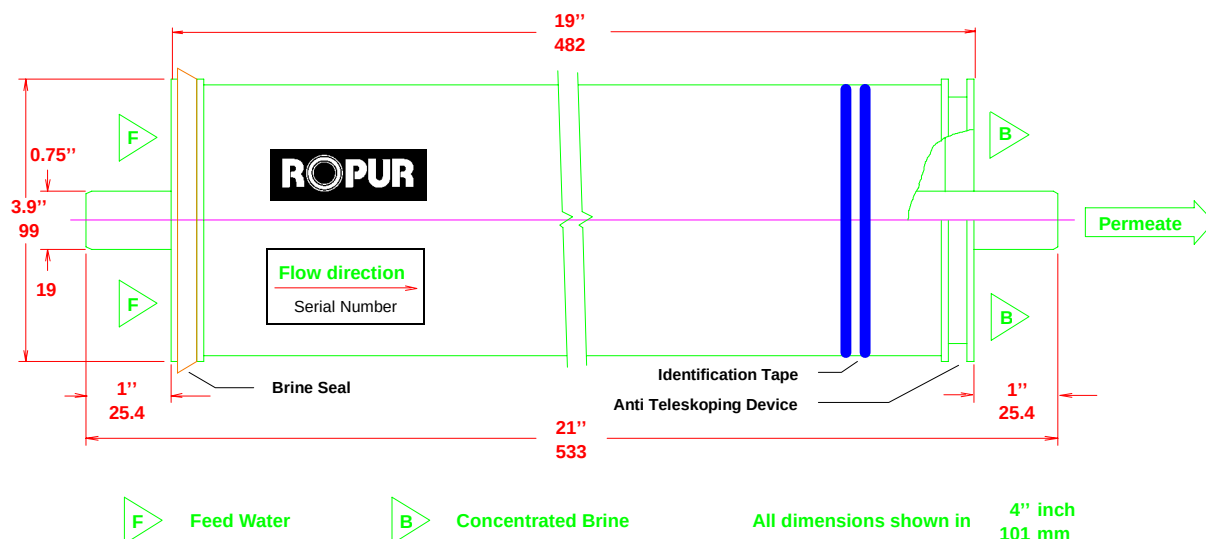
² Average value for 100 elements after 1 hour operation

Product Flow Rate +/- 15%

Salt Rejection minimum 98 %

³ Minimum Performance data are for any single element

Dimensions:



Design Conditions

Recommended ¹

Operating Pressure ^{2,3}	< 15.0 kg/cm² (216 psi)
Operating Temperature ⁴	< 35 °C (95 °F)
Feedwater Turbidity (SDI ₁₅) ^{2,5}	< 5
Feedwater Chlorine Concentration	0 ppm
pH Range, Continuous Operation ⁶	3 - 11
pH Range, Chemical Cleaning ⁷	3 - 11
Feed Flow Rate per Vessel	< 2'200 l/h (10 gpm)
Brine Flow Rate per Vessel ⁹	> 600 l/h (2.6 gpm)
Brine/Permeate Flow Ratio ⁸ ,	5 : 1
Pressure Drop (per Element) ¹⁰	0.5 kg/cm² (7 psi)
Pressure Drop (per Vessel) ¹⁰	1.0 kg/cm² (14 psi)

Notes:

- ¹ The recommended design range means safe operational and design conditions under not so much fouling and scaling. If the TR-series elements are operated outside of the recommended design range, the effective membrane life may be reduced.
- ² High flux operation (operation under high permeate flow rate per single element) on feedwater turbidity greater than 3 or 4 SDI₁₅ generally results in frequent cleaning requirements. Operating pressure should be selected to maintain the flux rate, or permeate flow rate per single element.
- ³ Maximum 20 kg/cm² (288 psi)
- ⁴ Maximum 35 °C (95 °F)
- ⁵ SDI₁₅ = Silt Density Index measured according to ASTM D4189
- ⁶ Both feed and brine water must meet this range.
- ⁷ Cleaning and sterilization must meet the recommendations in the Technical Bulletin.
- ⁸ Flow ratio of brine to permeate for each single element
- ⁹ This figure may be reduced when there is low possibility of fouling and scaling
- ¹⁰ Element(s) must be cleaned when pressure drop increases to 1.5 times of the initial value.