

4 x 40 INCH SANITARY BRACKISH ELEMENT

MODEL FR70-4040S

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

Performance Specification

Salt Rejection avg. ^{1,2}	99.2 %
min. ³	98.2 %
Product Flow Rate ^{1,2}	8'900 l/d (2'350 gpd)

Notes:

¹ Test Conditions

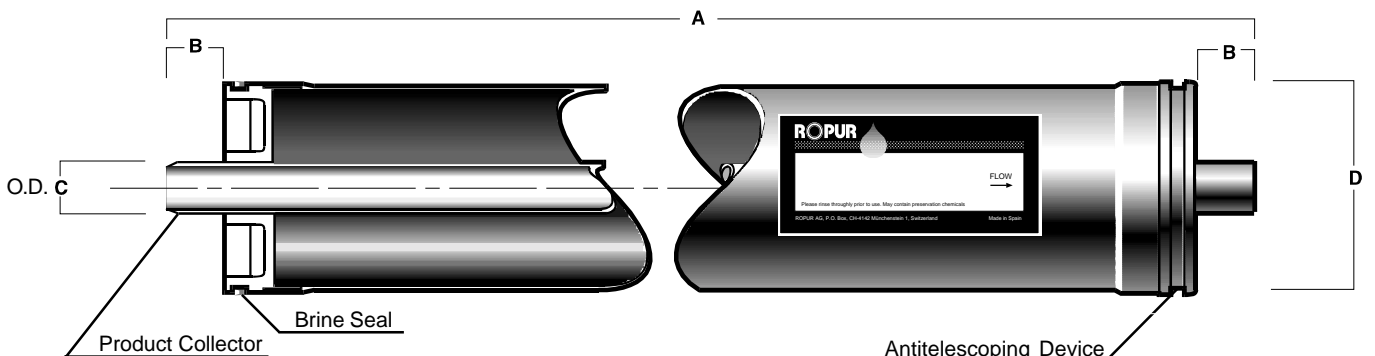
Temperature	25 °C	(77 °F)
Feed Solution, Concentration	1500 ppm	NaCl
Feed Pressure	1500 kPa	(216 psi)
Brine : Permeate ratio	5 : 1	
Feed pH	6.6	

² Average value for 100 elements after 1 hour operation
Product Flow Rate +/- 15%

³ Minimum Performance data are for any single element

Dimensions:

A = 40.0 inch, 1016 mm	C = 0.75 inch, 19.0 mm
B = 1.05 inch, 27.0 mm	D = 4.00 inch, 100.0 mm



Design Conditions

Recommended ¹

Operating Pressure ^{2,3}	< 1500	kPa	(218 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 - 10		
pH Range, Chemical Cleaning ⁷	2 - 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	< 100	kPa	(14.5 psi)
Pressure Drop (per Vessel) ¹⁰	< 200	kPa	(29 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 2000 kPa (288 psi), maximum 150 kPa (22 psi) during pasteurization
- ⁴ Maximum 80 °C (176 °F) for pasteurization
- 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.