

# industrial RO series

## industrial high pressure brackish water RO elements

The S-Series proprietary thin-film reverse osmosis membrane is used in the Industrial RO3 elements. It is characterized by high sodium chloride rejection and a smooth, fouling-resistant membrane surface.

The A-Series proprietary thin-film reverse osmosis membrane is used in the Industrial R05 and R06 elements. It is characterized by high sodium chloride rejection and a high permeability.

Industrial RO Brackish Water Elements are used for concentration of wastewater streams with a high osmotic pressure or a high level of solids. They can also be used to concentrate diluted acids.

These elements feature a 35mil or 50mil spacer in a high pressure compatible element assembly.

**Table 1: Element Specification**

Membrane	Thin-film membrane (TFM*)		
Model	Average permeate flow gpd (m <sup>3</sup> /day) (1,2)	Average NaCl rejection (1,2)	Minimum NaCl rejection (1,2)
INDUSTRIAL R03 4040F35	1,900 (7.2)	99.0%	98.5%
INDUSTRIAL R03 4040F50	1,450 (5.5)	99.0%	98.5%
INDUSTRIAL R03 8040F35	7,800 (29.5)	99.0%	98.5%
INDUSTRIAL R03 8040F50	6,500 (24.6)	99.0%	98.5%

(1) Average rejection after 24h operation. Individual flow rate may vary ±25%.

(2) Testing conditions: 2,000ppm NaCl solution at 425psi (2,930kPa) operating pressure, 77°F, pH 7.5 and 15% recovery.

Model	Average permeate flow gpd (m <sup>3</sup> /day) (1,2)	Average NaCl rejection (1,2)	Minimum NaCl rejection (1,2)
INDUSTRIAL R05 4040F35	2,200 (8.3)	99.5%	99.0%
INDUSTRIAL R05 8040F35	9,200 (34.8)	99.5%	99.0%
INDUSTRIAL R05 8040F50	7,400 (28.0)	99.5%	99.0%
INDUSTRIAL R06 4040F35	2,200 (8.3)	99.0%	98.0%
INDUSTRIAL R06 8040F35	9,200 (34.8)	99.0%	98.0%

(1) Average salt rejection after 24h operation. Individual flow rate may vary ±25%.

(2) Testing conditions:

INDUSTRIAL R05: 2,000 ppm NaCl solution at 225psi (1,550kPa) operating pressure, 77°F, pH 7.5 and 15% recovery.

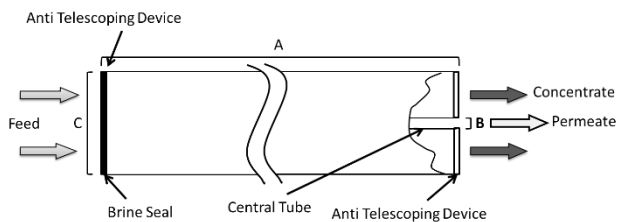
INDUSTRIAL R06: 500 ppm NaCl solution at 115psi (793kPa), operating pressure, 77°F, pH 7.5 and 15% recovery.

Model	Spacer mil (mm)	Active area ft <sup>2</sup> (m <sup>2</sup> )	Outer wrap	Part number
INDUSTRIAL R03 4040F35	35 (0.89)	75 (7.0)	Fiberglass	3050577
INDUSTRIAL R03 4040F50	50 (1.27)	61 (5.7)	Fiberglass	3049999
INDUSTRIAL R03 8040F35	35 (0.89)	330 (30.7)	Fiberglass	1207451
INDUSTRIAL R03 8040F50	50 (1.27)	269 (25.0)	Fiberglass	1207450
INDUSTRIAL R05 4040F35	35 (0.89)	75 (7.0)	Fiberglass	3050576
INDUSTRIAL R05 8040F35	35 (0.89)	330 (30.7)	Fiberglass	3144696
INDUSTRIAL R05 8040F50	50 (1.27)	269 (25.0)	Fiberglass	3097294
INDUSTRIAL R06 4040F35	35 (0.89)	75 (7.0)	Fiberglass	3144699
INDUSTRIAL R06 8040F35	35 (0.89)	330 (30.7)	Fiberglass	3144697

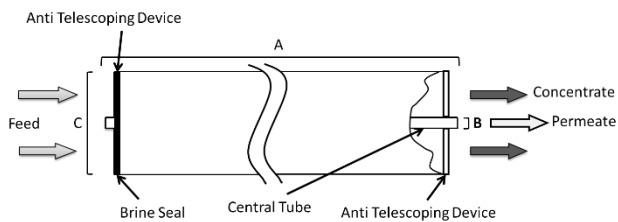
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**Figure 1a : Element Dimensions Diagram (Female) – 8040**



**Figure 1b: Element Dimensions Diagram (Male) – 4040**

**Table 2: Dimensions and Weight**

Model	Fig.	Dimensions, inches (cm)			Boxed Weight lbs (kg)
		A	B	C	
4040F	1b	40.0 (101.6)	0.75 (1.90)	3.9 (9.9)	11 (5)
8040F	1a	40.0 (101.6)	1.125 (2.86)	7.9 (20.1)	35 (16)

**Table 3: Operating and CIP Parameters**

<b>Typical Operating Flux</b>	5 - 20 GFD (8 - 34 LMH)
<b>Maximum Operating Pressure</b>	1,200psi (8,276kPa) @ T<77°F (25°C) 580psi (4,000kPa) @ T< 122°F (50°C)
<b>Maximum Temperature</b>	Continuous operation: 122°F (50°C) Clean-In-Place (CIP): 122°F (50°C)
<b>pH Range</b>	Optimum rejection: 7.0 - 7.5, Continuous operation: 2.0 - 10.0, Clean-In-Place (CIP): 1.0 - 13.0 (1)
<b>Maximum Pressure Drop</b>	Over an element: 15psi (103kPa) Per housing: 60psi (414kPa)
<b>Chlorine Tolerance</b>	500+ ppm hours, dechlorination recommended
<b>Feedwater<sup>2</sup></b>	NTU < 1 SDI <sub>15</sub> < 5

(1) Refer to Cleaning Guidelines Technical Bulletin TB1194.