

Water Technologies & Solutions fact sheet

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 RO5 and RO6 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	S-Series, Thin-film membrane (TFM*) A-Series, Thin-film membrane (TFM*)
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Model	Average permeate flow gpd (m ³ /day) ^{1,2}	Average NaCl rejection ^{1,2}	Minimum NaCl rejection ^{1,2}
INDUSTRIAL RO3 4040F35	1,900 (7.2)	99.0%	98.5%
INDUSTRIAL RO3 4040F50	1,450 (5.5)	99.0%	98.5%
INDUSTRIAL RO3 8040F35	7,800 (29.5)	99.0%	98.5%
INDUSTRIAL RO3 8040F50	6,500 (24.6)	99.0%	98.5%
INDUSTRIAL RO5 4040F35	2,200 (8.3)	99.5%	99.0%
INDUSTRIAL RO5 8040F35	9,200 (34.8)	99.5%	99.0%
INDUSTRIAL RO5 8040F50	7,400 (28.0)	99.5%	99.0%
INDUSTRIAL RO6 4040F35	2,200 (8.3)	99.0%	98.0%
INDUSTRIAL RO6 8040F35	9,200 (34.8)	99.0%	98.0%

¹ Average salt rejection after 24h operation. Individual flow rate may vary $\pm 25\%$.

² Testing conditions:

INDUSTRIAL RO3: 2,000ppm NaCl solution at 425psi (2,930kPa) operating pressure, 77°F, pH 7.5 and 15% recovery.

INDUSTRIAL RO5: 2,000 ppm NaCl solution at 225psi (1,550kPa) operating pressure, 77°F, pH 7.5 and 15% recovery.

INDUSTRIAL RO6: 500 ppm NaCl solution at 115psi (793kPa), operating pressure, 77°F, pH 7.5 and 15% recovery.

Model	Spacer mil (mm)	Active area ft ² (m ²)	Outer wrap	Part number
INDUSTRIAL RO3 4040F35	35 (0.89)	75 (7.0)	Fiberglass	3050577
INDUSTRIAL RO3 4040F50	50 (1.27)	61 (5.7)	Fiberglass	3049999
INDUSTRIAL RO3 8040F35	35 (0.89)	330 (30.7)	Fiberglass	1207451
INDUSTRIAL RO3 8040F50	50 (1.27)	269 (25.0)	Fiberglass	1207450
INDUSTRIAL RO5 4040F35	35 (0.89)	75 (7.0)	Fiberglass	3050576
INDUSTRIAL RO5 8040F35	35 (0.89)	330 (30.7)	Fiberglass	3144696
INDUSTRIAL RO5 8040F50	50 (1.27)	269 (25.0)	Fiberglass	3097294
INDUSTRIAL RO6 4040F35	35 (0.89)	75 (7.0)	Fiberglass	3144699
INDUSTRIAL RO6 8040F35	35 (0.89)	330 (30.7)	Fiberglass	3144697

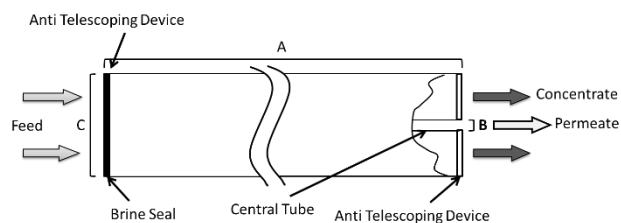


Figure 1a : Element Dimensions Diagram (Female) – 8040

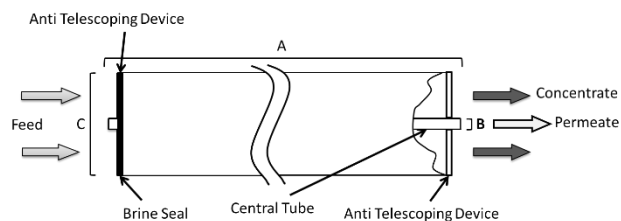


Figure 1b: Element Dimensions Diagram (Male) – 4040

Table 2: Dimensions and Weight

Model	Type	Dimensions, inches (cm)			Boxed
		A	B	C	Weight lbs (kg)
4040F	Male	40.0 (101.6)	0.75 (1.90)	3.9 (9.9)	11 (5)
8040F	Female	40.0 (101.6)	1.125 (2.86)	7.9 (20.1)	35 (16)

Table 3: Operating and CIP Parameters

Typical Operating Flux	5 - 20 GFD (8 – 34 LMH)
Maximum Operating Pressure	1,200psi (8,276kPa) if T<77°F (25°C) 580psi (4,000kPa) if T>77°F (25°C)
Maximum Temperature	Continuous operation: 122°F (50°C) Clean-In-Place (CIP): 122°F (50°C)
pH Range	Optimum rejection: 7.0 – 7.5, Continuous operation: 2.0 – 10.0, Clean-In-Place (CIP): 1.0 – 13.0
Maximum Pressure Drop	Over an element: 15psi (103kPa) Per housing: 60psi (414kPa)
Chlorine Tolerance	500+ ppm hours, dechlorination recommended
Feedwater²	NTU < 1 SDI < 5

¹Please refer to Cleaning Guidelines Technical Bulletin TB1194.

² SDI is measured on a non-linear scale using a 0.45-micron filter paper. Additionally, finer colloids, particulates, and microorganisms that pass through the filter paper and not measured in the SDI test, will potentially foul the RO element. For performance consistency and project warranty, please use Winflows projection software and consult your SUEZ representative.

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