GE Power & Water
Water & Process Technologies

Fact Sheet

SE Series

Industrial High Rejection Brackish Water RO Elements

The S-Series family of proprietary thin-film reverse osmosis membrane elements is characterized by high sodium chloride rejection and a smooth, fouling-resistant membrane surface.

SE High Rejection Brackish Water Elements are used for brackish water desalination and process stream concentration.

The SE elements feature either a fiberglass or a patented Durasan* cage outer wrap, 30mil or 50mil spacer and polysulfone or Noryl plastic parts.

Model	Spacer mil (mm)	Active area ft² (m²)	Outer wrap	Part number
SE4040F1020, Stinger	30 (0.76)	90 (8.4)	Fiberglass	3049998
SE4040F1021	50 (1.27)	67 (6.2)	Fiberglass	1207483
SE4040C1027	30 (0.76)	97 (9.0)	Cage	1207479
SE8040F1067	30 (0.76)	378 (35.1)	Fiberglass	1207498
SE8040F1013	30 (0.76)	355 (33.0)	Fiberglass	1207497
SE8040F1002	50 (1.27)	272 (25.3)	Fiberglass	1207496
SE8040C1065	30 (0.76)	378 (35.1)	Cage	1207488

Table 1: Element Specification

Membrane	S-Series, Thin-Film Membrane (TFM*)

Model	Average permeate flow gpd (m3/day)[1,2]	Average NaCl rejection [1,2]	Minimum NaCl rejection [1,2]
SE4040F1020, Stinger	2,100 (7.9)	98.5%	97.5%
SE4040F1021	1,500 (5.7)	98.5%	97.5%
SE4040C1027	2,200 (8.3)	98.5%	97.5%
SE8040F1067	8,300 (31.4)	98.5%	97.5%
SE8040F1013	7,800 (29.6)	98.5%	97.5%
SE8040F1002	5,900 (22.3)	98.5%	97.5%
SE8040C1065	8,300 (31.4)	98.5%	97.5%

[1]Average salt rejection after 24 hours operation. Individual flow rate may vary ±25%.
[2]Testing conditions: 2,000ppm NaCl solution at 425psi (2,930kPa) operating pressure, 77°F (25°C), pH6.5 and 15% recovery.

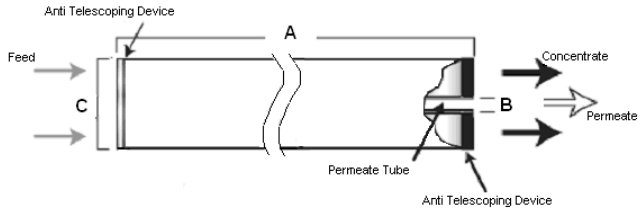

Figure 1: Element Dimensions Diagram (Female)

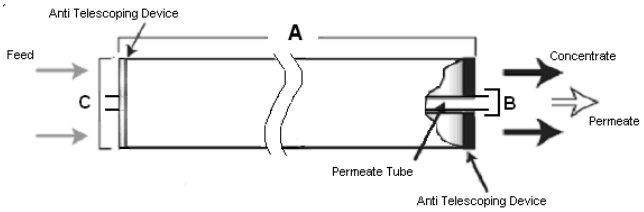

Figure 1b: Element Dimensions Diagram (Male,Stinger)

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Table 2: Dimensions and Weight

Model[1]	Dimensions, inches (cm)			Boxed
	A	B[2]	C[3]	Weight lbs (kg)
SE4040F1020, Stinger	40.0 (101.6)	0.75 (1.9) OD	3.9 (9.9)	9 (4.1)
SE4040F1021	40.0 (101.6)	0.625 (1.59)	3.9 (9.9)	9 (4.1)
SE4040C1027	40.0 (101.6)	0.625 (1.59)	3.9 (9.9)	9 (4.1)
SE8040F1067	40.0 (101.6)	1.125 (2.86)	7.9 (20.1)	29 (13.2)
SE8040F1002	40.0 (101.6)	1.125 (2.86)	7.9 (20.1)	29 (13.2)
SE8040C1065	40.0 (101.6)	1.125 (2.86)	7.9 (20.1)	29 (13.2)

[1]These elements are dried then bagged before shipping.
[2]Internal diameter unless specified OD (outside diameter).
[3]The element diameter (dimension C) is designed for optimum performance in GE pressure vessels. Other pressure vessel dimension and tolerance may result in excessive bypass and loss of capacity.

Table 3: Operating and CIP Parameters

Typical Operating Flux	5-20 GFD (8-34 LMH)
Maximum Operating Pressure	600psi (4,137kPa) if T < 95°F (35°C) 435psi (3,000kPa) if T > 95°F (35°C)
Maximum Temperature	Continuous Operation: 122°F (50°C) Clean-In-Place (CIP): 122°F (50°C)
pH Range	Optimum rejection Range 5.5-7.0 Continuous Operation: 2.0-10.0 Clean-In-Place (CIP): 1.0-10.5
Maxime Pressure Drop	Over an element: 15psi (103kPa) Per housing: 60psi (414kPa)
Chlorine Tolerance	500+ ppm-hours, dechlorination recommended
Feedwater	NTU < 1 SDI < 5