GE Power
Water & Process Technologies

Fact Sheet

AE HR Series

High Rejection Low Energy Seawater RO Elements

The AE HR series of proprietary thin film reverse osmosis membrane elements are characterized by an excellent sodium chloride rejection. AE HR series is selected when high quality permeate is demanded from seawater that is relatively high in TDS.

AE HR series new membrane chemistry provides excellent rejection characteristics when operated at seawater operating conditions (pressures exceeding 800psi (5,516kPa).

Table 1: Element Specification

Membrane	Thin-film membrane (TFM*)

Model	Average permeate flow gpd (m3/day)[1,2]	Average NaCl rejection[1,2]	Minimum NaCl rejection[1,2]	Minimum Boron Rejection[2]
AE-90	2000 (7.6)	99.8%	99.3%	90.0%
AE-400, 34	9000 (34.1)	99.8%	99.3%	90.0%
AE-440	9900 (37.5)	99.8%	99.3%	90.0%

[1] Average salt rejection after 24 hours of operation.
Individual flow rate may vary ±20%.
[2] Testing conditions: 32,000mg/l NaCl & 5mg/l Boron solution at 800psi (5,516kPa) operating pressure, 77°F (25°C), pH 8.0 and 10% recovery.

Model	Active area ft² (m²)	Outer wrap	Part number
AE-90	90 (8.4)	Fiberglass	3056660
AE-400, 34	400 (37.2)	Fiberglass	3056662
AE-440	440 (40.9)	Fiberglass	3056663

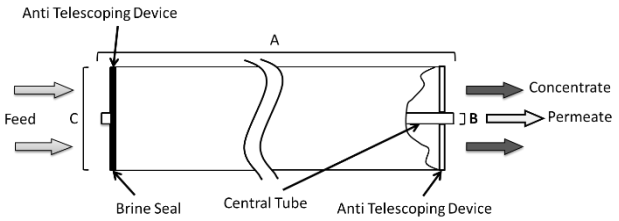


Figure 1a: Element Dimensions Diagram – Male

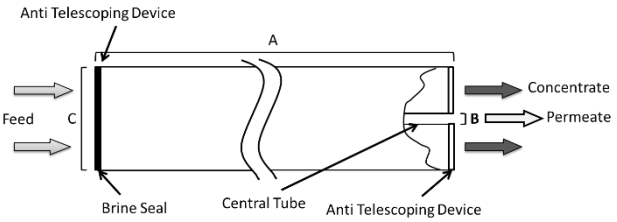


Figure 1b: Element Dimensions Diagram – Female

Table 2: Operating and CIP parameters

Typical Operating Pressure	800psi (5,516kPa)
Typical Operating Flux	7-11GFD (12-19LMH)
Maximum Operating Pressure	1,200psi (8,274kPa)
Maximum Temperature	Continuous operation: 122°F (50°C) Clean-In-Place (CIP): 122°F (50°C)
pH range	Optimum rejection pH: 7.0-7.5, Continuous operation: 4.0-11.0, Clean-In-Place (CIP): 2.0 – 12.0[1]
Maximum Pressure Drop	Over an element: 12 psi (83 kPa) Per housing: 50 psi (345 kPa)
Chlorine Tolerance	1,000+ ppm-hours, dechlorination recommended
Feedwater[2]	NTU < 1 SDI < 5

[1] Please 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 GE representative.

Table 3: Dimensions and Weights

Model	Type	Dimensions, inches (cm)			Boxed
		A	B	C	Weight lbs (kg)
AE-90	Male	40.0 (101.6)	0.75 (1.90)	3.9 (9.9)	9 (4)
AE-400, 34	Female	40.0 (101.6)	1.125 (2.86)	7.9 (20.1)	35 (16)
AE-440	Female	40.0 (101.6)	1.125 (2.86)	7.9 (20.1)	35 (16)