AD Series

FACT SHEET

WATER TECHNOLOGIES

VEOLIA

High rejection seawater RO element

The AD Series family of proprietary thin film reverse osmosis elements is characterized by an excellent sodium chloride rejection. The AD Series is selected when high quality permeate is demanded from seawater that is relatively high in TDS.

AD Series membrane chemistry provides excellent rejection characteristics when operated at seawater operating conditions (pressures exceeding 800 psi (5,516 kPa) and elevated temperatures).

Table 1: Element Specification

Membrane	Thin-film membrane (TFM)

Model	Average permeate flow gpd (m^3/day) (1)(2)	Average NaCl rejection (1)(2)	Minimum NaCl rejection (1)(2)	Typical boron rejection (2)
AD-90	1375 (5.2)	99.8%	99.5%	95.0%
AD-400,34	7000 (26.5)	99.8%	99.5%	95.0%
AD-440	7700 (29.2)	99.8%	99.5%	95.0%

(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 7% recovery.

Table 2: Element Properties (3)

Model	Active area ft^2 (m^2)	Outer wrap	Part number
AD-90	90 (8.4)	Fiberglass	3056651
AD-400,34	400 (37.2)	Fiberglass	3056654
AD-440	440 (40.9)	Fiberglass	3056655

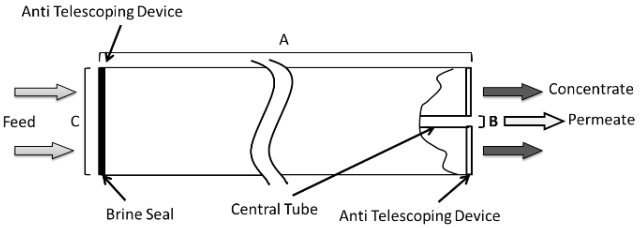

Figure 1: Element Dimensions Diagram – Female

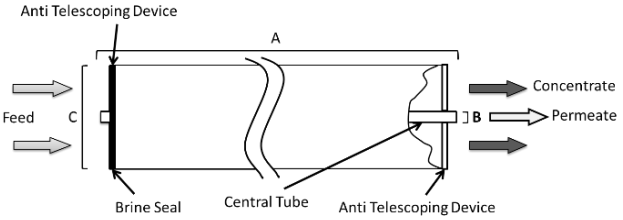

Figure 2: Element Dimensions Diagram – Male

Table 3: Dimensions and Weights (3)

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

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Table 4: Operating and CIP Parameters (3)

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: 7.0-7.5, Continuous operation 2.0-11.0, Clean-In-Place (CIP): 1.0-12.0 (4)
Maximum Pressure Drop	Over an element: 15 psi (103 kPa) Per housing: 50 psi (345 kPa)
Chlorine Tolerance	1,000+ ppm-hours, dechlorination recommended
Feedwater	NTU < 1 SDI_{15} < 5

(3) Element properties and parameters are indicative numbers. Specific values by element may vary within normal element manufacturing tolerances.

(4) Refer to Cleaning Guidelines Technical Bulletin TB1194.

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