AD series

high rejection seawater RO elements

Water Technologies & Solutions
fact sheet

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

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

AD series is certified to NSF/ANSI 61.

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	1400 (5.3)	99.8%	99.5%	95.0%
AD-365	6500 (24.2)	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.

Model	Active area ft^2 (m^2)	Outer wrap	Part number
AD-90	90 (8.4)	Fiberglass	3056651
AD-365	365 (33.9)	Fiberglass	3056652
AD-400,34	400 (37.2)	Fiberglass	3056654
AD-440	440 (40.9)	Fiberglass	3056655

Figure 1a: Element Dimensions Diagram – Male

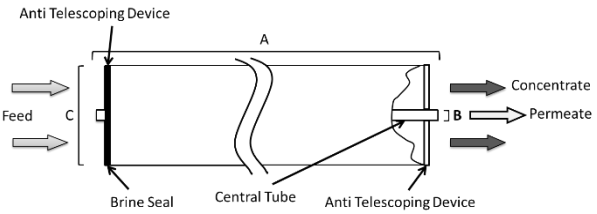


Figure 1b: Element Dimensions Diagram – Female

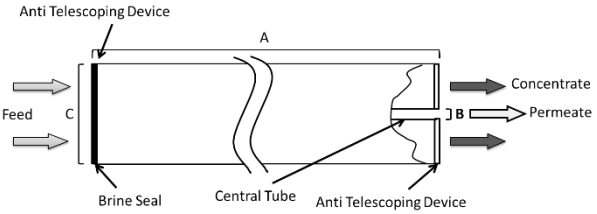


Table 2: Operating and CIP parameters

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: 7.0-7.5, Continuous operation 2.0-11.0, 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	NTU < 1 SDI_{15} < 5

(1) Please refer to Cleaning Guidelines Technical Bulletin TB1194.

Table 3: Dimensions and Weights

Model	Type	Dimensions, inches (cm)			Boxed
		A	B	C	Weight lbs. (kg)
AD-90	Male	40.0 (101.6)	0.75 (1.90)	3.9 (9.9)	9 (4)
AD-365	Female	40.0 (101.6)	1.125 (2.86)	7.9 (20.1)	35 (16)
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)