

AD series

high rejection seawater RO elements

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

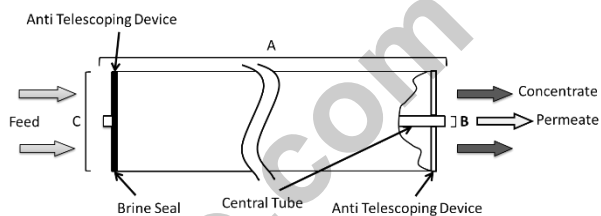


Figure 1b: Element Dimensions Diagram – Female

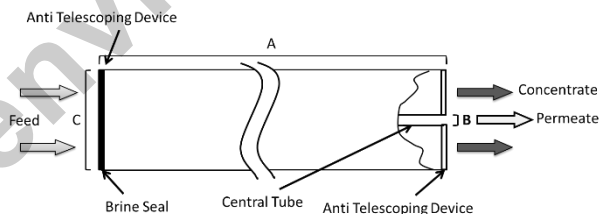


Table 2: Operating and CIP parameters

| | |
|-----------------------------------|---|
| 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.

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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) |

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