

AK series

low energy brackish water RO elements

The A-Series, family of proprietary thin-film reverse osmosis membrane elements are characterized by high flux and high sodium chloride rejection. AK Low Pressure Brackish Water Elements are selected when high rejection and low operating pressures are desired. These elements allow significant energy savings since good rejection is achieved at operating pressures as low as 100 psi (689 kPa).

Table 1: Element Specification

| Membrane | A-series, thin-film membrane (TFM*) |
|----------|-------------------------------------|
|----------|-------------------------------------|

| Model | Average permeate flow gpd (m ³ /day) ⁽¹⁾⁽²⁾ | Average NaCl rejection ⁽¹⁾⁽²⁾ | Minimum NaCl rejection ⁽¹⁾⁽²⁾ |
|-------------|---|--|--|
| AK2540TM | 750 [2.8] | 99.0% | 98.0% |
| AK4040C | 2,300 [8.7] | 99.0% | 98.0% |
| AK4040FM | 2,200 [8.3] | 99.0% | 98.0% |
| AK4040TM | 2,200 [8.3] | 99.0% | 98.0% |
| AK8040C | 10,000 [37.9] | 99.0% | 98.0% |
| AK8040F | 10,000 [37.9] | 99.0% | 98.0% |
| AK8040F 400 | 11,000 [41.6] | 99.0% | 98.0% |

(1) Average salt rejection after 24 hours operation. Individual flow rate may vary ±20%.

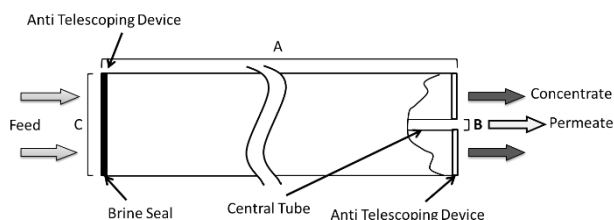
(2) Testing conditions: 500ppm NaCl solution at 115psi (793kPa) operating pressure, 77°F (25°C), pH7.5 and 15% recovery.

| Model | Membrane area ft ² (m ²) | Outer wrap | Part Number |
|-------------|---|------------|-------------|
| AK2540TM | 27 [2.5] | Tape | 1206802 |
| AK4040C | 90 [8.4] | Cage | 1223696 |
| AK4040FM | 85 [7.9] | Fiberglass | 3039082 |
| AK4040TM | 85 [7.9] | Tape | 3039149 |
| AK8040C | 380 [35.3] | Cage | 1206819 |
| AK8040F | 365 [33.9] | Fiberglass | 3039160 |
| AK8040F 400 | 400 [37.2] | Fiberglass | 3039161 |

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Note: **4040C elements do not feature brine seal.

Figure 1: Element Dimensions Diagram – Female

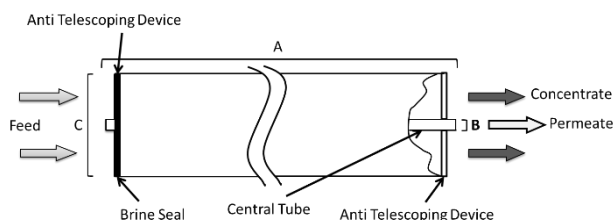


Figure 2: Element Dimensions Diagram – Male

Table 2: Dimensions and Weight

| Model | Type | Dimensions, inches (cm) | | | Boxed |
|----------|--------|-------------------------|-----------------|---------------|------------------|
| | | A | B | C | Weight lbs. (kg) |
| AK2540* | Male | 40.0 (101.6) | 0.75 (1.9) | 2.4 (6.1) | 5 (2.3) |
| AK4040C | Female | 40.0 (101.6) (1) | 0.625 (1.59) | 3.9 (9.9) | 9 (4) |
| AK4040FM | Male | 40.0 (101.6) | 0.75 (1.9) | 3.9 (9.9) | 9 (4) |
| AK4040TM | Male | 40.0 (101.6) | 0.75 (1.9) | 3.9 (9.9) | 9 (4) |
| AK8040* | Female | 40.0 (101.6) | 1.125 (2.86) | 7.9 (20.1) | 35 (16) |

(1) Includes interconnector, refer to Technical Bulletin TB1206.

Table 3: Operating and CIP parameters

| | |
|-----------------------------------|---|
| Typical Operating Pressure | 100 psi (689 kPa) |
| Typical Operating Flux | 10-20 GFD (15-35LMH) |
| Maximum Operating Pressure | 600 psi (4,136 kPa) |
| 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): 1.0-13.0 ⁽¹⁾ |
| Maximum Pressure Drop | Over an element: 15 psi (103 kPa) Per housing: 50 psi (345 kPa) |
| Chlorine Tolerance | 1,000+ ppm x hours, dechlorination recommended |
| Feedwater | NTU < 1 SDI ₁₅ < 5 |

(1) Refer to Cleaning Guidelines Technical Bulletin TB1194.