

AK LE Series

High Flow Low Energy Brackish Water RO Elements

The A-Series family of proprietary thin-film reverse osmosis membrane is characterized by high flux and high sodium chloride rejection. AK LE brackish water elements are selected when high rejection, high flow and ultra-low operating pressures are desired.

The AK LE element is a low energy high flow element for beverage, light commercial, residential and general industrial applications. AK LE Series elements feature a Fiberglass outer wrap.

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} |
|-----------|--|--|--|
| AK-90 LE | 2800 (10.6) | 99.3% | 99.0% |
| AK-400 LE | 12300 (46.6) | 99.3% | 99.0% |
| AK-440 LE | 13500 (51.1) | 99.3% | 99.0% |

¹ Average salt rejection after 24 hours operation. Individual flow rate may vary +25%/-15%.

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

| Model | Active area ft² (m²) | Outer wrap | Part number |
|-----------|-------------------------|------------|-------------|
| AK-90 LE | 90 (8.4) | Fiberglass | 3056683 |
| AK-400 LE | 400 (37.2) | Fiberglass | 3056684 |
| AK-440 LE | 440 (40.9) | Fiberglass | 3056685 |

Table 2: Operating and CIP parameters

| | |
|----------------------------|---|
| Typical Operating Pressure | 110 psi (758 kPa) |
| Typical Operating Flux | 10-20GFD (15-35LMH) |
| Maximum Operating Pressure | 400 psi (2,758 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 4.0-11.0, Clean-In-Place (CIP): 1.0-12.0 |
| 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 ³ | NTU < 1 SDI < 5 |

³SDI 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 Filters with Membranes representative.

Figure 1a: Element Dimensions Diagram – Male

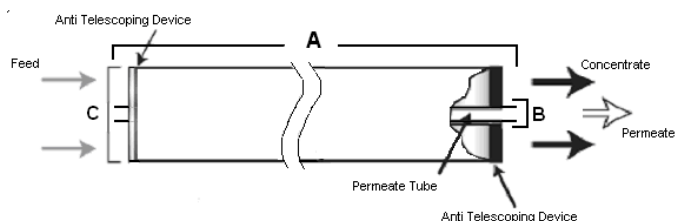
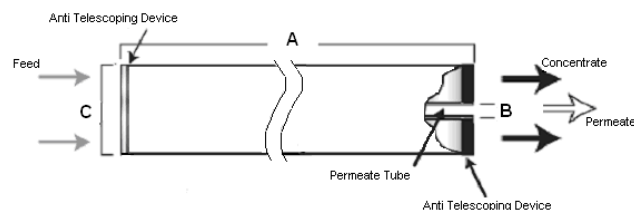


Figure 1b: Element Dimensions Diagram – Female



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Table 3: Dimensions and Weights

| Model ¹ | Type | Dimensions, inches (cm) | | | Boxed Weight lbs (kg) |
|--------------------|--------|-------------------------|----------------|------------|-----------------------------|
| | | A | B ² | C | |
| AK-90 LE | Male | 40.0 (101.6) | 0.75 (1.90) | 3.9 (9.9) | 9 (4) |
| AK-400 LE | Female | 40.0 (101.6) | 1.125 (2.86) | 7.9 (20.1) | 35 (16) |
| AK-440 LE | Female | 40.0 (101.6) | 1.125 (2.86) | 7.9 (20.1) | 35 (16) |