AK LE Series

FACT SHEET

High flow low energy brackish water RO elements

The A-Series family of proprietary thin-film reverse osmosis elements 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.

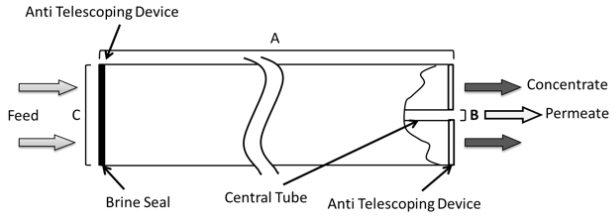

Figure 1: Element Dimensions Diagram – Female

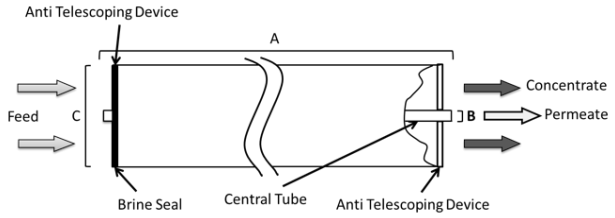

Figure 2: Element Dimensions Diagram – Male

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)
AK-90 LE	2,600 (9.8)	99.3%	99.0%
AK-400 LE, 34	12,100 (45.8)	99.3%	99.0%
AK-440 LE	13,300 (50.3)	99.3%	99.0%

(1) Average salt rejection after 24 hours of operation. Individual flow rate may vary ±20%.
(2) Testing conditions: 500ppm NaCl solution at 115psi (793kPa) operating pressure, 77°F (25°C), pH7 and 15% recovery.

Table 2: Element Properties (3)

Model	Active area ft^2 (m^2)	Outer wrap	Part number
AK-90 LE	90 (8.4)	Fiberglass	3056683
AK-400 LE, 34	400 (37.2)	Fiberglass	3056684
AK-440 LE	440 (40.9)	Fiberglass	3056685

Table 3: Dimensions and Weights

Model	Type	Dimensions, inches (cm)			Boxed Weight lbs. (kg)
		A	B	C	
AK-90 LE	Male	40.0 (101.6)	0.75 (1.90)	3.9 (9.9)	9 (4)
AK-400 LE, 34	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)

Table 4: Operating and CIP Parameters (3)

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 2.0-11.0, Clean-In-Place (CIP): 1.0-13.0 (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) Please refer to Cleaning Guidelines Technical Bulletin TB1194.

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