AK series

low energy brackish water RO elements

Water Technologies & Solutions
fact sheet

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).

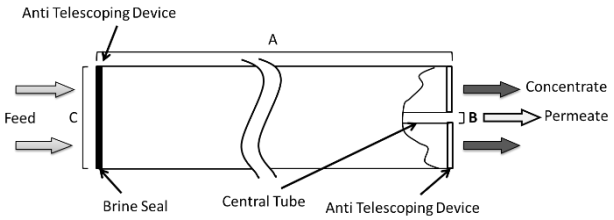
Table 1: Element Specification

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



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

Figure 1 : Element Dimensions Diagram – Female

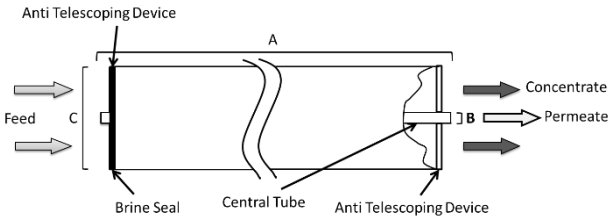


Figure 2: Element Dimensions Diagram – Male

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: 12 psi (83 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.