

# AK HR Series

## High Rejection Low Energy Brackish Water RO Elements

The A-Series family of proprietary thin-film reverse osmosis membrane elements is characterized by high flux and high sodium chloride rejection. AK HR Low Pressure Brackish 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 psig (689 kPa).

These elements are recommended for low brackish water with salt concentration (TDS) levels up to 1,000mg/l. In turn, AK HR LE elements produce a permeate quality close to a standard brackish membrane element at a much lower pressure.

AK HR LE elements feature a FRP outer wrap and female end connections.

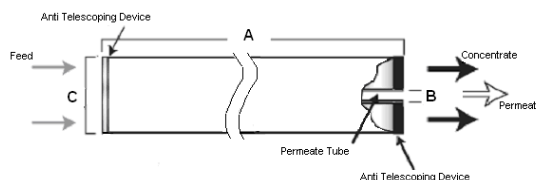


Figure 1: Element Dimensions Diagram

Table 2: Dimensions and Weight

Model	Dimensions, inches (cm)			Boxed Weight lbs (kg)
	A	B <sup>2</sup>	C	
AK8040F-400,WET HR <sup>1</sup>	40.0 (101.6)	1.125 (2.86)	7.9 (20.1)	35 (16)

<sup>1</sup> These elements are bagged wet (WT) before shipping.

<sup>2</sup>Internal diameter unless specified OD (outside diameter).

Table 1: Element Specification

Membrane	Thin-film membrane (TFM*)
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Model	Average permeate flow gpd (m3/day) <sup>1,2</sup>	Average NaCl rejection <sup>1,2</sup>	Minimum NaCl rejection <sup>1,2</sup>
AK8040F-400,WET HR	10,200 (38.6)	99.5%	99.0%

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

<sup>2</sup> Testing conditions: 500ppm NaCl solution at 115psi (862kPa) operating pressure, 77°F, pH7.5 and 15% recovery.

Model	Active area ft <sup>2</sup> (m <sup>2</sup> )	Outer wrap	Part number
AK8040F-400,WET HR	400 (37.2)	Fiberglass	3040998

Table 3: Operating and CIP parameters

Typical Operating Pressure	120 psi (830 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 pH: 7.0-7.5, Continuous operation: 4.0-11.0, Clean-In-Place (CIP): 2.0-11.5
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 < 5

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