

AD HR Series

Seawater RO High Rejection Elements

The AD HR series, family of proprietary thin film reverse osmosis membrane elements, is characterized by an excellent sodium chloride rejection. AD HR series is selected when high quality permeate is demanded from seawater that is relatively high in TDS.

AD HR series new membrane chemistry provides excellent rejection characteristics when operated at seawater operating conditions (pressures exceeding 800psi (5,516kPa) and elevated temperatures).

Table 1: Element Specification

Membrane	Thin-film membrane (TFM*)		
Model	Average permeate flow gpd (m ³ /day) ^{1,2}	Average NaCl rejection ^{1,2}	Minimum NaCl rejection ^{1,2}
AD4040FM HR	1,400 (5.3)	99.7%	99.3%
AD8040F HR	6,000 (22.7)	99.7%	99.3%
AD8040F-400 HR	6,500 (24.6)	99.7%	99.3 %

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

² Testing conditions: 32,000mg/l NaCl solution at 800psi (5,516kPa) operating pressure, 77°F, pH7.5 and 7% recovery.

Model	Active area ft ² (m ²)	Outer wrap	Part number
AD4040FM HR	86 (8.0)	Fiberglass	3034297
AD8040F HR	370 (34.4)	Fiberglass	3037409
AD8040F-400 HR	400 (37.2)	Fiberglass	3037470

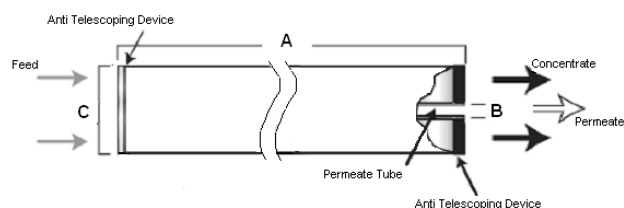


Figure 1a: Element Dimensions Diagram - Female

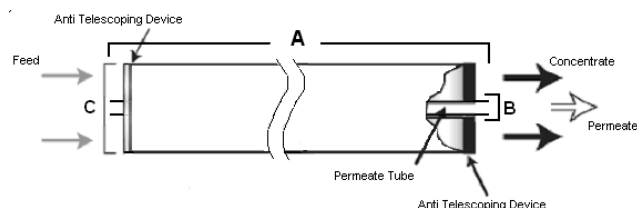


Figure 1b: Element Dimensions Diagram - Male

Table 2: Dimensions and Weight

Model ¹	Dimensions, inches (cm)			Boxed Weight lbs (kg)
	A	B ²	C	
AD4040FM HR	40.0 (101.6)	0.75 (1.90) OD	3.9 (9.9)	9 (4)
AD8040F HR	40.0 (101.6)	1.125 (2.86)	7.9 (20.1)	35 (16)
AD8040F-400 HR	40.0 (101.6)	1.125 (2.86)	7.9 (20.1)	35 (16)

¹ These elements are bagged wet before shipping.

² Internal diameter unless specified OD (outside diameter).

Table 3: Operating and CIP parameters

Typical Operating Pressure	800psi (5,516kPa)
Typical Operating Flux	7-11GFD (12-19LMH)
Maximum Operating Pressure	1,200psi (8,274kPa)
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: 12psi (83kPa) Per housing: 50psi (345kPa)
Chlorine Tolerance	1,000+ ppm-hours, dechlorination recommended
Feedwater	NTU < 1 SDI < 5