

# AG HR Series

## High Rejection 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. AG HR brackish water elements are selected when high rejection and operating pressures as low as 200 psi (1,379 kPa) are desired. These elements are recommended for brackish water with salt concentration (TDS) levels between 1,000 and 10,000mg/l or when very high salt rejection of monovalent ions is required.

**Table 1: Element Specification**

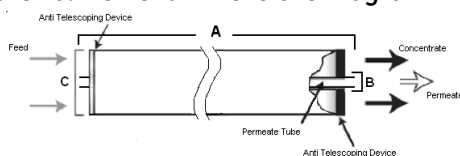
Membrane	Thin-film membrane (TFM*)		
Model	Average permeate flow gpd (m <sup>3</sup> /day) <sup>1,2</sup>	Average NaCl rejection <sup>1,2</sup>	Minimum NaCl rejection <sup>1,2</sup>
AG-90	2200 (8.3)	99.8%	99.3%
AG-365	9600 (36.3)	99.8%	99.3%
AG-400	10500 (39.7)	99.8%	99.3%
AG-400, 34	10500 (39.7)	99.8%	99.3%
AG-440	11500 (43.5)	99.8%	99.3%

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

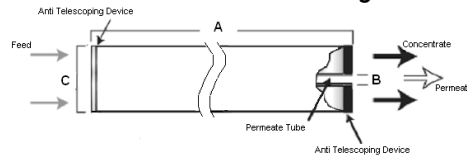
<sup>2</sup> Testing conditions: 2,000ppm NaCl solution at 225psi (1,550kPa) operating pressure, 77°F (25°C), pH7 and 15% recovery.

Model	Active area ft <sup>2</sup> (m <sup>2</sup> )	Outer wrap	Part number
AG-90	90 (8.4)	Fiberglass	3056665
AG-365	365 (33.9)	Fiberglass	3056666
AG-400	400 (37.2)	Fiberglass	3056667
AG-400, 34	400 (37.2)	Fiberglass	3056668
AG-440	440 (40.9)	Fiberglass	3056669

**Figure 1a: Element Dimensions Diagram – Male**



**Figure 1b: Element Dimensions Diagram – Female**



**Table 2: Operating and CIP parameters**

<b>Typical Operating Pressure</b>	200 psi (1,380 kPa)
<b>Typical Operating Flux</b>	10-20GFD (15-35LMH)
<b>Maximum Operating Pressure</b>	600 psi (4,137 kPa)
<b>Maximum Temperature</b>	Continuous operation: 122°F (50°C) Clean-In-Place (CIP): 122°F (50°C)
<b>pH range</b>	Optimum rejection: 7.0-7.5, Continuous operation 4.0-11.0, Clean-In-Place (CIP): 1.0-12.0
<b>Maximum Pressure Drop</b>	Over an element: 12 psi (83 kPa) Per housing: 50 psi (345 kPa)
<b>Chlorine Tolerance</b>	1,000+ ppm-hours, dechlorination recommended
<b>Feedwater<sup>3</sup></b>	NTU < 1 SDI < 5

<sup>3</sup>SDI 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.

**Table 3: Dimensions and Weights**

Model <sup>1</sup>	Type	Dimensions, inches (cm)			Boxed Weight lbs (kg)
		A	B <sup>2</sup>	C	
AG-90	Male	40.0 (101.6)	0.75 (1.90)	3.9 (9.9)	9 (4)
AG-365	Female	40.0 (101.6)	1.125 (2.86)	7.9 (20.1)	35 (16)
AG-400	Female	40.0 (101.6)	1.125 (2.86)	7.9 (20.1)	35 (16)
AG-400, 34	Female	40.0 (101.6)	1.125 (2.86)	7.9 (20.1)	35 (16)
AG-440	Female	40.0 (101.6)	1.125 (2.86)	7.9 (20.1)	35 (16)



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