

# AG FR Series

## FACT SHEET

### Fouling resistant brackish water RO elements for challenging water & wastewater

The A-Series family of proprietary thin-film reverse osmosis elements is characterized by high flux and relatively high sodium chloride rejection.

The AG FR element is designed for challenging water & wastewater applications. The element construction enhances feed flow to minimize fouling and optimize energy performance. In addition, AG FR elements enable more effective cleaning cycles and reduce cleaning frequency as well as the need for harsh chemicals.

**Table 1: Element Specification**

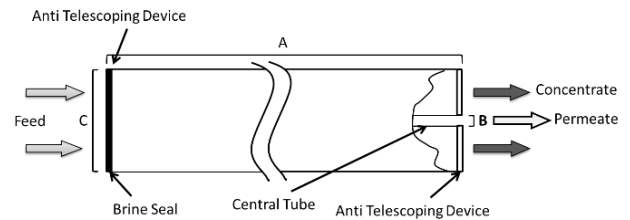
Membrane	A-Series, thin-film membrane (TFM)		
Model	Average Permeate Flow gpd (m <sup>3</sup> /day) <sup>(1)(2)</sup>	Average NaCl Rejection <sup>(1)(2)</sup>	Minimum NaCl Rejection <sup>(1)(2)</sup>
AG4040FM FR,34	2,200 (8.8)	99.5%	99.0%
AG8040F-400 FR,34	11,000 (41.6)	99.5%	99.1%

(1) Average salt rejection after 24 hours of operation. Individual flow rate may vary ±20%.

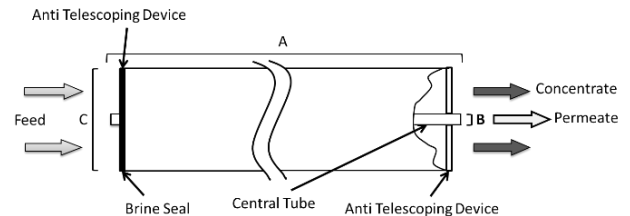
(2) Testing conditions: 2,000 ppm NaCl solution at 225 psi (1,551 kPa) operating pressure, 77°F (25°C), pH 7.5 and 15% recovery.

**Table 2: Element Properties <sup>(3)</sup>**

Model	Membrane Area ft <sup>2</sup> (m <sup>2</sup> )	Outer Wrap	Feed Spacer (mil)	Part Number
AG4040FM FR,34	80 (7.4)	Fiberglass	34	3154063
AG8040F-400 FR,34	400 (37.2)	Fiberglass	34	3136931



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



**Figure 2: Element Dimensions Diagram – Male**

**Table 3: Dimensions and Weight <sup>(3)</sup>**

Model	Type	Dimensions, inches (cm)			Boxed
		A	B	C	Weight lbs. (kg)
AG4040FM FR,34	Male	40.0 (101.6)	0.75 (1.90)	3.9 (9.9)	11 (5)
AG8040F-400 FR,34	Female	40.0 (101.6)	1.125 (2.86)	7.9 (20.1)	35 (16)

**Table 4: Operating and CIP Parameters (3)**

<b>Typical Operating Pressure</b>	200 psi (1,379 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: 2.0-11.0, Clean-In-Place (CIP): 1.0-13.0 (4)
<b>Maximum Pressure Drop</b>	Over an element: 15 psi (103 kPa) Per housing: 50 psi (345 kPa)
<b>Chlorine Tolerance</b>	1,000+ ppm x hours, Dechlorination recommended
<b>Feedwater</b>	NTU < 1 SDI <sub>15</sub> < 5

(3) Element properties and parameters are indicative numbers. Specific values by element may vary within normal element manufacturing tolerances.

(4) Refer to Cleaning Guidelines Technical Bulletin TB1194.