

# AG H Series

## FACT SHEET

## High performance, very high rejection brackish water RO elements

The AG H Series of reverse osmosis (RO) elements are designed to perform in brackish water applications where the very highest levels of rejection are needed. AG H Series elements combine Veolia chemistry and manufacturing advancements to deliver differentiated performance over the life of the element in ionic rejection and in the rejection of uncharged or lightly charged species such as silica. These elements are ideal for applications such as ultrapure water production, treating high pressure boiler feed water, or any other application when the very highest rejection is needed.

All AG H Series elements have NSF/ANSI/CAN 61 certification and 8-inch diameter elements also have halal certification.

**Table 1: Element Specification**

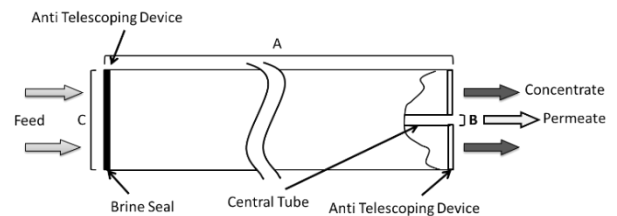
Membrane	Thin-film membrane (TFM), polyamide		
Model	Average permeate flow gpd (m <sup>3</sup> /day) <sup>(1,2)</sup>	Typical NaCl rejection <sup>(1,2)</sup>	Minimum NaCl rejection <sup>(1,2)</sup>
AG-90 H	2,600 (9.8)	99.8%	99.65%
AG-400 H	11,000 (41.6)	99.8%	99.65%
AG-440 H	12,000 (45.4)	99.8%	99.65%

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

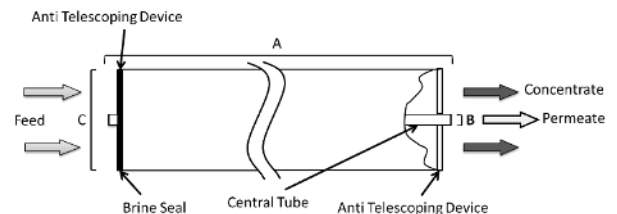
(2) Testing conditions: 2,000 ppm NaCl solution at 225 psi (1,550 kPa) operating pressure, 77°F (25°C), pH 7 and 15% recovery.

**Table 2: Element Properties (3)**

Model	Active area ft <sup>2</sup> (m <sup>2</sup> )	Outer wrap	Feed Spacer (mil)	Part number
AG-90 H	90 (8.3)	Fiberglass	31	3194885
AG-400 H	400 (37.2)	Fiberglass	34	3150329
AG-440 H	440 (40.9)	Fiberglass	28	3150328



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



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

**Table 3: Dimensions and Weights (3)**

Model	Type	Dimensions, inches (cm)			Boxed weight lbs (kg)
		A	B	C	
AG-90 H	Male	40.0 (101.6)	0.75 (1.9)	3.9 (9.9)	9 (4)
AG-400 H	Female	40.0 (101.6)	1.125 (2.86)	7.9 (20.1)	40 (18)
AG-440 H	Female	40.0 (101.6)	1.125 (2.86)	7.9 (20.1)	42 (19)

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

Typical Operating Pressure	200 psi (1,380 kPa)
Typical Operating Flux	10-20 GFD (15-35 LMH)
Maximum Operating Pressure	600 psi (4,137 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): 1.0-12.0 (4)
Maximum Pressure Drop	Over an element: 15 psi (103 kPa) Per housing: 50 psi (345 kPa)
Chlorine Tolerance	1,000+ ppm-hours, dechlorination recommended
Feedwater <sup>2</sup>	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) Please refer to Cleaning Guidelines Technical Bulletin TB1194.

## Additional Information

- As with any product, use of the products mentioned in this publication in a given application must be tested (including field testing, etc.) by the user in advance to determine suitability.
- Treat RO elements with care; do not drop the element.
- Each RO element is wet tested. The 8-inch diameter elements are preserved in a 1% weight sodium bisulfite solution and vacuum packed in oxygen barrier bags. The 4-inch diameter elements are packaged with oxygen scavenger packets in oxygen barrier bags.
- During storage, avoid freezing and direct sunlight. The temperature should be below 35°C (95°F).

## After Installation

- Keep the RO elements wet and use a compatible preservative for storage duration longer than 7 days.
- During the initial start-up, discharge the first permeate to drain for 30 minutes.
- Permeate back pressure should not exceed feed pressure at any time.
- The RO elements shall be maintained in a clean condition, unfouled by particulate matter or precipitates or biological growth.
- Consider cleaning, if the pressure drop increases by 20% or water permeability decreases by 10%. Use only chemicals which are compatible with the membrane.