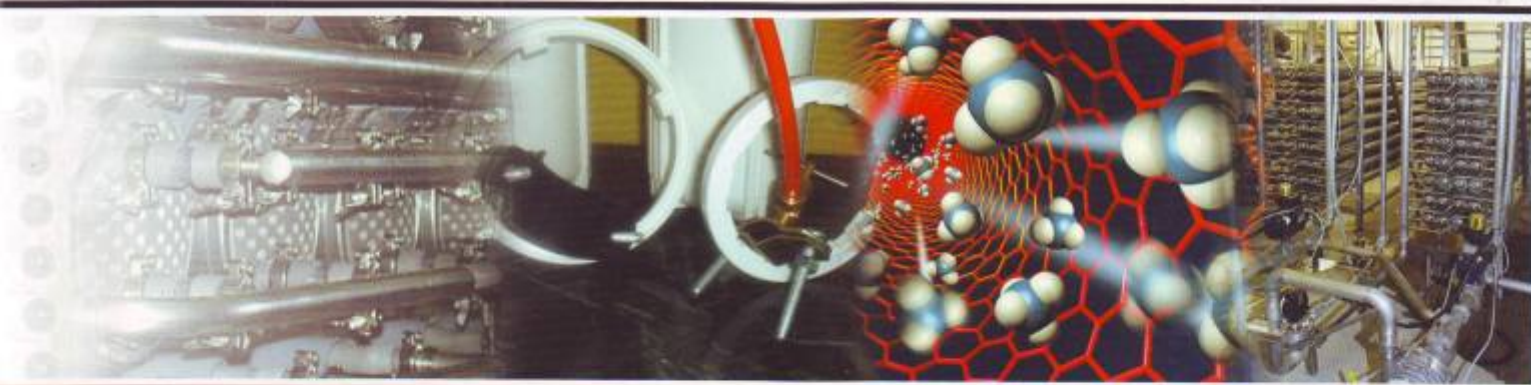


## Brackish Water Membrane Products - GE WATER & PROCESS TECHNOLOGY

| Thermax Description | GE Model No.  | Nominal Active Surface Area ft <sup>2</sup> (m <sup>2</sup> ) | Permeate Flow Rate gpd (m <sup>3</sup> /d) | Applied feed Pressure bar (psig) | Average Salt Rejection NaCl (%) | Single Element Membrane Dia mm (inches) | Single Element Permeate Tube Dia mm (inches) | Feed Spacer Thickness (mil) |
|---------------------|---------------|---|--|----------------------------------|---------------------------------|---|--|-----------------------------|
| TCDM 80             | AG 8040 F     | 365 (33.9)  | 10,000 (37.9)                              | 15.5 (225)                       | 99.5                            | 200 (7.88)                              | 29 (1.125)                                   | 31                          |
| TCDM 81             | AG 8040 F 400 | 400 (37.2)  | 11,000 (41.6)                              | 15.5 (225)                       | 99.5                            | 200 (7.88)                              | 29 (1.125)                                   | 27                          |
| TCDM 40             | AG 4040 FM    | 85 (7.9)  | 2200 (8.3)                                 | 15.5 (225)                       | 99.5                            | 99 (3.88)                               | 19 (0.75)                                    | 27                          |
| TCDM 41             | AK 4040 FM    | 85 (7.9)  | 2200 (8.3)                                 | 7.93 (115)                       | 99                              | 99 (3.88)                               | 19 (0.75)                                    | 27                          |

(We honor any specific requirements apart from the above stated models)



### Standard Test Conditions

- Solute : Sodium Chloride (NaCl)
- TDS (ppm) : 2000 (500\*)
- Feed Pressure (psi) : 225 (115\*)
- Temperature (°C) : 25
- pH : 7.5
- Recovery (%) : 15

### Operating Limits

- Membrane Type : Thin Film Membrane (TFM®)
- Maximum Operating Pressure (psi) : 600 (400\*)
- Maximum Operating Temperature (°C) : 50
- Maximum Pressure Drop : 10 psig (69 kPa) per element  
: 60 psig (345 kPa) per vessel
- Optimum rejection pH : 7.0-7.5
- Operating pH range : 4.0-11.0
- Cleaning pH range : 2.0-11.5
- Free Chlorine Tolerance (ppm-hours) : 1000, Dechlorination recommended
- Typical Operating Flux (LMH) : 15-35
- Maximum Feed Turbidity (NTU) : < 1
- Maximum Feed SDI : < 5

\* for AK 4040 FM

# AG Series

## Standard Brackish Water RO Elements



The A-Series, family of proprietary thin-film reverse osmosis membrane elements are characterized by high flux and high sodium chloride rejection. AG Standard Brackish Water Elements are selected when high rejection and operating pressures as low as 200 psi (1,379 kPa) are desired. These elements allow moderate energy savings, and are considered a standard in the industry.

The part numbers featured below are produced in India and distributed primarily through our Hoskote location.

**Table 1: Element Specification**

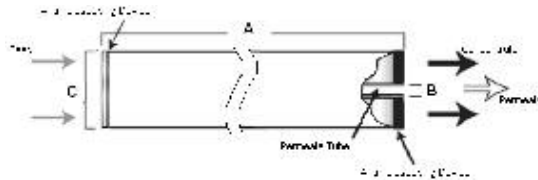
|          |                                     |
|----------|-------------------------------------|
| Membrane | A-Series, Thin-Film Membrane (TFM*) |
|----------|-------------------------------------|

| Model           | Average permeate flow gpd (m3/day) <sup>2</sup> | Average NaCl rejection <sup>1,2</sup> | Minimum NaCl rejection <sup>1,2</sup> |
|-----------------|---|---------------------------------------|---------------------------------------|
| AG4040FM        | 2,200 (8.3)                                     | 99.5%                                 | 99.0%                                 |
| AG4040TM        | 2,200 (8.3)                                     | 99.5%                                 | 99.0%                                 |
| AG8040F         | 9,600 (36.3)                                    | 99.5%                                 | 99.0%                                 |
| AG8040F WET     | 9,600 (36.3)                                    | 99.5%                                 | 99.0%                                 |
| AG8040F 400     | 10,500 (39.8)                                   | 99.5%                                 | 99.0%                                 |
| AG8040F 400 WET | 10,500 (39.8)                                   | 99.5%                                 | 99.0%                                 |

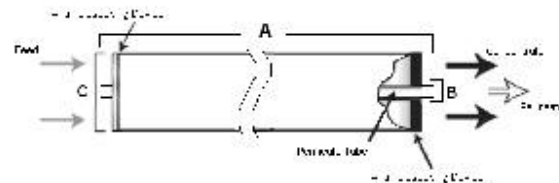
<sup>1</sup> Average salt rejection after 24 hours operation. Individual flow rate may vary +25%/-15%.

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

| Model           | Active area ft <sup>2</sup> (m <sup>2</sup> ) | Outer wrap | Part number |
|-----------------|---|------------|-------------|
| AG4040FM        | 85 (7.9)                                      | Fiberglass | 3033327     |
| AG4040TM        | 85 (7.9)                                      | Tape       | 3033328     |
| AG8040F         | 365 (33.9)                                    | Fiberglass | 3033329     |
| AG8040F WET     | 365 (33.9)                                    | Fiberglass | 3033610     |
| AG8040F 400     | 400 (37.2)                                    | Fiberglass | 3033611     |
| AG8040F 400 WET | 400 (37.2)                                    | Fiberglass | 3033612     |



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



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

**Table 2: Dimensions and Weight**

| Model           | Dimensions, inches (cm) |                |                | Boxed Weight lbs (kg) |
|-----------------|-------------------------|----------------|----------------|-----------------------|
|                 | A                       | B <sup>2</sup> | C <sup>3</sup> |                       |
| AG4040FM        | 40.0 (101.6)            | 0.75 (1.90) OD | 3.9 (9.9)      | 8 (3.5)               |
| AG4040TM        | 40.0 (101.6)            | 0.75 (1.90) OD | 3.9 (9.9)      | 8 (3.5)               |
| AG8040F         | 40.0 (101.6)            | 1.125 (2.86)   | 7.9 (20.1)     | 32 (14.5)             |
| AG8040F WET     | 40.0 (101.6)            | 1.125 (2.86)   | 7.9 (20.1)     | 35 (16)               |
| AG8040F 400     | 40.0 (101.6)            | 1.125 (2.86)   | 7.9 (20.1)     | 32 (14.5)             |
| AG8040F 400 WET | 40.0 (101.6)            | 1.125 (2.86)   | 7.9 (20.1)     | 35 (16)               |

<sup>1</sup> These elements are bagged dried, unless specified WET, before shipping.

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

<sup>3</sup> The element diameter (dimension C) is designed for optimum performance in GE Water & Process Technologies pressure vessels. Other pressure vessel dimension and tolerance may result in excessive bypass and loss of capacity.

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**Table 3: Operating and CIP parameters**

|                            |  |
|----------------------------|--|
| Typical Operating Pressure | 200 psi (1,379 kPa)  |
| Typical Operating Flux     | 10-20GFD (15-35LMH)  |
| Maximum Operating Pressure | Tape 450 psi (3,103 kPa)<br>Other outerwrap: 600 psi (4,137 kPa)                                 |
| Maximum Temperature        | Continuous operation: 122°F (50°C)<br>Clean-In-Place (CIP): 122°F (50°C)                         |
| pH Range                   | Optimum rejection: 7.0-7.5,<br>Continuous operation: 4.0-11.0,<br>Clean-In-Place (CIP): 2.0-11.5 |
| Maximum Pressure Drop      | Over an element: 12 psi (83 kPa)<br>Per housing: 50 psi (345 kPa)                                |
| Chlorine Tolerance         | 1,000+ ppm-hours,<br>Dechlorination recommended  |
| Feedwater                  | NTU < 1<br>SDI < 5   |