# Commercial Elements

*FACT SHEET*

## Small size spiral-wound membranes for commercial applications

Veolia Commercial Elements are spiral wound membranes designed for light industrial or commercial applications. For cost optimization, they feature a tape outer wrap.

AG and AK Series membranes are selected when high salt rejection is required. These elements are considered a standard in the industry.

**Table 1: Element Specification**

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

| Model | Average permeate flow gpd ($m^3$/day) (1)(3) | Average NaCl rejection (2)(3) | Minimum NaCl rejection (2)(3) |
|---|---|---|---|
| AG2521TM | 300 (1.1) | 99.65% | 99.4% |
| AG3218T | 700 (2.6) | 99.65% | 99.4% |
| AG4021TM | 1050 (3.9) | 99.65% | 99.4% |

(1) Individual flow rate may vary +25%/-15%.
(2) Stabilized salt rejection after 24 hours operation.
(3) Testing conditions: 2,000 ppm NaCl solution at 225 psi (1,551 kPa) operating pressure, 25°C (77°F), pH 7.5 and 15% recovery.

| Model | Average Permeate Flow gpd ($m^3$/day) (4)(6) | Average NaCl Rejection (5)(6) | Minimum NaCl Rejection (5)(6) |
|---|---|---|---|
| AK2521TM | 300 (1.1) | 99.0% | 98.0% |
| AK3218T | 700 (2.6) | 99.0% | 98.0% |
| AK4021TM | 1050 (3.9) | 99.0% | 98.0% |

(4) Individual flow rate may vary +25%/-15%.
(5) Stabilized salt rejection after 24 hours operation.
(6) Testing conditions: 500 ppm NaCl solution at 115 psi (793 kPa) operating pressure, 25°C (77°F), pH 7.5 and 15% recovery.

**Table 2: Element Properties (7)**

| Model | Active area $ft^2$ ($m^2$) | Outer wrap | Part number |
|---|---|---|---|
| AG2521TM | 13 (1.2) | Tape | 1206719 |
| AG3218T | 29 (2.7) | Tape | 1206739 |
| AG4021TM | 42 (3.9) | Tape | 1206750 |
| AK2521TM | 13 (1.2) | Tape | 1206799 |
| AK3218T | 29 (2.7) | Tape | 1206803 |
| AK4021TM | 42 (3.9) | Tape | 1206812 |

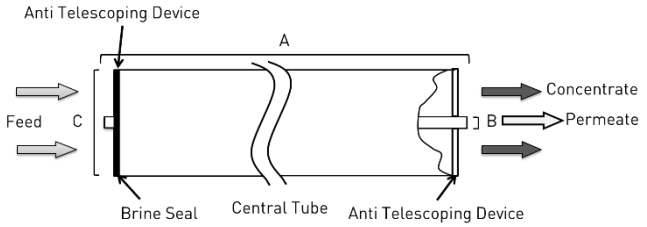


**Figure 1: Element Dimensions Diagram – Male**

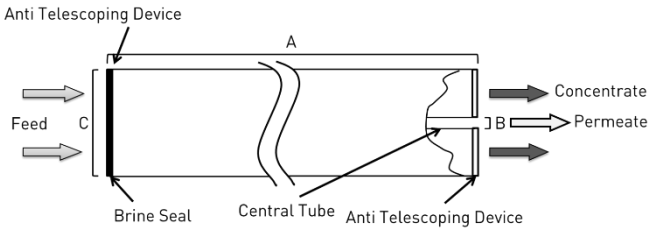


**Figure 2: Element Dimensions Diagram – Female**

***WATER TECHNOLOGIES***

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**Table 3: Dimensions and Weight (7)**

| Model | | Dimensions, inches (cm) | | | Boxed |
|---|---|---|---|---|---|
| | **Type** | **A** | **B** | **C** | **Weight lbs (kg)** |
| **2521TM | Male | 21 (53.3) | 0.75 (1.90) | 2.4 (6.1) | 2.1 (0.9) |
| **3218T | Female | 18 (45.7) | 0.625 (1.60) | 3.2 (8.1) | 2.4 (1.1) |
| **4021TM | Male | 21 (53.3) | 0.75 (1.90) | 3.9 (9.9) | 3.3 (1.5) |

**Table 4: Operating and CIP parameters (7)**

| | |
|---|---|
| Typical Operating Flux | 10-20 GFD (15-35 LMH) |
| Maximum Operating Pressure | 400 psi (3,758 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: 3.0-10.0<br>Clean-In-Place (CIP): 1.0-13.0 (8) |
| Chlorine Tolerance | 1,000 ppm-hours,<br>dechlorination recommended |
| Feedwater | NTU < 1<br>$SDI_{15}$< 5 |

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

(8) Please refer to Cleaning Guidelines Technical Bulletin TB1194.

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