FILMTEC Membranes
Seawater Product Comparison Chart

The Highest Quality Desalination at the Lowest Total Cost

FILMTEC™ reverse osmosis membrane elements from Dow are engineered to precisely meet the varying needs of a wide range of industrial, municipal, commercial and drinking water applications. Our advanced manufacturing technologies ensure that FILMTEC membranes always deliver unmatched performance and productivity as well as the highest quality and consistency available.

Whatever your water treatment system requirements, FILMTEC elements can help you deliver the highest quality water at the lowest total cost. Based on extensive research and testing of FILMTEC and competitive membranes, we’ve re-engineered our seawater product line to meet precise cost and performance targets while optimizing both capital and operating costs.

FILMTEC™ Seawater Elements – Performance Data

<table>
<thead>
<tr>
<th>Performance Attributes</th>
<th>Construction Features</th>
<th>Reliability Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feed Pressure (psi)</td>
<td>24 in. Feed Spacing</td>
<td>1200 psi Feed Pressure</td>
</tr>
<tr>
<td>Flow Rate (gpm)</td>
<td>28 in. Feed Spacing</td>
<td>Durable FT30 Membrane</td>
</tr>
<tr>
<td>Salt Rejection (%)</td>
<td>Active Area (ft²)</td>
<td>pH 1-12 Compatibility</td>
</tr>
<tr>
<td>Maximum Pressure (psi)</td>
<td></td>
<td>Automated Construction</td>
</tr>
<tr>
<td>Highest Rejection (%)</td>
<td></td>
<td>Guaranteed Active Area</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model</th>
<th>New</th>
<th>Feed Pressure</th>
<th>Flow Rate</th>
<th>Salt Rejection</th>
<th>Maximum Pressure</th>
<th>Highest Rejection</th>
<th>Feed Spacing</th>
<th>Active Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>SW30XLE-400</td>
<td>NEW</td>
<td>800</td>
<td>9,000</td>
<td>99.70</td>
<td>88</td>
<td>1,200</td>
<td></td>
<td>400</td>
</tr>
<tr>
<td>SW30HR LE-400</td>
<td>NEW</td>
<td>800</td>
<td>7,500</td>
<td>99.75</td>
<td>91</td>
<td>1,200</td>
<td></td>
<td>400</td>
</tr>
<tr>
<td>SW30HR LE-400</td>
<td></td>
<td>800</td>
<td>7,500</td>
<td>99.75</td>
<td>91</td>
<td>1,200</td>
<td></td>
<td>400</td>
</tr>
<tr>
<td>SW30HR-380</td>
<td></td>
<td>800</td>
<td>6,000</td>
<td>99.70</td>
<td>90</td>
<td>1,000</td>
<td></td>
<td>380</td>
</tr>
<tr>
<td>SW30HR-320</td>
<td></td>
<td>800</td>
<td>6,000</td>
<td>99.75</td>
<td>91</td>
<td>1,200</td>
<td></td>
<td>320</td>
</tr>
</tbody>
</table>

The above values are normalized to the following conditions: 32,000 ppm NaCl, 5 ppm boron, 800 psi (5.5 MPa), 77°F (25°C), pH 8 and 8% recovery.
# FILMTEC™ Seawater Product Selection Guide

## Are you working with high fouling feedwater?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Choose</strong> FILMTEC SW30HR-320</td>
<td><strong>What is your primary driver?</strong></td>
</tr>
</tbody>
</table>

### Low Energy

- **Lowest Energy Use**
  - Choose FILMTEC SW30XLE-400i

- **Low Energy Use + High Rejection**
  - Choose FILMTEC SW30HR LE-400i

### Highest Rejection

- **One Pass System**
  - Choose FILMTEC SW30HR-380

- **Two Pass System**
  - Choose FILMTEC SW30XLE-400i (Combined with brackish water second pass)

## Drop-in membrane replacement for existing 4,000-6,000 gpd elements

### Competitive Replacement Guide

<table>
<thead>
<tr>
<th>Use: FILMTEC SW30XLE-400i</th>
<th>No equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use: FILMTEC SW30HR LE-400i</td>
<td>To replace: TMA820-400 SU820BCM</td>
</tr>
<tr>
<td>Use: FILMTEC SW30HR-380</td>
<td>To replace: SWC3+ SWC4+ TMA820-370</td>
</tr>
<tr>
<td>Use: FILMTEC SW30HR-320</td>
<td>To replace: SWC3 SWC4 SU820 SU820L SU820FA</td>
</tr>
</tbody>
</table>

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Benefits of FILMTEC Seawater Membrane Elements

Each and every FILMTEC element produced uses precision engineered FILMTEC membrane combined with our exclusive automated element fabrication method resulting in the most consistent product performance available. Automated fabrication allows us to deliver the highest active area without compromising feed spacer thickness and to construct FILMTEC elements with a greater number of shorter membrane leaves compared with competitive elements, thereby reducing the overall effect of fouling, maximizing membrane efficiency, and lowering the cost of operation. In addition, FILMTEC elements deliver high performance over their operating lifetimes without the use of oxidative post-treatments like many competitive products, offering greater durability and more effective cleaning over a wider pH range (1-12) than other elements.

Our precision engineered products deliver these additional, specialized benefits:

**FILMTEC SW30XLE-400 element**
- Delivers lowest total cost of water through an unequalled combination of productivity and rejection.
- Lowest energy seawater element available on the market, enabling lowest operation cost.
- Reduces operating costs through lowest energy consumption, or reduces capital costs through higher productivity and recovery
- Highest active area without compromising feed spacer or outer shell thickness.
- Ideal for two-pass seawater designs and high total dissolved solids (TDS) brackish water applications.
- Can be used in permeate staged seawater desalination systems without impairing the performance of the downstream stage.
- Includes iLEC interlocking endcaps, which reduce system operating costs and the risk of o-ring leaks that cause poor water quality.

**FILMTEC SW30HR LE-400 element**
- Offers combination of higher productivity and very high rejection to enable lower total costs with high salinity feedwater.
- Delivers highest NaCl and high boron rejection to help meet World Health Organization and other drinking water standards.
- Reduces capital costs through higher productivity and recovery, or reduces operating costs through lower energy consumption.
- Highest active area without compromising feed spacer or outer shell thickness.
- Can be used in permeate-staged seawater desalination systems without impairing the performance of the downstream stages.
- Includes iLEC interlocking endcaps, which reduce system operating costs and the risk of o-ring leaks that cause poor water quality.

**FILMTEC SW30HR-380**
- High productivity and high rejection with high active area.
- Years of proven performance as the industry standard seawater element.
- Delivers the highest boron rejection to help meet World Health Organization and other drinking water standards and is ideally suited for single pass systems.
Benefits of FILMTEC Seawater Membrane Elements (cont.)

FILMTEC SW30HR-320

- High productivity, very high rejection.
- Designed to lower component economics.
- Effectively treats feedwater that has high fouling potential.
- Features a 34 mil feed spacer to lessen the impact of fouling and enhance cleaning capability.
- Can be used in permeate-staged seawater desalination systems without impairing the performance of the downstream stage.

Notice: The use of this product in and of itself does not necessarily guarantee the removal of cysts and pathogens from water. Effective cyst and pathogen reduction is dependent on the complete system design and on the operation and maintenance of the system.

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