2.5 x 14 INCH TAPE WRAP BRACKISH ELEMENTS

MODEL TR70-2514-HF & TRH-2514

Membrane Type: Crosslinked Aromatic Polyamide, Negative Charge
Element Configuration: Spiral Wound, Tape Wrap

Performance Specification

<table>
<thead>
<tr>
<th>Model</th>
<th>Salt Rejection avg.¹,²</th>
<th>Product Flow Rate¹,²</th>
</tr>
</thead>
<tbody>
<tr>
<td>TR70-2514-HF</td>
<td>99.4 %</td>
<td>1000 l/d (265 gpd)</td>
</tr>
<tr>
<td>TRH-2514</td>
<td>99.0 %</td>
<td>700 l/d (185 gpd)</td>
</tr>
</tbody>
</table>

Notes:

¹ Test Conditions
- Temperature: A 25°C, B 25°C
- Feed Solution, Concentration: A 1500 ppm NaCl, B 500 ppm NaCl
- Feed Pressure: A 15 bar, B 7.5 bar
- Brine : Permeate ratio: A 5 : 1, B 5 : 1
- Feed pH: A 6.5 - 7.5, B 6.5 - 7.5

² Average value for 100 elements after 1 hour operation
   Product Flow Rate +/- 15%
   Salt Rejection minimum 98 %

³ Minimum Performance data are for any single element

Dimensions:
**Design Conditions**

**Recommended**

- **Operating Pressure**²,³  
  $< 15.0 \text{ kg/cm}^2$ (216 psi)  
- **Operating Temperature**⁴  
  $< 35 \text{ °C}$ (95 °F)  
- **Feedwater Turbidity ($SDI_{15}$)**²,⁵  
  $< 5$  
- **Feedwater Chlorine Concentration**  
  $0 \text{ ppm}$  
- **pH Range, Continuous Operation**⁶  
  $3-11$  
- **pH Range, Chemical Cleaning**⁷  
  $2-11$  
- **Feed Flow Rate per Vessel**  
  $< 650 \text{ l/h}$ (3 gpm)  
- **Brine Flow Rate per Vessel**⁹  
  $> 250 \text{ l/h}$ (1 gpm)  
- **Brine/Permeate Flow Ratio**⁸  
  $5:1$  
- **Pressure Drop (per Element)**¹⁰  
  $0.5 \text{ kg/cm}^2$ (7 psi)  
- **Pressure Drop (per Vessel)**¹⁰  
  $1.0 \text{ kg/cm}^2$ (14 psi)

**Notes:**

1. The recommended design range means safe operational and design conditions under not so much fouling and scaling. If the TR-series elements are operated outside of the recommended design range, the effective membrane life may be reduced.

2. High flux operation (operation under high permeate flow rate per single element) on feedwater turbidity greater than 3 or 4 $SDI_{15}$ generally results in frequent cleaning requirements. Operating pressure should be selected to maintain the flux rate, or permeate flow rate per single element.

3. Maximum 20 kg/cm² (288 psi)

4. Maximum 35 °C (95 °F)

5. $SDI_{15}$ = Silt Density Index measured according to ASTM D4189

6. Both feed and brine water must meet this range.


8. Flow ratio of brine to permeate for each single element

9. This figure may be reduced when there is low possibility of fouling and scaling

10. Element(s) must be cleaned when pressure drop increases to 1.5 times of the initial value.

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