MODEL SC-2201

Membrane Type                           Modified Cellulose Acetate
Element Configuration                   Spiral Wound

Performance Specification

<table>
<thead>
<tr>
<th>Performance Specification</th>
<th>NaCl Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salt Rejection 1,2</td>
<td>95.0 % 2</td>
</tr>
<tr>
<td>Product Flow Rate 1,2</td>
<td>35.2 m³ day (9300 gpd) 3</td>
</tr>
</tbody>
</table>

Notes :
1. Test Conditions
   - Feed Water Pressure 3.0 MPa (440 psi)
   - Feed Water Temperature 25 °C (77 °F)
   - Feed Water Concentration 1,500 mg/l as NaCl
   - Brine Flow Rate 80 l/min. (21 gpm)
   - Feed Water pH 6

2. 92.5 % minimum*
3. 30.4 m³/day (8040 gpd) minimum* *For any single element

Dimensions

Flow direction

Feed Water, Concentrated Brine.

All dimensions shown in millimeters.
Design Conditions

Feed Water Pressure \(2^{3}\)
Feed Water Temperature \(^4\)
Feed Water Turbidity (SDI) \(^{2.5}\)
Feed Water Chlorine Concentration \(^6\)
Feed Water pH Range, Continuous Operation \(^6\)
Feed Water pH Range, Chemical Cleaning \(^7\)
Feed Flow Rate per Vessel
Brine Flow Rate per Vessel \(^9\)
Brine/Permeate Flow Ratio \(^8,9\)
Pressure Drop (per Element) \(^{10}\)
Pressure Drop (per Vessel) \(^{10}\)

Recommended \(^1\)

- 30 MPa (430 psi)
- 30 C (86 F)
- 4
- 0.1 0.7 mg/l
- 4 6.5
- 3 8.5
- \(200 \text{ /min.} (52.8 \text{ gpm})\)
- \& 40 \text{ /min.} (10.6 \text{ gpm})
- 6
- 1 kg/cm\(^2\) (14 psi)
- 2 kg/cm\(^2\) (29 psi)

Notes:

1. The recommended design range is operational and design conditions under not so much fouling and scaling. If the SC-series element are operated outside of the recommended design range, the effective membrane life may be reduced. Refer to the Toray technical bulletin, or contact Toray or local distributor for design guidelines and further information.
2. High flux operation (operation under high permeate flow rate per single element) on feed water turbidity greater than 3 or 4 SDI 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 Feed Water Pressure 4.1 MPa (600 psi)
4. Maximum Feed Water Temperature 40 C (104 F)
5. SDI = Silt Density Index measured according to ASTM D4189.
6. Feed and brine water must meet these range.
7. Cleaning chemicals shall be followed to Toray's technical bulletins.
8. Ratio at last element.
9. This figure is reducible when there is less possibility of fouling and scaling.
10. Element(s) must be cleaned when pressure drop increases up to 1.5 times of initial value.

* Sterilization must follow guidances in Toray's technical bulletin.