

## MODEL SU-820FA

Membrane Type	Cross Linked Fully Aromatic Polyamide Composite
	Active membrane surface area, 31.4 m <sup>2</sup> (338 ft <sup>2</sup> ) <sup>5</sup>
Element Configuration	Spiral Wound

### Performance Specification

Salt Rejection <sup>1</sup>	99.75 % <sup>2</sup>
Product Flow Rate <sup>1</sup>	19 m <sup>3</sup> /day (5'020gpd) <sup>3</sup>

Membrane Surface Area	Nominal 32 m <sup>2</sup> (345 ft <sup>2</sup> ) <sup>4</sup>
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#### Notes:

<sup>1</sup> Test Conditions

Pressure	5.5 Mpa	(800 psi)
Temperature	25 °C	(77 °F)
Feed Concentration	3.5 %	as Sea Water
Brine Flow Rate	80 l/min	(21.1gpm)
Feed pH	6.5	

<sup>2</sup> 99.6% minimum \*

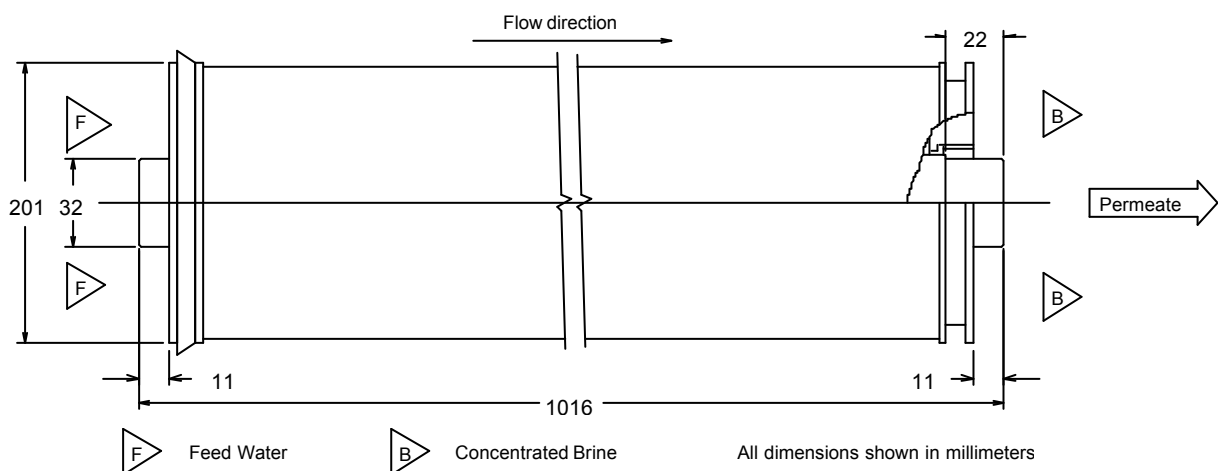
<sup>3</sup> 16.5m<sup>3</sup>/d (4360 gpd) minimum \*

\* For any single element

<sup>4</sup> The membranes area stated above is a nominal value and is not a guaranteed specification

<sup>5</sup> The membrane area stated is a nominal value and is not a guaranteed specification

#### Dimensions:



## Design Conditions

	<u>Recommended</u> <sup>1</sup>
Operating Pressure <sup>2,3</sup>	< <b>6860 kPa</b> (70kg/cm <sup>2</sup> / 1000 psi)
Feedwater Temperature <sup>4</sup>	< <b>35 °C</b> (95°F)
Feedwater (SDI <sub>15</sub> ) <sup>2,5</sup>	< <b>4</b>
Feedwater Chlorine Concentration	<b>0 ppm</b>
pH Range, Continuous Operation <sup>6</sup>	<b>3 - 9</b>
pH Range, Chemical Cleaning <sup>7</sup>	<b>2 - 10</b>
Feed Flow Rate per Vessel	< <b>200 l/min</b> (52.8 gpm)
Brine Flow Rate per Vessel <sup>9</sup>	> <b>40 l/min</b> (10.8 gpm)
Brine/Permeate Flow Ratio <sup>8,9</sup>	> <b>6</b>
Pressure Drop (per Element) <sup>9, 10</sup>	< <b>98 kPa</b> (1 kg/cm <sup>2</sup> ) (14 psi)
Pressure Drop (per Vessel) <sup>9, 10</sup>	< <b>196 kPa</b> (2 kg/cm <sup>2</sup> ) (29 psi)

### Notes:

- <sup>1</sup> The recommended design range means safe operational and design conditions under not so much fouling and scaling. If the SU-series elements 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 the local distributor for design guidelines and further information for multi element design.
- <sup>2</sup> High flux operation (operation under high permeate flow rate per single element) on feedwater SDI greater than 3 or 4 generally results in frequent cleaning requirements. Operating pressure should be selected to maintain the flux rate, or permeate flow rate per single element.
- <sup>3</sup> Maximum operating pressure 6860 kPa (70 kg/cm<sup>2</sup>) (1000 psi)
- <sup>4</sup> Maximum 45 °C (113 °F)
- <sup>5</sup> SDI <sub>15</sub> = Silt Density Index measured according to ASTM D4189
- <sup>6</sup> Both feed and brine water must meet this range.
- <sup>7</sup> Cleaning and sterilization must meet the recommendations in the Technical Bulletins for SU-series elements.
- <sup>8</sup> Flow ratio of brine to permeate for each single element
- <sup>9</sup> This figure may be reduced when there is hardly any fouling and scaling
- <sup>10</sup> Element(s) must be cleaned when pressure drop increases to 1.5 times of the initial value.

We accept no responsibility for results obtained by the application of this information or the safety or suitability of our product, either alone or in combination with other products. Users are advised to make their own tests to determine the safety and suitability of each such product combination for their own purposes.