## RE4040-FEn



Fouling resistant RO element with extended area for brackish water and wastewater reuse

### **SPECIFICATIONS:**

General Features

**Permeate flow rate:** 2,400 GPD (9.1 m<sup>3</sup>/day)

Nominal salt rejection: 99.7%

Effective membrane area: 85 ft<sup>2</sup> (7.9 m<sup>2</sup>)

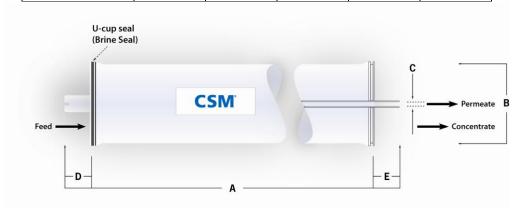
- 1. The stated product performance is based on data taken after 30 minutes of operation at the following test conditions:
  - 2,000 mg/L NaCl solution at 225 psig (1.5 MPa) applied pressure
  - 15% recovery
  - 77 °F (25 °C)
  - pH 6.5-7.0
- 2. Minimum salt rejection is 99.5%.
- 3. Permeate flow rate for each element may vary but will be no more than 10%.
- 4. All elements are vacuum sealed in a polyethylene bag containing 1.0% SBS (sodium bisulfite) solution and individually packaged in a cardboard box.

Membrane type:Thin-Film CompositeMembrane material:Polyamide (PA)

**Element configuration:** Spiral-Wound, FRP Wrapping

#### **Dimensions**

Model Name	A	В	С	D	E
RE4040-FEn	40.0 inch	4.0 inch	0.75 inch	1.61 inch	1.61 inch
	(1,016 mm)	(102 mm)	(19.1 mm)	(41 mm)	(41 mm)



- 1. Each membrane element supplied with one brine seal, one interconnector (coupler) and four o-rings.
- 2. All RE4040 elements fit nominal 4.0 inch (102 mm) I.D. pressure vessels.

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### **APPLICATION DATA:**

Operating Limits	· Max. Pressure Drop / Element	15 psi (0.1 MPa)		
	Max. Pressure Drop / 240" Vessel	60 psi (0.41 Mpa)		
	· Max. Operating Pressure	600 psi (4.14 MPa)		
	· Max. Feed Flow Rate	18 gpm (4.09 m <sup>3</sup> /hr)		
	· Min. Concentrate Flow Rate	4 gpm (0.91 m <sup>3</sup> /hr)		
	· Max. Operating Temperature	II3 ∘F (45 ∘C)		
	Operating pH Range	3.0-10.0		
	· CIP pH Range	2.0-11.0		
	· Max. Turbidity	I.0 NTU		
	Max. SDI (15 min)	5.0		
	Max. Chlorine Concentration	< 0.1 mg/L		
Design Guidelines for Various	· Wastewater Conventional (SDI < 5)	8–12 gfd		
Water Sources	· Wastewater Pretreated by UF/MF (SDI < 3)	10–14 gfd		
	· Seawater, Open Intake (SDI < 5)	7–10 gfd		
	Seawater, Beach Well (SDI < 3)	8–12 gfd		
	Surface Water (SDI < 5)	12–16 gfd		
	· Surface Water (SDI < 3)	13–17 gfd		
	· Well water (SDI < 3)	13–17 gfd		
	· RO permeate (SDI < I)	21–30 gfd		
Saturation Limits	· Langlier Saturation Index (LSI)	<+1.5		
$(Using Antiscalants)^{T}$	· Stiff and Davis Saturation Index (SDSI)	<+0.5		
	· CaSO4	230% saturation		
	· SrSO <sub>4</sub>	800% saturation		
	· BaSO <sub>4</sub>	6,000% saturation		
	· SiO <sub>2</sub>	100% saturation		
	<sup>†</sup> The above saturation limits are typically accepted by proprietary antiscalant manufacturers. It is the user's responsibility to ensure proper chemical(s) and concentration are dosed ahead of the membrane system to prevent scale formation anywhere within the membrane system. Membrane elements fouled			

### **GENERAL HANDLING PROCEDURES**

- Elements contained in the boxes must be kept dry at room temperature (7–32°C; 40–95°F) and should not be stored in direct sunlight. If the polyethylene bag is damaged, a new preservative solution (sodium bisulfite) must be added and air-tight sealed to prevent drying and biological growth.
- Permeate from the first hour of operation should be discarded to flush out the preservative solution.
- Elements should be immersed in a preservative solution during storage, shipping and system shutdowns to prevent biological growth and freezing. The standard storage solution contains 1% by weight sodium bisulfite or sodium metabisulfite (food grade). For short term storage (i.e. one week or less) 1% by weight sodium metabisulfite solution is adequate for preventing biological growth.
- Keep elements moist at all times after initial wetting.
- Avoid excessive pressure and flow spikes.

or damaged due to scale formation are not covered by the limited warranty.

- Only use chemicals compatible with the membrane elements and components. Use of such chemicals may void the element limited warranty.
- Permeate pressure must always be equal or less than the feed/concentrate pressure. Damage caused by permeate back pressure voids the element limited warranty.