

RE4021-TL

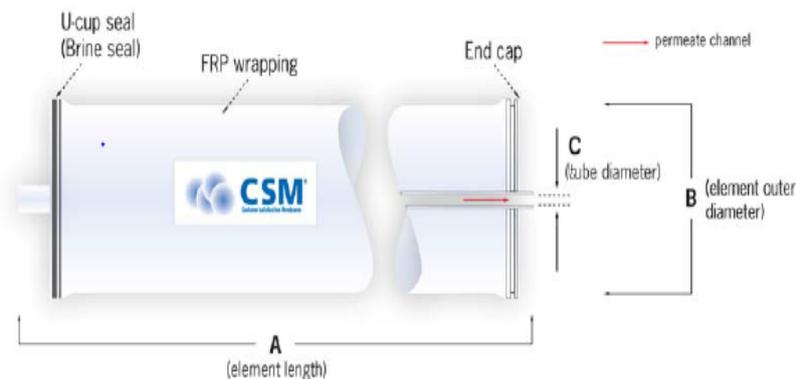
Normal grade RO membrane element with extended area for tap water and/or low TDS water

Product Specifications	Permeate Flow rate :	1,050 GPD (4.0 m ³ /day)
	Stabilized Salt Rejection :	99.0 %
	Effective Membrane Area :	35 ft ² (3.3 m ²)

- The stated performance is initial data taken after 30 minutes of operation based on the following conditions;
1,500 mg/L NaCl solution at 150 psig (1.0 MPa) applied pressure, 15 % recovery, 77 °F (25 °C) and pH 6.5~7.0.
- All elements are vacuum sealed in a polyethylene bag containing 1.0 % SBS (Sodium bisulfite) solution and packaged individually in a cardboard box.

Product Description	Membrane Type :	Thin-film Composite
	Membrane Material :	PA (Polyamide)
	Membrane Surface Charge :	Negative
	Element Configuration :	Spiral-Wound, Tape wrapping

Product Dimensions	A=	21 inch (533 mm)
	B=	4.0 inch (102 mm)
	C=	0.75 inch (19.1 mm)



- One interconnector (coupler) would be supplied for each membrane element.
- All CSM membrane elements fit nominal 4.0-inch (103 mm) I.D. pressure vessel.
- Outer feature may vary as design revisions take place.

Features

- High rejection CSM tap water membrane elements can be useful when tap water is not safe enough to drink without further purification.
- CSM low pressure TL elements have capabilities in salt rejection and flux similar to the regular brackish water membrane under low pressure condition to reduce the energy cost.
- CSM low pressure TL elements are helpful in saving electricity as well as capital costs for pumps, plumbing and pressure vessels in small systems

Application Data

Operating Limits

- Max. Pressure drop / Element 15 psi (0.1 MPa)
- Max. Pressure drop / 240" vessel 60 psi (0.42 Mpa)
- Max. Operating pressure 600 psi (4.14 MPa)
- Max. Feed flow rate 18 gpm (4.09 m³/hr)
- Min. Concentrate flow rate 4 gpm (0.91 m³/hr)
- Max. Operating temperature 113 °F (45 °C)
- Operating pH range 3.0 ~ 10.0
- CIP pH range 2.0 ~ 11.0
- Max. Turbidity 1.0 NTU
- Max. SDI (15 min) 5.0
- Max. Free Chlorine concentration 0.1 mg/L

Design Guideline for Various Water Source

- Waste water (SDI < 5) 8 ~ 12 gfd
- Waste water pretreated by UF (SDI < 3) 10 ~ 14 gfd
- Seawater, open intake (SDI < 5) 7 ~ 10 gfd
- High salinity well water (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
- ROUF permeate (SDI < 1) 21 ~ 30 gfd

Saturation Limits for Salts

- CaSO₄ 230 % saturation
- SrSO₄ 800 % saturation
- BaSO₄ 6,000 % saturation
- SiO₂ 100 % saturation

Above values are saturation limit at the tail end of the membrane elements for each sparingly soluble salts with proper scale inhibitor.

CaCO₃ Scaling potential limits as LSI or SDSI

- Without scale inhibitor < -0.2
- LSI (SDSI) with SHMP < +0.5
- LSI (SDSI) with special inhibitor¹ < +1.5
- SDSI with any inhibitor < +0.5

1. Special inhibitor means one of approved organic inhibitors. It should be approved from real plant for more than three years.



RE4021-BLF
超低水压に対応

Permeate flow rate: 1,050 GPD (4.0 m³/day) · Max. Pressure Drop / Element 15 psi (0.1 MPa)
Stabilized salt rejection: 99.2% · Max. Pressure Drop / 240" Vessel 60 psi (0.41 Mpa)
Effective membrane area: 35 ft² (3.3 m²) · Max. Operating Pressure 600 psi (4.14 MPa)
· Max. Feed Flow Rate 13 gpm (2.95 m³/hr)
· Min. Concentrate Flow Rate 3 gpm (0.68 m³/hr)
· Max. Operating Temperature 113 oF (45 oC)
· Operating pH Range 2.0–11.0
· CIP pH Range 1.0–13.0
· Max. Turbidity 1.0 NTU
· Max. SDI (15 min) 5.0
· Max. Chlorine Concentration < 0.1 mg/L

RE4040-BLN
低水压、塩分を含んだ源水に対応

Permeate flow rate: 2,600 GPD (9.8 m³/day)
Nominal salt rejection: 99.2% · Max. Pressure Drop / Element 15 psi (0.1 MPa)
Effective membrane area: 85 ft² (7.9 m²) · 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 m³/hr)
· Min. Concentrate Flow Rate 4 gpm (0.91 m³/hr)
· Max. Operating Temperature 113 oF (45 oC)
· Operating pH Range 2.0–11.0
· CIP pH Range 1.0–13.0
· Max. Turbidity 1.0 NTU
· Max. SDI (15 min) 5.0
· Max. Chlorine Concentration < 0.1 mg/L

RE4040-BLF
超低水压に対応

Permeate flow rate: 2,500 GPD (9.5 m³/day) · Max. Pressure Drop / Element 15 psi (0.1 MPa)
Nominal salt rejection: 99.2% · Max. Pressure Drop / 240" Vessel 60 psi (0.41 Mpa)
Effective membrane area: 85 ft² (7.9 m²) · Max. Operating Pressure 600 psi (4.14 MPa)
· Max. Feed Flow Rate 18 gpm (4.09 m³/hr)
· Min. Concentrate Flow Rate 4 gpm (0.91 m³/hr)
· Max. Operating Temperature 113 oF (45 oC)
· Operating pH Range 2.0–11.0
· CIP pH Range 1.0–13.0
· Max. Turbidity 1.0 NTU
· Max. SDI (15 min) 5.0
· Max. Chlorine Concentration < 0.1 mg/L