

## **FILMTEC™ Membranes**

FILMTEC SG30LE-400 High Productivity High Rejection Brackish Water RO Element

#### **Features**

FILMTEC™ SG30LE-400 is a low energy element with high overall rejection and high rejection of lower molecular weight organic compounds and silica. It operates at low pressure to deliver energy savings. This element is intended for use in the roughing stage of UPW systems in both new equipment and replacement situations where lower energy cost is desired.

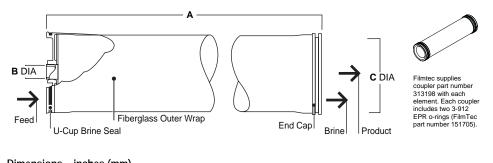
The new FILMTEC SG30LE-400 has an industry standard 1.125 inch ID permeate tube to facilitate element replacement.

### **Product Specifications**

		Active area	Feed spacer	Permeate flow rate	Stabilized salt	Minimum salt
Product	Part number	ft <sup>2</sup> (m <sup>2</sup> )	thickness (mil)	gpd (m³/d)	rejection (%)	rejection (%)
SG30LE-400	265606	400 (37)	28	9,500 (36)	99.5%	99.2%

- 1. Permeate flow and salt rejection based on the following standard conditions: 2,000 ppm NaCl, 150 psi (10.3 bar), 77°F (25°C), pH 8 and 15% recovery.
- 2. Flow rates for individual elements may vary but will be no more than 15% below the value shown.
- 3. Sales specifications may vary as design revisions take place.
- 4. Active area guaranteed +/-3%. Active area as stated by FilmTec is not comparable to nominal membrane area often stated by some manufacturers. Measurement method described in Form No. 609-00434.

## Figure 1



Dimensions -	inches	(111111)

Product	Α	В	С
SG30LE-400	40.0 (1,016)	1.125 ID (29)	7.9 (201)

1. Refer to FilmTec Design Guidelines for multiple-element applications and recommended element recovery rates for various feed sources. 2. Element to fit nominal 8.0-inch (203 mm) I.D. pressure vessel.

1 inch = 25.4 mm

#### **Operating Limits**

Membrane Type Polyamide Thin-Film Composite Maximum Operating Temperature<sup>a</sup> 113°F (45°C) Maximum Operating Pressure 600 psig (41 bar) Maximum Pressure Drop 15 psig (1.0 bar) pH Range, Continuous Operationa 2 - 11 pH Range, Short-Term Cleaning (30 min.)b 1 - 13 Maximum Feed Flow 85 gpm (19 m<sup>3</sup>/hr)

Maximum Feed Silt Density Index SDI 5 Free Chlorine Tolerance<sup>c</sup> < 0.1 ppm

Maximum temperature for continuous operation above pH 10 is 95°F (35°C).

Refer to Cleaning Guidelines in specification sheet 609-23010.

Under certain conditions, the presence of free chlorine and other oxidizing agents will cause premature membrane failure. Since oxidation damage is not covered under warranty, FilmTec recommends removing residual free chlorine by pretreatment prior to membrane exposure. Please refer to technical bulletin 609-22010 for more information.

## Important Information

Proper start-up of reverse osmosis water treatment systems is essential to prepare the membranes for operating service and to prevent membrane damage due to overfeeding or hydraulic shock. Following the proper start-up sequence also helps ensure that system operating parameters conform to design specifications so that system water quality and productivity goals can be achieved.

Before initiating system start-up procedures, membrane pretreatment, loading of the membrane elements, instrument calibration and other system checks should be completed.

Please refer to the application information literature entitled "Start-Up Sequence" (Form No. 609-02077) for more information.

#### Operation Guidelines

Avoid any abrupt pressure or cross-flow variations on the spiral elements during start-up, shutdown, cleaning or other sequences to prevent possible membrane damage. During start-up, a gradual change from a standstill to operating state is recommended as follows:

- Feed pressure should be increased gradually over a 30-60 second time frame.
- Cross-flow velocity at set operating point should be achieved gradually over 15-20 seconds.
- Permeate obtained from first hour of operation should be discarded.

# General Information

- Keep elements moist at all times after initial wetting.
- If operating limits and guidelines given in this bulletin are not strictly followed, the limited warranty will be null and void.
- To prevent biological growth during prolonged system shutdowns, it is recommended that membrane elements be immersed in a preservative solution.
- The customer is fully responsible for the effects of incompatible chemicals and lubricants on elements.
- Maximum pressure drop across an entire pressure vessel (housing) is 50 psi (3.4 bar).
- Avoid static permeate-side backpressure at all times.

FILMTEC™ Membranes For more information about FILMTEC membranes, call the Dow Liquid Separations business:

North America: 1-800-447-4369
Latin America: (+55) 11-5188-9222
Europe: (+32) 3-450-2240
Pacific: +60 3 7958 3392
Japan: +813 5460 2100
China: +86 21 2301 9000
http://www.filmtec.com

Notice: The use of this product in and of itself does not necessarily guarantee the removal of cysts and pathogens from water. Effective cyst and pathogen reduction is dependent on the complete system design and on the operation and maintenance of the system.

Notice: No freedom from any patent owned by Seller or others is to be inferred. Because use conditions and applicable laws may differ from one location to another and may change with time, Customer is responsible for determining whether products and the information in this document are appropriate for Customer's use and for ensuring that Customer's workplace and disposal practices are in compliance with applicable laws and other governmental enactments. Seller assumes no obligation or liability for the information in this document. NO WARRANTIES ARE GIVEN; ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY EXCLUDED.

