



FILMTEC Membranes

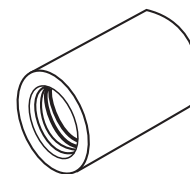
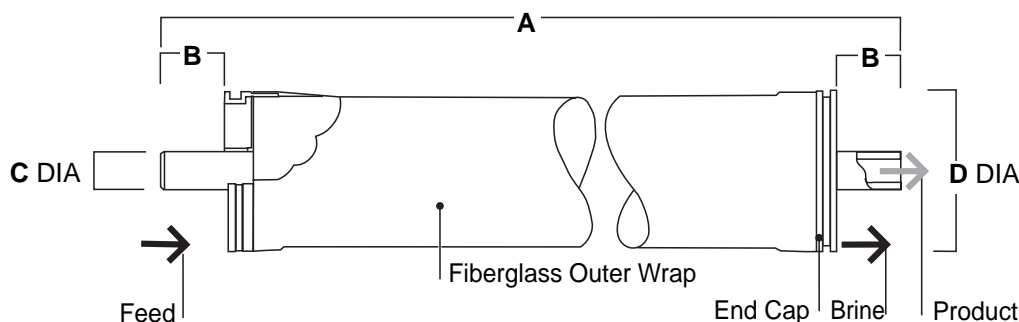
FILMTEC Fiberglassed Elements for Light Industrial Systems

FILMTEC® fiberglassed brackish water elements consistently provide outstanding system performance. Fiberglassed elements are recommended for multiple-element housings containing three or more membrane elements as they are designed to withstand higher pressure drops. BW30 elements are designed for systems requiring the highest possible rejection. BW30LE elements are designed for customers wanting savings from lower energy requirements.

Product Specifications

Product	Part Number	Active Area ft ² (m ²)	Applied Pressure psig (bar)	Permeate Flow Rate gpd (m ³ /d)	Stabilized Salt Rejection (%)
BW30-2540	80766	28 (2.6)	225 (15.5)	750 (2.8)	99.5
BW30-4040	80783	82 (7.6)	225 (15.5)	2200 (8.3)	99.5
BW30LE-4040	80604	82 (7.6)	150 (10.3)	2000 (7.7)	99.0

1. Permeate flow and salt rejection based on the following test conditions: 2000 ppm NaCl, 77°F (25°C) and 15% recovery.
2. Permeate flows for individual elements may vary +/-20%.
3. Minimum initial salt rejection is 98.0%.
4. Product specifications may vary slightly as improvements are implemented.
5. BW30LE-4040 was previously named BW30HP-4040.



FilmTec sells coupler part number 89055 for use in multiple element housings. Each coupler includes two 2-210 EPR o-rings, FilmTec part number 89255.

Product	Maximum Feed Flow Rate, gpm (m ³ /h)	Typical Recovery Rate (%)	Dimensions – Inches (mm)			
			A	B	C	D
BW30-2540	6 (1.4)	15	40.0 (1016)	1.19 (30.2)	0.75 (19)	2.4 (61)
BW30-4040	16 (3.6)	15	40.0 (1016)	1.05 (26.7)	0.75 (19)	3.9 (99)
BW30LE-4040	16 (3.6)	15	40.0 (1016)	1.05 (26.7)	0.75 (19)	3.9 (99)

1. Typical recovery rate shown is for a single element. Recovery rate is calculated by dividing permeate flow rate by feed flow rate.
2. Refer to FilmTec Design Guidelines for multiple-element systems.
3. BW30-2540 elements fit nominal 2.5-inch I.D. pressure vessel. BW30-4040 and BW30LE-4040 elements fit nominal 4-inch I.D. pressure vessel.

1 inch = 25.4 mm

Operating Limits

Membrane TypePolyamide Thin-Film Composite
 Maximum Operating Temperature113°F (45°C)
 Maximum Operating Pressure600 psig (41 bar)
 Maximum Pressure Drop15 psig (1.0 bar)
 pH Range, Continuous Operation^a2–11
 pH Range, Short-Term Cleaning (30 min.)^b1–12
 Maximum Feed Silt Density Index (SDI)SDI 5
 Free Chlorine Tolerance^c<0.1 ppm

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

^b Refer to Cleaning Guidelines in specification sheet 609-23010/CH 172-086-E.

^c 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/CH 172-144-E for more information.

*Trademark of The Dow Chemical Company

FILMTEC Membranes • FilmTec Corporation is a wholly owned subsidiary of The Dow Chemical Company.

FILMTEC Membranes

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

North America 1-800-447-4369
Latin America (+55) 11-5188-9277
Europe (+31) 20-691-6268
Japan (+81) 3-5460-2100
Australia (+61) 2-9776-3226
<http://www.filmtec.com>

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 "How to

Start Up an RO Membrane System" (Form No. 609-00070/CH 172-085-E) 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 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 permeate-side backpressure at all times.

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.

Published December 2000.



*Trademark of The Dow Chemical Company

Form No. 609-00350-1200QRP
CH 172-278-E-1200