

FILMTEC Membranes

FILMTEC Seawater RO Elements for Marine Systems

Features Improved FILMTEC[™] seawater reverse osmosis elements offer the highest productivity while maintaining excellent salt rejection.

- FILMTEC SW30 membrane elements have the highest flow rates available to meet the water demands of both sea-based and land-based desalinators.
- FILMTEC SW30 elements may also be operated at lower pressure to reduce pump size, cost and operating expenses.
- Improved FILMTEC seawater membrane combined with automated, precision element fabrication result in the most consistent product performance available.

Product Specifications

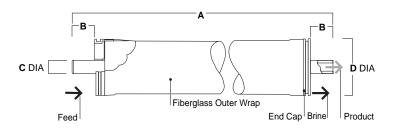
Product	Part Number	Active Area ft ² (m ²)	Applied Pressure psig (bar)	Permeate Flow Rate gpd (m ³ /d)	Stabilized Salt Rejection (%)
SW30-2514	80733	6.5 (0.6)	800 (55)	150 (0.6)	99.4
SW30-2521	80734	13 (1.2)	800 (55)	300 (1.1)	99.4
SW30-2540	80737	29 (2.8)	800 (55)	700 (2.6)	99.4
SW30-4021	80740	33 (3.1)	800 (55)	800 (3.0)	99.4
SW30-4040	80741	80 (7.4)	800 (55)	1,950 (7.4)	99.4

 Permeate flow and salt rejection based on the following test conditions: 32,000 ppm NaCl, pressure specified above, 77°F (25°C) and the following recovery rates; SW30-2514 – 2%, SW30-2521 & SW30-4021 – 4%, SW30-2540 & SW30-4040 – 8%.

2. Permeate flows for individual elements may vary +/-20%.

3. For the purpose of improvement, specifications may be updated periodically.

Figure 1





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.

	Maximum Feed Flow Rate	Dimensions – Inches (mm)				
Product	gpm (m³/h)	Α	В	С	D	
SW30-2514	6 (1.4)	14.0 (356)	1.19 (30.2)	0.75 (19)	2.4 (61)	
SW30-2521	6 (1.4)	21.0 (533)	1.19 (30.2)	0.75 (19)	2.4 (61)	
SW30-2540	6 (1.4)	40.0 (1,016)	1.19 (30.2)	0.75 (19)	2.4 (61)	
SW30-4021	16 (3.6)	21.0 (533)	1.05 (26.7)	0.75 (19)	3.9 (99)	
SW30-4040	16 (3.6)	40.0 (1,016)	1.05 (26.7)	0.75 (19)	3.9 (99)	

1. Refer to FilmTec Design Guidelines for multiple-element systems.

2. SW30-2514, SW30-2521 and SW30-2540 elements fit nominal 2.5-inch I.D. pressure vessels.

SW30-4021 and SW30-4040 elements fit nominal 4-inch I.D. pressure vessel.

Operating Limits	 Membrane Type Maximum Operating Temperature Maximum Operating Pressure Maximum Pressure Drop pH Range, Continuous Operation^a pH Range, Short-Term Cleaning^b Maximum Feed Silt Density Index Free Chlorine Tolerance^c Maximum temperature for continuous operation above pH 10 Refer to Cleaning Guidelines in specification sheet 609-2301 	0.		
Important Information	 ^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 for more 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, me membrane elements, instrument calibration and Please refer to the application information literat 609-00298) for more information.	other system checks should be completed.		
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) 11-5188-9277 Europe: (+32) 3-450-2240 Japan: (+81) 3-5460-2100	Notice: The use of this product in and of itself does not necessaril Effective cyst and pathogen reduction is dependent on the comple the system. Notice: No freedom from any patent owned by Seller or others is in may differ from one location to another and may change with time and the information in this document are appropriate for Customer disposal practices are in compliance with applicable laws and other	te system design and on the operation and maintenance of to be inferred. Because use conditions and applicable laws , Customer is responsible for determining whether products r's use and for ensuring that Customer's workplace and		

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