



Product Data Sheet

FilmTec™ Membranes

FilmTec™ Seawater RO Elements for Marine Systems

Description

Improved FilmTec™ Seawater Reverse Osmosis Elements offer the highest productivity while maintaining excellent salt rejection.

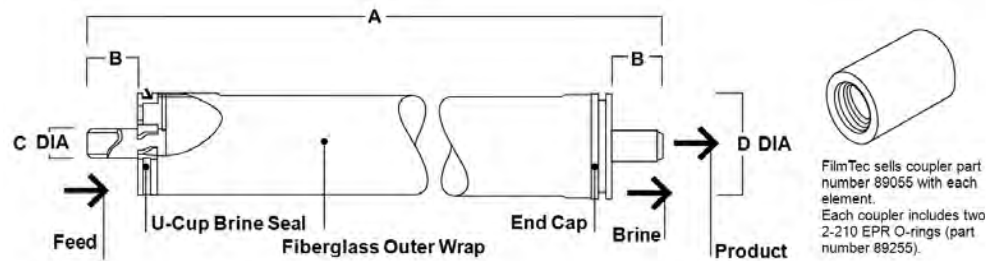
- FilmTec™ SW30 Membrane Elements have the highest flow rates available to meet the water demands of both sea-based and land-based desalinators.
- FilmTec™ SW30 Elements may also be operated at lower pressure to reduce pump size, cost and operating expenses.
- Improved FilmTec™ seawater membrane combined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

Typical Properties

| Product | Part Number | Applied Pressure psig (bar) | Permeate Flow Rate gpd (m ³ /d) | Stabilized Salt Rejection (%) |
|-----------|-------------|--------------------------------|---|----------------------------------|
| SW30-2514 | 80733 | 800 (55) | 150 (0.6) | 99.4 |
| SW30-2521 | 80734 | 800 (55) | 300 (1.1) | 99.4 |
| SW30-2540 | 80737 | 800 (55) | 700 (2.6) | 99.4 |
| SW30-4021 | 80740 | 800 (55) | 800 (3.0) | 99.4 |
| SW30-4040 | 80741 | 800 (55) | 1,950 (7.4) | 99.4 |

1. 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 – 5%, 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.

Element Dimensions



| Product | Maximum Feed Flow Rate gpm (m ³ /h) | Dimensions – Inches (mm) | | | 1 inch = 25.4 mm |
|-----------|---|--------------------------|-------------|-----------|------------------|
| | | A | B | C | 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 of midsize elements](#) (Form No. 45-D01588-en).
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 and Cleaning Limits

| | |
|--------------------------------------|-------------------------------|
| Membrane Type | Polyamide Thin-Film Composite |
| Maximum Operating Temperature | 113°F (45°C) |
| Maximum Operating Pressure | 1,000 psi (69 bar) |
| Maximum Pressure Drop | 15 psig (1.0 bar) |
| pH Range | |
| Continuous Operation ^a | 2 - 11 |
| Short-Term Cleaning ^b | 1 - 13 |
| Maximum Feed Silt Density Index | SDI 5 |
| Free Chlorine Tolerance ^c | <0.1 ppm |

- Maximum temperature for continuous operation above pH 10 is 95°F (35°C).
- Refer to [Cleaning Guidelines](#) (Form No. 45-D01696-en).
- 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 DuPont Water Solutions recommends removing residual free chlorine by pretreatment prior to membrane exposure. Please refer to [Dechlorinating Feedwater](#) (Form No. 45-D01569-en) 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. 45-D01609-en) 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.

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.

Product Stewardship

DuPont has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our product stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with DuPont products—from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

Customer Notice

DuPont strongly encourages its customers to review both their manufacturing processes and their applications of DuPont products from the standpoint of human health and environmental quality to ensure that DuPont products are not used in ways for which they are not intended or tested. DuPont personnel are available to answer your questions and to provide reasonable technical support. DuPont product literature, including safety data sheets, should be consulted prior to use of DuPont products. Current safety data sheets are available from DuPont.

Please be aware of the following:

- 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.
- Permeate obtained from the first hour of operation should be discarded.

Have a question? Contact us at:

www.dupont.com/water/contact-us

All information set forth herein is for informational purposes only. This information is general information and may differ from that based on actual conditions. 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 government enactments. The product shown in this literature may not be available for sale and/or available in all geographies where DuPont is represented. The claims made may not have been approved for use in all countries. Please note that physical properties may vary depending on certain conditions and while operating conditions stated in this document are intended to lengthen product lifespan and/or improve product performance, it will ultimately depend on actual circumstances and is in no event a guarantee of achieving any specific results. DuPont assumes no obligation or liability for the information in this document. References to "DuPont" or the "Company" mean the DuPont legal entity selling the products to Customer unless otherwise expressly noted. NO WARRANTIES ARE GIVEN; ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY EXCLUDED. No freedom from infringement of any patent or trademark owned by DuPont or others is to be inferred.

© 2020 DuPont. DuPont™, the DuPont Oval Logo, and all trademarks and service marks denoted with ™, ℠ or ® are owned by affiliates of DuPont de Nemours Inc., unless otherwise noted.

