Product Data Sheet

FilmTec™ SW30XHR-440 Element

Seawater Reverse Osmosis Element

Description

DuPont Water Solutions offers various premium seawater reverse osmosis (RO) elements designed to produce high quality water which may reduce capital and operation costs of desalination systems. FilmTec™ Elements combine excellent membrane quality with automated precision fabrication to take system performance to exceptional levels.

FilmTec™ SW30XHR-440 Elements are the highest rejection seawater RO elements in the FilmTec™ Element portfolio, enabling stringent water quality requirements to be met reliably with single-pass seawater systems in most situations. In addition, the combination of highest active area and a thick feed spacer results in higher productivity and lower cleaning frequency, which enables sustainable lower life-cycle cost. Benefits of the FilmTec™ SW30XHR-440 Element include:

- Highest NaCl and boron rejection to help meet World Health Organization (WHO) and other drinking water standards more cost effectively.
- The highest guaranteed active area of 440 ft^2 (41 m^2) permits lowest system cost by maximizing productivity and enables accurate and predictable system design and operating flux.
- The combination of highest active area with a thick feed spacer (28 mil) allows low cleaning frequency and high cleaning efficiency.
- Sustainable high performance over the operating lifetime, because oxidative treatments are not used in membrane production. This is one reason FilmTec™ Elements are more durable and may be cleaned more effectively over a wider pH range (1 – 13) than most other RO elements, which use oxidative treatments.
- Effective use in permeate staged seawater desalination systems without impairing the performance of the downstream stage.

Product Type

Spiral-wound element with polyamide thin-film composite membrane

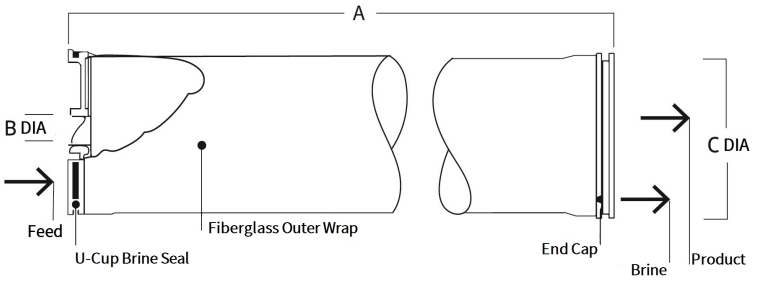
Typical Properties

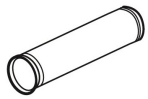
	Active Area			Permeate Flowrate			
FilmTec™ Element	(ft^2)	(m^2)	Feed Spacer Thickness (mil)	(gpd)	(m^3/d)	Stabilized Boron Rejection (%)	Stabilized Salt Rejection (%)
SW30XHR-440	440	41	28	6,600	25	93	99.82

1. The above benchmark values are based on the following test conditions: 32,000 ppm NaCl, 800 psi (5.5 MPa), 77°F (25°C), pH 8, 8% recovery.
2. Permeate flows for individual elements may vary ± 20%.
3. Minimum Salt Rejection is 99.7%.
4. Stabilized salt rejection is generally achieved within 24 – 48 hours of continuous use, depending upon feedwater characteristics and operating conditions.
5. Product specifications may vary slightly as improvements are implemented.
6. Active area guaranteed ± 5%. Active area as stated by DuPont Water Solutions is not comparable to the nominal membrane area figure often stated by some element suppliers.

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Element Dimensions





FilmTec™ supplies coupler part number 313198 with each element.
Each coupler includes two 3-912 EPR O-rings (part number 151705).

Dimensions – inches (mm)						1 inch = 25.4 mm
	A		B		C	
FilmTec™ Element	**(in)**	**(mm)**	**(in)**	**(mm)**	**(in)**	**(mm)**
SW30XHR-440	40.0	1,016	1.125 ID	29	7.9	201

1. Refer to FilmTec™ Design Guidelines for multiple-element systems of 8-inch elements (Form No. 45-D01695-en).
2. Element to fit nominal 8-inch (203-mm) I.D. pressure vessel.

Operating and Cleaning Limits

Maximum Operating Temperature [a, b]	113°F (45°C)
Maximum Operating Pressure [b]	1,200 psig (83 bar)
Maximum Element Pressure Drop	15 psig (1.0 bar)
pH Range	
Continuous Operation [a]	2 – 11
Short-term Cleaning (30 min) [c]	1 – 13
Maximum Feed Silt Density Index (SDI)	SDI 5
Free Chlorine Tolerance [d]	< 0.1 ppm

a. Maximum temperature for continuous operation above pH 10 is 95°F (35°C).
b. Consult your DuPont representative for advice on applications above 95°F (35°C). Refer to FilmTec™ Seawater Elements Operating Limits (Form No. 45-D00691-en) for warranty-voiding conditions and additional information.
c. Refer to guidelines in FilmTec™ Cleaning Guidelines (Form No. 45-D01696-en) for more information.
d. 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.

Additional Important Information

Before use or storage, review these additional resources for important information:

- Usage Guidelines for FilmTec™ 8" Elements (Form No. 45-D01706-en)
- Start-Up Sequence (Form No. 45-D01609-en)
- Storage and Shipping of New FilmTec™ Elements (Form No. 45-D01633-en)

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.

Form No. 45-D00970-en, Rev. 2
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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.

Regulatory Note

This product may be subject to drinking water application restrictions in some countries; please check the application status before use and sale.

Have a question? Contact us at:

www.dupont.com/water/contact-us

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Form No. 45-D00970-en, Rev. 2
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