FilmTec™ SW30HRLE-440i

Seawater High Permeate Quality Reverse Osmosis Membrane Element with Higher Productivity featuring iLEC™ for Low Maintenance Operation

Key Features

- Optimized combination of water production and permeate quality.
- Excellent durability resulting in stable, long-term performance.
- Longer storage time and warranty coverage with improved sustainability footprint versus our wet RO membrane elements.
- Includes iLEC™ interlocking end caps, reducing system operating costs and the risk of o-ring leaks that can cause poor water quality.

Key Applications

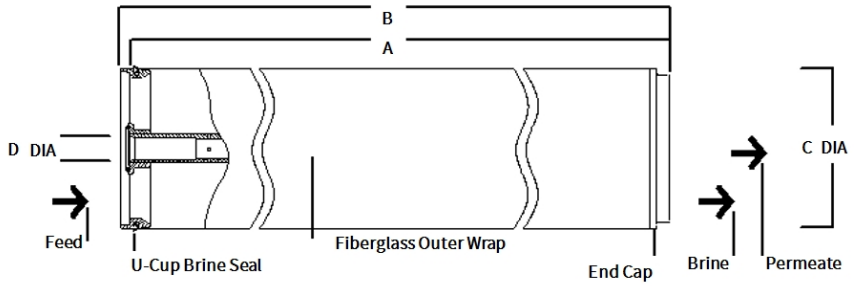
- Seawater desalination for municipal and industrial applications.
- Suitable for medium and high feed water salinity.
- Offers balance between permeate quality and energy consumption.
- Applicable for optimized Internally Staged Designs (ISD) in combination with other FilmTec™ seawater membranes.

Typical Properties

FilmTec™ Element	Active Area (ft^2)	Active Area (m^2)	Feed Spacer Thickness (mil)	Permeate Flowrate (gpd)	Permeate Flowrate (m^3/d)	Stabilized Boron Rejection (%)	Stabilized Salt Rejection (%)	Minimum Salt Rejection (%)
SW30HRLE-440i	440	41	28	8,000	30.2	92	99.80	99.65

1. The above benchmark values are based on the following test conditions: 32,000 ppm NaCl, 5 ppm boron, 800 psi (5.5 MPa), 77°F (25°C), pH 8, 8% recovery.
2. Permeate flows for individual elements may vary ± 15%.
3. Sales specifications may vary as design revisions take place.

Element Dimensions



FilmTec™ SW30HRLE-440i Dimensions – inches (mm)	
A	40.0 (1,016)
B	40.5 (1,029)
C	7.9 (201)
D	1.125 ID (29 ID)

ID - Inner Diameter
DIA - Diameter

1. For element weight information, refer to What is the weight of FilmTec™ elements as delivered?
2. For element packing and shipping information, refer to How are FilmTec™ elements packaged and shipped?
3. Individual elements with iLEC™ Interlocking Endcaps measure 40.5 inches (1,029 mm) in length (B). The net length (A) of the elements when connected is 40.0 inches (1,016 mm).

Suggested Operating Conditions [1]

Membrane Type	Polyamide Thin-Film Composite
Maximum Operating Temperature [2, 3]	113°F (45°C)
Maximum Operating Pressure [3]	1,200 psig (83 bar)
Maximum Element Pressure Drop	
Per element	15 psig (1.0 bar)
Per pressure vessel (minimum 4 elements)	50 psig (3.5 bar)
pH Range	
Continuous Operation [2]	2 – 11
Short-term Cleaning (30 min) [4]	1 – 13
Maximum Feed Silt Density Index (SDI)	SDI 5
Free Chlorine Tolerance [5]	< 0.1 ppm

1. For recommended feed and permeate flow rates, flux, and recovery for various feed sources, refer to FilmTec™ Design Guidelines for multiple-element systems of 8-inch elements (Form No. 45-D01695-en).
2. Maximum temperature for continuous operation above pH 10 is 95°F (35°C).
3. Consult your DuPont representative for advice on applications above 95°F (35°C). Relevant information regarding operation at high temperature and pressure: FilmTec™ Seawater Elements Operating Limits (Form No. 45-D00691-en) and Shimming Elements (Form No. 45-D01057-en).
4. Refer to FilmTec™ Cleaning Guidelines (Form No. 45-D01696-en).
5. Oxidation damage is not covered under warranty, DuPont recommends removing residual free chlorine by pretreatment prior to membrane exposure. Please refer to Dechlorinating Feedwater (Form No. 45-D01569-en) for more information.

General Information

- Keep elements moist at all times after initial wetting.
- For successful operation of Reverse Osmosis (RO) and Nanofiltration (NF) membrane systems, the operation must follow the guidelines provided in the FilmTec™ Reverse Osmosis / Nanofiltration Elements Operation Excellence and Limiting Conditions Tech Fact (Form No. 45-D04388-en).
- 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.
- Avoid static permeate-side backpressure at all times.
- Permeate obtained from the first hour of operation should be discarded.
- 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.

Important Information

Please consider good operating practices for the optimal performance of the Reverse Osmosis membrane elements to assure damage free operation:

1. Loading of Pressure Vessels - Preparation & Element Loading (Form No. 45-D01602-en)
2. System Operation, including plant Start-Up Sequence (Form No. 45-D01609-en) and RO & NF Systems Shutdown (Form No. 45-D01613-en)
3. Handling, Preservation, and Storage (Form No. 45-D03716-en)

Full information of plant design, system operation and troubleshooting is given in the FilmTec™ Reverse Osmosis Membranes Technical Manual (Form No. 45-D01504-en).

Regulatory Note

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

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