ADH2OC industrial

Product Information

MEMBRANE Seamaxx-440

FilmTec™ Seamaxx™-440

Seawater Extra Low Energy Reverse Osmosis Membrane Element

Key Features

- Delivers very high permeate flow allowing considerable savings in energy consumption.
- Permits low system capital cost by maximizing production capacity.
- Excellent durability resulting in stable, long-term performance.

Key Applications

- Seawater desalination for municipal and industrial applications.
- Suitable for low and medium feed water salinity.
- Ideal for installations with high energy cost.
- Applicable for optimized Internally Staged Designs (ISD) in combination with other FilmTec™ seawater membranes.

Typical Properties of Standard Test performed at 600 psi (4.1 MPa)

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 (%)
Seamaxx™-440	440	41	28	9,050	34.2	81.8	99.47	99.25

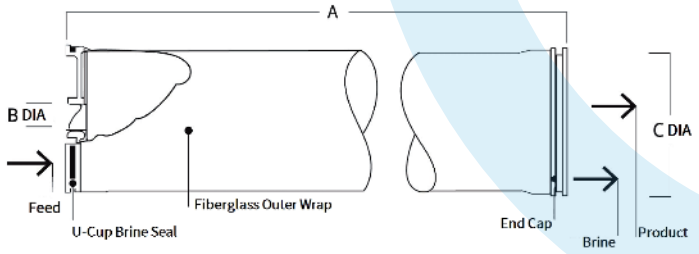
1. The above benchmark values are based on the following test conditions: 32,000 ppm NaCl, 5 ppm boron, 600 psi (4.1 MPa), 77°F (25°C), pH 8, 8% recovery.
2. Permeate flows for individual elements may vary ± 15%.
3. Sales specifications may vary as design revisions take place.

Expected Properties and Performance at Common Standard Test Conditions: 800 psi (5.5 MPa)

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 (%)
Seamaxx™-440	440	41	28	17,000	64.4	89	99.70	99.58

1. The above values are normalized from the 600-psi specification standard test to the following conditions: 32,000 ppm NaCl, 5 ppm boron, 800 psi (5.5 MPa), 77°F (25°C), pH 8, 8% recovery. Due to the very high permeability of FilmTec™ Seamaxx™-440 Elements, they are not tested at the typical feed pressure for standard test conditions of 800 psi, but at a lower feed pressure of 600 psi. This allows to standard test the element within its operating guidelines.
2. Permeate flows for individual elements may vary ± 15%.
3. Sales specifications may vary as design revisions take place.

Element Dimensions



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

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

ID - Inner Diameter
DIA - Diameter

For element weight information, refer to What is the weight of FilmTec™ elements as delivered?
For element packing and shipping information, refer to How are FilmTec™ elements packaged and shipped?

MEMBRANE Seamaxx-440

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.