



## Product Data Sheet

### FilmTec™ Nanofiltration Membranes



# FilmTec™ SWBR-100i

Seawater Ion Selective Nanofiltration Membrane Element featuring iLEC™ for Low Maintenance Operation

## Key Features

- Selective and high divalent ion rejection allows to recover high-value solutes, such as divalent ions like magnesium, from seawater rich brines.
- Enables the production of high purity sodium chloride (NaCl) nanofiltration permeate and helps maximize the recovery and lifespan in seawater reverse osmosis desalination plants downstream.
- Reliable prevention of scaling when concentrating seawater brines.
- Excellent durability resulting in stable long-term performance.
- Includes iLEC™ interlocking end caps, reducing system operating costs and the risk of o-ring leaks that can cause poor water quality.

## Key Applications

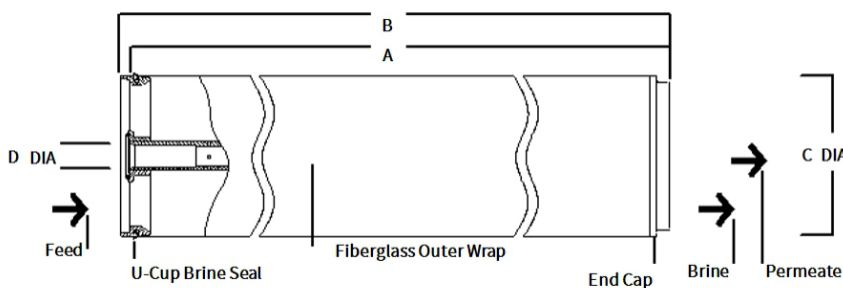
- Seawater brine recovery.
- Used to recover high-value solutes from seawater.
- Seawater desalination for industrial installations.
- Suitable for medium and high feed water salinity.

## Typical Properties

FilmTec™ Element	Active Area ft <sup>2</sup> (m <sup>2</sup> )	Feed Spacer Thickness (mil)	Permeate Flow Rate gpd (m <sup>3</sup> /d)	Typical MgSO <sub>4</sub> Rejection (%)
SWBR-100i	440 (41)	28	7,000 (26)	99.82

1. The above benchmark values are based on the following test conditions: 2,000 ppm MgSO<sub>4</sub>, 70 psi (0.5 MPa), 77°F (25°C), and 15% recovery.
2. Flow rates for individual elements may vary ± 20%.
3. Sales specifications may vary as design revisions take place.

## Element Dimensions



FilmTec™ SWBR-100i 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 packaging 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 <sup>1</sup>

Membrane Type	Thin-Film Composite
Maximum Operating Temperature <sup>2</sup>	113°F (45°C)
Maximum Operating Pressure	600 psig (41 bar)
Maximum Pressure Drop	
Per Element	15 psig (1.0 bar)
Per Pressure Vessel (Minimum 4 Elements)	50 psig (3.5 bar)
pH Range	
Continuous Operation	5 - 9
Short-Term Cleaning (30 min.) <sup>3</sup>	2.5 - 11
Maximum Feed Silt Density Index	SDI 5
Free Chlorine Tolerance <sup>4</sup>	Non-Detectable

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. Consult your DuPont representative for advice on applications above 95°F (35°C).
3. Refer to Cleaning Procedures for FilmTec™ SWBR-100i Elements (Form No. 45-D04369-en).
4. 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. Refer to Storage, Handling, and Preservation for FilmTec™ SWBR-100i Nanofiltration Membranes Tech Fact (Form No. 45-D04368-en).
- 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. Storage, Handling, and Preservation for FilmTec™ SWBR-100i Nanofiltration Membranes Tech Fact (Form No. 45-D04368-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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