



## Product Data Sheet FilmTec™ Reverse Osmosis Membranes



# FilmTec™ SWBR-200

## Seawater Brine Concentrator Reverse Osmosis Membrane Element

### Key Features

- The element and module design enable further concentration of sodium chloride seawater brines to increase total dissolved solids (TDS) while reducing concentrate water volume.
- Enables reducing capital equipment costs by operating at standard seawater reverse osmosis feed pressure conditions (<1200 psig/83 bar).
- Reduced energy consumption thanks to the lower operating pressure requirements.
- Excellent durability resulting in stable long-term performance.

### Key Applications

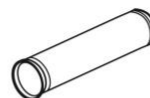
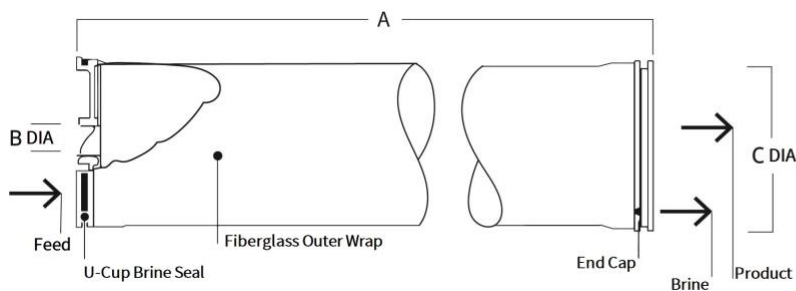
- Seawater brine recovery.
- Used to further concentrate sodium chloride (NaCl) brine from seawater reverse osmosis (SWRO) desalination plants.
- Suitable for medium and high feed water salinity.
- Enables operating seawater reverse osmosis system at higher recovery.

### 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)	Stabilized Salt Rejection (%)	Minimum Salt Rejection (%)
SWBR-200	370 (34.4)	34	12.500 (45.4)	90	80

1. The above benchmark values are based on the following test conditions: 32,000 ppm NaCl, 600 psi (4.1 MPa), 77°F (25°C), pH 8, and 15% recovery.
2. Flow rates for individual elements may vary  $\pm$  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™ SWBR-200 Dimensions – inches (mm)	
A	40.0 (1,016)
B	1.125 ID (29 ID)
C	7.9 (201)

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?](#)

## Suggested Operating Conditions <sup>1</sup>

Membrane Type	Polyamide Thin-Film Composite
Maximum Operating Temperature <sup>2, 3</sup>	113°F (45°C)
Maximum Operating Pressure <sup>3</sup>	1,200 psig (83 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 <sup>2</sup>	2-11
Short-Term Cleaning (30 min.) <sup>4</sup>	1-13
Maximum Feed Silt Density Index	SDI 5
Free Chlorine Tolerance <sup>5</sup>	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. 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. [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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