

FILPURE SW SERIES High Rejection Sea Water RO Elements

Features & Description

Filpure® SW SERIES reverse osmosis modules are engineered to satisfy highly robust and durable polyamide membrane demands under challenging feed water environments. SW SERIES elements can reliably treat feed waters containing up to 30,000 ppm total dissolved solids (TDS). Key structural advantages include an exceptionally steady and high salt rejection profile, enhanced product flow rates, standard operational pressure limits, and extended membrane lifespan. They are optimally suited for processing high TDS surface water / sea water for drinking water supply as well as industrial applications.

Product Specifications

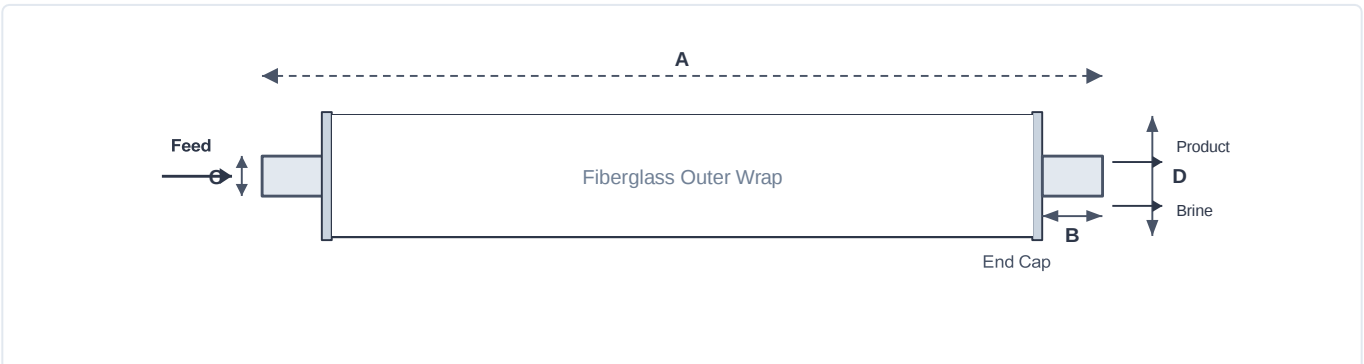
Model	Feed Spacer (mil)	Permeate Flow GPD (m³/d)	Min. Salt Rejection (%)	Recovery (%)	Stabilized Rejection (%)
SW SERIES 4040	28	1,585 (6.0)	98.5%	15%	99.3%
SW SERIES 8040	28	6,340 (24.0)	98.5%	15%	99.3%

Test Conditions: Permeate flow and salt rejection figures are evaluated under the following standardized baselines: 32,000 ppm NaCl, 77°F (25°C), 30% recovery, pH 8, and an applied testing pressure of 800 psi. Individual flow variances can range within +/-15%.

Typical Solute Rejection Profile (%)

Target Solute Element	NH ₄ ⁺	NO ₃ ⁻	SiO ₂	Boron
Typical Rejection Rate	99.0%	98.5%	99.0%	88.0%

Dimensional Data & Specifications



Product Model	A Inches (mm)	B Inches (mm)	C Inches (mm)	D Inches (mm)
SW SERIES 4040	40.00 (1,016)	1.06 (27)	0.75 (19) ID	3.9 (99)
SW SERIES 8040	40.00 (1,016)	1.122 (28.5)	1.122 (28.5) ID	7.9 (200)

Operating Limits & Parameters

Membrane Base Material	Polyamide Thin-Film Composite
Maximum Operating Temperature	113°F (45°C)
Maximum Feed Flow Rate	3.7 m³/hr (4040) / 16.0 m³/hr (8040)
Maximum Feed Water SDI (15 min)	5.0
pH Operating Range Continuous	3.0 – 11.0
pH Range during Chemical Cleaning	2.0 – 12.0
Maximum Element Pressure Drop	15 psi (1.0 bar)
Free Chlorine Tolerance	< 0.1 ppm
Maximum Operational Pressure	1200 psi (82.7bar)
Operating Pressure (30K Feed TDS)	52 kg/cm²

Oxidizer Warning: The presence of free chlorine or alternate oxidizing agents triggers premature membrane breakdown and degradation. Residual oxidants must be completely neutralized via structured pre-treatment before entry to avoid voiding warranty coverages.

Operational & System Guidelines

- Avoid excessive hydraulic shocks and radical pressure shifts during initial system start-up stages.
- Ramp operational feed pressure up carefully over a minimum timeline of 60 seconds to cross into designated stream levels safely.
- Cross-flow feed velocity targets across elements should be built up progressively over a 20-second threshold.
- Completely discharge and reject permeate volumes gathered during the first full hour of initial run operations.
- Maintain membrane elements in a completely moist condition at all times post wetting.
- For short or extended shut-downs stretching past 24 hours, preserve active system arrays within a 1% Sodium Metabisulfite preservative solution loop to inhibit biological growth activity.