

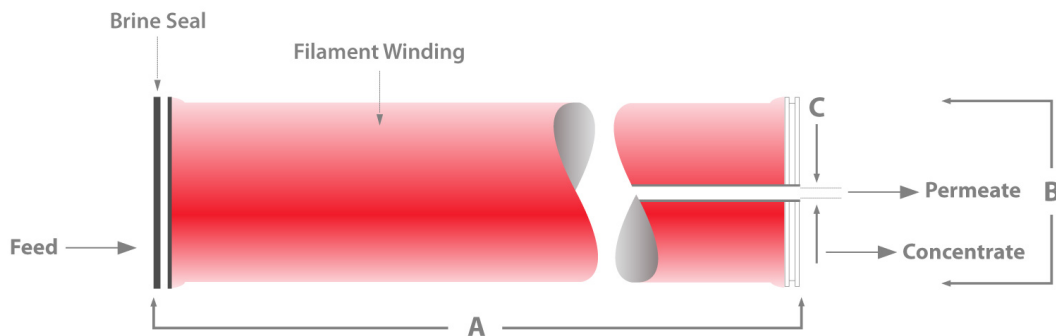
Lewabrane® RO S440 HR elements are spiral-wound, composite polyamide membrane elements designed for the desalination of seawater. The S440 HR membrane is characterized by an extremely durable, highly cross-linked polymeric separating layer suitable for high salinity, high pressure applications. The Lewabrane® RO S440 HR membrane element is recommended for single pass applications where stable salt rejection performance during the expected operating lifetime is an important consideration.

General Information

	Metric units	US units
Feed spacer thickness	0.7 mm	28 mil
Membrane area	40.9 m ²	440 ft ²
Salt rejection, av.	99.8 %	99.8 %
Salt rejection, min.	99.5 %	99.5 %
Boron rejection, typical	93.0 %	93.0 %
Permeate flow rate, av.	27.3 m ³ /d	7200 gpd
Permeate flow rate, min.	21.8 m ³ /d	5760 gpd

Element is tested under the following conditions: applied pressure 800 psi (55.2 bar), NaCl concentration 32,000 mg/l (or when tested on a mixed solution of 32,000 mg/l NaCl and 5 mg/l Boron), operating temperature 77 °F (25 °C), pH 8 and recovery rate 8 %.

Element Dimension



	A (Length)	B (Diameter)	C (ID)
Metric Units	1016 mm	201 mm	29 mm
US Units	40 inch	7.9 inch	1.125 inch

Application Data

	Metric units	US units
Operating pressure, max.	83 bar	1200 psi
Operating temperature, max.	45°C	113°F
Feed water SDI, max.	5	5
pH range during operating	2 - 11	2 - 11
pH range during cleaning	1 - 12	1 - 12
Pressure drop per element, max.	1.0 bar	15 psi
Pressure drop per vessel, max.	3.5 bar	50 psi
Chlorine concentration, max.	0.1 ppm	0.1 ppm

As with any product, use of the products mentioned in this publication in a given application must be tested (including field testing, etc.) by the user in advance to determine suitability.

Additional Information

- Treat RO Elements with care; do not drop the element.
- Each RO Element is wet tested, preserved in a 1% weight sodium bisulfite solution, and vacuum packed in oxygen barrier bags.
- During storage, avoid freezing and direct sunlight. The temperature should be below 35 °C (95 °F).

After Installation

- Keep the RO Elements wet, and use a compatible preservative for storage duration longer than 7 days.
- During the initial start up, discharge the first permeate to drain for 30 min.
- Permeate back pressure should not exceed feed pressure at any time.
- The RO Elements shall be maintained in a clean condition, unfouled by particulate matter or precipitates or biological growth.
- Consider cleaning, if the pressure drop increases by 20% or water permeability decreases by 10%.
- Use only chemicals which are compatible with the membrane.
- For additional information consult the Lewabrane® technical information available at www.lpt.lanxess.com.

Appropriate literature has been assembled which provides information concerning the health and safety precautions that must be observed when handling the LANXESS Sybron Chemicals Inc. products mentioned in this publication. For materials mentioned which are not LANXESS Sybron Chemicals Inc. products, appropriate industrial hygiene and other safety precautions recommended by their manufacturers should be followed. Before working with any of these products, you must read and become familiar with the available information on their hazards, proper use, and handling. This cannot be overemphasized. Information is available in several forms. Consult your LANXESS Sybron Chemicals Inc. representative or contact the Product Safety and Regulatory Affairs Department at LANXESS Corporation at 1-800-526-9377.

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