

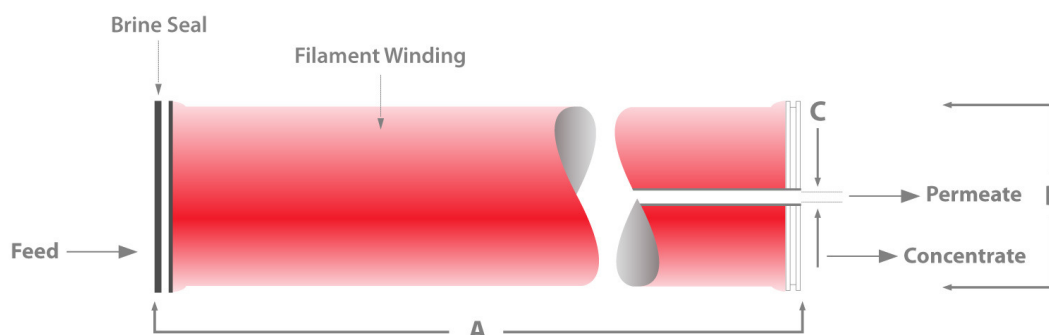
Lewabrane® RO S440 HR elements are spiral-wound, composite polyamide membrane elements designed for the desalination of seawater. The S440 HR membrane is characterized by an extremely durable, highly cross-linked polymeric separating layer suitable for high salinity, high pressure applications. The Lewabrane® 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 <sup>2</sup>	440 ft <sup>2</sup>
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 <sup>3</sup> /d	7200 gpd
Permeate flow rate, min.	21.8 m <sup>3</sup> /d	5760 gpd

Element is tested under the following conditions: applied pressure 55.2 bar (800 psi), 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 25 °C (77 °F), pH 8 and recovery rate 8 %.

## Element Dimensions



	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
Feed flow, max.	18.0 m <sup>3</sup> /h	80 gpm
Concentrate flow, min.	2.7 m <sup>3</sup> /h	12 gpm
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

## 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.
- 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](http://www.lpt.lanxess.com).

This information and our technical advice – whether verbal, in writing or by way of trials – are given in good faith but without warranty, and this also applies where proprietary rights of third parties are involved. Our advice does not release you from the obligation to check its validity and to test our products as to their suitability for the intended processes and uses. The application, use and processing of our products and the products manufactured by you on the basis of our technical advice are beyond our control and, therefore, entirely your own responsibility. Our products are sold in accordance with the current version of our General Conditions of Sale and Delivery.