

The Lewabrane® RO B400 FR ASD are spiral wound, composite polyamide (PA) membrane elements designed to be used for brackish water reverse osmosis (BWRO) applications with a high tendency of biological or organic fouling. The ASD (Alternating Strand Design) feed spacer technology offers an improvement in RO lifetime cost performance by lower pressure drop and reduced fouling tendency.

## General Information

	Metric units	US units
Permeate flow, ave.	41.5 m <sup>3</sup> /d	11000 gpd
Salt rejection, ave.	99.7 %	99.7 %
Membrane area	37.2 m <sup>2</sup>	400 ft <sup>2</sup>
Feed spacer thickness	0.86 mm (ASD spacer)	34 mil (ASD spacer)

Minimum element performance: 33.2 m<sup>3</sup>/d (8700 gpd) permeate flow and 99.3% salt rejection.  
Element test conditions: applied pressure 15.5 bar (225 psi), NaCl concentration 2000 mg/l, temperature 25 °C (77 °F), pH 7 and recovery rate 15%.  
An NaCl feed concentration of 1500 mg/l will increase the permeate flow productivity to approx. 43.2 m<sup>3</sup>/d (11,450 gpd).

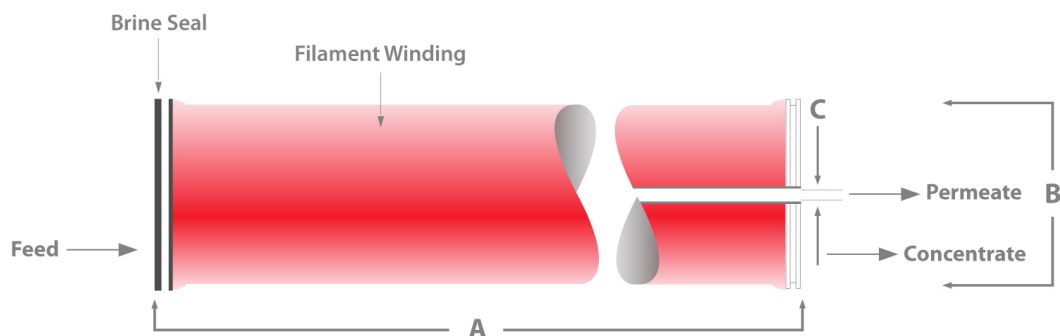
## Rejection Data

	NO <sub>3</sub> <sup>-</sup>	SiO <sub>2</sub>	IPA	Boron
Typical rejection	98.5 %	99.7 %	95.0 %	80.0 %

Typical rejection performance for specific ions based on the above test condition, plus 50 mg/l SiO<sub>2</sub>, or 5 mg/l B, or 100 mg/l NO<sub>3</sub><sup>-</sup>. Isopropyl alcohol (IPA) testing at 100 mg/l IPA without NaCl.

These items are provided as general information only. They are approximate values and are not considered part of the product specifications.

## Element Dimension



	A (Length)	B (Diameter)	C (ID)
Dimension inches (mm)	40 (1016)	7.9 (201)	1.125 (29)

## Application Data

	Metric units	US units
Operating pressure, max.	41 bar	600 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

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

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