

4" Reverse Osmosis Membrane

LC HR-4040 Brackish Water



REVERSE OSMOSIS COMPONENTS

4" REVERSE OSMOSIS MEMBRANE

LCLE-4040 BRACKISH WATER

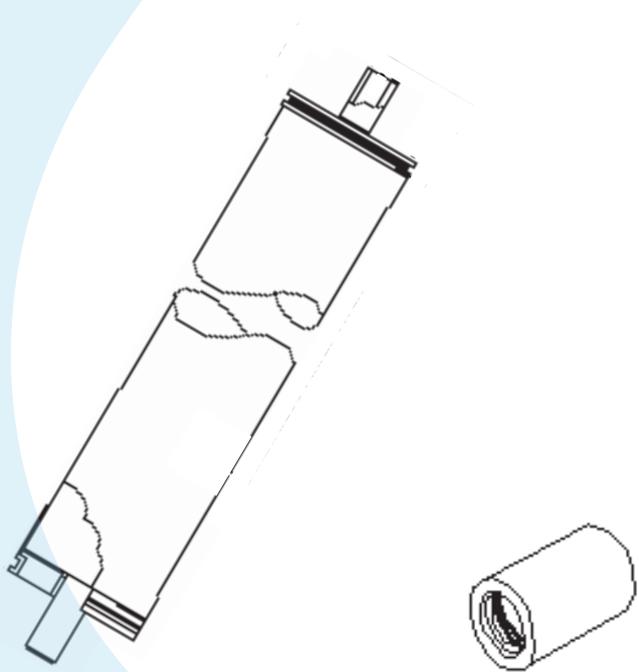
| | |
|----------------------|-----------------------------------|
| ○ Permeate flow rate | 11 m ³ /day (2900 gpd) |
| ○ Salt rejection | 99.7 % (Min. 99.5%) |
| ○ Applied pressure | 15.5 bar (225 psig) |

*Permeate flow rate and salt rejection based on the following test conditions : 2000 ppm NaCl, 15.5 bar (225 psig), 25°C (77°F), Ph 8 and 15% recovery.

* **Typical rejections : NH₄⁺ 98.8% - NO₃⁻ 98.2% - SiO₂ 99.8% – Boron 80%**

*Permeate flow rates for individual elements may vary +/-15%.

*For the purpose of improvement, specifications may be updated periodically



Couplers are available for use in multiple element housings, they are supplied with two O'rings.

APPLICATIONS

These membrane elements deliver high quality water.

They are available to meet a wide variety of customer needs in commercial applications, from producing high purity water to delivering low total system costs.

The fully automated element production enables the most consistent products in the industry that minimizes the total cost of ownership of water treatment systems.

LC HR-4040 Reverse osmosis membrane

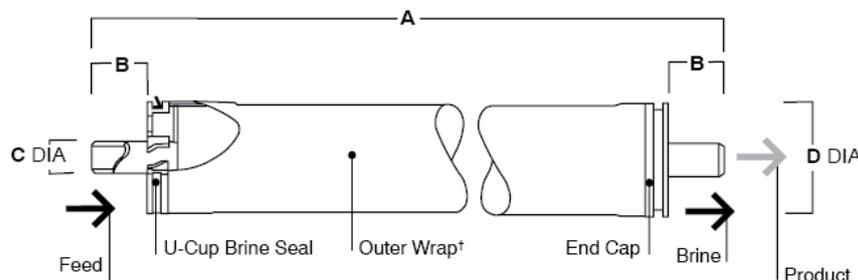
PRODUCT SPECIFICATIONS

| | |
|---------------------------------|---|
| Membrane type | Spiral wound polyamide thin-film composite membrane element |
| Feed spacer | 28 mil |
| Maximum operating temperature | 45°C - 113°F |
| Maximum operating pressure | 41 bar – 600 psi |
| Maximum pressure drop | 1.0 bar – 15 psig |
| Maximum feed flow rate | 3.6 m ³ /h – 16 gpm |
| pH range continuous operation | 2 to 11 (if > pH10 max.temp=35°C) |
| pH range short term cleaning | 1 to 13 |
| Maximum feed Silt Density Index | SDI 5 |
| Free chlorine concentration* | < 0.1 ppm |

* Under certain conditions, the presence of free chlorine and other oxidants will cause premature membrane failure, prior to exposure, a pre-treatment to remove them is recommended.

DIMENSIONS

| | mm | inches |
|----------|------|--------|
| A | 1016 | 40.0 |
| B | 26.7 | 1.05 |
| C | 19 | 0.75 |
| D | 99 | 3.9 |



RECOMMENDATIONS

Proper start-up of reverse osmosis water treatment systems is essential to prepare the membranes for operating service and to prevent membrane damage due to overfeeding or hydraulic shock. Following the proper start-up sequence also helps ensure that system operating parameters conform to design specifications so that system water quality and productivity goals can be achieved. Before initiating system start-up procedures, membrane pre-treatment, loading of the membrane elements, instrument calibration and other system checks should be completed.

Avoid any abrupt pressure or cross-flow variations on the spiral elements during start-up, shutdown, cleaning or other sequences to prevent possible membrane damage. During start-up, a gradual change from a standstill to operating state is recommended as follows: Feed pressure should be increased gradually over a 30-60 second time frame. Cross-flow velocity at set operating point should be achieved gradually over 15-20 seconds. Permeate obtained from first hour of operation should be discarded.

Keep elements moist at all times after initial wetting. If operating limits and guidelines given are not strictly followed, the limited warranty will be null and void. To prevent biological growth during prolonged system shutdowns, it is recommended that membrane elements be immersed in a preservative solution. The customer is fully responsible for the effects of incompatible chemicals and lubricants on elements. Maximum pressure drop across an entire pressure vessel (housing) is 50 psi (3.4 bar). Avoid static permeate-side back pressure at all times.

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.



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