

## Aquaphor Professional RO Membrane Elements (XLP, LP series)

LP (low pressure) series of aromatic polyamide compound membrane elements has the following properties of low-pressure operation, high permeate flow and excellent desalination and is applicable to desalination of brackish water. Besides, it is particularly applicable to fabrication of high-purity water for the electronics industry and the electric power industry owing to its excellent performance in removing soluble salts, TOC, SiO2, etc.

XLP series of extremely low pressure aromatic polyamide compound membrane element can work under ultra low pressure to reach as high permeate flow and salt rejection as regular low-pressure membrane element can, and is applicable to desalination of surface water and underground water. It operates under approximately half the operating pressure of regular low-pressure composite membrane, and achieves a salt rejection rate of up to 98%, which can decrease the investment costs for such relevant facilities as pump, piping, and container, etc. and the operating cost for the RO system, thus increasing the economic efficiency.







MODEL	LP-4021	LP-4040	LP-8040	XLP-4021	XLP-4040	XLP-8040
Active Membrane Area, ft2 (m <sup>2</sup> )	36 (3.3)	90 (8.4)	400 (37.2)	36 (3.3)	90 (8.4)	400 (37.2)
Average Permeate GPD, (m <sup>3</sup> /d)	950 (3.6)	2 400 (9.1)	10500 (39.7)	1 000 (3.78)	2 000 (7.6)	12 100 (45.7)
Stable Rejection Rate, %	99.5			98		
Min. Rejection Rate, %	99.3			97.5		

## **Testing Conditions**

Testing Pressure	225 psi (1,55 MPa)
Testing Solution Temperature	25 °C
Concentration of Testing Solution (NaCl)	2 000 ppm
pH value of Testing Solution	7,5
Recovery Rate of Single Element	15%

## **Operation Limits & Conditions**

Max. Working Pressure	600 psi (4,14 MPa)
Max. Volume of Feed water	75 gpm (17 m³/h)
Max. Temperature of Feed water	45°C
Max. Feed water SDI <sub>15</sub>	5
pH Range of Feed water during Continuous Operation	2 ≈ 11
pH Range of Feed Water during Chemical Cleaning	1 ≈ 13
Residual Chlorine Concentration of Feed Water	< 0,1 ppm
Max. Pressure Drop of Single Membrane Element	15 psi (0,1 MPa)
Max. Pressure Drop of Single Pressure Vessel with Six RO Membranes	50 psi (0,34 MPa)

## NOTICE

- All data and information provided in this manual have been obtained from long-term experiments by the manufacturer. We confirm the effectiveness and accuracy of the data provided. The manufacturer assumes no liability for any aftermath caused by the user's failure to abide by the conditions specified in this manual regarding the use and maintenance of membrane products. It is strongly recommended that the user strictly follows the designed use and maintenance requirements and keeps relevant records.
- 2. The permeate value listed in the table is an average value. The permeate flow of a single membrane element has a tolerance not exceeding  $\pm 15\%$  of the nominal value.
- 3. All wet-type membrane elements have been strictly tested before leaving the factory and have been treated with 1.0% sodium hydrogen sulfite (10% glycerin antifreeze required in winter) for storage purposes and then sealed in a plastic vacuum bag, and further packed in cardboard boxes.
- 4. The membrane used should remain wet after its use; In long term suspensions, to prevent the breeding of microbes, soaking the membrane elements with a protective solution is highly recommended, the solution (prepared with RO filtered water) contains 1.0% sodium hydrogen sulfite (foodstuff-purpose).
- 5. Operate low pressure flushing for 15-25 minutes during the initial use, high pressure flushing for 60-90 minutes when first using (permeate volume no less than 50% of the designed volume). Discard all permeate and condensed water produced during the first one hour after system start-up.
- 6. During storage and operation, it is strictly prohibited to add any chemical medicament that may be harmful to the membrane elements. In case of any violation in the addition of the chemical medicament, manufacturer assumes no liability for any damages incurred.
- 7. Along with technical development and product renovation, all information will be subject to modification without prior notification.



