

VONTRON ULP11-4040 Membrane Element

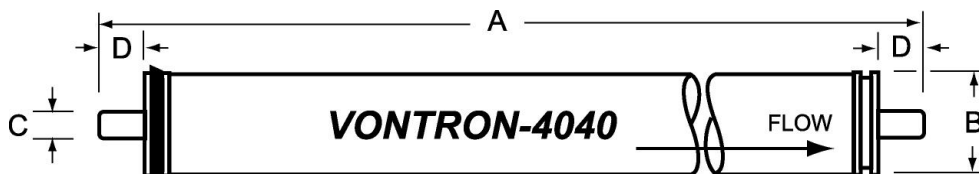
Brief Introduction

ULP series of ultra-low pressure aromatic polyamide compound membrane element newly developed by Vontron Membrane Technology Co., Ltd. can work under ultra low pressure to reach as high permeate flow and rejection same as regular low-pressure membrane element, and is applicable to desalination of surface water and underground water. It operates under approximately two thirds of the operating pressure of regular low-pressure composite membranes, which can decrease the investment costs for such relevant facilities as pumps, pipelines, and containers, etc. and the operating cost for the RO system, thus increasing the economic efficiency.

Applicable to desalination treatment of those water sources with NaCl lower than 2000 ppm, such as surface water, underground water, tap water and municipal water, ULP series membrane elements are mainly applicable to such as pure water, boiler water replenishment, foodstuff processing, and pharmaceutical production.

| Model | Active Membrane | Average Permeate | Stable Rejection | Min. Rejection |
|--------------------------------|--|------------------------|-------------------------------|----------------|
| | Area ft ² (m ²) | GPD(m ³ /d) | Rate % | Rate % |
| ULP11-4040 | 90 (8.4) | 2700 (10.2) | 98.0 | 97.5 |
| Testing Conditions | Testing Pressure | | 150 psi (1.03MPa) | |
| | Testing Solution Temperature | | 25 °C | |
| | Concentration of Testing Solution (NaCl) | | 1500ppm | |
| | pH value of Testing Solution | | 7.5 | |
| | Recovery Rate of Single Element | | 15% | |
| Operation | Max. Working Pressure | | 600psi (4.14MPa) | |
| | Max. Volume of Feed water | | 16gpm (3.6 m ³ /h) | |
| | Max. Temperature of Feed water | | 45°C | |
| | Max. Feed water SDI ₁₅ | | 5 | |
| Limits & Conditions | pH Range of Feed water during Continuous Operation | | 3~10 | |
| | pH Range of Feed Water during Chemical Cleaning | | 2~12 | |
| Conditions | Residual Chlorine Concentration of Feed Water | | <0.1ppm | |
| | Max. Pressure Drop of Single Membrane Element | | 15psi (0.1MPa) | |
| | Max. Pressure Drop of Single Pressure Vessel with Six RO Membranes | | 50psi (0.34MPa) | |

Size of Membrane Element: 1.0 inch=25.4 mm



| A/mm(inch) | B/mm(inch) | C/mm(inch) | D/mm(inch) |
|------------|------------|------------|------------|
| 1016.0(40) | 99.7(3.9) | 19.1(0.75) | 26.7(1.05) |

Notice:

1. All data and information provided in this manual have been obtained from long-term experiment by Vontron. We confirm the effective and accuracy of the data. assumes no liability for any aftermath caused by user's failure in abiding by the conditions specified in this manual in use or maintenance of membrane products. It is strongly recommended that the user shall strictly abide the designed use and maintenance requirements and keep relevant records.
2. The permeate value listed in the table is the average value. The permeate flow of single membrane element is 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 purpose, then sealed with plastic bag in vacuum, and further packed in carton boxes.
4. The membrane used should remain wet after being used; In long term suspension, to prevent the breeding of microbes, soak the membrane elements with protective solution is highly recommended, the solution (prepared with RO filtered water) containing 1.0% sodium hydrogen sulfite (foodstuff-purpose).
5. Operate low pressure flushing for 15-25 minutes of first use, high pressure flushing for 60-90 minutes when first use (Permeate volume no less than 50% of designed volume). Discard all the permeate and condensed water produced during the first one hour after system start-up.
6. During storage time and operation period, it is strictly prohibited to added any chemical medicament that may be harmful to membrane elements. In case of any violation in adding chemical medicament, Vontron 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. Please keep notice the website of Vontron for any updates of the product.