

## ULP11-4040 Membrane Element

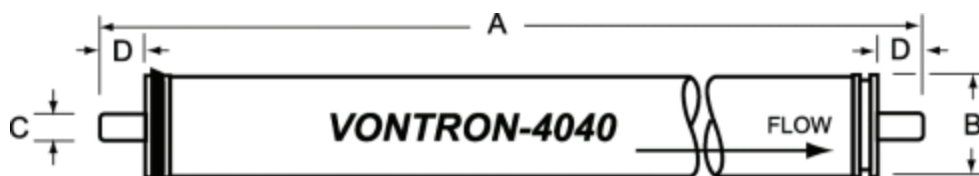
### Brief Introduction

ULP series of ultra low pressure aromatic polyamide compound membrane element newly developed by VONTRON can work under low pressure to reach as high permeate flow and rejection same as a regular low pressure membrane element, and is applicable to desalination of surface water and underground water. It operates under approximately 2/3 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.

ULP series RO element normally suitable for treatment of surface water, underground water and municipal water with TDS is less than 2000 ppm. It is mainly applied in bottle water, drinking water, boiler replenishment water, food processing and pharmaceutical manufacturing industries and other fields.

Model	Active Membrane Area ft <sup>2</sup> (m <sup>2</sup> )	Average Permeate GPD(m <sup>3</sup> /d)	Stable Rejection Rate %	Min. Rejection Rate %
ULP11-4040	90 (8.4)	2700 (10.2)	98.0	97.5
<b>Testing Conditions</b>	Operating pressure 150 psi (1.03MPa)			
	Temperature at 25°C			
	Tested at 1500mg/L NaCl solution			
	pH 7.0 ± 0.5			
Recovery rate at 15%				
<b>Operation</b>	Maximum operating pressure		600psi (4.14MPa)	
	Maximum feedwater flow		16gpm (3.6 m <sup>3</sup> /h)	
	Maximum feedwater temperature		45°C	
	Maximum feedwater flow SDI <sub>15</sub>		5	
<b>Limits &amp; Conditions</b>	Allowed pH range for feedwater in operation		3~10	
	Allowed pH range for chemical cleaning		2~12	
	Maximum concentration of free chlorine		<0.1ppm	
	Maximum pressure drop per element		15psi (0.1MPa)	

**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. VONTRON 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  $\pm 20\%$  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 initial wetting; 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 add 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.