VONTRON **HOR22-8040 Membrane Element**

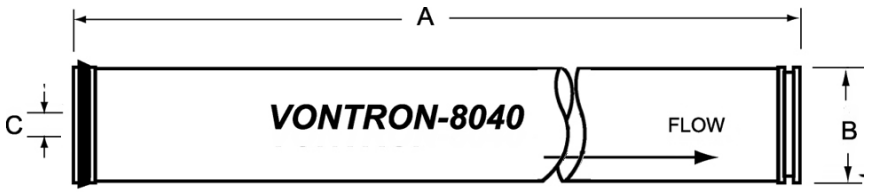
Brief Introduction

HOR series of high oxidation resistant RO element is a new aromatic polyamide composite membrane developed by VONTRON. It has the characteristics of low pressure in operation, high permeate flow and excellent performance. By applying the special synthesis process, the antioxidant properties of membrane components have been enhanced, enable it to withstand the impact of a certain amount of oxidant substances, thus simplified and optimized the pretreatment of RO system. The process reduces bio-pollution of membrane element, saves operation cost and extends the service life.

HOR series RO element suitable for treatment of surface water, underground water and municipal water with TDS is less than 10000 ppm. It is especially suitable for municipal and industrial reclaimed water reuse, electroplating wastewater treatment and the treatment of water resource with bio-pollution and oxidizing substances.

Model	**Active Membrane Area** $ft^2(m^2)$	**Permeate Flow** $GPD(m^3/d)$	**Stable Rejection** %	**Feed Spacer Thickness** mil
HOR22-8040	400（37.2）	9000（34.0）	99.5	28
Testing Conditions	Operating pressure 225 psi (1.55Mpa) Temperature at 25℃ Tested at 2000mg/L NaCl solution pH 7.0 ± 0.5 Recovery rate at 15%			
Operation Limits & Conditions	Maximum operating pressure	600psi（4.14MPa）		
	Maximum feedwater flow	75gpm（17 m^3/h）		
	Maximum feedwater temperature	45℃		
	Maximum feedwater flow SDI_{15}	5		
	Allowed pH range for feedwater in operation	3～10		
	Allowed pH range for chemical cleaning	2～12		
	Maximum concentration of free chlorine	＜0.5ppm		
	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)
1016 (40)	201 (7.9)	29 (1.125)

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. We assume no liability for any consequences of user's failure in abiding 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 ±20% of the nominal value.
3. When sodium hypochlorite is dosed, the catalytic and oxidative metallic ions in the feed water, such as Cu2+, Ni2+, etc. shall be completely removed.
4. When sodium hypochlorite is dosed, the pH value and temperature of feed water shall be kept under careful control to make sure that the feed water temperature doesn't exceed 30℃ and the pH value is preferably between 6~8. Higher feed water temperature or improper pH value may accelerate the oxidation.
5. The salt permeation rate shall not exceed 4 times of the initial value within 3 years of service life.
6. It would be best to use the feed water pipe made of high-pressure PVC or stainless with high resistance to corrosion, the membrane housing made of FRP, the pump and instrument made of FRP with high resistance to corrosion and containing no bronze component.
7. In order to remove residual chlorine in the side of permeated water, dechlorination process is required. Post carbon process is recommended for this purpose.
8. When it is required to carry out impact disinfection, the sodium hypochlorite solution with 2ppm concentration can be selected.
9. Dry-type membrane leaves the factory without any protective solution treatment. Wet-type membrane elements have been treated with the solution of 1.0% sodium hydrogen sulfite (10% glycerin antifreeze required in winter) for storage purpose, then sealed with plastic bag in vacuum.
10. 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).
11. 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.
12. During storage and operation period, it is strictly prohibited to add any chemicals that may be

harmful to membrane elements. In case of any violation in adding chemicals, Vontron assumes no liabilities for any damages incurred.

13. Along with technical development and product renovation, all information will be subject to modification without prior notification. Please keep notice of our website for any updates of the product.