

2.2.8 SHANGYUAN® Sea water element

Brief Introduction

The SW series of aromatic polyamide compound membrane element developed by Shangyuan Technology Co., Ltd. has the properties of low-pressure operation, high permeate flow and excellent desalination and are applicable to desalination of sea water, reducing the number of membrane elements used, and has the characteristics of low operating pressure, small equipment investment, good and stable desalination performance. In particular, its high desalination rate can ensure that drinking water can be obtained from seawater through the first-stage reverse osmosis.

It is suitable for the treatment of seawater and high-concentration brackish water. It can be used for various industrial water treatments such as seawater desalination, high-concentration brackish water desalination, power plant boiler feed water, etc. It can also be used for waste water reuse, food and medicine and other high value-added substances Concentration recovery and other application fields.

Specifications and Major Properties

Model	Average Permeated Flow GPD (m ³ /d)	Stable Rejection Rate (%)	Minimum Rejection Rate (%)
SW30HRLE-8040	7500(28.4)	99.85	99.6
SW30XLE-8040	9000(34.1)	99.8	99.6
SW-4040	1400(5.3)	99.7	99.5

Testing Conditions: Testing Pressure.....800 psi (5.5Mpa)
Temperature of Testing Solution25 °C
Concentration of Testing Solution (NaCl)..... 32000ppm
pH Value of Testing Solution7.5
Recovery Rate of Single Membrane Element....15%

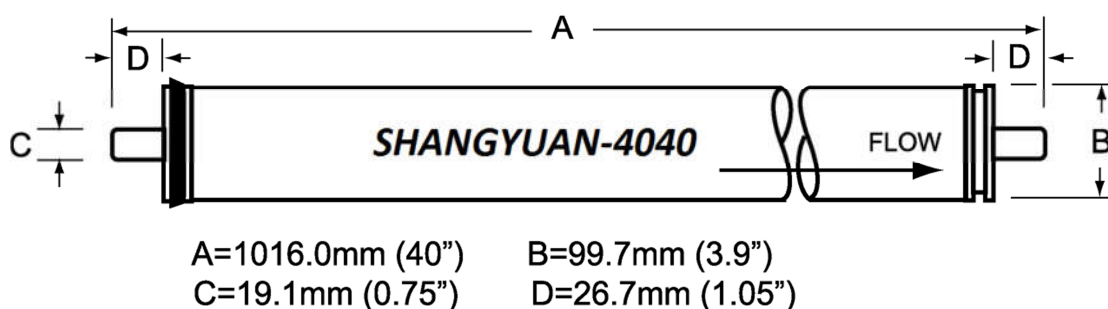
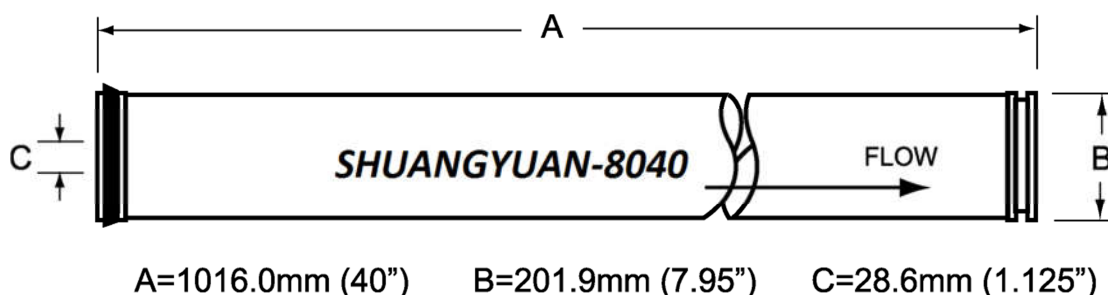
Extreme Operation Conditions

Max. Working Pressure..... 1000psi(6.9Mpa)
Max. Feedwater Flow.....75gpm (17 m³/h) (8040)
16gpm (3.6 m³/h) (4040)
Max. Feedwater Temperature.....45°C

Max. Feedwater SDI.....	5
Residual chlorine Concentration of Feedwater.....	<0.1ppm
pH Range of Feedwater during Continuous Operation.....	3~10
pH Range of Feedwater during Chemical Cleaning.....	2~12
Max. Pressure Drop of Single Membrane Element.....	15psi(0.1Mpa)

Dimensions of Membrane Element

All dimensions are shown in: millimeter (inch)



Important Information

- Any specific application must be limited within the extreme operating conditions. We strongly recommend you to refer to the latest edition of technology manual and design guide prepared by Shangyuan Technology Co., Ltd., or consult experts proficient in membrane technology. In case the customer fails to follow the operating conditions as specified in this manual, Shangyuan technology Co., Ltd. will assume no liability for all results.
- The permeate flow listed in the table is the average value. The permeate flow of single membrane element is within a 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 the solution of 1.0% sodium hydrogen sulfite (an antifreeze solution of 10% propanediol required in winter) for storage purpose, then sealed with plastic bag in vacuum, and further packed in carton boxes. In order to prevent the breeding of microbes during short-time storage, transportation and system standby, we recommend you to soak the membrane elements with protective solution (prepared with RO filtered water) containing 1.0% sodium hydrogen sulfite (foodstuff-purpose).
4. Discard the RO-filtered water produced during the first one hour after system start-up.
5. During storage time and run time, it is strictly prohibited to dose any chemical medicament that may be harmful to membrane elements. In case of any violation in using this kind of chemical medicament, Shangyuan Technology Co., Ltd. assumes no liability for any outcome incurred herefrom.