

VONTRON INDUSTRIAL MEMBRANE ELEMENTS

SW SERIES SEAWATER RO MEMBRANE ELEMENTS

Brief Introduction

SW series of aromatic polyamide compound membrane elements developed by Vontron Technology Co. is applicable to the desalination of seawater. By optimizing the structure of the membrane element, the SW series has increased permeate flow. It is characterized by lower operating pressure, low investment in equipment, excellent rejection rate and reliable performance and its high salt rejection will ensure production of drinking water from seawater simply through a one-pass RO design.

Applicable to treatment of seawater and high-concentration brackish water, the SW series of membrane elements are designed for various industrial water treatment, such as seawater desalination, high-concentration brackish water desalting, boiler water replenishment for power plant, etc., and are also applicable to various fields such as recycling of wastewater, concentration and reclamation of such substances with high additional value as foodstuffs, pharmaceuticals, etc.

Specifications and Major Properties

Model	Active Membrane Area ft ² (m ²)	Average Permeate Flow GPD (m ³ /d)	Stable Rejection Rate (%)	Minimum Rejection Rate (%)
SW21-8040	330(30.6)	5000(18.9)	99.7	99.5
SW22-8040	380(35.2)	6000(22.7)	99.7	99.5
SW21-4040	80(7.4)	1400(5.3)	99.5	99.2
SW11-4021	33(3.1)	750(2.8)	99.2	99.0
SW11-2521	12(1.1)	200(0.76)	99.2	99.0
SW11-2540	28(2.6)	500(1.89)	99.2	99.0

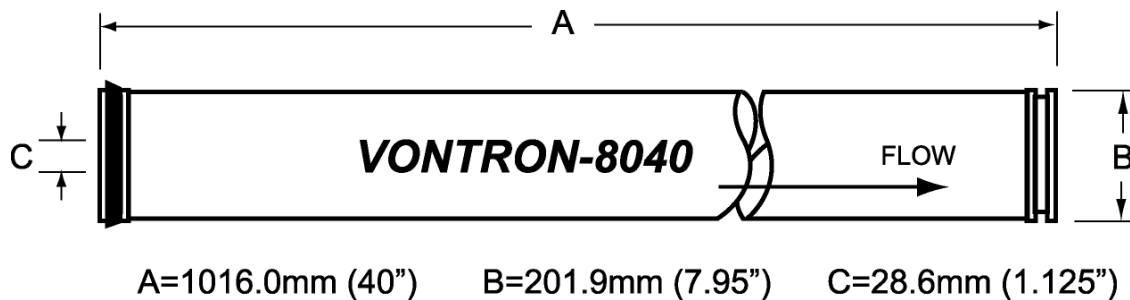
Testing Conditions: Testing Pressure.....800 psi (5.5Mpa)
Temperature of Testing Solution25 °C
Concentration of Testing Solution (NaCl)..... 32800ppm
pH Value of Testing Solution7.5
Recovery Rate of Single Membrane Element...8% (8040, 4040 and 2540)
4% (4021 and 2521)

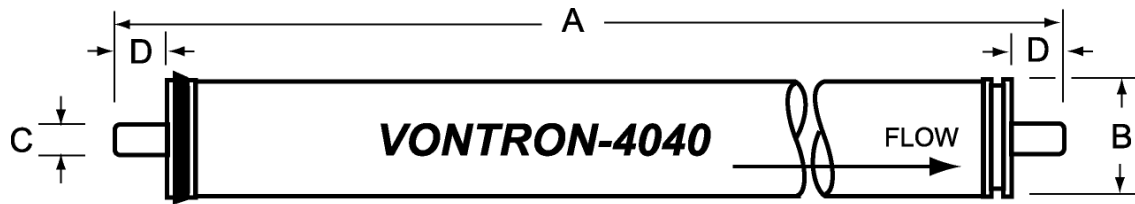
Extreme Operating Conditions

Max. Working Pressure..... 1000psi (6.9Mpa)
Max. Feed water Flow..... 75gpm (17 m³/h) (8040-size)
16gpm (3.6 m³/h) (4040 and 4021)
6.0gpm (1.4 m³/h) (2521 and 2540)
Max. Feed water Temperature.....45°C
Max. Feed water SDI......5
Residual chlorine Concentration of Feed water.....<0.1ppm
pH Range of Feed water during Continuous Operation....3~10
pH Range of Feed water during Chemical Cleaning.....2~12
Max. Pressure Drop of Single Membrane Element... 15psi(0.1Mpa)(8040,4040 and 2540)
10psi (0.07Mpa) (2521 and 4021)

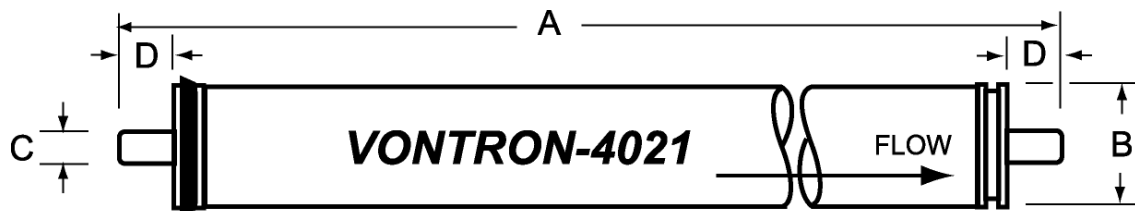
Dimensions of Membrane Element

All dimensions are shown in: millimeter (inch)

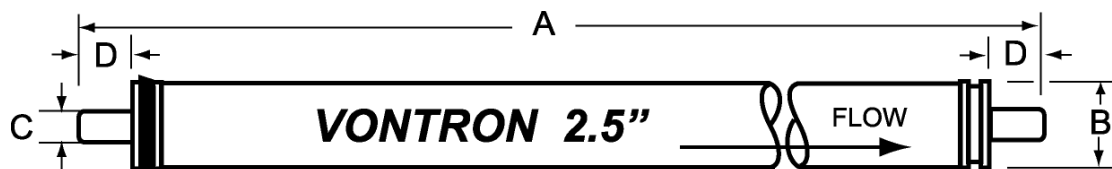




A=1016.0mm (40") B=99.7mm (3.9")
 C=19.1mm (0.75") D=26.7mm (1.05")



A=533.4mm (21") B=99.7mm (3.9")
 C=19.1mm (0.75") D=26.7mm (1.05")



2540: A=1016.0mm (40") B=61.0mm (2.4") C=19.1mm (0.75") D=30.2mm (1.19")
2521: A=533.4mm (21") B=61.0mm (2.4") C=19.1mm (0.75") D=30.2mm (1.19")

Important Information

1. Any specific application must be limited within the extreme operating conditions. We strongly recommend you to refer to the latest edition of the technology manual and design guide prepared by Vontron Technology Co., or consult experts proficient in membrane technology. In case the customer fails to follow the operating conditions as specified in this manual, Vontron Technology Co. will assume no liability for the results.
2. 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 purposes, 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 (food grade quality).

4. Discard the RO-filtered water produced during the first one hour after system start-up.

During storage time and run time, it is strictly prohibited to dose any chemical that may be harmful to the membrane elements. In case of any violation in using this kind of chemical, Vontron Technology Co. assumes no liability for any outcome incurred.

Points of Attention

1. All data and information provided has been obtained from long-term evaluation by Vontron Technology Co. This data and information is accurate and effective. Vontron Technology Co. assumes no liability for any consequences caused by user's failure in abiding by the conditions specified in this manual for the use or maintenance of membrane products. It is strongly recommended that the user shall strictly abide by the requirements for design, use and maintenance of products and keep relevant records.
2. Along with technical development and product review, the information contained herein will be subject to modification without prior notification. Please keep an eye on the website of Vontron Technology Co. for any product updates.