

## NANOFILM Sea Water Series Elements: 8040 High-Permeate

### 1. Brief Introduction

The NSW (Seawater) series are aromatic polyamide RO membrane elements, which are newly developed by NANOFILM and are applicable to seawater desalination. By optimizing the structure of membrane elements, the SW series increases the permeate flow, and requires fewer elements for its permeate flow. It is characterized by low operating pressure, small equipment investment, excellent rejection rate and reliable performance, and its high salt rejection can ensure producing the drinking water from seawater simply through one-stage RO system. The SW series are applicable to the treatment of seawater and high-concentration brackish water. SW8040 membrane elements are designed for seawater desalting, brackish water desalting and boiler water replenishment of power plant, as well as various applications, such as recycling of wastewater, concentrating and reclamation of such high additional value substances as foodstuff and medicine, etc.

### 2. Specifications and Main Properties of Membrane Elements

Part No.	Average Salt Rejection Rate %	Average Permeate Flow GPD (m <sup>3</sup> /d)	Active Membrane Area ft <sup>2</sup> (m <sup>2</sup> )
NSW12-8040	99.2	7000(26.5)	380(35.2)
NSW22-8040	99.7	6000(22.7)	380(35.2)

#### Testing Conditions:

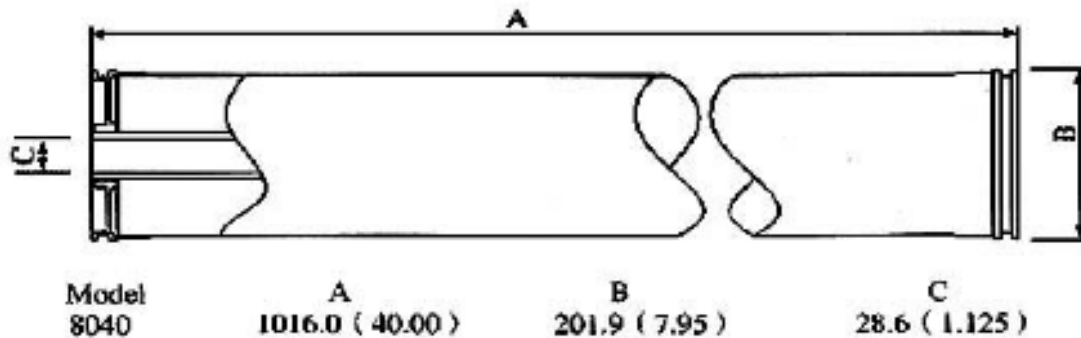
Testing Pressure	800psi (8.5Mpa)
Temperature of Testing Solution	25 °C
Concentration of Testing Solution (NaCl)	32800 ppm
PH Value of Testing Solution	7.5
Recovery Rate of Single Membrane Element	8%

### 3, Extreme operation Conditions

Max. Operating Pressure	1000psi (6.9Mpa)
Max. Feedwater Flow	75gpm (17 m <sup>3</sup> /h)
Max. Temperature of Feedwater	45 °C
Max. SDI of Feedwater	5
Free Chlorine Concentration of Feedwater	< 0.1 ppm
PH Value Range of Feedwater as Continuous Operation	3-10
PH Value Range of Feedwater as Chemical Cleaning	2-11
Max. Pressure Difference of Single Membrane Element	15psi(0.1Mpa)

#### 4. Dimensions of Membrane Element

All dimensions are in millimeter (inch).



#### Important Information

- 1) For any recommended design scope, please refer to the latest edition of technology manual and design guide prepared by NANOFILM or consult experts proficient in membrane technology. In case the customer fails to follow the operating conditions as specified in this manual, NANOFILM. will assume no liability for all results.
- 2) The permeate flow listed in the table is the average value. The permeate flow of single membrane element is with a tolerance of  $\pm 15\%$ .
- 3) Before leaving the factory, all membrane elements will have been strictly tested, and have been treated for storage with the solution of 1.0% sodium hydrogensulfite (an antifreeze solution of 10% propanediol will further added in winter), and then packed in vacuum, and outer packing is carton. 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 the protective solution (prepared with RO permeate water) containing 1.0% sodium hydrogensulfite (foodstuff-purpose).
- 4) Discard RO product water produced during the first one hour after system start-up.
- 5) During storage time and run time, it is strictly prohibited to add any chemical medicament, which may be harmful to membrane elements. In case of any violation in using this kind of chemical medicament, NANOFILM. assumes no liability for all results.

#### Notice:

1. All data and information provided in this manual have been obtained from long-time experiment by NANOFILM. We believe the data and information contained herein to be accurate and effective. However, since the conditions and methods for use of our products are beyond our control, NANOFILM assumes no liability

for all results obtained or damages incurred through the application of the presented data and information. Regardless of separate use or working with other products, it is strongly recommended that the users shall carry out experiment to determine the safety of NANOFILM 's products and their applicability to customers' specific end uses.

2. Due to technology development and products renovation, products information will be subject to modification without prior notification. Please pay attention to NANOFILM 's latest products information.