

## 2.2.7 SHANGYUAN® Strengthened fouling resistant element

### Brief Introduction

The CR series are aromatic polyamide RO membrane elements, which are newly developed by Shangyuan Technology Co., Ltd. and can be used in desalination of brackish water. It is characterized by low-pressure operation, higher water productivity and excellent desalting property.

The anti-pollution performance of CR series is 30% higher than that of conventional anti-pollution membranes. The inlet grid is specially designed 34mil, which effectively prolongs the cleaning cycle of the membrane, and the salt rejection rate reaches 99.75%.

The CR series are applicable to the desalinating treatment of those water resources with salt concentration less than 10000ppm, such as surface water, underground water, tap water and municipal water. They are mainly used for treatment of various industrial water, such as various scales of industrial intermediate-pass water reclamation, boiler water replenishment in power plant, and are especially applicable to the treatment of those water with slight organic pollutants, such as industrial wastewater, municipal sewage and other slightly contaminated water.

### 2 Specifications and Major Properties

Model	Average Permeated Flow GPD (m <sup>3</sup> /d)	Stable Rejection Rate (%)	Minimum Rejection Rate (%)	Feed Space (mil)
IW11-8040-FR	10000(37.8)	99.5	99.2	34

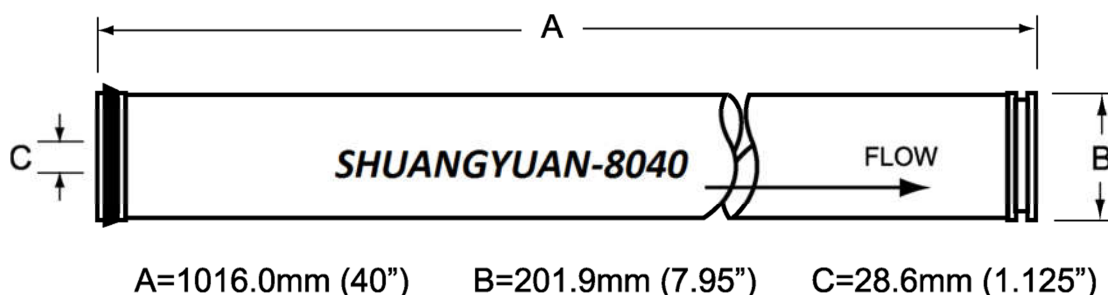
Testing Conditions: Testing Pressure ..... 225psi (1.55Mpa)  
Temperature of Testing Solution ..... 25℃  
Concentration of Testing Solution (NaCl) ..... 2000 ppm  
PH Value of Testing Solution ..... 7.5  
Recovery Rate of Single Membrane Element .... 15%

### 3. Extreme Operation Conditions

Max. Operating Pressure ..... 600psi (4.14Mpa)  
Max. Feedwater Flow..... 75gpm (17 m<sup>3</sup>/h)  
Max. Temperature of Feedwater ..... 45℃  
Max. SDI of Feedwater ..... 5  
Free Chlorine Concentration of Feedwater ... <0.1ppm  
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)

## Dimensions of Membrane Element

All dimensions are shown in: millimeter (inch)



## 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 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.
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 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.