

SHANGYUAN®IU Series of Membrane Element

Brief Introduction

IU series of ultra-low pressure aromatic polyamide compound membrane element newly developed by Shangyuan Technology Co., Ltd. can work under ultra-low pressure to reach as high permeate flow and salt rejection as regular low-pressure membrane element can, and is applicable to desalination of surface water and underground water. It operates under approximately 2 thirds of the operating pressure of regular low-pressure composite membrane, and achieves a salt rejection rate of up to 99.0%, which can decrease the investment costs for such relevant facilities as pump, piping, and container, etc. and the operating cost for the RO system, thus increasing the economic efficiency.

Being suitable for the desalting treatment of those water sources with salt concentration lower than 2000 ppm, such as surface water, underground water, tap water and municipal water, etc., IU series membrane elements are mainly applicable to numerous applications of various scales, such as pure water, boiler water replenishment, foodstuff processing, and pharmaceutical production, etc.

Specifications and Major Properties

Model	Average Permeated Flow GPD (m ³ /d)	Stable Rejection Rate (%)	Minimum Rejection Rate (%)
IU21-8040	11500(45.7)	99.0	98.5
IU22-8040	10500(39.7)	99.5	99.0
IU11-4040	2600(9.1)	99.0	98.5
IU-HR-4040	2000(7.6)	99.6	99.3

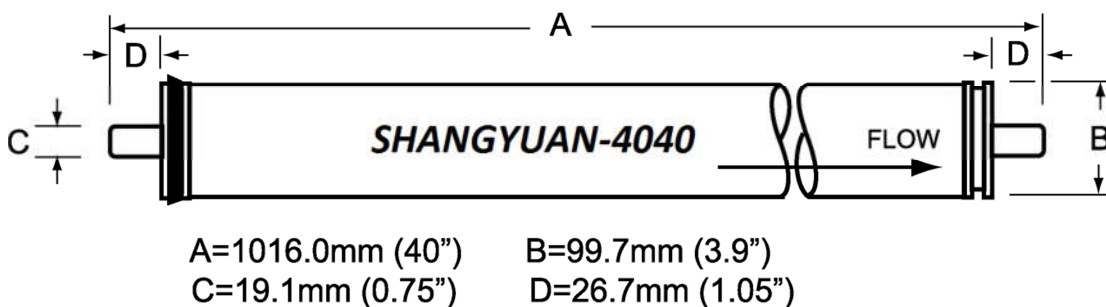
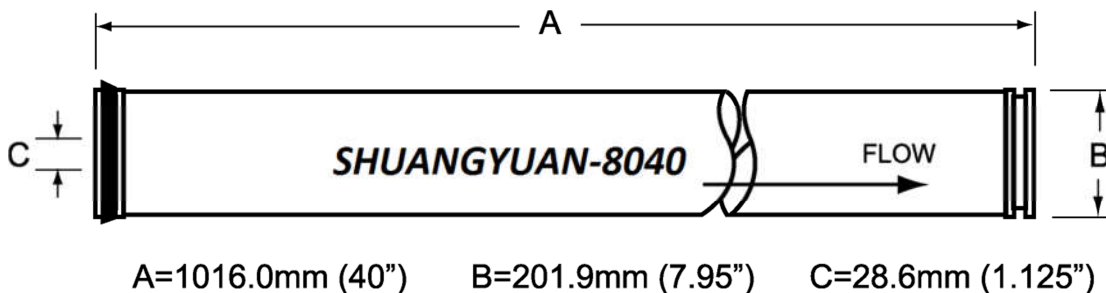
Testing Conditions: Testing Pressure.....150 psi (1.03Mpa)
 Temperature of Testing Solution25 °C
 Concentration of Testing Solution (NaCl)..... 1500ppm
 pH Value of Testing Solution7.5
 Recovery Rate of Single Membrane Element....15%

Extreme Operation Conditions

Max. Working Pressure.....	600psi (4.14Mpa)
Max. Feed water Flow.....	75gpm (17 m ³ /h) (8040)
.....	16gpm(3.6 m ³ /h) (4040)
Max. Feed water Temperature.....	45℃
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)

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.

2. The permeate flow listed in the table is the average value. The permeate flow of single membrane element of has a minimum permeate flow with a tolerance not exceeding 20% of 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.