TORAY

Sea Water RO Elements

TM820R-400

Type	Diameter Inch	Membrane Area $ft^2(m^2)$	Salt Rejection %	Product Flow Rate $gpd(m^3 / d)$	Feed Spacer Thickness mil
TM820R-400	8”	400(37)	99.8	8,500(32.2)	28
TM820R-440	8”	440(41)	99.8	9,400(35.6)	28

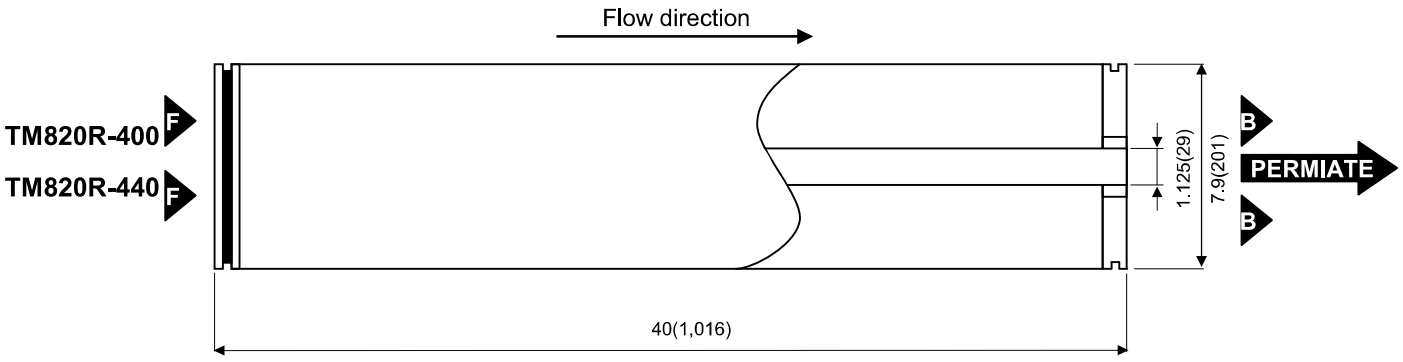
1. Membrane Type		Cross Linked Fully Aromatic Polyamide Composite
2. Test Conditions	Feed Water Pressure Feed Water Temperature Feed Water Concentration Recovery Rate Feed Water pH	800 psi(5.52MPa) 77° F(25℃) 32,000 mg/l Nacl 8% 8
3. Minimum Salt Rejection		99.5%
4. Minimum Product Flow Rate		6,750gpd($25.6m^3$/d)(TM820R-400) 7,500gpd($28.4m^3$/d)(TM820R-440)
5. Boron Rejection (typical value)		95% at pH 8 (5mg/l Boron added to Feed water)

Dimensions

All dimensions shown in Inches (millimeter)

F Feed Water

B Concentrated Brine



Operating Limits

Maximum Operating Pressure	1200 psi (8.3 MPa)
Maximum Feed Water Temperature	113 ˚F (45 ˚C)
Maximum Feed Water SDI_{15}	5
Feed Water Chlorine Concentration	Not Detectable
Feed Water pH Range, Continuous Operation	2-11
Feed Water pH Range, Chemical Cleaning	1-12
Maximum Pressure Drop per Element	20 psi (0.14 MPa)
Maximum Pressure Drop per Vessel	60 psi (0.4 MPa)

Operating Information

1. For the recommended design range, please consult the latest Toray technical bulletin, design guidelines, computer design program, and/ or call an application specialist. If the operating limits given in this Product Information Bulletin are not strictly followed, the Limited Warranty will be null and void.
2. All elements are wet tested, treated with tested feed water solution, and then vacuum packed in oxygen barrier bags with deoxidant inside. To prevent biological growth during system shutdown, it is recommended to perform 30-60 minutes flushing of Toray elements with seawater once in every two days.
3. Permeate from the first hour of operation shall be discarded.
4. The customer is fully responsible for the effects of chemicals that are incompatible with the elements. Their use will void the element Limited Warranty.

Notice

1. Toray accepts no responsibility for results obtained by the application of this information or the safety or suitability of Toray's products, either alone or in combination with other products. Users are advised to make their own tests to determine the safety and suitability of each product combination for their own purposes.
2. All data may change without prior notice, due to technical modifications or production changes.