MemTeck™ BWRO-FR 4040 & 8040

Brackish Water-Fouling Resistance (BWFR) RO Membranes

KEY FEATURES

Key Features of BWFR Membrane

The BWFR series is engineered to deliver high performance, energy efficiency, and long-term reliability for brackish water applications.

- **Low Operating Pressure**
  Designed to operate efficiently at reduced feed pressures, helping lower overall energy costs.
- **High Permeate Flow**
  Ensures excellent water productivity and optimized system output.
- **Outstanding Salt Rejection (99.5%)**
  The BWFR membrane elements provide superior salt rejection at feed salinity up to **7,000 ppm**, while maintaining high productivity even at lower operating pressures.
- **Advanced Feed Spacer Technology**
  Incorporates proprietary feed spacer design to reduce pressure drop, enhance flow distribution, and ensure stable long-term performance.
- **Enhanced Anti-Fouling Performance**
  Optimized membrane surface and design result in:
  Reduced chemical cleaning frequency
  Lower chemical consumption
  Decreased energy usage
  Extended membrane service life

Applications

Applications of BWFR Series

The **BWFR low-pressure membrane elements** are designed to deliver reliable, high-efficiency performance across a wide range of water treatment and industrial applications.

Ideal for:

✓ **Highly Saline Brackish Water Treatment**
Efficient operation at elevated salinity levels with excellent permeate quality.

✓ **Surface Water Treatment**
Stable performance under variable raw water conditions.

✓ **Municipal Wastewater Reuse**
Supports sustainable water recovery and reuse initiatives with dependable separation efficiency.

✓ **Dairy Processing Applications**
Optimized for process water treatment and concentration requirements.

✓ **Pharmaceutical Water Systems**
Provides consistent, high-purity water to meet strict quality standards.

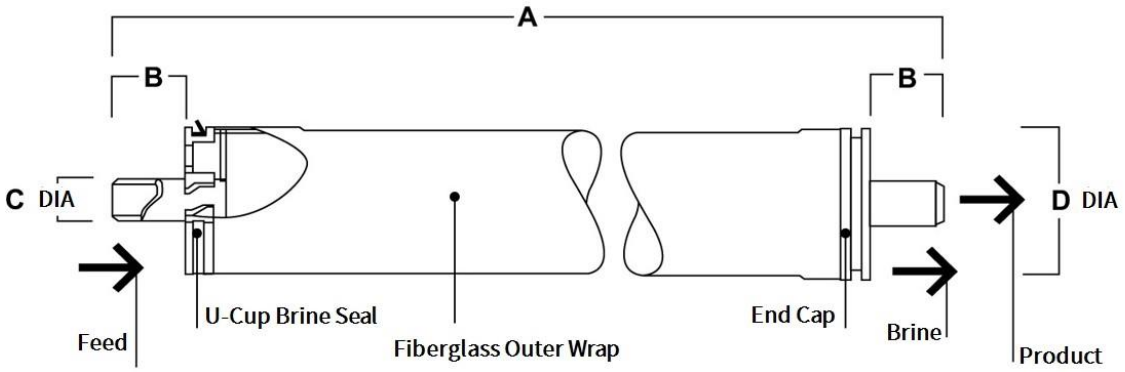
✓ **Oil & Gas Industry Applications**
Engineered for durability and stable operation in demanding industrial environments.

Typical Properties

Product	Act17ive Membrane Area ft2 (m2)	Permeate Flow Rate GPD (m3/d)	Stabilized Salt Rejection %	Feed Spacer mil
BWRO-FR- 4040	100 (9.2)	2600 (9.8)	99.5 %	28
BWRO-FR - 8040	400 (37.2)	10,000 (38)	99.5 %	28

1. Test conditions: 7,000 ppm NaCl,350 psig (23.8 bar), pH 8, 77°F (25°C), 15 % recovery.
2. Minimum salt rejection is 99.1 %.
3. Individual elements may have different permeating flows by +/15%.

Element Dimensions



Product	Dimensions – inches (mm) 1 inch = 25.4 mm A	B	C	D
BWRO-FR-4040	40.0 (1,016)	1.05 (26.7)	0.75 (19)	3.9 (99)
BWRO-FR-8040	40.0 (1,016)	1.19 (30.2)	1.25 (28.6)	7.9 (200)

Operation Specifications and cleaning limits*

Membrane Type	BWRO-FR-4040	BWRO-FR-8040
Membrane Materials	Polyamide Thin-Film Composite	
Maximum Operating Temperature[a]	113˚F (45˚C)	113˚F (45˚C)
Maximum Operating Pressure	600 psi (41 bar)	600 psi (41 bar)
Maximum Feed Flow Rate	16 gpm (3.6 m^3/h)	75 gpm (17 m^3/h)
Maximum Pressure Drop	15 psig (1.0 bar)	15 psig (1.0 bar)
pH Range	2 - 11	2 - 11
Maximum Feed Silt Density Index (SDI)	SDI 5	SDI 5
Free Chlorine Tolerance	< 0.1 ppm	< 0.1 ppm

1. Over pH 10, the maximum continuous temperature is 95˚F (35˚C).
2. In certain conditions, free chlorine and other oxidizing agents can cause premature membrane failure. Pretreatment prior to membrane exposure is recommended to prevent oxidation damage, since oxidation damage is not covered by warranty.

General Information

1. After initial wetting, keep elements moist at all times
2. The limited warranty will be null and void if the operating limits and guidelines are not strictly followed.
3. For the purpose of preventing biological growth during prolonged system operation shutdowns, membrane elements should be immersed in a preservative solution
4. The customer is fully responsible for the effects of incompatible chemicals and lubricants on elements
5. The maximum pressure drop across an entire pressure vessel (housing) is 50 psi (3.4 bar).
6. Always avoid static backpressure on the permeate side
7. The permeate obtained from the first hour of operation should be discarded.
8. Make sure there are no abrupt changes in pressure or crossflow
9. During start-up, shutdown, cleaning, or other sequences, spiral elements should be protected from damage. It is recommended to gradually transition from a standstill to an operating state during startup:
10. The feed pressure should be gradually increased over a 30-60-minute period
11. The crossflow velocity should be gradually increased over 15-20 seconds to reach the set operating point.
12. It is crucial that the system is designed and operated correctly in order to reduce cysts and pathogens effectively.
13. The permeate obtained from the first hour of operation should be discarded.

Important Information

14. To prevent membrane damage due to overfeeding or hydraulic shock, it is essential to start up reverse osmosis water treatment systems properly. As a result of following the proper start-up sequence, system water quality and productivity goals can also be achieved.
15. Pretreatment of the membrane, loading of the membrane elements, instrument calibration, and other system checks should be completed before starting the system

Regulatory Note

Please check the application status of this product before using or selling it; some countries may restrict the use of this product in drinking water.

Would you like to ask a question? Contact us at: www.memteck.com