



# BW 440 ES L

Energy-saving brackish water RO membrane with an advanced 28 mil low dP feed spacer technology

## Key Features

- High permeate flow rate and salt rejection at low feed pressures
- Optimized membrane surface hydraulics
- Reduced differential pressure
- Good fouling resistance

## Main Benefits

- Low energy consumption
- High permeate water quality
- Reduced cleaning frequency, chemical use, and membrane replacements
- Reduced energy consumption and total cost of plant ownership

## Ideal Applications

- Industrial process water
- Municipal drinking water
- 2nd pass SWRO

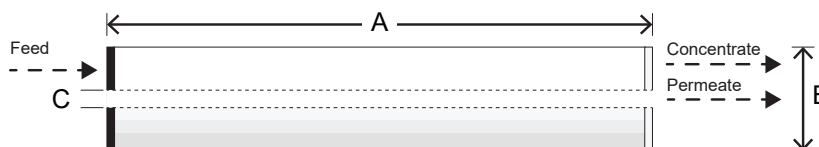
## Performance Specifications

| Item                        | Unit                              | Test Condition A | Test Condition B |
|-----------------------------|-----------------------------------|------------------|------------------|
| Permeate Flow Rate          | GPD (m <sup>3</sup> /d)           | 11,550 (43.7)    | 12,280 (46.5)    |
| Stabilized Salt Rejection   | %                                 | 99.6             | 99.66            |
| Minimum Salt Rejection      | %                                 | 99.5             | 99.56            |
| Active Membrane Area        | ft <sup>2</sup> (m <sup>2</sup> ) | 440 (41)         |                  |
| Feed Spacer Thickness, Type | mil                               | 28, low dP       |                  |

The specifications outlined above are normalized performances based on the following test conditions:

- **Test Condition A:** 2,000 ppm NaCl, 150 psi (10.3 bar), 25°C (77°F), pH 7, Recovery 15%
- **Test Condition B (referential only):** 1,500 ppm NaCl, 150 psi (10.3 bar), 25°C (77°F), pH 7, Recovery 15%
- Permeate flow rates for individual elements may vary by ±15%

## Dimensions and Weight



| Dimensions: mm (in) |              |                | Wet Weight: kg (lbs) |
|---------------------|--------------|----------------|----------------------|
| A                   | B            | C              | 16 (35)              |
| Element Length      | Element O.D. | Core Tube I.D. |                      |
| 1,016 (40)          | 200 (7.9)    | 28.6 (1.125)   |                      |

All dimensional information is indicative and for reference only. Please contact NanoH2O for detailed technical specifications.

## Operating Specifications

| Specification                               | Unit                    | Value      |
|---------------------------------------------|-------------------------|------------|
| Maximum Applied Pressure                    | psi (bar)               | 600 (41.3) |
| Maximum Chlorine Concentration              | ppm                     | < 0.1      |
| Maximum Operating Temperature               | °C (°F)                 | 45 (113)   |
| pH Range, Continuous Operation              |                         | 2–11       |
| pH Range, Cleaning                          |                         | 2–12       |
| Maximum Feed Water Turbidity                | NTU                     | 1.0        |
| Maximum Feed Water SDI <sub>15</sub>        |                         | 5.0        |
| Maximum Feed Flow                           | gpm (m <sup>3</sup> /h) | 75 (17)    |
| Maximum Pressure Drop (ΔP) for Each Element | psi (bar)               | 15 (1.0)   |

These operating specifications are for general use. For specific applications, operation at more conservative values may ensure better performance and extended membrane life. See NanoH2O Technical Bulletins for more details.



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This product is certified to NSF/ANSI/CAN Standard 61 for drinking water systems