VEOLIA

BEV RO Series

FACT SHEET

(855) 787-4200
COMPLETE WATER SOLUTIONS
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Beverage and Bottled Water Production

The BEV RO Series spiral wound membranes are engineered to provide beverage plants production water with a high degree of total dissolved solids (TDS) removal at several different levels of energy requirement. TDS removal is often required when producing purified water, teas, very low and sodium free products, and carbonated soft drinks. Each of the BEV RO Series models will produce treated water with lower levels of hardness, alkalinity, sodium, and chloride. For lower TDS feed water, the low energy (LE) or ultra-low energy (ULE) options are available to reduce energy consumption and carbon footprint.

All of the BEV RO Series elements have NSF/ANSI/CAN 61 certification.

Features of the BEV RO Series include a cage design that eliminates the stagnant zone associated with industrial fiberglass reinforced plastic (FRP) elements and their brine seals, which can act as a site for bacterial growth. This design also offers less pressure resistance than an industrial FRP element, resulting in lower brake horsepower and substantial energy savings.

Table 1: Element Specification

Membrane	A-Series, Thin-film membrane (TFM)

Model	Average permeate flow GPD (m^3/day) (1,3,4,5)	Average NaCl rejection (2,3,4,5)	Minimum NaCl rejection (2,3,4,5)
BEV-RO-CG	11,000 (41.6)	99.3 %	98.8 %
BEV-RO-LE-CG	10,000 (37.8)	98.5%	98.0%
BEV-RO-ULE-CG	10,000 (37.8)	95%	92%

(1) Individual flow rate may vary ±20%.
(2) Stabilized salt rejection after 24 hours of operation.
(3) BEV-RO-CG testing conditions: 2,000 ppm NaCl solution at 225 psi (1,551 kPa) operating pressure, 77 °F (25°C), pH 7.5 and 15% recovery.
(4) BEV-RO-LE-CG testing conditions: 500 ppm NaCl solution at 115 psi (793 kPa) operating pressure, 77 °F (25°C), pH 7.5 and 15% recovery.
(5) BEV-RO-ULE-CG testing conditions: 500 ppm NaCl solution at 75 psi (520 kPa) operating pressure, 77 °F (25°C), pH 7.5 and 15% recovery.

Table 2: Element Properties (4)

Model	Active area ft^2 (m^2)	Outer wrap	Feed Spacer (mil)	Part Number
BEV-RO-CG	400 (37.2)	Cage	34	3205636
BEV-RO-LE-CG	400 (37.2)	Cage	34	3205637
BEV-RO-ULE-CG	400 (37.2)	Cage	34	3205638

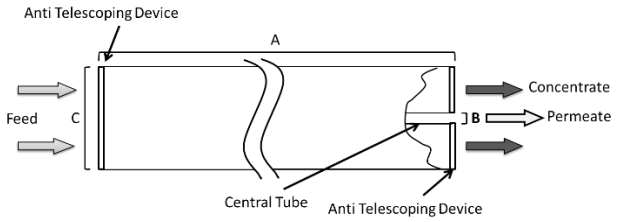

Figure 1: Element Dimensions Diagram - Female

Table 3: Dimensions and Weight (4)

Model	Type	Dimensions, inches (cm)			Boxed
		A	B	C	Weight lbs. (kg)
BEV-RO-CG	Female	40.0 (101.6)	1.125 (2.86)	7.9 (20.1)	35 (16)
BEV-RO-LE-CG	Female	40.0 (101.6)	1.125 (2.86)	7.9 (20.1)	35 (16)
BEV-RO-ULE-CG	Female	40.0 (101.6)	1.125 (2.86)	7.9 (20.1)	35 (16)

Table 4: Operating and CIP Parameters (4)

Typical Operating Pressure	BEV-RO-CG: 200 psi (1,379 kPa) BEV-RO-LE-CG: 110 psi (758 kPa) BEV-RO-ULE-CG: 50-100 psi (345-690 kPa) (5)
Typical Operating Flux	BEV-RO-CG: 10-20 GFD (15-35 LMH) BEV-RO-LE-CG: 10-20 GFD (15-35 LMH) BEV-RO-ULE-CG: 13-23 GFD (22-39 LMH)
Maximum Operating Pressure	BEV-RO-CG: 600 psi (4,137 kPa) BEV-RO-LE-CG: 400 psi (2,758 kPa) BEV-RO-ULE-CG: 250 psi (1724 kPa) (5)
Maximum Temperature	Continuous Operation: 122°F (50°C) Clean-In-Place (CIP): 122°F (50°C) (6)
Minimum Crossflow	30 gpm (6.8 m^3/hr)
pH Range	Continuous operation: 2.0-11.0 Clean-In-Place (CIP): 1.0-13.0 (6)
Maximum Pressure Drop	Over an element: 12 psi (83 kPa) Per housing: 50 psi (345 kPa)
Chlorine Tolerance	1,000+ ppm-hours, dechlorination recommended
Feedwater	NTU < 1 SDI_{15} < 5

(4) Element properties and parameters are indicative numbers. Specific values by element may vary within normal element manufacturing tolerances.

(5) At 50-70°F (10-21°C) water temperature.

(6) Please refer to Cleaning Guidelines Technical Bulletin TB1194EN.