MICRODYN RO Lowest Energy Brackish Water RO Elements

The MICRODYN RO series of ultra-low energy RO membranes is ideal for water purification applications where reduced energy consumption is required. These elements feature low energy membrane for upgrading an RO system and operate at ultra-low pressure conditions. MICRODYN RO elements are available in standard 4" and 8" spiral-wound designs to meet all of your new equipment and direct replacement needs.

MEMBRANE CHARACTERISTICS

Membrane Chemistry	Thin-Film Composite Polyamide
Construction	Spiral-Wound Membrane Element with Fiberglass Outerwrap
Stabilized Salt Rejection (%)	99.2
Minimum Salt Rejection (%)	99.0

ELEMENT SPECIFICATIONS

Model	4040-XLE	8040-XLE-400	8040-XLE-440
Permeate Flow - m³/day (GPD)[a]	9.8 (2,600)	45.4 (12,000)	50.0 (13,200)
Membrane Area - m² (ft²)[b]	7.9 (85)	37.2 (400)	40.9 (440)

PHYSICAL DIMENSIONS
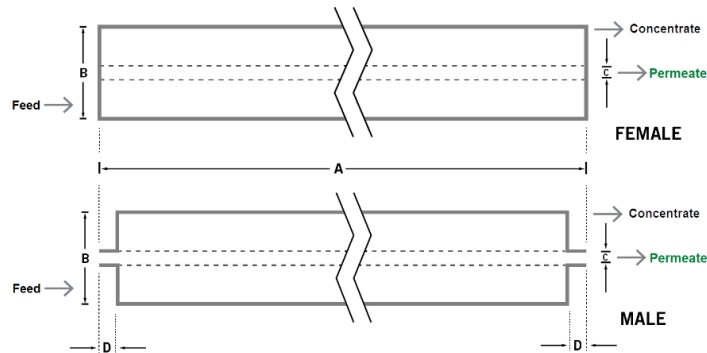
Model	4040-XLE	8040-XLE-400	8040-XLE-440
Dim. A – mm (inches)	1,016 (40.0)	1,016 (40.0)	1,016 (40.0)
Dim. B – mm (inches)	99 (3.9)	201 (7.9)	201 (7.9)
Dim. C – mm (inches)[c]	19.1 (0.75)	28.6 (1.125)	28.6 (1.125)
Permeate Tube[d]	Male	Female	Female
Outerwrap Type	Tape	Fiberglass	Fiberglass
Element Weight – kg (lb)[e]	4 (9)	16 (36)	17 (37)

a Test conditions: 500 ppm NaCl, 6.9 bar (100 psi), 25°C (77°F), 15% recovery, pH 8.0, 30 minutes operation. Flow rates will be no more than 15% below the values shown. Product specifications may change without notice as design revisions occur.
b All models on this sheet have diamond shaped feed spacers.
c Diameters for Dimension "C" are as follows. For Female elements, "C" is the Inner Diameter. For Male elements, "C" is the Outer Diameter.
d Male elements have a protruding permeate tube, indicated as "D" in the diagram. Dimension "D" is 1.05 in (26.7 mm).
e Shipping weight is dependent on packaging material and quantity shipped.

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OPERATING PARAMETERS

Maximum Operating Pressure	Tape Outerwrap Models: 21 bar (300 psi) Fiberglass Outerwrap Models: 41 bar (600 psi)
Maximum Operating Temperature	45°C (113°F)
Cleaning pH Range[1]	1.0 – 12.0
Chlorine Tolerance[2]	< 0.1 ppm
Maximum Pressure Drop	1 bar (15 psi) per element; 4 bar (60 psi) per housing
Maximum SDI$_{15}$	5.0
Maximum Turbidity	1 NTU

1 Refer to temperature and pH limits in Membrane Cleaning Guide - Water Application Elements (TSG-C-001).
2 Pretreatment is recommended for the removal of free chlorine and other oxidizing agents to prevent damage to membranes. Oxidizing agents, such as free chlorine, in contact with polyamide membranes may result in shortened operating life or membrane failure. Such oxidation damage is excluded from warranty. Refer to Membrane Operating Guide - Recommendations for Water Purification (TSG-O-012).

IMPORTANT INFORMATION

Start-up: MANN+HUMMEL Water & Fluid Solutions recommends flushing elements for 30 minutes at low pressure and discarding permeate during the flush prior to operation. For a more detailed start-up procedure, please see Element Start-Up Guide – System Start-Up (TSG-O-005).

Cleaning: MICRODYN RO membrane elements must be cleaned periodically to ensure proper operation and to prevent membrane damage. Please see Membrane Cleaning Guide – Water Application Elements (TSG-C-001).

Storage: MICRODYN RO membrane elements must be stored appropriately to ensure proper operation and to prevent membrane damage. Please see Element Storage Guides (TSG-O-009 & TSG-O-010).

CUSTOMIZABLE SPECIALTY ELEMENTS

MANN+HUMMEL Water & Fluid Solutions offers a full range of membranes and element designs for challenging water and process applications. Technologies include low-fouling RO, submerged UF, continuous high temperature, ultra-high pressure, unique sanitary designs and more. Contact us to customize a product that satisfies your specific requirements.

Contact

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