LOW1

Low energy, high rejection brackish water RO elements

Certified to NSF/ANSI/CAN 61

The Oltremare LOW1 series of brackish water RO membranes delivers consistent and continuous high performance for the highest quality water. Because of its high-performance rate and chemical resistance, it can be used for a variety of purposes. It is used in producing drinking water, industrial water, pharmaceutical water, wastewater treatment, and concentration of food and/or medicine. Oltremare LOW1 elements are available in standard 2.5", 4", and 8" spiral-wound designs to meet all your new equipment and direct replacement needs.

MEMBRANE CHARACTERISTICS	
Membrane	RO
Membrane Type	Polyamide
Stabilized Salt Rejection (%)	99.3 [a]
Minimum Salt Rejection (%)	99 [a]

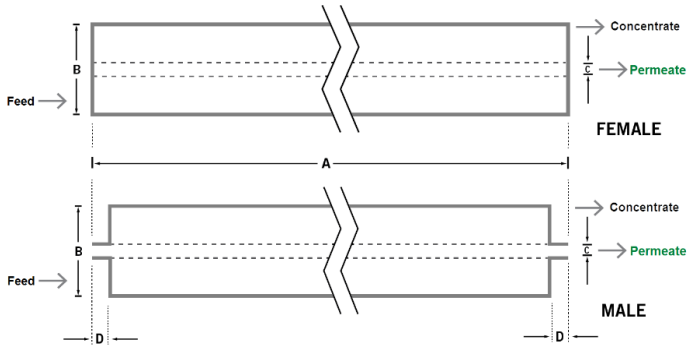
DESIGN INFORMATION	Permeate Flow m^3/day (gpd)[a]	Maximum Feed Flow m^3/h (gpm)	Membrane Area m^2 (ft^2)	Feed Spacer Thickness (mil)
Oltremare LOW1 – 8040	45.4 (12000)	17 (75)	37.2 (400)	28
Oltremare LOW1G – 8040	45.4 (12000)	17 (75)	37.2 (400)	34
Oltremare LOW14 - 8040	50 (13200)	17 (75)	40.9 (440)	28

OPERATING PARAMETERS	
Maximum Operating Pressure	41 bar (600 psi) for fiberglassed
Maximum Operating Temperature	45 °C (113 °F)
Cleaning pH Range[b]	1.0 – 12.0
Chlorine Tolerance[c]	< 0.1 ppm
Maximum Pressure Drop	0.7 bar (10 psi) per element; 4 bar (60 psi) per housing
Maximum SDI_{15}	5.0
Maximum Turbidity	1 NTU

a. Test conditions: 1,500 ppm NaCl, 10.3bar (150 psi), 25°C (77°F), 15% recovery, pH 6.5-7, 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. Refer to temperature and pH limits in Membrane Cleaning Guide - Water Application Elements (TSG-C-001).
c. 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).

PHYSICAL DIMENSIONS	Element Weight kg (lb)[g]	Dim. A mm (inches)	Dim. B mm (inches)	Dim. C[h] mm (inches)	Permeate Tube[i]
Oltremare LOW1 – 8040	16.4 (36)	1016 (40)	200 (7.89)	28.6 (1.125)	Female
Oltremare LOW1G – 8040	16.4 (36)	1016 (40)	200 (7.89)	28.6 (1.125)	Female
Oltremare LOW14 - 8040	16.4 (36)	1016 (40)	200 (7.89)	28.6 (1.125)	Female

d. Shipping weight is dependent on packaging material and quantity shipped.
e. For female elements, "C" is the inner diameter. For male elements, "C" is the outer diameter.
f. Male elements have a protruding permeate tube, indicated as "D" in the diagram.
Dimension "D" is 30.5 mm (1.2 in) for modules from 2514 to 4021. For 4040 module is 26.7 mm (1.05 in).



Customizable specialty elements

MANN+HUMMEL 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.

IMPORTANT INFORMATION

Start-up: We recommend flushing elements for 30 minutes at low pressure and discarding permeate during the flush prior to operation. For further information, please see Element Start-Up Guide – System Start-Up (TSG-O-005).

Cleaning: Oltremare 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: Oltremare 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)

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