

MUNI RO Series

Membrane Elements for Municipal Drinking Water Plants

Developed for drinking water plants to treat feed water with high total dissolved solids, the MUNI RO series includes a selection of four elements featuring two different outer covers in consideration of energy conservation and high rejection requirements.

Full-Fit* or Fiberglass

Applications vary and one design cannot best serve all requirements. The MUNI RO series offers the unique solution-oriented option of a 365 sq. ft. Full-Fit membrane element or standard FRP construction. While FRP construction offers comparably higher rejection performance, the creative Full-Fit* design forms a close fit within the pressure vessel walls, thus eliminating dead spaces prone to bacterial growth and adhesion, and allowing for quick and complete cleaning. In addition to this sanitizing feature, pressure drop across the elements using Full-Fit* design is significantly less than standard FRP construction (Figure 1), which may lead to substantial energy savings.

These MUNI RO membrane elements are tested and certified by NSF international against NSF/ANSI Standard 61 for material requirements only.

The MUNI RO membrane is a high rejection element following a 100% Wet Test Quality Assurance.

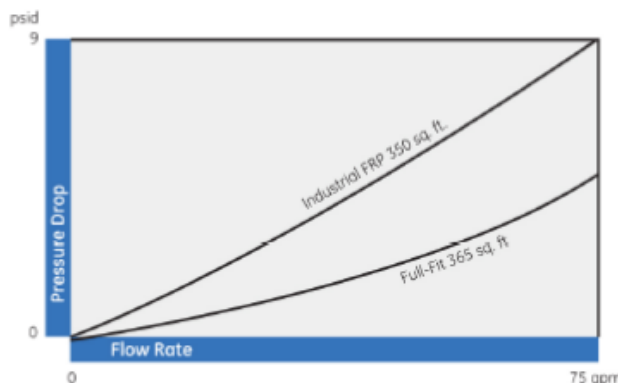


Figure 1: High Flow Rate at Low Pressure Drop

Table 1: Element Specification

Membrane	Thin-Film Membrane (TFM*)		
Model	Average permeate flow gpd (m3/day) ^{1,2}	Average NaCl rejection ^{1,2}	Minimum NaCl rejection ^{1,2}
MUNI-RO-365-FF	9,600 (36.3)	99.0 %	98.5 %
MUNI-RO-365-WT-FF	9,600 (36.3)	99.0 %	98.5 %
MUNI-RO-400	10,500 (39.7)	99.5 %	99.0 %
MUNI-RO-400-WT	10,500 (39.7)	99.5 %	99.0 %

¹ Average salt rejection after 24 hours operation. Individual flow rate may vary +25%/-15%.

² Testing conditions: 2,000ppm NaCl solution at 225psi (1,551kPa) operating pressure, 77 °F, pH 7.5 and 15% recovery.

Model	Active area ft ² (m ²)	Outer wrap	Part number
MUNI-RO-365-FF	365(33.9)	Full-Fit*	1231650
MUNI-RO-365-WT-FF	365(33.9)	Full-Fit*	1266770
MUNI-RO-400	400 (37.2)	Fiberglass	1233002
MUNI-RO-400-WT	400 (37.2)	Fiberglass	1266769

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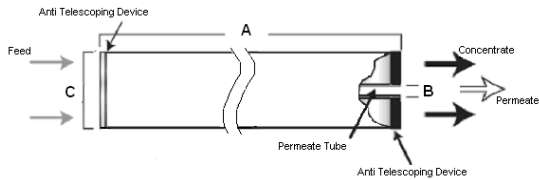


Figure 1: Element Dimensions Diagram - Female

Table 2 Dimensions and Weight

Model ¹	Dimensions, inches (cm)			Boxed Weight lbs (kg)
	A	B ²	C ³	
MUNI-RO-365-FF	40.0 (101.6)	1.125 (2.86)	7.9 (20.1)	32 (14.5)
MUNI-RO-365-WT-FF	40.0 (101.6)	1.125 (2.86)	7.9 (20.1)	35 (16.0)
MUNI-RO-400	40.0 (101.6)	1.125 (2.86)	7.9 (20.1)	32 (14.5)
MUNI-RO-400-WT	40.0 (101.6)	1.125 (2.86)	7.9 (20.1)	35 (16.0)

¹These elements are dried, unless specified WET, then bagged before shipping.

²Internal diameter.

³The element diameter (dimension C) is designed for optimum performance in GE Water & Process Technologies pressure vessels. Others pressure vessel dimension and tolerance may result in excessive bypass and loss of capacity.

Table 3: Operating and CIP parameters

Typical Operating Pressure	200psi (1,379kPa)
Typical Operating Flux	10-20GFD (15-35 LMH)
Maximum Operating Pressure	600psi (4,137kPa)
Maximum Temperature	Continuous operation: 122°F (50°C), Clean In Place (CIP): 122°F (50°C)
Minimum Crossflow	30gpm (6.8m ³ /hr)
pH Range	Continuous operation: 4.0-11.0, Clean In Place (CIP): 2.0-11.5
Maximum Pressure Drop	Over an element: 12psi (83kPa) Per housing: 50psi (345kPa)
Chlorine Tolerance	1,000+ ppm-hours, dechlorination recommended,
Feedwater	NTU < 1 SDI < 5
Recommended single element recovery	< 15 %