

MUNI NF Series

Membrane Elements for Municipal Drinking Water Plants

The GE Water & Process Technologies MUNI NF series is engineered to provide a low pressure and cost effective nanofiltration alternative to standard RO treatment. The resulting product is virtually free of any harmful biological matter. Performance is characterized by hardness reduction, color removal, and organic pollutants reduction (such as the precursors to THM). The MUNI NF series includes two elements featuring two different outer covers in consideration of energy conservation and salt rejection performance.

Full-Fit* or Fiberglass

Applications vary and one design cannot best serve all requirements. The MUNI NF 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 NF membrane elements tested and certified by NSF international against NSF/ANSI Standard 61 for material requirements only.

The MUNI NF membrane is an element following a 100% Wet Test Quality Assurance.

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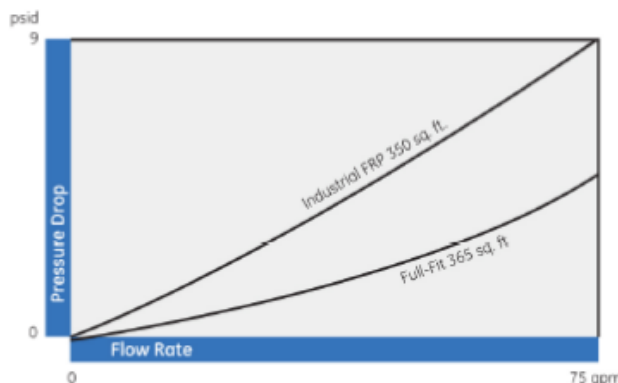


Figure 1: High Flow Rate at Low Pressure Drop

Table 1: Element Specification

Membrane	Thin-Film Membrane (TFM*)	
Model	Average permeate flow gpd (m3/day) ^{1,2}	Average MgSO ₄ rejection ^{1,2}
MUNI-NF-365	10,800 (40.9)	98.0%
MUNI-NF-365-FF	10,500 (41.6)	97.5%
MUNI-NF-400	11,500 (43.5)	98.0%

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

² Testing conditions: 2,000ppm MgSO₄ solution at 110psi (760kPa) operating pressure, 77 °F, pH 7.5 and 15% recovery.

Model	Active area ft ² (m ²)	Outer wrap	Part number
MUNI-NF-365	365 (33.9)	Fiberglass	1268130
MUNI-NF-365-FF	365 (33.9)	Full-Fit*	1233005
MUNI-NF-400	400 (37.2)	Fiberglass	1242400

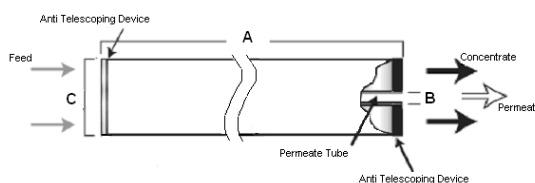


Figure 2: Element Dimensions Diagram – Female

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Table 2: Dimensions and Weight

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

¹ These elements are dried and bagged before shipping.

² Internal diameter.

³ The 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	70-300psi (483 – 2,069kPa)
Typical Operating Flux	10-20GFD (15-35 LMH)
Maximum Operating Pressure	600psi (4,137kPa)
Maximum Temperature	Continuous Operation: 113°F (45°C) Clean-In-Place (CIP): 104°F (40°C)
Minimum Crossflow	30gpm (6.8m ³ /h)
pH Range	Continuous Operation: 3.0-9.0, Clean-In-Place (CIP): 2.0-10.5
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 %