nx filtration

Technical datasheet

WMC110 dNF Short

Hollow fiber nanofiltration membrane module for water and wastewater applications

Release TDS004 – WMC110 dNF Short, Rev. 00 - 20240411

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General Information

The WMC110 dNF Short modules are designed for water treatment, including ground and surface water, as well as industrial and municipal wastewater reuse. These modules excel in removing color, turbidity, and dissolved organic molecules, including micropollutants such as pharmaceuticals, pesticides, and PFAS. The modules offer outstanding pH and chlorine resistance, require minimal pretreatment, no coagulation, and produce no sludge.

With dNF40 and dNF80, two different types of dNF membranes are available offering different flux and rejection characteristics. The choice between dNF40 and dNF80 depends on specific requirements and objectives of the application.

Membrane characteristics

Membrane material	Modified PES
Membrane charge	Negative @ pH=7
Membrane fiber inner diameter	0.7 mm
Filtration mode	Inside-Out; Vertical
Operation mode	Cross-flow

Product specifications	dNF40	dNF80
MWCO [1]	400 Dalton	800 Dalton
Min. $MgSO_4$ rejection [2]	91%	76%
Typical permeate flow range	66-138 L/h (0.29-0.61 gpm)	82-165 L/h (0.36-0.73 gpm)

Operating Conditions

Max. system pressure [3]	6 bar (87 psi)
Max. transmembrane pressure [3]	6 bar (87 psi)
Max. backwash pressure	4 bar (58 psi)
Max. active chlorine concentration	500 ppm @ pH>10
Max. cumulative active chlorine exposure	250,000 ppm-hours @ pH>10
Max. particle size	150 µm
Max. TSS	300 ppm
Max. turbidity	150 NTU
Max. Temperature during operation & cleaning	40°C (104°F)
pH range during operation	2-12
pH range during cleaning	1-13
Cross-flow velocity range [4]	0.1-1.0 m/s (0.33-3.3 ft/s)
Module feed flow range	0.7-7 m^3/h (3-30 gpm)

[1] Molecular Weight Cut-Off (MWCO) is an estimation as it depends on size, shape, charge, and polarity of the compound being tested, as well as test conditions. Measured with PEG.
[2] Test conditions: 5.0 mMol/L $MgSO_4$, 3.0 bar, 20°C, v=0.5 m/s.
[3] Maximum pressures at 20°C.
[4] Recommended velocity depends on feed water quality and system configuration.

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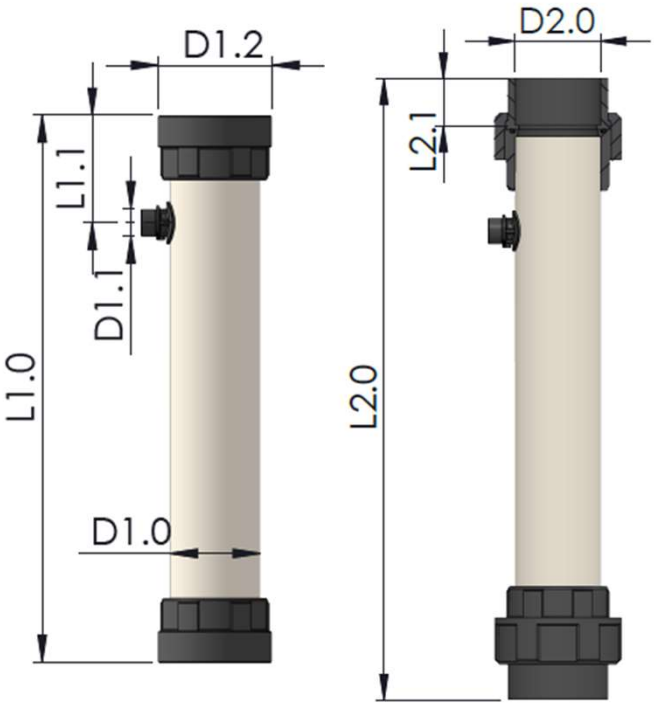
Module Specification – Union

Materials of Construction

Housing	PVC-U
Potting	Epoxy resin

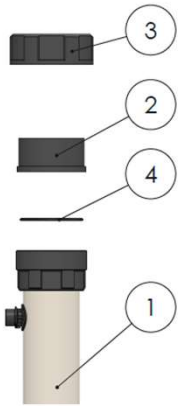
Dimensions

Membrane Surface Area	5.5 m²
L1.0	668 mm (26.30”)
L1.1	131 mm (5.16”)
L2.0	800 mm (31.51”)
L2.1	61 mm (2.40”)
D1.0	110 mm (4.33”)
D1.1	1.0” BSP
D1.2	5.0” BSP
D2.0	110 mm (4.33”)



Assembly Components

(1) Module	WMC110 dNF Short
(2) Union end	TP 110mm Union End
(3) Nut	TP 110mm Wartel
(4) O-ring	TP End Cap O-ring 110mm



Available Sets (Components 1-4)	WMC110 dNF80 Short Union Set	WMC110 dNF40 Short Union Set
Set-Code	SETNF0005	SETNF0006

WMC110 dNF Short

Storage Information

New modules in original packaging can be stored for max. 1 year from shipping date in a dry place, protected from sunlight or any heat source, at temperatures between 1 and 40°C (33 and 104°F);

Ex-factory storage solution: 84wt% water, 15wt% glycerin and 1wt% sodium metabisulfite;

Weight Information

Weight	WMC110 dNF Short Union Set
Dry weight Module including assembly components	6.5 kg (14 lbs)
Filled Module including assembly components	10.5 kg (23 lbs)

Shipping Information

Each module is individually packed in a vacuum sealed plastic bag. Modules and assembly components are shipped in the same cardboard box:

- Shipping weight per box: 7.5 kg (16.5 lbs.);
- Box dimensions: 80 x 22 x 22 cm; 31.5 x 8.7 x 8.7 in (L x W x H);

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