

Submerged Microfiltration Membrane Bioreactor (MBR) Module

	HYDRAsub™ - MBR	HSM1500-ES
Module Specifications	Configuration: Fiber Orientation: Filtrate Flow : Membrane Polymer: Pore Size (nominal): Number of Elements in Module: Nominal Membrane Area per Module: Permeate Connections: Air Connections: Guide Pipe Connections: Typical Module Dry Weight: Typical Module Wet Weight:	Submerged Membrane Vertical Bi-directional Polyvinylidene Flouride (PVDF) 0.4 µm 60 (25 m² each) 16140 ft² (1500 m²) (4)- 3" MNPT (4)- 2" MNPT (2)- To fit 3" pipe 3542 lbs (1610 kg) 5634 lbs (2555 kg)
Operating Specifications	Maximum Transmembrane Pressure (Vacuum): Maximum Backwash Pressure : Maximum Instantaneous Chlorine Concentration: Maximum Chlorine Tolerance: MLSS Range: Operating Temperature Range: Feed Water pH Range: Cleaning pH Range: Operating Mode:	-6 psig (-0.41 bar) 2 psig (0.14 bar) 5,000 ppm ^a 742,000 ppm-hrs ^b 8,000 - 12,000 mg/L ^c 41 - 104°F (5 - 40° C) 6.0 - 8.0 1.0 - 11.0 Outside to Inside
Typical Process Conditions	Operating Filtrate Flux [†] : Peak Operating Flux [†] : Chemically Enhanced Backwash (CEB) Flux: CEB Chemicals: Clean In Place (CIP) Flux: CIP Chemicals:	4-20 gfd (7-34 l/mh) 30 gfd (51 l/mh) 2.4 gfd (4 l/mh) NaOCl ^d 2.4 gfd (4 l/mh) NaOCl or Citric Acid ^d

† -Depends on temperature and application

a -For a maximum of 2 hours

b- Maximum chemical tolerance for estimated life span of membrane

c -In membrane tank at steady state for municipal wastewater

d- Refer to operating manual for chemical concentrations and cleaning frequencies

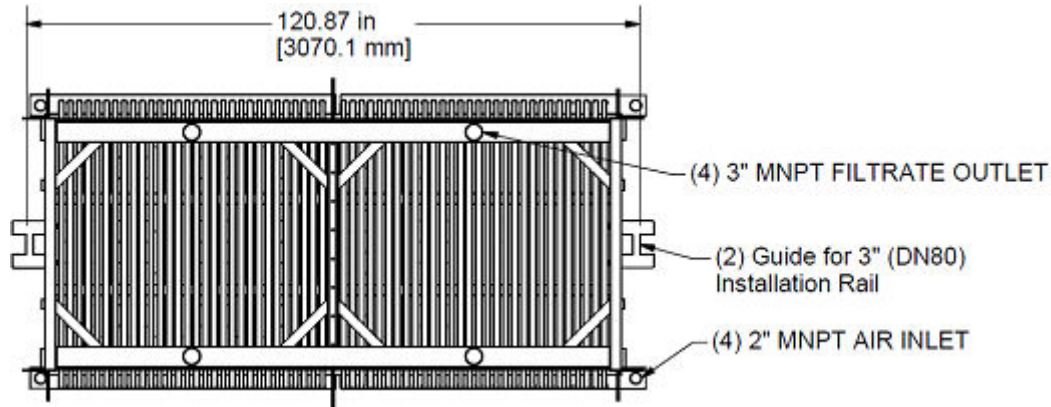
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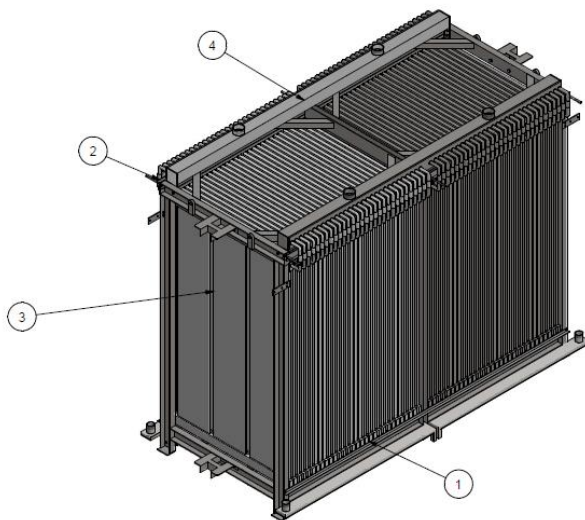
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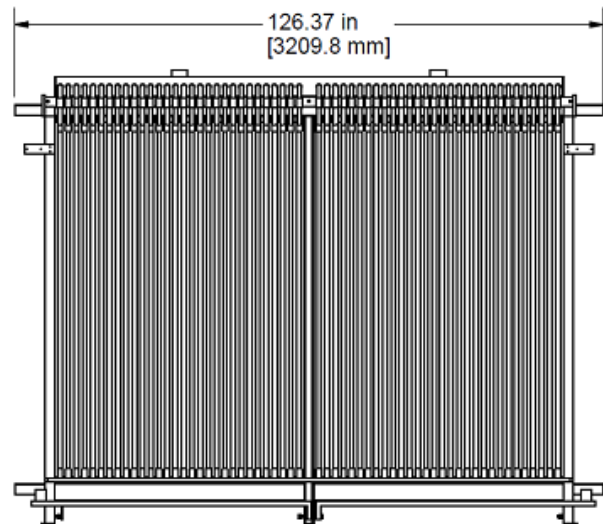
Top View



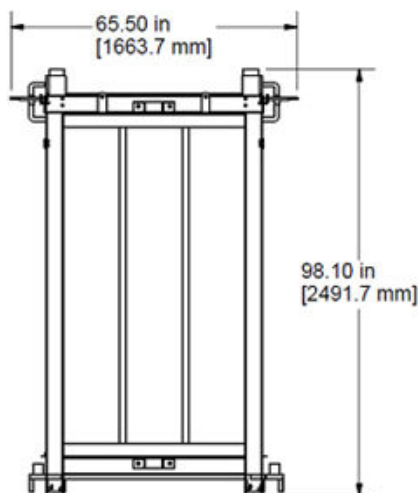
Isometric View



Side View



Front View



HYDRAsub-MBR Parts List to Order 1500m ² w/ HSE25			
Item #	Qty	Part Number	Description
1	1	HSMC1500-ES*	HYDRAsub Cage SS304
2	120	HSA25	HYDRAsub Filtrate Adapter
3	60	HSE25	HYDRAsub Element
4	0	HSP	HYDRAsub Plug

Note: Cage is made of stainless steel 304. Connections are in English units.

*SS316 Cage part number – HSC1500-ES-316

For more detailed drawings, contact Hydranautics.

2/6/2024

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