



## Submerged Microfiltration Membrane Bioreactor (MBR) Module

	HYDRAsub <sup>®</sup> - 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 3517 lbs (1595 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 <sup>a</sup> 742,000 ppm-hrs <sup>b</sup> 8,000 - 12,000 mg/L <sup>c</sup> 41 - 104°F (5 - 40° C) 6.0 - 8.0 1.0 - 11.0 Outside to Inside
Typical Process Conditions	Operating Filtrate Flux <sup>†</sup> : Peak Operating Flux <sup>†</sup> : Chemically Enhanced Backwash (CEB) Flux: CEB Chemicals: Clean In Place (CIP) Flux: CIP Chemicals:	4-20 gfd (7-34 lmh) 30 gfd (51 lmh) 2.4 gfd (4 lmh) NaOCI d 2.4 gfd (4 lmh) NaOCI or Citric Acidd

<sup>† -</sup>Depends on temperature and application

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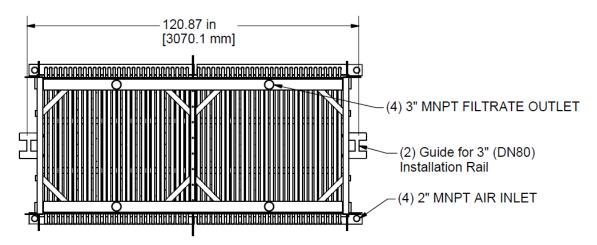
a -For a maximum of 2 hours b- Maximum chemical tolerance for estimated life span of membrane

c -In membrane tank at steady state for municipal wastewater d- Refer to operating manual for chemical concentrations and cleaning frequencies  $\,$ 

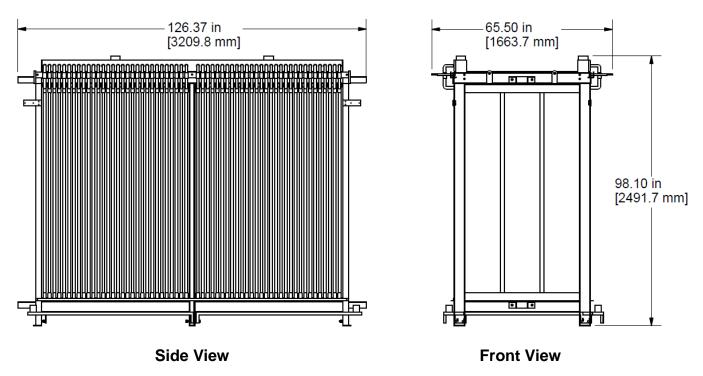




## **HSM1500-ES**



## **Top View**



Note: Cage is made of stainless steel 304, unless otherwise specified. Connections are in ANSI units.

11/18/13



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