



Submerged Ultrafiltration Membrane Module

HYDRAsub[®]MAX- MBR HSMM1600-ES Configuration: Module Submerged Membrane Fiber Orientation: Vertical **Specifications** Filtrate Flow : **Bi-directional** Membrane Polymer: Polyvinylidene Flouride (PVDF) Pore Size (nominal): 0.05 µm Number of Elements in Module: 40 (40 m² each) 17,216 ft² (1600 m²) Nominal Membrane Area per Module: Permeate Connections: (2)- 3" MNPT (2)- 3" MNPT Air Connections: Guide Pipe Connections: (2)- To fit 3" pipe 2682 lbs (1216 kg) Typical Module Dry Weight: Typical Module Wet Weight: 4226 lbs (1916 kg) Maximum Transmembrane Pressure (Vacuum): Operating -6 psig (-0.41 bar) Maximum Backwash Pressure : 2 psig (0.14 bar) **Specifications** Maximum Instantaneous Chlorine Concentration: 5,000 ppm^a Maximum Chlorine Tolerance: 742,000 ppm-hrs^b 8,000 - 12,000 mg/L^c MLSS Range: **Operating Temperature Range:** 41 - 104°F (5 - 40° C) Feed Water pH Range: 6.0 - 8.0 Cleaning pH Range: 1.0 - 11.0 **Operating Mode:** Outside to Inside Operating Filtrate Flux[†]: 4-20 gfd (7-34 lmh) Typical Peak Operating Flux[†]: 30 gfd (51 lmh) Process Chemically Enhanced Backwash (CEB) Flux: 2.4 gfd (4 lmh) Conditions NaOCI **CEB** Chemicals: Clean In Place (CIP) Flux: 2.4 gfd (4 lmh) NaOCI or Citric Acid^d **CIP** Chemicals:

† -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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Note: Cage is made of stainless steel 304. Connections are in English units. For more detailed drawings, contact Hydranautics.

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