

Submerged Ultrafiltration Membrane Module

HYDRAsub™ MAX- MBR

HSMM2400-ES

| Module Specifications | Configuration: | Submerged Membrane |
|-----------------------|-----------------------------------|--|
| | Fiber Orientation: | Vertical |
| | Filtrate Flow : | Bi-directional |
| | Membrane Polymer: | Polyvinylidene Flouride (PVDF) |
| | Pore Size (nominal): | 0.05 µm |
| | Number of Elements in Module: | 60 (40 m ² each) |
| | Nominal Membrane Area per Module: | 25824 ft ² (2400 m ²) |
| | Permeate Connections: | (4)- 3" MNPT |
| | Air Connections: | (4)- 2" MNPT |
| | Guide Pipe Connections: | (2)- To fit 3" pipe |
| | Typical Module Dry Weight: | 3636 lbs (1652 kg) |
| | Typical Module Wet Weight: | 5634 lbs (2555 kg) |

| Operating Specifications | Maximum Transmembrane Pressure (Vacuum): | -6 psig (-0.41 bar) |
|--------------------------|---|----------------------------------|
| | Maximum Backwash Pressure : | 2 psig (0.14 bar) |
| | Maximum Instantaneous Chlorine Concentration: | 5,000 ppm ^a |
| | Maximum Chlorine Tolerance: | 742,000 ppm-hrs ^b |
| | MLSS Range: | 8,000 - 12,000 mg/L ^c |
| | 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 |

| Typical Process Conditions | Operating Filtrate Flux†: | 4-20 gfd (7-34 lmh) |
|----------------------------|--|-----------------------------------|
| | Peak Operating Flux†: | 30 gfd (51 lmh) |
| | Chemically Enhanced Backwash (CEB) Flux: | 2.4 gfd (4 lmh) |
| | CEB Chemicals: | NaOCl ^d |
| | Clean In Place (CIP) Flux: | 2.4 gfd (4 lmh) |
| | CIP Chemicals: | NaOCl or Citric Acid ^d |

† -Depends on temperature and application

a -For a maximum of 2 hours

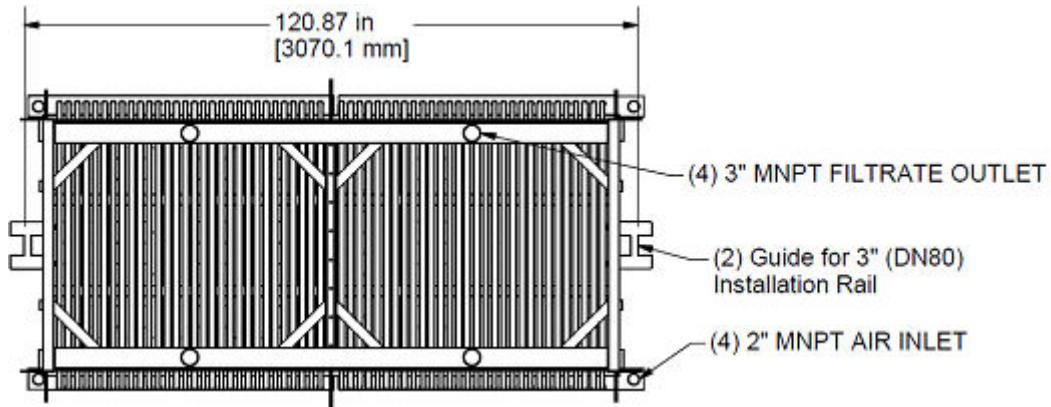
b- Maximum chemical tolerance for estimated life span of membrane

c -In membrane tank at steady state for municipal wastewater

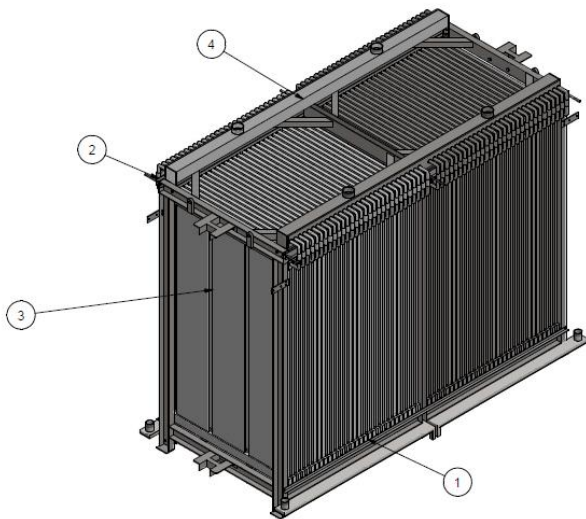
d- Refer to operating manual for chemical concentrations and cleaning frequencies

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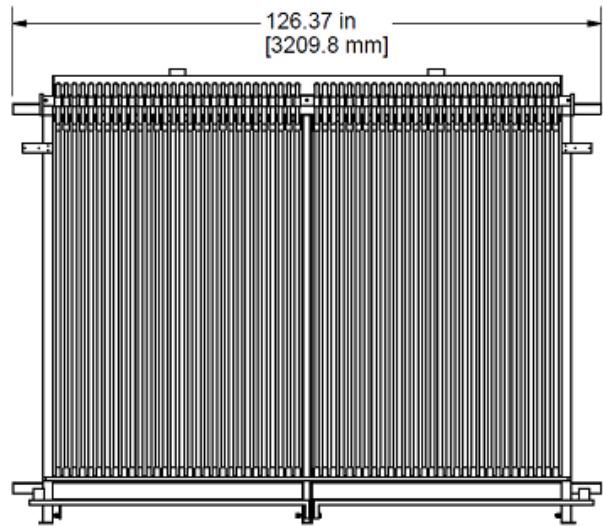
Top View



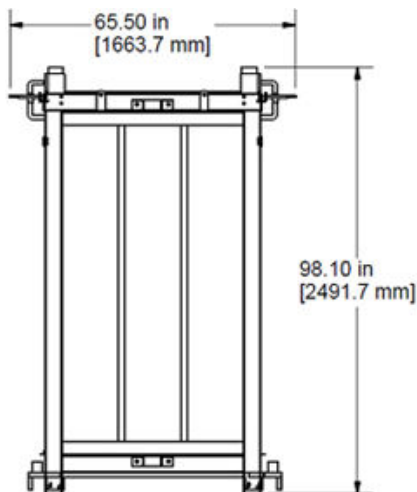
Isometric View



Side View



Front View



| HYDRAsub-MBR Parts List to Order 2400m² w/ HSME40 | | | | |
|---|------------|--------------------|---------------------------|--|
| Item # | Qty | Part Number | Description | |
| 1 | 1 | HSMC2400-ES* | HYDRAsub Cage SS304 | |
| 2 | 120 | HSA25 | HYDRAsub Filtrate Adapter | |
| 3 | 60 | HSME40 | HYDRAsub Element | |
| 4 | 0 | HSP | HYDRAsub Plug | |

Note: Cage is made of stainless steel 304. Connections are in English units.
 *SS316 Cage part number – HSMC2400-ES-316
 For more detailed drawings, contact Hydranautics.

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