

## Submerged Microfiltration Membrane Module

### HYDRAsub<sup>®</sup>- MBR

### HSM15 w/ HSE15

<b>Module Specifications</b>	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:	Submerged Membrane Vertical Bi-directional Polyvinylidene Flouride (PVDF) 0.4 µm 1 (15 m <sup>2</sup> each) 161 ft <sup>2</sup> (15 m <sup>2</sup> ) (2)- 2" MNPT (2)- 1 1/2" MNPT (2)- to fit 2.5" pipes									
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;"></th> <th style="width: 35%;">Typical Dry Weight</th> <th style="width: 35%;">Typical Wet Weight</th> </tr> </thead> <tbody> <tr> <td>HSM15-ES-HSE15</td> <td style="text-align: center;">179 lbs (81 kg)</td> <td style="text-align: center;">264 lbs (120 kg)</td> </tr> <tr> <td>HSM15-ES15-316</td> <td style="text-align: center;">180 lbs (82 kg)</td> <td style="text-align: center;">267 lbs (122 kg)</td> </tr> </tbody> </table>		Typical Dry Weight	Typical Wet Weight	HSM15-ES-HSE15	179 lbs (81 kg)	264 lbs (120 kg)	HSM15-ES15-316	180 lbs (82 kg)	267 lbs (122 kg)	
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<b>Operating Specifications</b>	Maximum Trans Membrane Pressure (Vacuum): Maximum Backwash Trans Membrane 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
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<b>Typical Process Conditions</b>	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) NaOCl <sup>d</sup> 2.4 gfd (4 lmh) NaOCl or Citric Acid <sup>d</sup>
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† -Depends on temperature and application.

a -For a maximum of 2 hours.

b- Maximum chemical tolerance for estimated life span of membrane.

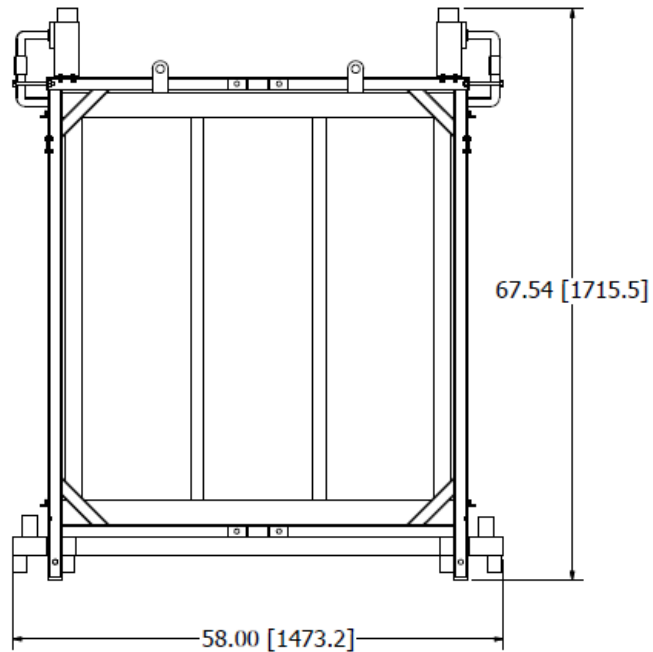
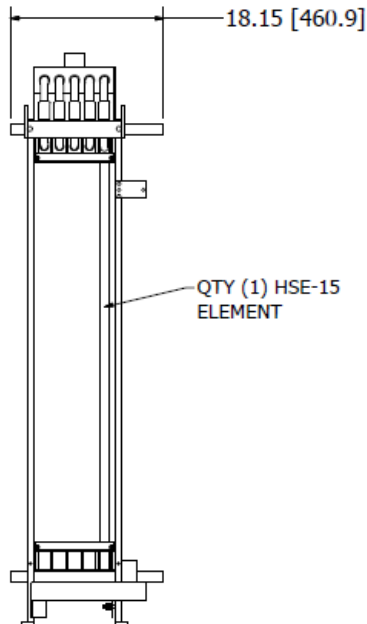
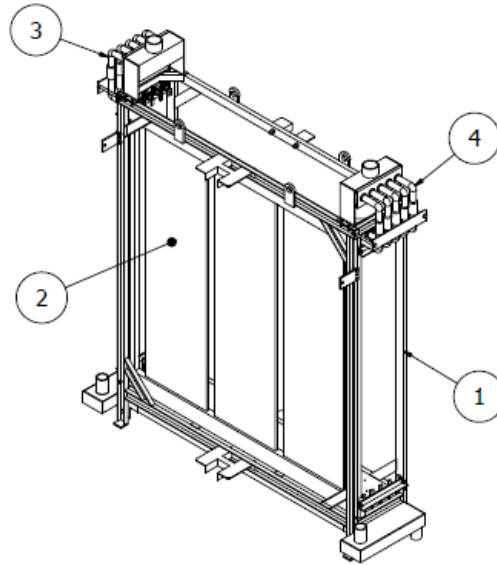
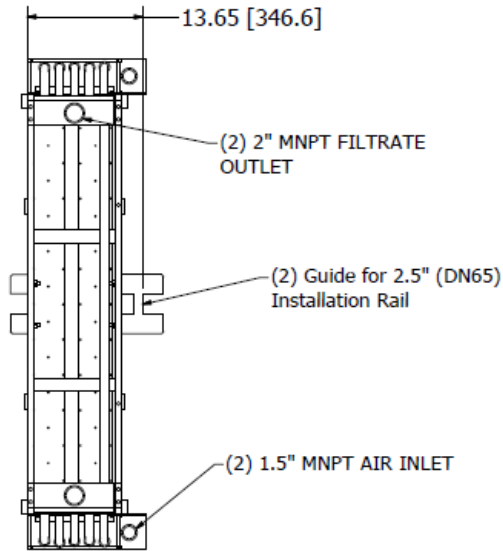
c -In membrane tank at steady state for municipal wastewater.

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 15m <sup>2</sup> w/ HSE15			
Item #	Qty	Part Number	Description
1	1	HSC75-ES-HSE15*	HYDRAsub Cage SS304
2	1	HSE15	HYDRAsub Element
3	2	HSA25	HYDRAsub Filtrate Adapter
4	8	HSAB25	HYDRAsub Blank Adapter

Note: Cage is made of 304 or 316 stainless steel. Connections are in English units. For more detailed drawings, contact Hydranautics.

\*SS316 Cage part number – HSC75-ES15-316

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