

## Submerged Microfiltration Membrane Module

### HYDRAsub®- 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)	
	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)									

<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
---------------------------------	--	--

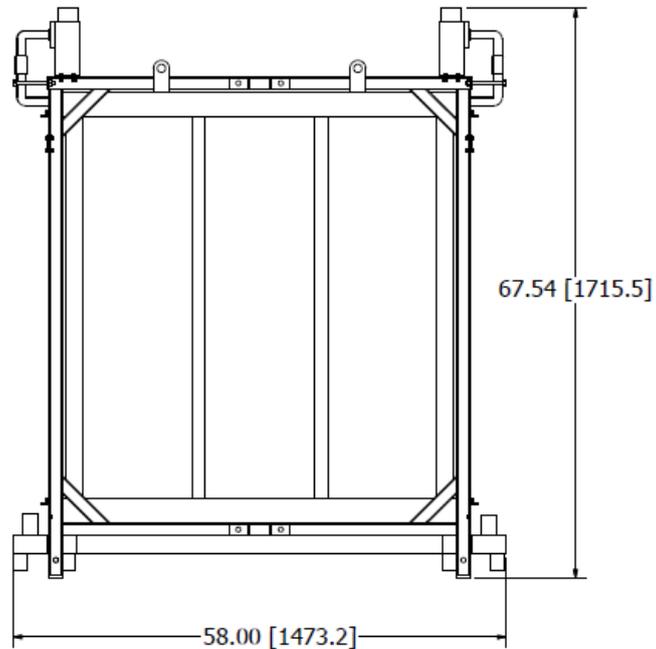
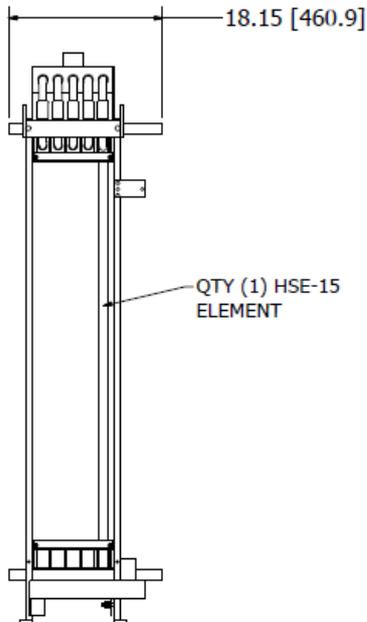
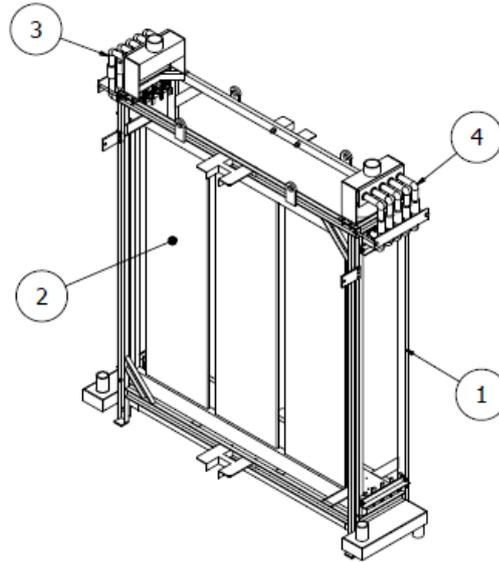
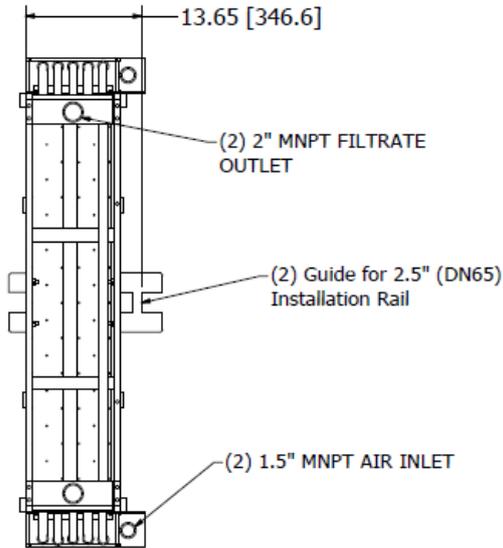
<b>Typical Process Conditions</b>	Operating Filtrate Flux <sup>†</sup> : Peak Operating Flux <sup>†</sup> : Chemically Enhanced Backwash (CEB) Flux: CEB Chemicals: Clean In Place (CIP) Flux: CIP Chemicals:	4-20 gfd (7-34 lmh) 30 gfd (51 lmh) 2.4 gfd (4 lmh) NaOCl <sup>d</sup> 2.4 gfd (4 lmh) NaOCl or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

<sup>†</sup> -Depends on temperature and application.  
<sup>a</sup> -For a maximum of 2 hours.  
<sup>b</sup> - Maximum chemical tolerance for estimated life span of membrane.  
<sup>c</sup> -In membrane tank at steady state for municipal wastewater.  
<sup>d</sup> - Refer to operating manual for chemical concentrations and cleaning frequencies.

Hydranautics believes that the information and data contained herein to be accurate and useful. The information and data are offered in good faith, but without guarantee, as conditions and methods of use of our products are beyond our control. Hydranautics assumes no liability for results obtained or damages incurred through the application of the presented information and data. It is the user's responsibility to determine the appropriateness of Hydranautics' products for the user's specific end uses.

## 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

10/18/2018

### Hydranautics Corporate office

401 Jones Road, Oceanside, CA 92058, USA Toll Free: +1-800-CPA-PURE Tel: +1-760-901-2500 Fax: +1-760-901-2578  
 Web: [www.membranes.com](http://www.membranes.com) Email: [hy-info@nitto.com](mailto:hy-info@nitto.com)