

## DATA SHEET

### HA Series UF Membrane Module

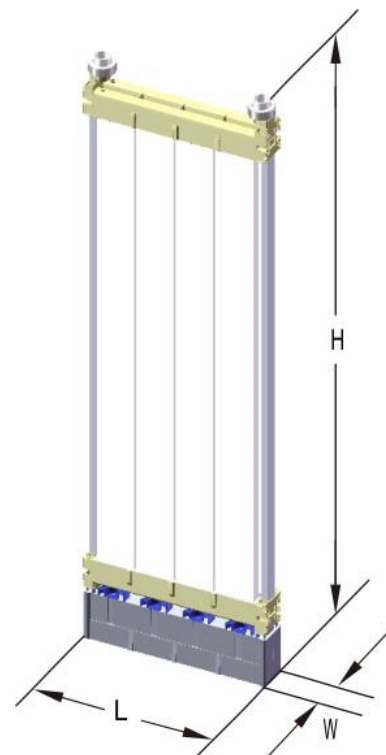
With Hollow Fiber Membrane – PVDF

The Supratec HA Series is a hollow fiber Module for MBR and immersed Ultra Filtration process. With more than 40 years of experience in the field of wastewater treatment, Supratec Membrane GmbH, located in Simmern/Hunsrueck, Germany, is the designer and manufacturer of this membrane product.

Made of proprietary polyvinylidene fluoride (PVDF) with a nominal pore size of 0.03  $\mu\text{m}$ , this high-flux membrane is able to remove microbes, particles and macromolecule organics in water and wastewater treatment. The strong and durable membrane fiber provide high tolerance, long life time and stable performance in different configurations and applications.

#### Features include:

- High Flux**  
 For the automatic production line at Germany Industry 4.0, the high porosity and narrow distribution of membrane pore can provide high flux rate.
- Low energy consumption**  
 Benefited from for 30 years of experience in diffusers and aeration system of Supratec Group, the specially designed siphon diffuser can reduce the air scouring demand by 50%.
- Long life time and Stable performance**  
 The small pore size at 0.03  $\mu\text{m}$  can prevent membrane fouling happened inside the membrane and guarantees stable flux rate.
- Easy to Clean**  
 Supratec hollow fiber product is manufactured with proprietary hydrophilic PVDF membranes with anti-fouling characteristics. This membrane is stable, flexible, and easy to clean.



Basic Information			
UF Model	HA20 Module	HA15 Module	HA10 Module
Membrane surface properties	Non-ionic and hydrophilic		
Membrane type	Proprietary PVDF		
Membrane permeability (Clean water)	1,500 l/mh/bar		
Nominal membrane pore size	0.03 $\mu\text{m}$		
Membrane area per module	95.8 m <sup>2</sup>	59.1 m <sup>2</sup>	42.8 m <sup>2</sup>
Dimension (L*W*H)	840*145mm*2,735mm	840*145mm*1,945mm	840*145mm*1,585mm

Product Specifications			
Model	HA20 Module	HA15 Module	HA10 Module
Permeate flange size	Adjustable		
Air Scouring flange size	Adjustable		
Backflushable	Yes		
Flux rate (MBR application)	10 –40l /m <sup>2</sup> ·h		
Supporter	PET		
Dry Module Weight	80 kg	65 kg	40kg
Operation Specifications			
Maximum operating temperature	40°C (104 °F)		
Typical operating pressure (water)	20 – 300 mbar		
Cleaning pH Range	2.0 – 11.0		
Recovery Cleaning period	1 or 2 times/year		
Water depth	3.0– 6 meters	2.4– 6 meters	2.0– 6 meters
Air demand	0.07 – 0.14 Nm <sup>3</sup> /m <sup>2</sup> . h		
Max Chlorine Tolerance	Up to 2,000 ppm as NaClO		
Lifetime Chlorine Tolerance	1,000,000 ppm.hr as NaClO		

### Storage and Protection

Supratec UF Membrane Module should be stored in proper environment. Once the modules come in contact with water or put in use, they should never be stored dry. Typically for long-term shutdown (>7 days), the modules should be cleaned and immersed in proper solution. All cleaning, storage and operational procedures should be based on actual O&M manual provided by Supratec.

### Service and Technical Support

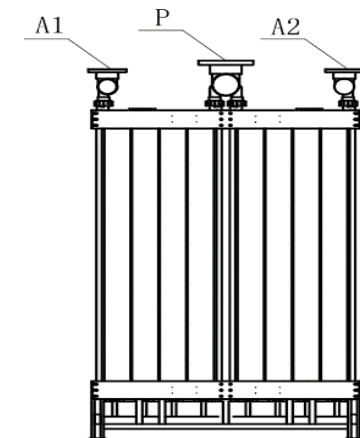
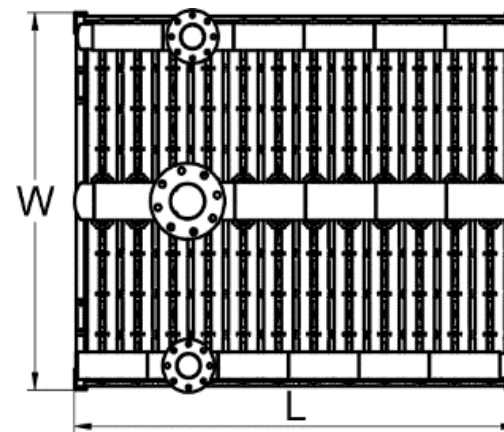
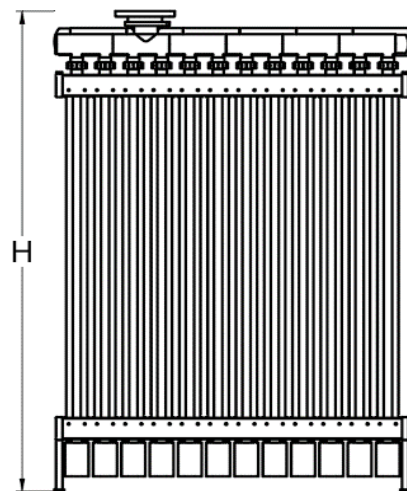
Supratec provides a full range of products of different sizes. The design information provided is for the most common product and Supratec should be consulted for other sizes and requirements. Supratec has an experienced team available to answer questions and provide reasonable technical support.

Notice: No freedom from infringement of any patent owned by Supratec Group or an affiliated company is to be inferred. The information and data contained in this document are based on our general experience and are believed to be accurate and reliable. But this information does not imply any warranty or guarantee of performance. Supratec assumes no obligation or liability for the information contained herein. The quality of Supratec products is only guaranteed under our conditions of sale.

## Supratec HA20 Cassettes

Supratec UF Membrane Cassette	Membrane modules	Number of membrane modules (pcs)	Membrane area per cassette (m <sup>2</sup> )	Dry weight of cassette (Kg)	Lowest required water level (m)	Size of membrane cassette (mm)		
						Length of cassette (L)	Width of cassette (W)	Height of cassette (H)
HA2010	HA20	10	960	880	3	961	1790	3135
HA2012		12	1150	1040		1133		
HA2014		14	1340	1200		1305		
HA2016		16	1530	1360		1477		
HA2018		18	1720	1520		1649		
HA2020		20	1920	1680		1821		
HA2022		22	2100	1840		1993		
HA2024		24	2300	2000		2165		

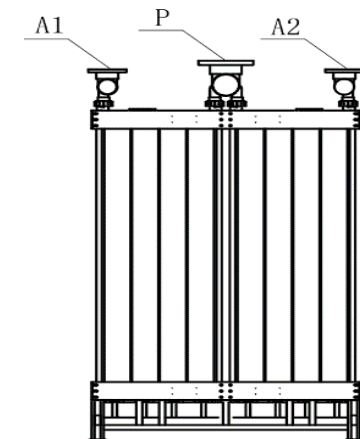
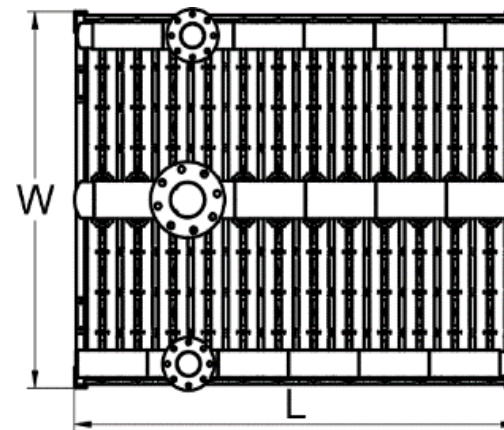
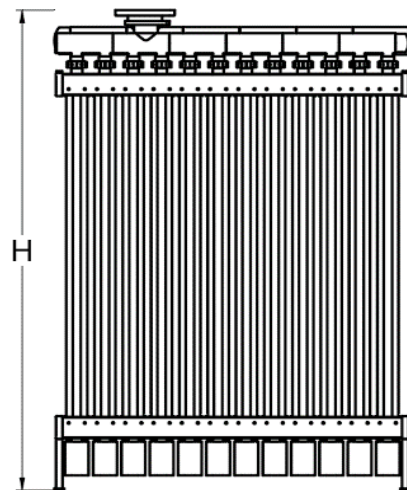
Notes: More dimensions available upon request. Air (A1 & A2) and Permeate connection (P) can be adjusted according to project requirement. Design and specifications are subject to change without notice



## Supratec HA15 Cassettes

Supratec UF Membrane Cassette	Membrane modules	Number of membrane modules (pcs)	Membrane area per cassette (m <sup>2</sup> )	Dry weight of cassette (Kg)	Lowest required water level (m)	Size of membrane cassette (mm)		
						Length of cassette (L)	Width of cassette (W)	Height of cassette (H)
HA1510	HA15	10	600	900	2.6	961	1790	2345
HA1512		12	710	1000		1133		
HA1514		14	830	1100		1305		
HA1516		16	950	1200		1477		
HA1518		18	1070	1300		1649		
HA1520		20	1160	1400		1821		
HA1522		22	1276	1500		1993		
HA1524		24	1392	1600		2165		

Notes: More dimensions available upon request. Air (A1 & A2) and Permeate connection (P) can be adjusted according to project requirement. Design and specifications are subject to change without notice



## Supratec HA10 Cassettes

Supratec UF Membrane Cassette	Membrane modules	Number of membrane modules (pcs)	Membrane area per cassette (m <sup>2</sup> )	Dry weight of cassette (Kg)	Lowest required water level (m)	Size of membrane cassette (mm)		
						Length of cassette (L)	Width of cassette (W)	Height of cassette (H)
HA1010	HA10	10	430	640	1.9	961	1790	1985
HA1012		12	510	720		1133		
HA1014		14	600	800		1305		
HA1016		16	690	880		1477		
HA1018		18	770	960		1649		
HA1020		20	860	1040		1821		
HA1022		22	940	1120		1993		
HA1024		24	1030	1200		2165		

Notes: More dimensions available upon request. Air (A1 & A2) and Permeate connection (P) can be adjusted according to project requirement. Design and specifications are subject to change without notice

