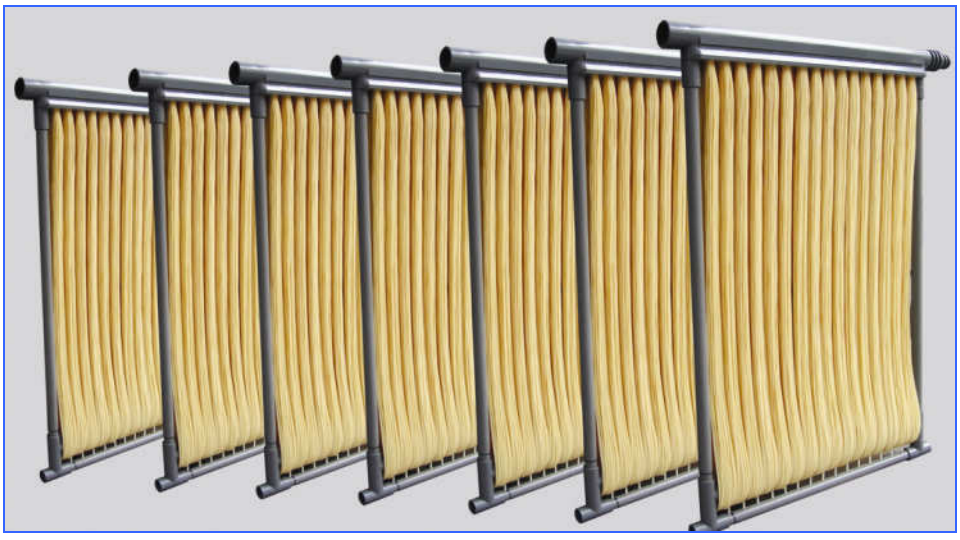
Memstar Technology Ltd.

MEMSTAR

Your Partner in Membrane Solutions

Submerged Membrane Modules

Technical Datasheet



www.memstar.com.sg

Version: 201003

Table 1 Specifications for Memstar SMM Submerged Membrane Modules

	Single Permeate Port		Dual Permeate Ports	
Parameter	**SMM-1010**	**SMM-1013**	**SMM-1520**	**SMM-1525**
Membrane Material	PVDF	PVDF	PVDF	PVDF
Module dimension (LxWxH) Please refer to Fig. 1 & 2.	571×45×815 mm 22.5x1.8x32.1”	571×45×815 mm 22.5x1.8x32.1”	571×45×1535 mm 22.5x1.8x60.4”	571×45×1535 mm 22.5x1.8x60.4”
Permeate outlet size	OD32 UPVC	OD32 UPVC	OD32 UPVC	OD32 UPVC
Air inlet size	OD20 UPVC	OD20 UPVC	OD20 UPVC	OD20 UPVC
Effective membrane area	10 m^2 108 ft^2	12.5 m^2 135 ft^2	20 m^2 215 ft^2	25 m^2 269 ft^2
Fiber ID / OD	0.6 / 1.2 mm 0.024 / 0.047”	0.6/1.2 mm 0.024 / 0.047”	0.6/1.2 mm 0.024 / 0.047”	0.6/1.2 mm 0.024 / 0.047”
Pore size (μm)	< 0.1	< 0.1	< 0.1	< 0.1
Flux per module	100-500 L/h 0.44-2.20 GPM	125-625 L/h 0.55-2.75 GPM	200-1000 L/h 0.88-4.40 GPM	250-1250 L/h 1.10-5.50 GPM
Filtration mode	Outside/in	Outside/in	Outside/in	Outside/in
Potting material	Epoxy	Epoxy	Epoxy	Epoxy
Permeate pipe material	ABS	ABS	ABS	ABS

Table 2 Required Quality for Submerged Membrane Modules

Parameter	**Allowed Range**
Types of influent	Varieties of raw water
pH	1-10 (pay special attention to raw water that is easy to cause membrane fouling)
Maximum particle size	≤ 2 mm (0.08”)
Maximum oil content in influent	≤ 2 ppm (mg/L)
Hardness (as $CaCO_3$)	< 150 ppm (mg/L)

Table 3 Recommended Conditions for Submerged Membrane Modules

Parameter	**Recommended Range**
pH (during operation)	1-10
pH (during cleaning)	0-12
Temperature	5-45ºC (41-113ºF)
Maximum particle size	< 2 mm (0.08”)
Maximum trans-membrane pressure	0.05 MPa (7.25 psi)
Air-blowing rate	2-5 m3 / module
Mode of air blowing	Pulse or continuous
Maximum backwash pressure	0.05 MPa (7.25 psi)
Maximum integrity test pressure	0.06 MPa (8.70 psi)
Maximum oil content	≤ 2 ppm (mg/L)
Other requirements	Feed water should not contain any sharp solids that can damage membrane fibers.

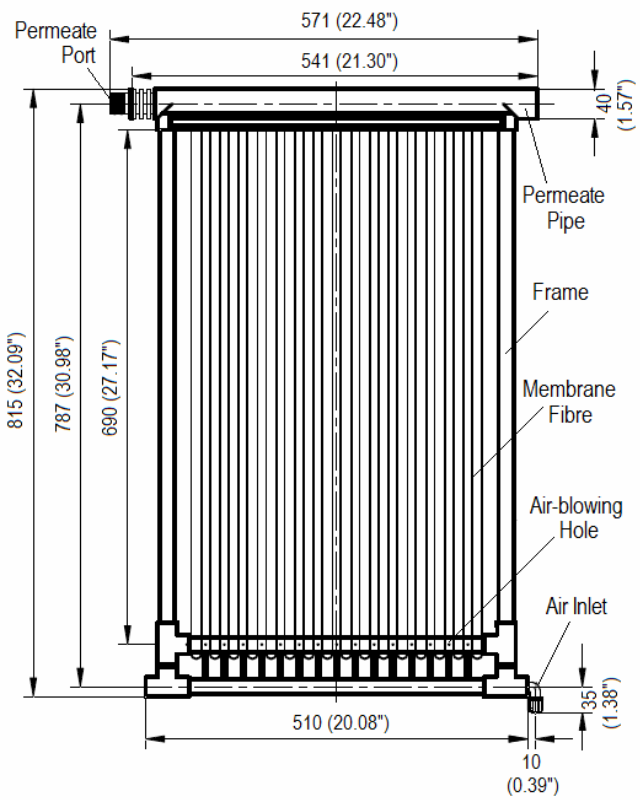


Figure 1 Dimension of SMM1010 and SMM1013.

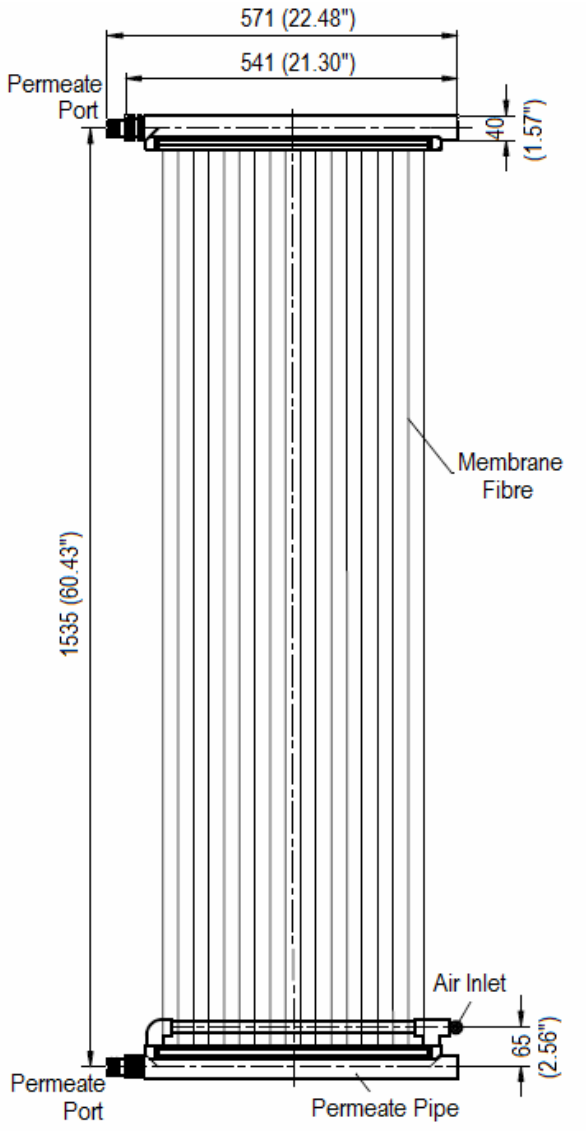


Figure 2 Dimension of SMM1520 and SMM1525.

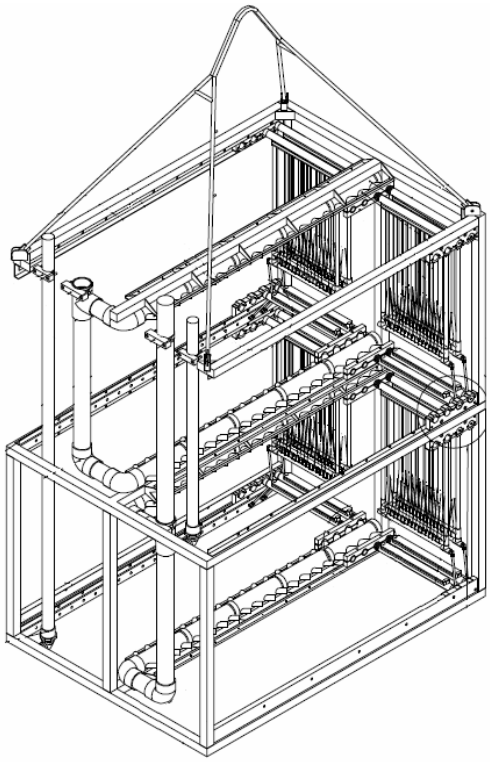


Figure 3 An MBR Skid.