

# Submerge Type POREFLON™ Module

## Features

### [Energy saving]

The proprietary aeration system helps efficiently scour the membranes and reduces aeration energy. In addition, the large membrane surface area per projection area greatly reduces the installation space.

### [Durability]

Poreflon hollow fiber that has a high tensile strength is durable against shaking and flexing allows use for extended periods.

### [Compatible with a wide range of wastewater]

Stable treatment capacity is achieved even for wastewater that contains oil and refractory organic matter.

### [Chemical resistance]

The module can be cleaned with chemicals from pH0 to 14, including high-concentration alkalis. It has a well flow rate recovery.

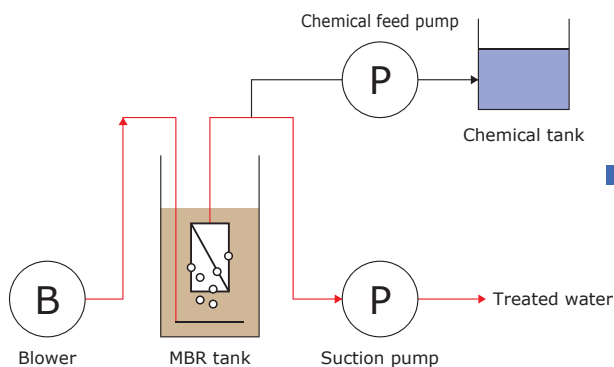
### [Easy handling]

The PTFE hollow fibers are treated to be hydrophilic for ease of transport and installation while dry.

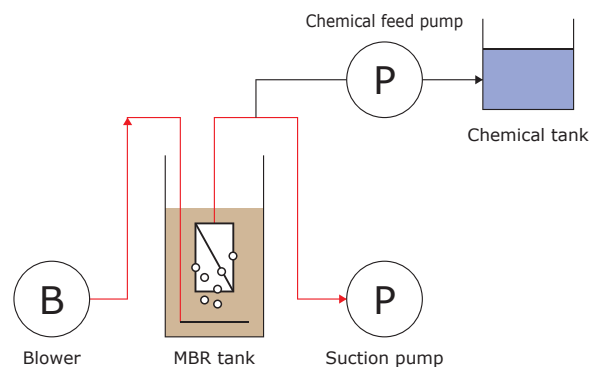


## Standard operating conditions

### <Filtration + Aeration>



### <Aeration>



## Example of MBR operating conditions

MLSS	7,000~12,000mg/L
Designed Flux	0.3~0.8m/d
Filtration time	9min
Unit downtime	1min
Water temperature	20~40°C
Aeration flow rate	50~90L/min/1module (Normally, no backwash is carried out.)
Filtration amount	15ml/5min

## Example of water quality

	Tolerance of raw water quality	Treated water quality
CODcr	<10,000mg/L	<50mg/L
BOD	<5,000mg/L	<10mg/L
TSS	—	<1mg/L
Oil & Grease (Mineral oil)	<50mg/L	<5mg/L
Oil & Grease (Animal & vegetable oil)	<300mg/L	

## Standard chemical cleaning conditions

### CIP

	Chemical concentration	Chemical dosage	Cleaning duration	Cleaning guideline
Target:Organic foulant	100 - 500mg/L NaOH+300 - 3,000mg/L NaClO (mixture)	2L/m <sup>2</sup> +All pipes	30 min - 2 hours	Every 1 - 2 weeks
Target:Inorganic foulant	300 - 3,000mg/L HCl, H <sub>2</sub> SO <sub>4</sub> , Citric acid, Oxalic acid			

### H-CIP(or Offline cleaning)

	Chemical concentration	Immersion duration	Cleaning guideline
Target:Organic foulant	0.5 - 4wt% NaOH+300 - 3,000mg/L NaClO (mixture)	6 - 12 hours	Every 6 months
Target:Inorganic foulant	0.3 - 3 wt% HCl, H <sub>2</sub> SO <sub>4</sub> , Citric acid, Oxalic acid		

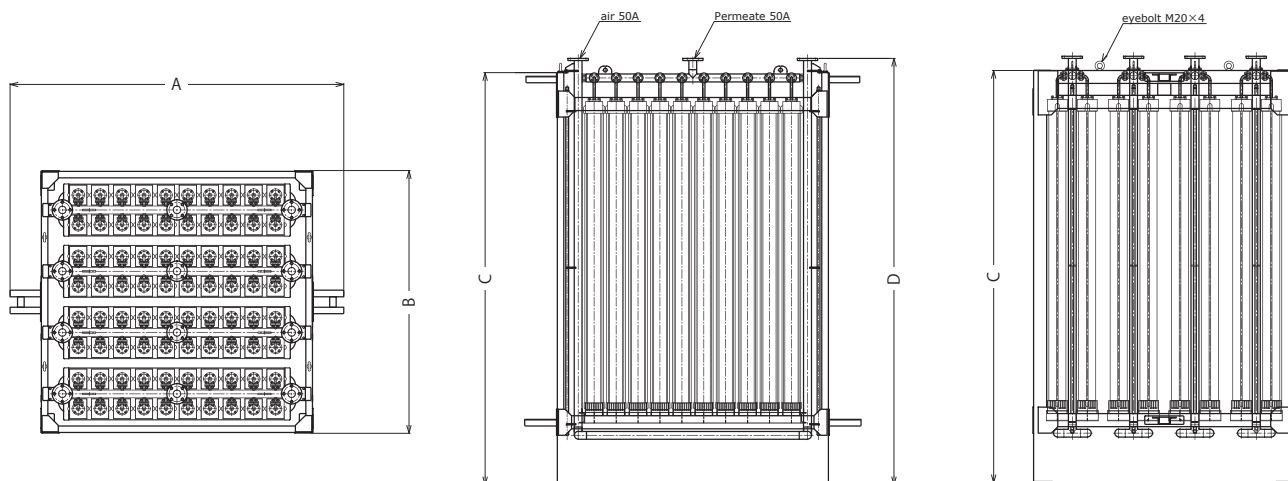
## Standard Specification List

Model No.			SPMW			
			11B6	12B6	11B12	12B12
Membrane	Nominal pore size	um	0.08	0.1	0.08	0.1
	Inner diameter	mm	1.1	1.1	1.1	1.1
	Outer diameter	mm	2.3	2.3	2.3	2.3
	Membrane area	m <sup>2</sup>	6	6	12	12
	Material		PTFE			
	Hydrophilic treatment		Hydrophilic			
Material	Cap		ABS resin (Joint nut : SUS303)			
	Potting		Heat- & chemical-resistant epoxy resin			
	Supporting bar		SUS304			
Dimensions	Length	mm	1300		2410	
	Bottom section	mm	154x164			
Operating condition	Filtration method		Suction filtration			
	Trans membrane pressure	Filtration	> -60kPa			
		Backwash	<100kPa			
	Maximum temperature limit		50			
	Operating pH range		0-14			
Cleaning pH range		0-14				

Type		B320	B420	B320	B420
		11,12B6		11,12B12	
Quantity of membrane modules		60	80	60	80
Cassette membrane area	m <sup>2</sup>	360	480	720	960
	A	2558	2558	2558	2558
Dimensions	B	1554	2014	1554	2014
	C	2051	2051	3161	3161
	D	2160	2160	3270	3270
Standard frame material		SUS304		SUS304	
Flange	Permeate	3×50A	4×50A	3×50A	4×50A
	Air	3×50A	4×50A	3×50A	4×50A
	Air vent	3×50A	4×50A	3×50A	4×50A
Weight	Dry kg				
	Wet kg				

## Outline Drawing

\*These drawings are B420.



Specifications are subject to change without notice.



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