UF MEMBRANE MODULE

Snowate

Hengshui Snowate Environmental Technology Co., Ltd.

www.snowate.com

HENGSHUI SNOWATE ENVIRONMENTAL TECHNOLOGY CO., LTD.

A TRUSTWORTHY SOURCING EXPERT ON WATER TREATMENT FACILITIES

As a senior sourcing expert on water treatment facilities and accessories, Hengshui Snowate Environmental Technology Co., Ltd. has extensive water treatment expertise, profound water treatment industry experience and a deep understanding of the water treatment industry purchasing demands. As a consequence, we are capable of providing one-stop purchase and technical support on water treatment facilities and accessories according to our customers' applications, thereby helping our customers to shorten the procurement cycle, reduce procurement costs and maximize economic benefits.

We integrate upstream supply chain products of the water treatment industry. In addition, we work with renowned suppliers and manufacturers. As a result, we can continuously supply high-quality water treatment components and systems for customers across the world to meet the needs of a Wide Range of Applications, Thereby Optimizing Water Resources and Promoting The Sustainable Development of The Global Environment.

Snowate


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789 N. Dixboro Road, Ann Arbor, MI 48105 USA
RECOGNIZES
Hengshui Snowate Environmental Technology Co., Ltd.
Hengshui, Hebei, China
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July 3, 2024
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VP Water

CONTENT

Snowate

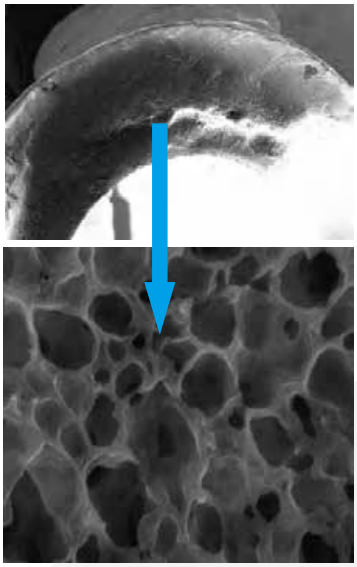
SWUF Series UF Modules

SWUF modules are made with high strength hollow fiber PVDF with 0.03 μm pore size. It offers high tolerance to chemical cleaning. Ultrafiltration (UF) provides excellent retention performance to particles, suspended solids, colloidal material, bacteria and viruses.

PVDF modules are used in a variety of applications including municipal water, drinking water, power plants, petrochemical, reverse osmosis pretreatment for desalination plants and high purity water.
*Equivalent modules can be customized on customers' request.

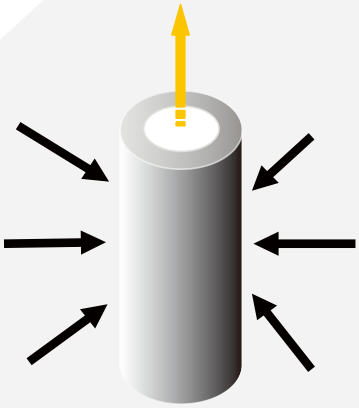
Features

- 0.03 μm pore size guarantees stable permeate
- Modified hydrophilic PVDF membrane with easy wetting performance
- High tolerance to varying influent water qualities
- Reduced pretreatment requirements due to outside-in flow
- High chemical resistance
- Energy saving due to low operating pressure
- Standard models allow for easy retrofits



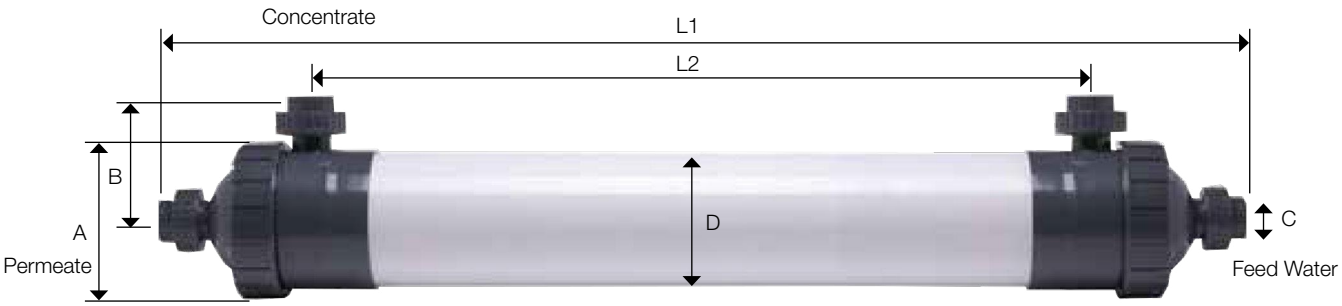
Applications

- Reverse osmosis pretreatment system
- Municipal wastewater treatment
- NSF potable water treatment
- Industrial wastewater treatment
- Wastewater recycle
- Surface and groundwater treatment



Standard Models

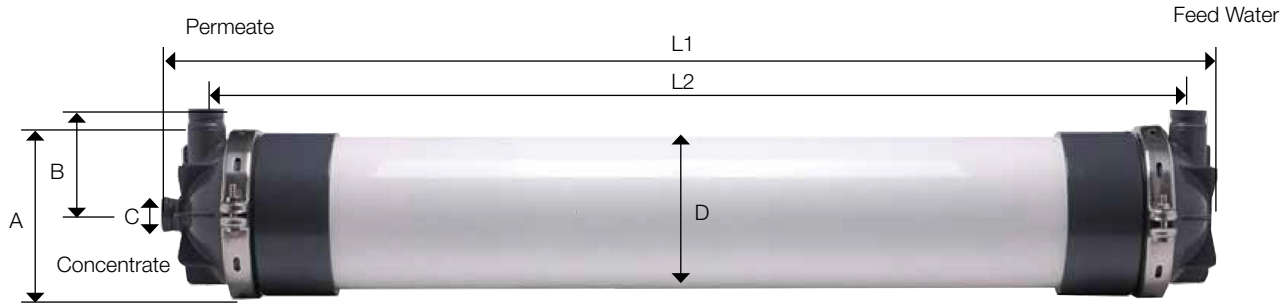
Unions Joint



Module Model	SWUF3540-8	SWUF6341-25	SWUF6354-40	SWUF7857-55
Membrane Surface Area (m^2/ft^2)	8 / 86.11	25 / 269.10	40 / 430.56	55 / 592
Hollow Fiber Material	PVDF			
Pore Size (μm)	0.03	0.03	0.03	0.03
ID / OD (mm/inch)	0.7 (0.027) / 1.3 (0.051)			
Flow Direction	Outside - in			
L1 (mm/inch)	1,225 / 48.23	1,410 / 55.51	1,816 / 71.5	1,882 / 74.09
L2 (mm/inch)	1,025 / 40.35	1,045 / 41.14	1,386 / 54.6	1,473 / 57.99
D (mm/inch)	90 / 3.54	160 / 6.30	160 / 6.30	200 / 7.87
A (mm/inch)	110 / 4.33	195 / 7.68	223 / 8.78	240 / 9.45
C (In/Outlet Connector)	DN25	DN32	DN40	DN40
Housing Material	UPVC			
Joint Material	UPVC	UPVC	UPVC	UPVC
Sealant	Epoxy Resin			
Max. Feed Pressure (Mpa/psi)	0.3 / 43.52			
Operation Flux (L/H)	400 - 1,200	1,250 - 3,750	2,400 - 7,200	3,000 - 9,000
Max. △ TMP (Mpa/psi)	0.2 / 29.01			
Operation Temp (°C/°F)	5 - 40 / 41 - 104			
pH Range	2.0 - 12.0	2.0 - 12.0	2.0 - 12.0	2.0 - 12.0
Max. Turbidity (NTU)	300	300	300	300
Permeate Turbidity	≤ 0.1			
Permeate SDI	≤ 3.0	≤ 3.0	≤ 3.0	≤ 3.0
Max. Continuous Chlorine (ppm)	1,000 (available chlorine concentration)			
Backwash Flux (L/H)	600 - 800	1,900 - 2,500	3,000 - 4,000	4,500 - 6,000
Scouring Air Flux (Nm^3/H)	0.6 - 1.0	1.5 - 3	3.0 - 5.0	4.0 - 6.0

Standard Models

Coupling Joint



Module Model	SWUF7847-40	SWUF7862-55	SWUF9862-75
Membrane Surface Area (m^2/ft^2)	40 / 430.55	55 / 592	75 / 807.29
Hollow Fiber Material	PVDF		
Pore Size (μm)	0.03	0.03	0.03
ID / OD (mm/inch)	0.7 (0.027) / 1.3 (0.051)		
Flow Direction	Outside - in		
L1 (mm/inch)	1,295 / 50.98	1,670 / 65.75	1,670 / 65.75
L2 (mm/inch)	1,200 / 47.24	1,595 / 62.80	1,595 / 62.80
D (mm/inch)	200 / 7.87	200 / 7.87	250 / 9.84
A (mm/inch)	235 / 9.25	235 / 9.25	290 / 11.42
C (In/Outlet Connector)	DN50	DN50	DN50
Housing Material	UPVC		
Joint Material	Stainless Steel	Stainless Steel	Stainless Steel
Sealant	Epoxy Resin		
Max. Feed Pressure (Mpa/psi)	0.3 / 43.52		
Operation Flux (L/H)	2,000 - 6,000	2,750 - 8,250	3,750 - 11,250
Max. Δ TMP (Mpa/psi)	0.2 / 29.01		
Operation Temp (°C/°F)	5 - 40 / 41 - 104		
pH Range	2.0 - 12.0	2.0 - 12.0	2.0 - 12.0
Max. Turbidity (NTU)	300	300	300
Permeate Turbidity	≤ 0.1		
Permeate SDI	≤ 3.0	≤ 3.0	≤ 3.0
Max. Continuous Chlorine (ppm)	1,000 (available chlorine concentration)		
Backwash Flux (L/H)	3,000 - 4,000	4,200 - 5,500	5,500 - 7,500
Scouring Air Flux (Nm^3/H)	3.0-5.0	4.0-6.0	6.0-9.0

SWUFD series UF Modules

Description

SWUFD series retrofit module is developed to replace DOW Ultrafiltration module with compatible dimensions to make sure no pipe and fitting change is required. SWUFD series is made with hollow fiber PVDF material with high tensile strength and pore size 0.03μm, customer can follow existing operation and cleaning program when using SWUFD series for replacement project, this economical replacement can lower maintenance cost significantly for end users.

Features

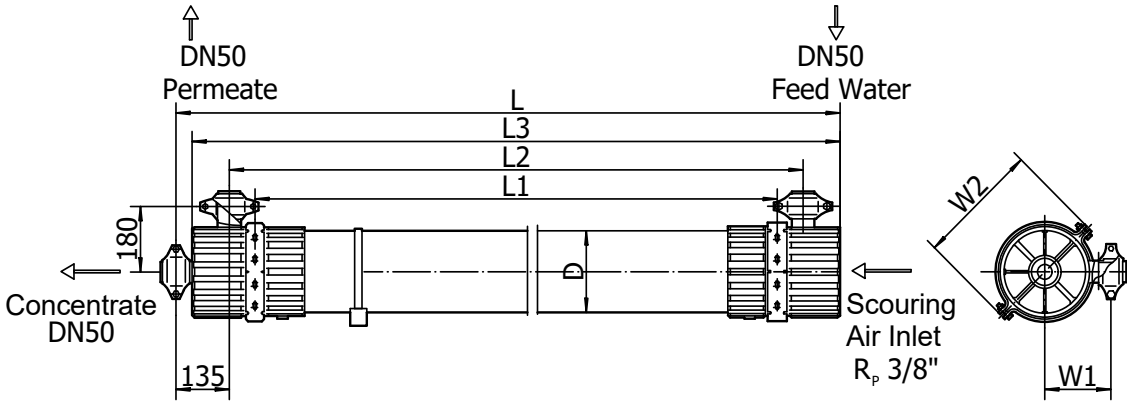
- 0.03 μm pore size effectively reject colloidal particles, suspended solids, larger partcles, bacteria, viruses and pyrogens, ect to guarantee stable permeate
- Modified hydrophilic PVDF membrane with easy wetting performance and larger flux
- High tolerance to varying influent water qualities
- Suitable for high turbidity water treatment due to outside-in flow
- High chemical resistance and strong tensile strength
- Energy saving due to lower operating pressure (feed pressure 0.05-0.15Mpa)
- Standard or customzied modules allow for easy retrofits

Applications

- Reverse osmosis pretreatment system
- Municipal wastewater treatment
- NSF potable water treatment
- Industrial wastewater treatment
- Wastewater recycle
- Surface and groundwater treatment

SWUFD Series UF Modules

Perfect Retrofit for DOW SFP-2860/2880



Module Specifications

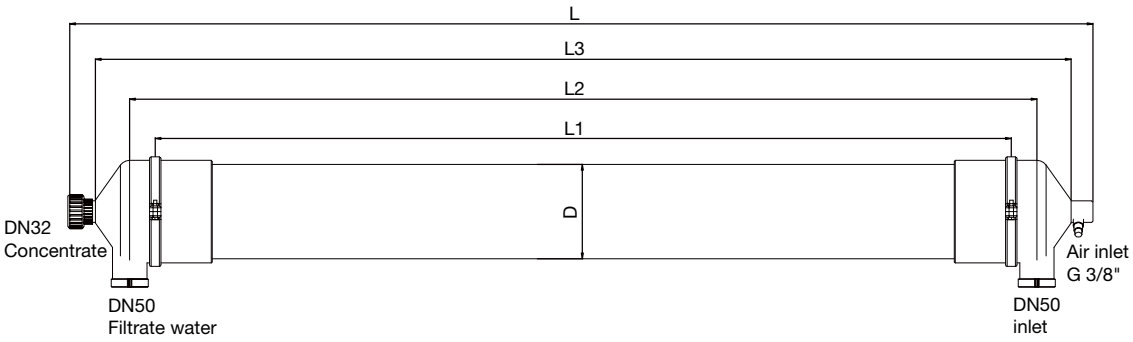
Module Model	SWUFD8964-51	SWUFD8983-77
Membrane Surface Area(m^2/ft^2)	51/ 549	77 / 829
Hollow Fiber Material	PVDF	
Pore Size (μm)	0.03	
Fiber ID / OD (mm/inch)	0.7 (0.027) / 1.3 (0.051)	
Flow Direction / Filtration Mode	Outside - in / Dead-end or Cross-flow Filtration	
L (mm/inch)	1,860 / 73.2	2,360 / 92.9
L1 (mm/inch)	1,500 / 59.1	2,000 / 78.7
L2 (mm/inch)	1,630 / 64.2	2,130 / 83.9
L3 (mm/inch)	1,820 / 71.7	2,320 / 91.3
D (mm/inch)	225 / 8.9	225 / 8.9
W1 / W2 (mm/inch)	180 (7.1) / 342 (13.5)	180 (7.1) / 342 (13.5)
Housing / Joint Material	UPVC / Stainless Steel	
Sealant	Epoxy Resin	

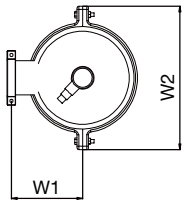
Module Operation Parameters

Module Model	SWUFD8964-51	SWUFD8983-77
Operation Flux @25°C (lmh/fgd)	40-120 / 24-71	
Design Flux per Module (m^3/h or gpm)	2.0 - 6.0 / 8.8 -2 6.4	3.0 - 9.0 / 13.2 - 39.6
Max. Feed Pressure @20°C (bar/psi)	3.0 / 43.52	3.0 / 43.52
△ TMP Range (bar/psi)	0 - 2.1 / 0 - 30	
Max. Backwash Pressure (bar/psi)	2.5 / 36	
Operation Temp. (°C/°F)	5 - 40 / 41 - 104	
Operation pH Range	2.0 - 12.0	
Backwash Flux (m^3/h)	3.0 - 4.0	4.0 - 6.0
Max. Tolerance Turbidity (NTU)	300	
Max. NaClO Tolerance Concentration (ppm)	2,000 (available chlorine concentration)	
Max. SS Tolerance Concentration (ppm)	100	
Permeate Turbidity (NTU)	0.1	
Permeate SDI	≤ 2.5	

SWUFD Series UF Modules

Perfect Retrofit for DOW SFP-2660





Module Specifications

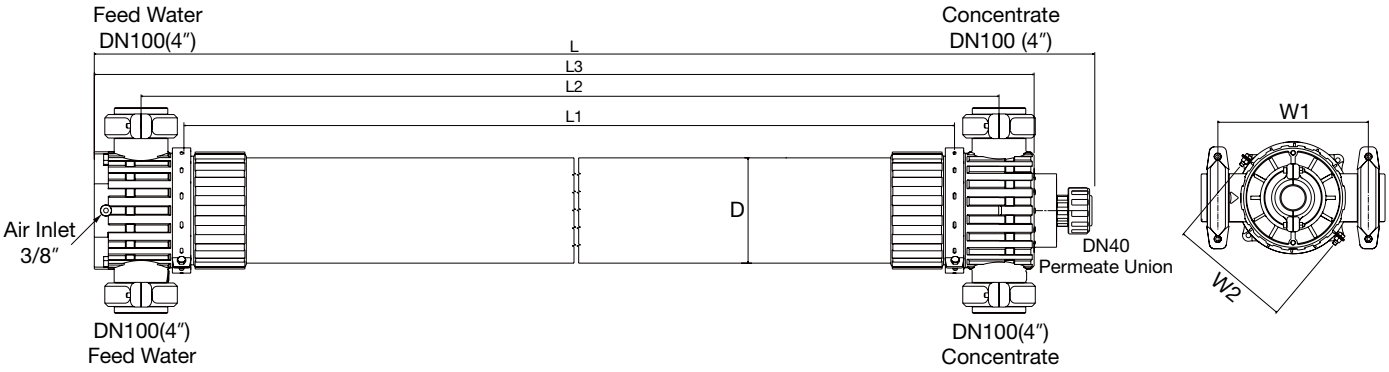
Module Type	SWUFD6563-33
Membrane Surface Area	33 m^2 (355 ft^2)
Hollow Fiber Material	PVDF
Pore Size	0.03 μm
ID / OD	0.7 / 1.3 mm (0.027 / 0.051 inch)
Flow Direction	Outside-in
Operation Model	Dead-end flow or Cross-flow
L	1,860 mm(73.2 inch)
L1	1,500 mm(59.1 inch)
L2	1,610mm (63.4 inch)
L3	1,710mm (67.3 inch)
D	165 mm (6.5 inch)
W1/W2	125 mm(4.9 inch) / 250 mm(9.8 inch)
Housing / Clamps Material	UPVC / SS304
Potting Material	Epoxy Resin

Operation Parameters

Module Type	SWUFD6563-33
Permeate Flux (@25℃)	40-120 L/m^2·h (24-70 fgd)
Module Flow Rate	1.3-4.0 T/h (5.9-17.3 gpm)
Max. Feed Pressure (@20℃)	6.25 bar / 93.75 psi
△ TMP	0-2.1 bar / 0-30 psi
Max. Backwash Pressure	2.5 bar / 36 psi
Operation Temp.	5-40 ℃ / 41-104 ℉
pH Range	2-11
Backwash Flux	2.0-4.0 T/h
Max. Feed Turbidity	300 NTU
Max. NaClO Tolerance	2,000 ppm
Max. TSS	100 ppm
Expected Permeate SDI	SDI ≤ 2.5
Expected Turbidity	≤0.1 NTU

SWUFD Series UF Modules

Perfect Retrofit for DOW IP-51/IP-77



Module Specifications

Module Type	SWUFD8966-51	SWUFD8986-77
Membrane Surface Area	51 m^2 (549 ft^2)	77 m^2 (829 ft^2)
Hollow Fiber Material	PVDF	
Pore Size	0.03 μm	
ID / OD	0.7 / 1.3 mm (0.027 / 0.051 inch)	
Flow Direction	Outside-in	
Operation Model	Dead-end flow or Cross-flow	
L	1,988 mm(78.3 inch)	2,488 mm(98.0 inch)
L1	1,500 mm(59.1 inch)	2,000 mm(78.7 inch)
L2	1,689 mm (66.5 inch)	2,189 mm (86.2 inch)
L3	1,864 mm (73.4 inch)	2,364 mm (93.1 inch)
D	225 mm (8.9 inch)	225 mm (8.9 inch)
W1	360 mm(14.2 inch)	360 mm(14.2 inch)
W2	342 mm(13.5 inch)	342 mm(13.5 inch)
Housing / Joint Material	UPVC / UPVC	
Potting Material	Epoxy Resin	

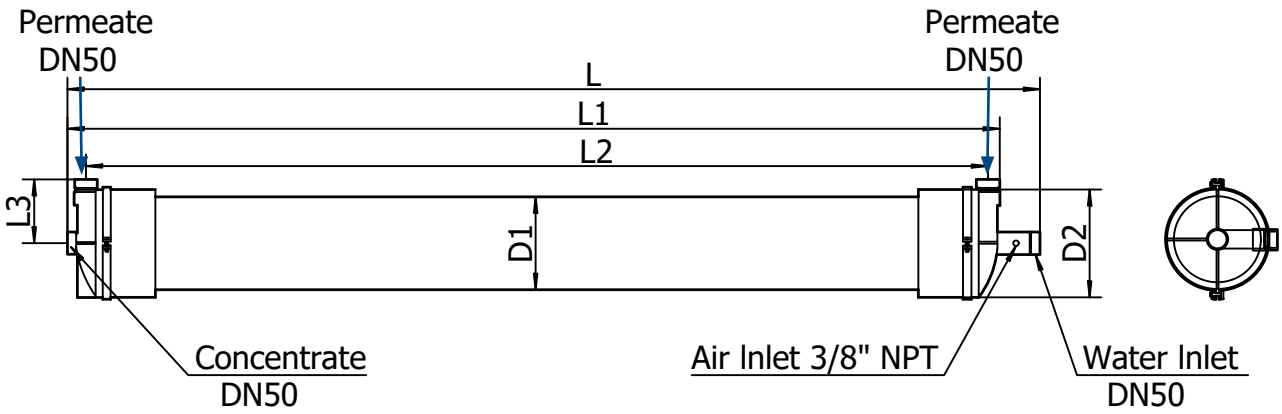
Operation Parameters

Module Type	SWUFD8966-51	SWUFD8986-77
Permeate Flux (@25℃)	40-120 L/m^2·h (24-70 fgd)	40-120 L/m^2·h (24-70 fgd)
Module Flow Rate	2.0-6.0 T/h (9.2-26.3 gpm)	3.0-9.0 T/h (13.8-39.4 gpm)
Max. Feed Pressure (@20℃)	6.25 bar / 93.75 psi	
△ TMP	0-2.1 bar / 0-30 psi	
Max. Backwash Pressure	2.5 bar / 36 psi	
Operation Temp	5-40 ℃ / 41-104 ℉	
pH Range	2 - 11	
Max. Feed Turbidity	300 NTU	
Max. NaClO Tolerance	2,000 ppm	
Max. TSS	100 ppm	
Expected Permeate SDI	≤ 2.5	
Expected Turbidity	≤ 0.1 NTU	

SWUFH Series UF Modules

Perfect Retrofit for Hydranautics Ultrafiltration module HYDRAcap MAX 40/60/80

Coupling Joint



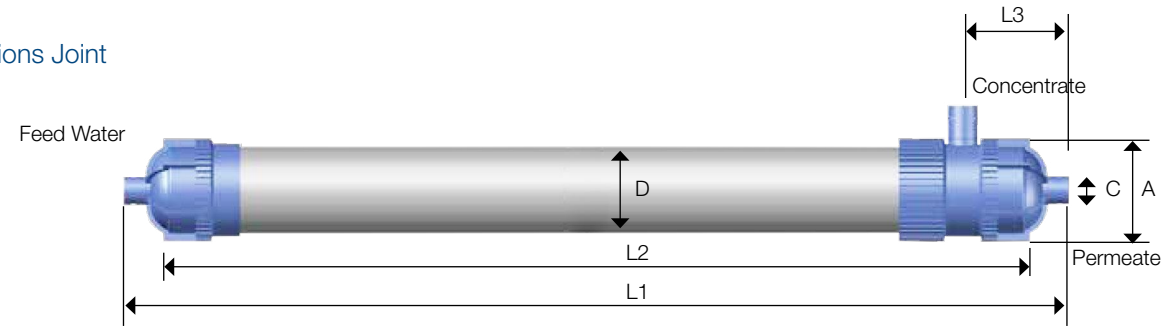
Module Model	SWUFH9844-52	SWUFH9863-78	SWUFH9883-105
Effective Membrane Area (m^2)	52	78	105
Hollow Fiber Material	PVDF	PVDF	PVDF
Pore Size (μm)	0.03	0.03	0.03
Fiber ID / OD (mm)	0.7 (0.027) / 1.3 (0.051)		
Filtration Mode	Outside - in		
L (mm)	1,364.9	1,832.6	2,340.6
L1 (mm)	1,257.3	1,724.7	2,232.7
L2 (mm)	1,135.5	1,602.9	2,110.9
L3 (mm)	172	172	172
D1 (mm)	250	250	250
D2 (mm)	290	290	290
Inlet / Outlet / Concentrate Port	DN 50	DN 50	DN 50
Housing Material	UPVC	UPVC	UPVC
Joint Material	UPVC	UPVC	UPVC
Sealant	Epoxy Resin	Epoxy Resin	Epoxy Resin
Max. Inlet Pressure (bar)	3.0	3.0	3.0
Design Flux (LMH / m^3/h)	34 - 110 (1.8 - 5.5)	34 - 110 (2.7 - 8.6)	34 - 110 (3.6 - 11.6)
Max. △ TMP (bar)	2.0	2.0	2.0
Operation Temp. (°C)	5 - 40	5 - 40	5 - 40
pH Range	2 - 10	2 - 10	2 - 10
Permeate Turbidity (NTU)	≤ 0.1	≤ 0.1	≤ 0.1
Permeate SDI	≤3		

*Many more equivalent UF modules are available.

SWUFS Series UF Modules

Perfect Retrofit for Suez ZeeWeed 1500

Unions Joint



Module Specifications

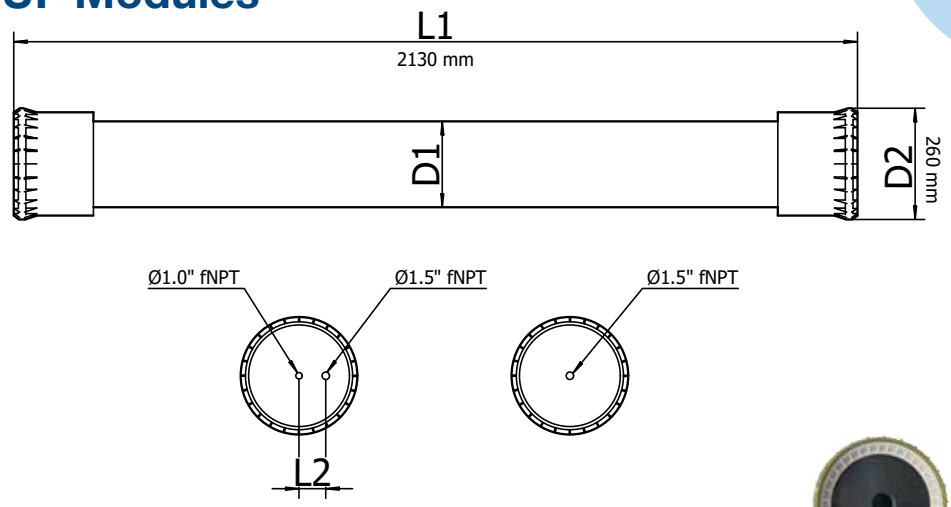
Module Model	SWUFS7069-55
Membrane Surface Area (m^2/ft^2)	55.70 / 600
Hollow Fiber Material	PVDF
Pore Size (μm)	0.03
Fiber ID / OD (mm/inch)	0.7 (0.027) / 1.3 (0.051)
Flow Direction	Outside-in
L1 (mm/inch)	1,920 / 75.59
L2 (mm/inch)	1,760 / 69.29
L3 (mm/inch)	216 / 8.50
D (mm/inch)	180 / 7.09
A (mm/inch)	213 / 8.38
Housing Material	UPVC
Joint Material	UPVC
Sealant	Epoxy Resin

Module Operation Parameters

Module Model	SWUFS7069-55
Operation Flux @25°C (lmh/fgd)	40-120 / 24-71
Design Flux per Module (m^3/h or gpm)	2.2 - 6.7 / 6.68 - 29.48
Max. Feed Pressure @ 20°C (kPa/psi)	380 / 55
△ TMP Range (kPa/psi)	0 - 276 / 0 - 40
Operation Temp. (°C/°F)	5 - 40 / 41-104
Working pH Range	5.0 - 10.0
Max. Scouring Air Flux (Nm^3/h)	5.1
Max. Backwash Flux (m^3/h)	1.8
Max. Cleaning Temp. (°C)	40
Max. NaClO Tolerance Concentration (ppm)	1,000 (available chlorine concentration)
Cleaning pH Range	2.0 - 12
Permeate Turbidity (NTU)	≤ 0.1
Permeate SDI	≤ 2.5

SWUFX Series UF Modules

Perfect Retrofit for
Hyflux K600ER



Module Specifications

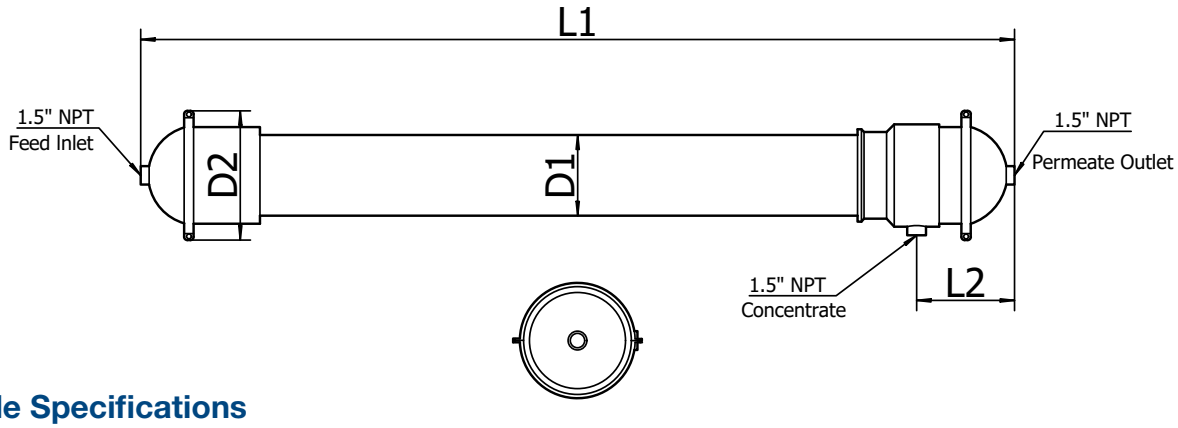
Module Model	SWUFX1083-55
Membrane Surface Area (m^2/ft^2)	55 / 592
Hollow Fiber ID / OD (mm)	0.7/1.3
Pore Size (μm)	0.03
Tensile Force (N)	11 - 12
Housing / End Caps Material	PVC
Sealant	Epoxy Resin
Dimensions D2 × L1 (mm/inch)	260 × 2,130 / 10.24 × 83.86
Feed Inlet (NPT)	1.5″
Permeate Outlet (NPT)	1.5″
Reject Outlet (NPT)	1.0″
Flow Direction	Outside-in
Wet Weight (kg/lbs)	95 / 209
Dry Weight (kg/lbs)	55 / 121

Module Operation Parameters

Module Model	SWUFX1083-55
Design Flux (LMH / m^3/h)	30 - 136 (1.75 - 7.5)
Max. Feed Pressure (bar)	4.0
Max. △ TMP (bar)	2.1
Max. Backwash Pressure (bar)	2.5
Operation Temp. (°C)	1 - 40
Operation pH	1 - 11
Cleaning pH	1 - 13
Air Scouring Flux (Nm^3/h)	5 - 12
Max. Air Scouring Pressure (bar)	2.5
Backwash Flux @30 °C (LMH)	200
Max. Continuous Chlorine (ppm)	200
Max. Cleaning NaClO (ppm)	500
Max. Continuous NaClO (ppm)	10
Max. Feed TSS (ppm)	100
Max. Inlet Turbidity (NTU)	300
Permeate TSS (ppm)	≤ 0.5
Permeate Turbidity (NTU)	≤ 0.1
Permeate SDI	≤ 3.0

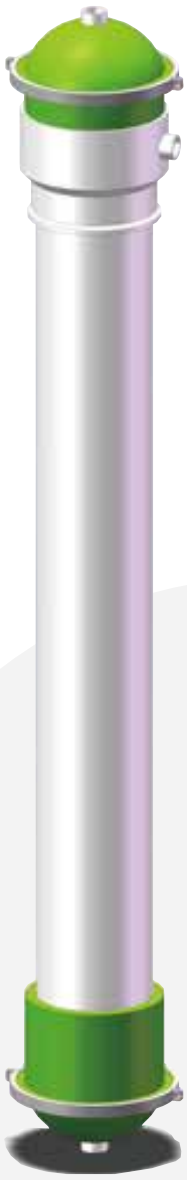
SWUFX Series UF Modules

Perfect Retrofit for EuroTec ETUF-9060R & Hyflux K600ET-0820



Module Specifications

Module Model	SWUFX1392-60
Membrane Surface Area (m^2/ft^2)	60 / 645
Hollow Fiber ID / OD (mm)	0.7 / 1.3
Pore Size (μm)	0.03
Tensile Force (N)	11 - 12
Housing / End Caps Material	PVC
Sealant	Epoxy Resin
Dimensions D2 × L1 (mm/inch)	344 × 2,340 / 13.54 × 92.13
Feed Inlet (NPT)	1.5″
Permeate Outlet (NPT)	1.5″
Reject Outlet (NPT)	1.5″
Flow Direction	Outside-in
Wet Weight (kg/lbs)	95 / 209
Dry Weight (kg/lbs)	55 / 121



Module Operation Parameters

Module Model	SWUFX1392-60
Design Flux (LMH / m^3/h)	30 - 136 (1.75 - 7.5)
Max. Feed Pressure (bar)	4.0
Max. △ TMP (bar)	2.1
Max. Backwash Pressure (bar)	2.5
Operation Temp. (°C)	1 - 40
Operation pH	1 - 11
Cleaning pH	1 - 13
Air Scouring Flux (Nm^3/h)	5 - 12
Max. Air Scouring Pressure (bar)	2.5
Backwash Flux @30 °C (LMH)	200
Max. Continuous Chlorine (ppm)	200
Max. Cleaning NaClO (ppm)	500
Max. Continuous NaClO (ppm)	10
Max. Feed TSS (ppm)	100
Max. Inlet Turbidity (NTU)	300
Permeate TSS (ppm)	≤ 0.5
Permeate Turbidity (NTU)	≤ 0.1
Permeate SDI	≤ 3.0

SWB1V Series MBR Modules

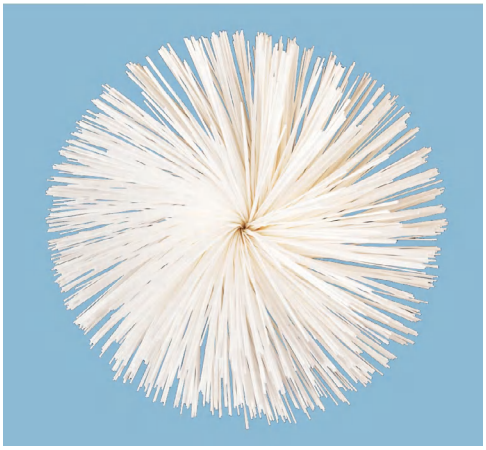
SWB1V MBR modules are made with reinforced hollow fiber PVDF membrane. The hollow fibers have high tensile strength with excellent chemical resistance. 0.1 μm pore size provides superior rejection rate of suspended solids, bacteria and viruses.

Compared with conventional treatment, SWB1V MBR modules produce extremely high quality permeate. Due to the high mixed liquor suspended solids (MLSS), SWB1V MBR modules can greatly reduce the overall treatment plant footprint and annual operation cost.

*Equivalent modules can be customized on customers' request.

Features

- High hydrophilic PVDF membrane
- Reinforced hollow fiber membrane
- Reduced treatment plant footprint
- Long service life
- Consistent and stable flux performance
- Energy saving due to low operating pressure

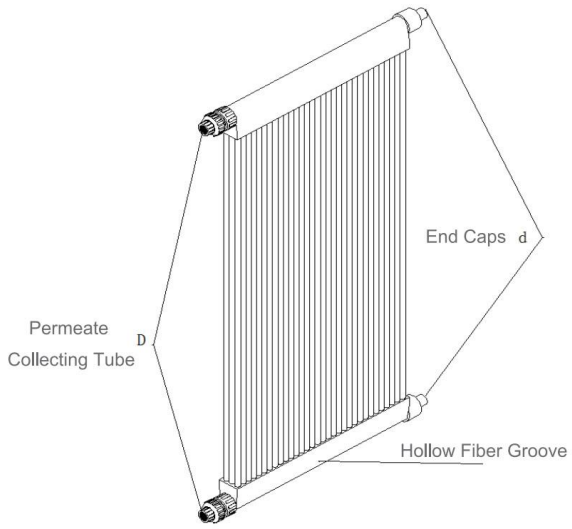


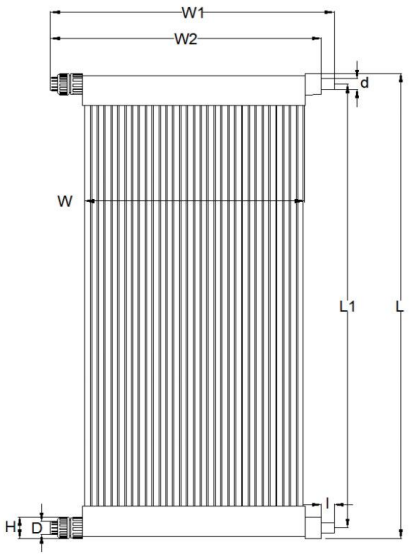
Applications

- Municipal sewage treatment and reuse
- Ideal for Green Building needing water reuse
- Industrial wastewater treatment and reuse
- Landfill wastewater treatment
- Pre-treatment for RO system

SWB1V Modules Specifications

Threaded Connection Series

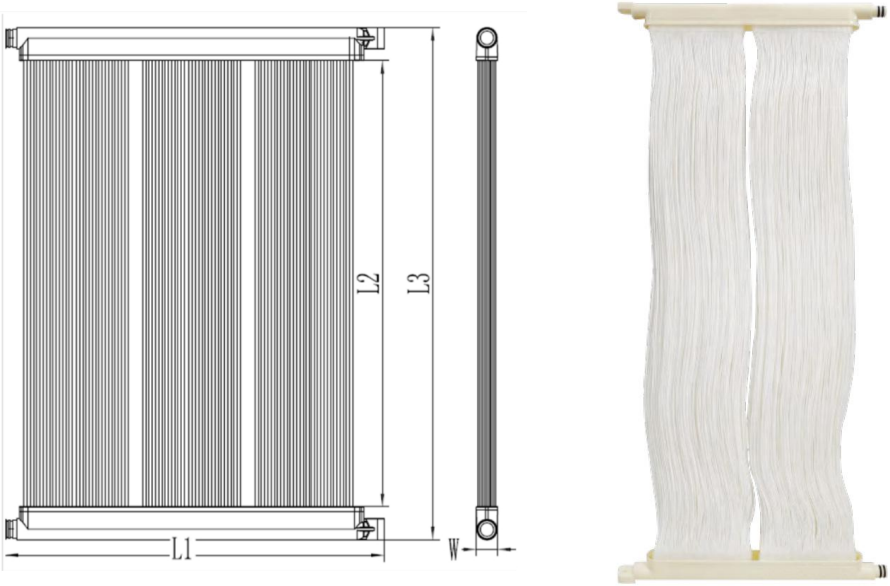




Module Model	SWB1V4024-10	SWB1V6024-15	SWB1V7924-20
Effective Membrane Area (m^2/ft^2)	10 / 107.64	15 / 161.46	20 / 215.28
Membrane Material	PVDF (with PET Supporting Layer)		
Pore Size (μm)	0.1		
Fiber ID / OD (mm/inch)	1.1/2.2		
L1 (mm/inch)	1,000 / 39.37	1,500 / 59.05	2,000 / 78.74
L (mm/inch)	1,025 / 40.35	1,525 / 60.04	2,025 / 79.72
W (mm/inch)	480 / 18.9	480 / 18.9	480 / 18.9
W1 (mm/inch)	620 / 24.4	620 / 24.4	620 / 24.4
W2 (mm/inch)	591.7 / 23.30	591.7 / 23.30	591.7 / 23.30
I (mm/inch)	28.3 / 1.11	28.3 / 1.11	28.3 / 1.11
H (mm/inch)	48 / 1.89	48 / 1.89	48 / 1.89
Permeate Port D	DN20		
End Cap Size d (mm)	Φ 24		
Filtration Mode	Suction with Negative Pressure		
Design Flux (LMH)	10 - 30		
Module Gross Weight (kg/lb)	4.7 / 10.36	5.8 / 12.79	6.6 / 14.55
Sealing Material	PU		
Permeate Collecting Tube Material	ABS		
Recommended Flux (L/H)	100 - 300	150 - 450	250 - 750
Max. △ TMP (Mpa/psi)	-0.05 / -7.25		
Operation Temp. Range (°C/°F)	5 - 40 / 41 - 104		
Optimal Operation pH Range	6 - 9		
Recommended pH Range	2 - 10		
Max. Active Chlorine (ppm)	1,000		
Permeate Turbidity (NTU)	≤ 0.5		
Permeate SS (mg/L)	≤ 5		

SWB1V Modules Specifications

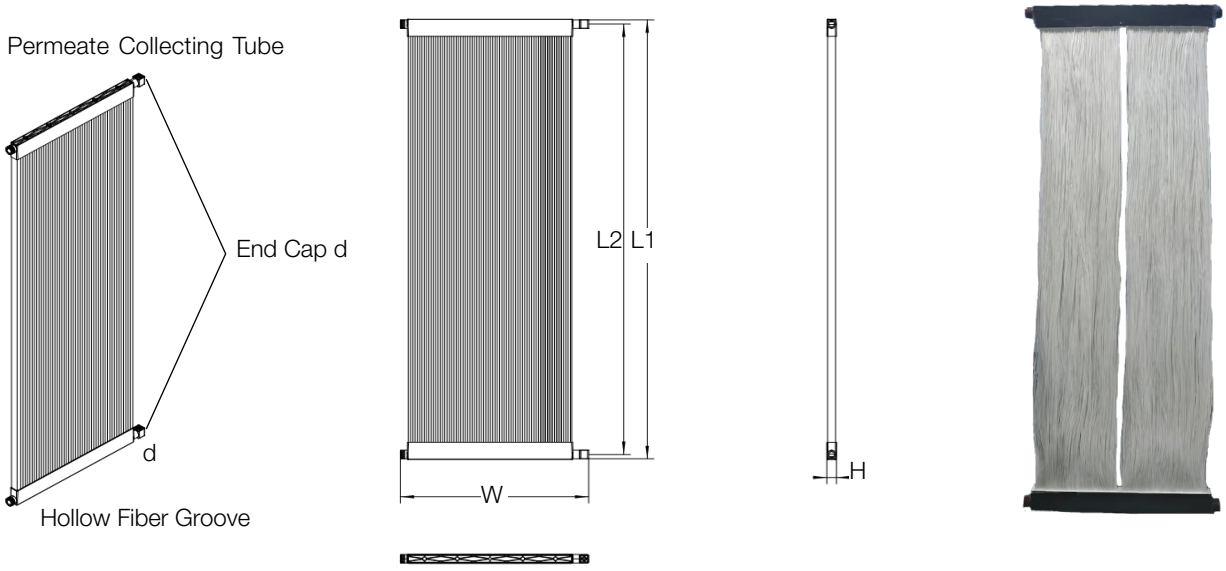
Socket-and-Spigot Joint Series



Module Model	SWB1V4024-10P	SWB1V6022-15P	SWB1V7924-20P
Effective Membrane Area (m^2/ft^2)	10	15	20
Membrane Material	PVDF (with PET Supporting Layer)		
Pore Size (μm)	0.1		
Fiber OD (mm)	2.2		
L1 (mm)	610	570	610
L2 (mm)	950	1450	1950
L3 (mm)	1025	1525	2025
W (mm)	46	46	46
Connector	Φ 27	Φ 27	Φ 27
Filtration Mode	Suction with Negative Pressure		
Recommended TMP (Kpa)	0 ~ 35		
Maximum backwash pressure (Kpa)	70		
Design Flux (L/m^2.h, 25°C)	15 - 30		
Backwash Flux (L/m^2.h)	20 ~ 50		
Operation Temp.Range (°C)	5 ~ 45		
Recommended pH Range	2 ~ 10		
Aeration (Nm^3/m^2·h)	Pulse Aeration: 50 ~ 75; Perforated aeration: 80 ~ 120		
Chemical cleaning pH Range	1 ~ 12		
Maximum NaClO Tolerance Concentration (mg/L)	3000		
Permeate Turbidity (NTU)	≤0.8		
Permeate SS (mg/L)	≤5.0		

SWB1V Modules Specifications

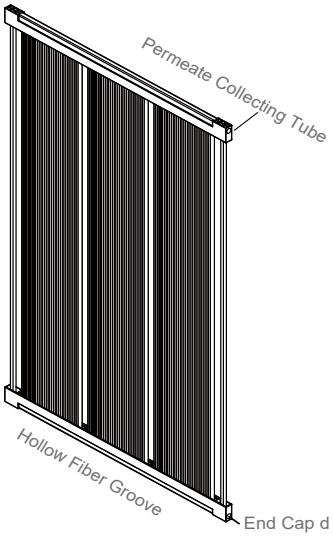
Socket-and-Spigot Joint Series

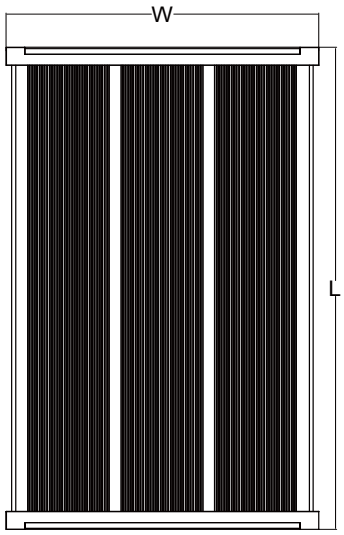


Module Model	SWB1V8032-30
Membrane Surface Areas (m^2/ft^2)	30 / 322.92
Hollow Fiber Material	PVDF (with PET supporting layer)
Pore Size (μm)	0.1
ID / OD (mm/inch)	1.1/2.2
Flow Direction	Outside - in
L1 (mm/inch)	2,040 / 80.31
L2 (mm/inch)	2,000 / 78.74
W (mm/inch)	825 / 32.48
H (mm/inch)	42 / 1.65
End Cap d (mm)	DN32
Flow Mode	Suction with Negative Pressure
Flux Design (LMH)	10-30
Sealing Material	PU
Permeate Collecting Tube Material	ABS
Operation Flux (L/H)	300-900
Max. Δ TMP (Mpa/psi)	-0.05 / -7.25
Operation Temperature (°C/°F)	5 - 40 / 41 - 104
Optimal Operation pH Range	6-9
Recommended pH Range	2-10
Max. Active Chlorine(ppm)	1,000
Permeate Turbidity (NTU)	≤ 0.5
Permeate SS (mg/L)	≤ 5

SWB1V Modules Specifications

Perfect Retrofit for Mitsubishi SADF2590A





Module Model	SWB1V7849-30I
Membrane Surface Areas (m^2/ft^2)	30 / 322.92
Membrane Material	PVDF (with PET Supporting Layer)
Supporting Rod Material	SS304
Pore Size (μm)	0.1
ID/OD (mm/inch)	1.1/2.2
L (mm/inch)	2, 000 / 78.74
W (mm/inch)	1,250 / 49.21
H (mm/inch)	32 / 1.26
End Cap d (mm)	Φ 24
Flow Mode	Suction with Negative Pressure
Flux Design (LMH)	10 - 30
Module Weight (kg/lb)	13 / 28.66
Sealing Material	PU
Permeate Collecting Tube Material	ABS
Operation Flux (L/H)	300 - 900
Max. Δ TMP (Mpa/psi)	-0.05 / -7.25
Operation Temperature (°C/°F)	5 - 40 / 41 - 104
Optimal Operation pH Range	6 - 9
Max. Temperature (°C/°F)	40 / 104
Recommended pH Range	2 - 10
Max. Active Chlorine (ppm)	1,000
Permeate Turbidity (NTU)	≤ 0.5
Permeate SS (mg/L)	≤ 5

SWB3V Series MBR Modules

SWB3V modules are made with reinforced hollow fiber PVDF membrane. The hollow fibers have high tensile strength with excellent chemical resistance. 0.03 μm pore size provides superior rejection rate of suspended solids, bacteria and viruses.
Com-pared with conventional treatment, SWB3V modules produce extremely high quality permeate. Due to the high mixed liquor suspended solids (MLSS), SWB3V can greatly reduce the overall treatment plant footprint and annual operation cost.

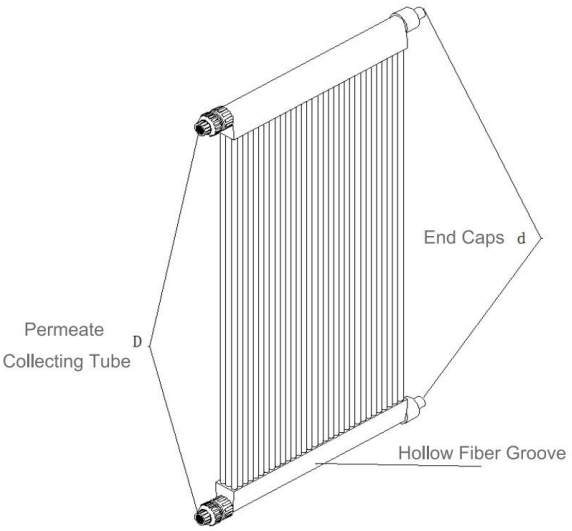
Features

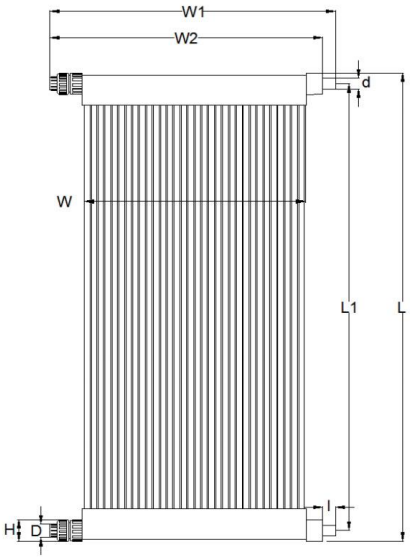
- High hydrophilic PVDF membrane
- Reinforced hollow fiber membrane
- Siphon water permeate reduce energy consumption
- Long membrane service life
- Consistent and stable flux performance
- Energy saving due to low operating pressure

Applications

- Municipal sewage treatment and reuse
- Ideal for Green Building needing water reuse
- Industrial wastewater treatment and reuse
- Landfill wastewater treatment

SWB3V Modules Specifications

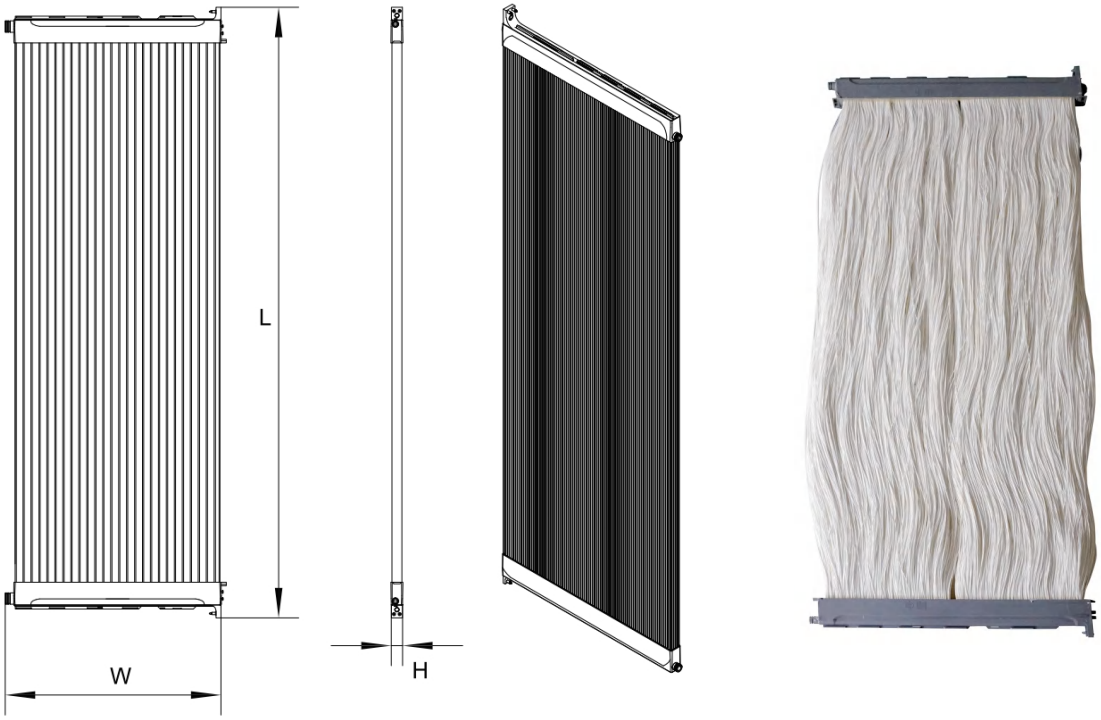




Module Model	SWB3V4024-10	SWB3V6024-15	SWB3V7924-20
Membrane Surface Areas (m^2/ft^2)	10 / 107.64	15 / 161.46	20 / 215.28
Membrane Material	PVDF (with PET supporting layer)	PVDF (with PET supporting layer)	PVDF (with PET supporting layer)
Pore Size (μm)	0.03	0.03	0.03
Fiber ID / OD (mm/inch)	1.1/2.2	1.1/2.2	1.1/2.2
L1 (mm/inch)	1,000 / 39.37	1,500 / 59.05	2,000 / 78.74
L (mm/inch)	1,025 / 40.35	1,525 / 60.04	2,025 / 79.72
W (mm/inch)	480 / 18.9	480 / 18.9	480 / 18.9
W1 (mm/inch)	620 / 24.4	620 / 24.4	620 / 24.4
W2 (mm/inch)	591.7 / 23.30	591.7 / 23.30	591.7 / 23.30
I (mm/inch)	28.3 / 1.11	28.3 / 1.11	28.3 / 1.11
H (mm/inch)	48 / 1.89	48 / 1.89	48 / 1.89
Permeate Port D	DN20		
End Cap Size d (mm)	φ 24		
Filtration Mode	Suction with Negative Pressure		
Design Flux (LMH)	10-30		
Module Gross Weight (kg/lb)	4.7 / 10.36	5.8 / 12.79	6.6 / 14.55
Sealing Material	PU		
Permeate Collecting Tube Material	ABS		
Recommended Flux (L/H)	100 - 300	150 - 450	250 - 750
Max. △ TMP (Mpa/psi)	-0.05 / -7.25		
Operation Temperature (°C/°F)	5 - 40 / 41 - 104		
Optimal Operation pH Range	6-9		
Recommended pH Range	2-10		
Max. Active Chlorine (ppm)	1,000		
Permeate Turbidity (NTU)	≤ 0.2		
Permeate SDI	≤ 5		

SWB3V-S Series Specifications

Perfect Retrofit for Suez ZeeWeed 500D



Module Model	SWB3V8633-31S	SWB3V8633-34S	SWB3V8633-40S
Effective Membrane Area (m^2)	31.6	34.4	40.9
Membrane Material	PVDF (with PET supporting layer)		
Pore Size (μm)	0.03		
Fiber ID / OD (mm)	1.1 / 2.2		
L (mm)	2198		
W (mm)	844		
H (mm)	49		
Permeate Collecting Tube Material	ABS		
Sealing Material	PU		
Operation Temperature (°C)	5 - 40		
Filtration Mode	Suction with Negative Pressure		
Design Flux (LMH)	10-30		
TMP Range (Kpa)	-55 to 55 Kpa		
Recommended pH Range	2-10		
Turbidity (NTU)	≤ 0.2		
Permeate SDI	≤ 5		

SWBT Series PTFE-MBR Modules

SWBT PTFE-MBR modules are made of highly hydrophilic PTFE membrane fiber, which have excellent chemical resistance and high hydrophilicity. With 0.1 μm filtration pore size, it has excellent retention effects on impurities such as solid particles, colloidal suspensions, and bacteria. Compared to traditional treatment processes and PVDF MBR membrane products, SWBT PTFE-MBR modules have the advantages of small footprint, better effluent quality, longer service life, and stronger chemical cleaning tolerance.

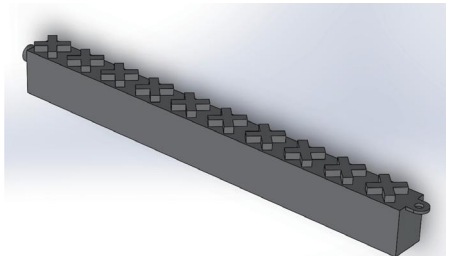
Features

- **Automated spinning technology and better root protection on MBR frame**

  By adopting automated spinning technology,the membrane fibers are uniformly arranged. After experiments and practical applications, it has been shown that the automated spinning technology can effectively reduce the turbidity of effluent and reduce sediment accumulation at the bottom. At the same time, with hot-melt adhesive at the bottom,it can effectively prevent the root of the membrane fiber from cracking and crawling,then ensure the effluent quality.

- **Intermittent impact aeration, energy-saving and efficient product**

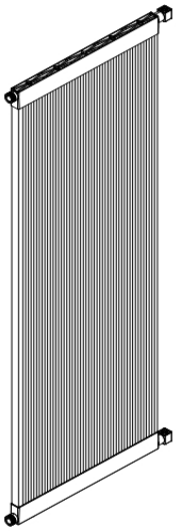
  All products in this series are equipped with the aerators that has atmospheric bubble and intermittent impact , which can release large bubbles with stronger shear force compared to traditional aeration methods. It significantly improve the aeration effect and the air volume decreases by 25% -40%, therefore lower energy consumption.

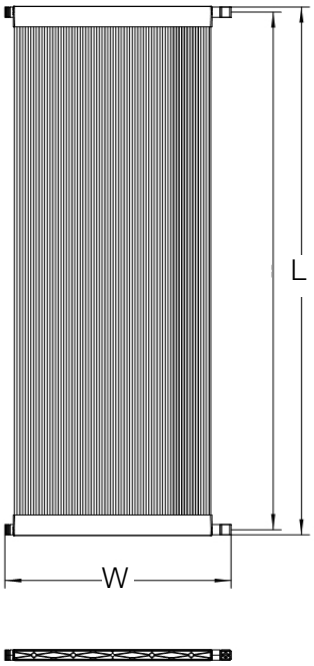


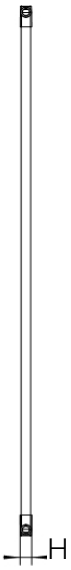
PTFE MBR and PVDF MBR Comparison

Model No.	PTFE MBR	PVDF MBR
Porosity	> 75%	45-70%
Tensile Strength	> 60N	8N
Permeate Quality	<1NTU	< 1NTU
Hydrophily	Permanent Hydrophilicity	Hydrophilic groups lost easily
Use Condition	MLSS 4g-20g/L	MLSS 4g-8g/L
Pollution-resistant	High,low surface tension,good aeration effect	Better, not suitable for high pollution applications
Service Life	5-7 years	3-5 years
Application Area	High polluting industrial wastewater, material separation	Municipal and industrial wastewater

PTFE-MBR Modules Specifications







Module Model	SWBT6132-25	SWBT8632-36	SWBT12532-53
Membrane Material	Permannet Hydrophilicity PTFE		
Pore Size (μm)	0.1		
Fiber ID / OD (mm)	1 / 2.3		
Effective Membrane Area (m^2)	25	36	53
Overall dimension(mm)	825*46*1560	825*46*2200	825*46*3200
Permeate Outlet	DN32		
Housing Material	ABS		
Sealant	Epoxy Resin		
Operation Temperature (°C)	4 - 45		
Recommended pH Range	0-14		
MLSS (mg/L)	5000-20000		
Design Flux (LMH)	10-40		
Backwash Flux (LMH)	1.5-2 multiple to design flux		
Max. TMP Range (Kpa)	60		
Max. backwash pressure (Kpa)	100		
Aeration (Nm^3/m^2*h)	50-100		

PTFE-MBR Flat Sheet Modules

SWBFT PTFE-MBR Flat Sheet Modules are made of highly hydrophilic PTFE membrane fiber, which have excellent chemical resistance and high hydrophilicity. With 0.2 μm filtration pore size, it has excellent retention effects on impurities such as solid particles, colloidal suspensions, and bacteria. Compared to traditional treatment processes and PVDF MBR membrane products, SWBFT PTFE-MBR Flat Sheet modules have the advantages of small footprint, better efluent quality, longer service life, and stronger chemical cleaning tolerance.

Features

① PTFE flat sheet membrane
- Excellent flux rates (porosity up to 90%), 100% recovery of permeate
- Strong anti-fouling (permanent hydrophilic)
- High physical strength and resistance to chemical and temperature

② Stable permeate quality

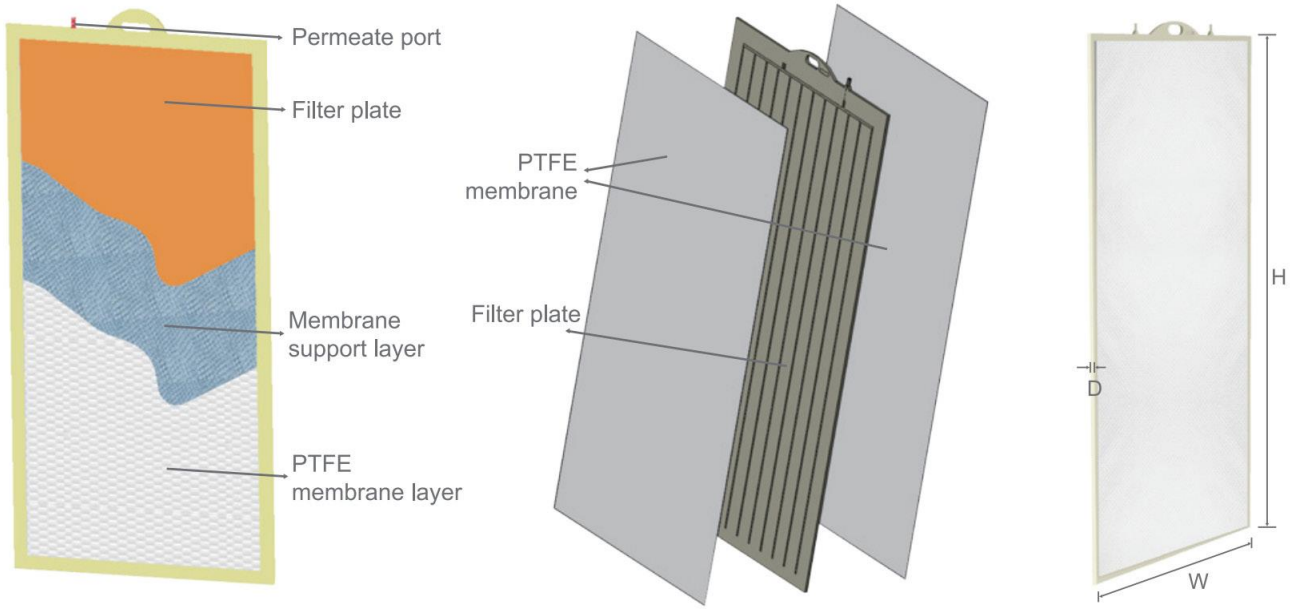
③ Simple maintenance and management
- Fully automatic process control
- Easy to flush, in-situ repalcement and cleaning with low cleaning frequency
- It is easily located, and replaced if the membrane is damaged

④ Cost saving
- Low energy consumption, low labor and maintenance cost
- Lower sludge production, and lower cost of sludge disposal
- No Back flushing or related piping and equipment required
- Simple operation process, and significantly smaller footprint

Applications

- Municipal waste water
- Residential wastewater
- Pharmaceutical, electroplating wastewater
- Power plant waste water
- Steel processing wastewater
- Printing and dyeing wastewater
- Agricultural product processing waste water
- Landfill leachate

PTFE Flat Sheet Membrane Modules Specifications



Membrane Elements Model	SWBFT3919-08	SWBFT6819-15
Effective Membrane Area (m^2)	0.8	1.5
Size: W*H*D (mm)	490 × 1,000 × 7	490 × 1,750 × 7
Weight (kg)	3.2	5.5
Pore Diameter (μm)	0.2	
Membrane Material	PTFE	
Lining Plate Material	ABS	
Filtrated Mode	Negative Pressure Suction, Continous Aeration	
Flux[Litre/(Pc.Day)]	300-600	600-900
Aeration Volume [Litre/(Pc.Min)]	≥10	≥10
pH	1-14	
Permeate Turbidity (NTU)	≤ 0.2	
Permeate SS (mg/L)	≤ 1	

UF Project Cases

10000 m³/d Henan Iron and Steel Plant Water Reuse Project

Project Site: Henan, China

10,000 m³/d Potable Water Project — UF Containerized System

Project Site: Malaysia

7,200 m³/d Boiler Water Project for Alumina Plant

Project Site: Guizhou, China

5500 m³/d Industrial Wastewater Project in South Africa

Project Site: South Africa

3,600 m³/d Semiconductor Ultrapure Water Project

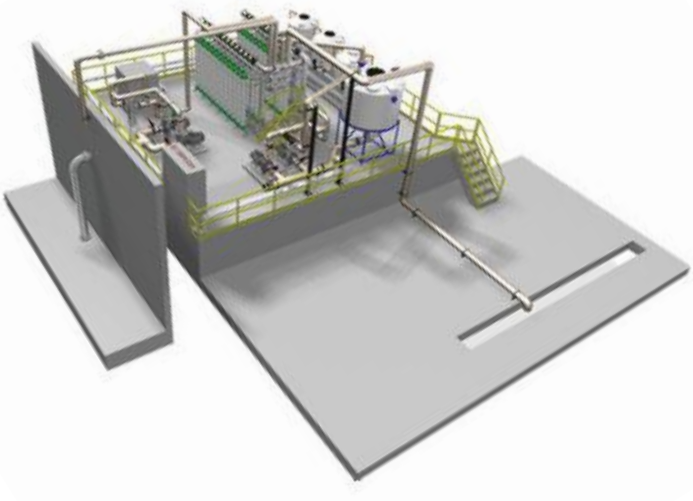
Project Site: Shandong, China

3,000 m³/d Textile Dyeing Wastewater Project

Project Site: Taiwan

3,000 m³/d Textile Reject Water Recycling Project

Project Site: Morocco



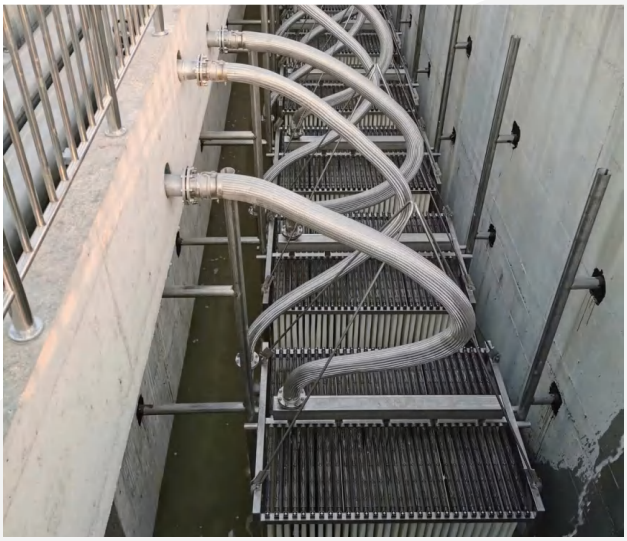
MBR Project Cases

6500 m^3/d Coal chemical Wastewater Treatment Plant in Xinjiang

Project Site: Xinjiang, China

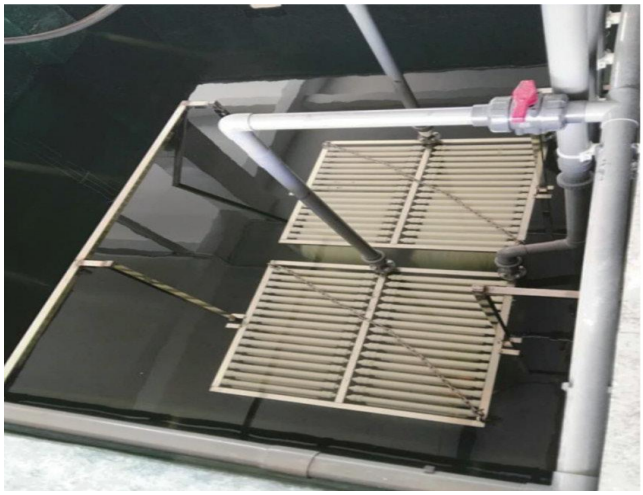
7500 m^3/d Dangyang Sewage Factory Treatment Project

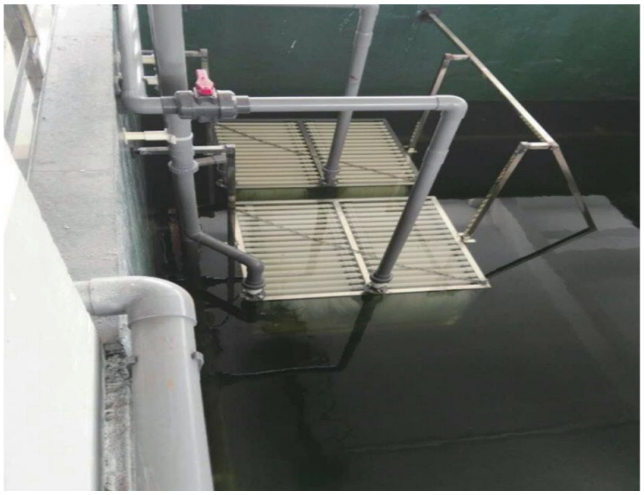
Project Site: Hubei, China



5,000 m³/d Electroplating Wastewater MBR Project

Project Site: Guangdong, China





3,000 m³/d Palm Oil Mill Effluent MBR Project

Project Site: Malaysia

10, 000 m^3/d Electronic Wastewater MBR Project

Project Site: Jiangxi, China

2, 000 m^3/d Municipal Sewage Treatment MBR Project

Project Site: South Africa

500 m³/d Hotel Wastewater MBR Integrated System

Project Site: Caribbean

1,000 m³/d Landfill Leachate MBR Project

Project Site: Anhui, China

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