



SRP HYDROFLO SERIES

Submerged MBR
Membrane Modules



PRODUCT DESCRIPTION

Membrane Material	PES
Membrane Configuration	Flat Sheet
Nominal Membrane Pore Size	0.04 μm

TECHNICAL INFORMATION

Backwash Flux	15~30 L/m ² h
CIP Frequency	Variable
Chemical Cleaning	NaOCl / Citric acid

CASSETTE SPECIFICATIONS

Cassette Model	Cassette Dimension (L x W x H) (mm)	Total Filtration Area (m ²)	Suitable for Flow (KLD)	Membrane Module	No. of Modules	Air Scouring Rate (Nm ³ /hr)
SRP HYDROFLO 50	700 x 600 x 1450	50	25 - 30	SRP HF50	1	30 - 35
SRP HYDROFLO 100	1250 x 1110 x 1350	100	50 - 60	SRP HF100	1	60 - 70
SRP HYDROFLO 200	1250 x 1100 x 2250	200	100 - 120	SRP HF100	2	60 - 80
SRP HYDROFLO 500	1550 x 1100 x 2750	500	250 - 300	SRP HF500	1	90 - 115
SRP HYDROFLO 1000	1550 x 2200 x 2750	1000	500 - 600	SRP HF500	2	180 - 230
SRP HYDROFLO 2000	2750 x 3200 x 3100	2000	1000 - 1200	SRP HF500	4	360 - 460

OPERATING CONDITIONS

Typical Filtrate Flux	15~30 L/m ² h
Maximum TMP	2 ~ 10 kPa
CIP Chlorine Concentration	5000 ppm
Operating Temperature	5~40 °C
Operation Mode	Suction filtration or gravity
pH Range	2~12

SALIENT FEATURES

Exceptional Effluent Quality With Optimal Space Utilization: SRP HYDROFLO series offers an advanced wastewater treatment solution that produces a superior and cleaner effluent compared to traditional systems. Thanks to its high packing density, it achieves this while occupying a significantly smaller footprint.

Comprehensive Access Through Innovative Module Design: SRP were the pioneers in introducing flat-sheet membrane-based MBR modules with enhanced accessibility with smart module design in all directions. The open design significantly reduces the formation of dead zones where braiding and sludge tend to accumulate.

Significantly Reduced Cleaning Requirements: The membrane stack offers easy access for cleaning and maintenance, enabling a more comprehensive cleaning process and longer intervals between cleanings. Modules can be cleaned in place without the need for a separate cleaning tank. The SRP FS-MBR membrane laminate combines the benefits of both flat sheets and hollow fiber membranes, allowing efficient backwash and increased durability.

Retro-Fitted Diffused Aeration System: With its unique design, the specially engineered diffusers produce fine air bubbles, resulting in energy savings and ensuring a steady crossflow between the membrane laminate sheets. The utilization of fine bubble aeration systems enhances the efficiency of oxygen transfer compared to coarse bubble systems.

Easy Module Configurations and Arrangements: SRP HYDROFLO series are composed of one or multiple membrane cassettes. This modular setup makes SRP FS-MBR a flexible solution suitable for wastewater treatment plants of various sizes, from small to large.

APPLICATIONS

Industrial Wastewater: Suitable for wastewater generated from Petrochemical, Steel, Textile, Semiconductor and other Industrial applications.

Upgradation of Old Water & Wastewater Systems: Appropriate solution for improving water quality and throughput capacity without additional infrastructure.

Municipal Wastewater Treatment: Effective removal of suspended solids and biological contaminants.

Laundry Wastewater: High rejection rates for micropollutants such as surfactants and detergents.

ADVANTAGES

Membrane Versatility: Customizable pore size and surface morphology.

High Organic Load Capacity: Effective for high COD/BOD levels.

SPECIAL NOTES

The design is based on a plug and play type.

Skids are preassembled and includes the Membrane Modules, SS Skid, Permeate Header and Air Diffusers.

These are our standard models and skid sizes can be customized as per site conditions.





SRP Membranes

Head Office: 70, Industrial Area, Phase - I, Panchkula, Haryana, India - 134113

International Office: Saif Office Q1-06-026/B, P.O. Box 513994, Sharjah - U.A.E.

 : crm@srpepl.com / info@srpepl.com

  : +91 9056526208 / +91 9875955948 / +91 9875955949

www.srpmembranes.com / www.srparyavaran.com



SRP HI-FLO SERIES

Submerged MBR
Membrane Modules



PRODUCT DESCRIPTION
TECHNICAL INFORMATION

Membrane Material	PTFE
Membrane Configuration	Flat Sheet
Nominal Membrane Pore Size	0.02 μm

Backwash Flux	15~30 L/m ² h
CIP Frequency	Variable
Chemical Cleaning	NaOCl / Citric acid

CASSETTE SPECIFICATIONS

Cassette Model	Cassette Dimension (L x W x H) (mm)	Total Filtration Area (m ²)	Array Design (H x V)	Suitable for Flow (KLD)	Air Scouring Rate (Nm ³ /hr)
SRP HI-FLO 10	645 x 340 x 1250	10	1X1	4-5	10-12
SRP HI-FLO 20	645 x 340 x 1825	20	1X2	8-10	10-12
SRP HI-FLO 40	645 x 550 x 1825	40	1X2	15-20	20-25
SRP HI-FLO 80	645 x 970 x 1825	80	1X2	35-40	40-50
SRP HI-FLO 120	645 x 970 x 2400	120	1X3	50-60	40-50
SRP HI-FLO 160	1190 x 970 x 1825	160	2X2	65-80	80-100
SRP HI-FLO 240	1190 x 970 x 2400	240	2X3	100-120	90-110
SRP HI-FLO 320	1190 x 970 x 2970	320	2X4	100-120	100-110
SRP HI-FLO 400	1190 x 970 x 3540	400	2X5	160-200	110-120
SRP HI-FLO 480	1190 x 970 x 4110	480	2X6	200-250	120-130

OPERATING CONDITIONS

Typical Filtrate Flux	15~30 L/m ² h
Maximum TMP	2 ~ 10 kPa
CIP Chlorine Concentration	5000 ppm
Operating Temperature /	5~40 °C
Operation Mode	Suction filtration or gravity
pH Range	2~12

SALIENT FEATURES

PTFE membrane material: PTFE has highest chemical stability and no adhering surface properties. SRP Flat sheet membrane can tolerate strong acid, alkali and oxidant cleaning, and offers better cleaning effect and stronger anti-fouling capacity.

Permanent hydrophilic property: The proprietary technology endows SRP Flat Sheet membrane permanent hydrophilic property.

Gravity Filtration Membrane: SRP PTFE membrane made by biaxial stretching process, has a porosity above 85% and generates rather low filtration resistance (with common flux, the TMP is low than 0.5m water head), which makes gravity filtration possible (non-pup filtration).

Cassette Structure: SRP Flat sheet membrane module adopt openings at both the lower and upper ends, effectively avoiding twinning of hair and paper fibers in wastewater.

High Packing Density: SRP Flat sheet membrane modules adopt unique multi-layer cassette structure, significantly improves packing density.

Superimposed arrangement-energy saving & effective: SRP Flat sheet membrane modules are designed for forming multi-layer “stack over” structure, substantially reducing the total footprint, significantly lowering the operating aeration flow and thus cutting off at least 70% of the operating cost of conventional flat MBR.

APPLICATIONS

Petrochemical Wastewater Treatment: Feasibility of treating petrochemical wastewater to meet discharge requirements.

Oilfield Wastewater Treatment: Effective in treating alkali/surfactant/polymer (ASP) flooding oilfield wastewater.

Saline Organic Wastewater: Promising method for the treatment of saline organic wastewater.

Municipal Wastewater Treatment: Effective removal of suspended solids and biological contaminants.

ADVANTAGES

Enhanced Hydrophilicity: Surface modification results in excellent hydrophilicity and high water permeation flux.

Anti-fouling Properties: Superior anti-fouling property makes it suitable for complex wastewater streams.

Chemical Stability: Resistant to extreme pH levels, making it suitable for industrial wastewaters with varying chemical compositions.

Large cassettes are also available that are suitable for higher flows.





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SRP AEROFLO SERIES

THE MEMBRANE OF THE FUTURE

Submerged MBR
Corrugated Modules



PRODUCT DESCRIPTION

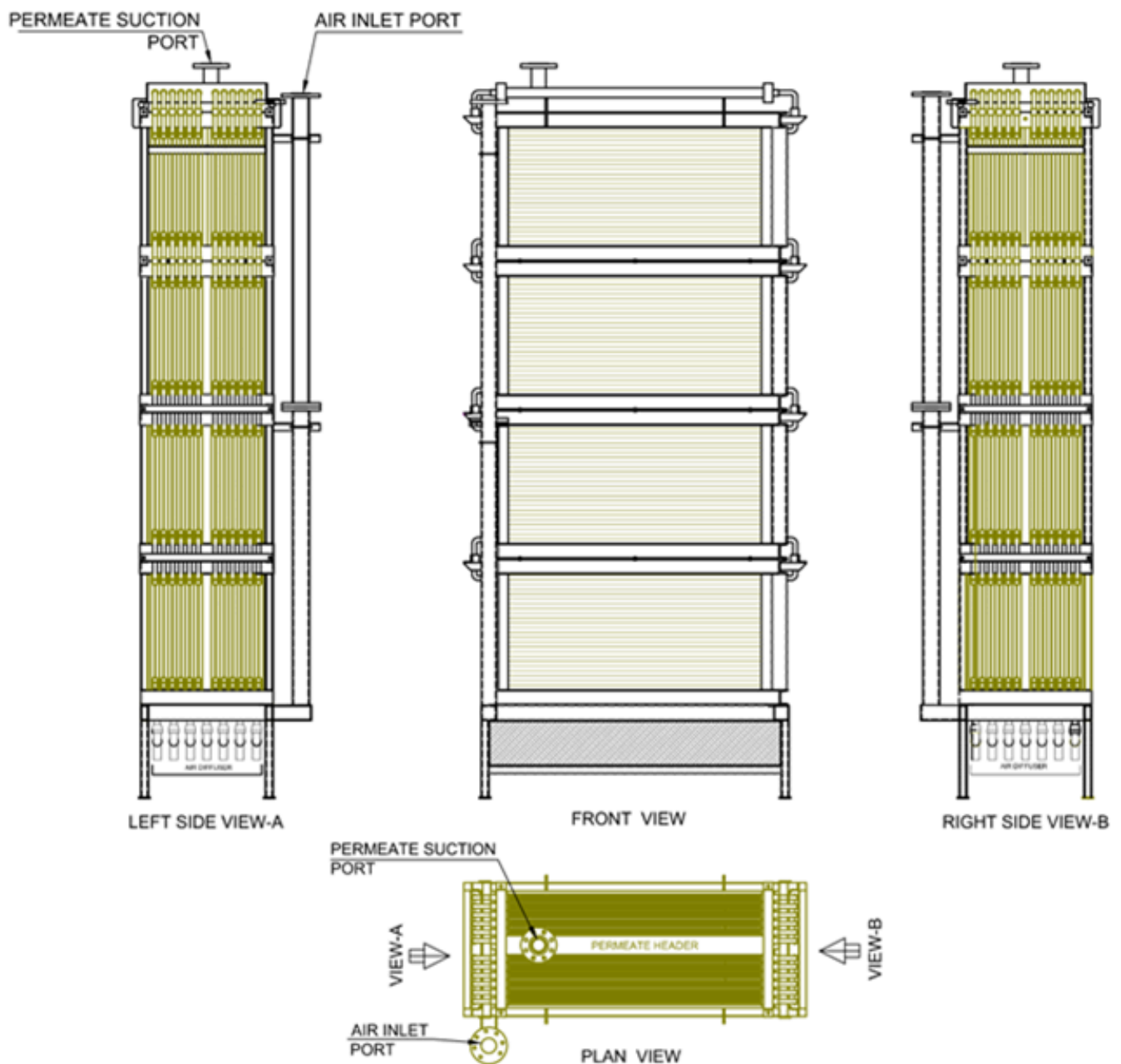
TECHNICAL INFORMATION

Membrane Material	PVDF
Membrane Configuration	Corrugated
Nominal Membrane Pore Size	0.1 μm^*

Backwash Flux	15~30 L/m ² h
CIP Frequency	Variable
Chemical Cleaning	NaOCl / Citric acid

*Note: Membrane filtration degree can be changed upon client's demand.

FLAT SHEET-CORRUGATED MEMBRANE MODULE



MEMBRANE SPECIFICATIONS

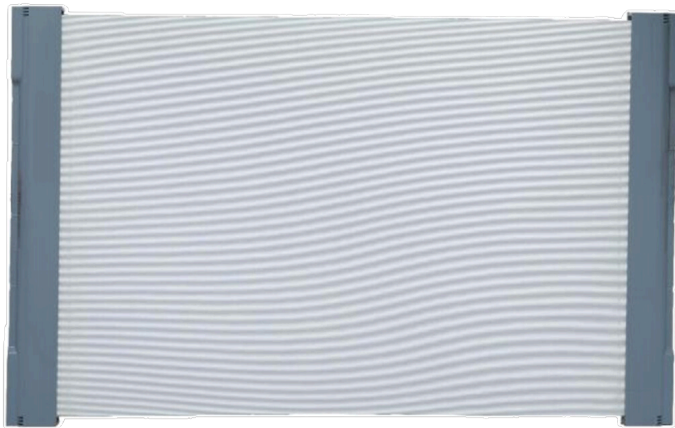
Membrane Module	SRP FC-A-6	SRP FC-B-6	SRP FC-B-8	SRP FC-C-6	SRP FC-D-6
Surface Area (m ²)	9	11	15	5	7
Leaf Per Element	6	6	8	6	6
Dimensions (L x W x H) (mm)	1220 x 760 x 44	1500 x 760 x 44	1500 x 760 x 44	750 x 760 x 44	1000 x 760 x 44
Dry Weight (kg)	7	8.1	9.6	5	7.4
Wet Weight (kg)	11	13	15	8	10

CASSETTE SPECIFICATIONS

Cassette Model	Cassette Dimension (L x W x H) (mm)	Skid Layers	Filtration Area (m ²)	Suitable for Flow (KLD)	Membrane Module	No. of Modules
SRP FC-S-C-6-10	1100 x 380 x 1263	Single	30	10	SRP FC-C-6	6
SRP FC-S-C-6-20	1100 x 605 x 1283	Single	55	20	SRP FC-C-6	11
SRP FC-S-C-6-30	1100 x 830 x 1283	Single	80	30	SRP FC-C-6	16
SRP FC-S-A-6-50	1720 x 855 x 1450	Single	117	50	SRP FC-A-6	13
SRP FC-D-B-6-100	2000 x 720 x 2250	Double	220	10	SRP FC-B-6	20
SRP FC-S-B-6-100	2000 x 1260 x 1450	Single	231	10	SRP FC-B-6	21
SRP FC-T-B-6-200	2000 x 900 x 3050	Three	462	200	SRP FC-B-6	42
SRP FC-D-B-6-200	2000 x 1260 x 2250	Double	462	200	SRP FC-B-6	42
SRP FC-T-B-6-300	2000 x 1260 x 3050	Three	693	300	SRP FC-B-6	63
SRP FC-D-B-6-300	2015 x 1800 x 2250	Double	682	300	SRP FC-B-6	62
SRP FC-F-B-6-500	2000 x 1485 x 3780	Four	1144	500	SRP FC-B-6	104
SRP FC-T-B-6-500	2195 x 1800 x 3050	Three	1155	500	SRP FC-B-6	105
SRP FC-D-B-6-500	3050 x 1800 x 2250	Double	1144	500	SRP FC-B-6	104
SRP FC-F-B-6-1000	3050 x 1800 x 3780	Four	2288	1000	SRP FC-B-6	208

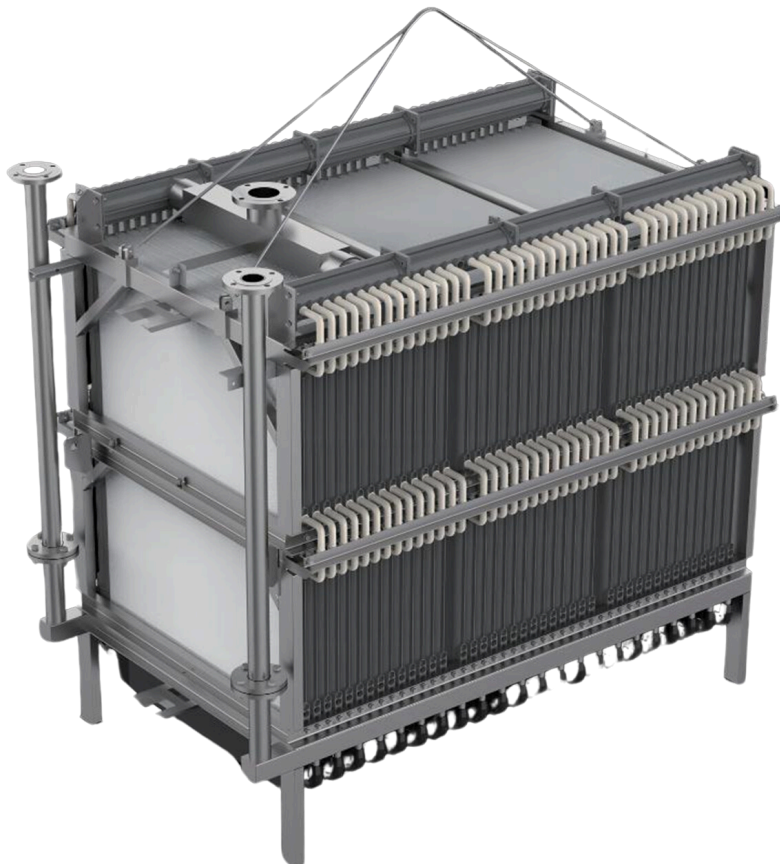
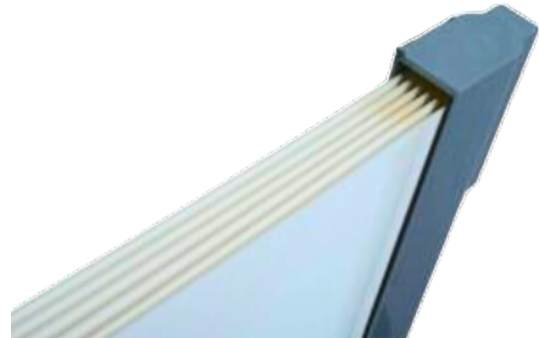
MEMBRANE STRUCTURE

SRP AEROFLO Flat Sheet Membranes are potted to combine the advantages of both flat sheet and hollow fiber designs. This innovative potting technique enhances durability and allows for higher flux rates while maintaining structural integrity, making these membranes ideal for high-performance filtration applications.



OPERATING CONDITIONS

Mode of Filtration	Negative Suction
TMP Ultimate TMP	60 kPa
Max. TMP	35 kPa
Temperature Range	5~35 °C
pH Range for Cleaning	2~11
pH Range for Operation	6~9
MLSS Range	6000 to 15000 mg/L
Back Wash Pressure	< 40kPa



SALIENT FEATURES

The corrugated flat sheet membrane, constructed from polyvinylidene fluoride (PVDF), innovates traditional flat membrane designs by integrating a wavy surface structure. This membrane, supported by a polyethylene terephthalate (PET) board, forms an independent channel system for water collection and conveyance. Each 1.6 mm thick membrane unit weighs just 0.84 kg per square meter, offering substantial weight and material savings.

- **Enhanced Load Capacity:** The corrugated design increases the membrane's load-bearing capacity to twice that of conventional flat membranes, supporting higher operational pressures and volumes.
 - **Anti-Fouling Performance:** The corrugations create localized turbulence on the membrane surface, preventing sludge and pollutants from adhering and enhancing the membrane's resistance to fouling.
 - **Energy Efficiency:** The structure significantly reduces energy consumption, achieving savings of 10-15% compared to traditional flat membranes, by minimizing resistance and improving filtration dynamics.
 - **High Loading Density:** The membrane's corrugated design allows for a larger filtration area, leading to higher water production and making it ideal for expanding existing systems.
 - **Modular Flexibility:** Its design supports easy maintenance and customization, enabling adjustments in the number of membrane elements and unit layers to meet varying operational requirements.
- **Cost-Effective Compatibility:** The membrane integrates seamlessly with existing systems without requiring modifications, offering a cost-effective solution that is less expensive than conventional flat membranes.

APPLICATIONS

- **Municipal Wastewater Treatment:** Ideal for upgrading existing facilities, it efficiently handles high volumes and reduces energy consumption while ensuring compliance with regulatory standards.
- **Industrial Effluent Treatment:** Perfect for industries with stringent wastewater discharge requirements, providing robust performance against chemical and physical contaminants.
- **Desalination Pre-Treatment:** Enhances the efficiency of desalination processes by pre-treating seawater, reducing fouling, and extending the lifespan of downstream membranes.
- **Food and Beverage Processing:** Ensures high-quality water filtration for reuse in production processes, critical for maintaining hygiene and reducing operational costs.
- **Water Reclamation Projects:** Facilitates the treatment and reuse of greywater and other non-potable water sources, supporting sustainable water management practices.





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