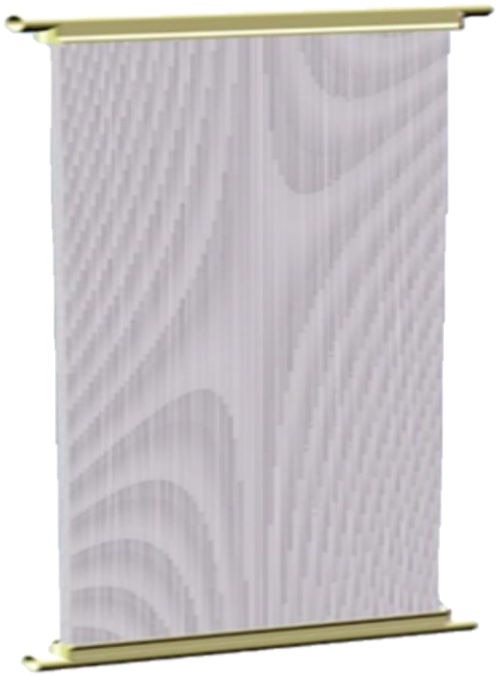
NANOSUN

Nanosun Membrane

Ti-PVDF Hollow Fibre Membrane

Product Brochure



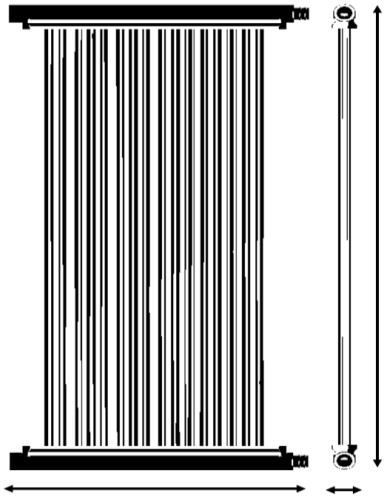
The Frontier of 3D Printing in Nanomaterial

Nanosun Pte Ltd, Singapore
120 Pioneer Road, Singapore 639597
Phone: +65-67950953 Fax: +65-67907607
Email: sales@nanosun-main.com

Principle

Nanosun hollow fiber membrane curtain modules are designed for solid/liquid separation process in a submerged configuration.

Permeate water is obtained after filtering raw water through the membranes by negative pressure suction. Particles larger than 0.1 μm are retained into membrane tank.



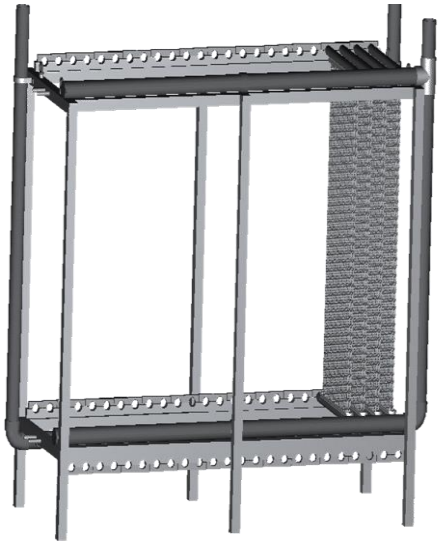
Ti-PVDF Hollow Fibre Membrane Specifications

Module Type	NSS-1000	NSS-1500	NSS-2000
Nominal Membrane Surface Area (m^2)	15	22.5	30
Height H (mm)	1120	1620	2120
Length L (mm)	600	600	600
Width W (mm)	40.5	40.5	40.5
Max Shipping Weight (kg)	9	11	13
Filtrate Pipe Port (mm)	OD 27.5	OD 27.5	OD 27.5

Nanosun Pte Ltd, Singapore
120 Pioneer Road, Singapore 639597
Phone: +65-67950953
Fax: +65-67907607
Email: sales@nanosun-main.com

Submerged Installation Design

Hollow fiber membrane curtain modules are installed vertically inside a skid or frame to support the membranes. The distribution and distances between modules has to follow specific requirements. The main objective of this arrangement is to provide sufficient circulation space around the membrane modules to ensure good upward of liquor within the inner parts of the modules and downward movement of liquor outside the modules, optimizing the circulation flow within the tank.



Hollow Fibre Membrane Features

Application	MBR, MCR, Surface Water etc.
Material	PVDF
Pore Size (μm)	0.04
Filtration Method	Submerge Suction
Maximum TMP (bar)	0.5
Operating pH	1-12
Cleaning pH	1-14
Design Flux (LMH)	8-30
Cartridge-head, skirt	ABS
Potting Material	Epoxy/PU
Module Dimensions (mm)	1120 x 40.5 x 600 1620 x 40.5 x 600 2120 x 40.5 x 600

Nanosun Pte Ltd, Singapore
120 Pioneer Road, Singapore 639597
Phone: +65-67950953
Fax: +65-67907607
Email: sales@nanosun-main.com

Hollow Fibre Module Features

24 Membrane Module Cassette				
Height (mm)	Length (mm)	Width (mm)	Membrane Surface Area (m^2)	Weight (kg)
2600	2100	700	720	500

Applications

Nanosun Hollow Fibre membranes are suitable for use in multitude of applications:

- Municipal wastewater treatment
- Industrial wastewater treatment
- Water reuse
- Drinking water treatment
- Pre-treatment of Nanofiltration (NF) /Reverse Osmosis (RO)



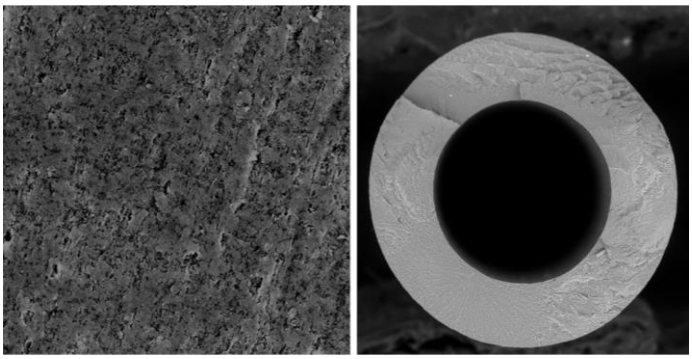



Nanosun Pte Ltd, Singapore
120 Pioneer Road, Singapore 639597
Phone: +65-67950953
Fax: +65-67907607
Email: sales@nanosun-main.com

Key Features

High Strength and Durability

Nanosun UF membrane hollow fibers have a sponge-like structure that is free of macro voids which could undermine their structural integrity.
This is achieved by using a unique TIPS method.
The result is a highly durable and high strength membrane with very few fiber breakages that can deliver a long service life and low maintenance requirements.



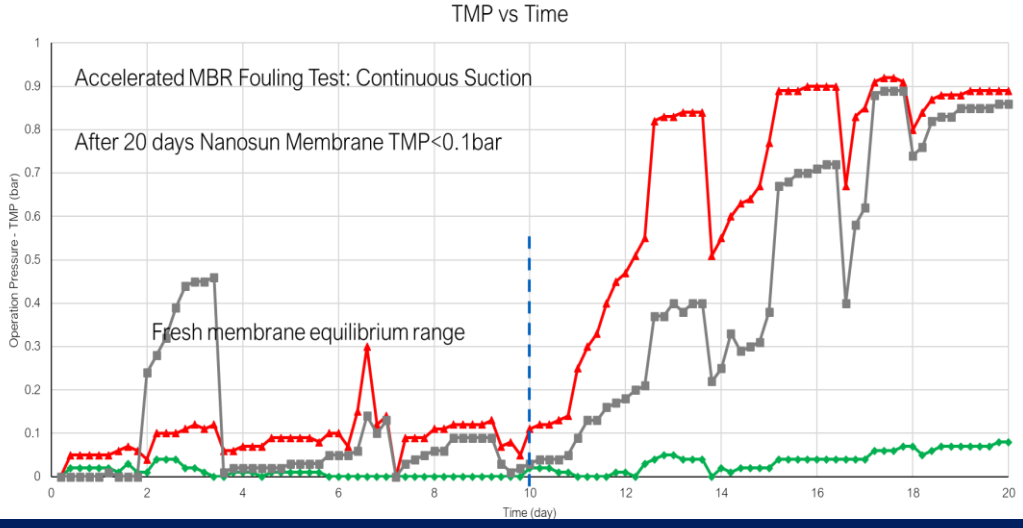
Excellent Anti-Fouling Behaviour

Nanosun UF membrane hollow fibers is coated with an anti-fouling layer on the Polyvinylidene Fluoride (PVDF) base.
This anti-fouling layer helps maintain production rate and decreases the complexity of membrane filtration operation.
Nanosun's unique addictive membrane manufacturing process, our UF membrane can achieve an excellent anti-fouling performance in comparison to others.

High Wastewater Flux

Nanosun UF membrane hollow fibers have high wastewater flux capabilities. High fluxes are desirable characteristics to reduce the membrane requirement.

Nanosun UF membrane hollow fibres offers the highest packing density compared to other type of modules. Because of this, it is ideally suited for high volume applications, occupying a small module footprint.



Nanosun Pte Ltd, Singapore
120 Pioneer Road, Singapore 639597
Phone: +65-67950953
Fax: +65-67907607
Email: sales@nanosun-main.com

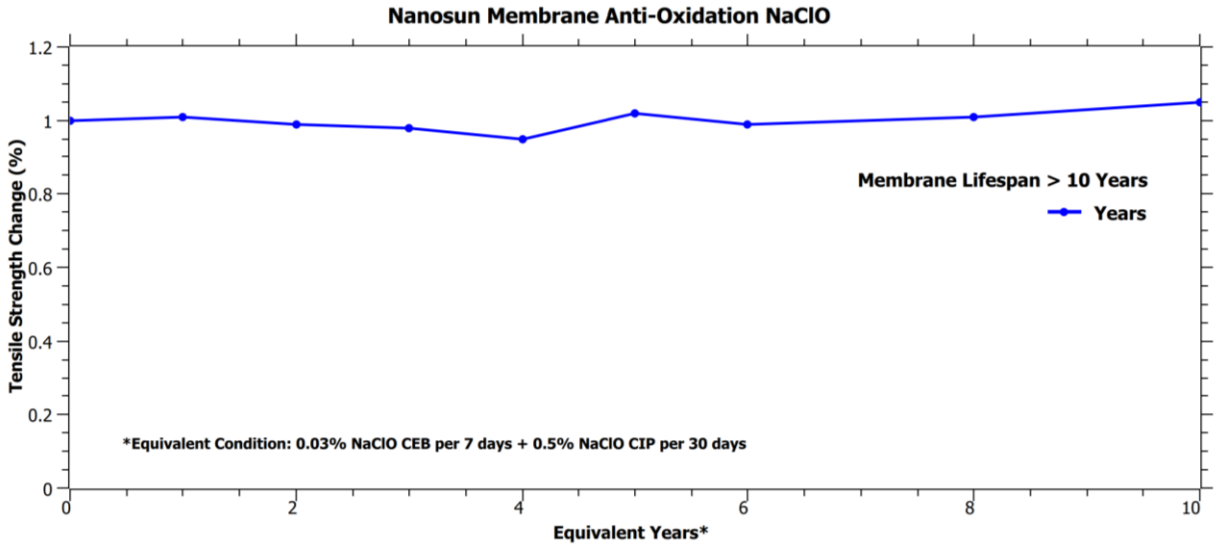
Key Features

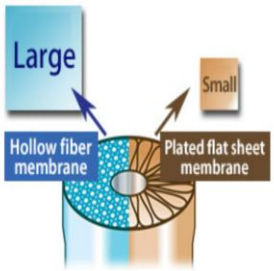
High Module Membrane Surface Area

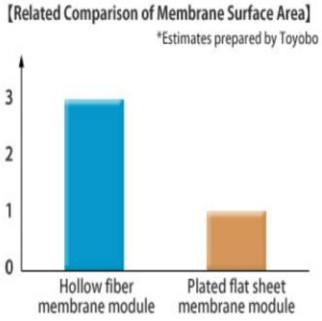
Nanosun UF membrane hollow fibres has a higher surface area than flat sheet membrane module. Therefore, high processing capacity can be expected with hollow fibre membrane modules.

Minimum Chemical Cleaning Requirement

The Nanosun UF membrane's base is made of Polyvinylidene Fluoride (PVDF) material, which has high chemical resistance. Making it extremely tolerable within an extremely wide pH range.
Minimum chemical cleaning allows slower wear-and-tear rates of chemical cleaning cycles. This can have a significant impact on membrane lifetime of more than 10 years.







Nanosun Pte Ltd, Singapore
120 Pioneer Road, Singapore 639597
Phone: +65-67950953
Fax: +65-67907607
Email: sales@nanosun-main.com

With more than 20 years of research in nano technology, the Nanosun research team has managed to incorporate various nano material into the membranes which enable the traditional membranes to possess the multifunctional features such as antifouling through self-cleaning, disinfection, degradation of organic pollutants and energy production.

Nanosun Pte Ltd, Singapore

120 Pioneer Road
Singapore 639597
Tel: (65) 6795 0953
Fax: (65) 6790 7607
Website: nanosun-main.com
Singapore ǁ Jakarta ǁ Beijing ǁ Hong Kong ǁ Xi'an ǁ Sydney