Tritech® PoraMax™ Ultrafiltration Hollow Fiber Membrane

A Host of Latest Water Membrane Technologies




Introduction

Tritech® PoraMax™ Ultrafiltration Hollow Fiber Membrane

PoraMax™ UF hollow fiber membrane modules from Tritech (Singapore) Water is the preferred choice for treating and/or purifying various water resources including drinking water, industrial water and municipal effluent water, and is an excellent alternative for the pretreatment of seawater in desalination. Our UF membranes are also suitable for various separation processes such as biopharmaceutical, food and beverage, chemical, oil and gas, power generation, cooling water, environmental, etc. We have the capability to provide professional technical support that includes in-house design consultation, selection of optimal process flow and after sales support to our customers.

The reliable and advance **PoraMax**™ UF hollow fiber membranes are developed using a specially formulated Non-solvent Induced Phase Separation (NIPS) by our exceptionally dedicated R&D team of Tritech (Singapore) Water Institute membrane experts, scientists and its China subsidiary. Such high performing UF hollow fiber membranes are complimented by effective and reliable pressure vessel membrane modules also solely developed by Tritech (Singapore) Water Institute. The supply of our membrane modules is also ensured with the commissioning of our new membrane manufacturing plant in Qingdao, China, in 2012.

Tritech is committed to its customers worldwide by providing cost-effective, reliable and sustainable solutions with its innovative and customer-centered UF systems. Tritech Water is dedicated to ensure sustainable water resource and protect our precious environment by becoming a world leader in water and wastewater treatment with the supply of cost-effective and advanced membrane technologies.

Product features and benefits

- *Excellent quality product water*

  PoraMax™ UF hollow fiber membrane module utilizes membrane made from materials (PVDF, PS, PVC, PAN) depending on customer needs, and is capable of producing product water of reliable and consistent quality.

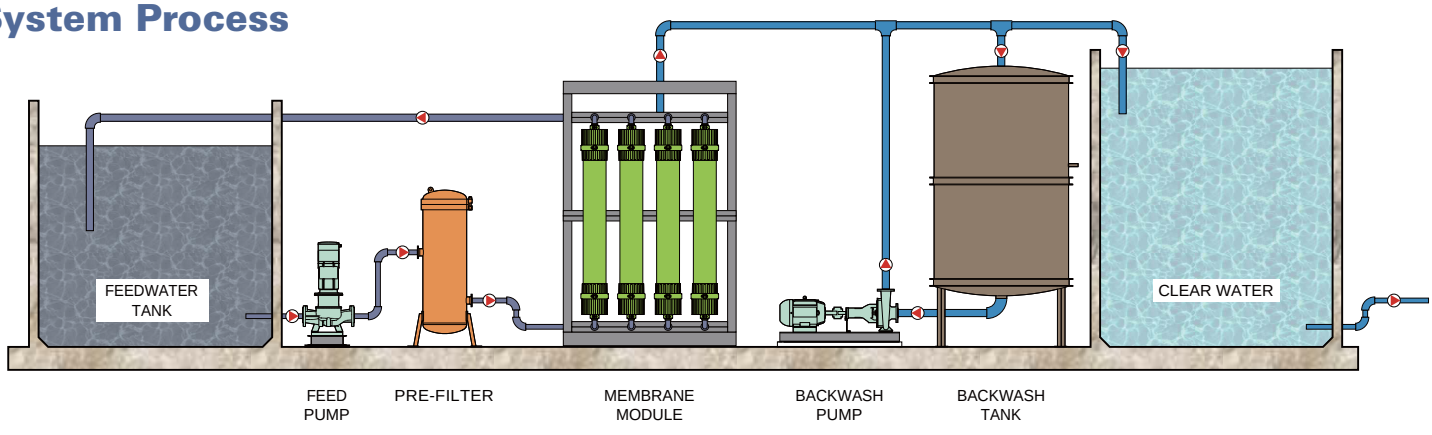
- *Compact design and low energy consumption*

  With its efficient separation and high flux characteristics, small footprint can be achieved. Low filtration resistance dictates lower energy consumption.

- *Ease of maintenance*

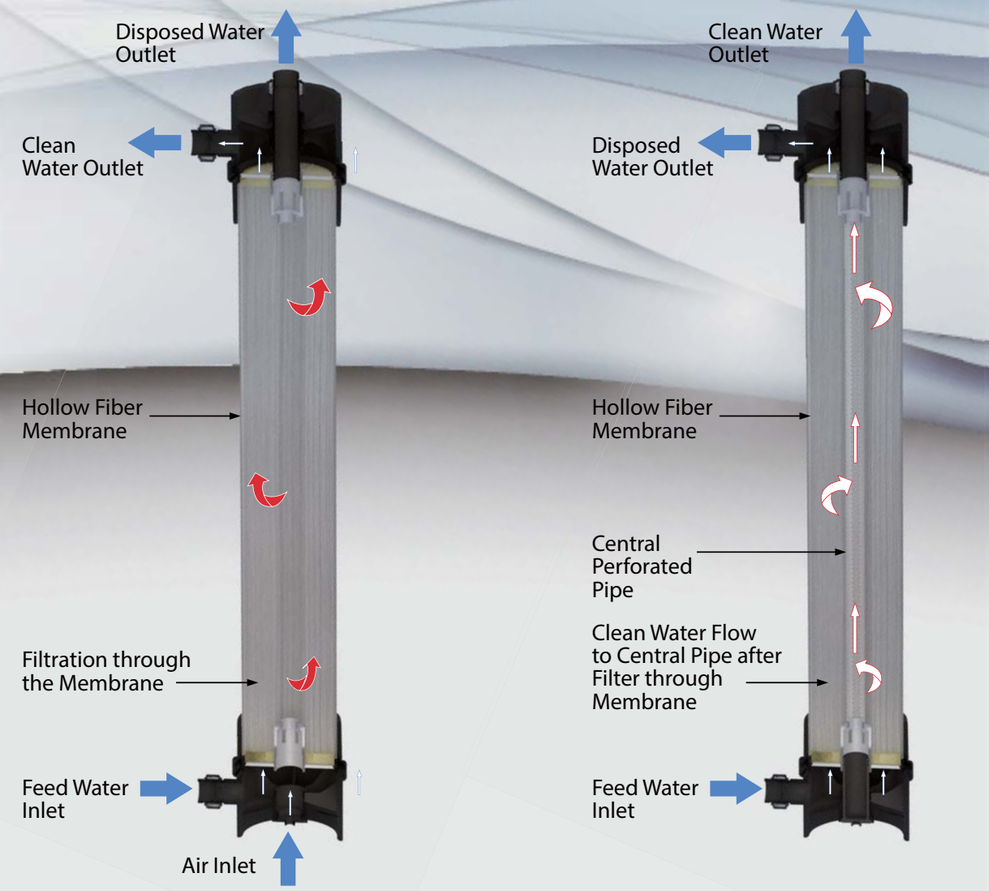
  Minimal maintenance personnel required with full automation on system backwash and chemical-clean-in-place (CIP).

System Process



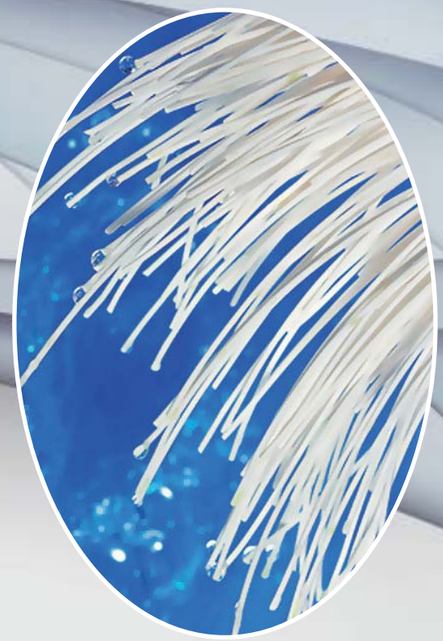
Using the latest and most advanced PoraMax® UF hollow fiber membrane module technology for your water treatment needs.

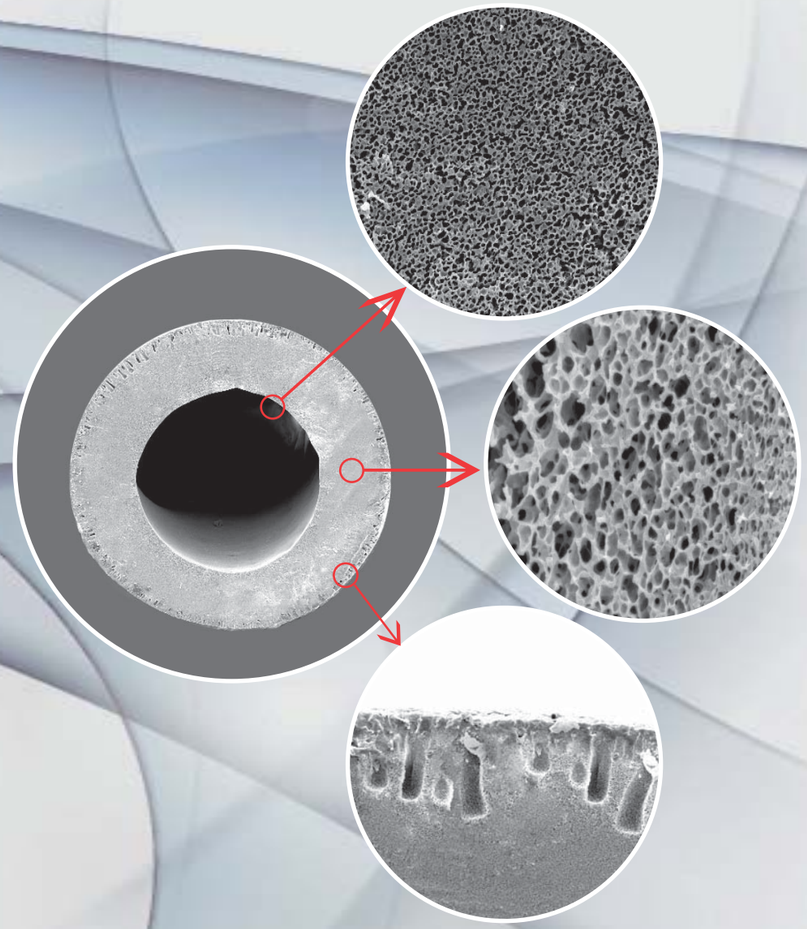
Schematic Diagram of Filtration Method



(a) Outside-In Filtration

(b) Inside-Out Filtration





Application

Broad range of application for the treatment of water and wastewater from:

1. Pretreatment for seawater RO or NF desalination
2. Drinking water purification
3. Surface water purification
4. Ground water purification
5. Municipal wastewater/effluent water purification and reuse
6. Industrial wastewater treatment
7. Water recycling and resource recovery

PoraMax™ UF hollow fiber membrane features

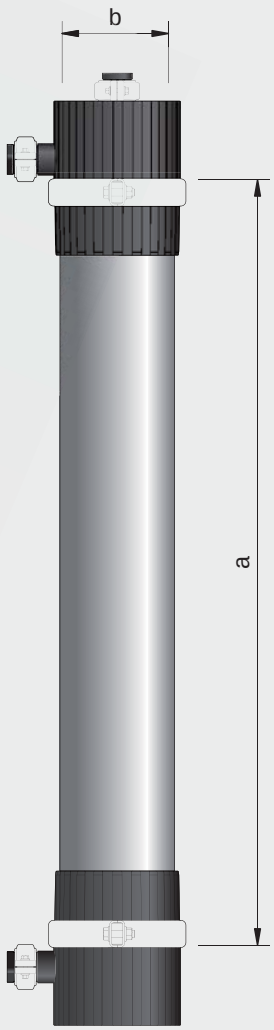
- *High performance*

  High and stable permeate flux and excellent separation capability at low operating pressure.
- *High reliability*

  Narrow pore size distribution guarantees excellent treated water quality. Careful selection of membrane materials provides exceptional chemical compatibility and durability with enhanced tolerance to cleaning chemicals.
- *High mechanical strength*

  Membrane is made tougher to abate breakage under harsh environment.
- *Long lifespan*

  Longer service life reduces maintenance and replacement frequency.



Single Membrane Module Diagram with Specifications Table

Module Type			STMUF0909I/O	STMUF1615I/O	STMUF2215I/O	STMUF2220I/O	STMUF2515I/O
Membrane	Membrane Area, Inside-Out Configuration^	m^2	6.5	25	33	45	40
	Membrane Area, Outside-In Configuration^	m^2	8	30	40	55	48
	Fiber ID/OD	mm	Please refer to individual specification sheet for further details				
	Pore Size	µm	0.01 – 0.08 (depending on membrane material and customer requirement)				
Operating Condition	Filtration Mode		Inside-Out / Outside-In				
	Designed Flux, Inside-Out Configuration*	m^3/d	4.5-14	18-55	24-75	32-102	29-92
	Designed Flux, Outside-In Configuration*	m^3/d	3-21	11-82	15-113	20-153	17-138
	Max. Transmembrane Pressure (TMP)	kPa	300				
	Operation Temperature	°C	10 - 40				
	pH Range **		1 - 12				
Material	Membrane Material		PVDF , PS , PVC , PAN				
	Module Material		uPVC				
	Potting Material		Epoxy/Polyurethane Resin				
Connection	Pipe Connection		DN25	DN40, Air inlet G3/8			
Module Dimensions	Length, a	mm	1000	1500	1500	2000	1500
	Diameter, b	mm	90	160	225	225	250

^ Please refer to individual specification sheet or contact Tritech Water for further information.

* Designed flux varies depending on feed water quality or system design basis. Please consult Tritech Water for further information.

**Above specified pH range may be exceeded during chemical cleaning. Please refer to operation manual for further information.

TriTech

Tritech (Qingdao) membrane production plant

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