

Membrane is working everywhere



**LIST**

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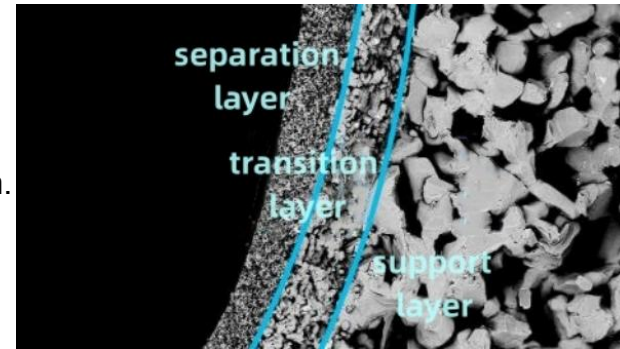


## INTRODUCTION OF TUBULAR MEMBRANE

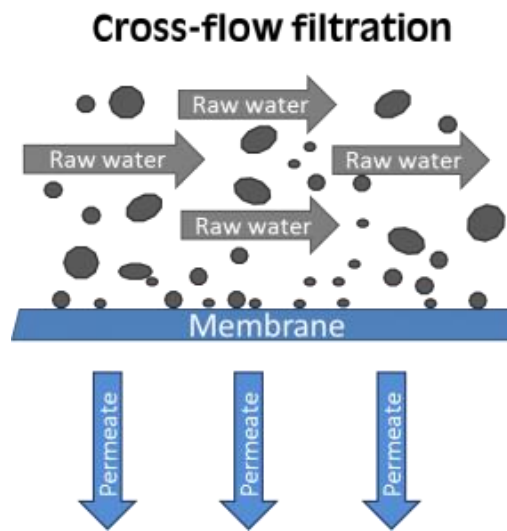
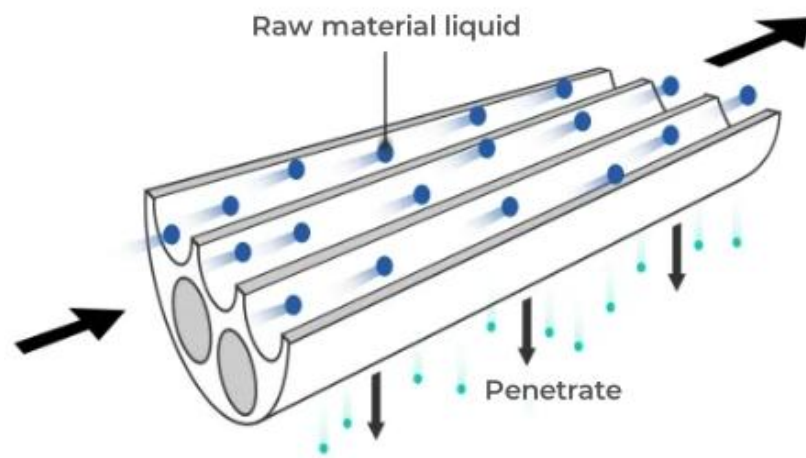
SiC tubular membrane is formed by high-temperature as 2400°C sintering using recrystallization technology.

The porous support layer, transition layer, and Microporous membrane layer are asymmetrically distributed, with a filtration accuracy of 0.04~0.1µm.

A tubular membrane filtration system is a fluid separation process called "cross-flow filtration".



The raw material liquid flows at high speed in the membrane tube. Under pressure driving, the clear permeate containing small molecular components penetrates the dense layer of the membrane in the vertical direction, and the turbid concentrate containing large molecular components is intercepted to realize the purpose of fluid clarification, separation, concentration and purification.



## CHARACTERISTIC

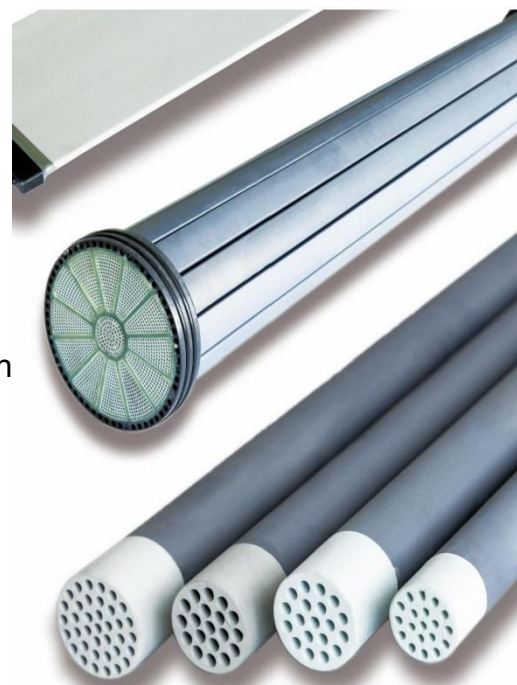
The sintering temperature is 2400°C, the porosity is higher than 45%, the filtration channel connectivity is strong, the silicon carbide material is naturally hydrophilic (contact Angle is only 0.3°), the pure water flux is as high as 320OLMH, and the hydrophilic oil is phobic.

The isoelectric point of the silicon carbide membrane

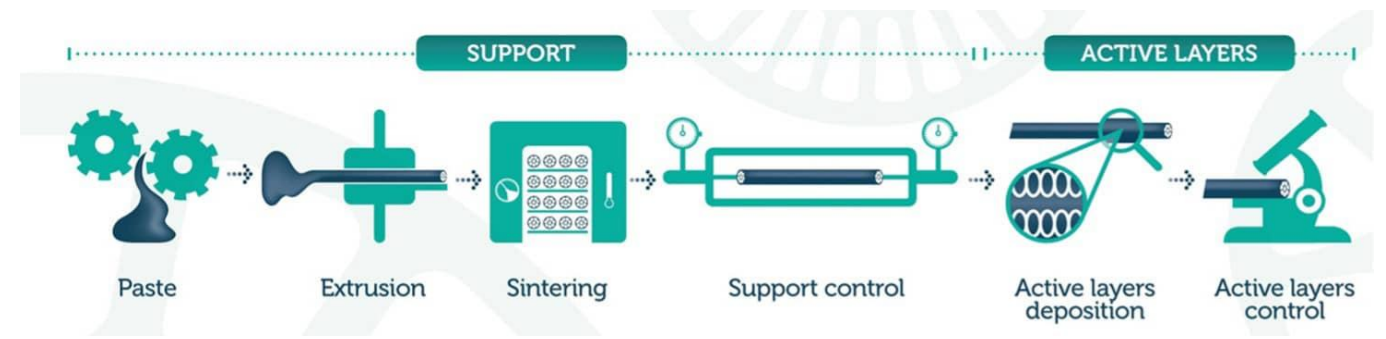
is near pH3, and the surface of the membrane can maintain negative charge in a wide pH range, which improves the pollution resistance.

Excellent chemical stability, can work in extreme environments pH1~14, can be developed according to the characteristics of pollution factors rich cleaning programs;

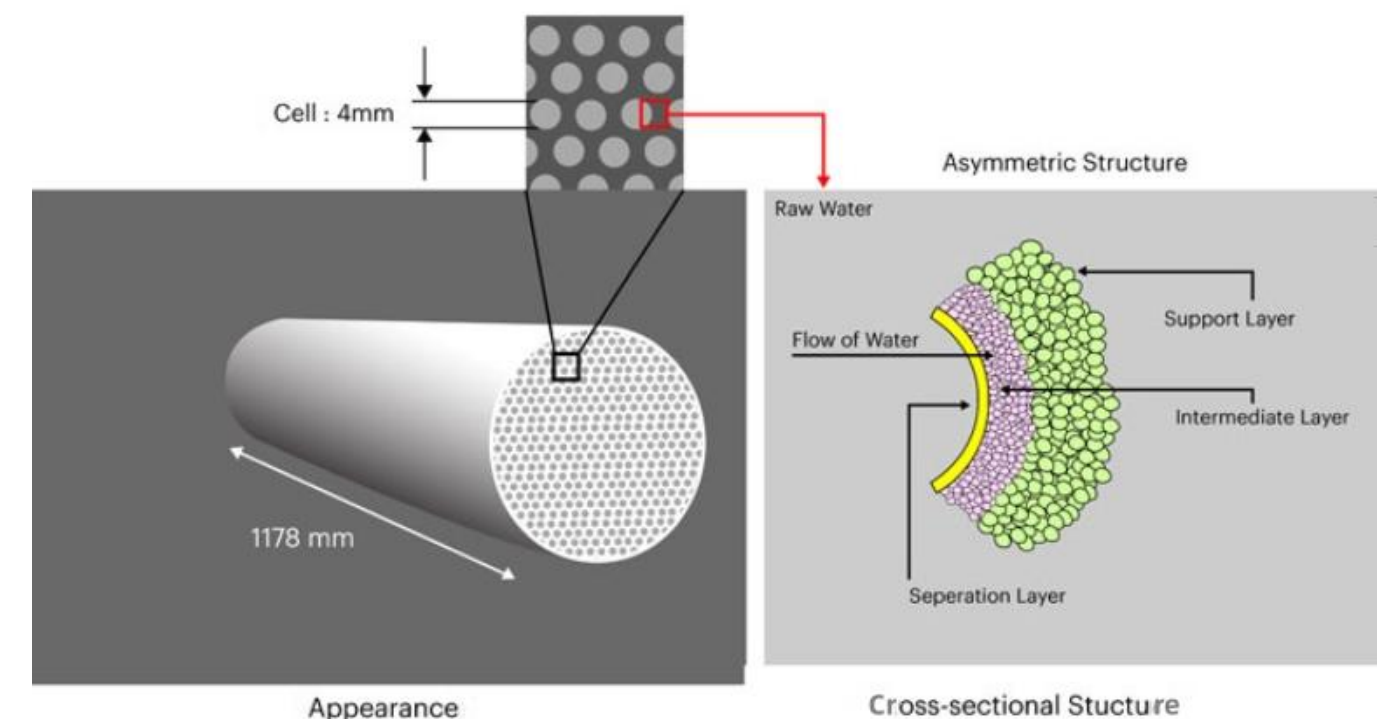
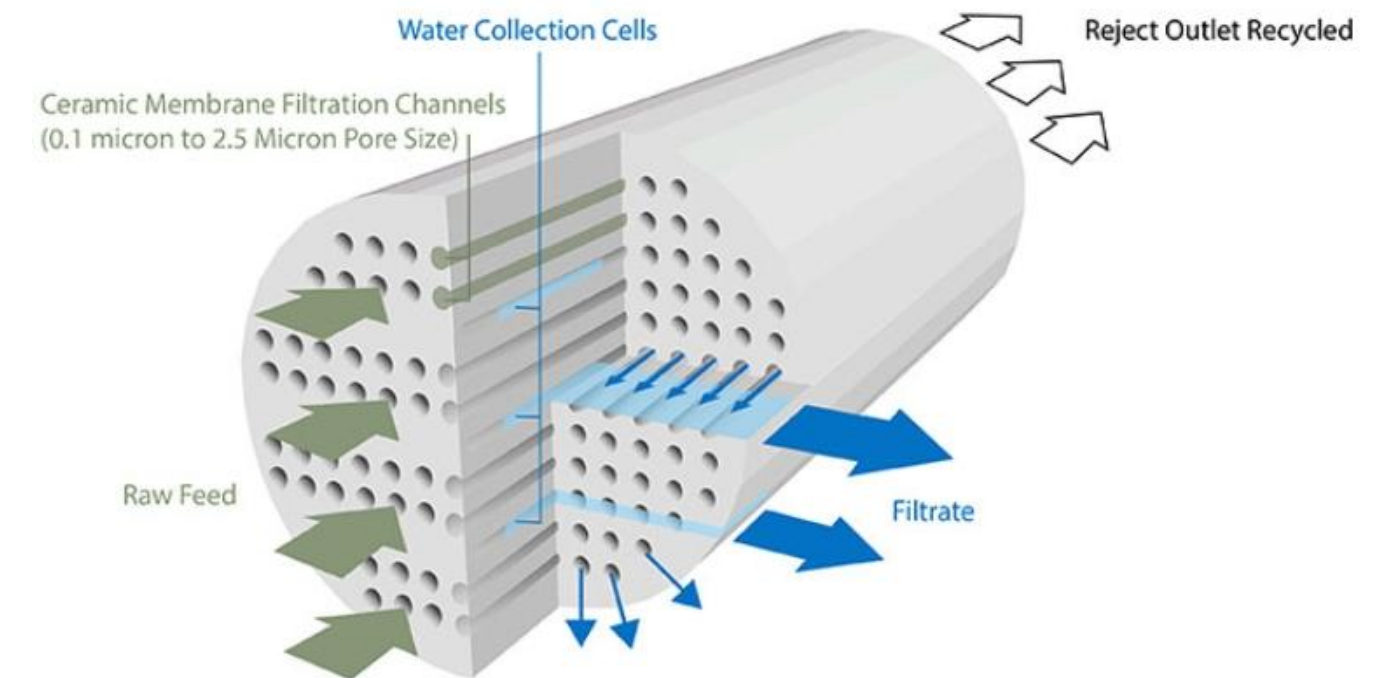
Full tolerance of oxidants, including ozone and hydroxyl radicals.



## PRODUCTION PROCESS



## HOW TUBULAR MEMBRANES WORK



## SILICON CARBIDE TUBULAR MEMBRANE AND COMPONENTS



Multi-diameter, porous type optional.



The number of membranes loaded is 1, 5, 7, 19, 37, 61, 91.

## PRODUCT PARAMETER TABLE

Model	LIST-G30-19	LIST-G40-19	LIST-G40-37	LIST-G200-2.5	LIST-G200-3
Channel diameter	φ4	φ6	φ4	φ2.5	φ3
Length (mm)	1000	1200	1200	1200	1200
Membrane area (m <sup>2</sup> )	0.24	0.43	0.56	15.1	13.6

## COMPARISON OF PERFORMANCE ADVANTAGES

Name	SiC membrane	Polymer membrane	Al <sub>2</sub> O <sub>3</sub> ceramic membrane	Metallic membrane
Carrier material	100% SiC	Polymer material	Oxide	metal support
Filter layer material	100% SiC	PS/PVC/PAN/PVDF/PES	Oxide	Oxide loading
Hardness	High	Low	High	High
Operating pressure	1-2 bar	1-2 bar	3-4 bar	4-6 bar
Pure water flux	3~4m <sup>3</sup> /m <sup>2</sup> .h	0.08~0.12m <sup>3</sup> /m <sup>2</sup> .h	0.25~3m <sup>3</sup> /m <sup>2</sup> .h	0.25~0.5m <sup>3</sup> /m <sup>2</sup> .h
Temperature resistance	800°C (Air)	<40°C	<300°C	<300°C

## APPLICATIONS

Drinking water, seawater, freshwater pretreatment, river water purification, wastewater treatment; Separation, concentration and purification of dairy products, food, beverages and pharmaceuticals; Oil, natural gas, shipbuilding, chemical industry, papermaking, power plant filtration, etc.



Water Purification



Waste Water Treatment



Gas Purification



Biological Medicine



Food and Beverage



Chemical Industry

## APPLICATION CASE



### ALKALINE WASHING WASTEWATER

<b>Waste Water</b>	Alkaline washing wastewater
<b>Capacity</b>	500 tons /day
<b>Process</b>	Alkaline washing water treatment and reuse
<b>Characteristics</b>	Alkali content 5%, water temperature 75°C
<b>Avantages</b>	High alkali high temperature treatment



### PICKLING WASTEWATER

<b>Waste Water</b>	Pickling wastewater
<b>Capacity</b>	1200 tons /day
<b>Process</b>	Pickled water treatment and reuse
<b>Characteristics</b>	3% acid content, oil, heavy metals
<b>Avantages</b>	Strong acid resistance



### OILY WASTEWATER FROM A PETROCHEMICAL

<b>Waste Water</b>	Oilfield produced water
<b>Capacity</b>	1500 tons /day
<b>Process</b>	Produced water treatment reuse
<b>Characteristics</b>	Oil in water
<b>Avantages</b>	Oily wastewater treatment



## SPECIFICATIONS FOR SIC TUBULAR MEMBRANES

MF/UF	Material	Pore Size	Pure water flux (m <sup>3</sup> /m <sup>2</sup> .h) at 1.5 bars, 28°C
<b>Microfiltration (MF)</b>	Both support layer and MF layer are silicon carbide	1000 nm	7
		500 nm	5
		100 nm	2.2
<b>Ultrafiltration (UF)</b>	Both support layer and UF layer are silicon carbide	40 nm	0.8

### SAMPLES ARE AVAILABLE, WELCOME TO REQUEST

Model	Outer Diameter (mm)	Channel No.	Channel Diameter (mm)	Length (mm)	Membrane area (m <sup>2</sup> )
<b>SiC 1</b>	25	19	3	1178	0.21±5%
<b>SiC 2</b>	30	19	4	1016	0.24±5%
<b>SiC 3</b>	40	19	5.6	1500	0.58±5%
<b>SiC 4</b>	40	37	4	1200	0.56±5%
<b>SiC 5</b>	46	61	4	1230	0.92±5%
<b>SiC 6</b>	50	61	3.76	1500	1.21±5%
<b>SiC X</b>	Contact Tina for more model specifications.				

