

SILICON CARBIDE CERAMIC TUBULAR MEMBRANES

Silicon carbide ceramic membrane is a high precision microfiltration & ultrafiltration grade membrane separation product made of high purity silicon carbide fine powder through recrystallization sintering technology.

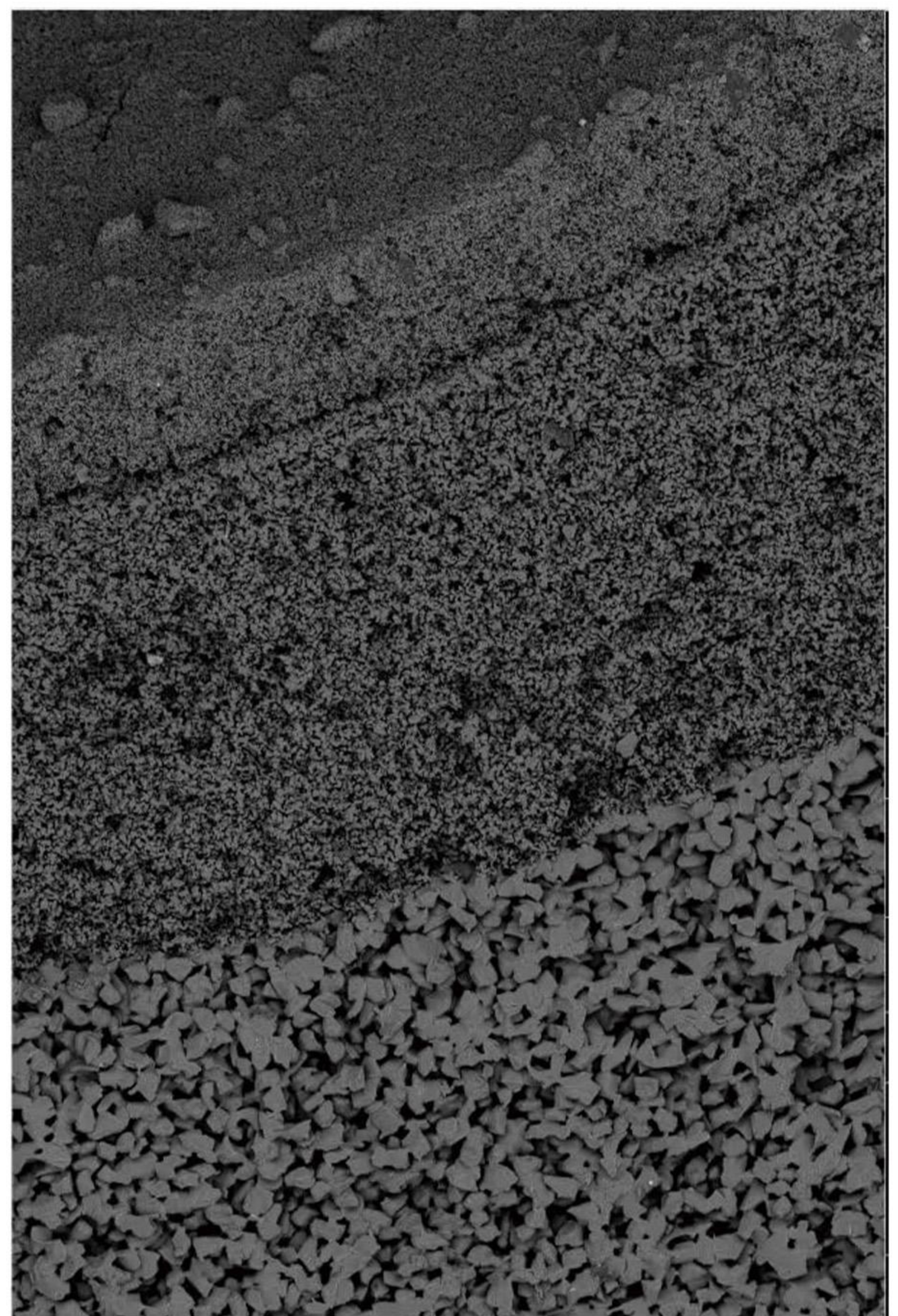
It has high flux, high corrosion resistance, easy cleaning, and long service life.

At present, the highest filtration precision can reach 20nm. It uses unique design and manufacturing processes to combine inert silicon carbide materials and screened non-ceramic materials to form the inherently strong and durable membrane. This guarantees its long term service and durability in harsh environments.

It uses equivalent or lower investment cost compared to organic ultrafiltration membranes to create SiC inorganic ultrafiltration products that are more reliable, easier to operate, and have longer service life, meanwhile, achieve the lowest total life cycle cost in the long time service.

Product Features and Advantages

- ★ High flux, 3-10 times higher compared to organic membranes;
- ★ Small footprint, saving land;
- ★ Water consumption for backwashing is reduced by more than 50%;
- ★ Chemical tolerance, capable of working in pH 0-14 environment, acid and alkali resistant;
- ★ The service life is 2-10 times longer than the organic membranes, lower replacement cost;
- ★ Allow for strict chemical cleaning, high flexibility in cleaning, and the flux is easy to recover after cleaning;
- ★ The performance is easy to recover after pollution and blockage, eliminating the cost of membrane replacement caused by unexpected failures;
- ★ Low system preprocessing requirements, reducing total system investment and operating costs;
- ★ Higher Pressure differences between membranes allowed, so low temperature source water flux increases;
- ★ No membrane broken problem, and less maintenance required.



Application Area

Nanopowder washing and concentration

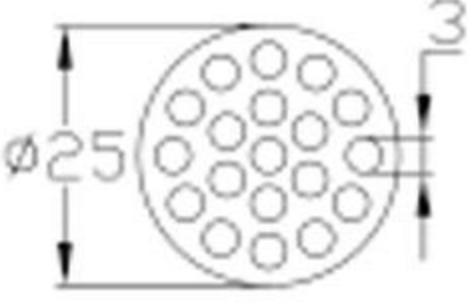
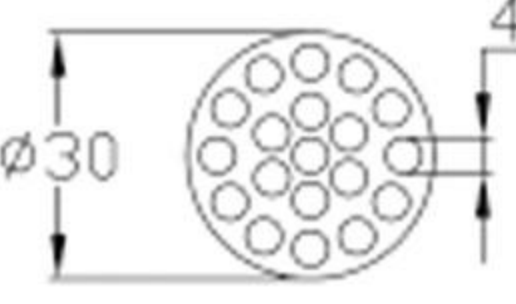
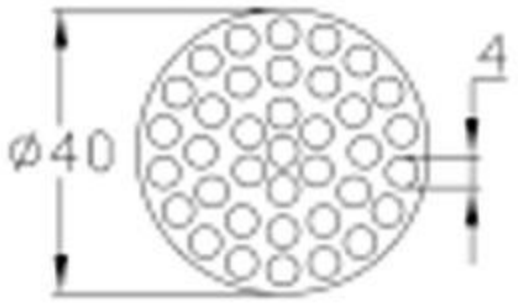

Material separation

Oil-water separation (oilfield reinjection water, liquid is non-regenerative)

Solid-liquid separation with high solid content (mine water, biological fermentation broth)

Solid-liquid separation in harsh chemical environments (acid purification, nanopowder catalyst recycling)

SiC Tubular Membrane Main Parameters

Type	JMfiltec-SICT -25-3-19-1178	JMfiltec-SICT -30-4-19-1016	JMfiltec-SICT -40-4-37-1200	JMfiltec-SICT -46-5-37-1230
Dimension Picture				
Outer Diameter	25 mm	30 mm	40 mm	46 mm
Channel Quantity	19	19	37	37
Channel Diameter	3 mm	4 mm	4 mm	5 mm
Length	1178 mm	1016 mm	1200 mm	1230 mm
Filtration Area	0.21 m ²	0.24 m ²	0.56 m ²	0.71 m ²
Filtration Accuracy	20/40/100 nm	20/40/100 nm	20/40/100 nm	20/40/100 nm
Membrane Material	Silicon Carbide	Silicon Carbide	Silicon Carbide	Silicon Carbide
Pure Water Flux	2-4 m ³ · m ² · h	2-4 m ³ · m ² · h	2-4 m ³ · m ² · h	2-4 m ³ · m ² · h
Operation Mode	All internal pressure type			
Filtration Manner	All both Cross-flow filtration/dead-end filtration			
Operation Pressure	≤0.3Mpa	≤0.3Mpa	≤0.3Mpa	≤0.3Mpa
Max Transmembrane Pressure	0.2Mpa	0.2Mpa	0.2Mpa	0.2Mpa
PH Range	1-14	1-14	1-14	1-14
Operation Temperature	5-45 °C	5-45 °C	5-45 °C	5-45 °C
Housing Material	Stainless Steel/FRPP/PPH/UPVC			

