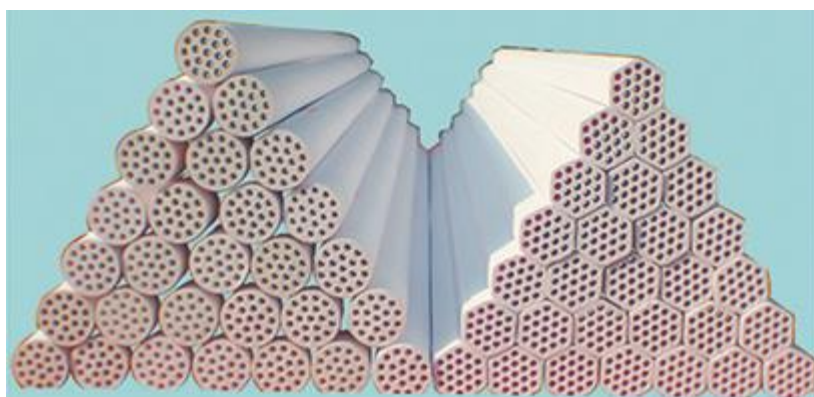




KHN Ceramic Membrane system introduction



The ceramic membrane is a porous precision ceramic filter material prepared by a special process of alumina. The porous support layer, filter layer and separation layer are distributed asymmetrically. The filtration accuracy covers microfiltration (0.05 μm -1.5 μm), ultrafiltration (0.01 μm -0.05 μm) or even nanofiltration (<1nm). Ceramic membrane filtration is a fluid separation process in the form of "cross-flow filtration": driven by pressure, the raw material liquid flows at a high speed in the membrane tube, and the clear liquid containing small molecular components permeates through the membrane, and those containing large molecular components The concentrated liquid is retained by the membrane, so that the fluid can achieve the purpose of separation, concentration and purification.

Features of ceramic membrane

Good chemical stability, resistance to acid, alkali, strong oxidants and organic solvents;

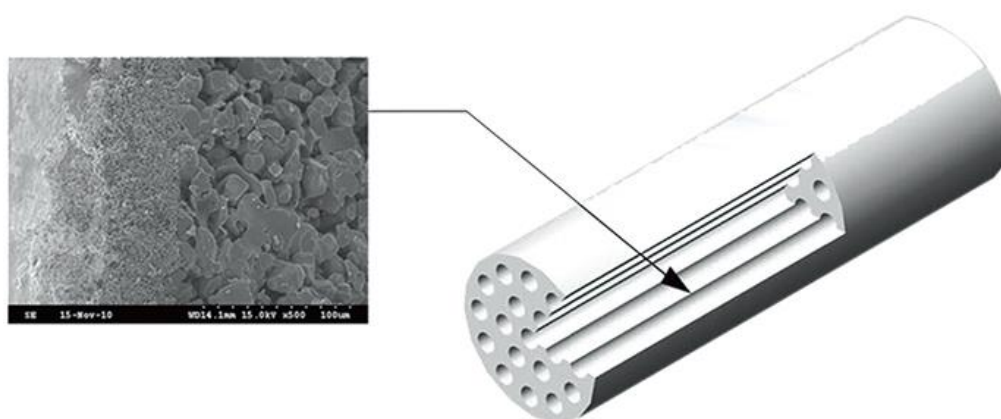
Easy to clean, high temperature disinfection, reverse cleaning;

Good resistance to microbial erosion and biochemical compatibility;

High mechanical strength and good wear resistance;

Narrow pore size distribution and high separation accuracy;

100% complete performance test of bubble point;

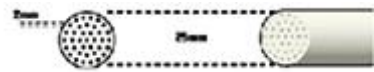
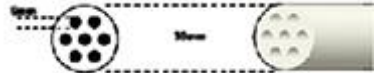

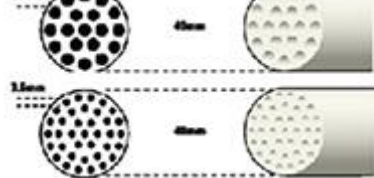
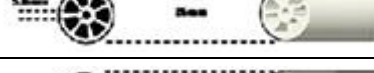
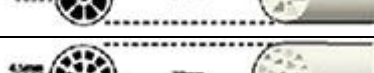
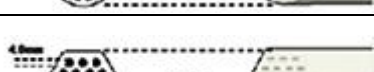
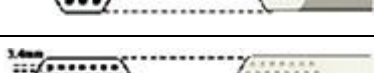

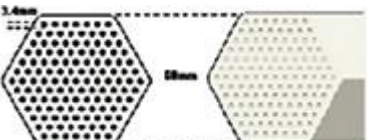


Ceramic membrane element

Membrane pore size	0.8 μ m、0.2 μ m、50nm、10nm、1000Da
Membrane material	Alumina, titanium oxide, zirconium oxide
Compressive strength	1.0Mpa
Applicable pH	0-14
proper temperature	0-150 $^{\circ}$ C

Ceramic membrane element specifications

Model	Outer diameter of membrane tube /mm	Channel diameter /mm	Number of channels	Membrane area /m ²	Exterior
C0170	10.0	7.0	1	0.022	
C1933	25.0	3.3	19	0.200	

C3720	25.0	2.0	37	0.232	
C0760	30.0	6.0	7	0.132	
C1940	30.0	4.0	19	0.238	
C1960	40.0	6.0	19	0.358	
C3736	40.0	3.6	37	0.418	
S08	25.0	5.6	8	0.200	
S09	25.0	5.6	9	0.220	
S19	30.0	4.5	19	0.300	
L1940	30.0	4.0	19	0.240	
L12734	60.0	3.4	127	11.30	

Ceramic ultrafiltration membrane module

The pressure housing filled with ceramic membrane elements is called a ceramic membrane module. The ceramic membrane module mainly includes two parts: a stainless steel shell and a seal. According to the needs of industrial production, the centralized filling of ceramic membrane elements with different outer diameters and different areas can be realized through different specifications of membrane modules. The shape design and sealing design of the membrane module are crucial to the operation of the ceramic membrane complete system.

Ceramic UF system introduction document

nature	parameter
Number of loaded membrane elements	1, 7, 19, 37, 61, 91, 139
Shell material	SUS304、SUS316(L)、Titanium, polypropylene
Seal material	Silicone rubber, fluorine rubber, EPDM rubber
Optional membrane element length and diameter	240mm~1200mm/ Outer diameter 25mm、30mm、40mm
Interface form	Flange, clamp, union /DN15~400
standard	ISO、DIN/ Chemical grade, sanitary grade

Ceramic membrane module technical parameters

Specification	Ceramic membrane module
Material	SUS304、SUS316(L)、Titanium, polypropylene
Working pressure (bar)	1.5~10.0
Number of membrane elements	Single component or series and parallel
Length of membrane element (mm)	240~1200
Equipped with membrane elements	OD25~30~40/MF-UF-NF
Adapt to working temperature (°C)	0-150°C
Adapt to pH range	0~14
Membrane surface velocity (m/s)	2-6
Circulation tank (L)	30~200
Pump	GRUNDFOS/South China
Heat Exchanger	With jacket type, tube type or coil type
Recoil device	Automatic pulse recoil
way to control	Manual or touch screen automatic control

Ceramic membrane inlet water quality requirements

In order to prevent poor water quality from entering the ultrafiltration membrane module and causing fouling of the membrane module, the water

entering the ultrafiltration membrane module should meet the following requirements:

Turbidity: ≤ 10 NTU

Particle diameter: < 0.5 mm

Iron ion: < 0.5 mg/L

CODcr: < 50 mg/L

pH range: 2~10

Organic solvents: do not contain organic solvents such as alcohol, ketone, benzene, etc.

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