

CROSS-FLOW FILTRATION FILTER

with ceramic membrane element



ZIBO DONGQIANG MEMBRANE TECHNOLOGY CO.,LTD.



1: System Components:

Membrane module(membrane,ss housing),feed tank,centrifugal pump,flow/pressure /temperature meter,electric control panel,valves and pipes;

Type of module(number of membranes/housing) : 1,3,7,12,19,37,61,91 pcs

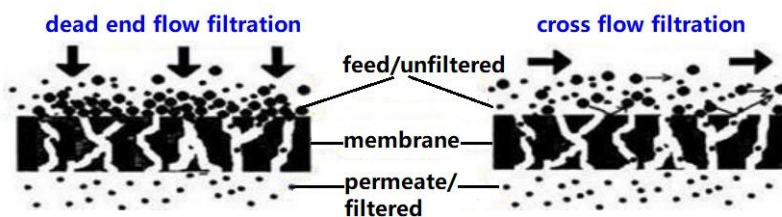
Length of membrane: 250-1200mm

Outer diameter of membrane: 12/25/30/40/52/60mm

Material of body: SS304,SS316L,Titanium,FRPP,MSRL;

Material of seals: EPDM;Fluoro Rubber;Silicon;

2: Filtration mode: cross flow filtration;

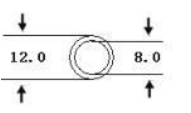

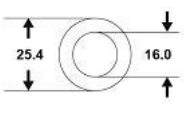

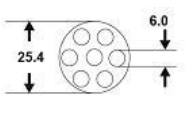

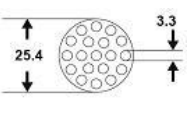

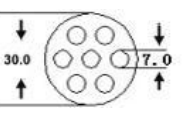

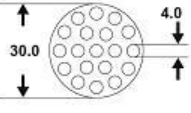

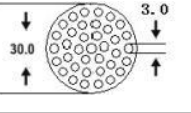

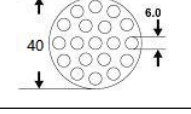

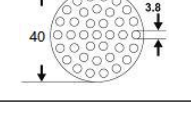

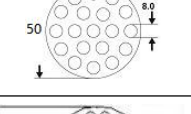

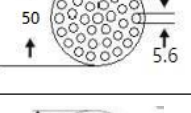

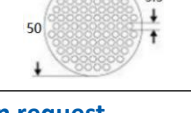



3: Properties of ceramic membrane:

| | |
|---------------------|--|
| Support material: | α-alumina |
| Pore sizes: | UF: 2,5,10,15,20,30,50nm |
| | MF: 100,200,500,800,1200nm |
| Membrane material: | Zirconia,Titania,Alumina |
| Length of membrane: | 250-1200mm(special length upon customer's request) |
| Outer diameter: | 12/25/30/40/52mm |
| Working pressure: | ≤1.0MPa |
| Burst pressure: | ≥9.0MPa |

| | |
|----------------------|--------|
| Working temperature: | 5-150℃ |
| PH range: | 0-14 |

4:Specification of membranes:

| Model | Geometric graph | No. of channels | Length(mm) | Membrane area(m2) | Diagram |
|--------------|---|-----------------|------------|-------------------|---|
| Φ12-1-8 |  | 1 | 500 | 0.013 |  |
| | | | 1000 | 0.025 | |
| Φ25.4-1-16 |  | 1 | 200 | 0.01 |  |
| | | | 1000 | 0.05 | |
| | | | 1200 | 0.06 | |
| Φ25.4-7-6 |  | 7 | 1016 | 0.13 |  |
| | | | 1100 | 0.15 | |
| | | | 1178 | 0.16 | |
| Φ25.4-19-3.3 |  | 19 | 1016 | 0.20 |  |
| | | | 1100 | 0.22 | |
| | | | 1178 | 0.23 | |
| Φ30-7-7 |  | 7 | 1016 | 0.16 |  |
| | | | 1100 | 0.17 | |
| | | | 1200 | 0.19 | |
| Φ30-19-4 |  | 19 | 1016 | 0.24 |  |
| | | | 1100 | 0.26 | |
| | | | 1200 | 0.29 | |
| Φ30-37-3 |  | 37 | 1016 | 0.35 |  |
| | | | 1100 | 0.38 | |
| | | | 1200 | 0.42 | |
| Φ40-19-6 |  | 19 | 1000 | 0.36 |  |
| | | | 1100 | 0.39 | |
| | | | 1200 | 0.43 | |
| Φ40-37-3.8 |  | 37 | 1000 | 0.44 |  |
| | | | 1100 | 0.49 | |
| | | | 1200 | 0.53 | |
| Φ50-19-8 |  | 19 | 1000 | 0.48 |  |
| | | | 1100 | 0.53 | |
| | | | 1200 | 0.58 | |
| Φ50-37-5.6 |  | 37 | 1000 | 0.65 |  |
| | | | 1100 | 0.72 | |
| | | | 1200 | 0.78 | |
| Φ50-85-3.3 |  | 85 | 1000 | 0.88 |  |
| | | | 1100 | 0.97 | |
| | | | 1200 | 1.06 | |

* other length upon request.

5: Ceramic Membrane Compared with traditional filtration system

Compared with such tradition filter like frame filter,press filter, centrifugal filter, DE Filter and polymeric membrane filter, ceramic membrane has many unique advantages.

- 1).Excellent resistance to acid, alkaline and oxidation chemicals.
- 2).Good solvent stability, high thermal stability.
- 3).Fine separability with narrow pore size distribution.
- 4).Extremely long working life compared with polymeric membrane.
- 5).Easy to be cleaned and sanitized with back flushing.
- 6).High mechanical strength,good abrasive resistance.

6:Applications:

Separation of liquids and solids;separation of oil and water;separation of liquids and liquids;
(especially for filtration of food and beverage industries,chemical and petrochemical industries,
pharmaceutical and mining industries.)

| Ceramic Membrane System Application | |
|--|---|
| Raw Field Waters - Water treatment system - Tap water production – Whole house water system - Turbid surface water | Rivers, lakes, and marshlands etc for filtration of sand, mud and other compounds and materials - water turbidity more than 3,000 NTU's can be cleaned to water of 1 NTU in only several seconds |
| Waste Water Treatment | Acid recovery and Caustic recovery. COD/BOD Wastewater in textile dyeing, printing, paper printing, dye, pigment, intermediate, Pharma intermediate, Chemical manufacturing of high COD/BOD. Heavy metal and radioactive substances sewage. Wastewater and bath recycling in electroplating industry. Grinding and microelectronics waste water. |
| Grey water treatment systems Environment Protecting Engineering | Home – Hotels – Community place - Hostels Municipal Sewage from Wastewater Treatment Plant |
| Oily waste water Petrochemical Industry | Emulsion oily wastewater in steel industry, Oily water from Banknote works, Oily wastewater in Auto industry, Cutting and Degreasing fluids from machinery industry, Re-injection water in oil field |
| Seawater Desalination pre-treatment -The turbidity of raw sea water is 1,000NTU | Ceramic pre filtration reduces seawater turbidity to less than 1 NTU, and SDI to less than 3 |
| Pharmaceutical Industries Clarification of Indian / Chinese traditional medicine | Antibiotic: Erythromycin 、Guanosine、Carnie、Streptomycin。 Ferment Organic Acid: Lactic、Citric。 Amino Acid: Lysine、 Glutamic、 Threonine Aspartame, Glycin。 Vitamin: VC, VB2, VB12。 |
| Biochemical Industries | Enzyme: Biochemistry: thymopetidum、interfero vaccine。 |
| Clarification of fermentation broth | Clarification of fermentation broth |
| Food Industry Nature Plant Brewage | Purarin,Soybean Peptide、 Nature Color、 Tea Polyphenol。 Soy, Vinegar. Tea Beverage, Catechu |

| | |
|---|--|
| Tea Soy Bean Agricultural product deep processing | Peptide, Isoflavones, Polysaccharides, Halobios Extract. Agricultural product deep processing |
| Food and Beverage | Fruit and Vegetable Juice: Apple, Red berry, Pineapple. |
| Dairy | Foremilk, Sour-Milk (Buffer –Milk), Protein Standard, Whey |
| Alcohol | Wine, Beer, Fruit Wine, Yellow Wine. |
| Sugar | Cane, Beet, Starchy Sugar |
| New Material | Purity and desalination for nanometer material. Concentration for rare metals. |
| Chemical Industry Ceramic Membrane Reactor Desalination on products Cleaning and recycling of organic solvents Air separation | Recovery and concentration of catalysts Concentration of polymer suspensions and metal hydroxide solutions Desalting of Dyes and other chemicals Cleaning and recycling of organic solvents Air separation |

7:Typical Applications:

- 1) Biochemical and Pharmaceutical Industries:
Clarification and purification of the fermentation products as well as purification or separation of product slurries;
- 2) Environmental applications:
water and waster water treatment,oily water separation;
- 3) Food and beverage Industry:
Milk microfiltration,yogurt concentration,vegetable oil clarification,protein concentration,and separation of soya bean protein;
wine clarification,beer clarification,fruit juice clarification;
- 4) Highly useful for various filtration applications in the Petro-Chemical Industry;
- 5) Other fields: Reclamation of nano powders, filtration of acid/alkali containing liquids.



Zibo Dongqiang Membrane Technology Co.,Ltd. is a specialized manufacturer of inorganic ceramic membrane(tubular and flat sheet) and polymeric membrane element and equipment,and solution provider of membrane filtration,separation,concentration and extraction technology.

We have a R&D center,6 ceramic membrane production lines,2 polymeric membrane production line,2 housing fabricating workshops,1 equipment assembly and building workshop.

With the above production capacity and expertized staff,our business ranges from MF,UF,NF,RO membrane and euqipment manufacturing to the complete process development,engineering design,system integration,assembly and commissioning.

We supply our customers with:

1:Membrane module:

Ceramic membrane,polymeric membrane and housing.

2:Membrane equipment:

Lab scale pilot,Middle scale pilot,and industrial scale equipment.

3:Membrane technology solution:

Water treatment,Environmental protection,Food and beverage,

Biochemical,Pharmaceutical,Oil field industries.

4:Membrane technology and service.

***For more detailed information,pls contact us.**

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