

KORTECH • ULTRA HIGH FLUX • UF MEMBRANE

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Ultra High Flux *UF Membrane*

Hollow Fiber
Ultrafiltration
Membrane with KORTECH

KORTECH ENVIRONMENT CO., LTD

Company Introduction

Kortech Environment Co., Ltd is a Korean company located in the business core of China - Shanghai as Asian hub. We are specializing in manufacturing and marketing Ultra Filtration membrane for household purifier system companies. The Korean style hydrophilic hollow fiber UF membrane has been welcomed by international and domestic customers in this market. And also we are experienced in UF membrane production and technical service over 10 years. Our company managing motto is market leadership based on high quality product and advanced technology experience. Our motive is to create first-class UF membrane enterprise by serving and supporting our friends in water purifier business area. We are willing to get a chance to cooperate with your company no matter on business relationship or technical consulting.



President
Park Jeesung

Product Features



100% Quality Certified
USA Particle Counter



Bacteria Rejection Rate: 99.999%
Pore Size: 0.1~0.01um



Asymmetric Section to
Extend the Life Time



Symmetrical Membrane to
Enhance the Resistance

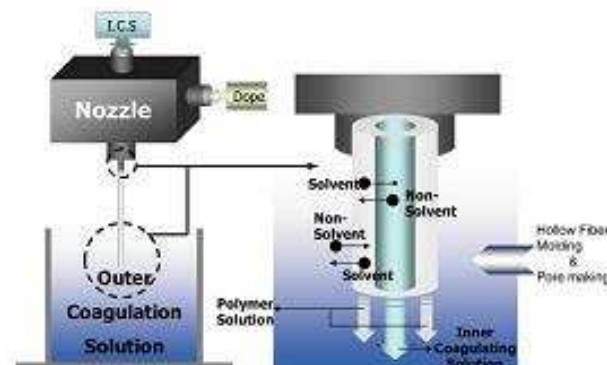


Hydrophilic Membrane to
Result High Flux

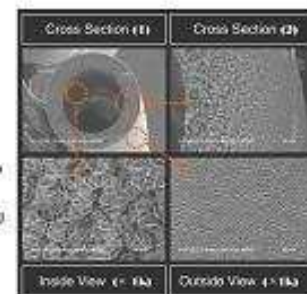
UF Pore Size Dimension

| | ST Microscope | Scanning Electron Microscope | Optical Microscope | Visible to naked eye |
|-----------------------------------|-----------------------------|------------------------------|-----------------------|----------------------|
| | Sonic Range | Molecular Range | Macro Molecular Range | Micro Particle Range |
| Micrometers (Log Scale) | 0.001 | 0.01 | 0.1 | 1.0 |
| Angstrom Units (Log Scale) | 10 | 100 | 1000 | 10 ⁴ |
| Angstrom Units (Log Scale) | 2 | 5 | 2 | 5 |
| Apparent Molecular Weight | (Saccharide Type: No Scale) | 100,000 | 100,000 | 500,000 |
| Relative Size of Common Materials | Aqueous Solids | Pyrogen | Virus | Bacteria |
| | Atomic Radius | Sugar | Albumin Protein | Red Blood Cells |
| Process for Separation | Ultrafiltration | | Particle Filtration | |
| | Nanofiltration | | Microfiltration | |

Manufacture Technology

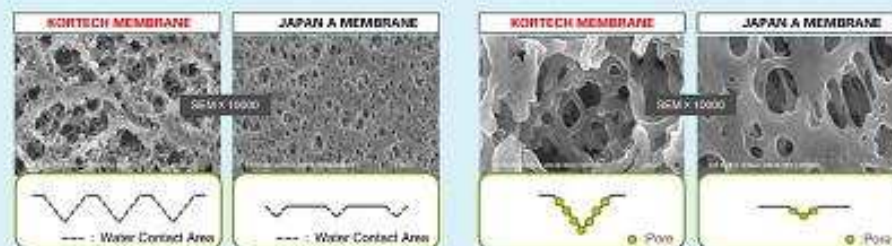


[Manufacturing Process]



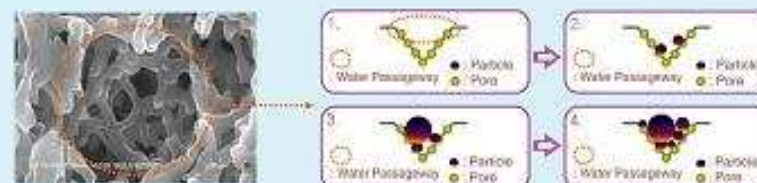
[SEM Chart]

Structure Comparison



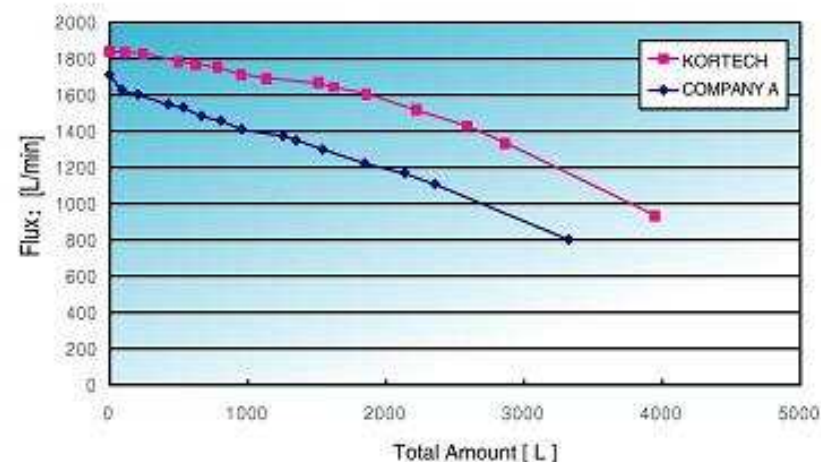
- Water contact area is also increased by increased surface roughness
- More contact area takes the same effect as more surface area of membrane
- By the reason above, initial Flow-rate is far superior to other products

- Fine & maximized number of pore distribution
- Variously entangled fine pores within skin-layer
- by increased surface roughness, it is possible to get more pores in same area.



The main reason for rapid decrease of flow rate is the partially clogged water passage by big sized particle. Even though water passage has been partially clogged, certain amount of flow is still remained by other pores.

Life Time Test Results



【 Flux comparison between KORTECH and COMPANY A 】

Air Vent & Natural Pressure(Gravity) Performance



【 Air vent 】

Manufacturing origin: Japan Material: PP
 Manufacturer: Kitz MF
 Performance: Hydrophobic molecules repel each other,
 Pore size: 0.01 ~ 0.1 μ m
 Features: 100% pass of air
 No pass of water molecules, bacteria & colloid.



【 Natural pressure test 】

- Prominent flux to work in gravity
- Black Ink test to show high performance
- Notice to test (only use pure carbon black ink)

Product Certificate

-English Bacteria Certificate-



-Korea Bacteria Certificate-



-Japan Bacteria Certificate-



International Certificate



Korea Institute of Health & Environment



Korea Institute of Chemical Analysis



Japan Institute of Food Analysis



Korea Certificate of Origin



Korean report of Health & Environment



Korea Testing & Research Institute



China test report

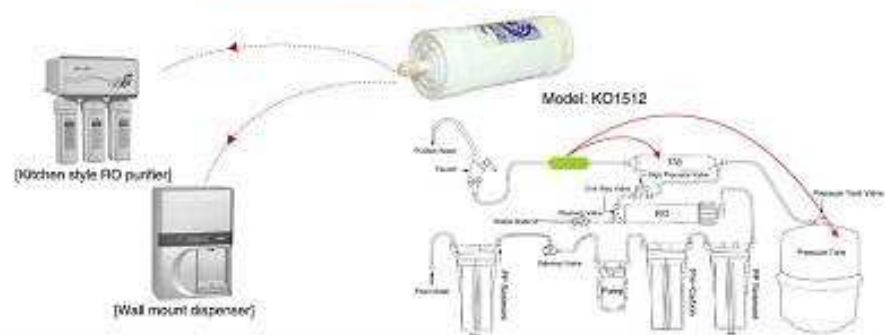


China test report

Korean filter style - **Standard type** To use one touch fitting style filter housing



RO final treatment - **Bacteria rejection type** To reject bacteria from post carbon



Natural pressure - **Gravity type** To get high flux with small space



Model Table

| Product Range | | Natural Pressure | | RO Final Treatment | Korean Style Filter | | | |
|--|--------------------|---|-----------|---|---|---|---|---|
| | |  | |   |  |  |  |   |
| Model | | KO1112 | KO1516 | KO1512 | KO3014 | KO3818 | KO4919 | Remark |
| Surface Area | m ² | 0.11 | 0.15 | 0.15 | 0.3 | 0.38 | 0.49 | ± 0.01 |
| Initial Flux [at 1.0kgf/cm ² , 3L/min] | ml/min | 550~750 | 700~1,000 | 1,800 | 2,400 | 2,600 | 2,800 | ± 300 |
| Hollow Fiber | Fiber | 1,200 | 1,600 | 1,200 | 1,400 | 1,800 | 1,900 | U-Type |
| Pore Size | um | 0.01 ~ 0.1 | | | | | | nominal |
| Work Pressure | kg/cm ² | Gravity | | <4 | | | | ± 0.5 |
| Hollow Fiber OD/ID | um | 460 / 300 | | 590 / 390 | | | | ± 40 |
| Air Vent/Length | Fiber/mm | - | | 6 / 50 | | | | U-Type |
| Hollow Fiber Length | mm | 65 | | | 115 | | 140 | |
| Housing / OD | mm | A, B, C, D, E as below for reference | | | | | | ABS |

Model Drawing

