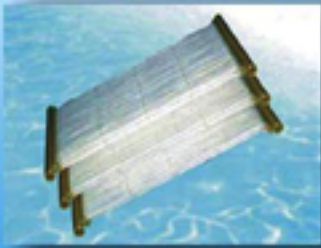




H-Filtration Membrane & Modules

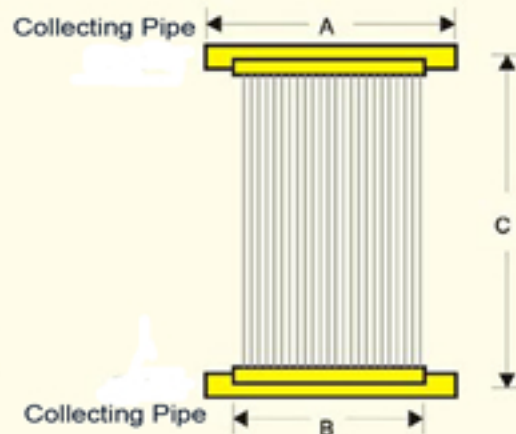


GREY WATER RECYCLING

Membrane Separation

1. Technical Data

Material	Polypropylene	Shape	Hollow fiber
Inner Diameter	320 μm -350 μm	Outer Diameter	400 μm -450 μm
Pore Size	0.1 μm -0.2 μm	Porosity	>50%
Temp.	4°C-45°C	PH Range	0-14



2. MBR (Tech. Specifications of MBR modules)

Item No.	Layers	Size AxCxB (mm)	Membrane Area (m ²)	Quantity of Fibers	Minus Pressure (Mpa)	Flux rate(T/d)
MR-I	1	523x810x400	>4	5500x0.8m	0.01- 0.03	0.5-0.8
MR-II	2	523x810x400	>8	11000x0.8m	0.01- 0.03	1.0-1.2
MR-III	3	523x810x400	>8	11000x0.8m	0.01- 0.03	1.0-1.2
MR-lab	3	380x450x250	>4	11000x0.4m	0.01- 0.03	0.5-0.8

1. Connector pipe: ABS, piper diameter: DN25 pipe connector; Air/water=30:1
2. Ref. product water (-0.02mpa) is for the waste-water treatment.
3. Pure water permeation rate will be 20L/m².h,0.02Mpa.25°C.

3. Application Area

Residential waste water, food industrial, chemical industrial, medicine industrial, hospital waste-water treatment and water recycling, etc.

4. Advantages of MBR

PP hollow fiber MBR modules with strong fiber, long working life, low energy consumption, simple membrane cleaning, low operation cost, consistent effluent quality with varying influent condition, less sludge production and reduced disposal costs.

MBR For waste-water Treatment

Membrane Bio-Reaction (MBR)

MBR as a new waste-water treatment technology, which is a combinational technology; both membrane separation behavior and traditional sludge bio-reaction take important roles in this treatment.

Advantages of MBR

1. High waste-water treating efficient.
2. High F/M ration, high tolerance of waste-water change
3. Short time of HRT and long time of SRT.
4. No second sediment tank
5. Good $\text{NH}_3\text{-N}$ disposal rate. $\text{SS} < 10\text{mg/}$; $\text{NUT} < 0.5$
6. Recycling the waste water

MBR (Conditions of member):

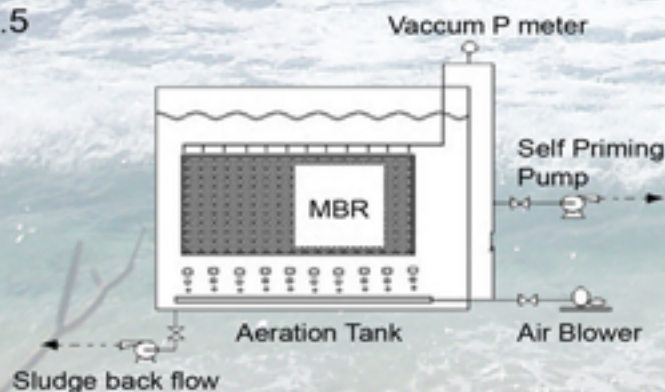
1. Temp: $5^\circ\text{C} \sim 45^\circ\text{C}$. PH: $2 \sim 10$
2. Air/water = $20:1 \sim 30:1$
3. Working pressure $< -0.02\text{Mpa}$. $10\text{t/m}^2\text{h}$
4. MBR capability: $1 \sim 60 \text{ m}^3/\text{hr}$

Application Area:

1. Municipal waste – water;
2. Waste – water of food and stock farm;
3. Waste – water of drinking industries;
4. Waste – water of paper, leather and dye industries
5. Waste – water of car-washing and hairdressing
6. Waste – water of medicine and chemical industries
7. Rebuilding of the small water plant
8. Small water filtration
9. Waste –water recycling

MBR (MBR Equipment):

MBR Include: MBR modules, Air blower, Pipes & Valves, Tanks and Control system, etc.



The Main Diagram Of MBR



Every Drop

UF-PS Modules

1. Technical Data of PS Membrane

Material	PS	Shape	Hollow Fiber
Inner Diameter	250 μm-300 μm	Outer Diameter	400 μm-450 μm
Temp.	4°C-45 °C	PH Range	2-13
Cutoff Dalton	6KD/10KD/20KD/30KD/50KD	Working Pressure	0.1-0.20 Mpa



2. Technical Data of PS Modules

Item number	Dimension	Flux rate	Membrane area	Fiber Quant.	Casing
UF-4020(PS)	L=573, L2=420 Ø1=94, Ø2=32	>300L/h	7	15000 x 0.5m	ABS/PVC/PMMA
UF-4040(PS)	L1=1103, L2=920 Ø1=94, Ø2=32	>500L/h	14	15000 x 1.0m	ABS/UPVC/PMMA
UF-6040(PS)	L=11105, L2=840 Ø 1=140, Ø2=32	>1200L/h	32	35000 x 1.0m	ABS/UPVC
UF-6040(PS)	L=1206, L2=850 Ø 1=160, Ø2=40	>2800L/h	45	55000x 1.0m	UPCV
UF-8040(PS)	L1=1100 DN1=25, DN2=32	>1900L/h	68	75000x 1.0m	8040RO 4021SSRO housing
UF-4020(PS) - RS	L1=600 DN1=15, DN2=20	>300L/h	7	15000x 0.5m	4021RO 4021SSRO housing
UF-4040(PS) - RS	L1=1087 DN1=15, DN2=20	>550L/h	14	15000x 1.0m	4040RO 4021SSRO housing
UF-6040(PS) - SS	L=1075, L2=950 DN1=20, DN2=20	>550L/h	14	15000x 1.0m	304 SS UF housing

Application area

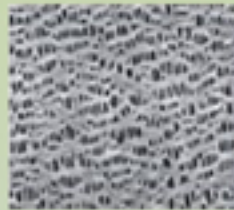
Water purification and to remove the bacteria; - Some industrial waste water treatment or recycling. - Medical high purity water making; - Bio-reaction separation and purification. Chinese medicine purification. - Fruit juice concentration and purification, - Mineral water no-bacteria treatment.

Counts

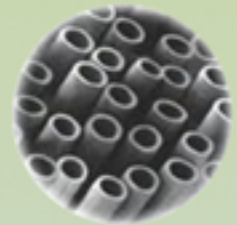
H- FILTRATION UF Membrane and Modules

Hollow fiber membrane The UF membrane can be applied on liquid / solid, liquid/liquid, air /liquid separation.
The UF membrane materials can be PP, PS, PES and PVDF.

Micro structure of membrane



SEM 50K



Hollow fiber

Tech. Specifications

Membrane Material: Polypropylene;
Pore Size: 0.02×0.2 μm
Outer Diameter: 400-50 μm
Inner Diameter: 300-450 μm

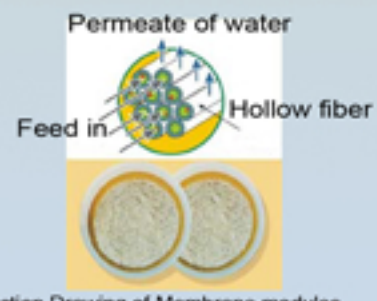
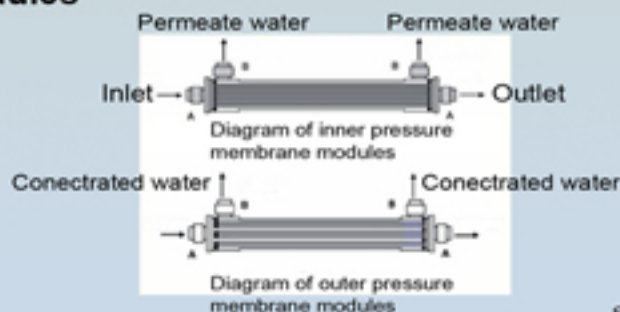
Flux Rate: 100-120L/h.m²
(0.10 Mpa.25°C)
Broken Strength: >1.0 Mpa

Stress: 120Mpa
PH Range: 0-14
Temp.: 4-45°C≤
Working
Pressure: 0.25 Mpa
Backwashing
Pressure: 0.25Mpa
NTU: < 0 2 NTU

Membrane modules

The more hollow fibers are in parallel when a single hollow fiber works as a filtration unit and are applied the advanced packaging technology coming with the different casings. According to the membrane area, the flow rate can be determined; to use separation method picks up the inner/outer pressure and finally series of membrane modules would be formed.

Structure of membrane modules



Section Drawing of Membrane modules



P.O. Box 24237, Dubai, UAE – Tel. 04/3244060, Fax 04/3242331
Email: mail@3demirates.ae – www.3demirates.ae