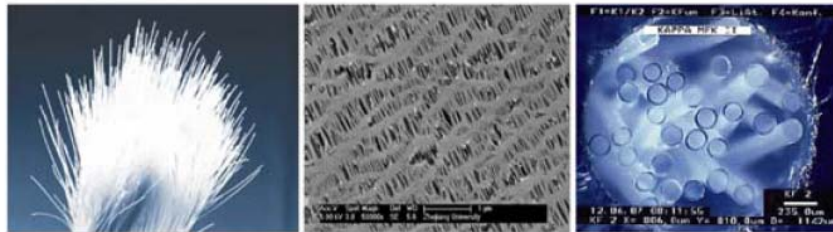


MEMBRANE BIOREACTOR

CLEAN WATER TECH PTE LTD

MEMBRANE MATERIAL POLYPROPYLENE HOLLOW FIBER MEMBRANE

High heat –resistant, high chemical stability and good mechanical property, high anti-pollution, high acid- and alkali-resistant and strong oxidation -resistant, high water flux in each membrane unit, low energy cost, long service life, widely used in several fields. The specification of our PP membrane is as follows:



MBR MODULES

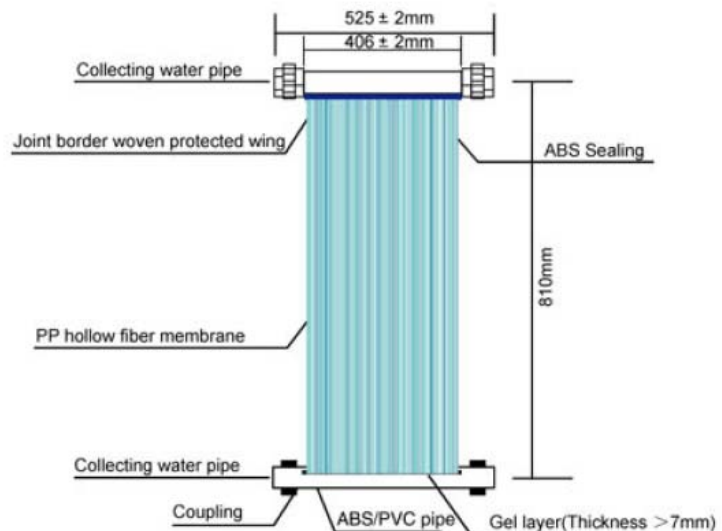
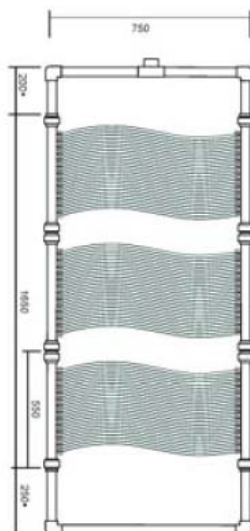
PP hollow fiber membrane is one of the most suitable membranes used in the waste water treatment with the performance of high strength and intensity; difficult to crash during the process especially the air backwash and shaking intensely are consistently. Chemically stable performance of the membrane makes it suitable for long time service. It has the following features:

Turbidity of the permeated water: <math>< 0.2\text{NTU}</math>
 The treating capacity of one piece: 1.0-1.2t/d
 Surface area of the modules: 8 m²/piece
 Operating pressure: -0.01—-0.03MPa

| | | | |
|----------------|---------------------------|----------------|-------------------------|
| Material | pp | Shape | Hollow fiber |
| Inner diameter | 320 - 350 μm | Outer diameter | 400 - 450 μm |
| Pore size | 0.1 - 0.2 μm | Porosity Rtae | > 50 % |
| Operating Temp | 4 - 45 $^{\circ}\text{C}$ | Ph range | 0 - 14 |



HOLLOW FIBER MEMBRANE PARAMETER



•PART CAN BE ADJUSTED PER THE REQUEST

TECH. PARAMETER OF MBR MODULES

| Item Number | Layers | SIZE A×C×B (mm) | Membrane area (m ²) | Quantity of Fibers | Min. Pressure (Mpa) | Designed Flux Rate (T/D) |
|-------------|--------|-----------------|---------------------------------|--------------------|---------------------|--------------------------|
| MBR-I | 1 | 523×810×400 | 4 | 5500×0.8m | 0.01-0.03 | 0.5-0.8 |
| MBR-II | 2 | 523×810×400 | 8 | 11000×0.8m | 0.01-0.03 | 1.0-1.2 |
| MBR-III | 3 | 523×810×400 | 8 | 11000×0.8m | 0.01-0.03 | 1.0-1.2 |
| MBR-Lab | 3 | 380×450×250 | 4 | 11000×0.4m | 0.01-0.03 | 0.5-0.8 |

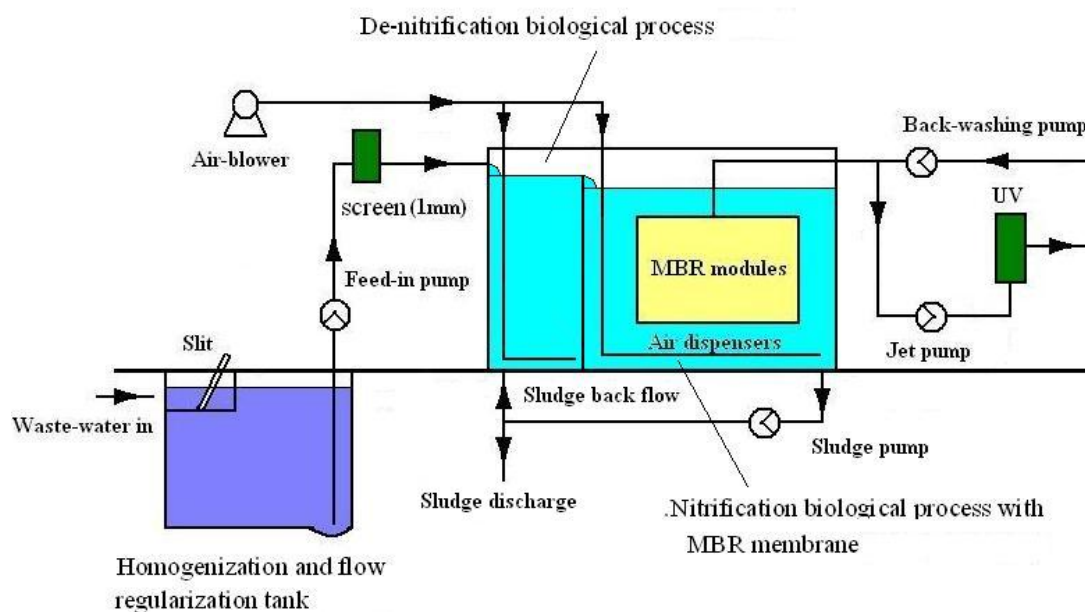
Pipe Coupling : DN25 Air/water =30:1 Flux Rate : 0.02MPa, 8-10ml/m².h Pure water permeation rate : 20ml/ m².h 0.02MPa.25^oC

MBR MEMBRANE OPERATION CONDITIONS IN MBR SYSTEM

1. Temperature: 5°C~45°C, Ph: 2~10
2. Air/Water: 20:1~30:1
3. Working Pressure: < -0.02Mpa, 10l/m²h
4. MBR Capacity: 1-60 m³/hr

APPLICATION AREA

1. Wastewater with high concentration
2. Wastewater from food, animal husbandry and slaughter industries
3. Wastewater from beverage factory and winery
4. Wastewater from Dyestuff factory, leather factory and pulp plant
5. Water recycling from car-washing plant
6. High concentration of organic waste water, such as pharmaceutical wastewater
7. Transformation of the old sewage plant
8. Small-scale water purification plant
9. Water recycling from urban sewage



A typical stand alone 25 ton per day domestic MBR system