

# **CERAMIC MEMBRANE MODULE**

the flat-sheet type ceramic filters can be utilized in various applications

## Typical applications

- Water treatment
- Industrial wastewater treatment
- Sewage treatment
- Pretreatment for desalination and RO
- Suspended solids removal / bacteria removal
- Water Recycling
- Clarifying
- Membrane Bioreactor (MBR)

### **Advantages**

## Superb physical properties

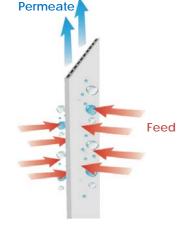
- Robust against all kinds of industrial wastewater containing solvent, oil and/or other chemicals
- High dirt tolerance
- Suitable for separation of hard solids from water
- Pre-treatment system for preventing damage to membrane generally not needed

### High reliability and Long Life Span

 No breakage of membranes, high resistance to chemical damage and thermal degradation

#### Easy maintenance

- Simple back wash and on-line cleaning removes the need for daily maintenance
- Membrane surface can easily be cleaned by air or water iet
- Both pressurized and open tank systems available
- Simple system design



## **Energy saving**

- Sheet-form arrangement with air-dispersal method facilitate more effective cleaning
- Ceramic membrane Bioreactor requires low amount of scrubbing air thereby reducing energy consumption
- High hydrophilicity means low energy consumption

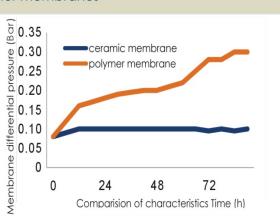
#### Energy consumption



### Small footprint

 Higher-flux results in less than half the footprint compared to that of flat-sheet type of polymer

#### Comparison with polymer membranes Hollow-fiber (B) 0.35 0.30 0.25 0.20 **Polymer Polymer Ceramics** (PVDF, PE) (PVDF) 0.20 odlferential p 0.15 0.10 0.05 Stability and life span +++ + ++ Filtration performance +++ ++ ++ + Energy saving +++ + Membrane Maintenance +++ ++ + performance 0 Recycle +++



# **Ceramic Membrane Module**

# Specifications of ceramic membrane module

Model	CM4605	CM3604
Number of ceramic membrane treatment	46 pieces	36 pieces
Membrane surface area	5 m²	4 m²
Capacity** LMH	City water : 200-400 River water : 100-200	Waste water : 50-100 MBR : 30-50
Dimensions	560 x 360 x 143	560 x 360 x 143
Weight (dry)	20 kg	18 kg

<sup>\*</sup>the module specifications can be customized

<sup>\*\*</sup>these values have been obtained from verification tests Subject to the condition of Influent







# **Ceramic standard Membrane System**

# Specifications of standard modular Ceramic Membrane System

Membrane type	Flat-sheet
No of Membrane Modules	30 to 50
Filtration	Out-In filtration
Material	Ceramic part : Alumina Water collector : PVC
Pore size	0.5µm
Tank Dimensions*	W1000xH2000xL2000
Weight approx (dry)	1000 to 1400 kg
Membrane area*	120 to 250m²
River water permeability	24m³/hr to 50m³/hr at negative 0.2 Bar suction pressure
Operating pH	2-12
Max operating temperature	80°C

<sup>\*</sup>Systems can be customized









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