

## Compact Waste Water Treatment MBR /MBBR Technology



Plug and Play system

1

Minimal Operaton and Maintenance  
Costs and use of Chemicals

2

Recycle and Reuse Water for  
Irrigation and Recreation

3

Save water, Energy, Money and  
Conserve the Environment

4



## Water Engineering - MBR / MBBR STP

Water Engineering Packaged Water MBBR Treatment Systems are state of the art yet affordable plants which are capable of giving excellent quality Treated sewage on small footprint

The System is a Combination of the Fixed Film and Activated Sludge Process, Activate Sludge has process stability and provides a high degree of treatment and Fixed Film Processes are inherently stable and resistant to organic and hydraulic shock loadings.

By incorporating Activated Sludge Recirculation (RAS) higher high quality Biomass can be maintained. This makes the Process more stable, more responsive to load fluctuations and provides better oxygen diffusion, mixing and energy efficiency then conventional MBBR.

### Design Basis

PH	7.0-8.5
BOD (mg/l)	300-350 mg/l
COD (mg/l)	400-600 mg/l
Suspended solids (mg/l)	300-400 mg/l
Ammonical Nitrogen	40-50 mg/l

### Treated Effluent Quality

BOD	< 15 mg/l
COD	< 100 mg/l
Suspended solids	< 15 mg/l

## Process Flow Scheme

- ✓ Raw Wastewater Feed Pumps
- ✓ Air Blowers and Coarse Bubble Diffusers for Equalization/Sludge Tank (Optional)
- ✓ Electromagnetic Flow Meters at Inlet of STP
- ✓ Manual Coarse Screen, Bar Type, 10 mm
- ✓ Aeration Tanks with Coarse Bubble Diffusers and Air Piping
- ✓ Bio Media inside Aeration Tank
- ✓ Air Blowers for Aeration Tanks
- ✓ Sludge Recirculation/Waste Pumps
- ✓ Motorized Valves for Sludge Wasting
- ✓ Settling Tank with Tube Deck Media
- ✓ Sodium Hypochlorite Disinfection System
- ✓ Manual/Automatic Multi Media Filter
- ✓ Filter Feed Pumps
- ✓ Backwash Pumps
- ✓ Electrical Control Panel, Form 2
- ✓ Internal and external Interconnecting Piping and accessories





**TYPICAL PACKAGE MBBR PLANT**

**Salient Features**

- ✓ *Factory made plug and play system with small footprint.*
- ✓ *MLSS Concentrations of 2000-3000 mg/l which increases SRT resulting in better biology and performance.*
- ✓ *Reduction in sludge production and less sludge needs to be wasted compared to Conventional MBBR.*
- ✓ *Safe HRT enabling stable and sustainable Biology and better Aeration and Nitrification.*
- ✓ *Using very conservative surface area loading rates for the Biomedia thereby ensuring design for peak flows.*
- ✓ *Positive Displacement Blowers for Aeration instead of Side Channel Blower which are better in quality and long lasting.*
- ✓ *Coarse Bubble Diffusers for Aeration specially designed to ensure the swirling action to keep Bio Media in suspension.*
- ✓ *State of the art Bio Media from Europe which creates the perfect environment for bacteria*



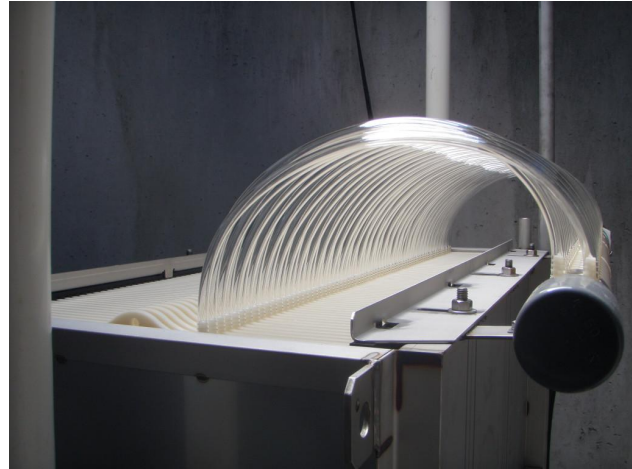
**CONTAINERISED PLANT ROOM**



**ODOR CONTROL SYSTEMS FOR STP**



**MBBR MEDIA**



**MBR CASSETTE**

Model No.	*Capacity (m3/d)	Population (persons)	Inlet (BOD/TSS)	Outlet (BOD/TSS)	Tank Dimensions	Multi Media Filter Diameter
WMBR 100	100	500	300/400	15/15	4.5 m * 2.5 m * 3.5 m	30 Inch
WMBR 150	150	750	300/400	15/15	6.3 m * 2.5 m * 3.5 m	36 Inch
WMBR 200	200	1000	300/400	15/15	8.2 m * 2.5 m * 3.5 m	42 Inch
WMBR 250	250	1250	300/400	15/15	10.1 m * 2.5 m * 3.5 m	48 Inch
WMBR 300	300	1500	300/400	15/15	12.0 m * 2.5 m * 3.5 m	48 Inch
WMBR 350	350	1750	300/400	15/15	12.0 m * 3.0 m * 3.5 m	63 Inch

\*Calculations are based on discharge of 200 liters of Wastewater per person per day.

If bigger capacity is required than the standard modules can be added in parallel



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**STP/ETP FOR DIFFICULT WATER**



**An ISO 9001: 2008 Company**