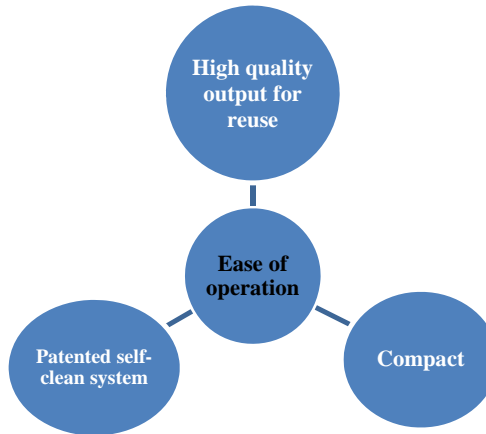




# **SUBMERGED MEMBRANE BIOREACTOR WASTEWATER TREATMENT PLANTS**

*50 - 200 m<sup>3</sup>/DAY CAPACITY*





### MBR's environmentally friendly containerised package plants

Standard size range 50m<sup>3</sup>/day to 200m<sup>3</sup>/day (larger available)

- ✓ Meet all local and W.H.O standards for unlimited irrigation
- ✓ Have fully automatic operation requiring minimal supervision
- ✓ Have simple cleaning routine bi-monthly
- ✓ Use a patented self-cleaning membrane system
- ✓ Offer a cost effective small footprint solution for waste treatment
- ✓ Have full after sales technical support

### DESIGN CRITERIA

#### INFLUENT PARAMETERS

PARAMETER	VALUE	UNIT
Temperature	20-30	centigrade
pH	7-7,5	
BOD <sub>5</sub>	300	mg/l
COD	600	mg/l
Total SS	250	mg/l
Total N	42	mg/l
Total P	5	mg/l
Total Fat, Oil & Grease	30	mg/l
TDS	5,000	mg/l

#### TREATED WATER PARAMETERS

PARAMETER	VALUE	UNIT
Temperature	20-30	centigrade
pH	7-7,5	
BOD <sub>5</sub>	10	mg/l
COD	80	mg/l
Total SS	5	mg/l
Total N	10	mg/l
Total P	2	mg/l
Total Fat, Oil & grease	10	mg/l
NO <sub>3</sub>	8	mg/l
NH <sub>3</sub> -N	2	mg/l



### **STANDARD EQUIPMENT**

- **TANKS** - Carbon steel / epoxy coated / MBR / TURKEY
- **SCREENS** - Drum screen / MBR / TURKEY
- **STIRRERS** – Grundfos / DENMARK
- **PUMPS** – Grundfos / DENMARK
- **BLOWERS** – FPZ / ITALY.- MAPRO / ITALY
- **DIFFUSERS** – Gummi Jagger / GERMANY
- **PERMEATE PUMP** – Netzch / GERMANY- Sydex / ITALY -Bi-directional, VSD
- **MEMBRANES** –Flat sheet,crossflow from Microdyn Nadir / GERMANY –Hitachi / JAPAN – Kubota /JAPAN with cleaning system
- **CHEMICAL DOSING SYSTEM** – Seko / ITALY



### **INSTRUMENTS**

- 3 pc level sensor (ultrasonic)
- Automatic valves/manual valves
- 1 pc pH meter (hand tool)
- 1 pc thermometer
- 1 pc oxygen meter (hand tool)
- 2 pc pressure meter
- 1 pc bidirectional electromagnetic flowmeter
- 1 pc degassing tank
- 1 pc filter

### **ELECTRICAL WORKS / CONTROL PANEL**

- Separate fuses and thermal cut-off for all the equipment in the system.
- All wiring and components will be TSE certificated and to ISO standard.
- Fully automatic operation

### **STANDARD SCOPE OF SUPPLY**

- Preparation of site layout
- Supply of mechanical equipment (ex works)
- Wet testing at factory
- Supply of control panel
- Supply of installation and operation/maintenance manuals for the plant,
- Optional supply of supervision during installation and/or commissioning.