

# BIOSEP™ Pack

Membrane Bio-Reactor for Wastewater and Re-use

Biosep™ Pack is added to a biological aeration tank. The membrane bioreactor replaces the traditional settling system and separates perfectly the purifying biomass from the treated effluent through microfiltration. The microfiltered water is of excellent bacteriological quality and removal of TSS is guaranteed at any time.



Flow rates from 4 to 110 m<sup>3</sup>/h



## FEATURES & BENEFITS

- Standardised systems; short lead times and quick start-up
- Skid-mounted, modular design; low footprint; easily integrated into existing plant, extensible
- Integrated filtration and membrane cleaning system
- Suitable for all types of effluent, easily integrated into a wide variety of biological designs; highly flexible
- Industrial outdoor installation

### Compared to conventional activated sludge:

- Compact solution; less equipment and civil engineering, simplified treatment line
- No settler; no risk of sludge loss, sludge index has no impact on performance
- Long biomass retention time; high COD removal, including slowly biodegradable COD
- Compact solution; less equipment and civil engineering, simplified treatment line

## HYDREX® CHEMICALS

Hydrex™ 4000 & 7000 water treatment chemicals from Veolia Water Technologies should be used for optimized plant operation.



## APPLICATIONS

- Small or medium sized industrial or municipal effluent treatment plants (800 to 10,000 PE)
- Temporary solutions during refurbishment or upgrade work
- Re-use for recycling of water or irrigation
- High treated water quality required
- Compact solution for reuse purposes

## RELATED SERVICES

Local after-sales service and support teams offer preventative and corrective maintenance programs to ensure the long-term, efficient operation of installed plant.





### System Performance

Model	Net Flow Rates (m <sup>3</sup> /hr)	Membrane Tank					Antifoam skid	Backwash	Membrane Air		Power
		Number of Membrane Modules	Number of Membrane Tanks	Diameter (m)	Total Height (m)*	Net Tank Volume (m <sup>3</sup> )	Antifoam Dosing Pump (l/h) per tank	Dosatron or Backwash Pump Solution (m <sup>3</sup> /h)** per tank	Air Blower Power (kW)	Air Blower Flow Rate (Nm <sup>3</sup> /h)	Main Control Center Power (kW)
BSP 1 M 5	04 - 12	1	1	2.5	6 - 8	20	0.006 - 6	2	5.5	175	10
BSP 1 M 10	08 - 33	1	1	3	6 - 8	29	0.006 - 6	3 or 4	11	378	17
BSP 1 M 15	12 - 56	1	1	4	6 - 8	52	0.006 - 6	3 or 6	15	522	25
BSP 2 M 20	16 - 66	2	2	3	6 - 8	2x29	0.006 - 6	3 or 4	2x11	2x378	34
BSP 2 M 30	24 - 110	2	2	4	6 - 8	2x52	0.006 - 6	3 or 6	2x15	2x522	50

\* Membrane tank height must be selected according to site constraints (aeration basin and discharges levels)

\*\* 2 backwash solutions are available, to be chosen depending on potable water availability (3m<sup>3</sup>/h at 1 bar minimum)

### Treated Water Quality

COD	< 50mg/l*
BOD <sub>5</sub>	< 5 mg/l
Suspended Solids	< 3mg/l (threshold)
Total Nitrogen	< 10-15 mg/l
Total Phosphorous	< 0.5 - 2 mg/l
Turbidity	< 1 NTU
E.coli	< 1000/100ml

\*COD depends on the non-biodegradable (hard COD) fraction

### Material Specifications

Membrane Tank	Fiber Reinforced Plastics (FRP)
Access Fittings (ladder, platform, guard rails)	Epoxy Coated or 304 L
Skid	PE
Piping	PE / PV C / PVC-C

### Environmental Conditions

Outdoor, temperature between 0 and 40° C, Electrical cabinet and other plastic cabinets should be sheltered from sun.

### Feed Water Requirements

Waste water

