

# BIOSEP™ Pack 3

## Membrane Bioreactor (MBR)

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>/hr.



### Features & Benefits

- Standardised systems; short lead times and quick start-up
- Skid-mounted, modular design; 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

### Compared to conventional activated sludge:

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

### Applications

- Small or medium sized industrial or municipal effluent treatment plants (800 to 10,000 PE)
- Temporary solutions during refurbishment or upgrade work

### 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.

### Hydrex® Chemicals

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

## 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 Volume (m <sup>3</sup> )	Antifoam Dosing Pump (l/h)	Dosatron or Backwash Pump Solution (m <sup>3</sup> /h)**	Air Blower Power (kW)	Air Blower Flow Rate (m <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	150	10
BSP 1 M 10	08 - 33	1	1	3	6 - 8	29	0.006 - 6	3 or 4	11	300	12
BSP 1 M 15	12 - 56	1	1	4	6 - 8	52	0.006 - 6	3 or 6	15	450	15
BSP 2 M 20	16 - 66	2	2	3	6 - 8	29	0.006 - 6	3 or 4	18.5	600	24
BSP 2 M 30	24 - 110	2	2	4	6 - 8	52	0.006 - 6	3 or 6	30	900	30

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

\*\*2 backwash solutions are available, it must 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 (detectable 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 / PVC / PVC-C

For higher flow rate applications consult your local Veolia Water Technologies company, contact details below.

Visit our website: [www.veoliawatertechnologies.com/biosep/en/](http://www.veoliawatertechnologies.com/biosep/en/)

In keeping with the progressive nature of the company, we reserve the right to amend details without notice.

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