

MEMBRANE BIOREACTORS (MBR)

DESCRIPTION

Membrane technologies are wastewater treatment processes in which membranes are used as filter elements. These membranes allow water pass through them while retaining suspended solids and other substances. The Membrane Bioreactors (MBR) combine biological processes and membrane technology being an activated sludge treatment whose secondary decanter is replaced by a system for separating solids and liquids using membranes.

MBR technology is based on a simple filtration procedure through a membrane, the porosity of the membranes will have different degrees depending on the type of water to be treated and the process selected. The membranes can be organic or mineral and act as a selective separation barrier, allowing water to pass through on one side, and solid substances and residues to be removed on the other side.

The use of MBR technology in wastewater treatments has allowed the development of solutions for the reuse of water in urban, agricultural, irrigation and other industrial uses. Depending on the size of the pore, the separation process in the membrane is made by microfiltration (MF) or ultrafiltration (UF) and will define the material to be separated at the reactor.



The MBR technology has the following advantages:

- ✚ Possibility of reuse the water treated for its effluent quality
- ✚ High waste removal efficiency
- ✚ Capability to remove several contaminants like bacteria, nitrogen, and other suspended solid wastes
- ✚ Occupy less space than other technologies
- ✚ It produces less volume of sludge

Additional Benefits:

- ✚ **Easy to transport** by its container structure.
- ✚ **Minimum civil works:** only small ditches and foundations.
- ✚ **Easy and quick** assembly, all its elements are inside the containerised structure.
- ✚ **Easy commissioning:** preassembled plant.
- ✚ **Easy operation:** reliable technologies and easy operation.
- ✚ **Centralized operation:** Electric control cabinet in the container structure.
- ✚ **Robust maintenance:** High quality equipment.
- ✚ **Mobile:** possibility of relocating the packaged plant



 **CAPACITY/VOLUME**

FLOW (m3/h)	NUMBER OF CONTAINERS
25	1 de 20 ft
50	1 de 40 ft
100	1 de 40 ft + 1 de 20 ft
200	2 de 40 ft + 1 de 20 ft
300	3 de 40 ft + 1 de 20 ft
600	5 de 40 ft + 1 de 20 ft

