

# MEMBRANE BIOREACTOR



## Categorization of Technology

**BIOLOGICAL** → **AEROBIC** → **SUSPENDED GROWTH**  
Mechanized Treatment System

## Technology Brief

A membrane bioreactor produces an effluent of high quality and is compact in size. Membranes have proven to effectively remove the organic and inorganic pollutants. Membrane biological reactor is a combination of biological processes with membrane filtration (called Membrane Bioreactor i.e. MBR). In this case, the degradation of biomass occurs inside the bioreactor tank, while separation of treated wastewater from microorganisms is completed in a membrane module. A longer solids retention time for solids facilitates lesser production of sludge. The higher volumetric loading rates reduce hydraulic retention times. The membrane bioreactor has high capital and operational cost. Also, the membranes are prone to fouling and need frequent replacement, which is an added cost. Substantial technical knowledge and care are required during the construction and operation of MBR.