

Industrial / Sewage Water Treatment

## Membrane Bio-Reactor (MBR)



### Product Application

The MBR process was introduced by the late 1960s. It is a biological membrane process that uses an activated sludge process combined with a membrane separation process. MBR is now widely used for municipal and industrial wastewater treatment specially when wastewater recycling/reuse is taking place.

- **Petrochemical, Oil & Gas process industrial Wastewater** - High levels of suspended solids, COD and BOD5
- **Industrial wastewater form various industries, pharmaceutical, textile, chemical, food & beverage, etc.** - High levels of suspended solids, COD and BOD5
- **Landfill leachate** - wide variety of dissolved and suspended organic and inorganic compounds.
- **Sewage & municipal water treatment** - suspended solids, COD and BOD5

### Process Description

Membrane Biological Process has a major role in water and wastewater treatment, which is superior to the conventional biological technologies with proven better performance and more efficient economics.

A Membrane Bio-Reactor MBR process is mainly used for wastewater treatment (WWT) by using Membranes (Flat Sheet/Submerged or Tubular/ Pressurized) and integrating them with a biological process like a suspended growth bioreactor. The membranes are mainly utilized for filtration and removal of solids which are generated during the biological process, which will result in a clear product.

### Product Benefits:

- Very compact and requires minimal footprint due to high MLSS concentration
- Enhanced biological process which lead to improved treated water quality
- Produce very low TSS due to the small pore size of the membrane  $< 0.5 \mu\text{m}$
- Independent control of Hydraulic Retention Time (HRT) and Sludge Retention Time (SRT) as biological solids (mixed liquor or sludge) are completely retained in the bioreactor

### Service and Features:

- Supply customized design
- Supply as part of integrated system to achieve the performance guarantee values
- Provided in different types submerged or pressurized to suit operation & performance requirements
- Fast track delivery
- Retrofit for existing plants
- Installation & supervision commissioning
- Operation & maintenance services

