



Membrane Bioreactor

If you aim for the most efficient water treatment solution

Many conventional wastewater systems do not comply entirely with current regulations. This is why Triqua International provides high quality MBR solutions that comply with even the most stringent of environmental regulations. Many years of extensive experience has established our name in the field of MBR technology. This technology is a pre-requisite in water reuse

Process

Membrane Bioreactors (MBR) are based on the combination of biological treatment and a membrane filtration unit. The sludge retention in a compact system such as the MBR is independent of the sludge characteristics. In this system sludge and water is separated through membrane filtration. This makes the system very robust and flexible.

The membrane has an average pore diameter of about 0,1 – 1 µm for micro filtration (MF) and about 0,01 – 0,1 µm by ultrafiltration (UF). The membranes are concatenated in the form of modules: sets of tubes, hollow fibers or plates.

We offer two versions of the MBR, our cross-flow system, the MemTriq® and our submerged system, the SubTriq®

Cross-flow Membrane Bioreactor

MemTriq® for the treatment of concentrated and complex wastewater flows

The MBBR system consists of an activated sludge aeration system where the sludge is collected on recycled plastic carriers. These carriers have an internal large surface for optimal contact water, air and bacteria. See elements underneath.

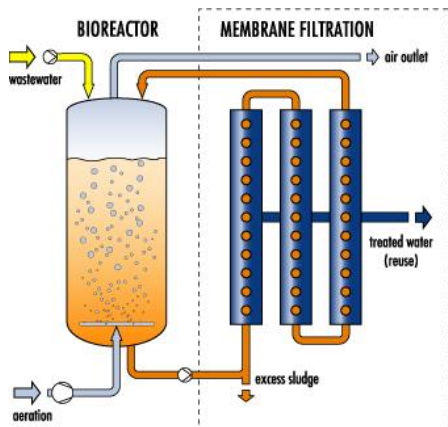


Figure 1 Schematic cross-flow MBR

Prerequisites for the application of cross-flow Membrane Bioreactors:

- Concentrated wastewater
- Waste water that is not easily biodegradable
- Small pore sizes
- Lower flows (< 20m³/h)

Submerged Membrane Bioreactor

SubTriq® for the treatment of household and well degradable wastewater.

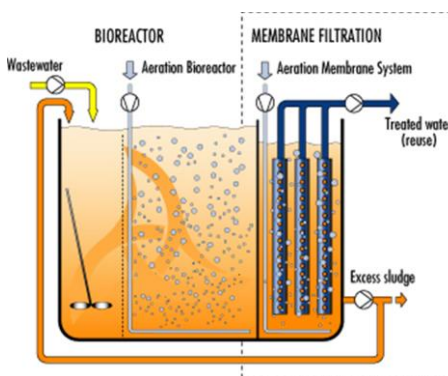


Figure 2 Schematic submerged MBR

Prerequisites for the application of Submerged Membrane Bioreactors:

- Wastewater should not be highly concentrated (i.e. household wastewater)
- Wastewater that is well biodegradable
- Higher flows (> 20m³/h)

One of the distinct advantages of Submerged Membrane Bioreactors is their low energy consumption.

Selection criteria

Influent

Also treatment possible with high salt concentrations, thermophile applications, difficult degradable components, lots of chemicals.

Effluent

High removal percentage of COD, BOD₅, Total N. TSS < 30 mg/l

Benefits

- High quality of effluent
- Low production of sludge
- Highly stable process
- Very compact design
- Options for water reuse