The **membrane bioreactor process** is an innovative technology for the treatment of domestic and industrial wastewater. In a membrane bioreactor system, the waste water is filtered by microfiltration or ultrafiltration membranes with a pore size of **0,2µm** following biological treatment.

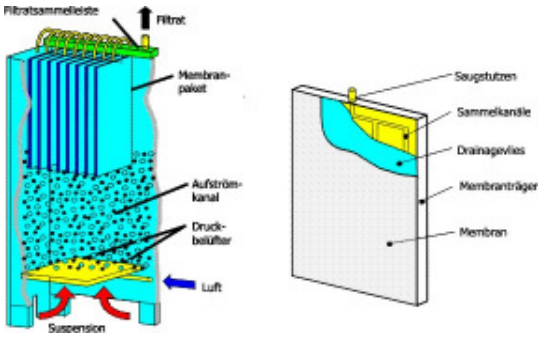

Fig. 1: Membrane

The key advantages of this process are its compact design and the outstanding quality of the treated water, especially with reference to hygiene (bathing water quality).
Membrane filtration replaces secondary clarification and conventional filtration and disinfection by a single process stage.

An aeration, which is arranged under the membranes, occurs an upward flow so that the surface of the membrane would be rinse thoroughly.

Application of a membrane unit in a BioTopp plant

A small scale sewage treatment plant with a mature and therefore failsafe membran technology can treat domestic waste water without any chemicals in clean water by a reliable retention of bacterias and microorganisms.
The quality of the treated waste water is so high that we can observe the **EU-bathing water directive** (76/160/EWG).

Membrane filtration with the two most important functions:

- Separating biomass/ clear water in the membrane filtration
- retention of bacterias

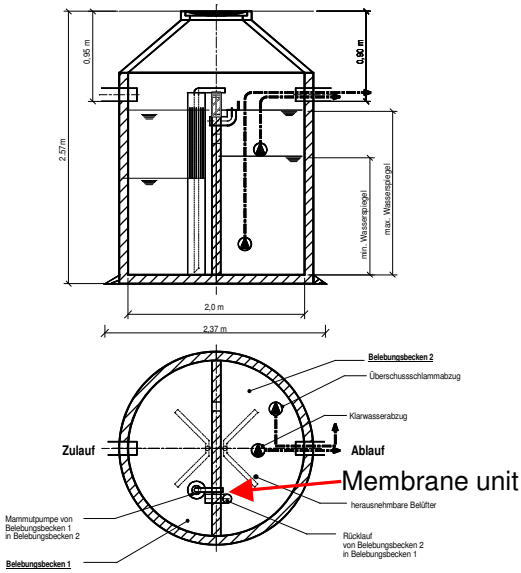

Fig. 2: BioTopp without mechanical pre-treatment

→ **Domestic waste water gets into process water!**