

Industrial Solutions

The unlimited possibilities of the MBR

Industrial wastewater treatment requires custom-made solutions. The membrane bioreactor may form an excellent solution in situations where conventional techniques reach their limits. These limits can be temperature, high COD, hard degradable COD, high salinity, space limitations, strict discharge limits or reuse requirements. Triqua can provide you with state of the art technology.

The advantages

- Very compact design (bioreactor 4-5 times smaller)
- Low sludge production
- Treated water free from suspended solids and micro-organisms (direct reuse or "RO ready")
- Very stable process (shock-load resistant, no bulking sludge)
- High sludge age, retaining slow-growers for removal of complex compounds
- Long chained polymers are retained, making degradation possible
- Treatment up to 60°C with excellent effluent quality and no sludge growth
- Treatment of high salt content waters



Membrane unit at a paper-mill plant

High temperature wastewater

Treatment of wastewater with a temperature up to 60°C gives excellent results and high savings.

Paper-mill plant case

- Design capacity 9 m³ / h
- COD reduction > 85 %
- BOD reduction > 99 %
- Effluent reuse 90 %
- Energy savings 700.000 m³ gas / y
- Water savings 40.000 m³ / y
- No excess sludge

Highly concentrated wastewater

The membrane bioreactor is an excellent solution for treatment of concentrated (high COD) wastewater. Wastewater up to a COD of 130.000 mg/l resulted in effluent COD's of less than 200 mg/l (>99% reduction).

Our plant at AKZO Diosynth operates since 1999, reducing solvents with a COD of 30.000 mg/l to less than 1.000 mg/l.

We have very promising results with our anaerobic pilot MBR. High degradation, low sludge yield and biogas (ask for the latest results).



Control cabinet and membrane unit at AKZO Diosynth

High salinity wastewater

High salinity may have serious impact on sludge activity and quality. Triqua has obtained excellent results with MBR treatment of a wastewater containing 120.000 mg/l salts and 50.000 mg/l COD. The average effluent COD was 2.000 mg/l.

Reuse

The excellent permeate quality makes direct reuse of effluent possible if salt content and low organic residues are acceptable. If high process water quality is required direct feed to Reverse Osmosis or Nano-filtration units is possible.

For further information:

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