

Optimising operations Pond treatment plant, Grimburg-Gusenburg (Hermeskeil), Germany



VG-Werke Hermeskeil,
Teichkläranlage Grimburg-
Gusenburg

Operation

2 OLOID Type 400 in 2 ponds
with 2000m³ and 3000m³

Period

Since June 2014

Success

More stable discharge values

Saving of 30% of energy for
aeration through reduced
operating time of the jet
aerators

Goal of the OLOID operation

Optimising operations: Improvement of the agitation, uniform distribution of oxygen, reduction of operating time of the pre-existing aeration with at least unchanged efficiency of degradation

Description of the plant

Communal pond treatment plant, design capacity: 2000 PE (population equivalent), predominantly domestic waste water
Process design: 2 aerated ponds -> tertiary treatment ponds
Pond aeration: each 2 jet aerators (each 2.2 kW) in pond 1 and 2 jet aerators (each 2.2 kW) in pond 2 mounted on floaters
The OLOID-current generates a long range current in the pond and includes continuously parts of the pond which can not be reached by the jet aerators.



Results

- The circulation in the entire pond is improved through the operation of the OLOID. The entire body of water is stirred as far as the corners leaving no death zones.
- Because the jet aerators are no longer necessary for the circulation but only for the aeration with oxygen necessary for the biological degradation, **energy savings from 70000 kW per year to 50000 kW per year** could be achieved. This corresponds to **energy savings of around 30%** for operating the pond treatment plant.
- Additionally the discharge values could be met continuously.