Malatech water
Trading & Service Ltd.
www.malatechwater.com
Address:H-1214 Budapest, Orion u.14
Tel: (+36) 1 278-0850
Fax: (+36) 1 276-5670
E-mail: info@malatechwater.com

Case Study

Gödöllő Wastewater Treatment Plant

Q=7,000 m^3/d

Author: Malatech Water, Ltd.

Title: Municipal Wastewater Treatment Plant Optimization

Address:H-1214 Budapest, Orion u.14
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Layout

Plant with primary clarifier and aerobic biological reactor followed by secondary clarification.

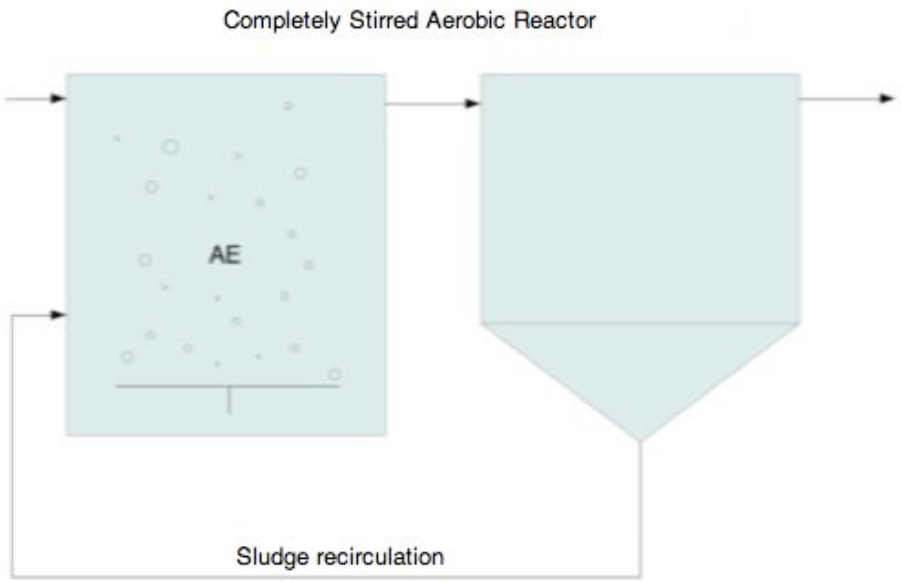

Figure 1 – Schematic flow diagram

Application used:

In order to improve the treatment efficiency **Bioclean**TM has been applied in a shock dose of 18 kg/day in the first week subsequently reduced to 2 kg/day in 5 weeks which has remained the maintenance dosage.

Main goals:

1) Reduction of the blower's power consumption by the biotechnological optimization of the activated sludge

2) Reduction of excess sludge quantity

3) Stabilization of effluent parameters

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Sludge production

The average quantity of the dewatered sludge was **258 m^3/month before the biotechnological optimization**. This quantity considerably **decreased during the treatment**, so since the startup phase, the average amount has **been 216 m^3/month**.

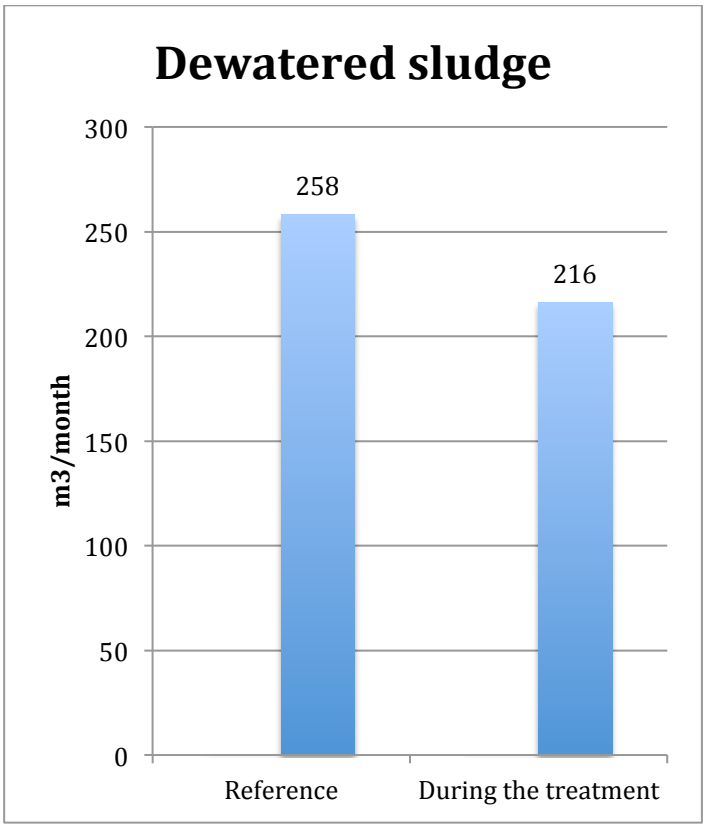

Figure 2 – Monthly quantity of the dewatered sludge

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Energy Consumption

In the aerobic reactors, due to the better Oxygen-utilizing ability of the activated sludge with modified composition, the **dissolved oxygen level could be reduced from 2,5 mg/l to 0,8 mg/l**, and due to this, the power consumption of the blowers has decreased, which **reduced the power consumption of the plant by 16%.** The **specific energy consumption per treated water volume got reduced from 0,436 kWh/m^3 to 0,391 kWh/m^3**.

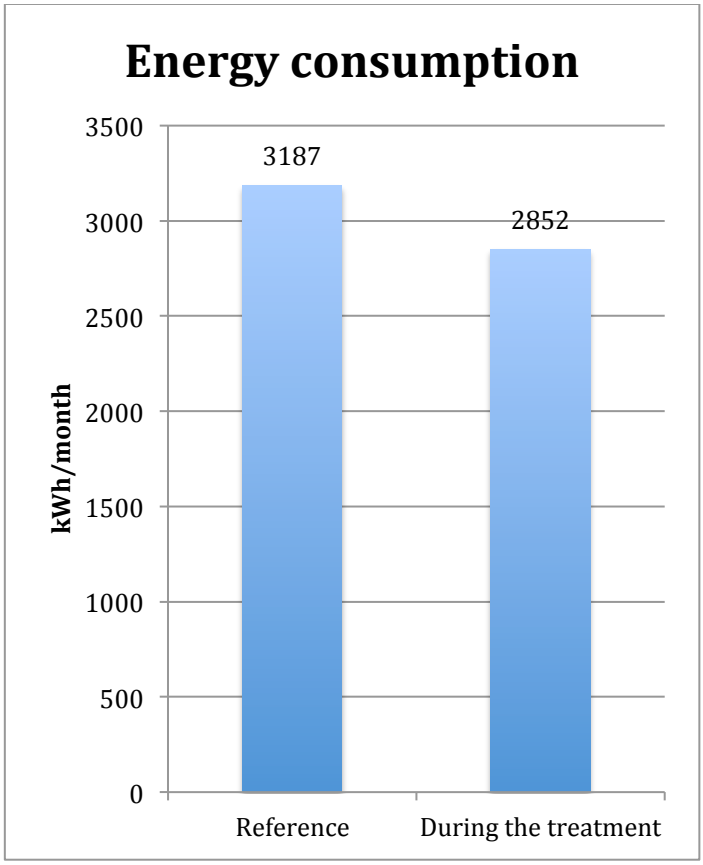

Figure 3 – Energy consumption

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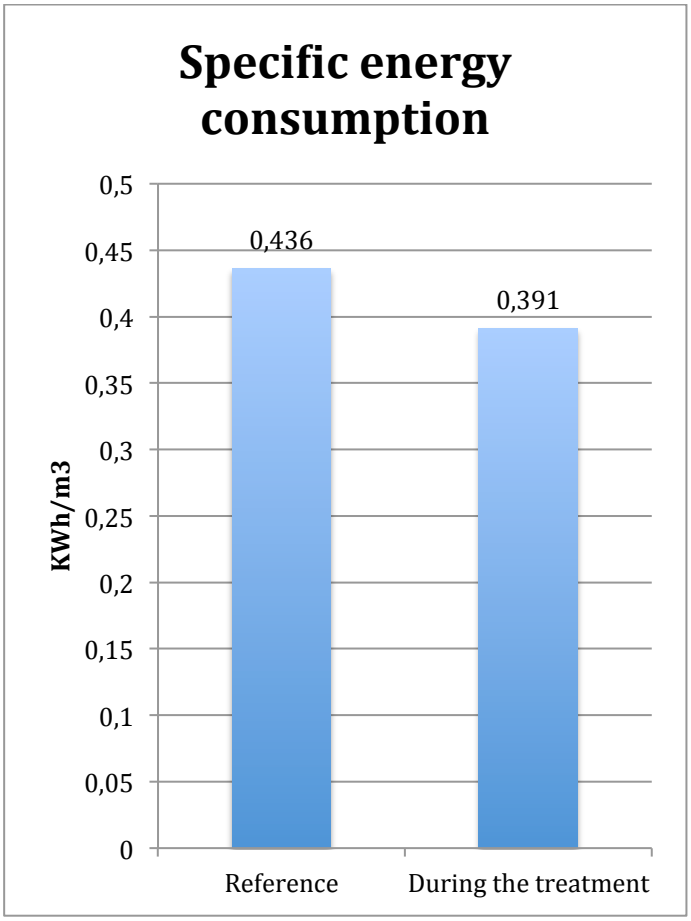

Figure 4 – Average specific energy consumption