

Case Study

Tokaj Wastewater Treatment Plant

$Q=1500 \text{ m}^3/\text{d}$



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Title: Municipal Wastewater Treatment Plant Optimization

Layout

Anaerobic – anoxic – aerobic WWTP without primary clarifier.

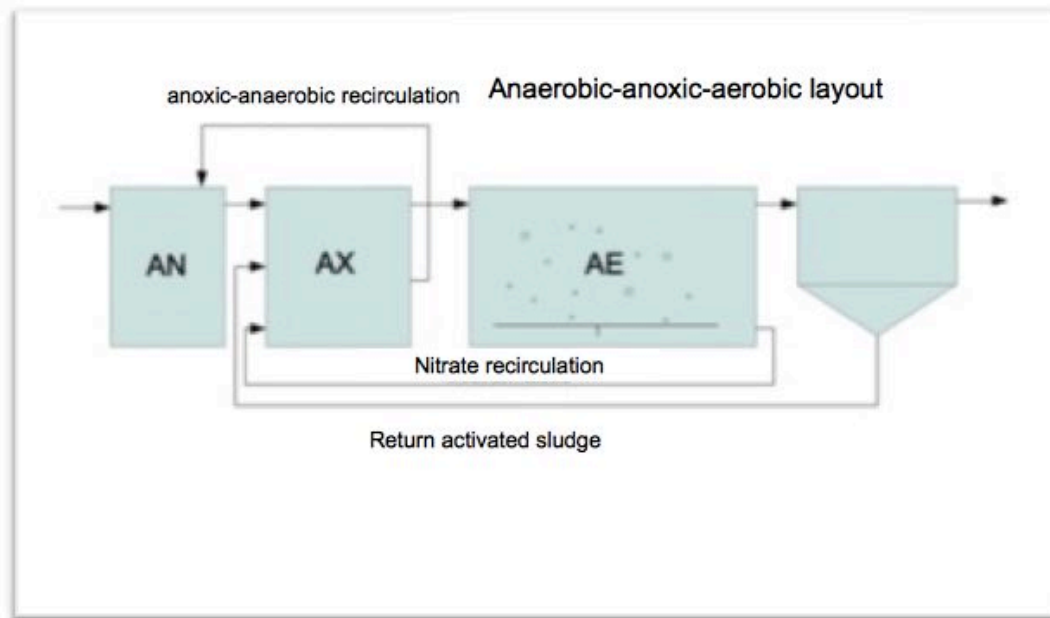


Figure 1 - Schematic diagram

Application used:

In order to improve the treatment efficiency **Bioclean**TM has been applied in a shock dose of 6 kg/day in the first week subsequently reduced to 1 kg/day in 5 weeks which has remained the maintenance dosage.

Furthermore **BioBooster Micro** has been applied in a quantity of 1 kg/ day for 4 weeks and after that 0.5 kg/ day for 8 weeks.

Additionally 0.5 l/ day **Ammonia Guard** has been applied for 4 weeks.

Main goals:

- 1) Effluent quality improvement because of continuous discharge limit violations (COD, BOD, NH₄⁺, TN, TP)
- 2) Reduction of dewatered excess sludge quantity

Effluent parameters

The goal of the bioaugmentation is to increase the purifying capacity of the heavily overloaded plant, therefore decreasing the COD and NH₄-N concentration in the effluent. **The effect of Bioclean™ is the most visible on organic breakdown (COD improvement) and nitrification (lowering Ammonium concentrations in the effluent).**

Parameter	Average reference level (2009)	Average level during the treatment 14.07.-19.09.2011.
COD (mg/l)	134,0	58,7
NH ₄ -N (mg/l)	16,8	4,2
TP (mg/l)	2,4	2,9
TN (mg/l)	24,6	20,2

Table 1 – Effluent water parameters