

# Bioclean™

The Solution for Effluent Quality Problems without CapEx

Reduce effluent COD, BOD, TSS, NH<sub>4</sub>-N, TN, TP concentrations at overloaded wastewater treatment plants!

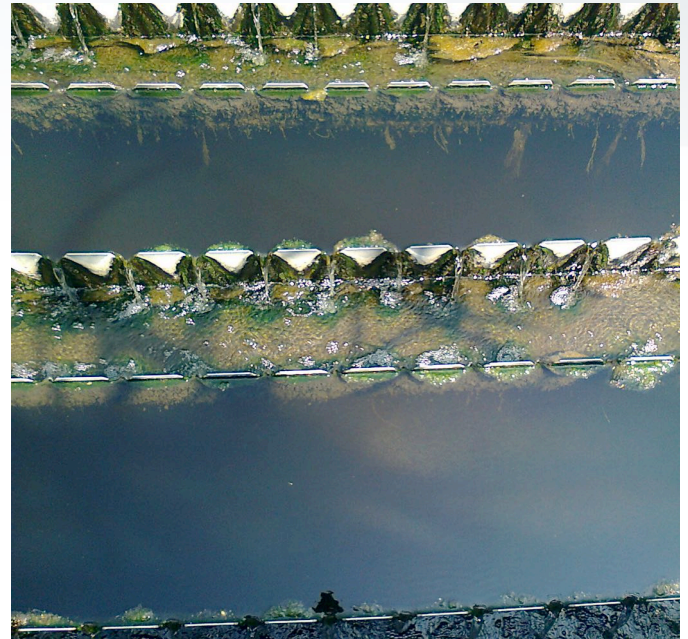


# MalaTECH

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## How do we do it?

Bioclean™ bioaugmentation is a solution for operators of municipal, and industrial WWTP's to **increase the biological treatment capacity of their plant without CapEx**. Bioclean™ **increases the plant's treatment capacity by 14-18%**, only by interacting in the biological step of the process. Bioclean™ bioaugmentation optimizes the microbial community in a way that **the WWTP is able to treat way higher cumulative organic and nutrient load** than before. By the application of Bioclean™ bad settleability of the activated sludge due to pin floc formation or EPS abundance is adjusted. As a result, sludge washout from secondary clarifiers is significantly reduced or stopped.



The effluent parameters of the overloaded plant can be optimised, moreover they can be brought down **below the authority limits with trouble-free operation (COD, BOD, TSS, NH<sub>4</sub>-N, TN, TP)**.

Our carefully selected microbial species **increase the metabolic rate** of the heterotrophic portion of the biology, **resulting a higher COD/BOD removal rate**. The process of nitrification in the biology is usually hurt or stopped by organic overload. Since Bioclean™ bioaugmentation accelerates organic removal, the **nitrifying capacity** of the overloaded plant is optimized or even **totally restored**.

Bioclean™ bioaugmentation also **improves Phosphorus removal rate**, optimizes the activated or granular sludge structure, and provides better settleability. **Effluent TSS is significantly reduced, sludge washout from secondary clarifiers is eliminated**. Excess foaming caused by organic overload also can be **reduced** without foam controller chemicals.

## Applicable at:

Industrial, and municipal **activated sludge, granular sludge, MBBR** wastewater treatment plants, both at continuous flow, or SBR technologies, aerated lagoons, oxidation ditches, trickling filters, rotating biological contactors.