

Small volume – maximum effect: The VTA Biolizer® was developed for maximum impact while using minimal resources.

WHAT ARE THE EFFECTS OF VTA BIOLIZER®?

VTA Biolizer® promotes bubble equilibrium and reduces the size of bubbles. This means they rise more slowly, which increases the dwell time in the water column.

The gas-water contact surface is also increased, which significantly boosts the transfer of oxygen.

Microorganisms thus have more oxygen available in the aerobic range and a more efficient metabolic process develops with a higher degradation efficiency. The flake structure is simultaneously optimised and filamentous bacteria are reduced or prevented.

VTA BIOLIZER® SAVES RESOURCES – IN EVERY WAY!

The result: Ventilation times can be significantly reduced because the oxygen in the ventilation zone is used much more effectively. In a practical trial*, the costs of ventilation energy could be reduced by almost 30%. The settling and thickening behaviour of the activated sludge also improves significantly.

Better results at lower dosages – for sustainable conservation of the environment and resources!

*See reverse side for details

ADVANTAGES

- Up to 30% less ventilation energy
- Higher plant reliability – higher operational safety
- Increases oxygenation
- Promotes microbiology
- Better settling and thickening behaviour
- Optimises the flake structure
- Effective against filamentous bacteria
- Improved oxidation properties
- Higher degradation efficiency in terms of COD, ammonium and phosphate
- Improves efficiency of the activated sludge stage for waste water with high organic loads
- Efficiently separates emulsified fats and oils in waste water.
- Targeted binding of sulphur

“The Biolizer offers very interesting ways of saving. The results speak for themselves.”

– **JOCHEN VINCON,**
WASTEWATER MANAGER
WWTP ALTHENGSTETT



Results from practice

WWTP ALLENTSTEIG (AUSTRIA)

- Designed for 6,600 PE, charged with 3,000 PE
- Previously imbalanced nutrient ratio (COD in the feed too low)
- FeCl₃ replaced by VTA Biolizer® since 6 December 2018 (measurements after > 3 sludge ages)

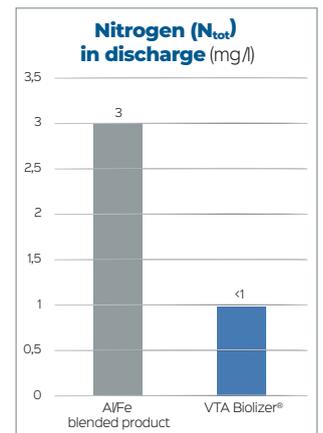
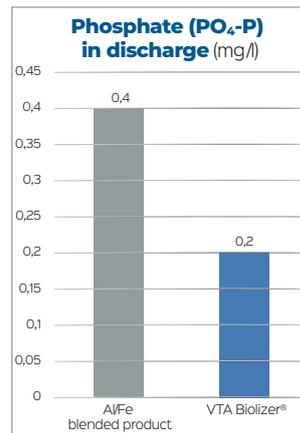
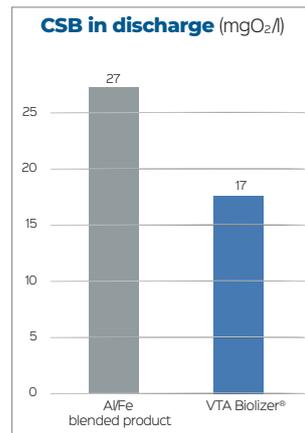
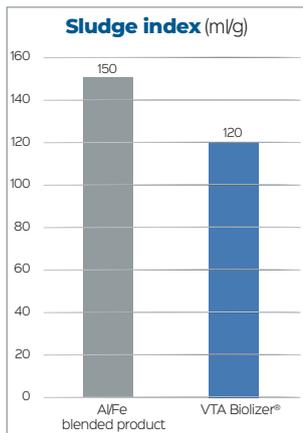
RESULTS

- Floating sludge completely disappeared after two days!
- Dosing quantity reduced by 60% compared to FeCl₃ – despite 27% higher feed rate!
- Improved visual depth, sink rate and sludge index
- Reduction of ventilation energy by almost 30%
- More active biology – thus limit value compliance is also easily possible in the winter months

	January 2018	January 2019	Change in %
Energy consumption biology	147 kWh/d	105 kWh/d	-28.5%
Precipitant consumption	30 l/d	12 l/d	-60%
Sludge volume in the aeration tank (SV BB)	519 ml/l	471 ml/l	-9.2%
Sink rate (SG)	1.2 m/h	1.5 m/h	+25%
Sludge index (ISV)	109 ml/g	91 ml/g	-16.5%

WWTP BURTENBACH (GERMANY)

- Charged with 6,000 PE
- Outstanding degradation of VTA Biolizer® compared with blended Al/Fe product



WWTP ALTHENGSTETT (GERMANY)

- Charged with 18,000 PE
- Blended Al/Fe product from sludge age >3 substituted by VTA Biolizer®

	without VTA Biolizer®	with VTA Biolizer®	Change in %
Phosphorus (P _{tot})	0.2 mg/l	0.08 mg/l	-60%
Precipitant consumption	8 l/h	5 l/h	-37.5 %
Oxygen content	1.7 mg/l O ₂	2.3 mg/l O ₂	+34.95%

RESULTS

- Reduction of precipitant consumption by 38%
- 30 - 40 cm floating sludge blanket disappeared
- Phosphorus (P_{tot}) reduced from 0.2 mg/l to 0.08 mg/l
- Stable plant operation thanks to 20% lower sludge volume (SV)
- Increase in oxygen content by 34.95% from 1.7 to 2.3 mg/l O₂ with constant ventilation
- Energy saving potential of approx. 110,000 kWh/year Resulting in cost savings of approx. 14,300 €/year at 0.13 €/kWh
- Suspended matter significantly reduced in secondary clarification
- Significant cost reduction through 10-15% decrease in polymer consumption
- COD and nitrogen (N_{tot}) additionally reduced