

**Everything can be clarified.
With VTA.**

VTA: Trademark for innovative environmental engineering

VTA-Nanofloc® is a result of the combined competence and expertise of the VTA Group. Like all our self-developed system products, VTA-Nanofloc® was created in the company's labs at the headquarters in Upper Austria. Since its founding in 1992 VTA has been setting standards in environmental engineering with worldwide success.

VTA's numerous high-tech solutions include proven system products for optimizing the operation of sewage treatment plants and technological innovations implemented on the basis of continuous research and development with scientific support.

cycles characterize nature. Thinking in cycles characterizes VTA's corporate philosophy.

Austria

VTA Austria GmbH
4681 Rottenbach
Tel +43 (0) 77 32 / 41 33

Germany

VTA Deutschland GmbH
94036 Passau
Tel +49 (0) 851 988 98-0

Czech Republic

VTA Engineering und
Umwelttechnik spol.s.r.o.
37005 Budweis
Tel +420 385 514 747

Switzerland

VTA Schweiz GmbH
Engineering / Umwelttechnik
7000 Chur
Tel +41 (0) 81 252 27-09



www.vta.cc · vta@vta.cc

Advancing into a new dimension of sewage treatment technology

VTA-Nanofloc®
A Lesson From Nature.



www.vta.cc

Dwarfs With Giant Potential

By being broken down into particles of mere fractions of millimeters the size, a material can take on entirely new properties. The metallic nanoparticles contained in VTA-Nanofloc® are firmly attached to a matrix of organic charge carriers and feature:

- **enormously increased reactivity**

Compared to their volume, nanoparticles have an extremely large surface area and therefore very strong surface energies. This allows even a small concentration of VTA-Nanofloc® to have an enormous catalytic effect when used in activated sludge. The desired chemical reactions are triggered significantly faster – even at **extremely low dosages**.

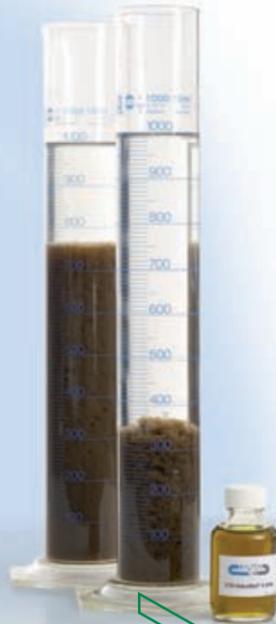
This makes the use of VTA-Nanofloc® highly cost-effective.

- **unequaled performance**

At the nanoscopic scale, the metallic base material contained in VTA-Nanofloc® multiplies its original magnetic pull.

This effect allows the charge equalization to take place inside the sludge floc, and not – as is usually the case – on its surface.

This results in extremely compact flocs. A breakup can be almost excluded, even under unfavorable conditions.



VTA-Nanofloc® Sets Standards

Quick-acting effect, enormous penetrating power: Its two stand-out features qualify VTA-Nanofloc® primarily for use in sewage treatment plants in the following cases:

- **under problematic operating conditions** with permanent hydraulic overload, etc.

- **under acute, exceptional circumstances** unforeseen impact loads, etc.

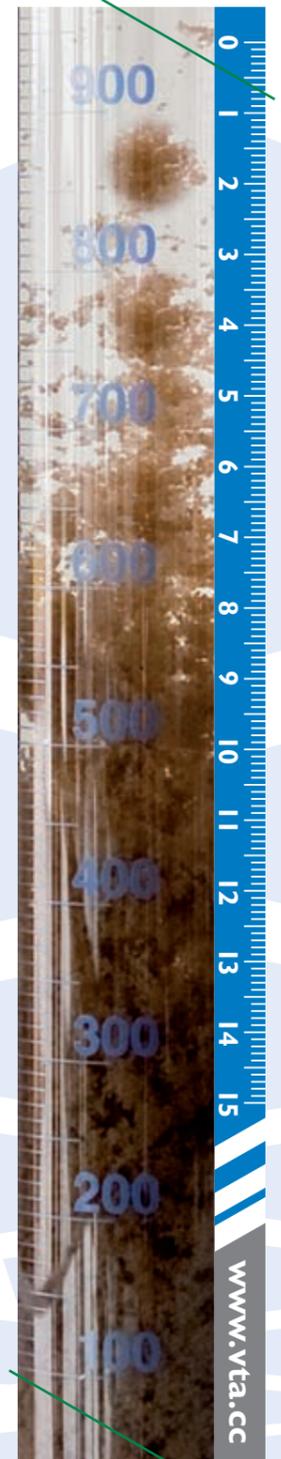
Concentrated Power

In a nutshell: The benefits of VTA-Nanofloc®.*

- **enormous increase in sedimentation rate (up to five times quicker)**
 - ▶ maximizes the hydraulic potential of a sewage treatment plant
- **immediately noticeable and lasting improvement of sludge properties**
- **creates extremely compact shear-resistant sludge flocs in record time**
- **reliable binding of micro flocs and suspended solids**
- **improved oxygen transfer**
 - ▶ faster reduction of pollutants
- **helps reduce extraneous materials**
- **reduces micro-impurities**

During sludge treatment (static thickening and mechanical dewatering), VTA-Nanofloc®:

- **increases the content of dry substance**
- **minimizes the use of polymer**
- **reduces backloading**



* All information is based on the results of long-term application of VTA-Nanofloc® observed by independent research institutes.