



Aerobic Digestion



FUCHS
A Metawater Company

Aeration
Mixing
Experts

FUCHS Aerobic Digestion at $> 35^{\circ}\text{C}$

- The Cost Effective Biosolids Treatment -

Upgrade of an overloaded wwtp

Aerobic digestion is a simple and cost-effective way of increasing the capacity of existing wastewater treatment plants.

Using already existing tanks (including storage tanks) reduces the load of the activated sludge plant. Additionally, separate stabilization improves the biosolids quality.

Design of a new wwtp

The use of aerobic digestion at temperatures of $> 35^{\circ}\text{C}$ ($\sim 95^{\circ}\text{F}$) is a cost-effective alternative to conventional processes.

The highly efficient process leads to short retention times, small footprints and low investment cost.

Sewage sludge - a valuable resource

Today, we recognize sewage sludge and manure as valuable resources for nutrients, soil-improving organic carbon, phosphorus and nitrogen.

Returning sludge and manure into the natural cycle provides not only ecological, but also economical benefits.

Of course, prior to application sewage sludge stabilization is necessary.

High temperatures allow for disinfection

Easy to install
Sturdy and efficient equipment



Fundamentals

Biological stabilization of sewage sludge is achieved by degrading the volatile solids.

With FUCHS Centrox Aerators degradation takes place aerobically. Chemically bound heat energy is released from the sewage sludge during the digestion process.

Autoheating of the sewage sludge leads to mesophilic process temperatures of approx. 35°C (95°F) and above.

At these mesophilic temperatures the bacteria grow fast, allowing for retention times as low as 8 - 12 days.

Benefits

- Use of existing basins/tanks
- Easy plant expansion
- Treatment of virtually all kinds of sludge (primary sludge, waste activated sludge, sludge with high amounts of fat as well as mixtures thereof)
- Short retention time
- Low space requirement
- Low investment cost
- Industrial and municipal applications
- High-quality product with excellent fertilizing value
- Sturdy and efficient aerators

FUCHS Machinery Equipment

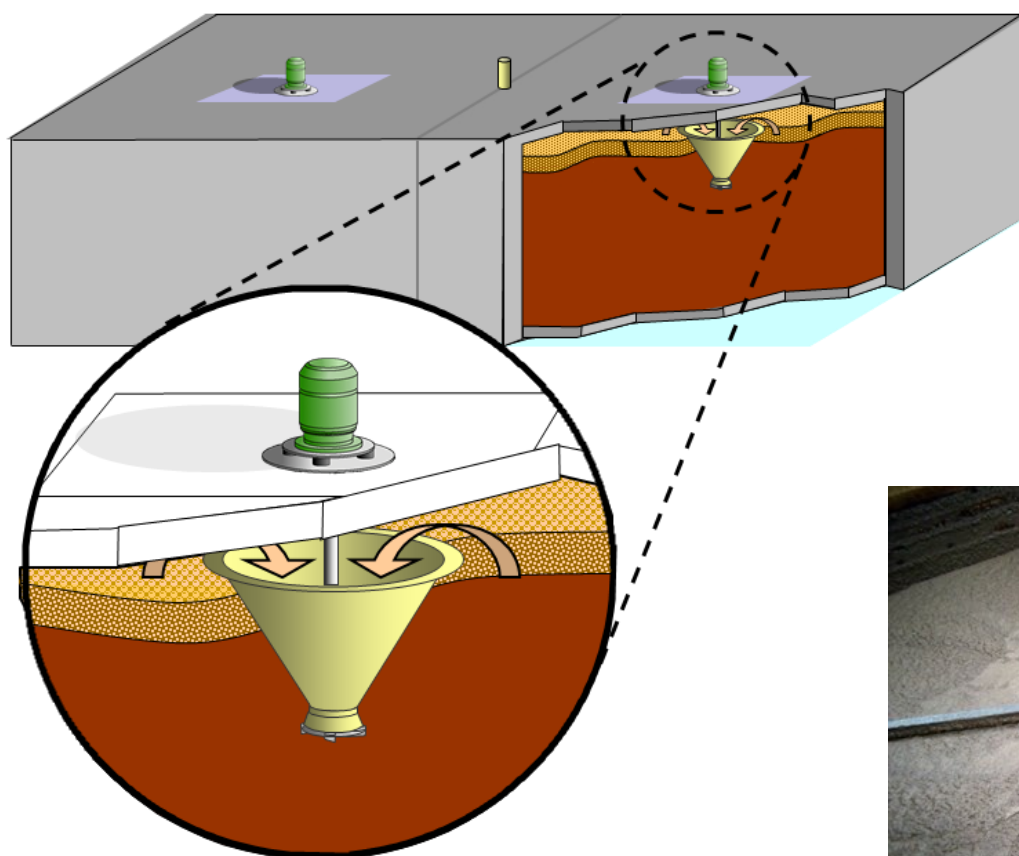
The FUCHS Centrox Aerator with foam control ensures agitation, mixing and fine-bubble aeration of the sewage sludge.

It controls foam produced during the degradation process.

Basically, the unique FUCHS Centrox Aerator consists of drive, mounting plate, foam cone and impeller. The rotating impeller sucks sludge from below and air or foam from above through the foam cone and swirls the mixture of both radially to the sides.

The aerator is mounted either at a bridge or into a reactor roof or on a float assembly.

The combination of excellent design, best production quality and high-quality materials makes the sturdy the Centrox Aerator almost maintenance-free.



Centrox Aerator for excellent aeration and foam control

Centrox Aerator on flotation





That's your way to a Clean Solution!

The Equipment

Aerators

- OxyStar Aerator
- DualStar Aerator
- Centrox Aerator
- AeroStar Aerator

Mixers and Agitators

- TurboStar Mixer
- FlowStar Agitator

ATAD Equipment

- OxyStar Aerator
- Centrox Aerator
- Foam Controller

The Applications

- Municipal Wastewater
- Industrial Wastewater
- Activated Sludge Plants
- Aerated Lagoons
- Nitrification/Denitrification
- Aeration of Rivers and Lakes
- Balance and Equalization Tanks
- Neutralization of Alkaline Wastewater
- Mine Water Treatment
- Leachate and Landfill Lagoons
- Biosolids Treatment
- ATAD-process (Autothermal Thermophilic Aerobic Digestion)
- ATAD AIC™ (Advanced Integrated Concept)
- Liquid Composting of Manure
- Odour Control



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