

The Original!

# STABI-KOM

Fully Biological  
Wastewater Treatment  
for New Construction  
and Retrofitting







Small Sewage  
Treatment Plants  
in a 3-Phases-Cycle

# Proven **Solutions** for fully Biological Wastewater Treatment

Although most households are connected to the sewage system, in rural areas this connection is often not possible and therefore your own responsibility as a landowner is required. The wastewater must be removed in such a way that the valuable groundwater is not endangered.

The AQUATO® STABI-KOM is a single stage activated sludge plant according to the SSB®-process (sequential stabilizing activated sludge process – a sequential aerobic wastewater treatment plant with integrated sludge stabilization), developed by AQUATO® Umwelttechnologien GmbH.

AQUATO® helps you with a small sewage treatment plant of the latest generation!



## 3-Phases-Cycle

# Outstanding Cleaning Performance

The AQUATO® STABI-KOM is a single-stage activated sludge system based on the SSB® process (sequential stabilizing activated sludge process - an aerobic sequential wastewater treatment plant with integrated sludge stabilization), developed by AQUATO® Umwelttechnologien GmbH.

In principle the cyclical wastewater treatment with batches and the sludge separation, sludge stabilization and sludge storage take place in a common system level.

The individual processes are not separated spatially but separated in time (intermittent operation).

The combined stages are divided into at least two chambers. Next to the aeration the first chamber is also used as a coarse trap.

In the last chamber, in addition to the intermittent introduction of oxygen, the final clarification takes place.

These three phases of the SSB® process can be operated in modern single- or multi-chamber tanks or easily, without major structural changes, in existing older tanks.

All steps in the plant are carried out on a regular cycle, which is set by the control panel.

A cycle consists of the following phases:

### 1. Aeration Phase: Water Treatment

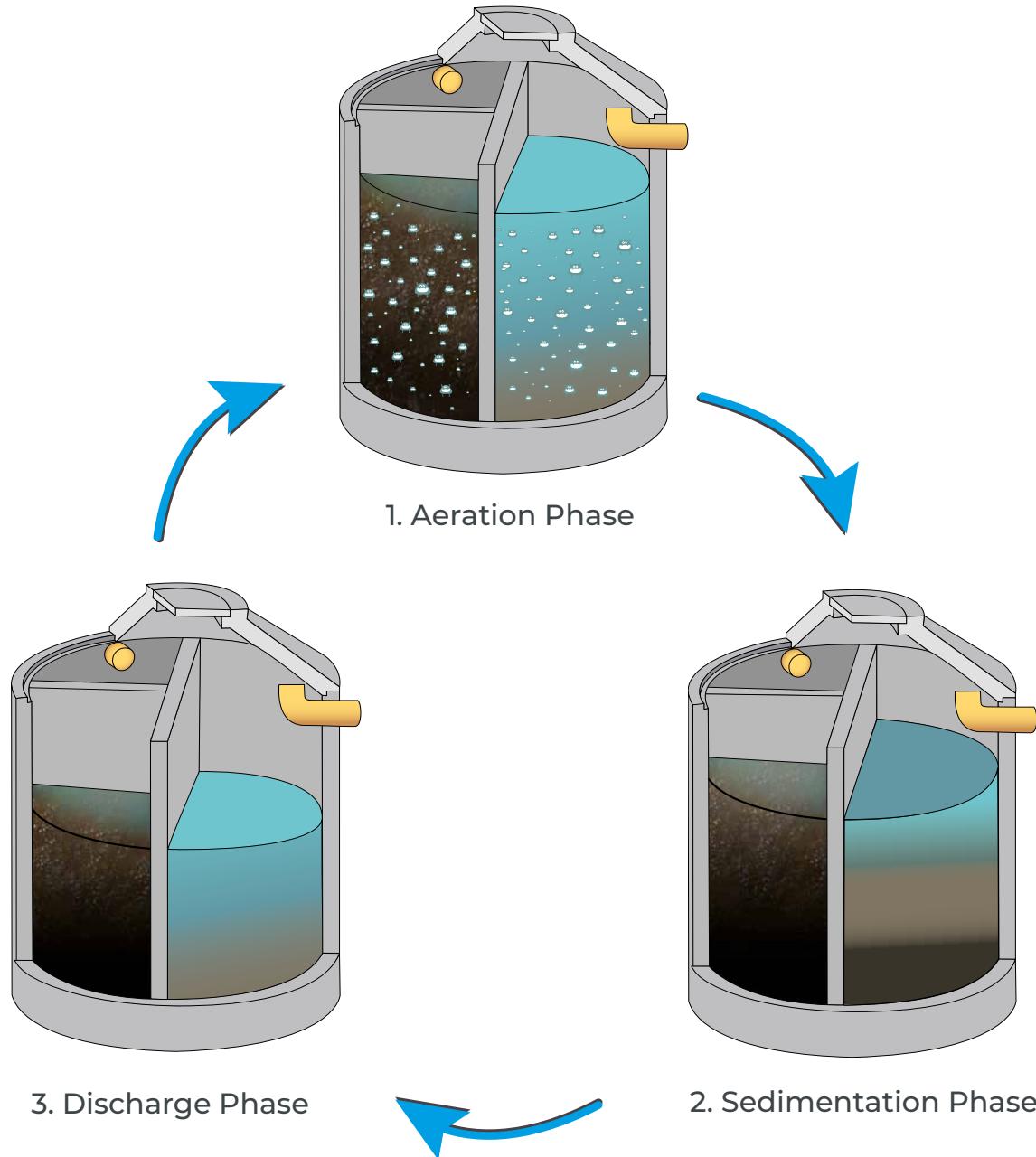
The incoming sewage initially reaches the first chamber. Here the biological treatment of the wastewater starts. Organic compounds are removed by microorganisms in the activated sludge. Optionally the process of denitrification takes place here as well. In addition, coarse material is retained.

### 2. Sedimentations Phase: Secondary Clarification

Biological treatment of the wastewater also takes place in the last chamber. In the same chamber but separated by time, final sedimentation takes place. The activated sludge settles down to the ground of the aeration tank and the cleared water separates in the upper part of the tank.

### 3. Discharge Phase: Pumping out of Treated Water

The clearwater is pumped into the outlet, out of the tank.



COD: 95%  
BOD<sub>5</sub>: 99%  
SS: 96%  
NH<sub>4</sub>-N: 98%  
N<sub>tot,anorg</sub>: 77%

# STABI-KOM

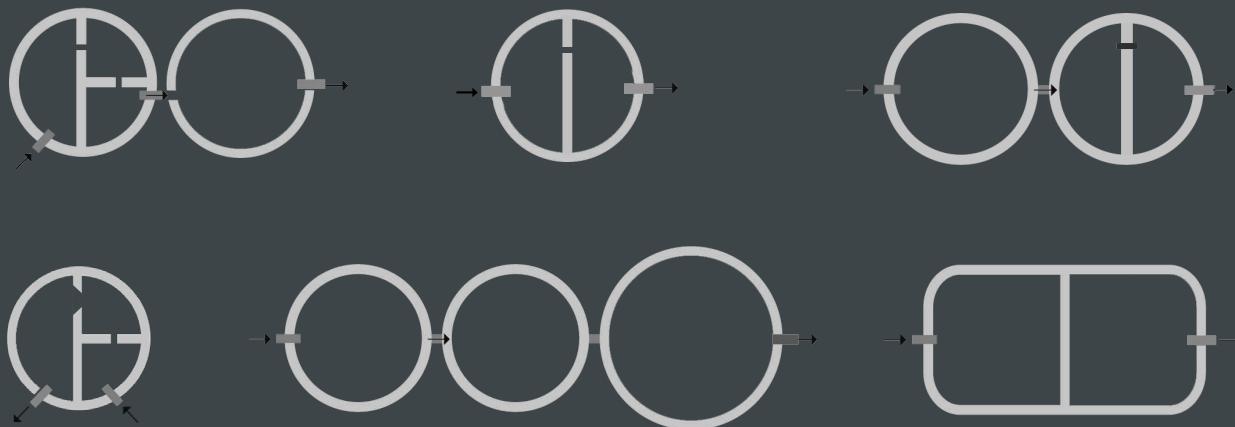
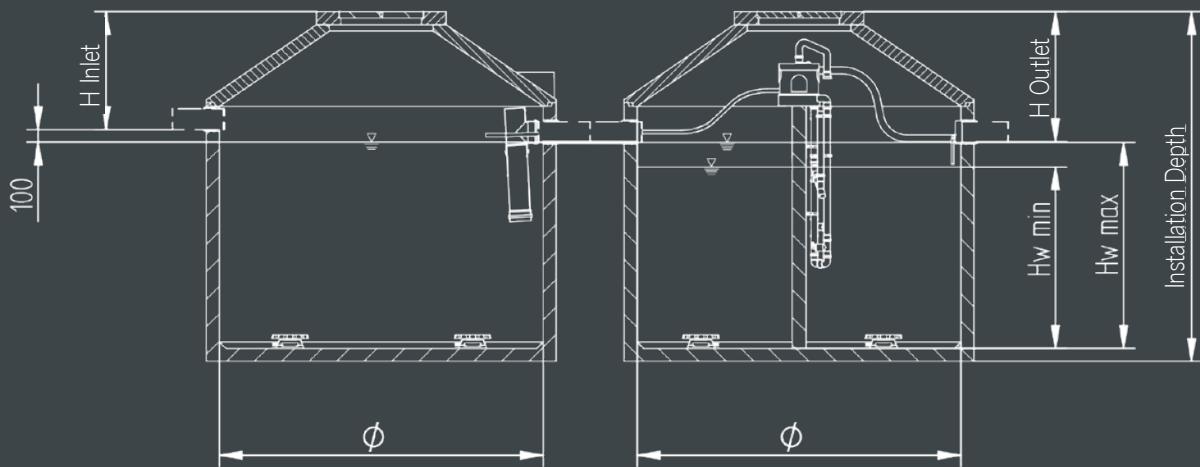
New Construction  
and Retrofitting  
made easy!

## Flexible Use in Concrete or Plastic Tanks

The AQUATO®-systems STABI-KOM and STABI-KOM-PAKT can be integrated into a concrete or plastic tank, as new construction or retrofitting.

Your fully biological sewage treatment plant can be set up in no time at all!





# Variable Installation Options

The AQUATO®-systems STABI-KOM and STABI-KOM-PAKT are very flexible for sewage plants up to 50 persons.

They can be used in 1-tank systems as well as in multi-tank systems. The shape of the container is also irrelevant, whether round or square, the AQUATO® systems can be installed. Depending on the requirements, different chambers or tanks of the plant can be used as reactors.

If there is no partition wall in the case of multi-tank systems, the lifter can also be hung on chains or crossbars.

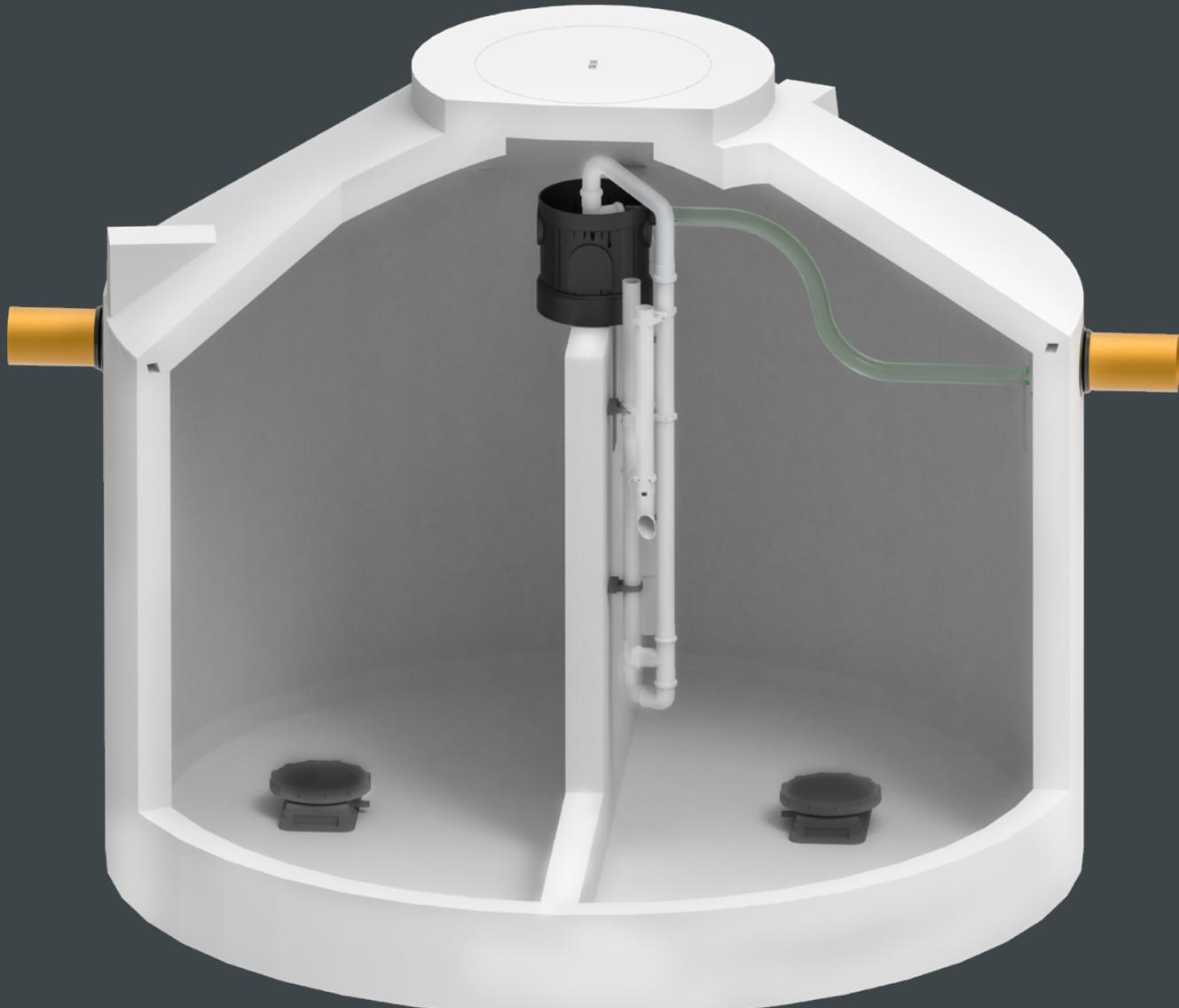
# STABI-KOM

## New Generation among the Small Sewage Treatment Plants

AQUATO® has succeeded in what has been tried for a long time – the wastewater treatment plant almost nearly without sludge removal with outstanding cleaning performance. Over the years plants under various conditions have proven STABI-KOM works "without fuss or quibble".

- + No Odours
- + Little Sludge Removal
- + Prevents Corrosion in Concrete Tanks
- + Significantly reduced Operational Costs





## Sludge Formation and Sludge Stabilization

As it is characteristic to the SSB® process, only aerobically stabilized sludge forms in the small wastewater treatment plant AQUATO® STABI-KOM.

The system is designed to combine the treatment of the wastewater and a sludge stabilization by sufficient aeration. The sludge needs no further treatment. Normally sewage sludge consists of min. 95% water, with solid and dissolved substances. This „muddy brew“ creates unpleasant odors by sludge decomposition. By the supply of oxygen fouling processes does not occur. Instead microorganisms are formed, which convert the sludge into humus-like substances and do not allow the unpleasant odors to evolve.

### Sludge disposal? What's that?

With sufficient tank size and simultaneous aerobic sludge stabilization a sludge balance in the AQUATO® STABI-KOM wastewater treatment plant is reached over the years. Sludge disposal could possibly omit completely.

This will save you a tremendous amount of money for years!

# ALWAYS A PERFECT FIT

The **Inner Workings** of your System - **Ingeniously Simple** with maximum Output up to 50 PE



## AQUATO® STABI-KOM

At the AQUATO® STABI-KOM no electrical devices are installed under water. In the septic tank there are only the disc diffusers at the bottom of the tank and the air-lift pumps ,which are attached to the partition wall.

The aeration is done by a compressor that is placed above the control unit and blows the required air into the disc diffusers. The pumping processes are carried out with the air-lift pumps, which work according to the mammoth pump principle and are also supplied with compressed air by the compressor.

The electrical devices, control unit and compressor, are easily accessible in the dry.

# Advantages



- + Simple retrofitting in advance existing pits
- + Suitable for a wide range of tanks
- + Reduced technology
- + No electrical components submerged in water
- + High level of operational safety due to modern technology
- + Durability due to proven units
- + Simple and safe assembly and retrofitting
- + Low maintenance costs due to easy handling
- + Low power consumption
- + Economy mode optional
- + Excellent cleaning efficiency even with over- & underload
- + Significant below the required limit values



## AQUATO® STABI-KOM-PAKT

At the AQUATO® STABI-KOM-PAKT all air-lift pumps are attached to a wall bracket.

This allows to mount the lifting unit over the dividing wall, simply and in one piece.

The entire lifting unit can be removed again just as easily.

# CONTROL

K-Pilot 18.1/18.3



## Control

State-of-the-art computer control unit **K-Pilot 18.1 and 18.3** with a large graphic display. It provides all important data at a glance. To minimise maintenance efforts, there is an integrated backpressure monitoring system.

Standard equipment is the K-Pilot 18.1. For larger systems or special functions, the K-Pilot 18.3 with extended functionality is used. In this control unit there is for example the possibility to connect a clear water pump, whereby even larger lifting heights can be bridged.

## Rotary Valve

Integrated rotary valve with step motor technology- energy saving and quiet.



# Advantages



- ✚ Modern control for smooth operation
- ✚ Graphical display
- ✚ Safe and easy to handle
- ✚ Compact construction due to integrated rotary valves with stepper technology
- ✚ Instead of air-lift pumps, submersible pumps can be connected
- ✚ Compact modular construction: optionally with wall bracket-, or in wall- and outdoor cabinet



## Wall Closets (optional)

External cabinet solution to accommodate the control unit and the compressor. The casing consists of fibre-glass reinforced plastic (GPR) and includes a built-in power socket.

## Outdoor Cabinet (optional)

External cabinet solution to accommodate the control unit and the compressor. Not only cost-effective but also a reliable protection against the elements. The casing consists of fibre-glass reinforced plastic (GFK) or PE and includes a built-in power socket.



# MODULES



Additional cleaning stages can be:

## H-Module for UV-Desinfection

With an UV module the highest level of wastewater treatment can be reached. The precious water is now available, e.g. for garden irrigation. But environmental protection and water pollution control are taken into account as well as being taken care of. But environmental protection and water pollution control are taken into account as well.

The disinfection performance of an UV system is based essentially on the fact that each volume element – as it flows through the UV reactor – receives the required UV dosage. To ensure this, the radiation field and hydraulics in the UV system are perfectly adjusted.



## ADVANTAGES

- + UV module as an additional treatment stage
- + Ideal maintenance due to installation in outdoor cabinet
- + Low maintenance with high operational safety
- + In stainless steel housing
- + High reliability
- + Can be retrofitted for sewage treatment plants that are already in operation

# MODULES

**P-Module** Phosphate precipitation as an additional treatment

**C-Module** External carbon source during underload operation

**Cl-Module** Chlorine disinfection as downstream hygienisation



## ADVANTAGES

- ⊕ As an additional treatment
- ⊕ Reservoir made of steady plastic with a bolt dosing pump
- ⊕ High operational reliability
- ⊕ Low maintenance
- ⊕ Refillable by a long hose
- ⊕ Easy installation due to suspension chains
- ⊕ Safe against unwanted access when inside the tank
- ⊕ Can be retrofitted to any existing sewage treatment plant in operation



## Why Phosphate Elimination ?

Since the 1980s, the phosphate elimination was introduced in wastewater treatment, in order to prevent the lack of oxygen in the receiving waters, and particularly in water conservation areas.

Phosphorus compounds act as fertilizers and are the main reason for eutrophication (nutrient accumulation) in stagnant waters and streams.

With a P-module for phosphate elimination a dosing pump adds a coagulant like ferric chloride from the reservoir to the wastewater in the biological stage and ensures the removal of phosphorus compounds.

# Notes

## Underload !

AQUATO® sewage plants offer full cleaning power - from just one person and with low water consumption! But even after your vacation or any other break it immediately continues - always reliable with maximum operational safety and compliance with the legal discharge values.

## Declaration of Performance

According to European guidelines, Aquato® small sewage treatment plants are examined and documented for all their standardized effectiveness parameters by notified bodies. The plants are well tested on test fields and a declaration of performance from the manufacturer according to EN 12566-3 is available.

If required, declarations of performance for our systems can be requested from AQUATO® using the contact options below:

fon +49 5221 10219-0    [info@aquato.de](mailto:info@aquato.de)



# Garden-friendly installable!





Presented by:



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