AQUATO®
umwelttechnologien

Small Sewage Plants
SBR-Process

AQUATO®
KOM & PUMP

Fully Biological Wastewater Treatment for New Construction and Retrofitting

DECENTRALIZED WASTEWATER TREATMENT
Responsibility for our Environment

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.

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

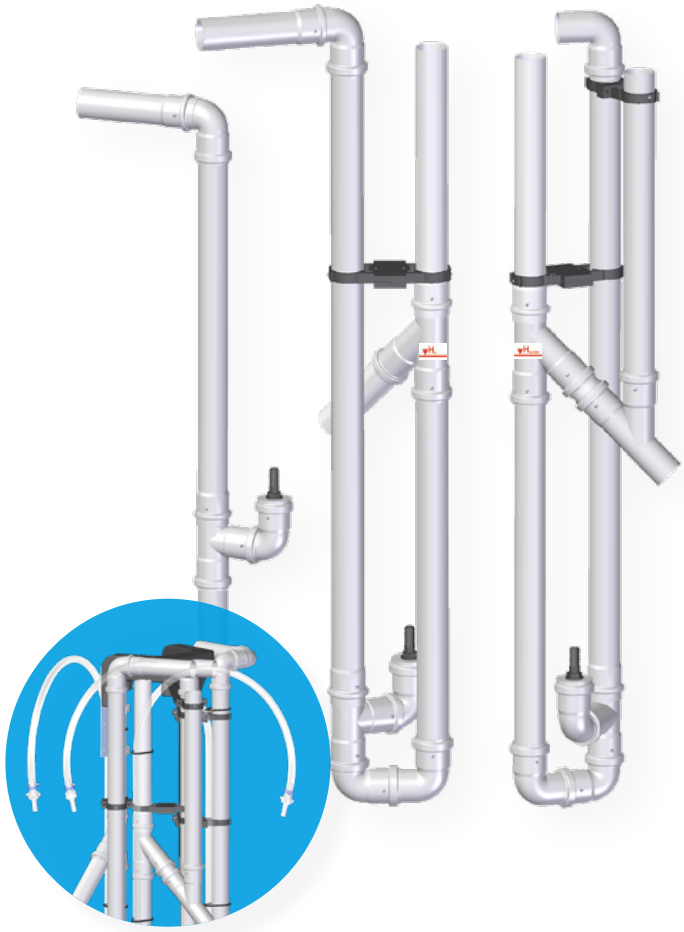
SIMPLE & FUNCTIONAL!

AQUATO® SBR-Systems

Solutions for fully biological wastewater treatment

AQUATO®'s sewage plants are energy efficient and highly effective. Our SBR-Systems provide exceptional stability, using well-established components with the best technology available today. The systems are wear-resistant and easy to install, making regular maintenance effortless.

AQUATO® – easy and flexible



AQUATO® PUMP

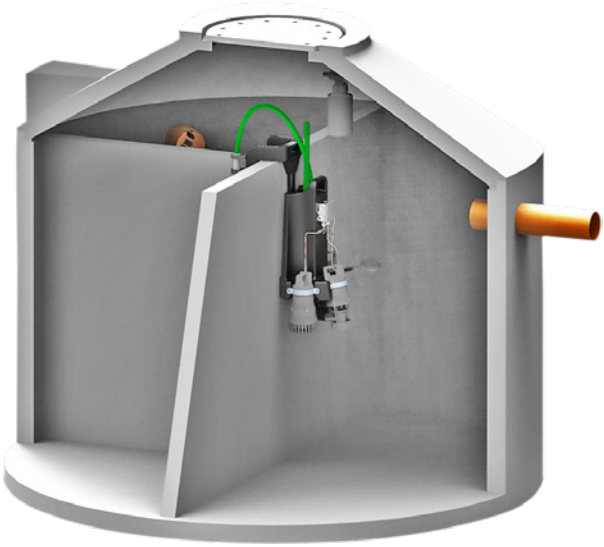
The **AQUATO® PUMP-**System contains state-of-the-art technology. It is adjustable in height and can be used in all tank variations. The mounting elements, for either chain or partition wall attachment, ensure the system is flexible and many sided to use.

AQUATO® KOM/KOM-PAKT

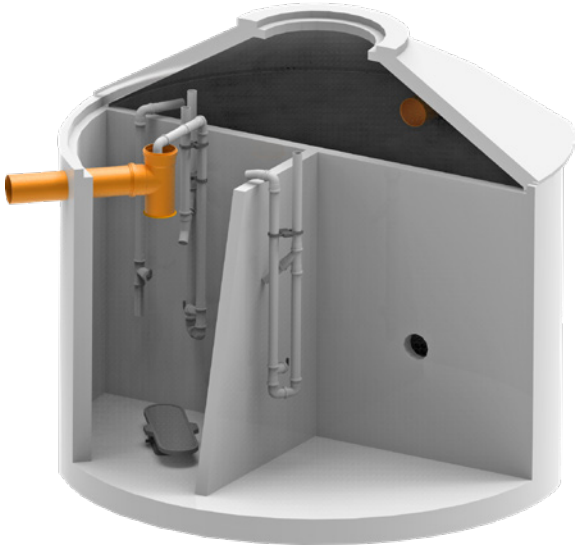
The **AQUATO® KOM-**System provides biological wastewater treatment, using compressors with the latest technology. It can be used in new plant constructions or for retrofitting in existing tanks.

Upgrading and Retrofitting the Easy Way

The **AQUATO® PUMP**, **AQUATO® KOM & AQUATO® KOM-PAKT** purification plants, are fully biological wastewater treatments as all-in-one systems or as expansions for existent tanks.



AQUATO® PUMP in a tank



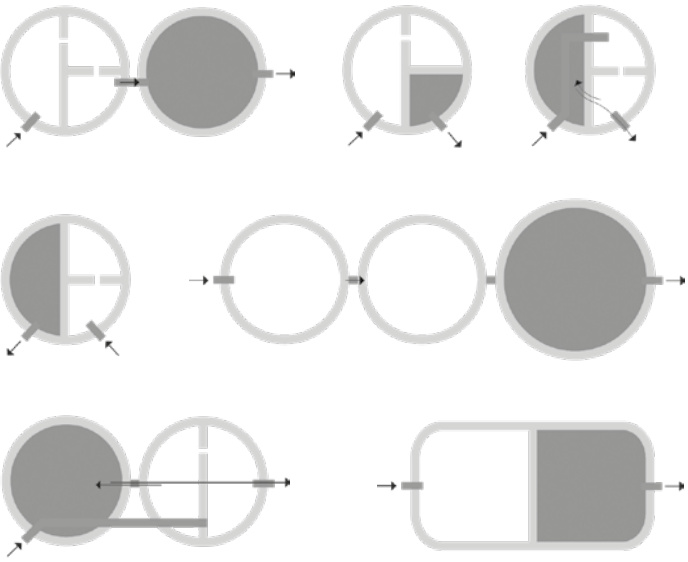
AQUATO® KOM/KOM-PAKT in a tank

Various Possibilities of Installation

The **AQUATO®**-plants **PUMP**, **KOM** und **KOM-PAKT** can be used very flexibly for plants up to 50 PE.

They can be used in 1-tank systems as well as in multi-tank systems. The shape of the container does not matter, whether round or angular, the **AQUATO®** systems can be installed. Depending on the requirements, different chambers or vessels of the plant can be used as a reactor.

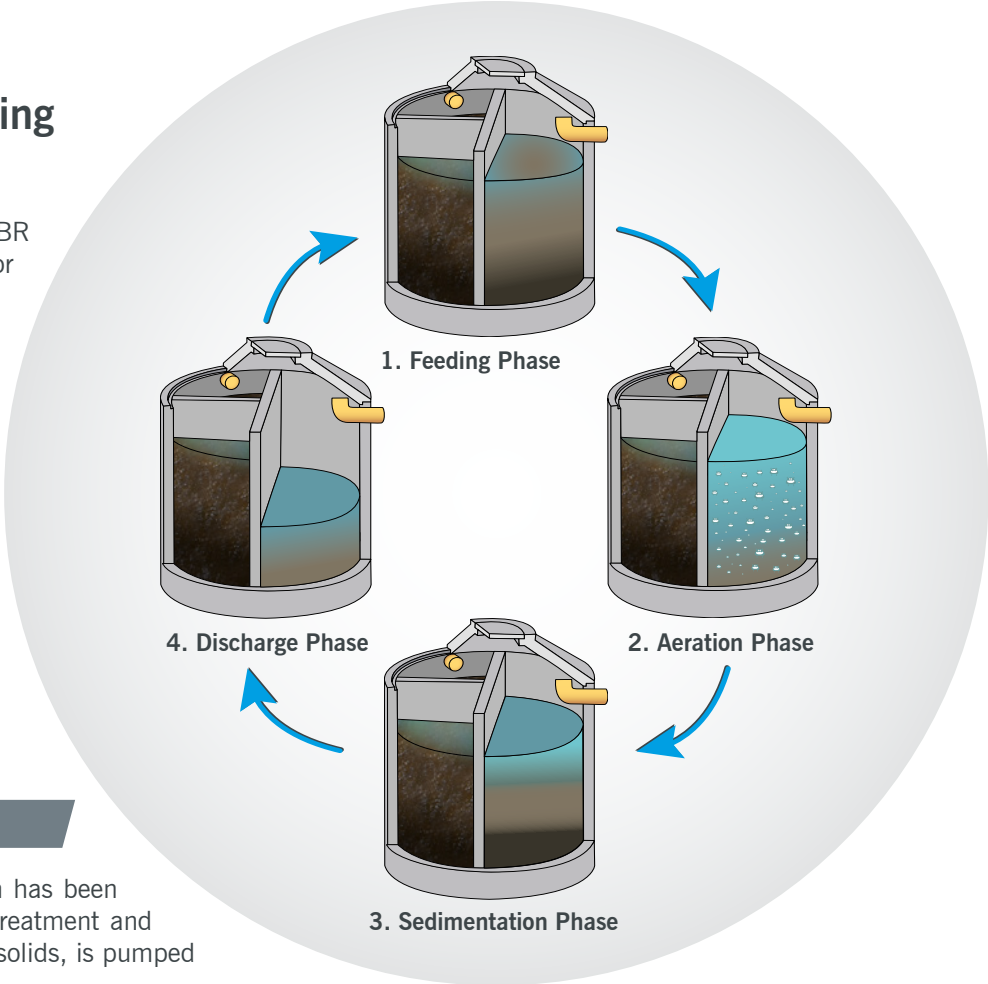
If there is no partition in multi-tank systems, the pumps or lifters can be fixed with chains or crossbars, as well.



4-PHASE CYCLE SBR

Outstanding Cleaning Performance

These four phases of the SBR process run in modern single or multi-chamber tanks – or easily, without much structural changes, in existing older tanks.



All processes in the plant take place according to a regular cycle, which is specified by the control.

Phases of the SBR-procedure:

1. Feeding Phase

Part of the wastewater, which has been collected inside the primary treatment and which has been cleared from solids, is pumped to the aeration tank.

2. Aeration Phase

The waste water inside the treatment chamber is intermittently aerated and mixed. As a result, activated sludge is created which contains the microorganisms needed for wastewater treatment. Aeration and resting times can be adjusted to the actual needs of the biology.
The excess sludge is pumped back to the primary treatment, from where it will be disposed together with the sewage sludge. If no wastewater is added during aeration phase, the plant is able to automatically switch to the energy saving mode.

3. Sedimentation Phase

The activated sludge settles down to the ground of the aeration tank. The cleared water seperates in the upper part of the tank.

4. Discharge Phase

The clearwater is pumped out of the tank through the outlet.

AQUATO® KOM & KOM-PAKT
Simple & Practical!

AQUATO® KOM

No electrical devices are needed in the water with the **AQUATO® KOM.** Only the plate aerator(s) on the bottom of the tank and the air lifters attached to the partition are installed in the tank.

The aeration takes place through a compressor which is placed aside the control unit and blows the required air into the plate aerator(s). The lifting processes are handeled with the air lifters, 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 and kept dry.

AQUATO® KOM-PAKT

With the **AQUATO® KOM-PAKT**, all air lifters are attached to a bracket. This means the lifting units can easily be hung over the partition of the system in one piece. The entire lifting unit can be removed again just as easily with a single grasp. The hoses are equipped with couplings and are connected to the hoses coming from the control unit.

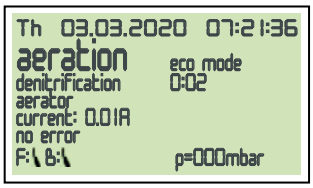
AQUATO® KOM-PAKT

ADVANTAGES

- Low wear
- Without electrical components in the water
- Suitable for underloading
- High level of operational safety due to modern technology
- Long-life cycle due to proven units
- Significantly below required effluent limits
- Suitable for different tank types
- High adaptability
- Low maintenance costs due to easy handling
- Energy efficient with high performance
- Energy-saving due to integrated economy mode

AQUATO® KOM

AQUATO® KOM-PAKT
Installation in PE tank



Control Unit K-Pilot 18.1 & 18.3

State-of-the-art computer control **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. With an optional clear water pump even longer distances can be bridged. Furthermore, it is the perfect replacement control for existing SBR plants and adjustable to various conditions.

ADVANTAGES

- Modern control for smooth operation
- 6 line graphic display
- Safe and easy handling
- Compact construction due to integrated rotary valves with stepper technology
- Instead of air lifts, submerged pumps can be connected
- Compact modular construction: Optionally with wall bracket or in wall- and outdoor cabinet

Rotary Valve

Integrated rotary valve with step motor technology- energy-saving and quiete

Wall Cabinet

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

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

AQUATO® PUMP
Proven, Modern and Efficient!

Outstanding Technology

The **AQUATO® PUMP** wastewater treatment system owns state-of-the-art pumping technology and can be adjusted in height and therefore be connected to all tank versions. Due to its assembly modules (chain/partition wall attachment) it can be used flexible and versatile. The aeration is done with a submerged aerator.

Powerful aerator with fine-bubble aeration

ADVANTAGES

- High level of operational safety due to modern technology
- Long-life cycle due to proven units
- Significantly below required effluent limits
- Simple and safe assembly with ready-to-plug units
- Suitable for any approved tank types
- High adaptability through special adjustment options
- Low maintenance costs due to easy handling
- Energy efficient with high performance
- Energy- saving due to integrated economy mode
- Minimal noise emission of pumps and aerators

Insert

Fix

Control Unit K-Pilot 8.3

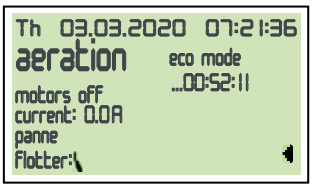
The **K-Pilot 8.3** control unit is the central unit for the AQUATO® PUMP small wastewater treatment plant.This component controls the individual units and ensures that the clarification process corresponds to our high quality benchmark.The plant works according to the SBR principle.

It is suitable for effluent classes C and D.

Located underneath the ready-to-plug control unit is a connection-socket in which the control cable of the AQUATO® PUMP can be connected easily by a 7-pin plug and without the use of any tools.

The feed pump, clear water pump, submersible aerator and a float switch are controlled via these connection.

An additional warning lamp, flashing light or an acoustic alarm device can be connected to the control via a potential-free contact.



The control unit is operated via a 3-button control panel with a large graphic display.

The simple, self-explanatory menu navigation simplifies the setup and launch of the system.

ADVANTAGES

- Userfriendly, easy menu navigation
- Simple read-out of operating hours
- Large graphic display
- Electronic logbook
- Off-grid power failure detection
- Manual operation possible
- Small and handy

DISINFECTION WITH UV MODULE
The Sun as an Example

Why UV Disinfection?

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 also environmental and water-protection is being taken care of. This is the latest technology for a cross-generational clean future!

Operation of an UV-Lamp

The UV-system´s disinfection performance based on the principle of well dosed UV irridiation. Each volume element receives the required UV dosage during it flows through the reactor. 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

PHOSPHATE ELIMINATION

Why Phosphate Elimination?

Since the 1980s, the phosphate elimination was introduced in wastewater treatment in order to prevent oxygen deficiency in water bodies, especially in water conservation areas. Phosphorus compounds in effluent from wastewater treatment plants 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 iron (III) chloride from a storage tank to the wastewater in the biological stage. This ensures the removal of phosphorus compounds.

ADVANTAGES

- P-module as an additional treatment
- Reservoir made of steady plastic with a mounted dosing pump
- Easy refillable by a long hose
- Safe against unwanted access when installed in the tank
- Easy installation due to suspension chains
- Retrofittable to treatment plants already in operation

AQUATO®
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AQUATO® PUMP & KOM & KOM-PAKT
Small Wastewater Treatment Plants

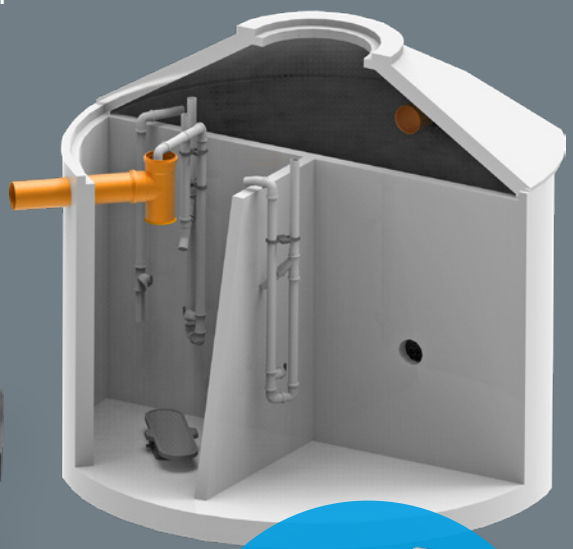
SIMPLY SAFE!

... meets all legal requirements and standards, not only for Germany but for the entire EU region! The effluent quality must meet the high requirements - therefore the DIBt, the German Institute for Building Technology in Berlin, monitors the status of our technology. The **AQUATO®PUMP & KOM & KOM-PAKT** plants are approved.

The **AQUATO®PUMP & KOM & KOM-PAKT** small wastewater treatment plants as retrofittings and as new constructions in tanks made of concrete, PE, PP and GRP have received multiple DIBt approvals.

The current approvals can be found on the **AQUATO®** homepage at:

www.aquato.de/en/download/zulassungen/



Presented by:

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