



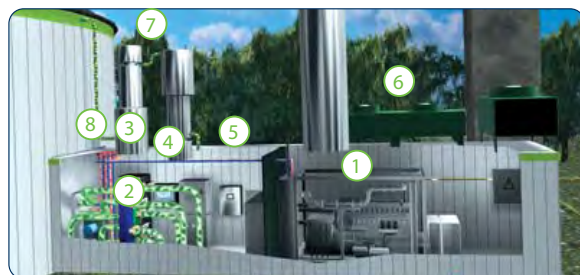
**Schmack BioEnergy**  
The Future of Energy

# AIO

"All-in-One"  
CPHU and Pipe Gallery

The AIO special container was designed for operating biogas plants professionally with our modular construction for fast installations. The container is equipped with the majority of the plant systems including a high quality generator. Its' compact construction is built to industrial standards to ensure trouble-free and rapid commissioning of your biogas plant as well as outstanding efficiency during regular operation.

## AIO Schematic



1. Generator
2. Central pumping station
3. BIOWATCH® control system
4. BIOWATCH® XL visualization system
5. Gas-analysis device
6. Table cooler
7. PROFI DRY gas-dehumidification system
8. Heating distribution system

## Ready for immediate operation

The AIO container has already been tested for safety and is ready to be connected when it is delivered. Only the lines for gas, electricity, the pumping station and the heat supply must be connected to the biogas plant. Consequently, the production of electricity and heat can begin immediately.

## High performance

The generator unit converts the biogas generated into electricity and heat and is a critical component when it comes to the efficiency of your biogas plant. We install high-quality motors which have been tried and tested over many years to ensure optimum efficiency. A storage tank for the motor oil as well as the connections for changing the oil are provided as standard within the generation unit. Generators with a power output range from 185 kW to 640 kW are available for the AIO container.

## Professional control system

In addition to the cogeneration unit's control system, the container is also equipped as standard with BIOWATCH®, a system for control, automation and process management. BIOWATCH® features an operating and observation unit for automating, monitoring and operating the biogas plant. The system not only allows the electrical components to be controlled, but also collects, processes and records all figures which are relevant to operation.

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## Biogas generation and utilization are precisely engineered

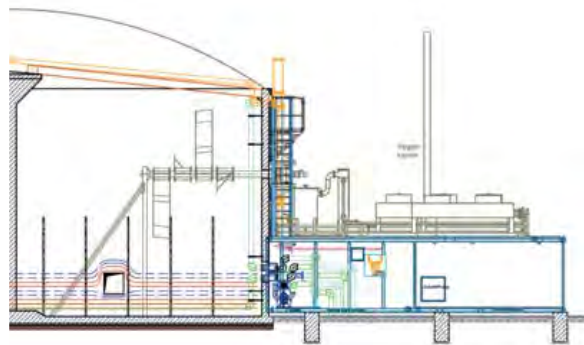
### Comprehensive monitoring

Informative system images of the biogas plant with constantly updated status information provide you with a rapid overview of the entire system. The BIOWATCH® XL visualization system supplies all operating data in a clear, detailed and up-to-date manner. As a result, it is always possible to intervene in the processes of the plant control system as well. In the event of problems, the high-performance reporting system provides the most important information, problem details and reports in plain language via e-mail or call forwarding. The integrated operating log brings together the interaction between the operator and the laboratory in order to be able to observe and optimize the biochemical process. The logging of measured values with trend display and threshold-value monitoring of the individual measuring channels complements the permanent "performance status" of the biogas plant.

### Flexible pumping system

The container is equipped with a centrally controlled pumping station.

Using a number of suction and pressure lines, a rotary pump ensures that the substrate is circulated through the various stages of digestion. As a result the digestion substrate can be passed flexibly and is fully automated between the individual digestion containers. In addition, through-flow meters and various sensors ensure reliable operation.



### Advantages:

- The container has already been tested and is ready for use when it is delivered. As a result,
  - the overall construction time is reduced
  - the on-site installation time is extremely short
  - there are no interface problems on the construction site
- Series installation has resulted in a mature, perfectly tailored overall system
- Efficient compact construction
- Service-friendly and maintenance-friendly BIOWATCH® control unit
- High standards of safety: Comprehensive monitoring equipment and design in accordance with US guidelines
- Flexibly extendable
- Easy financing possible

	Installed electrical capacity	Overall thermal capacity	Length	Width	Height
350 AIO*	185 kW	480 kW	9,500 mm	3,000 mm	2,650 mm
350 AIO*	347 kW	922 kW	10,600 mm	3,000 mm	2,650 mm
500 AIO*	499 kW	1,248 kW	12,200 mm	3,100 mm	3,000 mm
640 AIO*	640 kW	1,568 kW	13,200 mm	3,100 mm	3,000 mm

\*AIO = All-in-One

Are you interested?

For Additional Information,  
call us at +1 (216) 986 - 9999

