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agriKomp GmbH  
Energiepark 2  
91732 Merkendorf  
Germany

Phone +49 9826 65959-0  
info@agrikomp.com  
www.agrikomp.com

Member of the  
German Biogas  
Association



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. Group

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Certified acc.  
to ISO 9001



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## PLANTS

Efficient. Innovative. Sustainable.



## COMPONENTS

Proven. Robust. Reliable.



## UTILISATION

CHP. Biomethane. Digestate.



## SERVICES

Support. Advice. Expertise.



# COMPONENTS

Proven. Robust. Reliable.

agriKomp

BUILT TO LAST  
ORIGINALS  
- SINCE 2002 -



Our components.  
Solid and reliable.  
Trust in the originals!

BUILT TO LAST  
ORIGINALS  
- SINCE 2002 -



#### BUILT TO LAST - SINCE 2002

With our experience, we have been developing and manufacturing perfectly integrated components in accordance with international CE and safety standards for over 20 years. Robustness, efficiency and reliability are our claim. Continuous development and innovation guarantee state-of-the-art technology and maximum availability.

Our popular and trusted components are utilized in hundreds of biogas plants worldwide. Continuous research and development, uncompromising quality, numerous options and excellent spare parts supply guarantee the best product experience.

#### VISION AND INNOVATION

The holistic and visionary way of thinking of the company's founders Robert Bugar and Michael Engelhardt still decisively shape the agriKomp components for biogas plants today. The name agriKomp stands not only for efficient technologies, but also for innovation and practicality. Pioneering systems such as the Paddelgigant® agitator or the Biolene® gas storage, which were introduced to the market in 2002, are just a few examples of brilliant engineering achievements from agriKomp research and development.

#### RELIABLE - EVERYTHING FROM ONE SOURCE

The agriKomp group develops and manufactures all essential components of a biogas plant in its own network. This guarantees absolute reliability and consistently excellent quality. Key components such as the Quetschprofi® separator, the Paddelgigant® agitator and the robust Vielfraß® feeding technology have set international standards in terms of stability, reliability and energy efficiency.

#### QUALITY AND DEDICATION

„If you wish to stay ahead you must be innovative, have reliable and efficient products in your portfolio and also provide a secure service. This requires dedicated people and solid engineering“, says Robert Bugar.



## OUR AGITATORS

For demanding substrates agitators play a central role in biogas plants. They ensure even mixing and temperature distribution in the digester with a regular supply of raw materials to the bacteria, promoting movement of biogas through the substrate.

## AVAILABLE PRODUCTS

✓ PADDELGIGANT®

✓ AGRIMIX

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ORIGINALS  
— SINCE 2002 —

# AGITATORS

For demanding substrates.





Paddelgigant®  
For demanding  
substrates!

PADDELGIGANT®



PROVEN AGITATOR  
FOR DIGESTERS

The Paddelgigant® from agriKomp, which was already introduced to the market in 2002, is one of the most widely used agitators in biogas plants and has proven its high efficiency in numerous applications. The Paddelgigant® is available for a wide variety of tanks, whether in different installation heights or also in different lengths of the agitator shaft.

FLEXIBLE CHOICE OF FEEDSTOCK

The Paddelgigant® is a slow-running large agitator that mixes the substrate according to the tank size and the medium in the digester. The bacteria continuously receive new feed and the anaerobic degradation of biomass is optimised. The Paddelgigant® was specially designed for structured substrates and high dry matter contents. This operational capability opens up a wider range of feedstock for biogas plant operators and minimises the need for substrate preparation (shredding, chopping, etc.).

UNPARALLELED  
EFFICIENCY

The Paddelgigant® has four angled, low-speed paddles and is therefore very energy-efficient. The paddles cause optimal and biologically friendly mixing in the shortest possible time. Sinking or floating layers are mostly avoided and the gases are stirred out. It is also suitable for use in thermophilic plant operation.

EASILY MAINTAINED

The low-maintenance drive unit is mounted on the outside of the digester and is therefore accessible at all times. The agitator shaft is equipped with a maintenance-free and durable plain bearing inside the digester.

YOUR ADVANTAGES  
AT A GLANCE

- ✓ Most utilised paddle agitator in Europe
- ✓ Excellent for demanding substrates such as long-fibre input materials
- ✓ High efficiency reduces the power consumption
- ✓ Optimum mixing of demanding substrates with high dry matter concentration
- ✓ Slow rotation mixing, therefore gentle to bacteria
- ✓ Durability through robust construction
- ✓ Low maintenance mixing system for maximum reliability
- ✓ Maintenance-free sealing of the digester side wall penetration
- ✓ Paddle shaft with a maintenance-free and durable plain bearing
- ✓ Available in different installation heights

TECHNICAL DATA

|                       |  |
|-----------------------|--|
| Agitator weight       | Approx. 1,900 kg   |
| Dimensions            | Width: 4,300 mm<br>Height (of paddle shaft above tank floor): 4,600 / 5,420 / 6,420 / 7,160 mm |
| Dry matter content    | up to 15 %   |
| pH-Value              | 6 – 8  |
| Temperature           | up to 55 °C  |
| Drive type            | Electric motor with three-stage planetary gear   |
| Drive power           | 15 kW  |
| Drive Speed           | approx. 10 rpm   |
| Electrical connection | 400 V AC, 50 Hz  |
| Operating time        | 0 – 60 %   |

OPTIONS

- ✓ EX-proof Version
- ✓ Extended version for large digesters
- ✓ Control unit
- ✓ Energy-saving motor with Frequency converter (IE5)

agriMix

For substrates with lower viscosity!

RELIABLE AND STRONG MIXING PERFORMANCE

The agriMix submersible agitator was specially developed for agitating and homogenising substrates with lower viscosity. agriMix is particularly suitable for agitating the digestate storage or, in combination with a Paddelgigant®, for use in the main digester.

DURABLE WITH HIGH SAFETY STANDARDS

Safety and durability as well as ease of maintenance were at the forefront of the development. This is ensured by the use of high-quality components, robust and proven technology and integrated monitoring systems.

FOR THE OPTIMAL FLOW

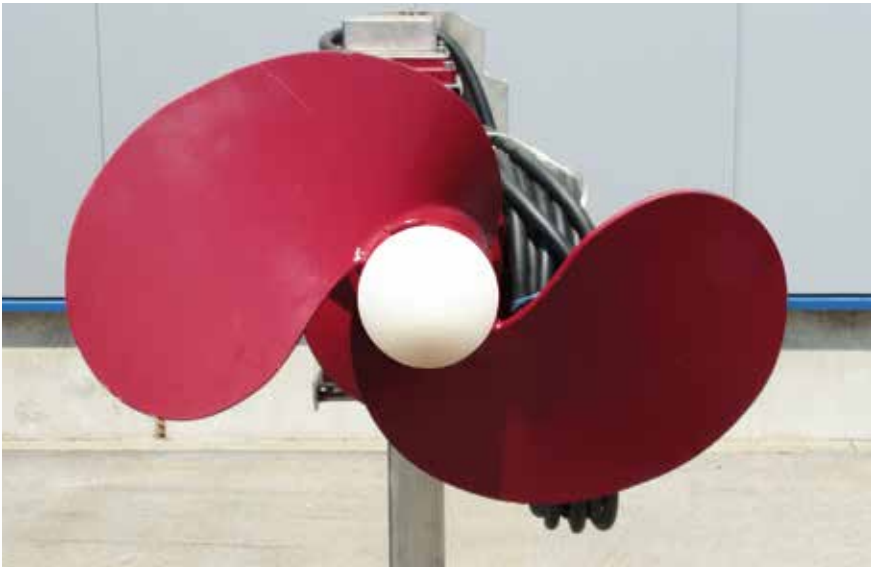
In the technical design of the agriMix, the focus was on a flow-optimised agitator blade. This results in an optimal and energy-efficient transfer of the stirring energy into the liquid substrate. During operation, the agriMix is submerged in the substrate. The operating height of the agriMix can be adjusted to the fill level of the tank by means of a lifting device with a cable winch. The agitator is equipped with a plug system where the cable runs in a protective tube. For maintenance, only the agitator itself needs to be removed.

YOUR ADVANTAGES AT A GLANCE

- ✓ Long service life due to robust, proven technology and use of quality components
- ✓ Strong mixing performance with low energy consumption
- ✓ Height adjustment to suit to the filling level
- ✓ Suitable for varying fill level
- ✓ High safety standard due to integrated motor temperature monitoring
- ✓ Easy servicing due to detachable power cable connection
- ✓ Lower operating costs due to long maintenance intervals

TECHNICAL DATA

|                                      |                  |
|--------------------------------------|------------------|
| Drive                                | Spur gear motor  |
| Drive power                          | 15 kW            |
| Agitator blade rotations             | 340 rpm          |
| Electrical connection                | 400/690 V/50 Hz  |
| Blade diameter                       | 810 mm           |
| Total length (incl. console + wings) | approx. 1,380 mm |
| Width                                | 810 mm           |
| Height                               | 810 mm           |
| Total weight (incl. console)         | 300 kg           |





## FEEDING SYSTEM

Straightforward and reliable

### VIELFRAß® – THE RELIABLE FEEDING SYSTEM FOR SOLIDS

The feeding of digesters has a key role in the economic and efficient operation of a biogas plant. A reliable and effective solid feeding system will ensure optimal introduction of biomass to the digester with increased gas yield, lower energy consumption and reduced wear on the agitators and pumps.

To maximise plant performance, it is becoming increasingly important to choose a feeding technique that can also process more difficult to handle materials. With our Vielfraß® portfolio, you have a wide range of feedstock options!

The variety of the Vielfraß® family is unique on the market: basic units from 5 to 13 m³, discharge containers of 20, 30 and 40 m³ allow a multitude of possible combinations up to a discharge capacity of 90 m³. The portfolio is rounded off by the Vielfraß® LEF with a capacity of up to 139 m³.

### AVAILABLE PRODUCTS

- ✓ VIELFRAß® ECO 5 m³
- ✓ VIELFRAß® ECO
- ✓ VIELFRAß® ECO MIT MULDE
- ✓ VIELFRAß® ECO TOP 40 m³
- ✓ VIELFRAß® LEF LIQUID
- ✓ VIELFRAß® LEF TOP

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## THE BASIC PRINCIPLE OF THE VIELFRAß®

Trouble-free feeding of the digester is a challenge for technology. For example, renewable energy feedstocks often contain stones and sand, which can increase wear and malfunctions. Feeding solid manure and long-fibre grass silage can also push some technology to its limits.

### **Vielfraß® ECO:**

The Vielfraß® ECO solids feeding system developed by agriKomp is specially designed to meet these challenges. The basic principle is two counter-rotating screws with knives, also called dissolving screws, which ensure loosening and mixing of the substrate.

This also prevents the so-called „bridging“. The substrates are then fed into the upper section of the digester via the main screw conveyor. This enables a high conveying capacity with reduced effort at the same time. Different control variants enable feeding according to demand.

### **Vielfraß® LEF:**

Unlike the Vielfraß® ECO, the substrate in the feed hopper is moved towards the cross-feeding screw and discharge screw with walking floor technology.

This conveyor technology is particularly suitable for heavier and larger feed volumes (up to 139 m³). Our Vielfraß® LEF can additionally be equipped with either a PreMix unit (Vielfraß® LEF Liquid) or a high conveying technology (Vielfraß® LEF TOP).

## FLEXIBLE FEEDING TECHNOLOGY – MANY OPTIONS

The Vielfraß® ECO can be individually adapted to the system size by installing extension modules. The Vielfraß® ECO can be expanded with up to 4 extension rings to a capacity of up to 13 m³.

Our variants with discharge containers offer even more feed volume. Additional feeding options allow adaptation to the most diverse substrate characteristics.

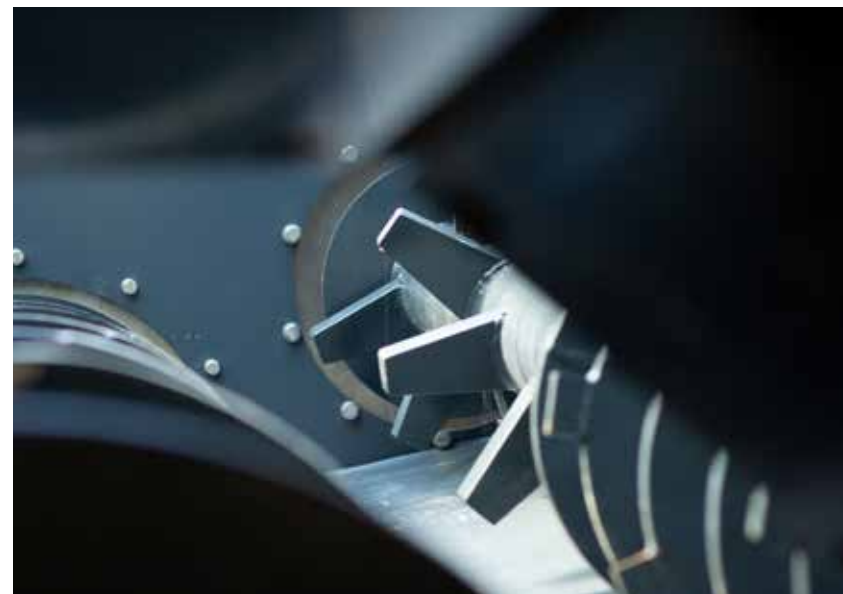
The Vielfraß® system includes extremely robust, safe and low-maintenance stainless steel components. All components at risk of corrosion are made of stainless steel (SS304) and are therefore very durable. All screws are optionally available in stainless steel.

## YOUR ADVANTAGES AT A GLANCE

- ✓ Excellent for demanding substrates such as solid manure and grass silage
- ✓ Maximum resistance to sand and stone inclusions due to large-dimensioned screws
- ✓ Low maintenance due to high-quality stainless steel components
- ✓ Energy-saving and safe feeding of the substrate
- ✓ Robust charging screw for a trouble-free feeding
- ✓ With weighing unit as an option
- ✓ Many options for expanding the feeding capacity

## FOR ALL VARIANTS OF THE VIELFRAß®-FAMILY

- ✓ Vielfraß® technique developed from many years of experience
- ✓ Minimum energy consumption
- ✓ Robust construction and convenient maintenance
- ✓ Integration into aK Cockpit; simple keeping of a feeding journal etc.
- ✓ Feeding as required through interval control, via weight or in manual operation possible (Vielfraß® ECO 5 m³)
- ✓ Construction in accordance with the regulations of machinery directive 2006 / 42 / EC



## VIELFRAß® ECO 5 m³

The robust solid feeder Vielfraß® ECO 5 m³ is specially designed for farm-based small-scale biogas plants and small feed quantities. It is a cost-effective variant for batch feeding without longer storage capacity. Optionally, the capacity can be increased up to 13 m³ with extension rings. A disintegrating screw unit with knives is available as an option and can also be retrofitted and is absolutely necessary when the storage volume is expanded.

## VIELFRAß® ECO

The Vielfraß® ECO is available as a basic model with 11 m³ capacity. The standard scope of delivery includes 3 extension rings and the two disintegrating screws with knives; this means you can already feed demanding substrates with the standard version.

Numerous options make the Vielfraß® ECO your individual solids feeding system: You can expand it to 13 m³ capacity with the fourth attachment ring and equip it with a scale, platform and additional display. All screws are optionally available in stainless steel (SS304).

## VIELFRAß® ECO WITH DISCHARGE CONTAINER

The design of the Vielfraß® ECO in combination with a discharge container saves precious working time. Our discharge containers in sizes of 20, 30 or 40 m³ allow additional capacity.

The various discharge containers, which can be docked to the left, right or both sides of the Vielfraß® as a double container, can be freely combined. The Vielfraß® Standard with 40 m³ double container allows a capacity of up to 90 m³.

## VIELFRAß® ECO TOP 40 m³

The Vielfraß® ECO TOP 40 m³ is suitable for feeding from above. It is supplied with a discharge container with milling unit, an ascending screw conveyor and a tamping screw conveyor. Here, as well, the feed volume can be increased to 40 m³. With the Vielfraß® ECO TOP 40, the feedstock can be transported vertically and added to the digester contents from above.

Despite these high demands, the Vielfraß® ECO TOP requires very little energy of its own. As with all our components, problematic material - long-fibre grass, aggressive silage - was used as a benchmark in the development of the Vielfraß® ECO TOP. Consequently, the screw conveyor and drives are of particularly solid and robust design.

All parts at risk of corrosion are made of V2A stainless steel. The interval control ensures uniform, automated feeding via time or weight dosing. The substrate is pushed into the milling rollers of the milling attachment via the sliding carriage of the discharge container. There, it is dosed via the milling rollers into the cross screw.

The cross screw passes it on to the ascending screw, from the ascending screw on to the tamping screw, from which it is then pressed into the digester. The production of the Vielfraß® ECO TOP with a discharge container for a feed volume of up to 40 m³ also saves valuable labour time.

## VIELFRAß® LEF

The Vielfraß® LEF is equipped with walking floor technology, which move the substrate in the feed hopper towards the cross-feeding screw and discharge screw.

When developing the solids feeder, deliberate attention was paid to an energy-saving, robust and low-maintenance design.

### Vielfraß® LEF Liquid

Vielfraß® LEF with liquid feeding (PreMix-unit)

### Vielfraß® LEF TOP

Vielfraß® LEF with high conveying technology





Vielfraß®

A unique solution due to its many options



| TECHN. DATA                 | VIELFRASS® ECO     |                    |                   | DISCHARGE CONTAINER¹ |                 |                 | DOUBLE-DISCHARGE CONT.¹               |                      |                                       |                      | VIELFRASS® ECO TOP                            | VIELFRASS® LEF  |       |       |     |       |       |
|-----------------------------|--------------------|--------------------|-------------------|----------------------|-----------------|-----------------|---------------------------------------|----------------------|---------------------------------------|----------------------|---|---|-------|-------|-----|-------|-------|
| Capacity [m³]               | 5                  | 11                 | 13                | 20                   | 30              | 40              | 20 + 30                               | 30 + 30              | 30 + 40                               | 40 + 40              | 40  | 60  | 75    | 90    | 100 | 115   | 139³  |
| Maximum Filling weight [t]  | 3                  | 6.6                | 7.8               | 12                   | 18              | 24              | 30                                    | 36                   | 42                                    | 48                   | 24  | 33  | 41.25 | 49.50 | 55  | 63.25 | 68.25 |
| Feeding capacity [m³/min]   | 0.2–1              | 0.2–1              | 0.2–1             | 0.2–1                | 0.2–1           | 0.2–1           | 0.2–1                                 | 0.2–1                | 0.2–1                                 | 0.2–1                | 200 kg/min                                    | Depending on the model (LEF TOP or LEF Liquid) and configuration. |       |       |     |       |       |
| Power consumption [kW/m³]   | 0.1–0.6            | 0.1–0.6            | 0.1–0.6           | 0.1–0.6              | 0.1–0.6         | 0.1–0.6         | 0.1–0.6                               | 0.1–0.6              | 0.1–0.6                               | 0.1–0.6              | 2.84 kW/h                                     |   |       |       |     |       |       |
| Dimensions [L x W x H in m] | 5.23 x 1.57 x 2.32 | 5.23 x 1.57 x 3.92 | 5.23 x 1.57 x 4.6 | 4.0 x 2.4 x 2.0      | 6.0 x 2.4 x 2.0 | 8.0 x 2.4 x 2.0 | (4.0 x 2.4 x 2.0) + (6.0 x 2.4 x 2.0) | 2x (6.0 x 2.4 x 2.0) | (6.0 x 2.4 x 2.0) + (8.0 x 2.4 x 2.0) | 2x (8.0 x 2.4 x 2.0) | 17.29 x 5.99 x 5.2 (at a ascent height of 5m) |   |       |       |     |       |       |
| Weight [kg]                 | 2,263              | 3,224              | 3,395             | 3,800                | 4,900           | 5,900           | 3,800 + 4,900                         | 2x 4,900             | 4,900 + 5,900                         | 2x 5,900             | 12,315  |   |       |       |     |       |       |

DETAILS

|                               |  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|-------------------------------|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scales optional               |  | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Additional display for scales |  | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

1 For discharge containers and double containers, the volume, maximum filling weight, dimensions and weight of the Vielfraß® ECO 11m³ must be added.

2 Batch feeding corresponds to the introduction of the material into the digester during the filling of the Vielfraß® ECO.

3 1x stainless steel extension from 115 to 139 m³; height three sides: 750 mm. incl. bracket.



## SEPARATOR

Considerable amounts of substrate are moved during the operation of biogas plants. The solid/liquid separation of the digestate can secure several advantages for the operator in terms of transport, storage and energy consumption.

In the separation technology, the digestate is divided into a liquid and a solid phase.

The solid fraction can be stored in a suitable containment or spread on agricultural land in the same way as solid manure. The liquid phase can also be used as a nitrogen-rich fertiliser or fed to a further digestate treatment (e.g. fractional evaporation with agriFer® Plus from agriKomp).

## AVAILABLE PRODUCTS

✓ QUETSCHPROFI® PLUS

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# Quetschprofi® Plus

## Highest throughput & separation efficiency

QUETSCHPROFI® PLUS

### OUR HIGH PERFORMER

The Quetschprofi® Plus is the ideal choice for areas where high performance and reliability are required.

It is the high performer among the separators and was specially developed for applications where high performance in terms of throughput and separation efficiency is absolutely essential. For example, for larger biogas-, biowaste- and industrial plants as well as in sewage treatment plants.

With the innovative Quetschprofi® Plus, digestate can be processed economically up to a desired dry matter content of up to 30%.

The stainless steel housing guarantees the best stability. The enlargement of the housing, the sieve and the press screw by 100 mm enables a significantly higher throughput capacity of 10 % - 25% compared to our Quetschprofi®.

Due to the precise fit and low tolerance between the screen and the high-performance screw, the new Quetschprofi® Plus achieves a higher separation efficiency.

The gear motor can also be optionally equipped with a frequency converter. This allows the dry matter and nutrient content to be adjusted even more finely. The screw is even more robust due to the hard metal reinforcement (equipped with carbide plates) and thus guarantees the longest service life.

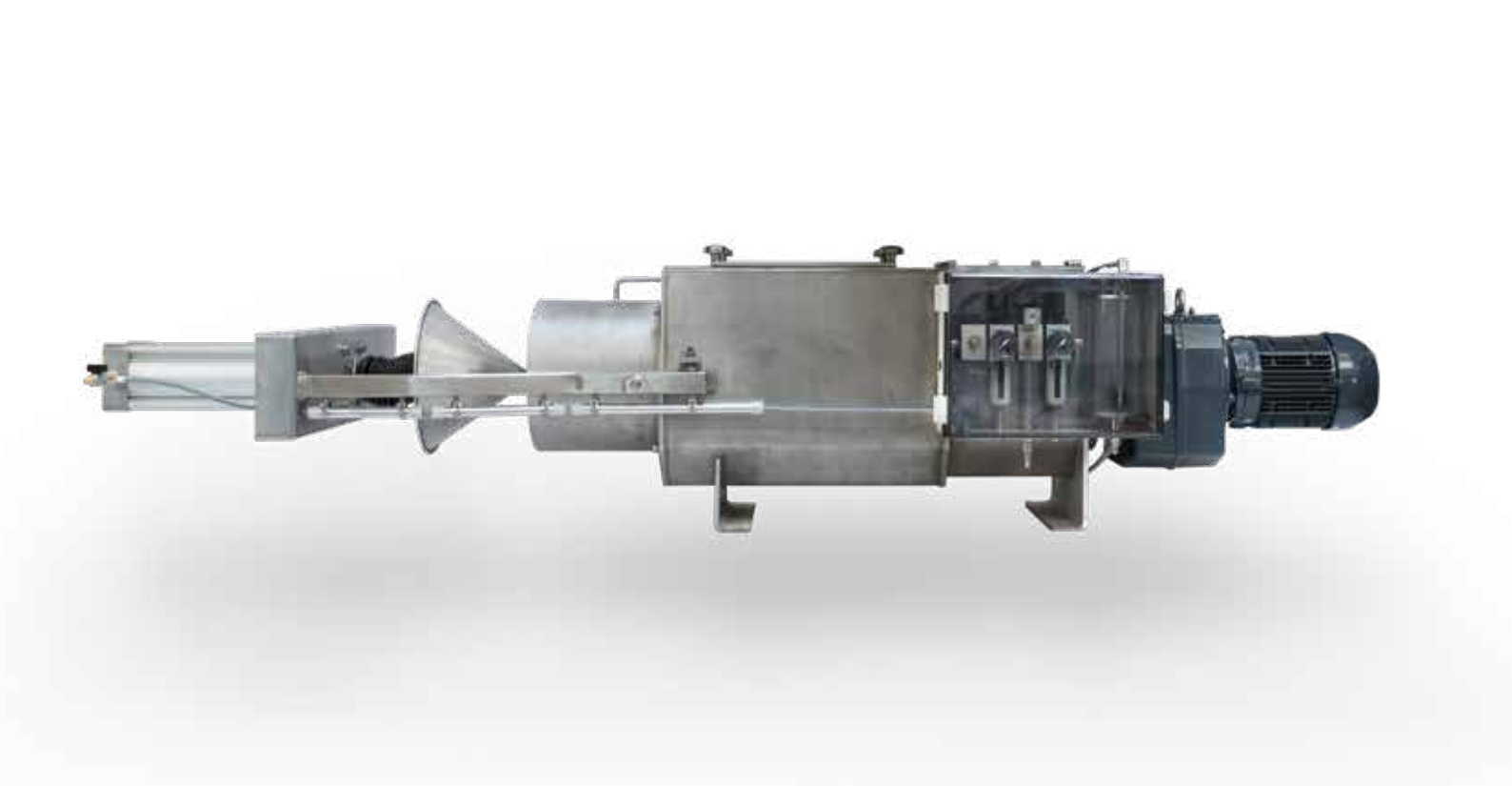
A level monitor in the oil reservoir for the central lubrication of the mechanical seal provides best protection and monitoring of the mechanical seal.

### YOUR ADVANTAGES AT A GLANCE

- ✓ Higher throughput (10 – 25 %) and higher separation efficiency of dry matter and nutrients
- ✓ For applications where high performance is required
- ✓ Housing made of stainless steel (SS304) – thus longer service life is possible
- ✓ High-performance screw (with carbide tip)
- ✓ Dry matter and nutrient content finely adjustable through frequency converter
- ✓ High ease of maintenance due to optimised design
- ✓ Better monitoring possibility and protection of the mechanical seal due to the level monitor

### TECHNICAL DATA

|                                |   |
|--------------------------------|---|
| Main drive                     | Spur gear motor   |
| Drive power                    | 3.0 kW (optional FC controlled)   |
| Drive speed                    | 24.0 – 37.0 rpm   |
| Electrical connection          | 400 V AC, 50 Hz   |
| Oil quantity in the gear motor | 3.0 l   |
| Press screw                    | Equipped with carbide tips  |
| Slotted filter screen drum     | Stainless steel with 0.5 mm screen gap width, optional: 0.25; 0.75 or 1.00 mm |
| Output regulator               | Pneumatic cylinder, infinitely adjustable                                     |
| Throughput                     | 8 – 15 m³/h   |
| Optional                       | Expansion tank 400 l (stainless or galvanised steel)<br>Frequency converter   |





# TANK CONSTRUCTION SYSTEM

For the highest demands

## TANK CONSTRUCTION SYSTEM: FORMPROTECT®

Save yourself time and effort with the formwork system exclusively available from us for a wide variety of concrete structures! With the new system, tanks up to a diameter of 40 metres and with wall thicknesses of approx. 5–30 cm can be constructed without the need for costly temporary formwork.

## PATENTED SYSTEM

FORMPROTECT® is a patented system of lost formwork made of rigid PVC elements which are interconnected to form a durable protective shell. After concreting, the plastic formwork becomes an integral part of the structure. From a functional point of view, the resulting reinforced concrete composite structure consists of three layers in one wall: the plastic shell on the inside, the reinforced concrete wall with or without insulation as the core, and the plastic shell on the outside.

## AVAILABLE PRODUCTS

✓ FORMPROTECT®

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# FORMPROTECT®

## The modular tank construction system.

FORMPROTECT®



### INNOVATIVE SYSTEM BRINGS ADVANTAGES

Additional coating, insulation and impregnation, is not necessary as all elements are already integrated. The system is completely gas- and watertight and acid-resistant. The exterior wall does not need to be insulated, painted or receive any cladding.

### MULTIFUNCTIONAL USE

FORMPROTECT® is particularly suitable for reinforced concrete round tank construction in the biogas sector and in agriculture. Special areas of application are tanks in water and wastewater supply. But other structures such as shafts, stables or cellars are also built with it.

### REVISION SYSTEM FOR THE SIMPLE REFURBISHMENT OF TANKS

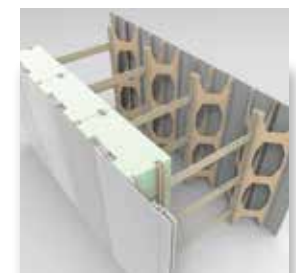
During renovation, a new wall made of FORMPROTECT® panels is placed in front of the wall to be renovated. Wall thickness and structural steel inserts can be adapted depending on the damage to the old wall. This is how old becomes new again!

### AUTHORISATIONS AND TESTS

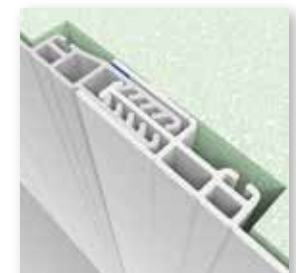
- ✓ Patent-protected system
- ✓ European Technical Assessment ETA for the formwork system
- ✓ Type statics and individual statics

### YOUR ADVANTAGES AT A GLANCE

- ✓ In contrast to conventional tank construction, the easy-to-clean formwork remains as the inner and outer cladding
- ✓ The exterior wall does not need to be insulated, painted or clad
- ✓ Chemical-resistant PVC elements: absolutely gas- and water-tight as well as acid-resistant
- ✓ Concrete and weather protection already integrated, no concrete curing required
- ✓ Easy to clean
- ✓ Tanks can be equipped with leakage detection
- ✓ Easy installation of insulation: simply slides between concrete and external formwork
- ✓ Weather-independent assembly of the formwork
- ✓ The closed construction reliably prevents the penetration of rodents into the insulation
- ✓ The appearance impresses with its modern design and colour
- ✓ Complete and ready – from day one; without any subsequent work



Konnektoren und Isolierung zwischen Innen- und Außenwand



Water-proof and gas-tight sealing



## GAS STORAGE

Flexible and resistant

### GAS STORAGE

Flexible and efficient biogas plant operation is closely related to the storage of biogas. The biogas production in the digester is subject to fluctuations, especially if the biogas plant is operated in a flexible or demand-oriented mode. This makes a reliable biogas storage facility absolutely necessary. It compensates for peaks and serves as an optimised reserve for the CHP or the gas processing plant. A suitable gas storage system must be gas-tight, pressure-resistant, UV-resistant, temperature-resistant and weather-resistant to ensure safety during operation.

### WE OFFER YOU A WIDE RANGE OF MEMBRANE STORAGE UNITS:

Single membrane roofs made of Ethylene-Propylene-Diene-Monomer (EPDM) and double-membrane roofs in various designs, shapes, sizes and colours. You will find the ideal solution for your tanks - whether for storage tanks, digesters, secondary digesters or for covering the digestate storage.

### AVAILABLE PRODUCTS

- ✓ DOUBLE MEMBRANE ROOF
- ✓ BIOLENE®

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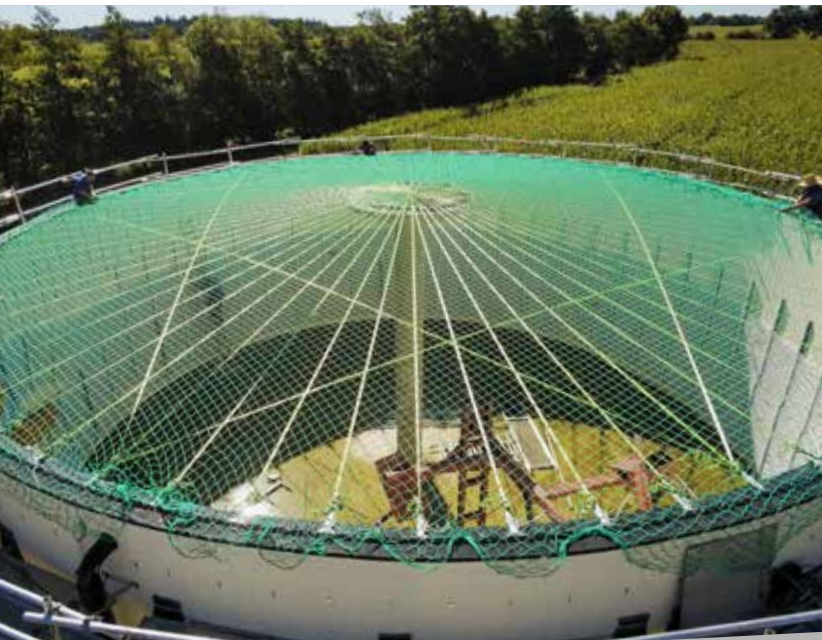




# Double membrane roofs

## The resistant gas storage.

DOUBLE MEMBRANE ROOF



### HIGH QUALITY AND DURABLE.

Our high-quality and durable double membrane roofs are the ideal solution for flexible storage of biogas. The outer cover is a weather protection cover that protects the inner gas membrane from external influences. Our weather protection membranes made of PVC-coated polyester fabric are specially designed to withstand high temperatures and thus guarantee the longest possible service life. The gas storage membrane underneath also has a high temperature stability and low methane permeability.

You can configure your own double membrane roof to your needs: volume, diameter, shape, colour. To minimize heat loss through the tank cover, insulated foils can be used.

### SAFE AND STABLE

Supporting air blowers keep the outer membrane tight and stable. This makes the weather protection membrane resistant to high winds and compensates for volume changes due to changing temperatures. The number and size of the supporting air blowers are individually designed based on various parameters and operating conditions (such as gas extraction, gas production).

We have given great attention to the design of our supply and exhaust air system to avoid pressure peaks. This ensures a longer service life due to lower load. Our Bioguard overpressure and underpressure protection is designed for high volume flows and usually has sufficient reserves for later extension or retrofit measures.

### FURTHER COMPONENTS

The gas levels are measured utilising a hydrostatic measuring system. We use VA clamping rails, which are firmly screwed to the top of the wall, to fasten the membranes and the substructure. The belt net substructure is designed for snow load.

In addition, easily replaceable filters are used for the supporting air supply and the system has a methane measurement in the exhaust air. An active gas management system provides automatic pressure regulation that balances the levels in the gas storage tanks.

The supporting air system can be installed on various types of digesters and tanks, e.g. Formprotect, concrete or steel tanks. Installation on existing substructures, for example made of wood, is also possible in most cases.

### YOUR ADVANTAGES AT A GLANCE

- ✓ Choice of configuration
- ✓ Hydrostatic level measurement
- ✓ Additional net for more safety and comfort
- ✓ Designed for snow and wind load
- ✓ Optimised construction with high degree of prefabrication
- ✓ High tear and further tear resistance of the two membranes
- ✓ High operational safety due to the screwed fastening of the cover
- ✓ For different tank types
- ✓ For existing or new structures
- ✓ Automatic gas storage management
- ✓ Available as an external storage unit screwed onto a base plate

### TECHNICAL DATA

| GENERAL                 |   |
|-------------------------|---|
| Shape                   | 1/2-, 1/3- and 1/4-sphere and various special shapes possible (2/5-sphere, external, 1/4-sphere with reduced gas storage) |
| Diameter                | 13–35 m   |
| Temperature resistance  | -30° C up to +70° C   |
| Fire behavior           | tested according to: DIN 4102, Part 1, Class B2   |
| WEATHER PROTECTION FOIL |   |
| Colour                  | green, grey   |
| Material                | PVC   |
| GAS STORAGE FOIL        |   |
| Methane permeability    | < 450 cm <sup>3</sup> /(m <sup>2</sup> *d*bar)  |
| Material                | PVC   |

Other shapes and colours on request!





### SAFE AND ECONOMICAL

Our single-shell Biolene® biogas storage membrane, proven thousands of times in practice, is an economical solution for your biogas plant. Biolene® is a gas storage tank and tank cover in one and thus offers a highly efficient solution for small agricultural and industrial biogas plants.

Due to weather influences, high demands are placed on the outer skin of the digester roof. Our Biolene® meets these high demands: it is made of high-quality EPDM rubber. The material impresses with its UV, ozone and temperature stability, is highly elastic and durable.

### COMPENSATES FOR FLUCTUATIONS

Depending on the biogas production, the operating mode of the CHP unit or due to maintenance, the stored gas volume changes constantly. The flexible outer skin rises and falls depending on the filling quantity and the filling level is always immediately visible. In addition, it is possible to precisely determine and evaluate the fill level with the help of an electronic fill level measurement.

A wooden beam ceiling serves as a substructure. The laid planks and the ceiling are a very large colonisation area where sulphur bacteria can settle. The biogas produced is thus cheaply and reliably pre-desulphurised.

### YOUR ADVANTAGES AT A GLANCE

- ✓ To date, Biolene® is one of the most widely used biogas storage membranes in Germany
- ✓ Supports a high CHP utilisation by providing a large gas storage capacity
- ✓ Allows a fill level check at a glance
- ✓ Economic gas storage
- ✓ Provides maximum safety through a reliable profile closure tank seal and pressure monitoring
- ✓ High wind load: also approved in wind load zone 4
- ✓ Precise height measurement for e.g. balancing power
- ✓ Simple and cost-effective to assemble

### TECHNICAL DATA

|  |   |
|--|---|
| Polymer  | EPDM  |
| Thickness DIN 23529                                  | 2.0 mm  |
| Density DIN EN ISO 1183-1 and -2                     | 1.22 kg/l                                       |
| Hardness ISO 48-4                                    | 66 ° Shore A                                    |
| Tear resistance DIN 53504                            | 9.3 MPa   |
| Elongation at break DIN 53504                        | 540 %   |
| Tear propagation resistance DIN ISO 34-1             | 13.5 N/mm                                       |
| Temperature resistance                               | -40 up to +100 °C                               |
| Ozone resistance 200 PPHM 40°C/20 %/7d, DIN ISO 1431 | no cracking                                     |
| Methane permeability cm³/(m²*d*bar)                  | < 500   |
| Fire performance                                     | tested according to: DIN 4102, Part 1, Class B2 |



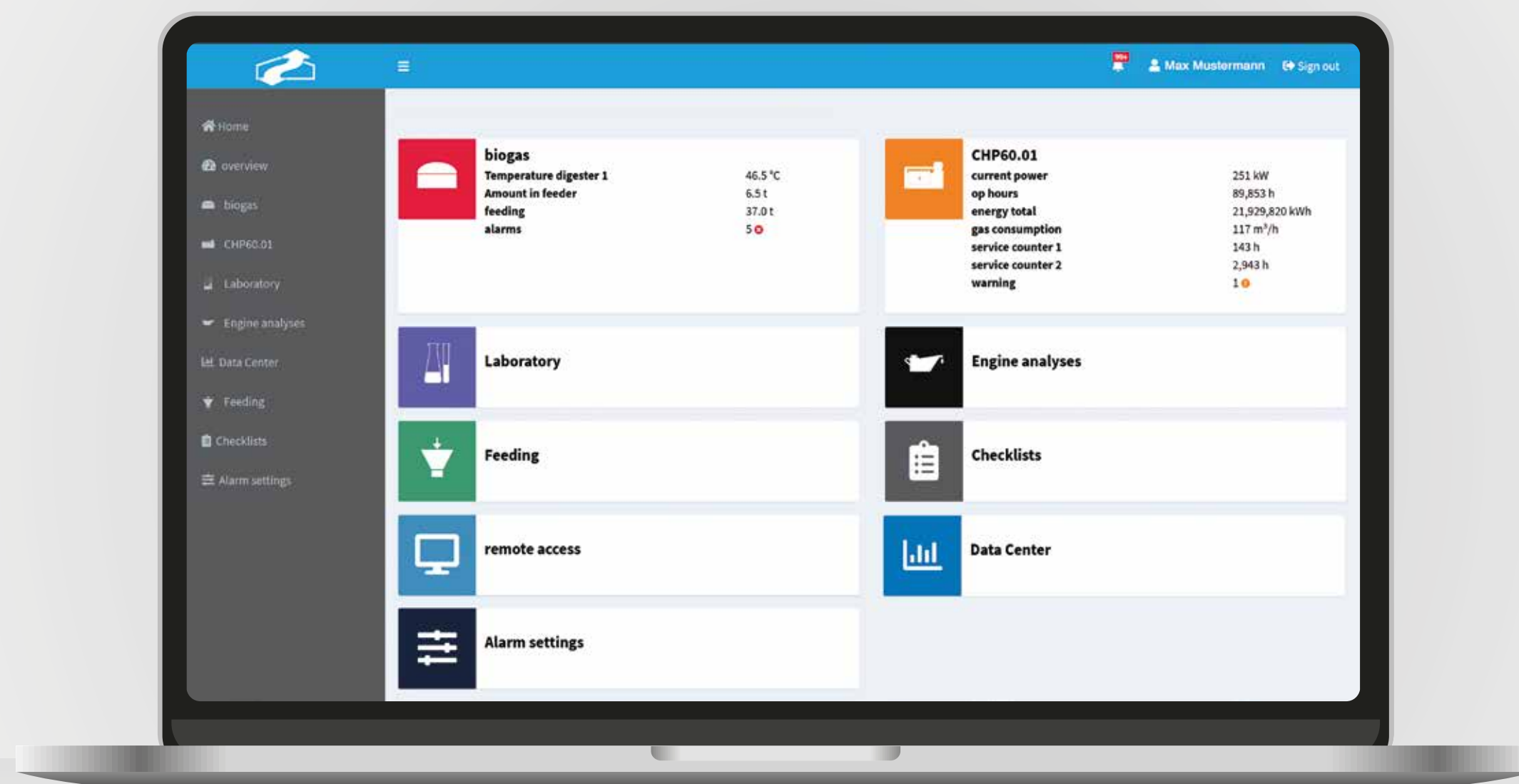
## THE COMPLETE SYSTEM AT A GLANCE: SAVE TIME WITH AK COCKPIT!

The akCockpit web application is the complete solution for monitoring and controlling biogas plants. Process, feedstock and feeding quantity, gas quality, results of laboratory tests, CHP or biogas upgrading: akCockpit collects all important information about your plant at a glance and saves a lot of time. Target-performance comparisons and analyses of historical data facilitate the assessment of the technical and economic efficiency of your biogas plant.



Winner of the innovation award  
„InnovSpace 2021“ in the category  
„All Species Machinery“

## AVAILABLE PRODUCTS





akCockpit

The place where everything comes together!

OPTIMISED  
INTERFACE

akCockpit is easily accessible via a web browser and optimised for use on mobile devices (smartphone, tablet, etc.). You do not need to install any additional software. akCockpit can simply be integrated into the operation of the plant, e.g. for entry or operating data acquisition directly at the respective component, for remote monitoring of the plant or for data analysis in the office.

TAKE CONTROL

With akCockpit, you can not only visualise the current operating status of the biogas plant and have the results evaluated. You can also check and acknowledge alarms or restarting components (e.g. the CHP) via akCockpit.

In addition, further alarms for plant management can be defined individually (e.g. setting the minimum gas yield). This way, problems can be detected in time and countermeasures can be taken to improve the efficiency of your biogas plant.

A TOOL THAT ASSISTS YOU  
IN YOUR WORK

An automated task list assists you every day in keeping the plant logbook. Standard documents can be generated automatically and exported afterwards in pdf format. In addition, akCockpit simplifies the exchange with your service provider through an integrated e-mail box and a documentation centre. The documentation and evaluation of NO<sub>x</sub> emissions is also done via akCockpit with just one click.

YOUR ADVANTAGES  
AT A GLANCE

- ✓ No installation of additional software
- ✓ Device-independent access via web browser (PC, tablet or smartphone)
- ✓ Free basic package<sup>1</sup> incl.
  - Integrated messaging system and data exchange platform (with agriKomp service)
  - Feeding diary
  - Reports from laboratory or oil analyses<sup>2</sup>
- ✓ Various software upgrade packages to choose from
- ✓ Software application available 24/7<sup>3</sup>

AVAILABLE PACKAGES

BASIC

| DESCRIPTION   | INCLUDED |
|---|----------|
| Feeding   | X        |
| Laboratory <sup>2</sup>   | X        |
| Oil <sup>2</sup>  | X        |
| Plant logbook   | -        |
| Data centre   | -        |
| Detailed status display of selected devices.<br>(4 devices are included, additional units can be booked) <sup>4</sup> | -        |

PREMIUM

| DESCRIPTION   | INCLUDED |
|---|----------|
| Feeding   | X        |
| Laboratory <sup>2</sup>   | X        |
| Oil <sup>2</sup>  | X        |
| Plant logbook   | X        |
| Data centre   | X        |
| Detailed status display of selected devices.<br>(4 devices are included, additional units can be booked) <sup>4</sup> | X        |

SOLO-PREMIUM

- ✓ akCockpit Solo-Premium includes all premium services for a single device. The user thus receives detailed status displays for the respective booked Solo device. The Solo Premium package includes 1 device<sup>4</sup>.

<sup>1</sup> The free basic package can only be claimed if the customer has a laboratory package  
<sup>2</sup> If carried out in the agriKomp or ServiceUnion laboratory  
<sup>3</sup> Except for maintenance of the server  
<sup>4</sup> The 4 selected devices can be composed as follows:  
CHP (incl. remote control), NO<sub>x</sub>Log, biogas plant, BGAA (biogas upgrading unit)

