

*Advantage  
through development*



# Product Catalogue

*Biogastechnik Süd GmbH*



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## AGITATOR TECHNOLOGY

### Paddle agitator RT-PRW

The original paddle agitator RT-PRW has become the most commonly used slow-running long-shaft agitator in biogas plants.

The RT-PRW is optionally deliverable in explosion-proof design.

### Submersible agitator RT-TRW

The RT-TRW is a rugged submersible agitator. It is suitable for slurry and digestate of low to medium viscosity.

## SUBSTRATE PREPARATION

### Digestate evaporator VVT-GRV

The Vapogant digestate evaporator, type VVT-GRV, removes part of the water from the digestate using waste heat from the CHPs. The thickened, concentrated digestate has significantly less volume and saves up to 70% of digestate capacity. During this process, the ammonia in the digestate is converted into ammonium sulphate (ASL) by adding sulphuric acid.

### Press screw separator TT-PSS

High water contents in slurry or digestate generate high costs for storage and spreading the slurry on the field.

Using our TT-PSS press screw separator, you can save costs while improving the nutrient balance of the substrates.

Our press screw separator is designed for stationary and mobile use.

### Substrate heat exchanger WT-SWT

The WT-SWT substrate heat exchanger is used for solid materials rich in fibres and/or for short dwelling times of the substrate in the biogas plant. Heating the substrate for a short period after the first digester accelerates the decomposition process of the fibre-rich materials.

Alternatively, the WT-SWT can be used as external heating to pre-heat the substrate or for substrate heat recovery.

## DIGESTER TECHNOLOGY

### Overpressure and underpressure guard ST-DS

The ST-DS overpressure and underpressure guard monitors and regulates the overpressure and underpressure in the digester of a biogas plant. It can either be controlled through a biogas storage membrane or using weight-operated immersion cups.

### Desulphurization

Our desulphurization unit removes the sulphur from the biogas.

It is crucial for CHPs especially in connection with catalytic converters and assures a long service life of the equipment.

## FEEDER SYSTEMS

### Solid material feeder, EBT and EBT-T series

Our EBT family of solids feeding equipment is highly flexible and compatible with various digester designs.

Already during the development of the proved and tested solid material feeder, the focus has been on robust and durable technology and minimized energy consumption.





# 1. AGITATOR TECHNOLOGY

## Paddle agitator RT-PRW

### *Paddle agitator RT-PRW*

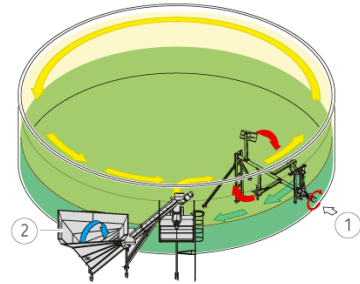
We designed the paddle agitator **RT-PRW** to stir viscous substrates in round reinforced concrete containers (digesters) of biogas plants. Its rugged construction provides for reliable operation and long durability. The maintenance and servicing costs are comparably low.

### *Paddle agitator RT-PRW Ex*

The **RT-PRW Ex** has been developed for use in environments subject to explosion hazard.

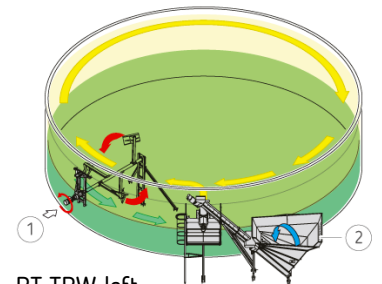
### *Installation*

Our agitators are designed for installation into containers of different heights. They can be mounted to the right or left of the solids feeder.



RT-PRW right

1) Direction of view 2) Solids feeder



RT-TRW left

1) Direction of view 2) Solids feeder

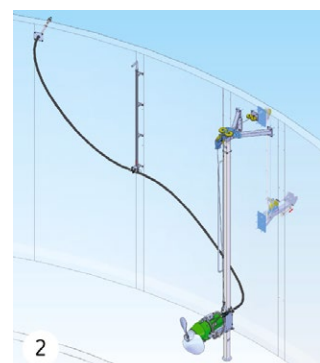
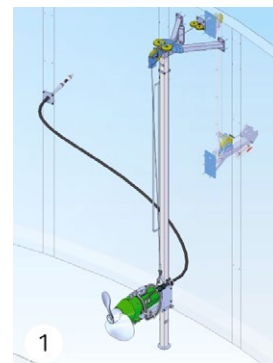
## Submersible agitator RT-TRW

The **RT-TRW** submersible agitator is designed exclusively to stir and homogenize substrates of low to medium viscosity in agricultural slurry tanks and substrates in digesters, digestion containers and preputs of agricultural biogas plants (dry matter content of 6 to max. 12 %).

### *Installation*

The submersible agitator **RT-TRW** is available in 2 variations:

- 1) Assembly of the connecting cable with cable bushing halfway up the container wall or
- 2) Assembly of the connecting cable with cable bushing at the upper container edge and one attachment point halfway up the container wall





## 2. SUBSTRATE PREPARATION

### *Digestate evaporator VVT-GRV*

The procedure of Biogastechnik Süd is based on increasing the dry matter content (DM) through vacuum evaporation. At the same time, volatile nitrogen is bound in the form of ASL so that any losses during spreading are minimized. The system reduces the digestate volume of a biogas plant by up to 70 %, producing a concentrated fertiliser with various benefits. This is achieved by extracting water from the digestate. The exhaust heat of the CHPS is used for this purpose. The goal is to use the available exhaust heat to thicken or process 100 % of the digestate produced in the biogas plant.

### *Press screw separator TT-PSS*

The TT-PSS is a press screw separator for solid/liquid separation of slurry, digestate or other residues. In connection with the compensator reservoir and the automatic control, the unit operates safety-monitored and with maximum throughput regardless of the substrate properties.

### *Press screw separator TT-PSS-K*

The Compact press-screw separator is a low-priced entry-class model of mobile separation. All components (pumps, controller etc.) of the TT-PSS-K are mounted on a mobile frame ready for use. Switching between transport and separation requires just a few simple steps.

### *Press screw separator TT-PSS mobile*

The mobile press screw separator mobile is designed for heavy-duty operation at different sites. The capacity can be doubled simply by setting up a second TT-PSS-M without changing the existing configuration. The entire TT-PSS-M system incl. conveyor belt is installed on car tarpaulin trailer ready for use.





### Substrate heat exchanger WT-SWT

Low-priced feedstock such as solid manure, grass and silage is used to feed biogas plants equipped with robust technology. The naturally high fibre contents in these substrates place great demands on both the technology and the biology. The raw fibres in the substrate are extremely difficult to „digest“ for the bacteria in the digester. In our substrate heat exchanger **WT-SWT**, the un-processed raw fibres are broken down in a thermal process so that they can be processed more easily by the bacteria. The „boiling tests“ conducted by our research laboratory have yielded excellent results: In practice, using the substrate break-down increases the biogas yield by up to 5 %. Alternatively, the **WT-SWT** can be used as an external heating to pre-heat the substrate or for substrate heat recovery.



## 3. DIGESTER TECHNOLOGY

### Overpressure and underpressure guard ST-DS

To make biogas plant operation as safe as possible, we have designed and built our **ST-DS** overpressure and underpressure guard by taking the most stringent safety requirements into account and after careful selection of the harmonised standards to be complied with and additional technical specifications.

### Desulphurization

The entire desulphurization unit fits into a stand-alone rack. To achieve the maximum level of desulphurization for your plant, we offer desulphurization with different flow rates.

Our flow meter kits have the following volume flows:  
0.4 - 4 m<sup>3</sup>/h, 0.5 - 6 m<sup>3</sup>/h, 1 - 10 m<sup>3</sup>/h and 1 - 16 m<sup>3</sup>/h.





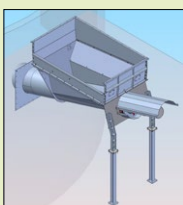
## 4. FEEDER SYSTEMS

### EBT Series

The components of the EBT Series are primarily designed for buried containers. We offer different EBT types for different requirements and applications:

#### EBT-ECO

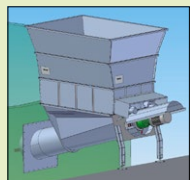
**EBT-ECO**  
Storage volume 1.5 m<sup>3</sup>



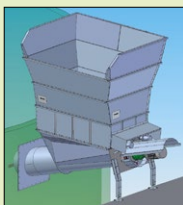
Designed for small quantities of solids, the **EBT-ECO** is the affordable entry-class feeding system. The feedstock is delivered directly into the digester via the main conveyor screw.

It can optionally be expanded by a separating screw unit and various hopper attachments.

#### EBT-ST



**EBT-ST**  
Storage volume 10 m<sup>3</sup>



**EBT-ST**  
with optional attachment  
Storage volume 13 m<sup>3</sup>

The **EBT-ST** is the ideal standard unit with 10 - 13 m<sup>3</sup> storage volume. The separating screw unit transports the substrate from the storage hopper to the main conveyor screw in doses. The good energy efficiency and the durable and robust design are hallmarks of the unit.

The feeding volume can be increased from 10 to 13 m<sup>3</sup> by installing an attachment on the hopper.

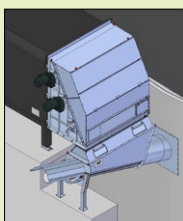
#### EBT-ST-AM



**EBT-ST-AM**  
Storage volume 35 - 76 m<sup>3</sup>

The **EBT-ST-AM** is based on the EBT-ST. Its storage volume can be increased to up to 76 m<sup>3</sup>. From the storage tank, an energy-efficient hydraulic cylinder transports the feedstock in doses to the hopper. It then passes through the separating screw and main conveyor screw into the digester.

#### EBT-FA-AM



**EBT-FA-AM**  
Storage volume 40 - 76 m<sup>3</sup>

In the **EBT-FA-AM**, (FA = shredder attachment) the feedstock is transported from the storage tank to a shredder attachment with three directly driven rotary grinders and further on to the main conveyor screw being separated and dosed in the process. From there it is fed into the digester. The unit is particularly well suited for systems with a high content of solid manure.





## EBT-T Series

The components of the **EBT-T Series** are primarily designed for containers installed above the ground.

In the **EBT-T Series**, the feedstock is first transported upward through an ascending screw and then into the digester via the stuffing screw. We offer different **EBT-T** types for different requirements and applications:

### EBT-T-AS

In the **EBT-T-AS** (AS = separating screw) with hopper, the feedstock is first dosed and separated by the separating screws before it is transported upward via the ascending screw.

The stuffing screw feeds the material into the digester.

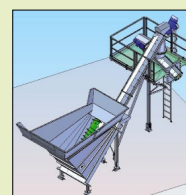
### EBT-T-AS-AM

In the **EBT-T-AS-AM** with storage tank, the storage volume can be increased from 7 to 20 m<sup>3</sup>.

### EBT-T-FA-AM

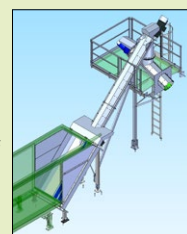
In the **EBT-T-FA-AM**, the feedstock is transported from the storage tank through a shredder attachment with three directly driven rotary grinders where it is separated and dosed before reaching the cross screw.

From there, the material is transported upward by the screw. The stuffing screw feeds the material into the digester.



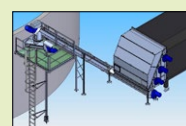
#### EBT-T-AS

Storage volume 7 m<sup>3</sup> and attachment (Storage volume total = 10 m<sup>3</sup>)



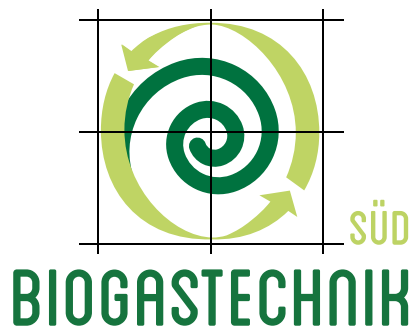
#### EBT-T-AS-AM

Storage volume 20 m<sup>3</sup>



#### EBT-T-FA-AM

Storage volume 25 - 40 m<sup>3</sup>



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