EN

Product catalogue

Product portfolio

BIOGASTECHNIK SÜD













EASYFEEDER

Feeding technology



The EASYFEEDER product range enables reliable solids feeding into a wide variety of fermenter designs. The feeding systems, proven for years, can be flexibly adapted to the respective requirements and are designed for low energy consumption and minimal wear.

Energy efficient | Robust | Many substrates | Low maintenance | High conveying capacity

APPLICATION RANGE

Which substrates and plants?

- Depending on version:
  - Manure, grass and maize silage, comparable biomass

PURPOSE

What is it used for?

- Dosing and conveying of solid substrates
- Automated solids feeding into the fermenter

DESIGN FEATURES

- Robust stainless steel/steel construction in a modular system
- Low-wear materials (e.g. coated steel, stainless steel, plastic inserts)
- Drive with load monitoring and automatic reversing
- Control system on the unit, in a control cabinet or via the higher-level plant control system

BENEFITS IN PRACTICE

- ✚ Energy-efficient solids feeding thanks to high conveying rates at low drive power.
- ✚ Low maintenance effort thanks to robust construction and wear-optimised design.
- ✚ Consequently, a comparatively very long expected service life.
- ✚ Flexible substrate use for feeding tailored to the operation.
- ✚ Adaptable to different plant layouts and capacity ranges.
- ✚ Uniform plant operation through dosed, monitored feeding with a weighing system.

OPERATING PRINCIPLE

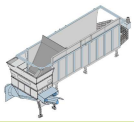
How the Easyfeeder works

Filling of the feed container with solids by wheel loader or conveyor technology. > Feed tank (container or feed hopper) > Dissolving and dosing > Conveyor screw (shredding) > Into the fermenter

FEEDING TECHNOLOGY | EASYFEEDER

PRODUCTS

EASYFEEDER AS
EBT-ST-AS
with disintegrator screw



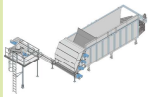
EASYFEEDER FA
EBT-FA
with milling unit



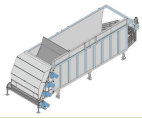
EASYFEEDER Top AS
EBT-T-AS
with disintegrator screw and feed hopper



EASYFEEDER Top FA
EBT-T-FA
with milling unit and container



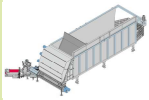
EASYFEEDER Mix Flex
EBT-M-FX
with flexible metering station



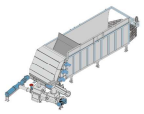
EASYFEEDER Mix Biomix
EBT-M-WP
with metering station Biomix from Wangen Pumps



EASYFEEDER Mix Premix
EBT-M-VS
with metering station Premix from Vogelsang

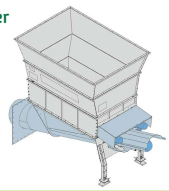


EASYFEEDER Mix BioMerge
EBT-M-BG
with metering station Biomerge from BioG

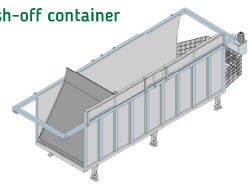


FEED CONTAINER

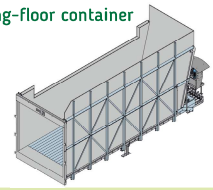
Feed hopper



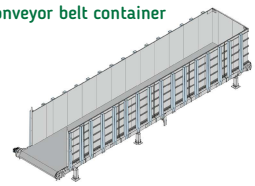
Push-off container



Moving-floor container



Conveyor belt container



VARIBULL



Specially designed for homogenising large substrate volumes at low speeds, low shear load and minimal energy input. The combination of robust agitator paddles, effective flow patterns and well-thought-out technology brings enormous advantages.

Efficient circulation | Energy efficient | Low maintenance | Robust | Higher gas yield

PURPOSE
What is it used for?

- For efficient mixing of fermentation substrates in biogas plants.
- Ensuring uniform distribution of substrate and temperature in the tank.

APPLICATION RANGE
Which substrates and plants?

- Fermenters, post-fermenters and digestate storage tanks with viscous substrates up to 15% DM or higher.
- Plants with high demands on operational safety and ease of maintenance.

OPERATING PRINCIPLE
How the VARIBULL works



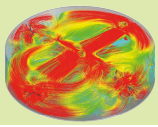
Slow-running paddle agitators mix the substrate over large mixing diameters.



An external drive transmits the power into the tank via the shaft and seal.

Simulated fluid dynamics:

Example: 28 x 8 fermenter with ideal mixing



BENEFITS IN PRACTICE

- Comparatively lowest operating costs thanks to the highest circulation capacity and consequently short operating times.
- Uniform mixing even with viscous substrates.
- Robust, maintenance-friendly design with high operational safety. Also available as an ATEX version.
- Also for tanks with a concrete roof.
- Also for steel tanks.
- Also for tanks made of precast concrete elements.
- Flexible installation options to the right or left of the solids feeding.

DESIGN FEATURES

- External drive for easy maintenance; seals outside the medium.
- Adaptable to different tank heights and installation situations.

PRODUCTS

VARIBULL Paddle agitator
RT-PRW

Standard for tank sizes up to 12 m in height

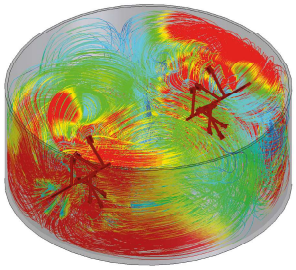




VARIBULL FLEX
RT-PRW-F

Varibull Flex suitable for varying fill levels and low DM content, e.g. in digestate storage tanks





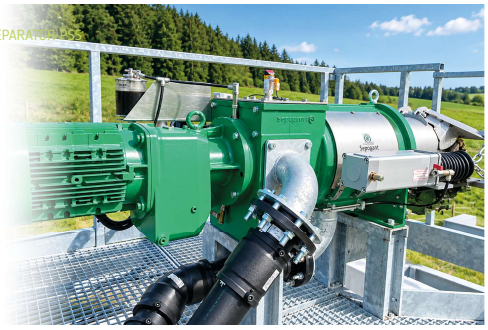
VARIBULL L Long shaft paddle agitator
RT-PRW-L

Long shaft paddle agitator Varibull L for tank sizes from 30 m in diameter





SEPOGANT
Separation technology



The Sepogant screw press separator reliably separates a wide variety of input materials – from slurry and digestate to waste-slurry from waste plants.

Optimum separation | Low maintenance | Energy efficient | Higher gas yield | Robust

PURPOSE & APPLICATION RANGE
What is it used for?

- For separating solids from liquid media (mainly slurry, digestate, stillage).
- Goal: splitting into liquid and solid phases for better use and storage of the digestate products.

BENEFITS IN PRACTICE

- ✚ Reduction of the liquid storage volume and better use of existing storage capacity.
- ✚ Optimised nutrient management through separated phases and improved marketability of the solid digestate phase.
- ✚ Reliable separation of plastic components: in waste plants before or after digestion.

DESIGN FEATURES

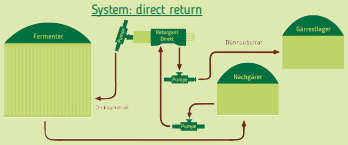
- Hard-metal-tipped press screw and hard-metal counter-blade for low-wear operation, even with demanding digestates.
- Specially developed mechanical seal with permanent lubrication for long maintenance intervals and high operational safety.
- Specially matched screw/filter-screen arrangement for low screw wear and particularly high separation performance.
- Designed for a long press screw service life compared with competing products and optimised separation of the organic fraction.
- Resistant construction with high-quality materials for high reliability and long service life.

OPERATING PRINCIPLE
How the SEPOGANT works

System: Standard



System: direct return



The substrate is conveyed into the separator via a pump, central substrate distribution or free inlet.

A robust press screw forces the medium through a fixed slotted filter screen; the liquid phase drains off and the solid phase is discharged as press cake.

The dry matter content of the solid phase can be continuously influenced via an adjustable contact pressure/pressure regulator.

PRODUCTS

SEPOGANT
TT-PSS

Separation of solids from liquid production, waste and process streams.



SEPOGANT MACH X
TT-PSS-X

Equipped with several screw press separators for particularly efficient separation, capable of processing large substrate volumes.



SEPOFARM
TT-PSS-FM

Modular, stationary separator with container solution.



SEPOGANT KOMPAKT
TT-PSS-K

Mobile complete solution with pump, press water pump and control system.



Particularly suitable for the direct return of substrates:

SEPOGANT DIREKT
TT-PSS-D

Solid-liquid separation with direct return into the tank via a discharge shaft



SEPOGANT DIREKT
TT-PSS-D

Solid-liquid separation with direct return mounted to the tank wall

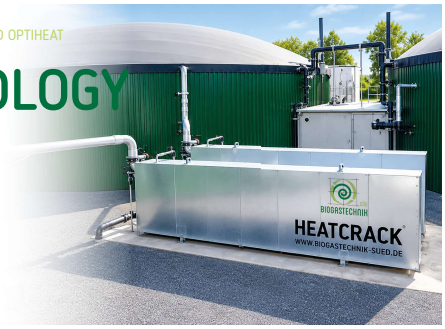


RETURGANT DIREKT
TT-PSS-RD

Biomass return filter with return of the thick substrate via an inclined pump



HEAT TECHNOLOGY



A stable fermenter temperature is the basis for maximum gas production in every biogas plant. With the heat exchanger product family, we offer a comprehensive heat technology programme: from the proven tank heating system via the powerful Heatcrack system and the efficient Heatogant heat exchanger to the intelligent Optiheat.

Energy efficient | High heat yield | Good heat transfer | Low maintenance | Robust

PURPOSE

- Heat technology for heating the substrate and for efficient use and recovery of heat in biogas plants.
- Support for fermenter heating, digestate processing and other heat consumers to increase energy efficiency.

APPLICATION RANGE

- Heating and temperature control of fermenters, pre-tanks and post-fermenters.
- Heat recovery from digestate and process streams and supply of external heat consumers.

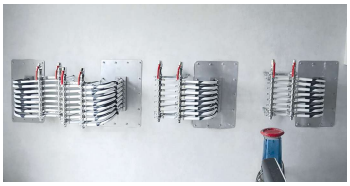


DESIGN FEATURES

- Biogas-suitable heat exchangers and system solutions for substrates, digestate and process media.
- Robust materials and easy-to-clean construction for long service life with low maintenance effort.

BENEFITS IN PRACTICE

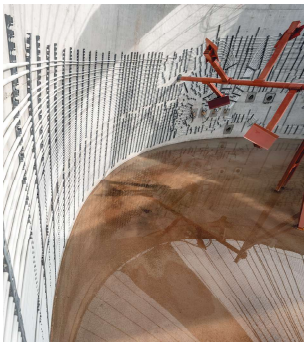
- ✚ Better utilisation of available heat, lower external energy demand and reduced waste heat losses.
- ✚ Support for stable, economical plant operation through transparent heat management.
- ✚ Design and project planning from a single source (proven in numerous reference projects.)



PRODUCTS

TANK HEATING
WT-SWT-BE

Heating of the fermenter to ensure a stable process and operating temperature.



HEATCRACK
WT-SWT-HC

Thermal treatment of fibre-rich substrates for optimised use of the organic matter.



HEATOGANT
WT-SWT-HG

External heating and cooling of substrates for separate stabilisation of the fermenter temperature.



OPTIHEAT
WT-SWT-OH

Compact system for thermal substrate optimisation in biogas plants: crushing, heating and conveying in one container.



VAPOGANT



The Vapogant digestate evaporation system from Biogastechnik Süd processes digestate from your biogas plant into valuable, highly concentrated fertilisers – including ammonium sulphate (farmAS®) and concentrated liquid fertiliser (farmLC®).

Water recovery | Liquid fertiliser production | Less storage required | Energy efficient | Low maintenance

PURPOSE

- Digestate evaporation for upgrading digestate, slurry and other liquid residues from biogas plants and waste management.
- Increase of the dry matter content and significant volume reduction to save storage capacity.
- Removal of ammonia from the digestate.

APPLICATION RANGE

- Biogas plants with high digestate volumes and limited storage or spreading capacity.
- Farms that want to obtain marketable fertiliser products from digestate.
- Ideal for biogas plants using dried poultry manure. Reusing the nitrogen-reduced recirculate means less dilution water is required.

DESIGN FEATURES

- 1- or 2-stage version or BV variant depending on capacity range and plant concept.

BENEFITS IN PRACTICE

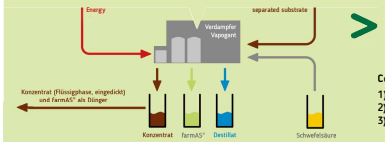
✚ Significantly less storage and spreading volume for digestate.

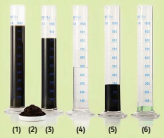
✚ Binding of volatile nitrogen in ASS – lower fertiliser losses and ammonia emissions.

✚ Closed circuit: use of heat from the CHP unit and complete utilisation of the digestate products as fertiliser.

OPERATING PRINCIPLE

How our digestate evaporation works:





Composition of the digestate

1) Digestate from fermenter
2) Solids from separation
3) Liquid phase after separation
4) Condensate: water, extracted from the digestate for discharge, evaporation or use as process water
5) Liquid phase as concentrate (farmLC®)
6) Ammonium sulphae solution (farmAS®)

VARIANTS

VAPOGANT 1-stage

VVT-GRV-1

Designed for energy-efficient operation using existing heat sources.

Thermal output: 200–500 kW;
Electrical power: 10 kW;
→ Condensate: 750 l/h



VAPOGANT 2-stage

VVT-GRV-2

Use of the heat energy supplied in several stages.

Thermal output: 200–500 kW;
Electrical power: 13 kW;
→ Condensate: 1,400 l/h



VAPOGANT BV

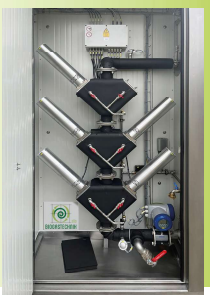
VVT-GRV-BV

Use of electrical energy for vapour compression

Thermal output: 50–100 kW;
Electrical power: 75 kW;
→ Condensate: 1,400 l/h



WAVEBOX



Ultrasonic technology enables undigested fibres that have not yet been broken down to be disintegrated, resulting in an even higher biogas yield.

More degradation | Easier mixing | Less residual gas | Energy efficient | Low maintenance

PURPOSE

- Ultrasonic technology for treating the biomass separated in the return stream, in order to further break down fibrous components that are difficult to degrade.
- Goals:
  - Increase biogas yield
  - Raise degradation rate in the fermenter

APPLICATION RANGE

- Biogas plants with particularly fibre-rich substrates.
- Plants that want to make better use of tank volume and increase the degradation rate in the fermenter.

DESIGN FEATURES

- Cascade-type Wavebox with several sonotrodes for intensive treatment in continuous flow.
- Design:
  - as a bypass system for retrofitting, integrated into existing pumping and piping structures, or
  - as a complete solution in a container.

BENEFITS IN PRACTICE

✚ Increase in the degradation rate of the organic matter and reduction of the residual gas potential in the digestate.

✚ Improved mixability and reduced DM content in the overall system, which in turn lower mixing and pumping energy.

✚ Reduced residual organic content in the digestate product – lowers the methane formation potential in downstream separation and storage stages.

OPERATING PRINCIPLE

How our ultrasonic technology works



Treatment of the substrate in the Wavebox: sonotrodes generate ultrasonic waves, cavitation breaks up structure and fibres.

Return of the pretreated biomass to the fermenter or post-fermenter to allow more organic dry matter to be digested.

FOR MORE INFORMATION:

OTHER COMPONENTS

FERTOGANT



The compact, robust liquid fertiliser station enables fast, clean and safe liquid fertiliser filling as well as the unloading and mixing of liquid fertiliser concentrate. With automatic or manual control, a maintenance-friendly design and flexible indoor or outdoor installation options, it is the ideal solution for biogas plants that produce and receive liquid fertiliser.

PURPOSE

- Liquid fertiliser station for ammonium sulphate solution (ASS) for receiving, intermediate storage and dispensing in biogas plant operation.
- Automated, documented filling of ASS and ASS-mixtures into customer tanks and spreading vehicles.

APPLICATION RANGE

- Biogas plants that use ASS from the process, store it and supply it to internal or external customers.
- Operations with regular ASS deliveries by tanker and off-loading into spreading equipment or transport vehicles.
- Plants in which a safe, traceable material flow of ASS (delivery, storage, dispensing) is required.

DESIGN FEATURES

- Control system, optionally with two control cabinets and HMI (touch panel) for guided operation plus 2 operating modes
- Automatic recording and archiving of quantities (total counter and daily counter) for delivery and offloading.

FOR MORE INFORMATION:

BIOSECURE



The BioSecure pressure and vacuum relief system reliably protects fermenters and gas storage tanks from damage caused by excessive gas pressure or underpressure and ensures safe, standard-compliant operation of the biogas plant. Thanks to its robust stainless steel construction, easy function check and optional frost protection, it is a reliable solution for a wide range of operating conditions.

FOR MORE INFORMATION:

OUR SERVICE
FOR YOUR BIOGAS PLANT



+49 7562 97085-412
service@biogastechnik-sued.de

OUR SERVICES

- Training for partners: at our premises in Isny or directly on site
- Repairs on site
- Service technicians ready for rapid deployment
- Professional maintenance of your paddle agitator – even with a lowered tank fill level
- Available even on Saturdays and German off-days from 8 am – 4 pm
- Remote customer service



OUR INSTALLATION SERVICES

- Training for partners: at our premises in Isny or directly on site
- Repair and replacement of agitators (Paddelgigant, Buschmann, Steverding, SUMA, LJM)
- New installation of our equipment incl. commissioning
- Retrofits – accompanied by a project manager
- Installations + pipework in PE with pressure testing
- Heating installation

COMPLETE MAINTENANCE
incl. spare parts for your products:

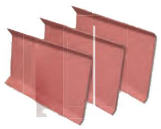
- Feeding technologies
- Paddle agitators
- Submersible agitators
- Separators
- Pressure and vacuum relief systems Biogard and Biosecure
- Digestate evaporation plant Vapogant

WE ARE SERVICE- AND SPARE PARTS-PARTNER FOR:

- Wangen Pumps
- Demmler push-off container
- Eisele agitator
- Vogelsang: Premix, RotaCut
- ... and many more

SPARE PARTS


Shafts


Paddle blades


Paddle arms


Gearboxes


Press screws


Slotted filter screens


Universal joint shafts


Stators


Rotors





Screws for feeding systems in steel and stainless steel for all variants;
Other wear parts, e.g. ball bearings and repair plates for our feeding systems.

WE LIVE BIOGAS

From practice...
... for practice!





Managing directors: Clemens and Gregor Maier

One biogas plant, one farm – and a problem that could not simply be dismissed: the fast-running agitators reached their limits with high grass silage input.

For us, in 1999 this was the impetus to develop a solution ourselves. Not for just any biogas plant, but for our own.

In 2002 we got there: the first paddle agitator – the Varibull – went into operation. What began at the Heslerhof developed step by step into a company with a great passion for biogas technology.

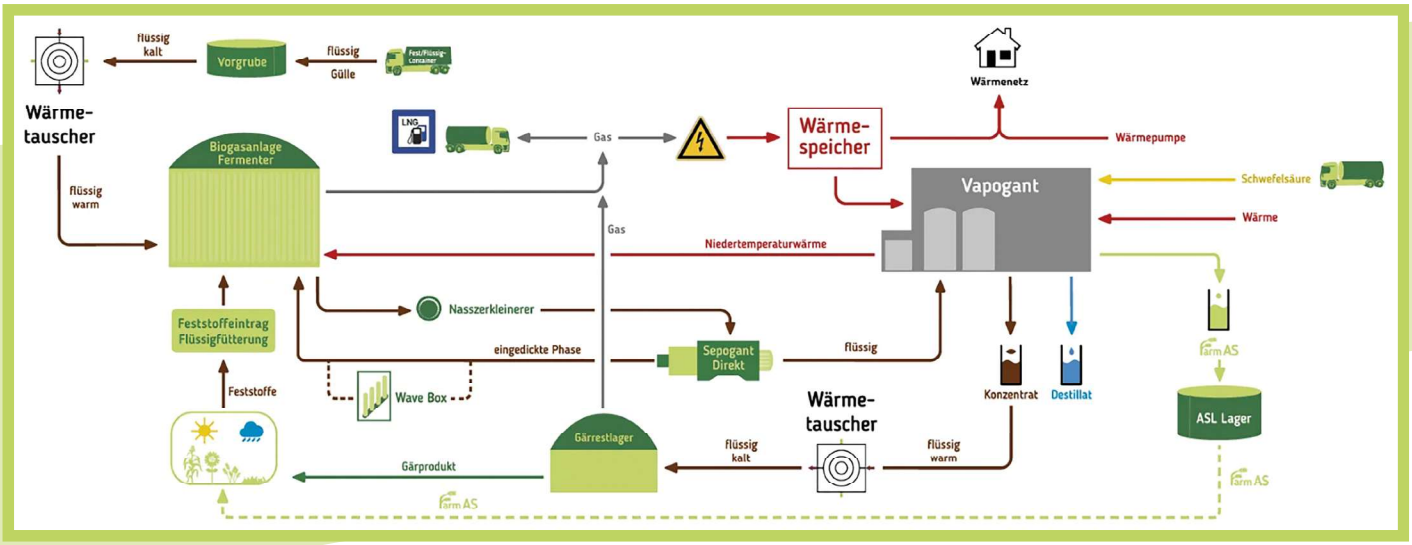
And one thing has always stayed the same: we try things out, improve and build technology that works in real operation.

Today we develop components for almost every area of biogas technology – from substrate preparation and feeding through separation and heat exchange to digestate processing. Many of our ideas arise from direct contact with plant operators and from our own practical experience.

Because anyone who runs a biogas plant themselves knows: **Theory is good – what counts is practice.**

We rely on robust technology, durable materials, efficient solutions and personal service. Developed, designed and supported with a wealth of experience – and with a team that lives for biogas.

VAPOCIRCLE TECHNOLOGY



Biogastechnik Süd GmbH

Am Schäferhof 2
D-88316 Isny im Allgäu

Phone: +49 (0) 7562 970 85-40
Fax: +49 (0) 7562 970 85-50

Email: info@biogastechnik-sued.de
Website: www.biogastechnik-sued.de/en

Legal notice
© Biogastechnik Süd GmbH, Isny. All rights reserved. All text and illustrations are protected by copyright and other intellectual property laws. Copying or modification for commercial purposes or distribution to third parties is prohibited.