BÖRGER®

EXCELLENCE – MADE TO LAST

FLEXFEED & POWERFEED

FLEXFEED & POWERFEED
ECONOMIC LIQUID FEEDING TECHNOLOGY

The Flexfeed and the Powerfeed are used for feeding solids into biogas plants. The solid feed technology feeds the biomass in doses into a flow pipeline in the fully enclosed system. Tanks of any number and of different heights can be fed by means of the Börger feed technology.

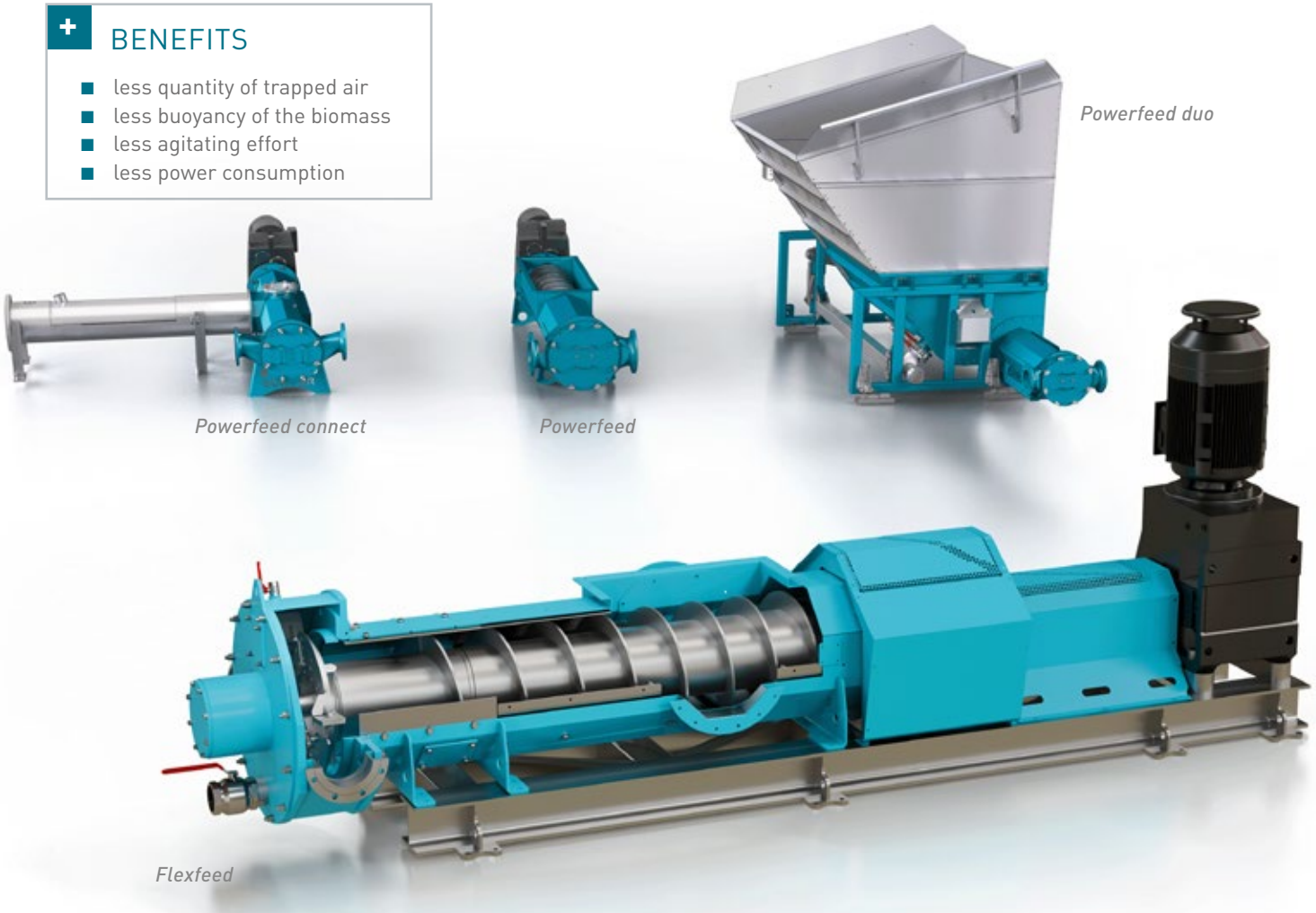
Inside the solid feed technology the biomass is compressed and broken down very finely before it is fed into the system. This concept releases any trapped air from the biomass. The fine biomass particles have a large surface and ensure a higher gas yield.

The homogeneous mixture of recirculate and solid particles being fed as well as the release of trapped air ensure that hardly any floating layers are formed and the agitating effort in the tank is reduced, thus saving agitation energy.

The Flexfeed and the Powerfeed are available in different versions and various sizes, so that the most economic and most suitable technology is found for every company size.

+ BENEFITS

- less quantity of trapped air
- less buoyancy of the biomass
- less agitating effort
- less power consumption



Powerfeed duo

Powerfeed connect

Powerfeed

Flexfeed

AT A GLANCE

+ Feeding tanks of any number and of different heights with one unit

+ the enclosed system prevents odor emission and possible gas leakage

+ The biomass is broken down into ultra-fine particles; due to the large surface of these particles a higher gas yield can be realized

+ because trapped air is released from the biomass less floating layers form in the tank, which results in energy savings due to reduced agitating effort

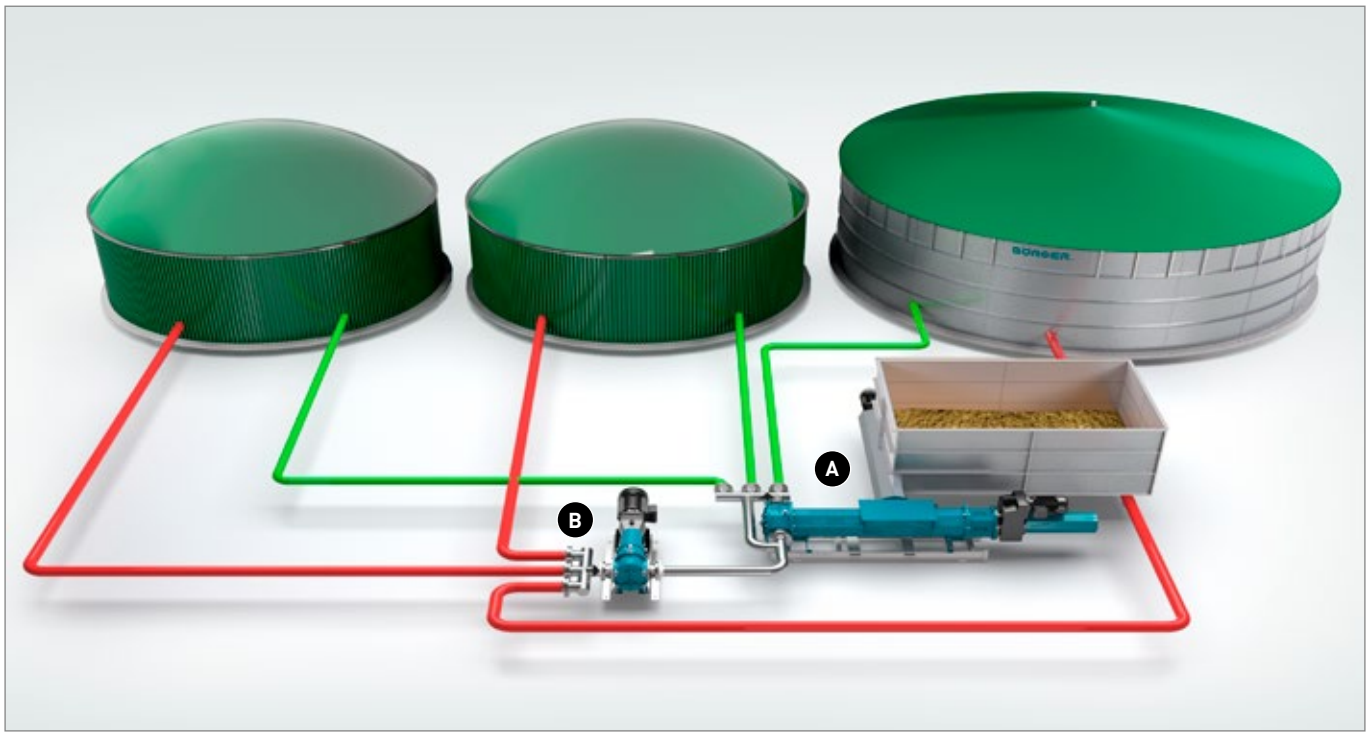
+ simple retrofitting possible in every biogas plant

FEEDING TANKS OF ANY NUMBER

The Flexfeed / Powerfeed **(A)** and a high-capacity biogas pump **(B)** form the central unit of the liquid feeding technology. The tanks of the biogas plant are connected to the pump via pipe and valve systems, so that the pump can extract recirculate from the requested tank.
The Flexfeed / Powerfeed is installed at an appropriate position in the pipe system. The Börger feeding technology feeds the biomass in doses into the flow pipeline in the fully enclosed system. The recirculate enriched with biomass is conveyed into the requested fermenter.
This enclosed system provides significant advantages:

- **no open gas-emitting liquid**
- **no unpleasant odor emission**
- **no gas leakage**

Upon request, Börger control technology coordinates the operation of the pump and the Flexfeed / Powerfeed – simple and reliable from a single source.



REDESIGNED AND MADE SAFE.
THE FLEXFEED

The Flexfeed feeds large quantities of varying biomass in an enclosed system, safely and without odors, into your biogas plant. The new Multi Disc technology ensures the highest level of safety as well as trouble-free operation.

The Flexfeed is available in two sizes. This means that the most economical and suitable technology can be found for every size of operation.

Whether feeding is realized from the right or left or from above, the Flexfeed can be adapted perfectly to almost any local conditions. When retrofitted, it can be connected to existing systems and technology without problems.

Throughput Flexfeed

Flexfeed	Max. capacity in t/h
Flexfeed 350	10–15
Flexfeed 500	20–25

THE OPERATING PRINCIPLE

Through the inlet opening **[1]** the discharge auger of a mixing dosing feeder or a moving floor feeds solid biomass to the Flexfeed. The auger **[2]** transports the biomass into the press channel **[3]**. In the press channel, the biomass is compressed and trapped air is released. The press channel leads to the induction unit **[4]**. A casing protection **[5]** made of stainless steel plates protects the Flexfeed against wear by abrasive particles. In case of wear, the casing protection can be replaced very easily through the quick-release cover **[6]**. The Multi Disc **[7]** seals the press channel safely until a plug has formed. This is when the Multi Disc opens. A gap is formed through which the biomass is fed into the recirculate in the form of fine particles.

A control technology monitors various parameters in the press channel. If it is no longer sufficiently filled, the Multi Disc closes the press channel again. This prevents the recirculate from entering the Flexfeed. The quick-release cover facilitates easy maintenance of the Flexfeed.

AT A GLANCE

+Dosing system for containers of any number and of different heights

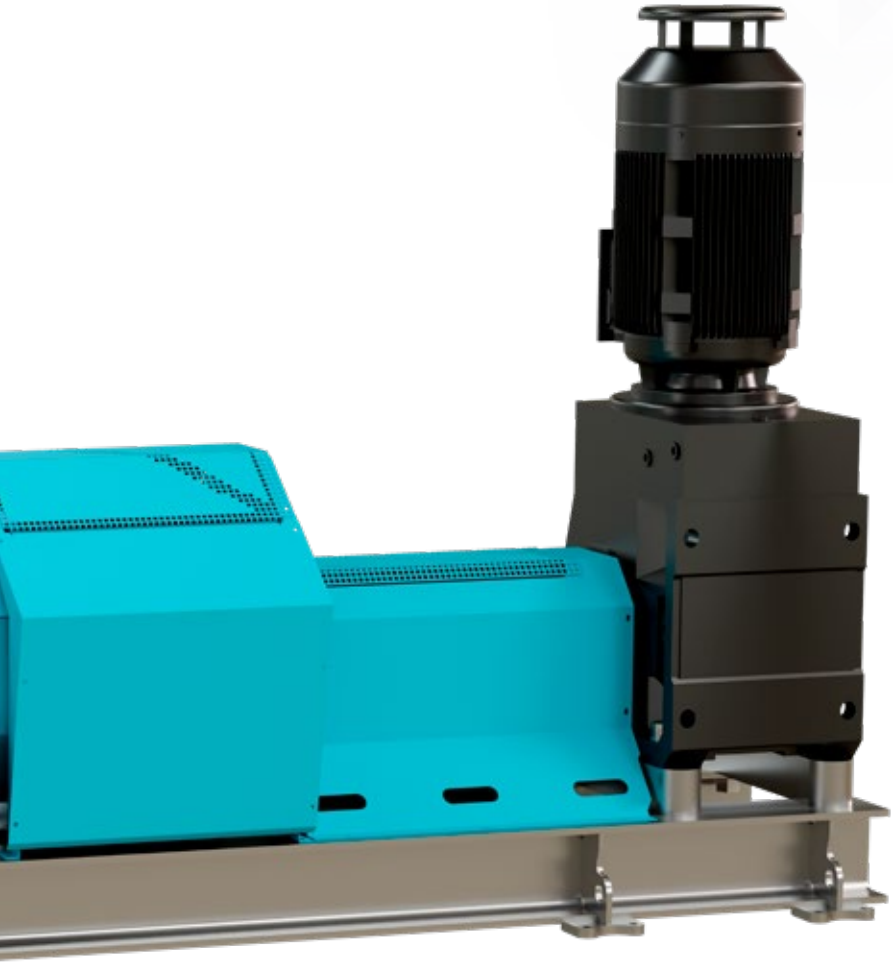
+ Enclosed system, so no odor emission or gas leakage

+ Less power consumption

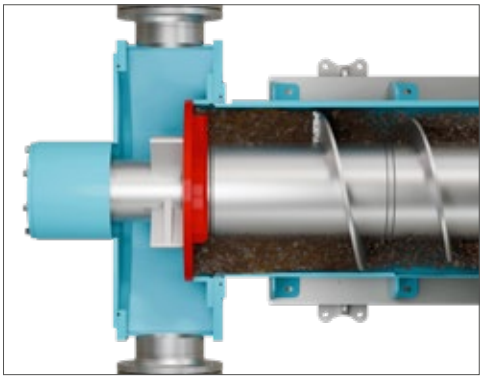
+ Less entrapped air, less buoyancy, less agitating

+ BENEFITS

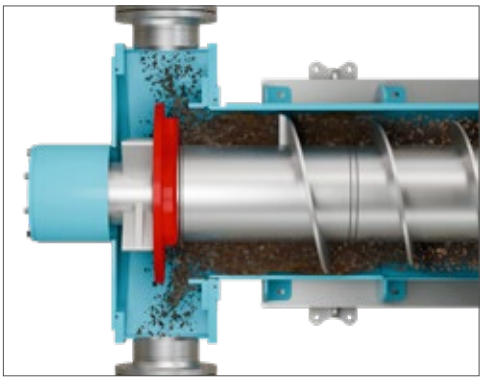
- No risk of penetration, regardless of the type of biomass
- Fully automatic operation
- Multi Disc in the Bioselect tried and tested over decades
- Maintenance-free



new



Multi Disc closed



Multi Disc open

LET YOU SLEEP THROUGH THE NIGHT - MULTI DISC TECHNOLOGY

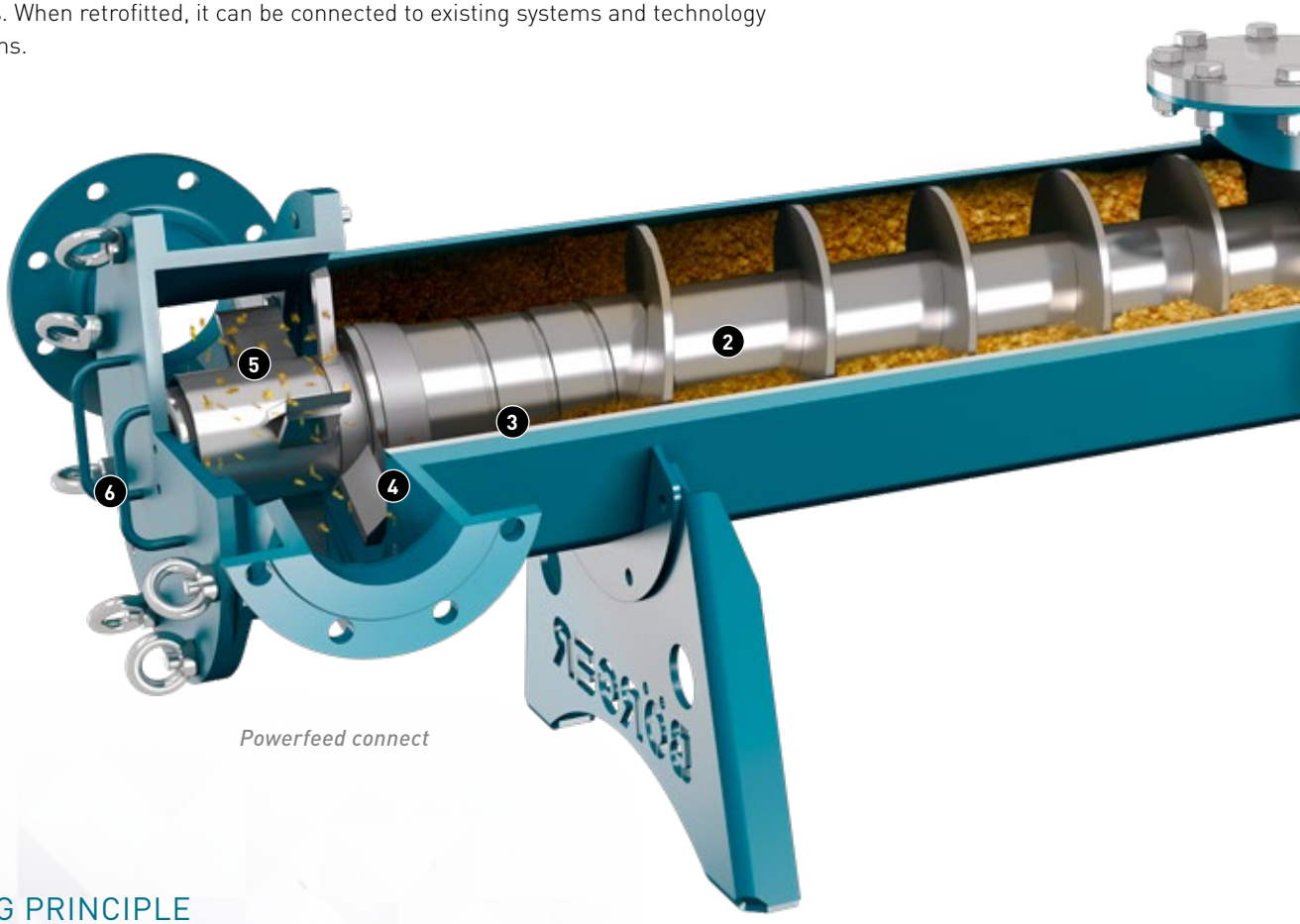
Multi disc technology has been used successfully in Bioselect separators for years. Regardless of the biomass to be fed in, the multi disc ensures that the Flexfeed operates without blockages.

Sophisticated control technology regulates the opening and closing of the multi disc fully automatically.

THE POWERFEED
SOPHISTICATED QUALITY

The Powerfeed technology stands for safe and reliable "feeding" of biogas plants with solids. The liquid feeding technology is available in two sizes and three versions.

Whether feeding is requested from the right or left, from the top or in combination with a stainless steel storage container, the Powerfeed can be adapted perfectly to almost any local conditions. When retrofitted, it can be connected to existing systems and technology without problems.



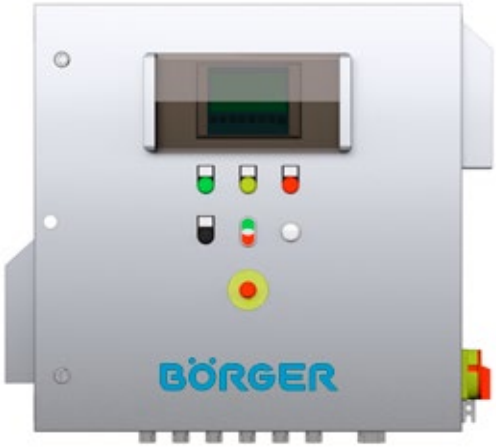
Powerfeed connect

OPERATING PRINCIPLE

Through the inlet opening **(1)** the discharge auger of a mixing dosing feeder or a moving floor feeds solid biomass to the Powerfeed connect.

The auger **(2)** in the Powerfeed transports the biomass to the press channel **(3)** where the biomass is compressed and trapped air is released. A plug is formed. The press channel leads to the induction unit of the Powerfeed where rotating blades **(4)** scrape solid particles from the plug. The ultra-fine solid particles are fed into the recirculate by means of rotating agitator blades **(5).** The release of trapped air, the small size of the solid particles and the careful dosing into the recirculate ensure that hardly any floating layers are formed in the fermenter. The agitating effort is significantly reduced and the power consumption decreases. In addition, the large surfaces of the solid particles ensure a higher gas yield.

The quick-release cover **(6)** facilitates easy maintenance of the Powerfeed.
(MIP = Maintenance in Place)



CONTROL TECHNOLOGY

Very often, the Powerfeed is supplied as a package together with a rotary lobe pump and the Börger control technology. This way, the customer receives a ready-to-connect unit with high-quality components perfectly matched to each other.

Continuous measurement of flow rate, pressure and power consumption enables the control technology to immediately react to changing conditions and to adapt the operation of the biogas pump and the Powerfeed accordingly. This ensures that the Powerfeed always operates at optimal capacity and with the highest degree of operational safety.

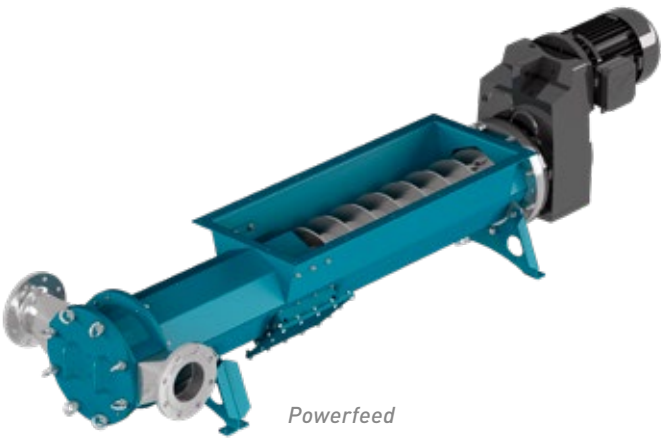
+ BENEFITS

- less quantity of trapped air
- less buoyancy of the biomass
- less agitating effort
- less power consumption

LARGE NUMBER OF VARIANTS

While the Powerfeed connect is connected laterally to the discharge auger of a mixing dosing feeder or a moving floor, the Powerfeed basic model is fed from the top.

The Powerfeed duo is the efficient Börger feeding technology combined with an intelligent stainless steel storage container.



Powerfeed

Powerfeed duo

BÖRGER®

EXCELLENCE – MADE TO LAST

THE BETTER FEEDING TECHNOLOGY









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