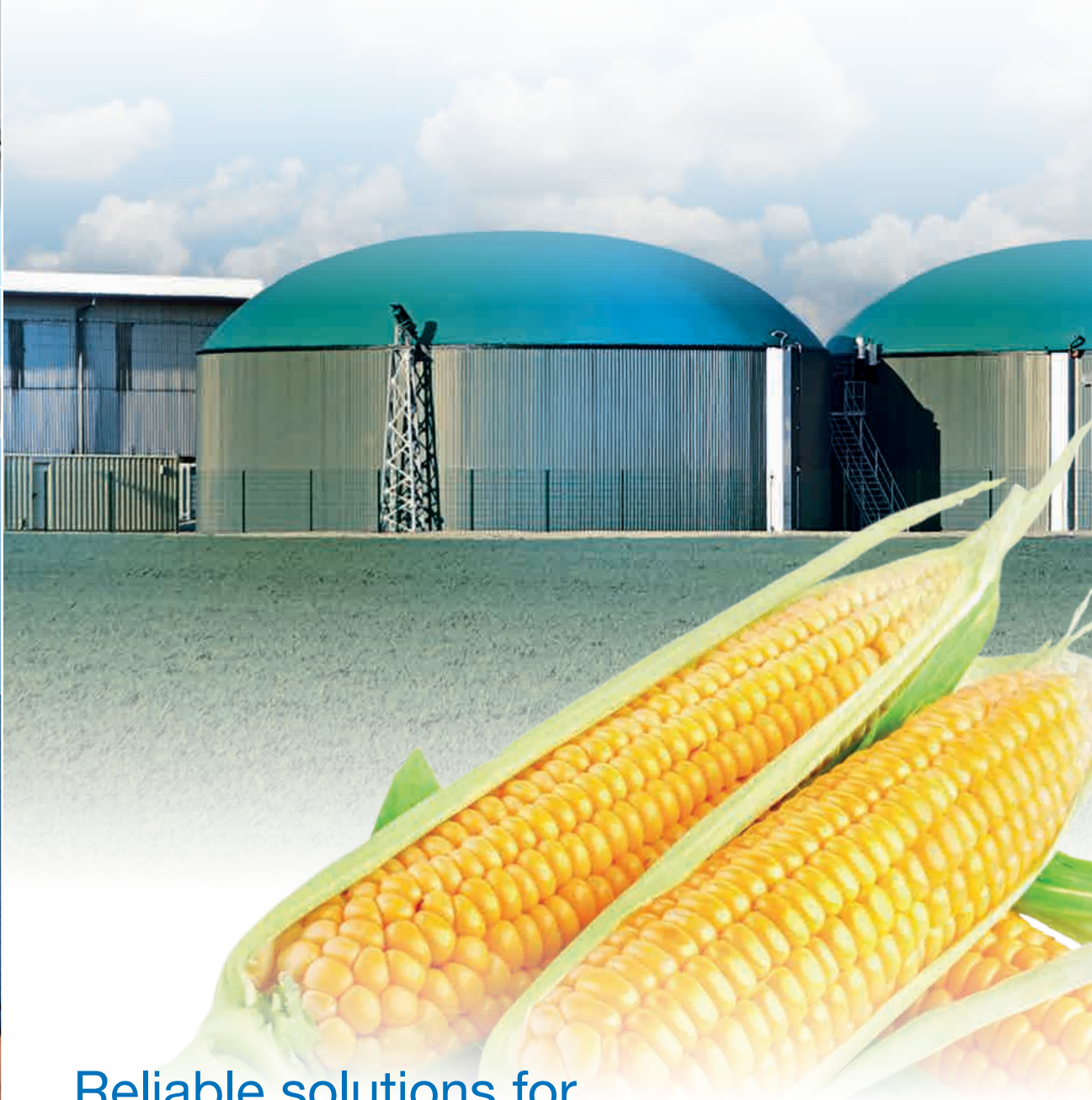


Conveyance Solutions for  
**Anaerobic digestion processes,  
thermal hydrolysis plants  
and bioethanol production**



**Reliable solutions for  
pumping, loading, input.**

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Who we are

## Why WANGEN PUMPEN?

The name WANGEN PUMPEN originates from Wangen in the Allgäu region of Germany, which is the location of the company's head office and main production site. Wangen is in the most southerly part of Germany, where the three countries Austria, Switzerland, and Germany join at Lake Constance.

Made in Germany, used worldwide. Customers trust and rely on pumps made by Wangen Pumpen. It is a clear confirmation of our commitment to quality as the basis for long-term value.



Since it was founded in 1969, WANGEN PUMPEN has continued to grow, expand-ing from its beginnings as a small family-run business into a medium-size company with a workforce of over 250 staff.

Thanks to our consistent focus on the requirements of the market and our customers, our pumps are highly regarded at regional, national and international level.

Our customers hold us in high esteem, motivating us to retain and improve on our company values every single day.



”Reliability is a top priority in my biogas plant. That is why I use pumps from WANGEN.”



Headquarter building in Wangen, Germany



WANGEN PUMPS in your plant

## Applications

The following are typical tasks where our pumps are used in processes such as anaerobic digestion, thermal hydrolysis and bioethanol production:

- Pumping substrate, i.e. the transport of viscous substrates between fermenters
- Input of solids: solid substances are introduced into the pump via the hopper feed and mixed with liquid from the fermenters, post-fermenters or from liquid manure tanks
- Separator feeding: WANGEN PUMPEN take on special operations in biogas plants, such as e.g. the loading of the separators used to separate the solid and liquid phases



Fossil fuels are scarce, renewable energy is gaining in importance. And for this reason biogas technology, too! The Wangen pump factory has been producing progressing cavity pumps for this branch of industry right from the very start and is a member of the German Biogas Association.

The task of pumps in biogas plants is to transport viscous substrates between the fermenters. Depending on the substrate to be pumped and the respective biogas plant, we are able to offer different pump types. Our experience enables us to develop practical solution concepts.



Feeding the pump via a transferring hopper



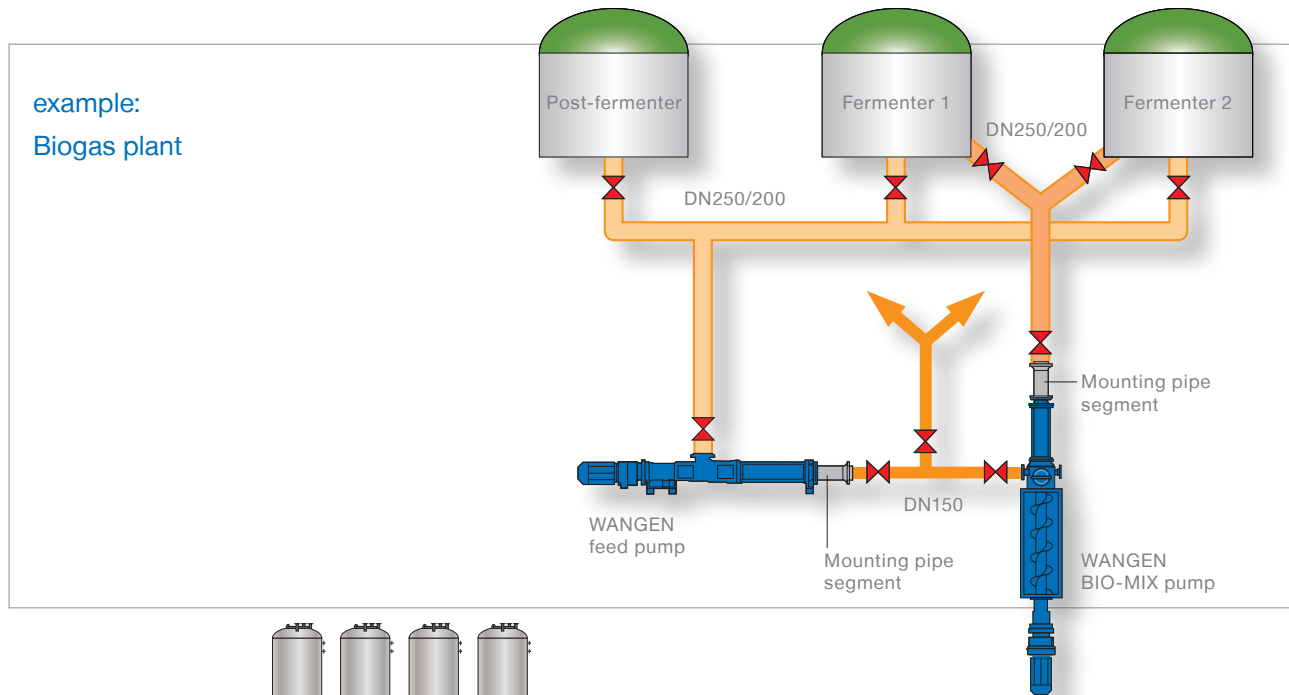
Pumping substrate between fermenters



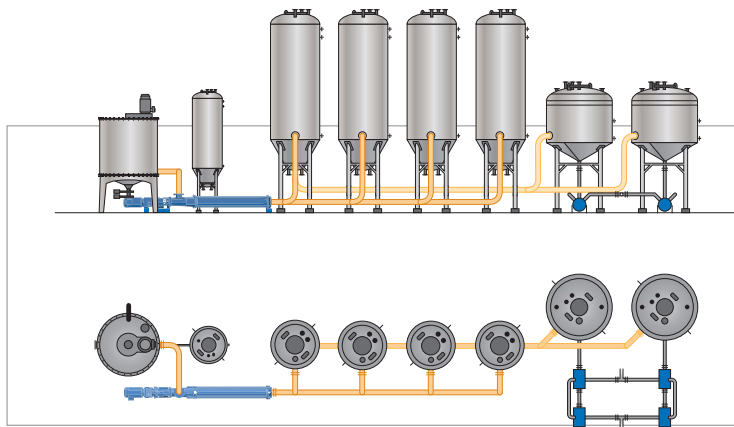
Introduction of solid substances after crushing

## WANGEN PUMPEN in your process

example:  
Biogas plant



example:  
Hydrothermal carbonisation



## Service and Spare Parts

All original WANGEN spare parts meet the strict requirements for functionality and reliability and are made in strict accordance with the Wangen quality standards. Replacement parts such as rotors and stators are manufactured directly in our company. In this way you receive first-class manufacturing quality and are thus able to ensure the long service-life of your pump.

We hold a large stock of original WANGEN spare parts at our production site in Germany. We are able to dispatch replacement parts that are in stock within a few working days on a worldwide basis. We are thus able to help you reduce downtimes and to maximise the availability of your plant. Our service team will be pleased to assist you.

WANGEN PUMPEN

## Our Solutions

Our construction series specifically for pumping substrates, loading solid substances or the feeding of separators convince through their non-clogging joints and the ease with which they also convey over long distances and/or where there are big differences in height.

### PTO pumps A, GL-S, GL-F

for reliably pumping agricultural materials. They have a free shaft end and can be powered directly from a vehicle, such as a tractor. Flowrate up to 470 m<sup>3</sup>/h, Differential pressure up to 16 bar, High solids content up to 15%.

### Self priming pumps KL-S

for pumping flowable thin sludge, excess sludge and mechanically thickened sludge containing up to 10% dry matter. Available in cast iron as well as stainless steel. Flowrates up to 560 m<sup>3</sup>/h, Differential pressure up to 48 bar, Viscosity up to 200,000 mPa·s.

### Hopper feed pumps KL-R BIO-MIX

for effectively introducing fermenting substrates into a biogas plant. Hopper and screw are available in steel or stainless steel. Flowrates up to 150 m<sup>3</sup>/h, Differential pressure up to 12 bar, High solids content up to 45%.

### Self priming pumps BIO-FEED with X-LIFT quick change system

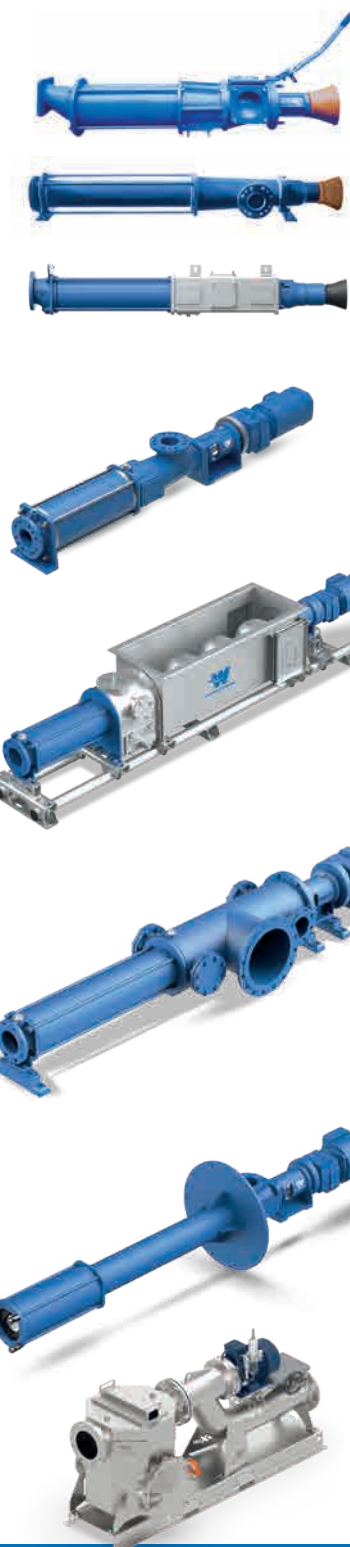
Combines liquid feeding with screw technology directly at the solids dispenser. With four DN150 connections and a DN400 connection. The X-LIFT quick change system enables easy replacement of the wearing parts. Flowrates up to 50 m<sup>3</sup>/h, Differential pressure up to 6 bar, High solids content up to 15%.

### Immersion pumps KL-T

for pumping highly viscous liquids from basins and tanks. Available in cast iron as well as stainless steel. Flowrate up to 525 m<sup>3</sup>/h, Differential pressure up to 12 bar, Viscosity up to 200,000 mPa·s.

### X-UNIT

Debris removal (X-TRACT) and substrate cutting (X-CUT):  
The modular system for reliable protection of plant equipment.  
Maximum capacity: 1,250 m<sup>3</sup>/h / 347 l/sec.



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Extract of our

## List of References

### Germany

Food waste



Plant	Food recycling
Process	According to Hammermühle
Product	Self priming pump
Pump type	KL 80S 140.3
Flowrate	10 m³/h
Differential pressure	10 bar

### Canada

Maize & cow dung



Plant	Biogas
Process	Wet input
Product	Biomix + feed pump
Pump type	Biomix 165.2 HD & KL65S125.1
Flowrate	80 m³/h
Differential pressure	4 - 6 bar

### Italy

Plant silage



Plant	Biogas
Process	Wet input
Product	Biomix + feed pump
Pump type	Biomix 140.1 HD+ KL50S 114.1
Flowrate	50 m³/h
Differential pressure	6 - 8 bar

Extract of our

## List of References

### United Kingdom



#### Biodegradable material

Plant	Anaerobic Digestion
Process	Hydrolysis
Product	Self priming pump, immersion pump
Pump type	KL 50S 114.0 + KL 50T 114.0
Flowrate	up to 30 m³/h
Differential pressure	3 bar

### Hungary



#### Sugar beets

Plant	Biogas
Process	Wet input
Product	Biomix + feed pump
Pump type	Bio 165.1 HD
Flowrate	80 m³/h
Differential pressure	4 -6 bar

### Germany



#### Purréed beets

Plant	Biogas
Process	Pumping from a lagoon
Product	Immersion pump
Pump type	KL50 T 114.1
Flowrate	15 m³/h
Differential pressure	6-8 bar







**WANGEN PUMPEN is certified to:**

ISO 9001 (Quality management)

ISO 14001 (Environmental management)

ISO 45001 (Occupational safety and health protection)



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POMPEN & SERVICE

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