



QUETSCHPROFI®

Separation technology for manure and digestate

 **PLANTS**
efficient. flexible. sovereign.

 **COMPONENTS**
powerful. proven. in demand.

 **EXTENSIONS**
clever. individual. high-performing.

 **SERVICE**
holistic. biological. technical.


 **QUETSCHPROFI**
Biogas Komponente: Separator


| | |
|----------|--------|
| Typ | Q 100 |
| Material | St 37 |
| Druck | 10 bar |
| CE | CE |



agriKomp UK Ltd.
Unit 181, Avenue M
Stoneleigh Park
Warwickshire CV8 2LG

Phone +44 (0) 121 3742610
Fax +44 (0) 121 3140935
info@agrikomp.co.uk
www.agrikomp.com/uk

Member of
Fachverband
Biogas e.V. 

agriKomp GmbH:
Certified under
ISO 9001:2008 

member of




Quetschprofi® – Separation eliminates the hassle of stirring!

Efficient digestate processing

Quetschprofi®, the innovative separation equipment by agriKomp, allows digestate to be processed efficiently to a desired dry matter content of more than 25 percent. Each biogas plant can optionally be fitted with a Quetschprofi®. This allows the plant to be retrofitted seamlessly and creates value by recycling digestate. The Quetschprofi® stands out due to its rugged construction and ease of maintenance. As with all other agriKomp components, superior materials combined with sophisticated and robust technology provide for maximum reliability.

How the Quetschprofi® works

A rugged press screw drives the substrate through the rigidly mounted, fixed cylindrical screen basket and presses it against the press cone. This causes the liquid phase of the substrate to run off through the cylindrical screen basket. The solid phase of the digestate is transported against the press cone out of the front of the Quetschprofi®. The minimum distance between press screw and cylindrical screen basket assures low wear and a long durability of the screen. The continuously variable contact pressure allows the separation to be adjusted to the respective feedstock. The infinitely variable pressure regulator can be used to adjust the dry matter content of the solid phase from 15 percent to over 25 percent to create up to 15 percent additional storage capacity. The low connected load of the electric motor makes the system energy-efficient.

Your benefits at a glance:

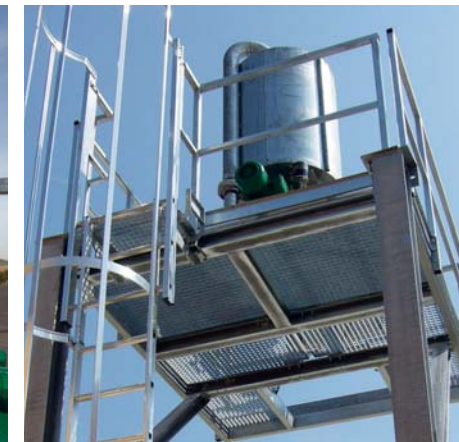
- ✔ Separation of high-quality nitrogen and phosphate fertiliser
- ✔ Optimising storage capacities
- ✔ Lower investment costs for digestate stores
- ✔ Reducing the costs of transportation and spreading
- ✔ Marketing opportunities of the digestate
- ✔ Saving electricity

| Quetschprofi® – Technical Data | |
|---|--|
| Main drive | Spur gear motor |
| Input rating | 2.2 kW (optional 3.0 kW) |
| Input speed | 24.0 rpm (optionally 37 rpm) |
| Electrical connection | 400 V AC, 50 Hz |
| Oil quantity in the gear motor | 3.0 l |
| Press screw | Stainless steel (V2A), 8 mm thick, hard metal coated, with mechanical seal |
| Oil quantity in the press rew bearing | 1.5 l |
| Cylindrical screen basket | Stainless steel (V2A) with 5 mm screen gap width |
| Optional | Stainless steel (V2A) with 0.25, 0.75 or 1.00 mm screen gap width |
| Emission controller | Pneumatic cylinder, continuously variable |
| Connections | Four-hole flange DN 100 |
| Empty weight | approx. 395 kg |
| With optional compensator reservoir | approx. 495 kg |
| Maximum dry matter content of the press cake under normal conditions: 27% | |



Why separate?

Considerable amounts of substrate are moved in biogas plants. Separating the solid and liquid phase of digestate has several advantages for the operator in terms of transport, storage and energy consumption. During separation, a separator extracts the already fermented substrate and separates it into a liquid and a solid phase. The solid phase can be stored on suitable areas or it can be spread on fields like solid manure. The liquid phase can also be used as a nitrogen-rich fertiliser.



Basic unit and accessories

Design and technical data of the basic unit.

Basic unit

The basic unit of the Quetschprofi® consists of a rugged cast iron housing with side covers fitted at both sides and the connecting flange for the compensator reservoir. The substrate inlet nozzle is connected on the right side and the press water outlet nozzle on the bottom side. The pressing tube is located at the transition to the pressing unit. The compressed air unit makes the Quetschprofi® basic unit complete.

Basic unit with press screw, cylindrical screen basket and drive

The standard version of the Quetschprofi® comprises the basic unit, the press screw, the drive and the standard cylindrical screen basket (gap width 0.5 mm).

Substrate feed pump

The substrate is supplied by an eccentric screw pump which sucks in the substrate and fills it into the compensator reservoir. The filling level is monitored continuously in this process. Once the compensator reservoir is full, the pump switches off automatically.

Press screw separator

The Quetschprofi® is mounted horizontally on a platform so that the pressed substrate (thick phase) at the press cone can drop down onto a storage plate without obstructions. The press water (thin phase) is discharged downwards through the cylindrical screen basket. All processes are controlled fully automatically.

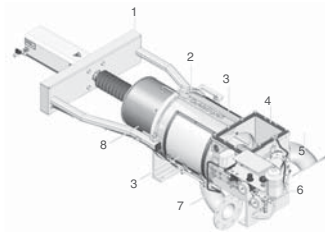
Compressed air supply

The compressed air is generated by an air compressor. The compressed air is needed to control the Quetschprofi press cylinder.

Control system

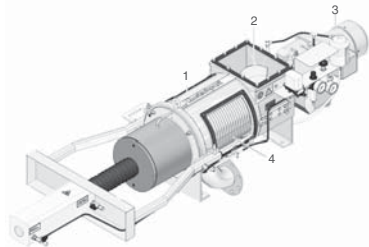
The Quetschprofi® is controlled fully automatically. It can be controlled either through the biogas plant's control system or by means of an optional control unit. The control system is available in different designs. Depending on the plant configuration, we offer a control system that matches your requirements.

Basic unit



- | | |
|---------------------|-------------------------|
| 1 Press unit | 5 Compressed air unit |
| 2 Cast iron housing | 6 Compressed air system |
| 3 Side cover | 7 Outlet piece |
| 4 Connecting flange | 8 Press tube |

Basic unit with press screw, cylindrical screen basket and drive



- | | |
|---------------------|-----------------------------|
| 1 Cast iron housing | 3 Gear motor |
| 2 Press screw | 4 Cylindrical screen basket |

Perfectly tailored accessories

The Quetschprofi® can optionally be equipped with various accessories. All components integrate seamlessly with the existing plant configuration and control system. Whether compensator reservoir or ladders – you can choose from different options to suit your needs.

✔ The compensator reservoir ensures a high utilisation rate of the Quetschprofi® and saves energy. Providing 400 litres capacity, it assures in combination with the fully automated control system that the Quetschprofi® is always supplied with the optimum amount of substrate regardless of the pump output.

✔ The press screw of the Quetschprofi® is made of V2A stainless steel. The screw blades are reinforced with hard metal plates and are precision-ground to assure maximum durability of the press screw and the connected cylindrical screen basket.

✔ The V2A stainless steel cylindrical screen baskets are available in four gap widths: 0.25, 0.5, 0.75 and 1.0 mm; depending on the substrate consistency.

✔ Platform solutions include a rear entry platform and a side entry platform. The rear entry solution includes a ladder to access the platform. With the side entry option, you can ascend on the side and access the platform via a gan way from the ladder, depending on the Quetschprofi® construction. Side access is not compatible with pits fitted with an air-supported membrane cover. Both access options are available in 5 and 6 m height.

Quetschprofi® with compensator reservoir

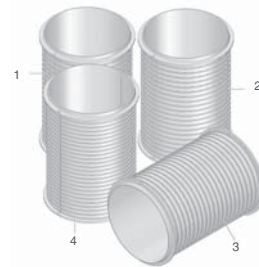


- | | |
|-----------------|-------------------------|
| 1 Quetschprofi® | 2 Compensator reservoir |
|-----------------|-------------------------|

Press screw



Cylindrical screen baskets



- | | |
|---------------------|---------------------|
| 1 Gap width 0.25 mm | 3 Gap width 0.75 mm |
| 2 Gap width 0.5 mm | 4 Gap width 1.0 mm |



Rugged technology

Long durability at minimum maintenance

The Quetschprofi® is made up entirely of durable components and superior materials. This guarantees maximum reliability and longevity, which is important especially when processing digestate with a high fibre content. Moreover, a permanent oil lubrication of the press screw bearing unit and a permanent mechanical seal between bearing unit and substrate provide for minimum maintenance effort.

Quetschprofi® mobile

– for mobile applications

Quetschprofi® mobile – the solution for multiple sites

The Quetschprofi® mobile from agriKomp is an innovative separation system for processing digestate to a desired dry matter content. It is suitable especially for agricultural businesses that require operation at multiple sites. It needs just one installation area and one power connection. To boost plant performance, a second Quetschprofi® mobile can be connected without any major constructional modifications. Its rugged construction and superior materials guarantee top reliability and ease of maintenance. All biogas plants can be retrofitted with the Quetschprofi®.

Functioning

A feed pump first sucks in the substrate. After it has passed through the Quetschprofi®, the liquid portion of the substrate is pumped off to a suitable location by means of the press water pump.

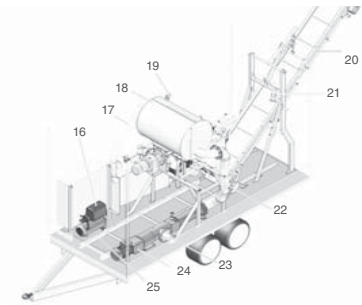
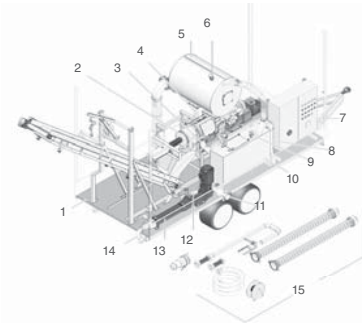
The solid phase is piled up by a conveyor belt or dumped directly onto a trailer. The entire process is controlled fully automatically through a control cabinet.

Doubling the plant output is easy – just install a second Quetschprofi® on the trailer without any constructional changes.

Benefits of the mobile Quetschprofi®

- ✔ Completely assembled on a trailer
- ✔ Option to add a second separator
- ✔ Standard design with integrated compensator reservoir, including preparations to install a second Quetschprofi
- ✔ Compatible components
- ✔ Usable in multiple locations
- ✔ Usable for all biogas plants and slurry stores

Mobile unit with 1 Quetschprofi®



- | | |
|--|--------------------------------------|
| 1 Car tarpaulin trailer | 13 Press water pump |
| 2 Solids ejector | 14 Connection |
| 3 Supply pipe to the press water reservoir | 15 Accessory for press water pipe |
| 4 Press screw separator | 16 Air compressor |
| 5 Compensator reservoir | 17 Overflow pipe / vent |
| 6 Level sensor | 18 Compensator reservoir |
| 7 Press cone | 19 Level sensor |
| 8 Vent pipe | 20 Press water pipe |
| 9 Level sensor | 21 Manual winch |
| 10 Press water reservoir | 22 Pipe to the compensator reservoir |
| 11 Connection for press water drain pipe | 23 Connection for supply pipe |
| 12 Feed pipe for press water pump | 24 Substrate feed pump |
| | 25 Guide rail for the conveyor belt |

Quetschprofi® mobile – Technical Data

| | |
|---|--|
| Tandem car tarpaulin trailer | 194 x 460 cm, internal height 240 cm, 3.5 t admissible total weight |
| Quetschprofi® standard on a console with compensator reservoir, including preparations for installing a second Quetschprofi | |
| Eccentric screw pump | 7.5 kW with two suction hoses 133 x 4 m for the substrate feed |
| Press water reservoir | with press water pump and two pressure hoses, 75 mm x 10 m each |
| Solids conveyor belt | V2A/PVC (length 4.5 m) for a maximum loading height of 3.20 m |
| Electric control cabinet | Fully automated control system with monitoring functions and single operation function of the drives |

