



KONRAD PUMPE GMBH
OUR TECHNOLOGY MAKES AN IMPACT.

KOMBI-Mix

Solids dosing unit for biogas plants



OUR TECHNOLOGY MAKES AN IMPACT.

We at Konrad Pumpe GmbH have made it our business to make a valuable contribution to sustainability in the biogas and recycling industry. To this end, we develop and produce high-quality dosing units for our customers worldwide.

As a family-run company since 1830, we are experienced in the development and manufacture of plants and machines for use in biogas and agricultural technology as well as in industry. Our special expertise lies in storage, processing and conveying technology for use in the biomass and recycling sector.

In order to meet the high quality demands of our customers, we primarily use stainless steel. In this way, we guarantee the highest operational safety with a long service life.

Our entrepreneurial thinking and actions are reflected in our products, which stand for progress, economic efficiency and durability. For this, we give our best every day - out of love for our work and for a better environment that we make more sustainable.





KOMBI-Mix 80

KOMBI-Mix

The KOMBI-Mix is a solids dosing unit for the storage, preparation and dosing of solids and substrates in biogas plants. The system is available in the model sizes 8 and 12 m³ and is specially designed for use on small plants. The dosing unit is often installed with a three-part screw conveyor strand.

FUNCTIONAL PRINCIPLE

After loading, the mixing operation starts. The mixing auger (optionally the metering blade) is driven by a gear motor with planetary angle gear and meters out the substrate via a discharge opening in the floor. It conveys the material into a horizontal screw conveyor, which is also driven by a geared motor. From there, the material is transferred to a steep screw conveyor and a digester screw conveyor from Konrad Pumpe GmbH or to an external feeding system.



THE STRENGTHS

Quality features in detail.

DURABLE

HIGH QUALITY WORKMANSHIP

The welded construction is made of hot-dip galvanised stainless steel in the area in contact with the product. Due to the extremely robust construction, we guarantee a long service life and functional efficiency of your solids feeder.

FLEXIBLE

INTENSIVE PROCESSING

In the KOMBI-Mix, a wide variety of substrates and agricultural waste are reliably processed and metered. These include solids such as maize silage, WPS, solid and poultry manure.

TRIED AND TESTED

PROVEN TECHNOLOGY

Today's design is the result of many years of expertise. In order to meet the demands of our customers, we continuously develop our system technology. This enables us to offer a quality product that is technically mature and characterised by high operational reliability and a long service life.

PERFECT FIT

CUSTOMISED DESIGN

Depending on the model, 8 or 12m³ of substrate can be stored and processed in the KOMBI-Mix. Individual adaptations of the components to the installation situation are possible through our in-house design and production.

ECONOMICAL

IDEAL SUBSTRATE MIXING

The KOMBI-Mix is individually configured according to your substrate properties to be processed. Depending on the planned material feed, the KOMBI-Mix is equipped with a vertical mixing screw or a metering blade.

MADE IN GERMANY

OWN PRODUCTION

From the idea to commissioning: all development and production steps take place in our factory. As a result, you receive a customised, tailor-made system solution, which our expert fitters install and commission for you on site.



COW MANURE



HORSE MANURE



MAIZE SILAGE



VEGETABLE WASTE



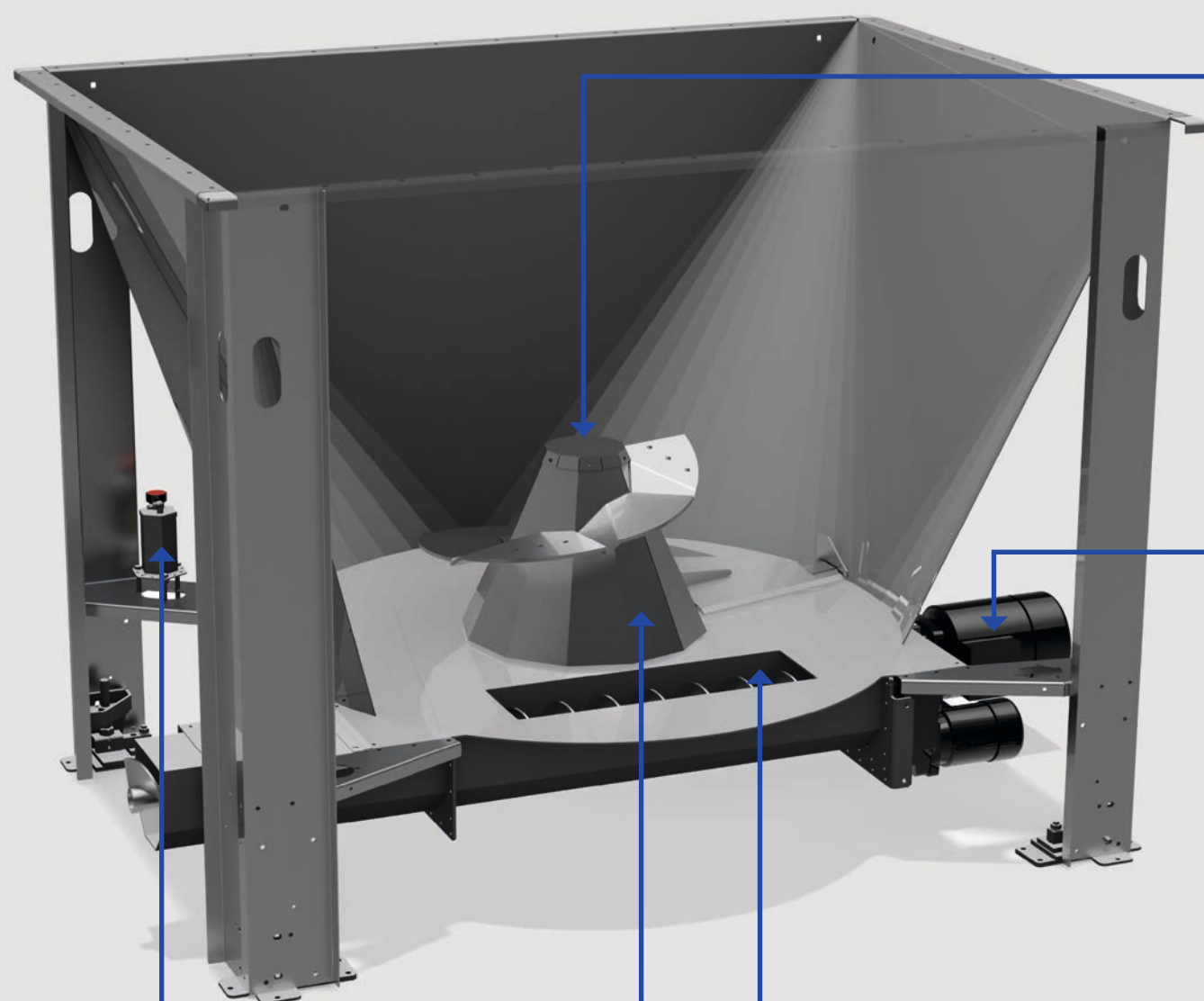
GRASS SILAGE



PIG MANURE

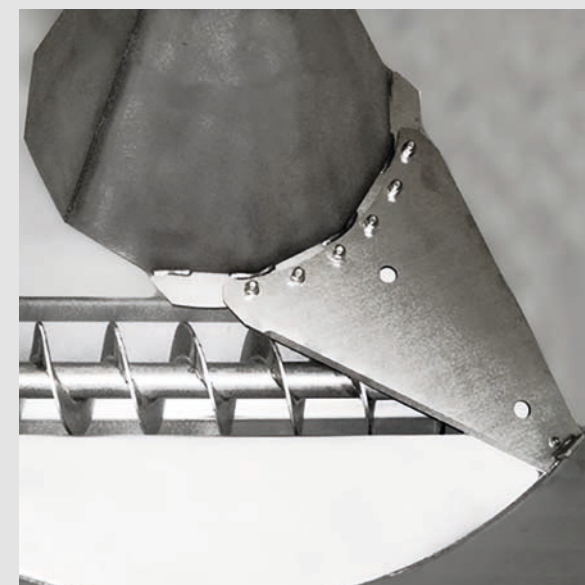
THE TECHNOLOGY

Proven. Robust. Durable.



Vertical mixing screw

The mixing screw equipped with knives ensures that the substrates are processed as required and conveys them at a speed of 8 to 12 rpm. The speed can be varied with a frequency converter. For free-flowing bulk material, the model with a low-wear and energy-efficient metering blade is recommended.



Dosing blade



Drive technology

The drive is provided by robust gear motors (optionally with spur gear), which transmit power to the planetary angle gear via a cardan shaft. We offer this in the power classes 7.5-15 kW.



Screw conveyor technology

After processing, the substrate is often transferred to the three-part screw conveyor strand we developed. The substrate is transferred directly to the fermenter via a gas-tight immersing fermenter screw. At the customer's request, the feed can also be transferred to a liquid feed system.



Planetary angle gearbox

This type of gearbox offers the advantage of transmitting high torques in a compact design by distributing the load over several planetary gears. This increases efficiency, productivity and process reliability.



Oil expansion tank

Made of stainless steel, the component ensures easy control of the optimum oil level in the planetary angular gear.

CUSTOMISED CONCEPTS

Safe. Economic. Durable.

Plants designed according to individual customer requirements

The KOMBI-Mix is a series product in customised design. Before designing your plant, we check the local conditions and take into account the special requirements under which you run your operation. We then work with you to develop a customised, high-quality and economical concept that offers you the greatest possible benefits and maximum operational readiness for your biogas plant.



MODEL
KOMBI-Mix 80
with 8m³ loading volume

- ✓ A vertical mixing screw
- ✓ Mixing screw drive 15 kW
- ✓ Discharge into the digester via the three-part TYPE 360 screw conveyor system consisting of a horizontal screw, a vertical screw and a digester screw.
- ✓ Weighing system TYPE KP
- ✓ Substrate processing: 100% solid manure, grass silage, chicken manure



MODEL
KOMBI-Mix 120
with 12m³ loading volume

- ✓ A vertical mixing screw
- ✓ Mixing screw drive 15 kW
- ✓ Discharge into the fermenter via the TYPE 360 screw conveyor strand with level floor filling level
- ✓ Weighing system TYPE KP
- ✓ Substrate processing: 100% solid manure, grass silage, maize silage and spent grains



MODEL
KOMBI-Mix 120
with 12m³ loading volume

- ✓ A vertical mixing screw
- ✓ Mixing screw drive 15 kW
- ✓ Discharge via the TYPE 360 screw conveyor with flex transition to a liquid feed system
- ✓ Weighing system TYPE KP
- ✓ Substratverarbeitung: 100% solid manure, chicken manure and chopped beets

EXTENSIVE ACCESSORIES

Added value by extras

Customised components with added value

We offer you sensible additions to your system that give you advantages such as better comfort, maximum efficiency, longer service life and better economy. Each accessory is finished directly at our company site in Sendenhorst and is matched to the model of your dosing unit down to the smallest detail.



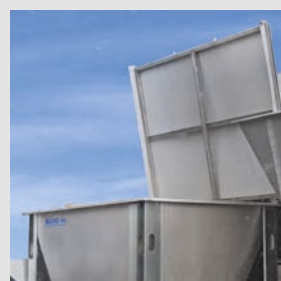
Access ladder

The hot-dip galvanised and welded access ladder provides safe access to the tank for visual inspection. The accessory is available up to a ladder height of 4.9m and can be mounted at various points on the dosing unit on customer request. An additional back protection is installed from a ladder height of 2.9m in accordance with applicable safety standards.



Overload protection

To prevent overloading of the container, an overload protection can provide relief. The equipment consists of superstructure segments in stainless steel and is only suitable for systems without a cover.



Cover

A hydraulically operated cover serves to reduce emissions and weathering. The stable construction consists of a galvanised steel frame covered with a truck tarpaulin. Optionally, the cover can be controlled via a radio remote control.



Radio remote control

With a radio remote control of protection class IP67, various functions can be operated easily and with a long range. At the touch of a button, the cover or the operation of the „AUTO-Mix Software“ can be controlled.



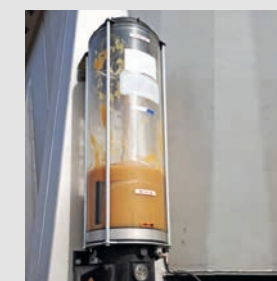
Weighing system

For accurate measurement of fill quantities, we rely on a weighing system with an easy-to-read, large alphanumeric display and double-row LEDs. The user-friendly interface allows easy calibration. For further processing of the data, analogue signal outputs as well as various bus interfaces can be provided.



Flexible transfer connection

The KOMBI-Mix is decoupled from the liquid feed system by a flexible transfer connection. This enables exact weighing and prevents undesired vibration transmission.



Automatic lubrication system

To automate the lubrication process, we offer an automatic lubrication system that supplies the shaft seal of the gearbox of the mixing and metering screw with grease at intervals. This creates a high level of operational safety with little personnel effort.



Foot increase

Robust cradle foot raisers can be installed to compensate for the difference in height between the horizontal screw conveyor and the downstream technology. These are made of galvanised steel and are available in various heights.



Revision opening

To make maintenance work easier, we offer the KOMBI-Mix with an optional inspection opening that is attached to the side wall of the container.



Control technology

For independent operation of the plant processes, we offer the KOMBI-Mix with the specially developed control technology. All technical components, such as the weighing system, are connected centrally in the control cabinet. The control technology enables precise monitoring of the running processes and realises rapid operational readiness through remote maintenance.



AUTO-Feed input



AUTO-Mix recipe input

AUTO-Feed / AUTO-Mix control

Depending on customer requirements, you can select your desired options from our wide range of mixing and dosing programming. With the „AUTO-Mix“ option, you specify the recipe according to which you can fill your dosing unit, while with the „AUTO-Feed“ option you control the dosing out according to a specified time and weight.



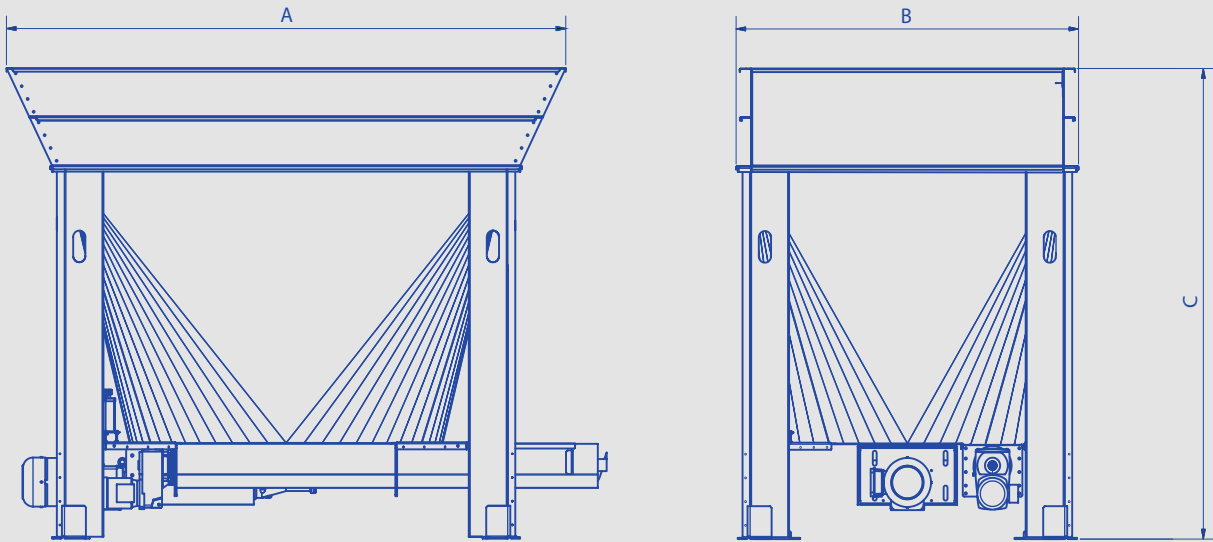
KOMBI-Mix 120

MODEL OVERVIEW

Variants and extension modules.

The right solution for every application

The KOMBI-Mix is the ideal system for storage, preparation and dosing for biogas plants. Depending on the size of the plant, the substrates to be metered out and the desired loading intervals, two model types with different equipment options are available.



Model type	8 m³ with dosing blade	12 m³ with dosing blade	8 m³ with mixing screw	12 m³ with mixing screw
Capacity / m³	8	12	8	12
Max. Payload / kg	4000	6000	4000	6000
A - Loading width / m	2,90	3,60	2,90	3,60
B - Tank depth / m	2,05	2,05	2,05	2,05
C - Height = Loading height / m	2,35	2,98	2,35	2,98
Drive / kW	7,5	11	15	15
Control and entry hatch	o	o	o	o
Ladder	o	o	o	o
Bulk wall on 3 sides	o	o	o	o
Weighing equipment (4 x 5 t)	o	o	o	o

o = optional scope of delivery

FULL-SERVICE

For your success.

We are there for you!

Even after commissioning, we are your professional partner who supports the operational readiness of your system in the long term. For this purpose, we have developed a comprehensive full service that offers you professional competence, fast availability and high readiness as well as flexibility for every request. In this way, we guarantee the economic success of your operation.



Support

From design and production to assembly and maintenance - our trained staff is there to advise and support you in every situation.



Customisation

We create customised solutions for every installation. Taking into account the local conditions, our designers work out a customised, economical and durable concept.



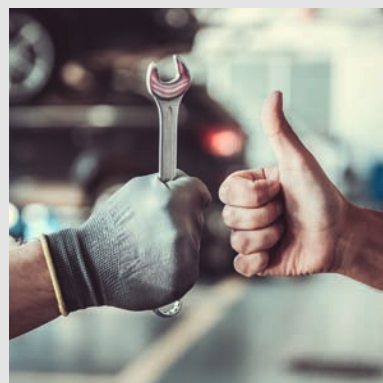
Professional assembly

Our expert fitters are on site on the delivery date and carry out the installation and commissioning of your dosing unit. Afterwards, they train your personnel in the operation of the system.



Maintenance work

To ensure the longevity of your KOMBI-Mix, we recommend that you have your system serviced by our fitters at regular intervals.



Spare parts in stock

Due to our high vertical range of manufacture, spare parts, wear parts and even special components are also available at short notice.



Emergency service

In case of an emergency, you can also reach us outside business hours, 365 days a year. You can find the office hours of our emergency service at: www.pumpegbmh.de/en/emergency-service



Secure a solid system for storing, mixing and dosing your substrates with the KOMBI-Mix!

YOUR ADVANTAGES

- ✓ Quality-tested and proven construction "Made in Germany"
- ✓ Compact construction for versatile use
- ✓ Reliable processing of demanding substrates
- ✓ Convenient operation
- ✓ Low energy consumption
- ✓ Two model types for small system sizes
- ✓ Compatible with components from other manufacturers
- ✓ Upgrade possible with additional accessories
- ✓ Full-Service

ARE YOU INTERESTED IN THE KOMBI-MIX?

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KONRAD PUMPE GMBH
OUR TECHNOLOGY MAKES AN IMPACT.



The specialist company for plants

Founded in 1830 as a blacksmith's shop, we at Konrad Pumpe GmbH are now an innovative specialist company for mechanical and plant engineering with approx. 80 employees. We have made it our business to make a valuable contribution to the sustainable handling of waste materials. To this end, we

produce customised machine components for a wide range of applications such as dosing and conveying systems, including switch cabinet and control system construction for biogas and recycling plants.

BIOGAS TECHNOLOGY



We produce high-quality and robust dosing systems for the biogas and recycling sector, which are designed for different uses. Our proven product range impresses with high quality, durability and energy-efficient use in the processing of demanding substrates.

DOSING TECHNOLOGY



For the agricultural sector, we build dosing technology and mixing containers for different feedstuffs. Our machines are suitable for various fields of application and are characterised by their functionality and flexibility, which meet the highest demands for quality, performance and durability.

MECHANICAL ENGINEERING



State-of-the-art CNC and laser technology is part of the basic equipment of our in-house machinery. Here, we produce customised products and our own developments for a wide range of applications in the agricultural and industrial sectors. Steel and stainless steel are the main materials processed.



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