



**KONRAD PUMPE GMBH**  
*OUR TECHNOLOGY MAKES AN IMPACT.*

# BIO-Mix-C

Solids dosing unit for transport in 40-foot ISO sea containers





BIO-Mix-C 300

## BIO-Mix-C

The BIO-Mix-C is a solids dosing unit that is used for storing, processing and dosing solids and substrates in biogas plants. The system is available in model sizes from 18 to 46 m<sup>3</sup> and is specially designed for transport in 40-foot ISO sea containers.

## FUNCTIONAL PRINCIPLE

Once the substrate has been loaded, the driven dosing sword / mixing screw ensures that the substrate is fed into a horizontal screw conveyor. The rotation of the dosing sword / mixing screw prevents substrate bridges from forming in the hopper. The substructure screw conveyor, which is also driven by a geared motor, is controlled by the overall system control and optionally supplied with power via a frequency converter. The substructure screw then transports the substrate into a vertical screw conveyor, then into a fermenter screw or into a liquid feed system.

# THE STRENGTHS

Quality features in detail.

### DURABLE

#### HIGH QUALITY WORKMANSHIP

The welded construction is made of stainless steel in the area in contact with the product. Thanks to the extremely robust design, we guarantee a long service life and functionality of your solids feeder.

### FLEXIBLE

#### INTENSIVE PROCESSING

The BIO-Mix-C reliably processes and doses a wide variety of substrates and agricultural waste. These include solids such as maize silage, GPS, solid manure, rice and maize straw.

### 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

#### GLOBAL OVERSEAS TRANSPORT

Due to its design, the BIO-Mix-C is ideally suited for sea transport to distant countries and continents. The components of the BIO-Mix-C are designed as a bolted modular system and can be packed and shipped in a standardised large-capacity container ("ISO container").

### ECONOMICAL

#### IDEAL SUBSTRATE MIXING

The BIO-Mix-C is configured according to the substrate properties you want to process. Depending on the planned substrate feed, the BIO-Mix-C is equipped with a vertical mixing screw conveyor or a dosing sword.

### 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



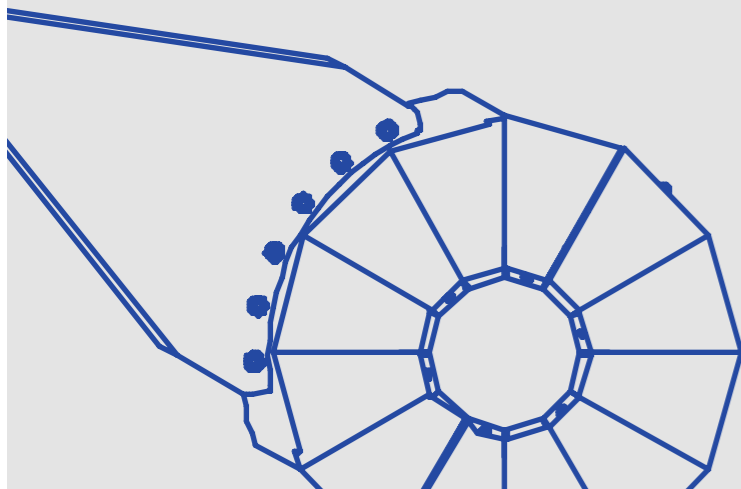
VEGETABLE WASTE



GRASS SILAGE



PIG MANURE





# THE TECHNOLOGY

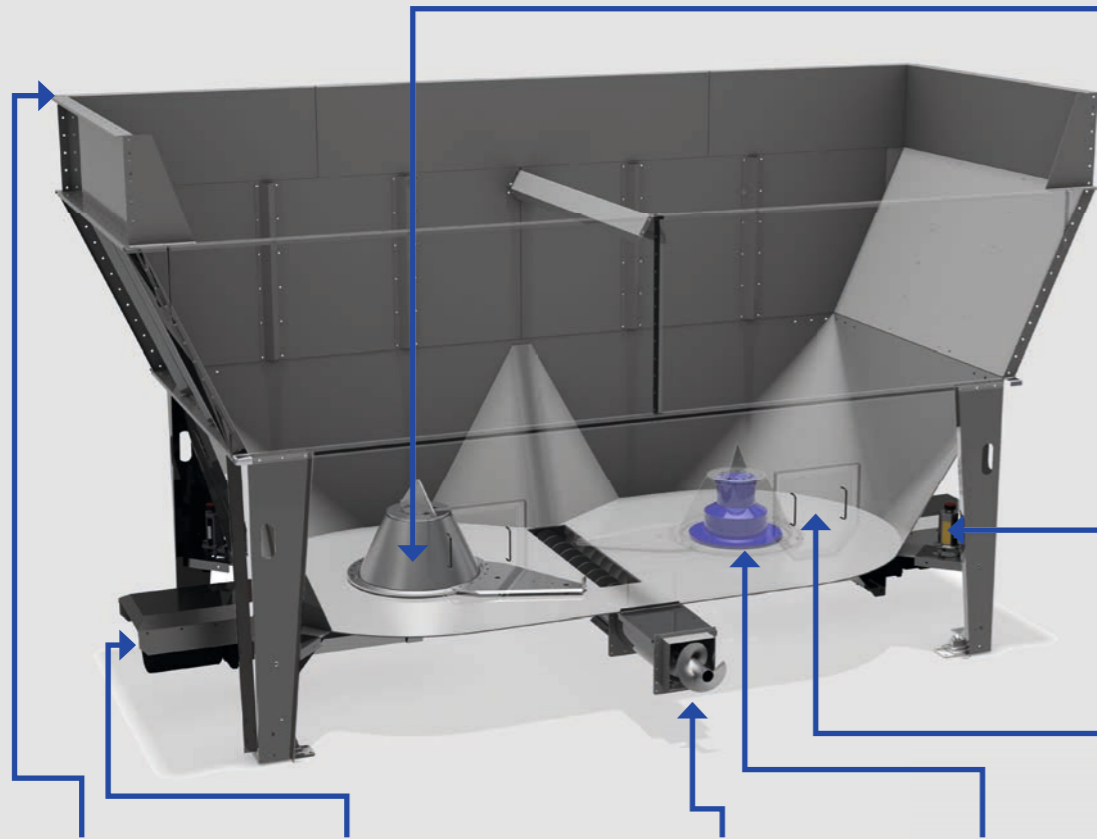
Proven. Robust. Durable.



Vertical mixing screw

Dosing sword

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.



Transport & Commissioning  
Cost-effective transport in an ISO container worldwide!



### Cover

A hydraulically operated cover reduces emissions and weather influences. The sturdy construction consists of a stainless steel frame with a stainless steel cover. The cover can optionally be controlled via a radio remote control.



### 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 7.5-22 kW.



### Screw conveyor technology

After processing, the substrate is usually 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.



### Revision opening

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



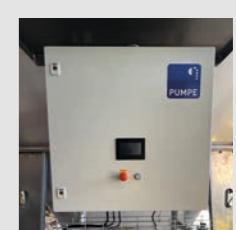
### Oil expansion tank

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



### Weighing system

For accurate measurement of substrate 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.

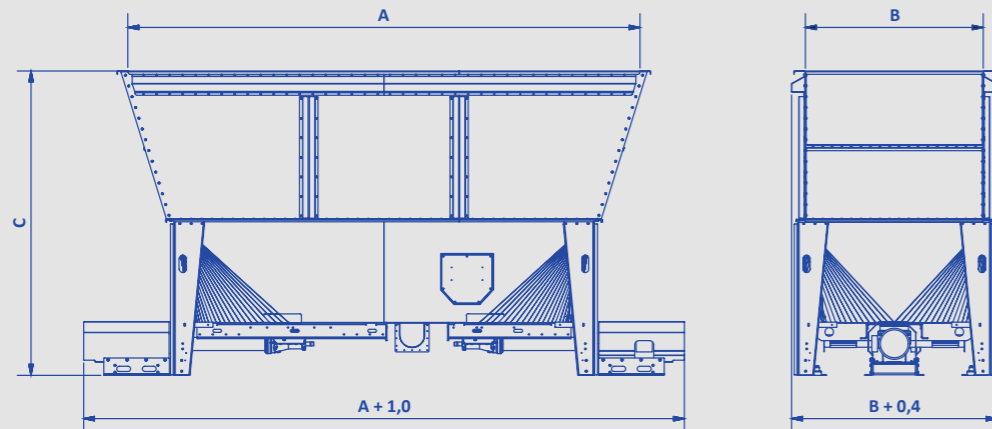


### Control technology

The BIO-Mix-C can be equipped with in-house control technology for independent operation of the system components, such as the weighing system, are connected centrally in the control cabinet and offer benefits such as maximum control of ongoing processes and rapid operational readiness through remote maintenance.

# MODEL OVERVIEW

Variants and extension modules.



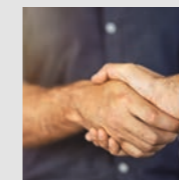
Model type	200/18	300/27	500/42	500/46
Capacity / m <sup>3</sup>	18	27	42	46
A - Container length / m	3,70	5,90	8,10	8,10
B - Container width / m	2,05	2,05	2,05	2,05
C - Overall height / m	3,85	3,65	3,65	3,85
Max. load / t	11,0	16,0	25,0	25,0
Drive	1	2	3	3
Recommended drive / kW	22	22	22	22
Optional drive / kW	7,5	7,5	7,5	7,5
Mixing blade in stainless steel	x	x	x	x
Hinged cover	o	o	o	o
Base frame stainless steel	x	x	x	x
Container top stainless steel	x	x	x	x
Weighing system	o	o	o	o
Electric controls	o	o	o	o
Transfer to screw model 360	x	x	x	x
Transfer to screw model 450	o	o	o	o
Caption	x = standard equipment		o = optional	

# 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.



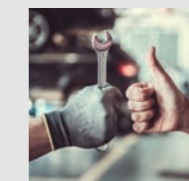
### Maintenance work

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



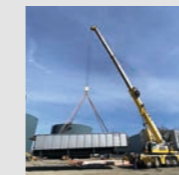
### Customisation

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



### 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.



### 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.



### 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.pumpegbh.de/en/emergency-service](http://www.pumpegbh.de/en/emergency-service)

## ARE YOU INTERESTED IN THE BIO-Mix-C?

CONTACT OUR SALES TEAM:

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## 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.

