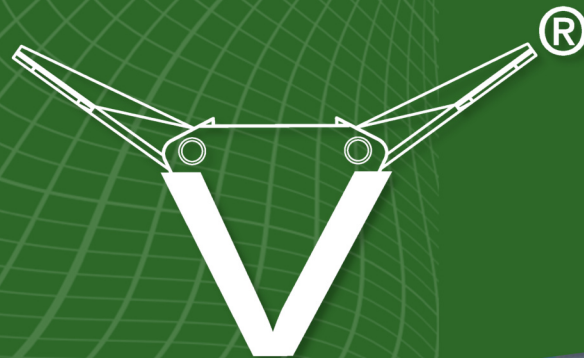


# **TERBRACK**

## **MASCHINENBAU GMBH**



## **PRODUCTCATALOG**

**YOUR PARTNER FOR CONVEYING,  
DOSING AND FEEDING**

[www.terbrack-maschinenbau.de](http://www.terbrack-maschinenbau.de)





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Terbrack Maschinenbau GmbH is a family-run company, founded in 1997 in Vreden in Germany's Münsterland region. For over twenty-five years, we have been producing innovative conveyance, dosage and feeding technology for a wide variety of different uses.

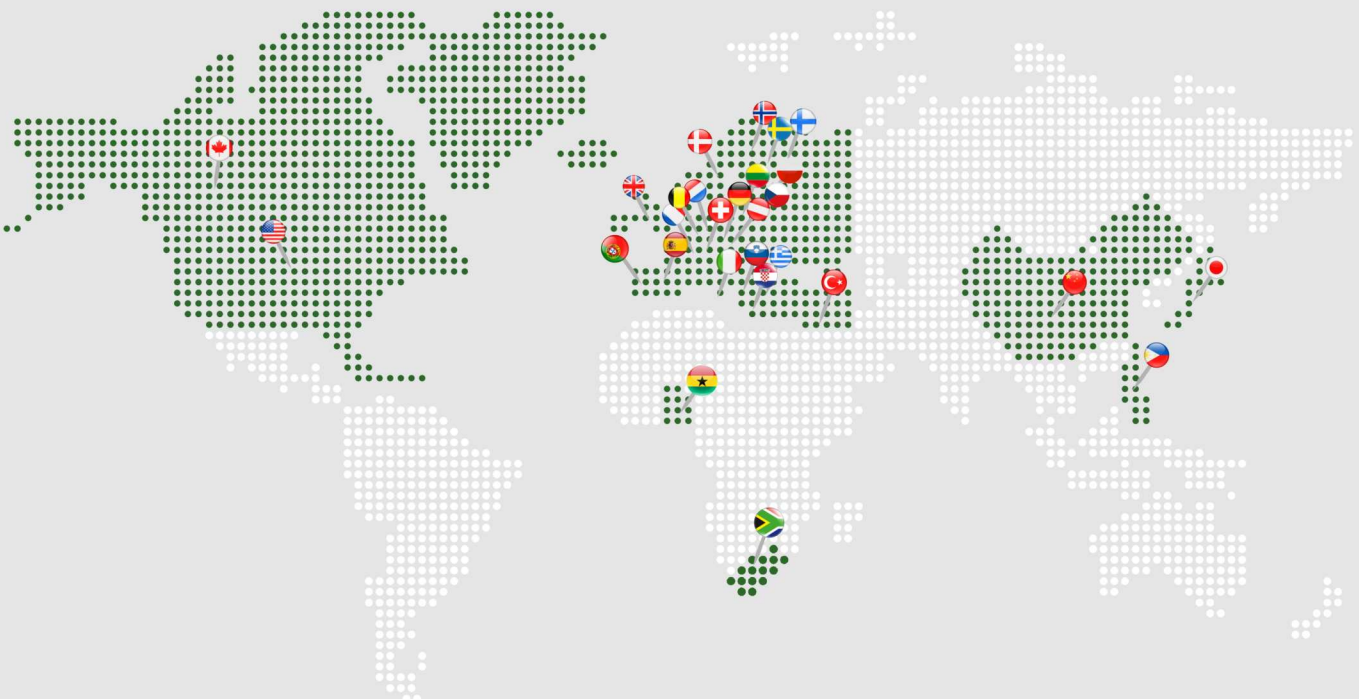
At the beginning, Terbrack Maschinenbau GmbH was primarily known as a biogas/agroindustry supplier. Today, the name Terbrack Maschinenbau denotes a company with a proven international track record as a leading manufacturer in a wide variety of branches, including the recycling, plastic, composting, waste materials, replacement fuels, sewage sludge, biomass and agroindustries.

Our company's history has been shaped by our pioneering spirit and innovative ingenuity. We have implemented well over 1,500 projects, making us one of today's most sought after leading partners in the conveyance, dosage and feeding technology industries worldwide. We offer technical solutions that are both of excellent quality and economical for an extensive and constantly growing range of branches of industry. We can fit the individual components together for you, like pieces of a jigsaw puzzle. And, whatever we do, we never lose sight of what is most important to you: efficient technology and ease of use.

Our company's size and clear structures make things run quickly and smoothly, which is especially important when producing customised products and special components for our clients. Our goal is to provide you with the highest quality products, carefully designed to meet your needs and, above all, sustainable. Our products are assembled both nationally and internationally by our own highly motivated, optimally educated and trained workforce.

Do you want to expedite your projects and need a complete performance portfolio? Terbrack Maschinenbau GmbH is your ideal partner! We can not only deliver the product to your doorstep, but also offer complementary customised solutions and comprehensive customer support. Discover our creativity and innovativeness for yourselves! Take a close look at Terbrack Maschinenbau's range of services and benefit from the advantages we offer.

## PROJECTS COMPLETED WORLDWIDE







# VARIO PRODUCT OVERVIEW



The Vario dosage container is a modular system that comes in sizes ranging from 7 m<sup>3</sup> – 138.5 m<sup>3</sup> and can be adapted to meet your individual needs.



The Vario *DUO* dosage container – our larger model –  
If our Vario dosage container is too small to meet your needs, the Vario DUO, available in 150 m<sup>3</sup> – 275 m<sup>3</sup> sizes, may offer the perfect alternative.



The Vario *Compact* dosage container – our smaller model – which comes in 7 m<sup>3</sup> – 18 m<sup>3</sup> sizes, is the ideal system for smaller plants, even for heavy substrates.



The Vario *GO* dosage container – worldwide plug and play –  
Our Vario system directly integrated into a standardsized 40' open top ISO container. Simple and economical transportation.



The Vario *FLOOR* is our tried-and-tested system for use in concrete bunkers.



The *TT* dosage system is energy efficient and low maintenance. Its 3 m<sup>3</sup> – 15 m<sup>3</sup> dimensions make it the ideal system for smaller plants.





# VARIO FUNCTIONAL PRINCIPLE



## CONTROL

The standard system comes equipped with a Siemens S7 that permits autonomous control. It can also be integrated into new or existing control systems.

## STORAGE CONTAINER

The container is impervious to fluids. Its modular construction allows it to be expanded later.

## DISSOLVING AUGER / SCREW

The dissolving auger and screw permit even, unobstructed dosing, even with substrates that are cumbersome to transport.

## HYDRAULIC UNIT

An electrically powered hydraulic unit is used to drive the Vario push components.

## TRANSMISSION & MOTORS

We use planetary gear technology, which provides a high degree of efficiency and is highly resistant to wear and tear.

## CYLINDER OPERATION

The stainless steel piston rods in the hydraulic cylinders are equipped with a dual seal, which prevents the substrate from mixing with hydraulic oil.



## DISCHARGE SCREW CONVEYOR

The position of the integrated discharge screw conveyor allows for the even delivery of the substrate.

## VARIO CONVEYOR COMPONENTS

Vario's conveyor rails are made of stainless steel and plastic. The outstanding efficiency and stability of this technology is unrivalled in this entire branch of industry.

## WEIGHING SYSTEM (OPTIONAL)

The optional inclusion of a weighing system allows the user to determine the filling weight of the storage container. In combination with our control equipment, this enables precision dosing of the substrate.

One of its special features is our Vario conveyor rails. Their alternating conveyor mechanism allows for the steady, even discharge of materials. When the conveyor elements are moving forward, the push components unfold to powerfully drive the materials in the output direction. When the rails are moving backwards, the push components lie flat and slide through the material with very little resistance, allowing very little material to be pulled backwards.

In its standard configuration, the Vario dosage container can output 40% grass and manure at up to 20 m<sup>3</sup>/h, depending on the substrate. You can find further output performance statistics, as well as grass and manure packs, under Equipment and Accessories.

Vario equipment can be integrated with all the usual subsequent equipment. We can deliver and manage the following systems, together with all their subsequent components, in their entirety.

- Mixing pump (slurry system)
- Feed pump
- Crushing equipment (mill)
- Screw technology





## VARIO STANDARD SIZES

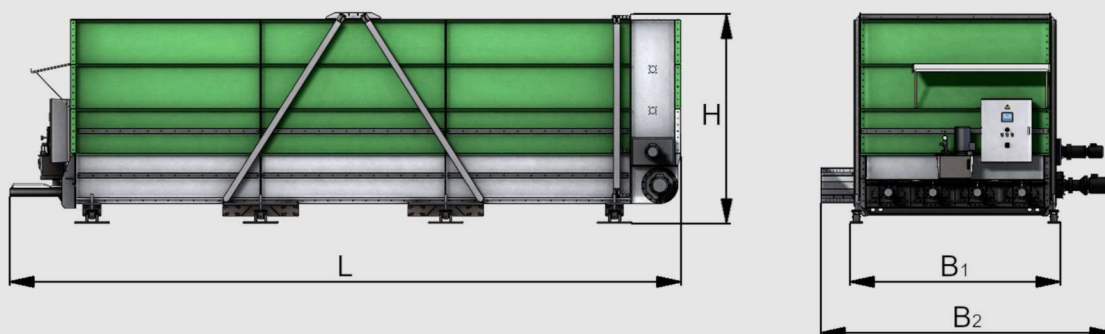
Equipment size / model designation is presented as follows. (Example Model 212)

The first number indicates the number of conveyor rails, width of the machine.  
(in the example of Model **212**: 2 conveyor rails; each further conveyor rail +0.7 m)

The second number indicates the number of cassettes along the length of the machine.  
(in the example of Model **212**: 1 cassette; each further cassette +3 m)

The third number indicates the number of cassettes along the height of the machine.  
(in the example of Model **212**: 2 cassettes; each further cassette +0.7 m)

## VARIO DOSAGE CONTAINER

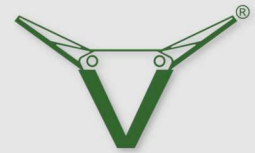


Vario Type	Dimensions				
	Volumes	with overload protection	Length L	Width B1/B2	Load height H
212	7,1m <sup>3</sup>	8,1m <sup>3</sup>	4,9m	1,9m / 3,4m	2,0m
213	10,6m <sup>3</sup>	12,2m <sup>3</sup>	4,9m	1,9m / 3,4m	2,7m
313	15,9m <sup>3</sup>	18,3m <sup>3</sup>	4,9m	2,6m / 4,1m	2,7m
314	21,2m <sup>3</sup>	24,4m <sup>3</sup>	4,9m	2,6m / 4,1m	3,4m
323	28,7m <sup>3</sup>	33,0m <sup>3</sup>	7,8m	2,6m / 4,1m	2,7m
324	38,2m <sup>3</sup>	43,9m <sup>3</sup>	7,8m	2,6m / 4,1m	3,4m
333	41,5m <sup>3</sup>	47,7m <sup>3</sup>	10,7m	2,6m / 4,1m	2,7m
334	55,3m <sup>3</sup>	63,6m <sup>3</sup>	10,7m	2,6m / 4,1m	3,4m
413	21,2m <sup>3</sup>	24,4m <sup>3</sup>	4,9m	3,3m / 4,8m	2,7m
414	28,2m <sup>3</sup>	32,4m <sup>3</sup>	4,9m	3,3m / 4,8m	3,4m
423	38,2m <sup>3</sup>	43,9m <sup>3</sup>	7,8m	3,3m / 4,8m	2,7m
424	51,0m <sup>3</sup>	58,6m <sup>3</sup>	7,8m	3,3m / 4,8m	3,4m
433	55,3m <sup>3</sup>	63,6m <sup>3</sup>	10,7m	3,3m / 4,8m	2,7m
434	73,7m <sup>3</sup>	84,7m <sup>3</sup>	10,7m	3,3m / 4,8m	3,4m
443	72,3m <sup>3</sup>	83,1m <sup>3</sup>	13,6m	3,3m / 4,8m	2,7m
444	96,4m <sup>3</sup>	110,8m <sup>3</sup>	13,6m	3,3m / 4,8m	3,4m
513	26,5m <sup>3</sup>	30,5m <sup>3</sup>	4,9m	4,0m / 5,5m	2,7m
514	35,3m <sup>3</sup>	40,6m <sup>3</sup>	4,9m	4,0m / 5,5m	3,4m
523	47,8m <sup>3</sup>	55,0m <sup>3</sup>	7,8m	4,0m / 5,5m	2,7m
524	63,7m <sup>3</sup>	73,2m <sup>3</sup>	7,8m	4,0m / 5,5m	3,4m
533	69,1m <sup>3</sup>	79,4m <sup>3</sup>	10,7m	4,0m / 5,5m	2,7m
534	92,1m <sup>3</sup>	105,9m <sup>3</sup>	10,7m	4,0m / 5,5m	3,4m
543	90,4m <sup>3</sup>	103,9m <sup>3</sup>	13,6m	4,0m / 5,5m	2,7m
544	120,5m <sup>3</sup>	138,5m <sup>3</sup>	13,6m	4,0m / 5,5m	3,4m

All figures are estimates



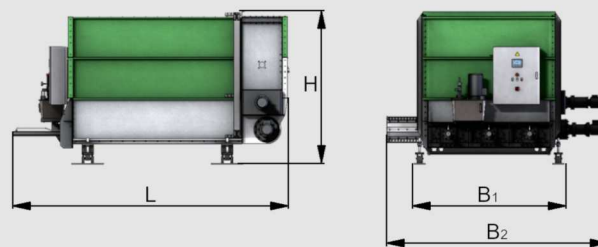
## VARIO *DUO* DOSAGE CONTAINER



Vario <i>DUO</i> Type	Dimensions				
	Volumes	with overload protection	Length L	Width B1/B2	Load height H
464	150,0m <sup>3</sup>	172,5m <sup>3</sup>	20,9m	3,3m / 4,8m	3,4m
484	193,0m <sup>3</sup>	222,0m <sup>3</sup>	26,8m	3,3m / 4,8m	3,4m
564	185,0m <sup>3</sup>	212,5m <sup>3</sup>	20,9m	4,0m / 5,5m	3,4m
584	240,0m <sup>3</sup>	275,0m <sup>3</sup>	26,8m	4,0m / 5,5m	3,4m

All figures are estimates

## VARIO *COMPACT* DOSAGE CONTAINER



Vario <i>COMPACT</i> Type	Dimensions				
	Volumes	with overload protection	Length L	Width B1/B2	Load height H
212	7,1m <sup>3</sup>	8,1m <sup>3</sup>	4,9m	1,9m / 3,4m	2,0m
213	10,6m <sup>3</sup>	12,2m <sup>3</sup>	4,9m	1,9m / 3,4m	2,7m
313	15,9m <sup>3</sup>	18,3m <sup>3</sup>	4,9m	2,6m / 4,1m	2,7m

All figures are estimates

## VARIO *GO* SEACONTAINER



Vario <i>GO</i> Type	Dimensions			
	Volumes	Length L	Width B1/B2	Load height H
60	60m <sup>3</sup>	12,6m	2,9m / 4,1m	2,9m
80	80m <sup>3</sup>	12,6m	3,1m / 4,1m	3,9m

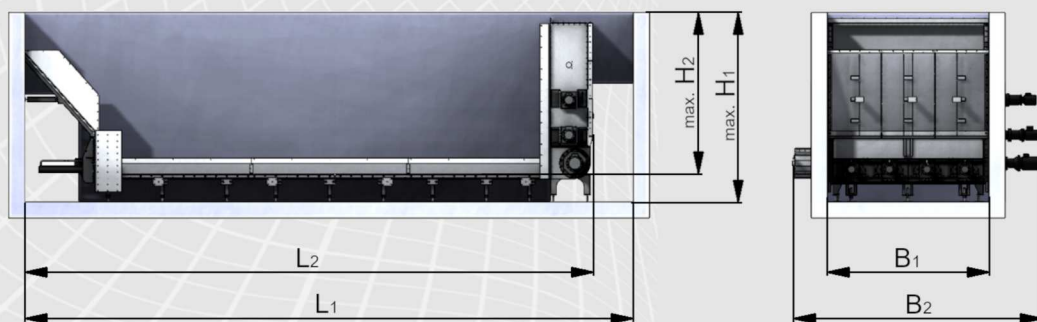
The transportation size of all variants is a standard 40' open top ISO container  
L= 12,2m | B=2,5m | H=2,6m

All figures are estimates





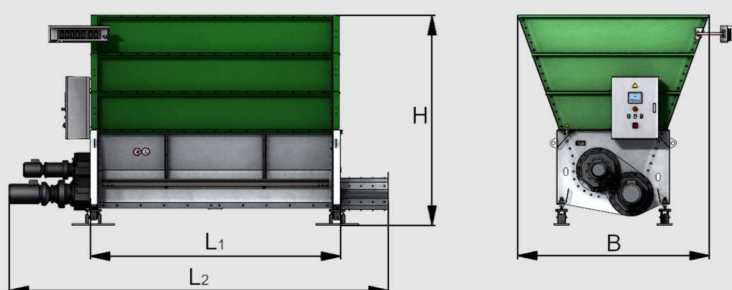
## VARIO FLOOR



Vario FLOOR  Type	Volumes	Dimensions					
		Length		Width		Height	
		Bunker L1	Floor L2	Bunker B1	B2	Bunker max. H1	Load height max. H2
80	80m <sup>3</sup>	11,3m	10,6m	3,0m	4,7m	3,5m	3,0m
100	100m <sup>3</sup>	11,3m	10,6m	4,0m	5,5m	3,5m	3,0m
120	120m <sup>3</sup>	12,8m	12,1m	4,0m	5,5m	3,5m	3,0m
160	160m <sup>3</sup>	14,7m	14,0m	4,0m	5,5m	3,8m	3,3m

All figures are estimates

## TT DOSAGE SYSTEM



Vario TT Type	Volumes	Dimensions			
		with overload protection	Length L1/L2	Width B	Load height H
3	3,0m <sup>3</sup>	3,5m <sup>3</sup>	3,4m / 4,9m	1,8m	1,7m
4	4,0m <sup>3</sup>	4,6m <sup>3</sup>	4,4m / 5,9m	1,8m	1,7m
7	7,0m <sup>3</sup>	8,0m <sup>3</sup>	3,4m / 4,9m	2,1m	2,2m
9	9,0m <sup>3</sup>	10,0m <sup>3</sup>	4,4m / 5,9m	2,1m	2,2m
10	10,0m <sup>3</sup>	11,5m <sup>3</sup>	3,4m / 4,9m	2,5m	2,7m
13	13,0m <sup>3</sup>	15,0m <sup>3</sup>	4,4m / 5,9m	2,5m	2,7m

All figures are estimates





## OVERCHARGE PROTECTION

Overcharge protection is available for all Vario dosage containers. In the standard version, it is made of powder-coated steel plating.

Overcharge protection increases the volume by around 15%. It prevents the substrate from spilling out over the edge of the container, which also keeps the area around the container significantly cleaner.

(Overcharge protection cannot be installed in combination with a hydraulic lid.)



## GRASS AND MANURE PACKS

### (for heavy and long-fibre substrates)

In its standard configuration, the Vario dosage container can reliably handle up to 40% grass and manure. If higher proportions need to be processed, the percentage of grass and manure can be increased to 70% and 100% in two steps. These features can also be added to the Vario equipment at a later stage.

## PARTIALLY OR FULLY STAINLESS STEEL AND STEEL MODELS

### The standard partially stainless steel model:

All the inner parts of the floor and the container's first C-profile ring, which come into contact with the substrate, are made of stainless steel and plastic, as are all parts of the conveyor equipment and the screws. All other parts are made of powder-coated steel.

### The fully stainless steel model:

In the fully stainless steel model, the entire inner container, i.e. all parts that come into contact with the substrate, is made of stainless steel and plastic, as are all parts of the conveyor equipment and the screws.

### The steel model (only for non-corrosive substrates!)

In the steel model, the entire inner container, i.e. all parts that come into contact with the substrate, is made of steel, as are all parts of the conveyor equipment and the screws.

## RAISING OUTPUT PERFORMANCE

The standard configuration can deliver up to 20 m<sup>3</sup>/h, depending on the substrate.

Output performance can be increased to up to 100 m<sup>3</sup>/h.



## VARIO ON A STUD FRAMEWORK

In order to customise the height of the discharge screw conveyor output, the Vario dosage container can be mounted onto a stud frame.



## EQUIPMENT, OPTIONS AND ACCESSORIES

### SPECIAL ELECTRICAL FEATURES

- Remote access module
- Load-dependent control
- Integration with ProfiNET / ProfiBUS DP
- Operating indicator light



### HYDRAULIC LID

To minimise emissions and weather damage, the Vario dosage container can be fitted with a hydraulic lid, operated using a wireless remote control.

For example, if you are planning to load your Vario dosage system using a truck or lorry, we can offer you a variety of customised solutions.

(The hydraulic lid cannot be fitted in combination with overcharge protection.)



### WEIGHING SYSTEM

Our weighing system incorporates a clearly legible large screen display to register how full the Vario dosage container is. In combination with our Vario control system, this allows for precision dosage of the substrate.

Also available:

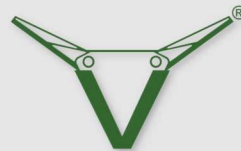
- A selection of 6 components, incl. wireless remote control
- Covers for weighing feet



### INSPECTION APERTURE

To facilitate maintenance work, we offer an inspection aperture with safety switches in two sizes.





### **AUTOMATED LUBRICATION**

To provide automated lubrication, we offer centralised, automated lubrication.

### **SPECIAL PAINTWORK**

The Vario dosage container is available in other colours, on request.

#### **Standard Colours:**

C profile (steel): moss green (RAL 6005).

C profile (stainless steel): aluminium white (RAL 9006).

Substructure and side supports: zinc plated

Motors, transmission crossbeams, cylinders etc.: deep black (RAL 9005)



## **OVERVIEW OUR ADVANTAGES**

- Low energy consumption
- Unique Vario push element system
- Liquid-tight
- Trouble-free dosing of a wide variety of substrates, even long-fibrous
- Modular, extendable
- Interconnection with all common and popular downstream systems possible
- Customer care from start to finish
- Worldwide assembly, maintenance and service
- Customer service 365 days a year
- Highest quality „Made in Germany“



# CONVEYOR TECHNOLOGY

## Conveyor technology "Our know-how - your benefit"

We offer innovative, goal-oriented, customised, sustainable mechanical conveyor technology. You can choose between solutions that address your entire process and partial solutions for individual domains. But the approach is always determined by which medium you are handling.

There can be no doubt about it: different media demand different conveyor technology designs. Our screws are manufactured with the utmost precision, in order to ensure the highest quality and accuracy.

## EQUIPMENT AND ACCESSORIES



### INSPECTION APERTURE

To facilitate maintenance work, we offer an inspection aperture with a safety switch.

### GYRATION TRACKER

The gyration tracker can identify when a screw breaks, thereby protecting the dosage system and other equipment from major harm.



### CLOGGING SENSOR

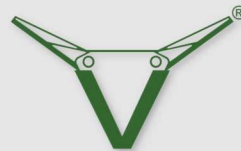
The clogging sensor protects screw technology and other equipment from damage.

### FLUSHING NOZZLE

A flushing nozzle can be attached to the Digester feeding auger in order to dose additional liquid Substrate / recyclate with the solids.







Our screw technology can be integrated with all the usual subsequent equipment



Rising & digester screw-system



Inclined conveyance screw with  
bypass



Inclined conveyance screw with  
stuffing screw



Attachment to existing equipment  
(from other manufacturers)



Free-eject screw



Special input to digester



Direct input to digester



Straight connection to  
inclined conveyance screw



Discharge vertical mixer





# MOBILE FEEDER SYSTEM

## EVERY BIOGAS PLANT OPERATOR MUST HAVE ASKED HIM OR HERSELF THE FOLLOWING QUESTIONS:

- What are the alternatives, if the solid matter feeding system breaks down?
- Who is in a position to provide speedy assistance?
- How can I continue feeding during a cleaning operation?
- What advantages does a slurry system offer?

## THERE IS NOW AN ANSWER TO THESE QUESTIONS:

Terbrack Maschinenbau's mobile feeding system guarantees you fast, flexible assistance if your feeding technology malfunctions. This will allow you to minimise biological issues and gas yield losses.

To connect the mobile equipment, all you need is an electricity supply of 380/400 volts, secured by a 63 amp fuse. In addition, the digester must be equipped with supply and evacuation tubes of at least DN150 size (standard liquid manure pipe).



The machine will be ready to use after a set-up time of around 2 hours. The 16 m<sup>3</sup> storage tank is mounted on load cells and can be loaded with up to 9 tonnes of maize silage. A frequency converter-controlled screw feeds the material into the slurry system, in accordance with pump capacity (flow meter).

The machine can receive 8–10 tonnes of maize silage per hour. Pressure sensors and electrically controlled valves prevent uncontrolled spillage from the digester.

## TECHNICAL SPECIFICATIONS

- portable via hooklift platform
- 16 m<sup>3</sup> Vario storage tank
- slurry system
- feed pump with recirculation capability
- opening rollers
- control system including weighing system
- flow meter
- flow and return valves







### OPERATING REQUIREMENTS FOR THE MOBILE SOLID MATTER FEEDER CONNECTIONS:

- Electricity: 380/400 volts 3Ph N PE / protected by a 63 amp fuse (CEE plug 63A max. connected load 35 kW)  
20 metres of cable are supplied with the equipment
- 2 connecting pipes with at least DN150 unobstructed passageway (standard liquid manure pipe),

### INPUT MATERIALS:

- Maize silage: unlimited quantities, 30–40% DM (dry matter)
- finely chopped whole crop silage: up to 70% with 28–36% DM
- CCM (corn-cob-maize) cereal: up to 30%
- grass and manure: up to 70%, fibre length must not exceed 15 cm

### OPERATING REQUIREMENTS:

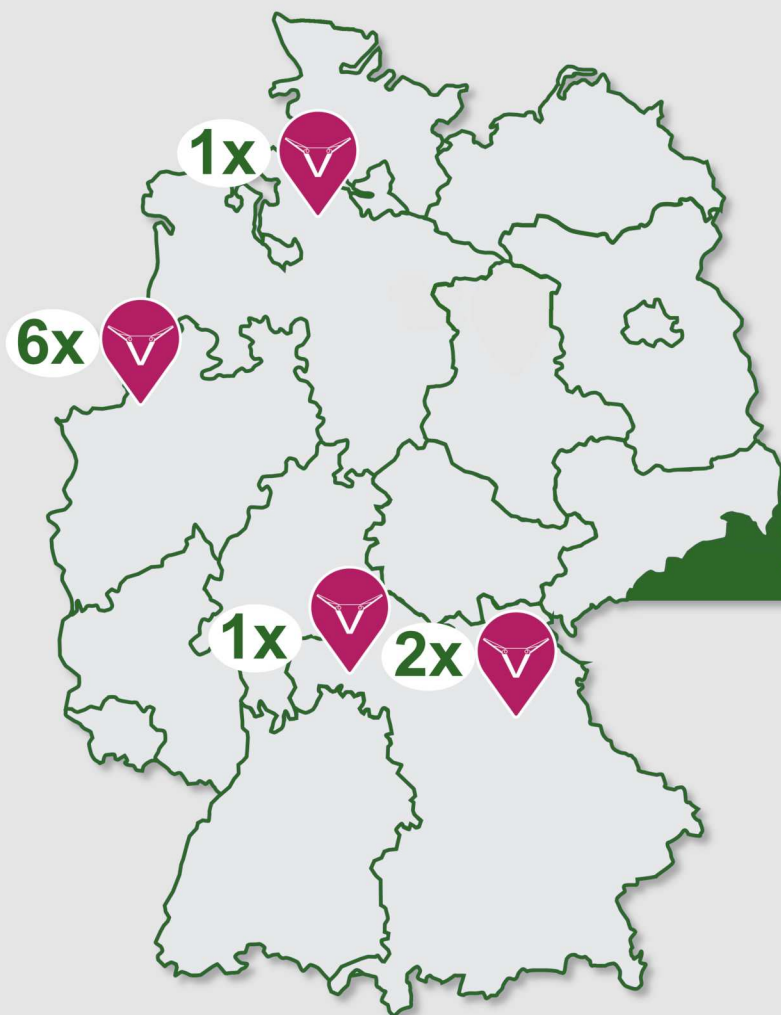
- The DM content of the suctioned manure must not exceed 9%
- Gas bubbles must not be able to form at the extraction ports. If the extraction port through which the manure is suctioned is facing downwards in the digester, a gas bubble can form inside. This jeopardises the smooth, uninterrupted operation of the equipment.
- The suction pipe should be kept as short as possible

### PERFORMANCE:

Depending on local conditions, conveyance performance is around 8 to 10 tonnes of maize silage per hour.

Conveyance performance is influenced by::

- DM content
- The path / height of the conveyance system



LOCATION OUR  
MOBILE SLURRY SYSTEM



## AGRO BIOGAS



## INDUSTRY RECYCLING



## SEWAGE SLUDGE

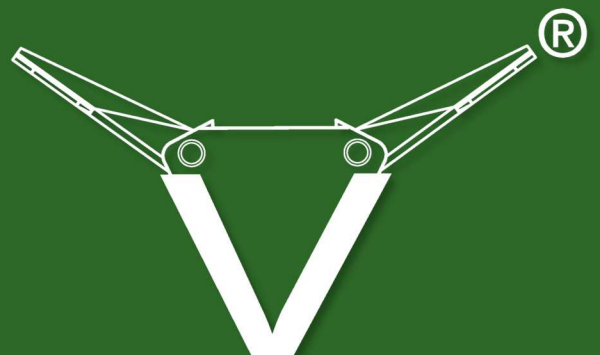


more products at [www.terbrack-maschinenbau.de](http://www.terbrack-maschinenbau.de)



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**TERBRACK**  
MASCHINENBAU GMBH



Stand February 2024

[www.terbrack-maschinenbau.de](http://www.terbrack-maschinenbau.de)