

DOSING

AND FEEDING TECHNOLOGY



WE KEEP MATERIAL MOVING.

FLIEGL DOSING AND FEEDING TECHNOLOGY FOR OVER 23 YEARS



When conventional systems reach their limits with challenging feedstocks, we are just getting started. *Fliegl Dosing and Feeding Technology* stands for rugged solutions that perform reliably in demanding day-to-day operations. At their core is technology that reliably receives a wide variety of materials, processes them, and feeds them evenly into the next stage of the process.

Whether feedstocks change, material structures vary, or operating conditions are challenging, our solutions are designed to support efficient workflows. We focus on well-engineered designs, ease of use, and rugged construction proven in everyday operation.

From material intake and processing to consistent dosing, each step works seamlessly with the next. The result is solutions that not only deliver high performance but, above all, provide reliable technology for real-world applications.

A history of innovation, courage, hard work, and consistency

For more than half a century, the Fliegl name has stood for quality, reliability, and a pioneering spirit in vehicle manufacturing. What began in 1975 as a small family business has grown into a globally respected partner for agriculture and transportation logistics.



Josef Fliegl - Managing Director, Fliegl Agrartechnik & Fliegl Dosiertechnik

Fliegl Dosiertechnik specializes in innovative technology for the biogas industry. Its focus is on solutions for reliable handling of biomass, organic feedstocks, and other bulk materials. From material feeding to processing, Fliegl develops practical technology for demanding operating conditions.

Together with Fliegl Agrartechnik and Fliegl Bau- und Kommunaltechnik, Fliegl Dosiertechnik is based at the company's approximately 30-hectare site in Mühldorf. Around 450 employees and modern manufacturing capabilities bring expertise, development, and production together at one location. This extensive know-how provides the foundation for solutions in biogas, feedstock management, and modern dosing technology.



MODEL OVERVIEW

PolyPro push-off container

The PolyPro combines rugged construction with versatile applications. Using Fliegl's proven push-off principle, it provides reliable, consistent material feeding, even with challenging feedstocks. For use only in combination with a Rondomat or MultiMix.

Benefit: Versatile operation with a wide variety of feedstocks

Ideal for: Short- and long-fiber materials

MultiMix dosing specialist

The MultiMix is the solution for long-fiber materials and materials that are difficult to process. Material is processed and mixed as it is fed in, preparing it optimally for further processing.

Benefit: Shreds and mixes material directly during feeding

Ideal for: Long-fiber and challenging materials

Rondomat dosing specialist

The Rondomat is designed for efficient, consistent dosing. Especially with short-fiber materials, its well-engineered system ensures reliable material flow with low energy requirements.

Benefit: Compact design for minimal power consumption

Ideal for: Short-fiber materials

MULTIMIX OR RONDONMAT?

LONG FIBER
MULTIMIX



Cattle manure



Horse manure



Pig manure



Corn stover



Grass silage



Vegetable waste

Maximum feedstock particle size	MultiMix	Rondonmat
Whole-crop silage (GPS), mm	500	50
Grass silage (stem length), mm	500	50
Corn silage, mm ²	30 x 30	30 x 30
Solid cattle manure (stem length), mm	500	100

SHORT FIBER
RONDONMAT

PUSH-OFF CONTAINER POLYPRO

Volume: 23 m³ to 100 m³

The Fliegl push-off container is the ideal solution for dosing a wide variety of feedstocks in biogas plants. Combined with the Fliegl MultiMix or Rondomat dosing systems, it ensures consistent material flow and maximum gas yield.

Why choose the PolyPro push-off container?

The PolyPro stands for reliable, consistent dosing of a wide variety of feedstocks. Its rugged, well-engineered design enables continuous material flow and ensures smooth day-to-day operation. Even when materials change, feeding remains reliable and efficient.



Your benefits at a glance

- Original Fliegl push-off technology, proven for decades: No conveyor chains, no chain wear, and no bridging, resulting in exceptionally low maintenance requirements
- Maximum cost efficiency through high throughput, consistent dosing, maximum gas yield, and energy requirements starting at just 0.15 kW per m³
- Excellent sliding properties thanks to shatter-resistant polyethylene: Even challenging feedstocks such as manure with a high straw content or grass are conveyed reliably
- Corrosion-resistant construction using polyethylene, V2A stainless steel, and special steel: Resistant to water, alcohol, acids, and alkalis, as well as UV exposure and temperatures from -85 °C to +90 °C
- Rugged construction with a sturdy steel frame and support legs, a leachate-tight design, and few moving parts for maximum operational reliability and long service life
- Durable, low-maintenance design with replaceable PU seals on the push-off wall and replaceable plastic guides on the sliding floor
- Well-designed details such as an integrated liquid collection channel with a Ø 100 or 125 mm drain connection



How it works

Once the conveyor auger has started, the spur gearmotor driving the planetary gearbox is activated. This motor drives the discharge blade or the vertical mixing auger in the Rondomat or MultiMix. The auger rotates until either the required amount of material has been dosed or the load on the conveyor auger becomes too high. In the latter case, the spur gearmotor driving the planetary gearbox pauses. As soon as the conveyor auger runs freely again, the motor resumes operation.

The current draw of the spur gearmotor is monitored continuously. If it exceeds an adjustable threshold (X amps), the sliding floor remains inactive and the solenoid coils remain at rest. If the current draw is below this value, the sliding floor is activated because the Rondomat or MultiMix is assumed to contain little material and more material needs to be pushed forward. In this case, the solenoid valve controlling forward movement is actuated.

Intermittent forward movement is recommended: 10 to 20 seconds of forward movement followed by a pause of 10 to 80 seconds. This cycle repeats until the current draw exceeds the preset threshold of X amps, at which point the hydraulic power unit's solenoid valve pauses. Once material has been removed from the Rondomat or MultiMix and the drive is running under a lighter load again, the system resumes intermittent operation.

When the push-off unit finishes its task and reaches the end position, a magnetic sensor sends a signal. The push-off wall then retracts for approximately 10 seconds (adjustable) and moves forward again to ensure that even the last remaining material is pushed out. By default, this is repeated three times (this value can be adjusted) to ensure full use of the container's volume. This procedure is called an "emptying stroke" and ensures that no residue remains attached to the push-off unit that could later dry out or spoil.

Once the push-off container has been emptied to the minimum weight after three emptying cycles, it automatically moves forward, where another magnetic sensor switches off the solenoid valve and stops the hydraulic power unit.

Actuators

- Two solenoid coils on the hydraulic power unit, 24 V
- The hydraulic power unit
- The Rondomat drive (8.3 kW) or the MultiMix drive (24.2 kW)

Sensors

- Two magnetic switches, one at the front and one at the rear in the container's side wall
- Measurement of the spur gearmotor's current draw
- Weight measurement by the scale in kilograms

PROVEN PUSH-OFF SYSTEM



Sliding floor and push-off wall made of V2A stainless steel with PU sealing strips



Push-off system with a hydraulic cylinder assembly



Leachate collection channel with Ø 100 mm connection



Hydraulic power unit



TWO-STAGE PUSH-OFF SYSTEM

LONG SERVICE LIFE AND LESS WEAR

THAN RECIPROCATING FLOORS, THANKS TO
FEWER MOVING PARTS



Hydraulically opening roof structure



Control cabinet with rain protection

Stage 1



The floor extends hydraulically toward the rear to the halfway point.

Stage 2



The front wall starts moving and pushes the load completely out of the container. This two-stage process minimizes pressure on the side walls and keeps the force required from the hydraulic system low.

Stage 3



The load has been completely pushed out.

POLYPRO WITH MULTIMIX ATTACHMENT

Volume: 32 m³ to 114 m³

The MultiMix attachment is available as a combined system with the PolyPro push-off container, providing a high-performance solution for processing and consistently dosing a wide variety of feedstocks. By combining push-off technology with a vertical mixing auger, long-fiber and challenging materials are reliably loosened and shredded, then continuously fed into the next stage of the process.

Why choose the MultiMix attachment?

Because challenging feedstocks need a reliable solution. The MultiMix attachment loosens, mixes, and evenly meters long-fiber and coarse materials, ensuring continuous material flow.

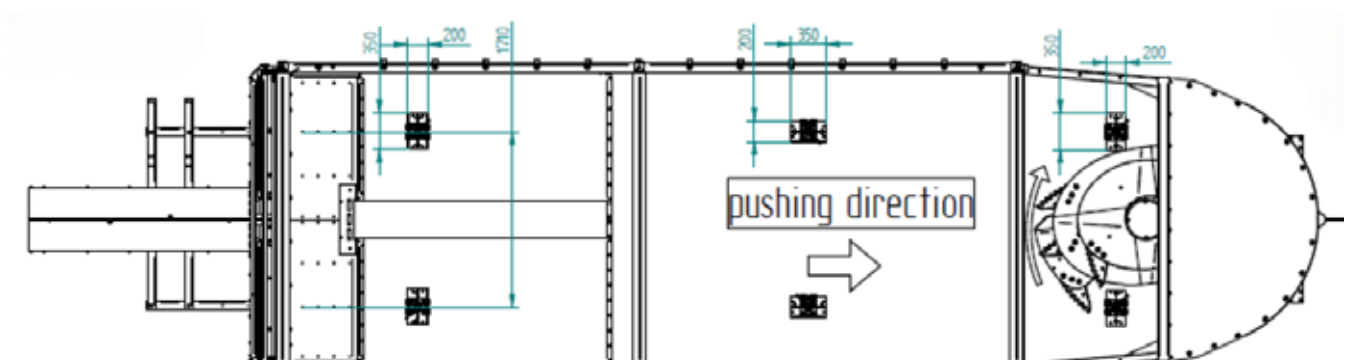
Benefits of the PolyPro with MultiMix attachment

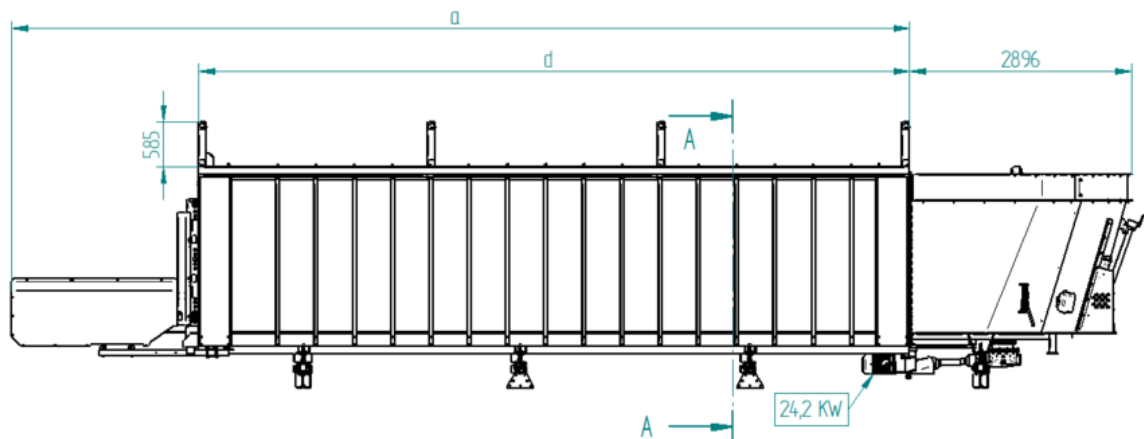
- Durable stainless steel container with exceptionally low maintenance requirements
- Long-lasting vertical mixing auger with shredding function, including eight knives and an adjustable counterknife assembly
- Maximum gas yield through consistent dosing
- High-performance planetary gearbox
- Low maintenance thanks to a sturdy design with a low-wear spur gearmotor
- Quick and easy installation
- Suitable for all feedstocks, including challenging materials such as long-fiber grass from landscape maintenance or manure with unchopped straw
- Discharge opening manually adjustable using a screw mechanism; hydraulic adjustment available as an option

	MultiMix attachment	MultiMix Mega attachment
Inside height, mm	2000	2800
Weighing feet	2	2
Weight, metric tons (t)	3	4
Approx. volume, m ³	9	14



LONG FIBER

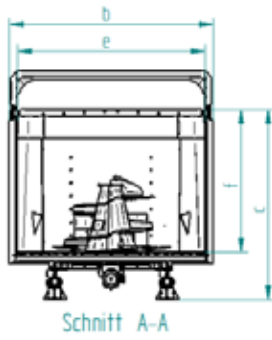




	PolyPro23 PolyPro23 SE*	PolyPro30	PolyPro44 PolyPro44 SE*	PolyPro57 SE*	PolyPro60
a - Outside length, mm	6243	7743	9743	11743	11743
b - Outside width, mm	3010	3010	3010	3010	3010
c - Outside height, mm	2786	2886	2886	2886	3086
d - Inside length, mm	3800	5300	7300	9300	9300
e - Inside width, mm	2850	2850	2850	2850	2850
f - Inside height, mm	2066	2166	2166	2166	2366
Weighing feet PolyPro / MultiMix attachment	2 / 2	2 / 2	4 / 2	6 / 2	6 / 2
Empty weight PolyPro / MultiMix attachment, metric tons (t)	5.5 / 3	7 / 3	7.5 / 3	10.5 / 3	10.8 / 3
Fill weight PolyPro / MultiMix attachment, metric tons (t)	13 / 4	17 / 4	24 / 4	31 / 4	33 / 4
Volume PolyPro / MultiMix attachment, approx. m³	23 / 9	30 / 9	44 / 9	57 / 9	60 / 9

*SE = Standard Edition (PolyPro with MultiMix attachment)



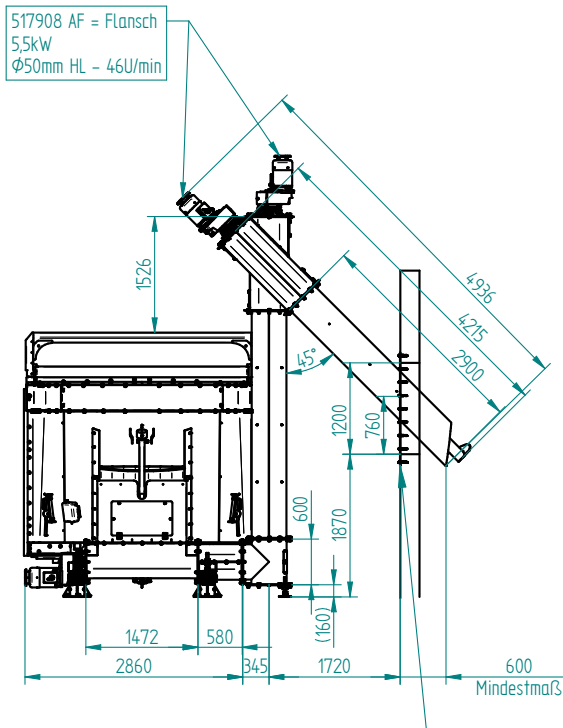


PolyPro74 Mega PolyPro74 SE* Mega	PolyPro100 Mega PolyPro100 SE* Mega
11743	15353
3010	3010
3514	3514
9300	12300
2850	2850
2794	2794
6 / 2	6 / 2
11.2 / 4	14.5 / 4
41 / 7	55 / 7
74 / 14	100 / 14



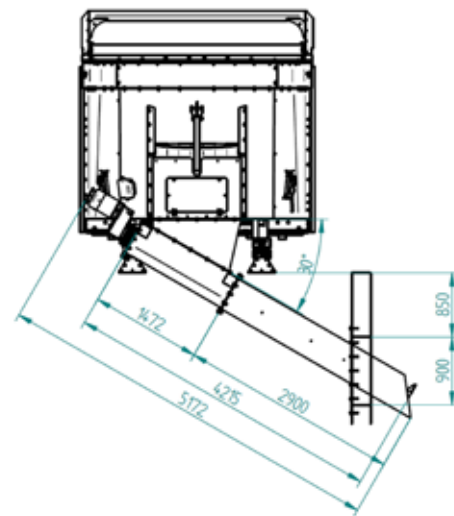
Feeding technology

MultiMix attachment



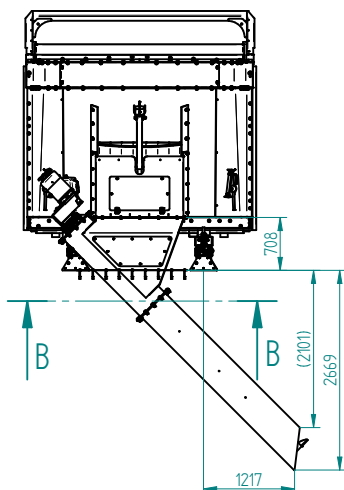
3 m elevating auger - left - 45°

Total power, kW: $24.2 + 3.6 + 5.5 + 6.1 + 4$ for hydraulic power unit = approx. 45 kW
Current: approx. 90 amps



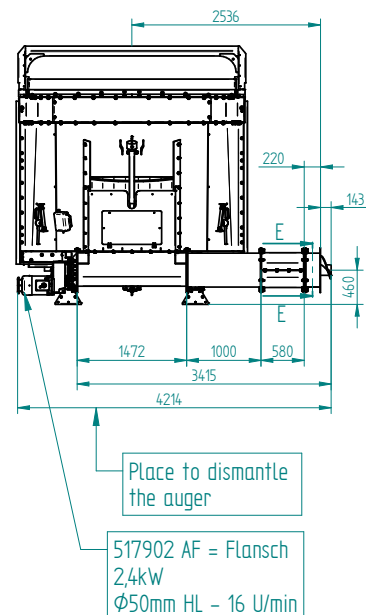
Side feeding - left - 30°

Total power, kW: $24.2 + 5.5 + 4$ for hydraulic power unit = approx. 35 kW
Current: approx. 70 amps



Top feeding - left - 45°

Total power, kW: $24.2 + 5.5 + 4$ for hydraulic power unit = approx. 35 kW
Current: approx. 70 amps



Trough auger with mounting box for a liquid pump - left

Total power, kW: $24.2 + 2.4 + 4$ for hydraulic power unit = approx. 31 kW
Current: approx. 70 amps

Optional: Material can be fed from either the left or right side of the dosing unit.

If the longitudinal and elevating auger (outer tube) is longer than 7000 mm, a transfer junction with an additional conveyor auger is installed. If the feed auger is longer than 4200 mm, the power requirement increases.



Gearbox oil expansion reservoir



Braces to stabilize the walls



PTO drive with shear bolt

For long-fiber and challenging materials

MULTIMIX SOLO

Volume: 9 m³ to 20 m³

The MultiMix is a vertical auger mixer for almost all feedstocks with fiber lengths of up to 500 mm. To cut even challenging feedstocks, such as long-fiber grass from landscape maintenance or manure with unchopped straw, the auger is equipped with eight knives that shred the material.

Benefits of the MultiMix Solo

- Ideal for long-fiber and challenging feedstocks
- Handles fiber lengths of up to 500 mm
- Shredding and mixing in a single operation
- Accurate, consistent dosing
- Reliable material flow
- Low maintenance and wear
- High operational reliability
- Flexible container sizes from 9 to 20 m³
- Suitable for manure, straw, and grass from landscape maintenance

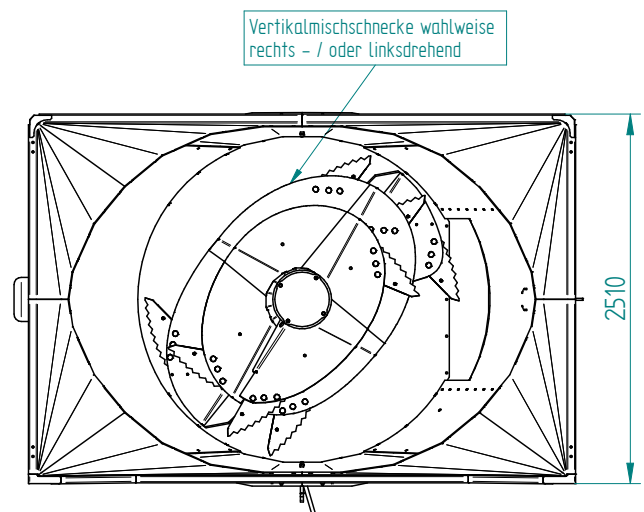
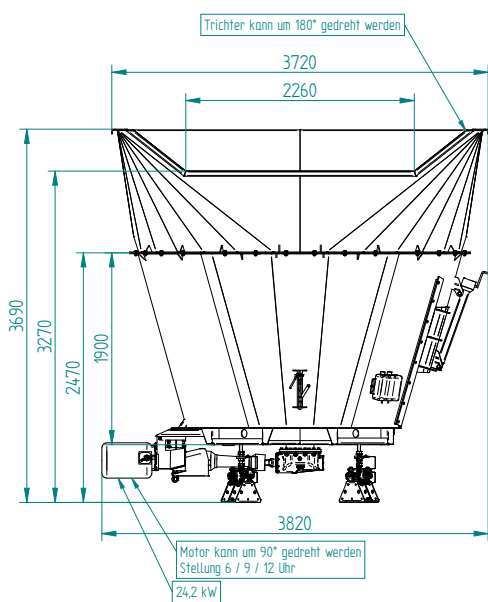
MultiMix Solo	
Approx. volume, m³	9 bis 20
Weight, metric tons (t)	2.5
Weighing feet	4



MultiMix Solo configurations

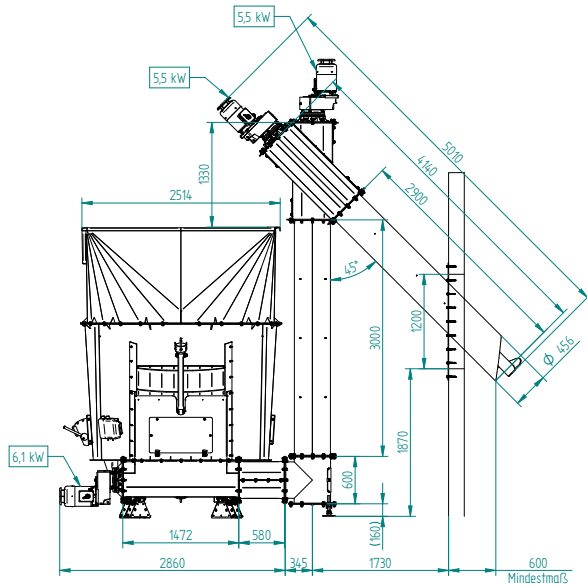
11 m³ in steel or stainless steel, with or without a hydraulically opening roof. As an option, the loading hopper is also available without a cutout on the loading side.





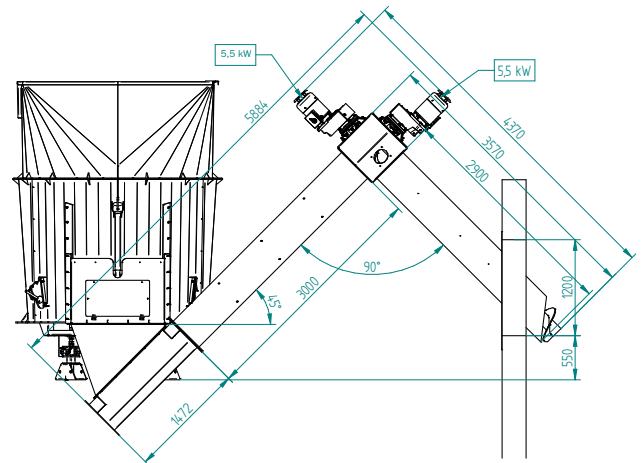
Feeding technology

MultiMix Solo



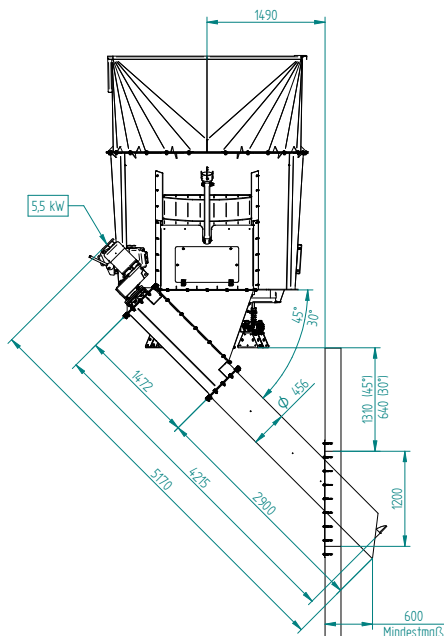
3 m elevating auger - 45°

Total power, kW: 24.2 + 5.5 + 5.5 + 6.1 = approx. 40 kW



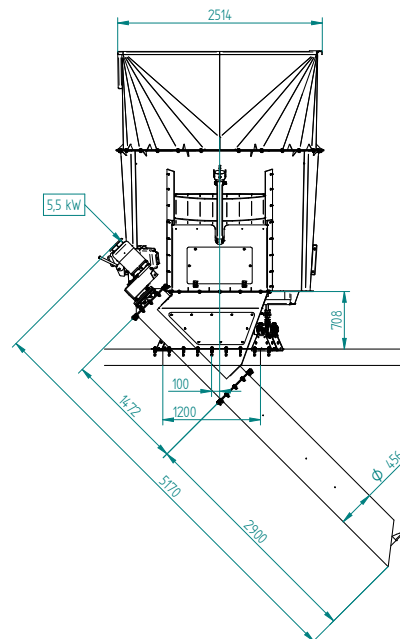
Side feeding at 45° - 3 m inclined section

Total power, kW: 24.2 + 5.5 + 5.5 = approx. 35 kW



Side feeding at 30° / 45°

Total power, kW: 24.2 + 5.5 = approx. 30 kW

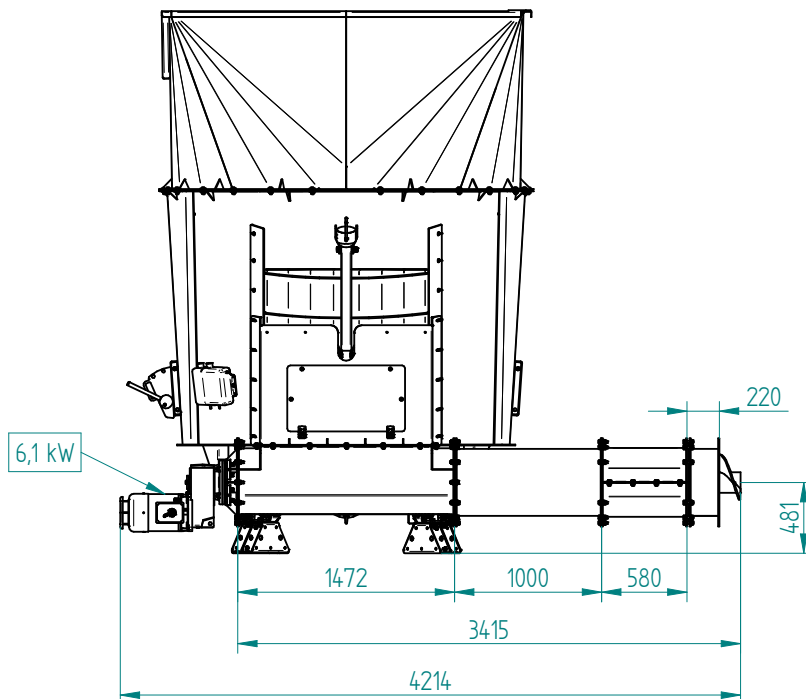


Top feeding at 30° / 45°

Total power, kW: 24.2 + 5.5 = approx. 30 kW

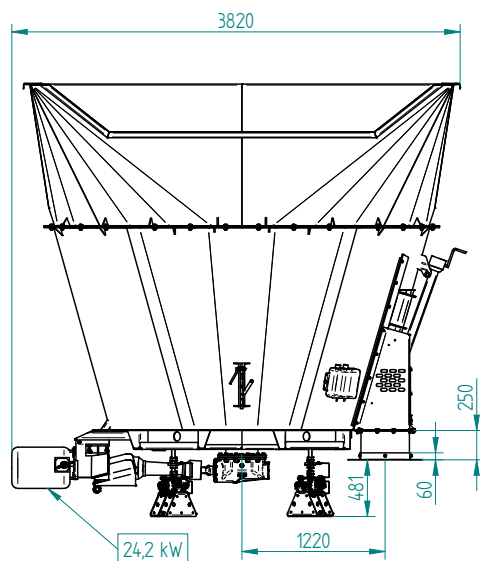
Optional: Material can be fed from either the left or right side of the dosing unit.

If the longitudinal and elevating auger (outer tube) is longer than 7000 mm, a transfer junction with an additional conveyor auger is installed. If the feed auger is longer than 4200 mm, the power requirement increases.



Premix pump - 1 m

Total power, kW: $24.2 + 6.1 = \text{approx. } 30 \text{ kW}$



Wagen pump

Total power, kW: approx. 24.2 kW

POLYPRO WITH RONDONMAT ATTACHMENT

Volume: 40 m³ to 123 m³

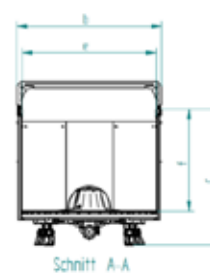
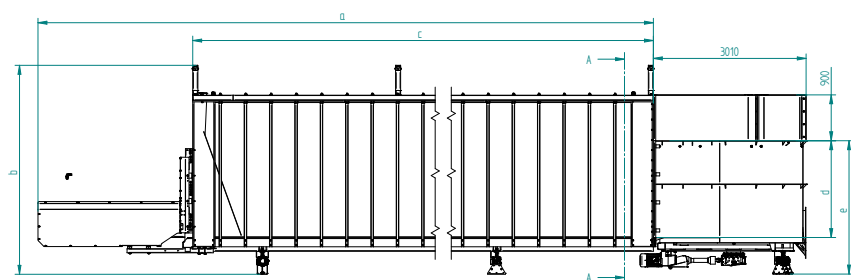
The Rondomat attachment combines the Rondomat with the PolyPro push-off container. This significantly increases storage capacity to approximately 123 m³.

Benefits of the PolyPro with Rondomat attachment

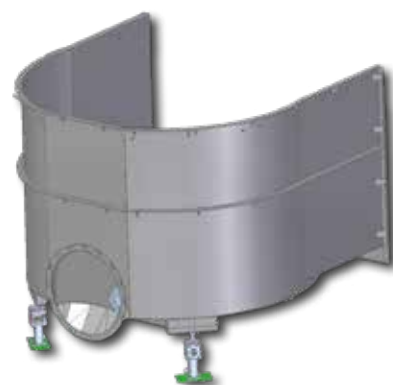
- Low power consumption
- Low maintenance and wear
- High throughput
- Accurate dosing
- 100% leachate-tight

	Rondomat attachment	Rondomat Mega attachment
Inside height, mm	2000	2800
Approx. volume, m ³	17	23
Weight, metric tons (t)	2	2.5
Weighing feet	2	2





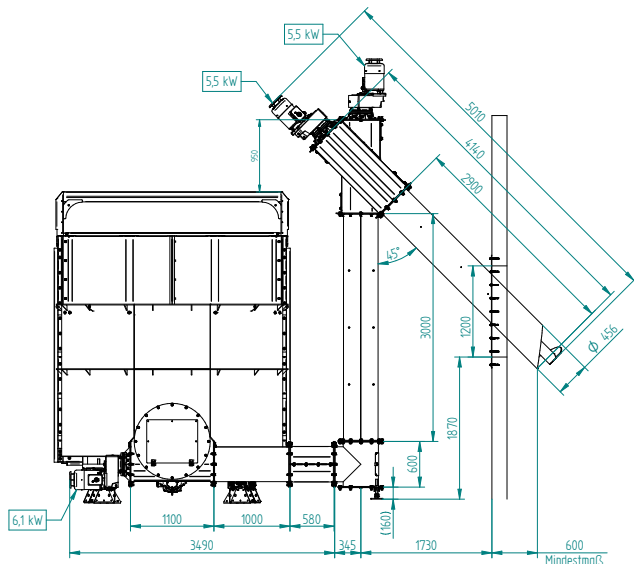
	PolyPro23	PolyPro30	PolyPro44	PolyPro57	PolyPro60	PolyPro74 Mega	PolyPro100 Mega
a - Outside length, mm	6243	7743	9743	11743	11743	11743	15353
b - Outside width, mm	3010	3010	3010	3010	3010	3010	3010
c - Outside height, mm	2786	2886	2886	2886	3086	3514	3514
d - Inside length, mm	3800	5300	7300	9300	9300	9300	12300
e - Inside width, mm	2850	2850	2850	2850	2850	2850	2850
f - Inside height, mm	2066	2166	2166	2166	2366	2794	2794
Weighing feet PolyPro / Rondomat attachment	2 / 2	2 / 2	4 / 2	6 / 2	6 / 2	6 / 2	6 / 2
Empty weight PolyPro / Rondomat attachment, metric tons (t)	5.5 / 2	7 / 2	7.5 / 2	10.5 / 2	10.8 / 2	11.2 / 2.5	14.5 / 2.5
Fill weight PolyPro / Rondomat attachment, metric tons (t)	13 / 8	17 / 8	24 / 8	31 / 8	33 / 8	41 / 11	55 / 11
Volume PolyPro / Rondomat attachment, approx. m³	23 / 17	30 / 17	44 / 17	57 / 17	60 / 17	74 / 23	100 / 23



SHORT FIBER

Feeding technology

Rondomat attachment

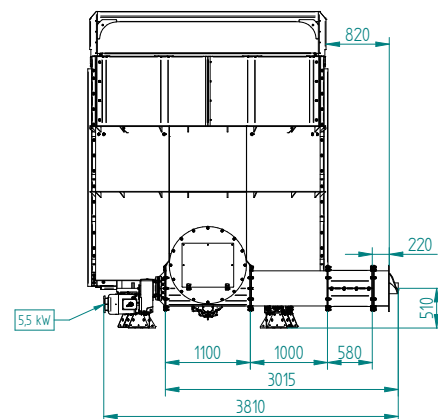


3 m elevating auger - 45°

Total power, kW:

$8.3 + 6.1 + 5.5 + 5.5 + 4$ for hydraulic power units = approx. 29 kW

Current: approx. 56 amps

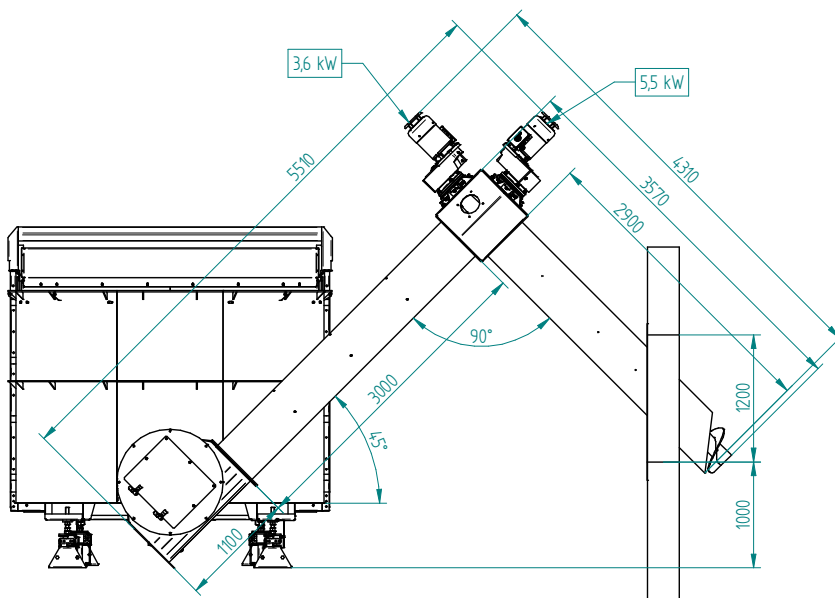


Premix pump

Total power, kW:

$8.3 + 5.5 + 4$ for hydraulic power unit = approx. 18 kW

Current: approx. 30 amps



Side feeding at 45° - 3 m inclined section

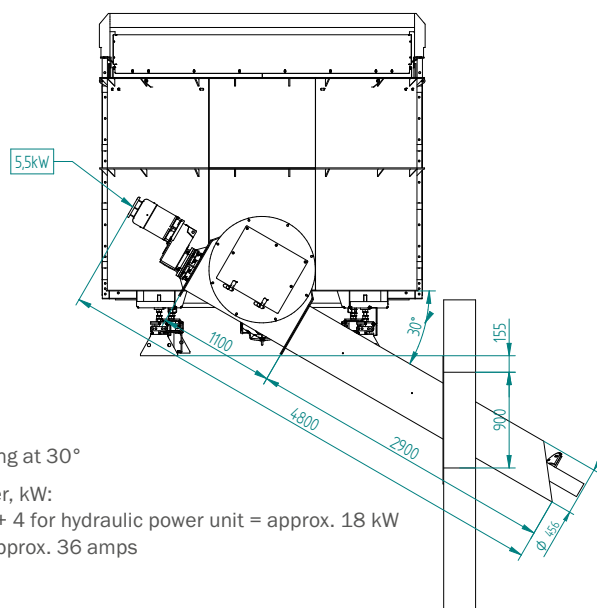
Total power, kW:

$8.3 + 5.5 + 3.6 + 4$ for hydraulic power unit = approx. 21 kW

Current: approx. 44 amps

Optional: Material can be fed from either the left or right side of the dosing unit.

If the longitudinal and elevating auger (outer tube) is longer than 7000 mm, a transfer junction with an additional conveyor auger is installed. If the feed auger is longer than 4200 mm, the power requirement increases.

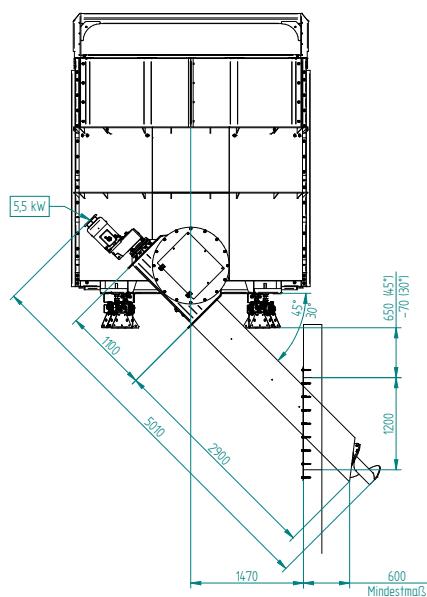


Side feeding at 30°

Total power, kW:

8.3 + 5.5 + 4 for hydraulic power unit = approx. 18 kW

Current: approx. 36 amps



Side feeding at 45°

Total power, kW:

8.3 + 5.5 + 4 for hydraulic power unit = approx. 18 kW

Current: approx. 36 amps

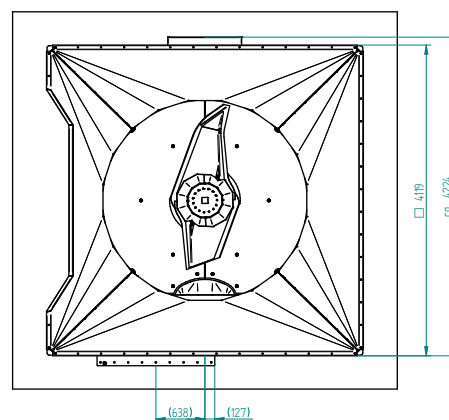
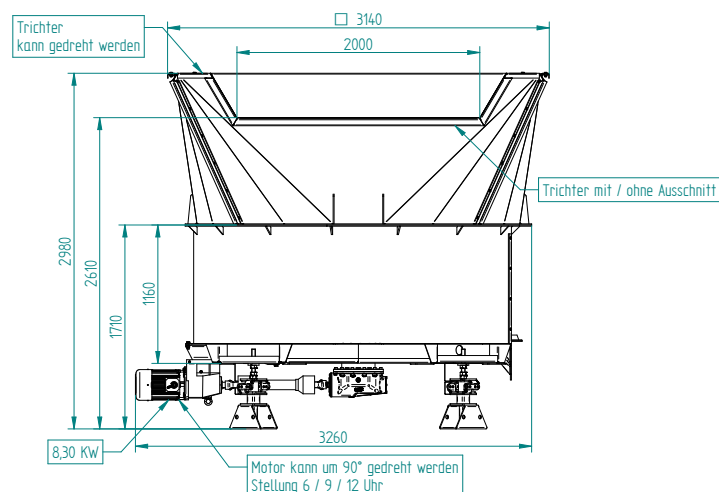
The specialist for short-fiber feedstocks

RANDOMAT SOLO

Volume: 5.5 m³ to 30.5 m³

The Rondomat Solo is a rugged solids feeder. The energy-efficient solids receiving hopper is ideal for storing and feeding a variety of chopped feedstocks and short-fiber solid materials.

	Rondomat Solo
Volume, m ³	5.5 to 30.5
Weight, metric tons (t)	1.8 to 3
Weighing feet	4



SHORT FIBER

Benefits of the Rondonat Solo

- The special shape of the discharge blade, together with the optional additional auger, prevents bridging even with high manure content
- The slow-turning discharge blade requires very little energy



Slow-turning discharge blade



Additional auger for the Rondonat junction

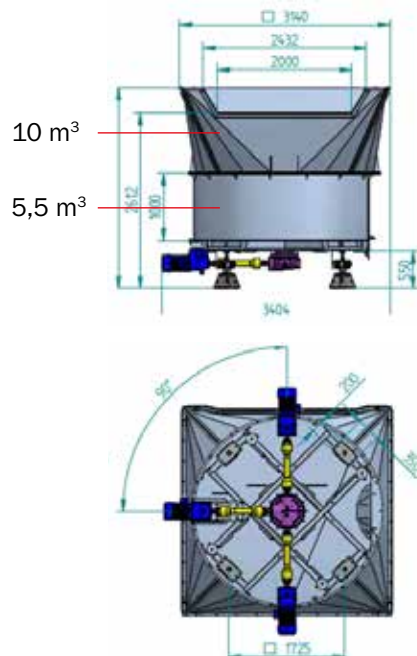


Option: Stainless steel discharge blade with vertical auger on a polyethylene floor

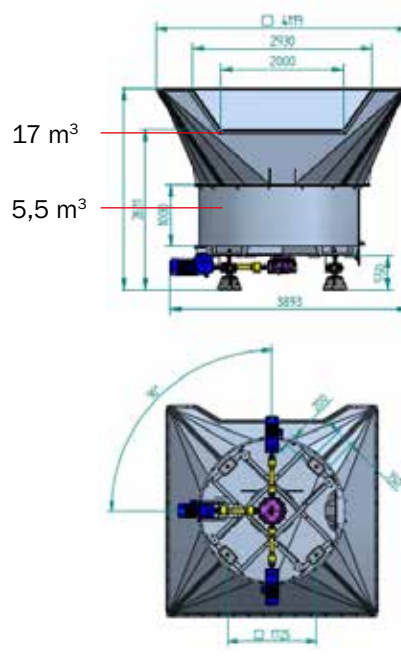


Rondomat Solo configurations

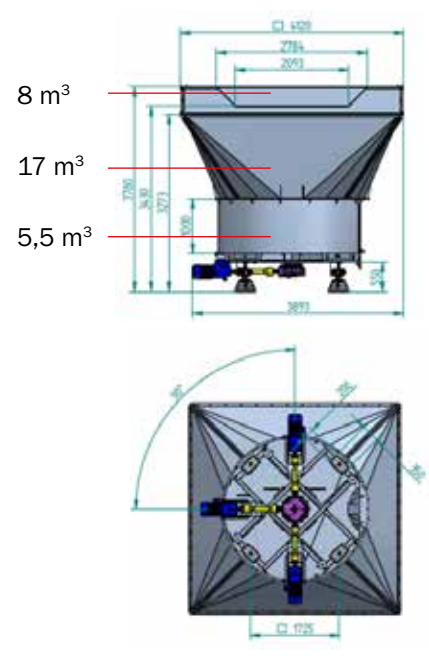
Volume: 15,5 m³



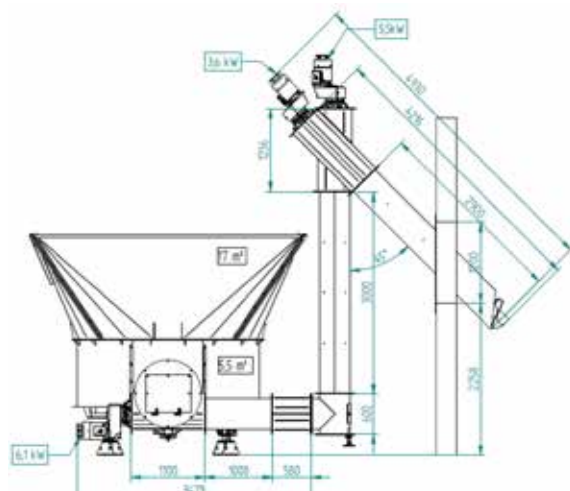
Volume: 22,5 m³



Volume: 30,5 m³

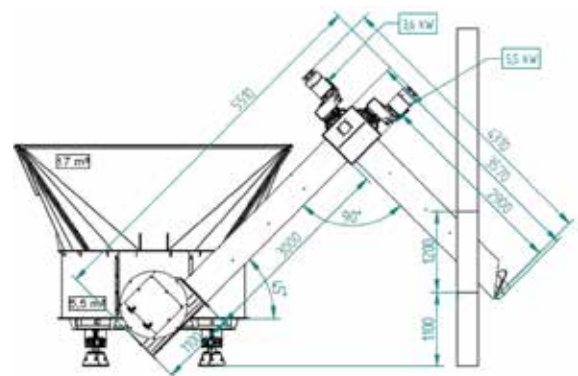


Feeding technology Rondomat Solo



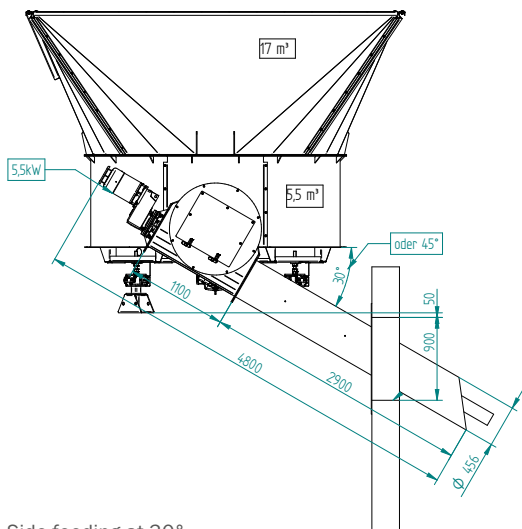
3 m elevating auger - 45°

Total power, kW: 8.3 + 6.1 + 5.5 + 3.6 = approx. 24 kW



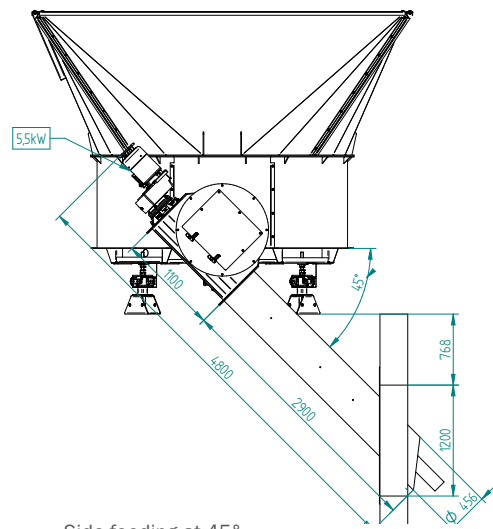
Side feeding at 45° - 3 m inclined section

Total power, kW: 8.3 + 5.5 + 3.6 = approx. 17 kW



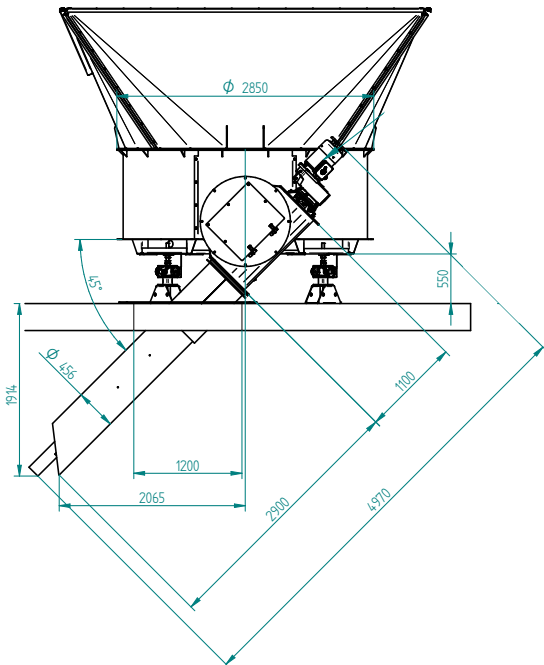
Side feeding at 30°

Total power, kW: 8.3 + 5.5 = approx. 14 kW



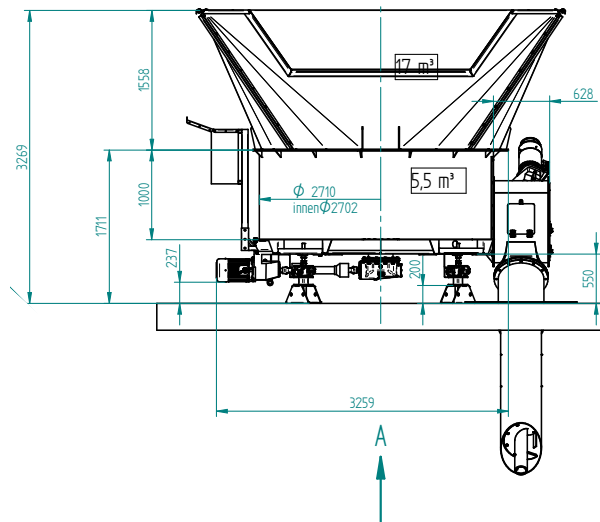
Side feeding at 45°

Total power, kW: 8.3 + 5.5 = approx. 14 kW



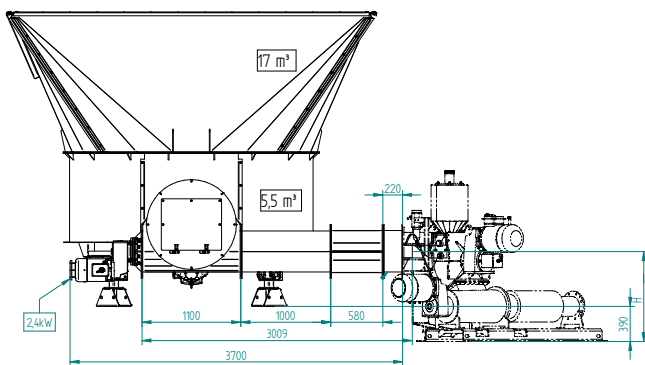
Top feeding at 45°

Total power, kW: 8.3 + 5.5 = approx. 14 kW



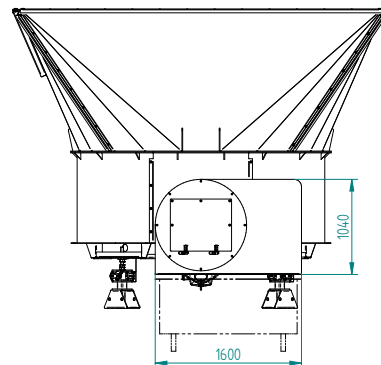
Top feeding at 45°

Total power, kW: 8.3 + 5.5 = approx. 14 kW



Premix pump

Total power, kW: 8.3 + 2.4 = approx. 11 kW



Wangen pump

Total power, kW: approx. 8.3 kW

Optional: Material can be fed from either the left or right side of the dosing unit.

If the longitudinal and elevating auger (outer tube) is longer than 7000 mm, a transfer junction with an additional conveyor auger is installed. If the feed auger is longer than 4200 mm, the power requirement increases.

EQUIPMENT



Maintenance-free support: The conveyor auger is supported by the parallel-shaft gearmotor through the gearbox, which runs in an oil bath.



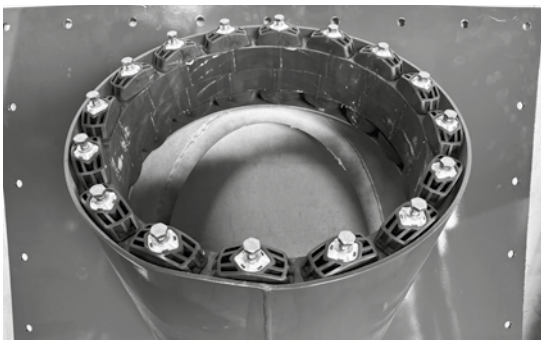
Feed auger with PE flighting: Support provided by the polyethylene flighting ensures low-wear operation and straightforward auger replacement.



Auger conveyor tube with polyethylene (PE) half-shell liners: The external bearing arrangement provides a full, unobstructed passage and unrestricted material flow.



Trough auger with force-feeding junction: Prevents bridging by transferring material directly into the flights of the elevating auger.



Pipe-in-pipe connection with modular link seal: Allows installation without welding and easy, maintenance-friendly replacement of the feed pipe in the digester.





Trouble-free feedstock conveying through large transfer junctions.



Conveyor auger (outer tube) longer than 7000 mm with transfer junction.



Trouble-free feedstock conveying through large transfer junctions.

RONDONMAT EQUIPMENT



Additional auger for the Rondonmat junction: Provides increased throughput and continuous, consistent material flow; required for feedstock lengths over 50 mm or for materials that are not free-flowing.

FLIEGL WEIGHING SYSTEM DIGITOUCH

Consistent gas yields through weight-based feedstock dosing

In biogas production, feeding accuracy determines the stability of the biological process and the cost efficiency of the entire plant. Because feedstocks such as corn, manure, and straw have widely differing bulk densities, feeding controlled solely by time quickly reaches its limits. The Fliegl DigiTouch weighing system is the intelligent solution for compensating for these differences and ensuring accurate feeding. With DigiTouch weight-based

control, a target quantity by weight is defined instead of a time interval. The system measures the mass of the input material in real time and automatically adjusts the Biomat's operating time to suit the material's characteristics. The result is a consistent quantity of feedstock per dosing cycle, regardless of the material's density or conveying properties.

Load cell



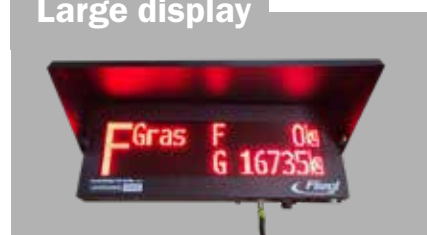
Digital or analog load cells are mechanically integrated into the weighing feet on which the dosing unit rests once installed. The load cells measure the weight and transmit the weighing signal to the control system.

Wireless remote control



The wireless remote control can switch between all operating modes and displays information about the plant's current status. In filling mode, the operator can select the feedstock being added, such as corn or grass. Alternatively, the control tablet on the control cabinet can also be used for input.

Large display



In addition to the wireless remote control, a large display allows the operator to monitor the plant's current operating status.

Remote support



An optional remote support module provides a secure connection to the Fliegl control system that is independent of the plant builder. This allows a Fliegl service technician to connect securely to the plant and provide remote assistance when problems occur.

The plant builder can operate the Biomat control system from a computer through a direct connection or over the internet. Wi-Fi is not recommended for security reasons.

The plant builder's higher-level control system can control the Fliegl DigiTouch system through various bus systems. ProfiNet, Modbus TCP, and Profibus are available for this purpose. As an option, the weight can also be obtained through a 4 to 20 mA analog signal.

FLIEGL SERVICE

Supporting your success

At Fliegl Dosiertechnik we continue to provide advice and hands-on support after your purchase. Our service supports you throughout the entire life cycle of your Fliegl Dosiertechnik system, from commissioning and maintenance to repairs and spare parts supply. Our goal is to keep your Biomat ready for operation and provide the best possible support for your daily work.



Custom-built solutions

Each system is individually adapted to the plant builder's needs and the conditions at the specific farm. This creates tailored solutions for efficient plant operation.



Spare parts supply

We provide a reliable spare parts supply to get your plant back up and running quickly. The right genuine spare parts help maintain the functionality and long service life of your Fliegl dosing unit.



Maintenance & repairs

Regular maintenance and professional repairs are essential for reliable operation. We help you maintain your dosing unit's performance over the long term and avoid unplanned downtime wherever possible.



Technical support

Do you have questions about operation or need technical support? We help you with technical matters related to your Fliegl Biomat and work with you to find a suitable solution.



Genuine parts & accessories

Genuine parts and suitable accessories allow you to adapt your dosing unit to your specific requirements. You benefit from carefully designed additions to our products and a reliable foundation for everyday use.



Your direct contact

Whether you need spare parts, have a technical question, or require general service support, we are here for you. Contact your Fliegl representative. Together, we will address your request so you can focus on what matters most: your work.

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