

DOSING AND FEEDING TECHNOLOGY

EDITION 2024

GB



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DOSIERTECHNIK

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MULTIMIX SOLO 9-20 M³
MULTIMIX ATTACHMENT 32-114 M³



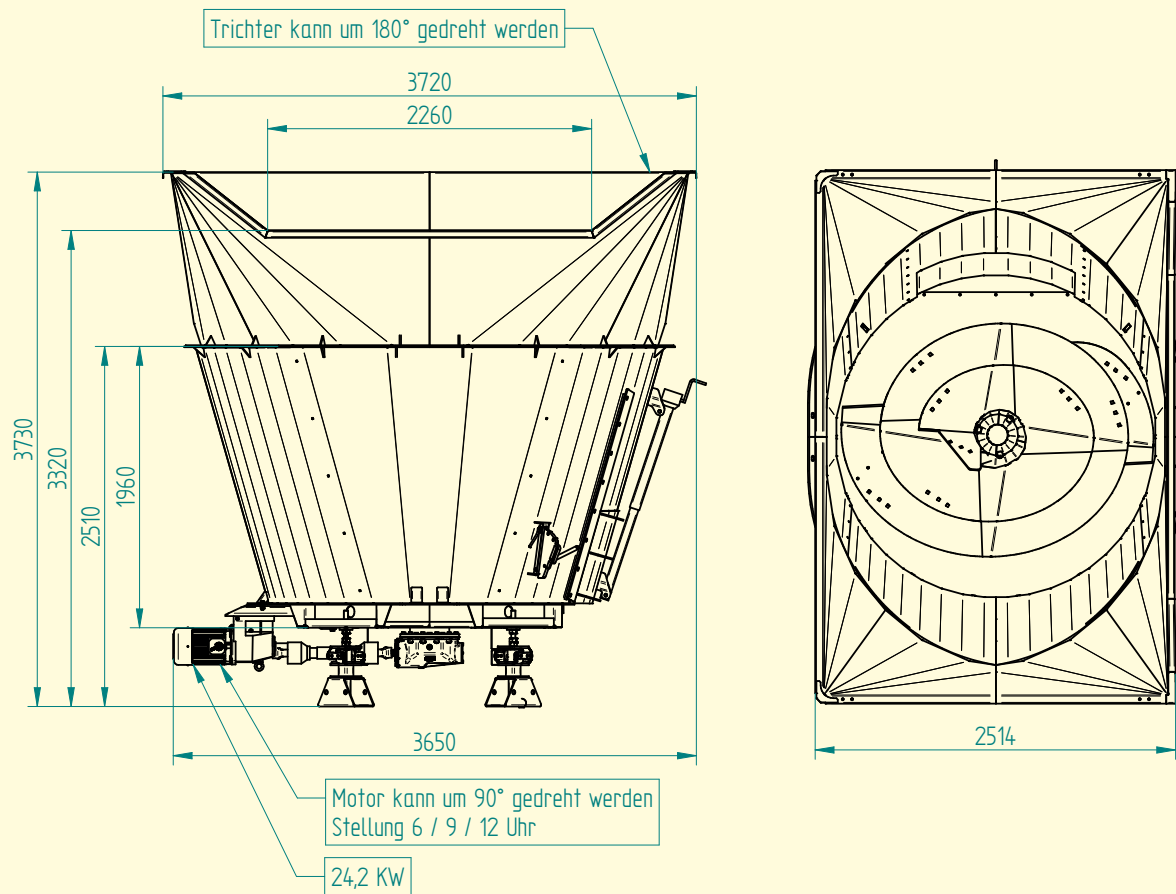
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MultiMix Solo

Capacity: 9 m³ to 20 m³

The MultiMix is a vertical auger mixer for virtually all substrates with a fibre length of up to 500 mm. For effective cutting of difficult substrates such as long-fibre landscape conservation grass or manure with long-fibre straw, the auger is equipped with eight blades to shred the material.



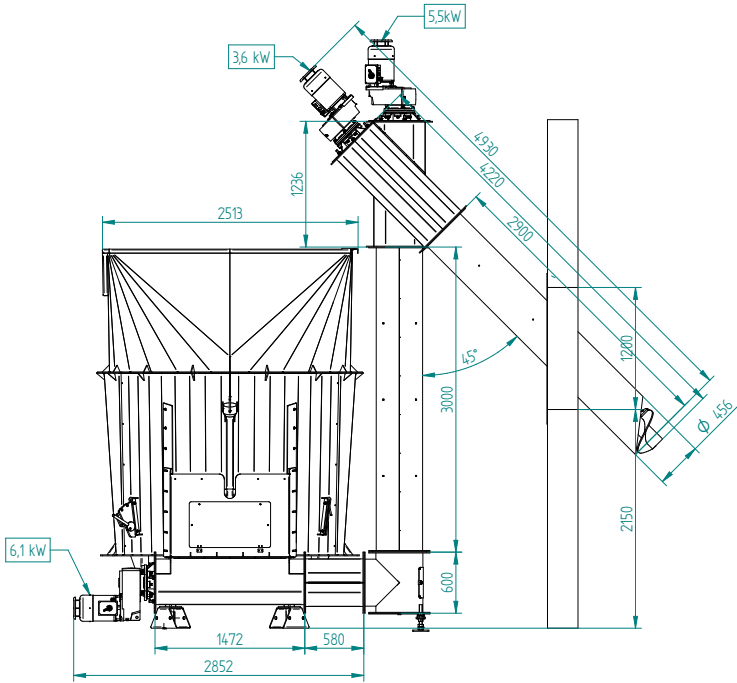
MultiMix Solo	
Weighing feet	4
Weight	2.5 t
Capacity*	approx. 9 m ³

Superstructures: 11 m³ in steel or stainless steel with or without hydraulically folding roof – also available without filler opening.

Feed technology – MultiMix Solo

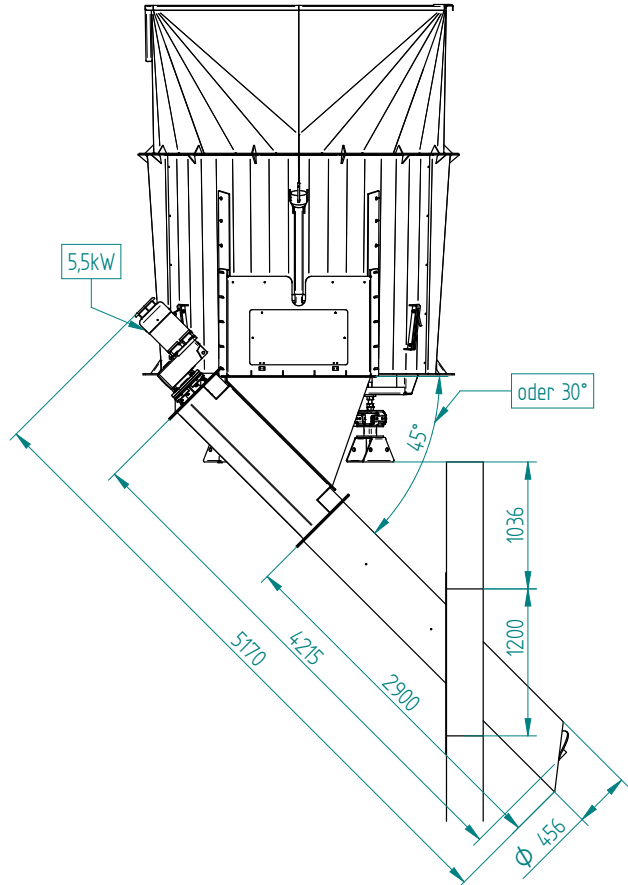
MultiMix Solo – top feed 45° – 3m

Total kW: 24.2 + 3.6 + 5.5 + 6.1 = 40 kW



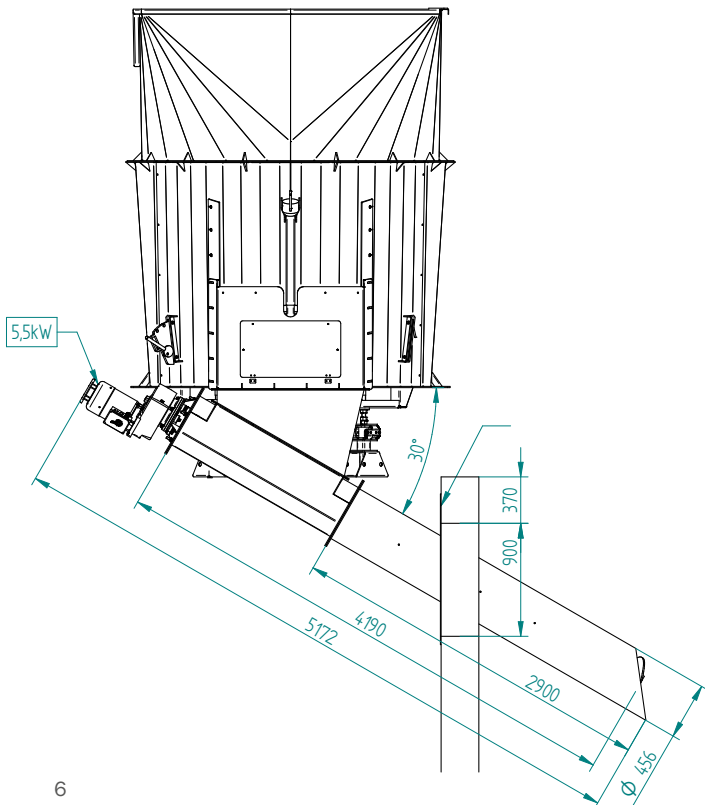
MultiMix Solo – bottom feed 45°

Total kW: 24.2 + 5.5 = 30 kW



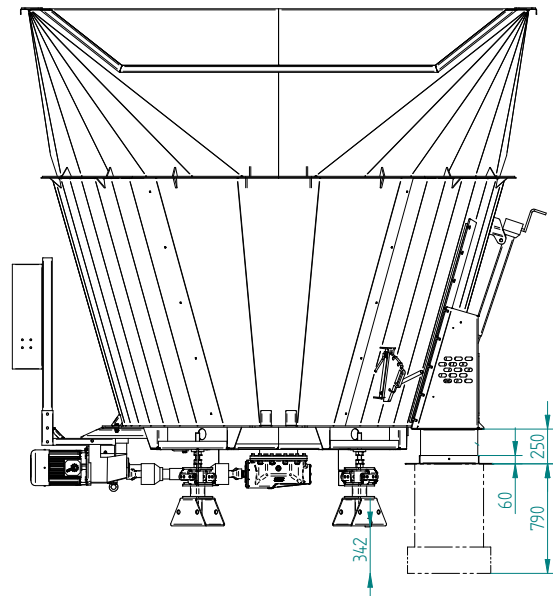
MultiMix Solo – bottom feed 30°

Total kW: 24.2 + 5.5 = 30 kW



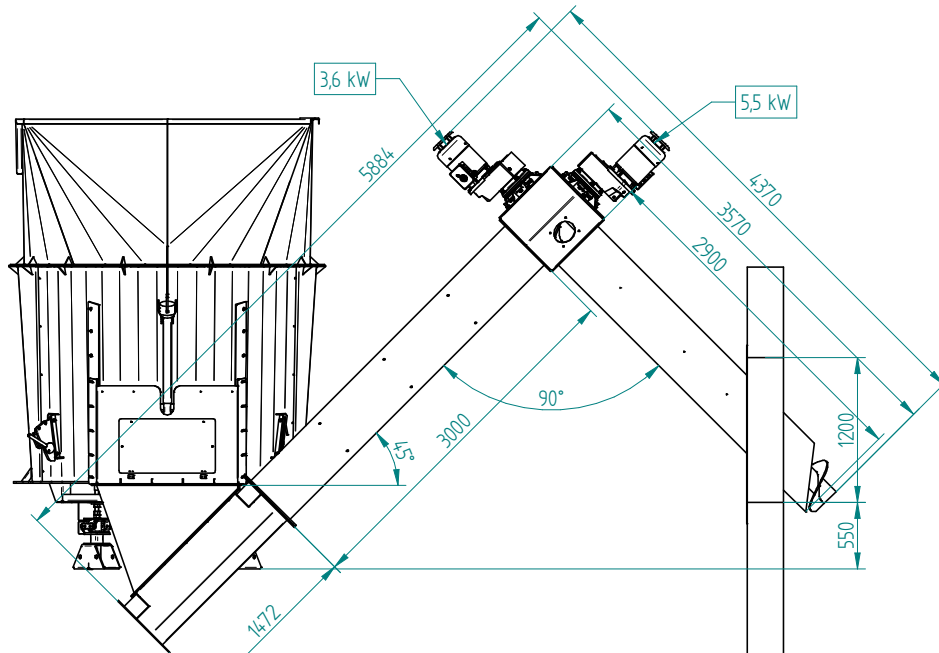
MultiMix Solo – Wangen

Total kW: 24.2 kW



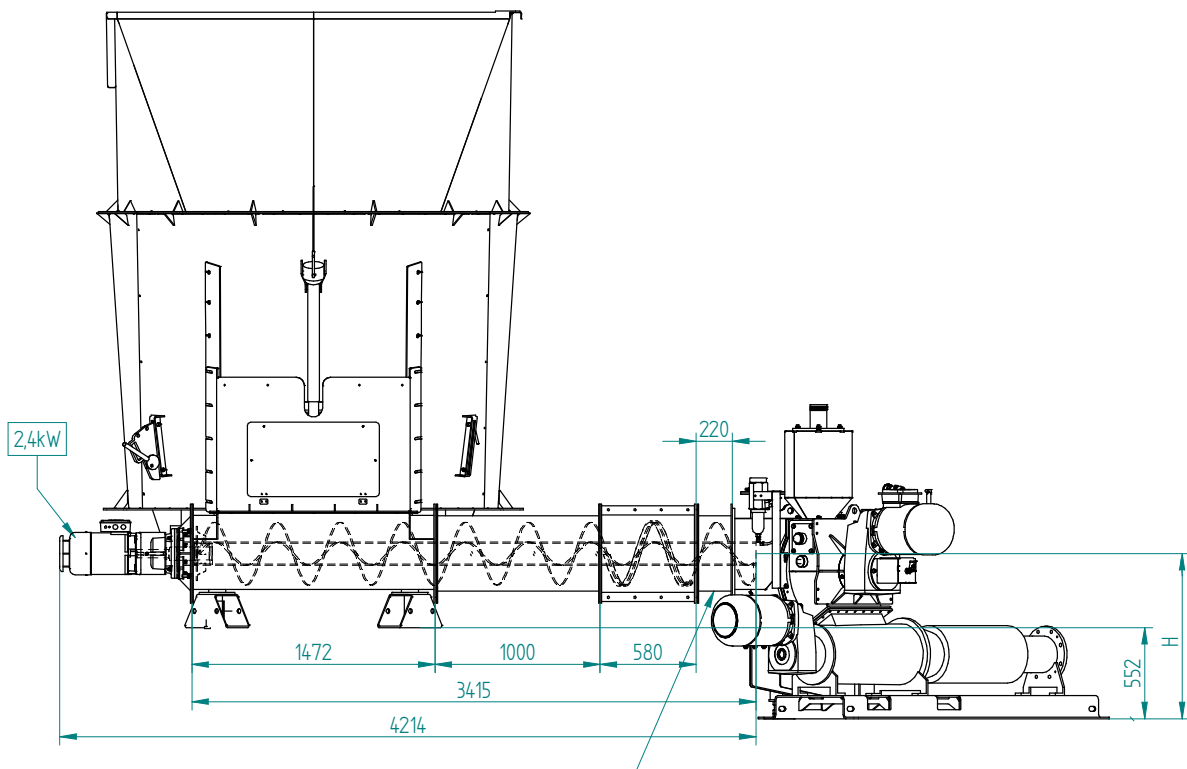
MultiMix Solo – bottom feed 45° angled – 3 m

Total kW: 24.2 + 3.6 + 5.5 = 34 kW



Example: MultiMix Solo – Premix – 1 m

Total kW: 24.2 + 2.4 = 27 kW



If the longitudinal and inclined screw conveyor (outer pipe) is longer than 7,000 mm, a transfer joint with an additional screw conveyor is installed. If the feeder auger is longer than 4,200 mm, the power output is increased accordingly.

PolyPro

Capacity: 23 m³ to 100 m³

This solid matter container is constructed from plastic and is suitable for storing and delivering various substrates and solid materials such as corn, grass, whole crop silage (WCS), manure, wood chips and many other substrates. The outstanding sliding properties of the plastic ensure permanent, effective feeding of even the most difficult substrates, such as manure with high and long straw content, wagon grass or round bales.

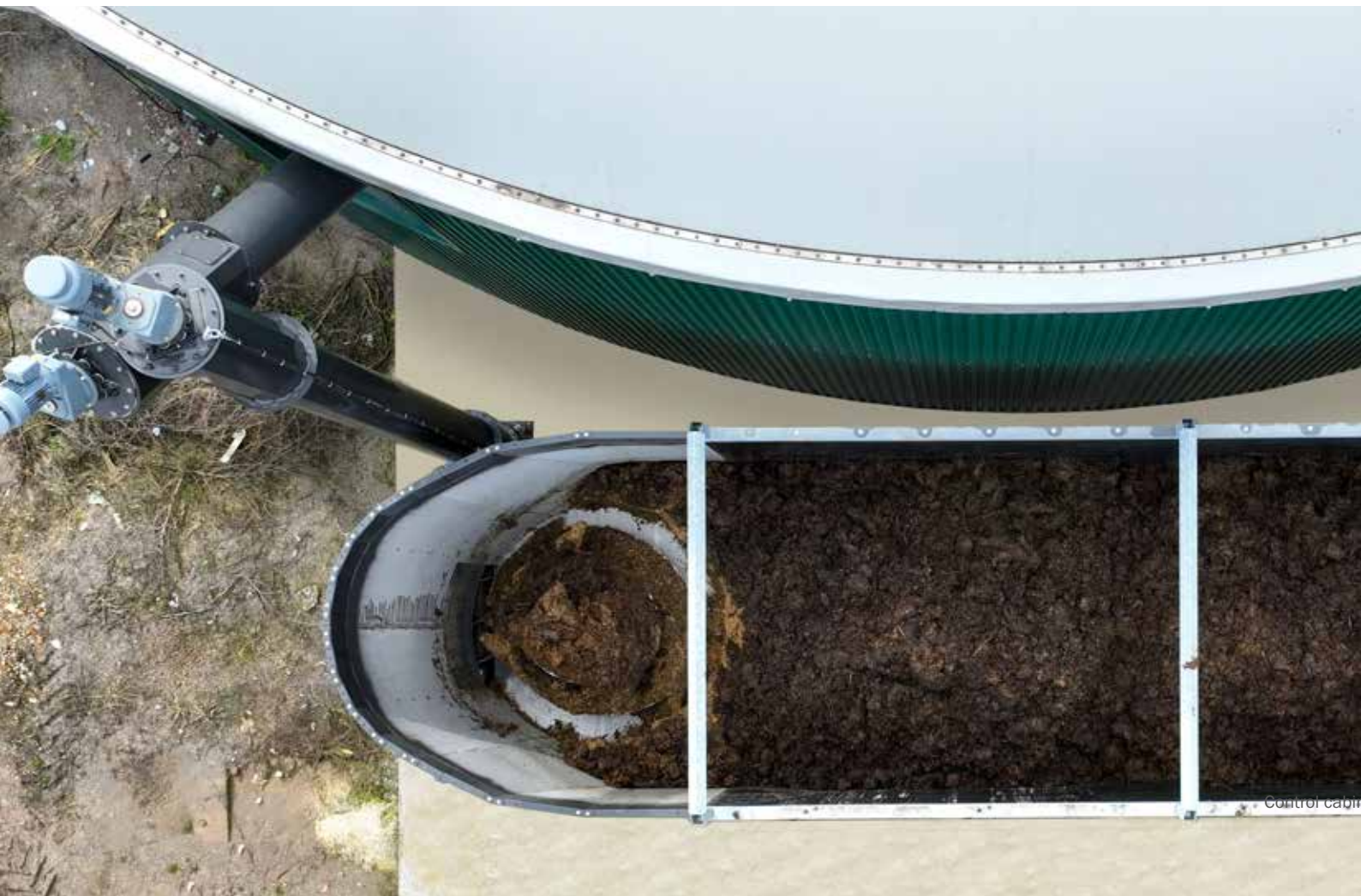
Ideal storage container in combination with the Fliegl "MultiMix" and "Rondomat" dosing system

- + Large capacity
- + High flexibility and adaptability
- + Resistant to water, alcohol, acids and alkalis
- + Resistant to UV radiation and temperatures from -85 °C to +90 °C

- Maximum gas yield thanks to uniform and reliable dosing via push-off technology
- Energy-efficient, from 0.15 kW per m³
- Low-maintenance and robust thanks to sturdy construction – push-off technology tried-and-tested in agricultural applications
- Push-off container made from shatter-proof polyethylene plastic
- Polyethylene floor and side walls are joined by means of a special welding method
- Sturdy outer steel frame with supporting feet
- Rear gutter for fluids with connection facility for ø 100/125 mm drain outlet







Tried-and-tested push-off system



Sliding floor and moving panel in V2A with PU sealing strips



Push-off system with hydraulic cylinder package



Effluent trough with Ø 100 mm connection

- Sliding floor: parts in contact with substrate and base frame in V2A
- Moving panel: parts in contact with substrate in V2A, base frame in painted steel
- Moving panel with replaceable lateral and bottom PU seals
- Sliding floor with replaceable plastic guide as wear material
- Reliable and robust due to minimal moving parts



Hydraulically folding roof structure



Hydraulic unit



Magnetic sensors / limit switches



Control cabinet

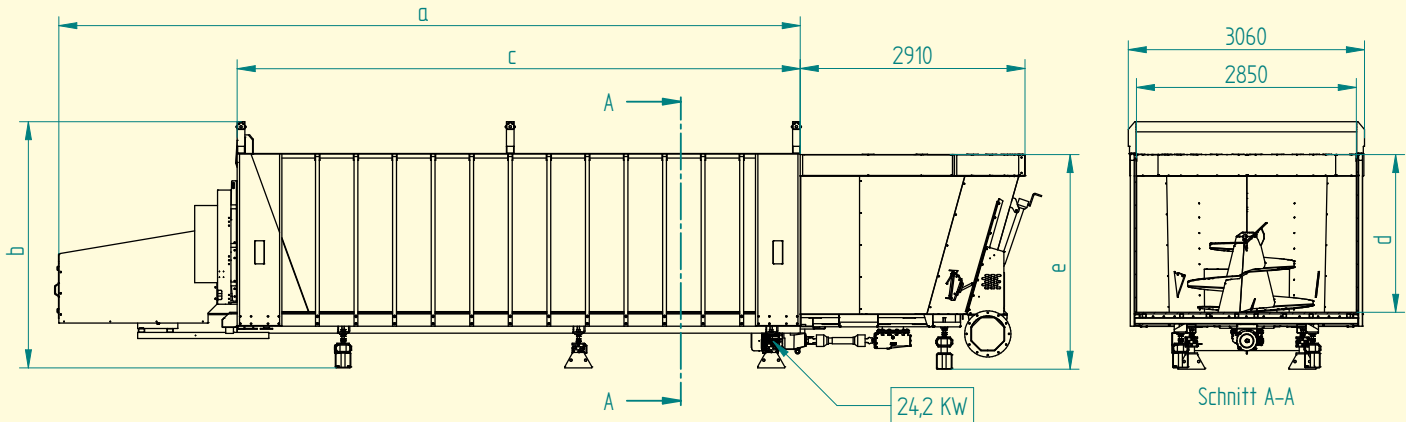
- Effluent leak-proof
- Economical due to low power consumption, low maintenance and wear, high throughput rates
- PolyPro made from corrosion-resistant polyethylene
- All parts of the sliding floor and dosing unit that come into contact with the substrate are made from stainless steel. The blades are made from special steel

MultiMix attachment

The MultiMix is also available as a combination system with the PolyPro push-off container. A capacity of up to 114 m³ can be achieved in this case.

This system combines all the advantages of both the MultiMix Solo and the PolyPro.

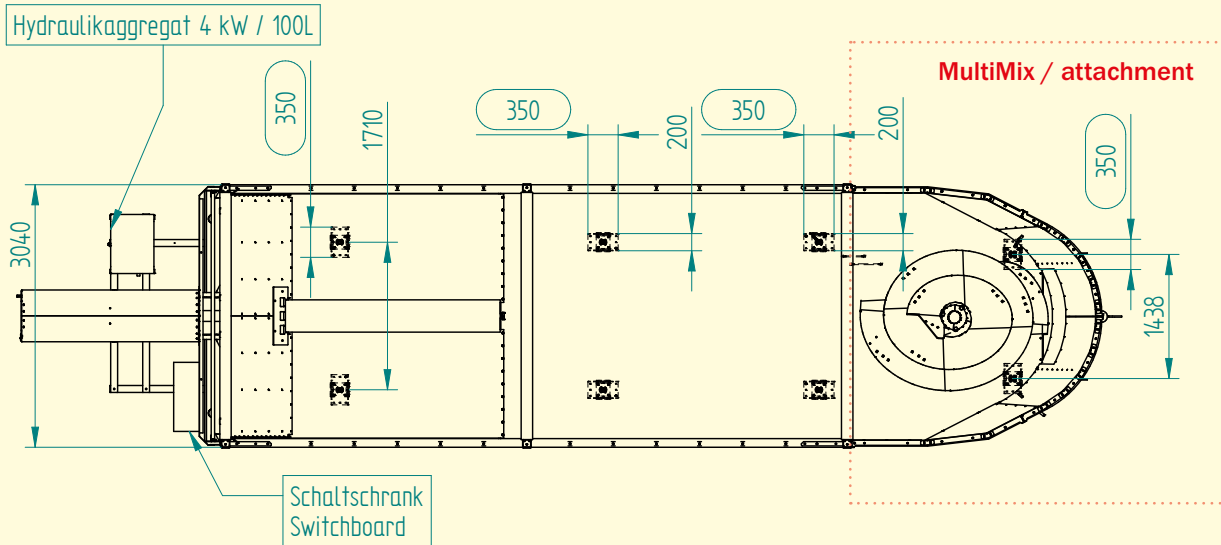




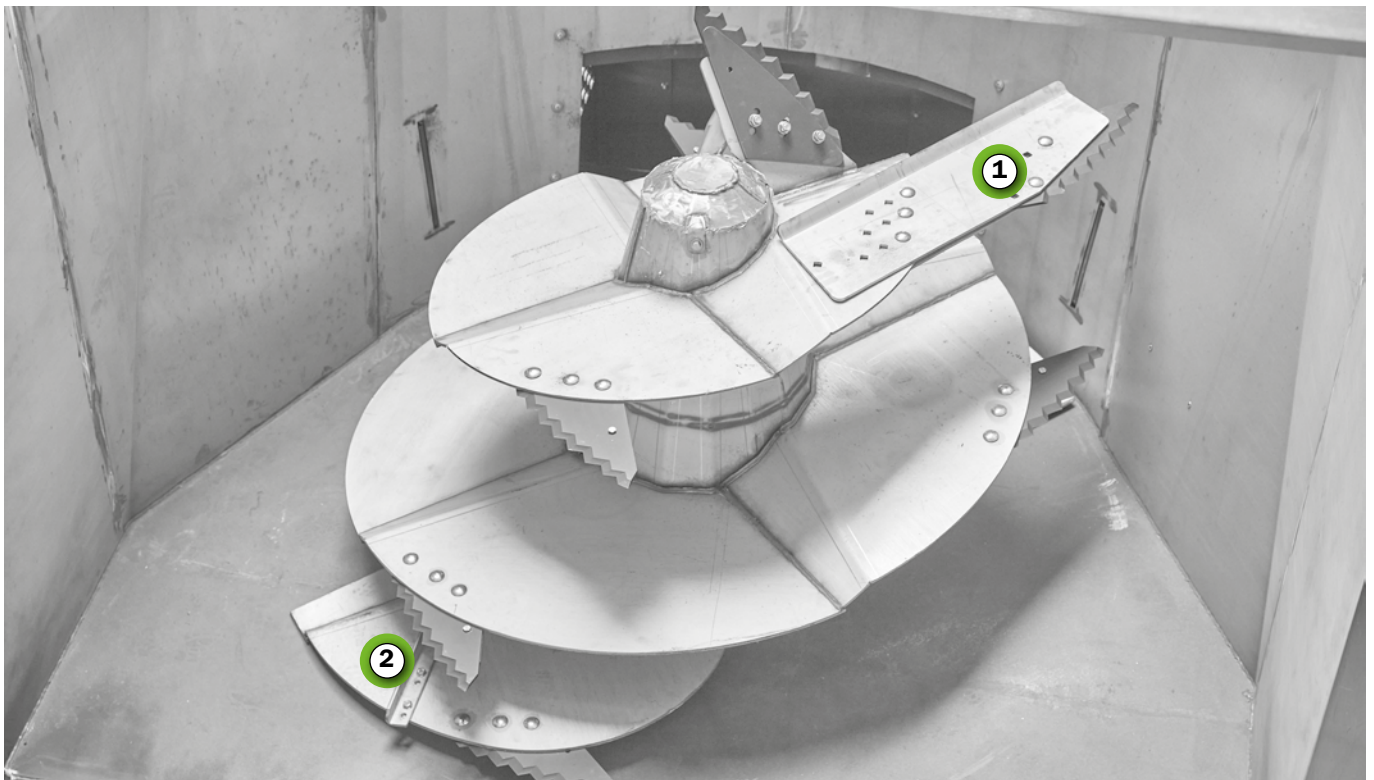
	PolyPro23 PolyPro23 SE*	PolyPro30	PolyPro42 PolyPro42 SE
Outside length	6,000 mm	7,500 mm	9,500 mm
Outside width	3,020 mm	3,020 mm	3,020 mm
Outside height	2,900 mm	2,900 mm	2,900 mm
Inside length	3,800 mm	5,300 mm	7,300 mm
Inside width	2,850 mm	2,850 mm	2,850 mm
Inside height	2,000 mm	2,000 mm	2,000 mm
Weighing feet	4	4	6
Filling weight PolyPro	14 t	17 t	24 t
Filling weight PolyPro + MultiMix attachment	18 t	21 t	28 t
Capacity PolyPro + MultiMix attachment	approx. 29 m ³ + 9 m ³	approx. 30 m ³ + 9 m ³	approx. 42 m ³ + 9 m ³

	PolyPro54	PolyPro60 PolyPro60 SE	PolyPro74 PolyPro74 SE Mega	PolyPro100 PolyPro100 SE Mega
Outside length	11,500 mm	11,500 mm	11,500 mm	15,400 mm
Outside width	3,020 mm	3,020 mm	3,020 mm	3,020 mm
Outside height	2,900 mm	3,200 mm	3,700 mm	3,700 mm
Inside length	9,300 mm	9,300 mm	9,300 mm	12,300 mm
Inside width	2,850 mm	2,850 mm	2,850 mm	2,850 mm
Inside height	2,000 mm	2,200 mm	2,800 mm	2,800 mm
Weighing feet	6	6	6	8
Filling weight PolyPro	31 t	34 t	44 t	59 t
Filling weight PolyPro + MultiMix attachment	35 t	38 t	48 t	63 t
Capacity PolyPro + MultiMix attachment	approx. 54 m ³ + 9 m ³	approx. 60 m ³ + 9 m ³	approx. 74 m ³ + 14 m ³	approx. 100 m ³ + 14 m ³

*SE = Standard Edition (PolyPro + MultiMix attachment)



	MultiMix / attachment	MultiMix Mega / attachment
Inside height	2,000 mm	2,800 mm
Weighing feet	2	2
Weight	2.5 t	2.9 t
Capacity*	approx. 9 m ³	approx. 14 m ³



Eight blades, suitable for a fibre length of up to 500 mm.

Optional: For difficult materials such as manure, a

① blade extension

② and two discharge angles are also available.



- Extremely low-maintenance and durable stainless steel container
- Durable vertical mixing auger with shredding function including eight blades and adjustable counter-cutting gear
- Maximum gas yield thanks to uniform dosing
- High-performance planetary gear
- Low-maintenance thanks to sturdy construction with low-wear spur gear motor
- Quick and simple assembly
- Suitable for all substrates; including difficult substrates such as long-fibre landscape conservation grass or manure with long-fibre straw
- Discharge opening manually adjustable with spindle; optional hydraulic adjustment
- Powerful gearbox



Gear oil compensation reservoir



Struts to stabilise the walls

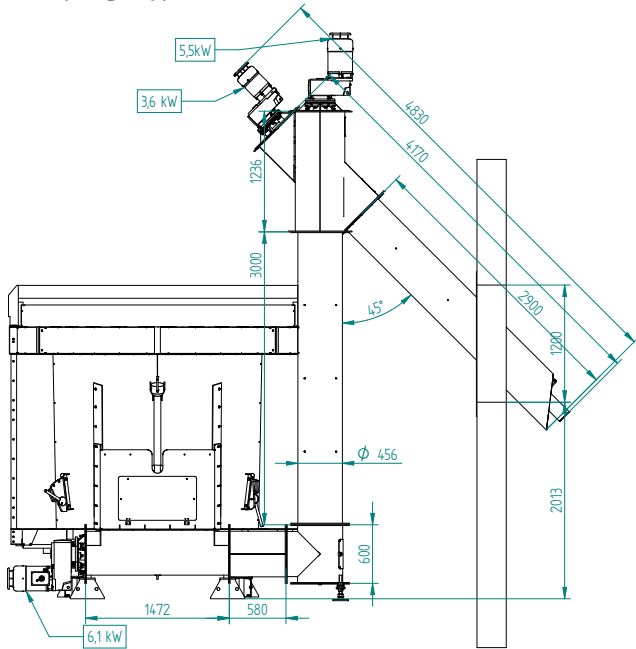


PTO drive with shear bolt

Feed technology – MultiMix attachment

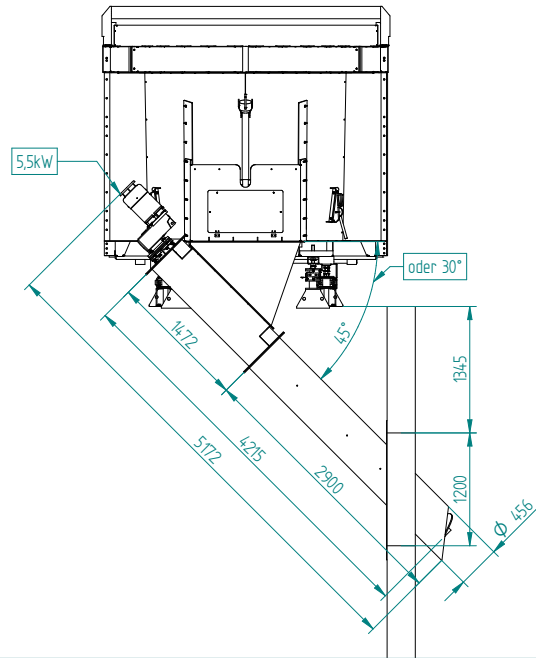
PolyPro42 + MultiMix attachment – top feed 45° – 3 m

Total kW:
 24.2 + 3.6 + 5.5 + 6.1 + 4 hydraulic unit = approx. 45 kW
 Amperage: approx. 90 A



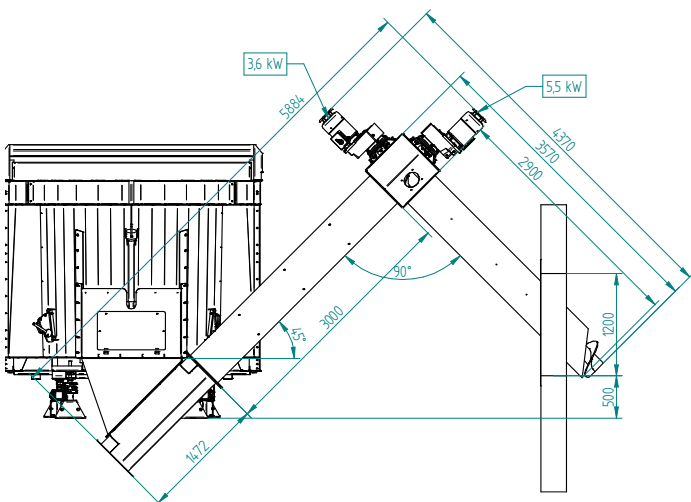
PolyPro42 + MultiMix attachment – bottom feed 45°

Total kW:
 24.2 + 5.5 + 4 hydraulic unit = approx. 35 kW
 Amperage: approx. 70 A



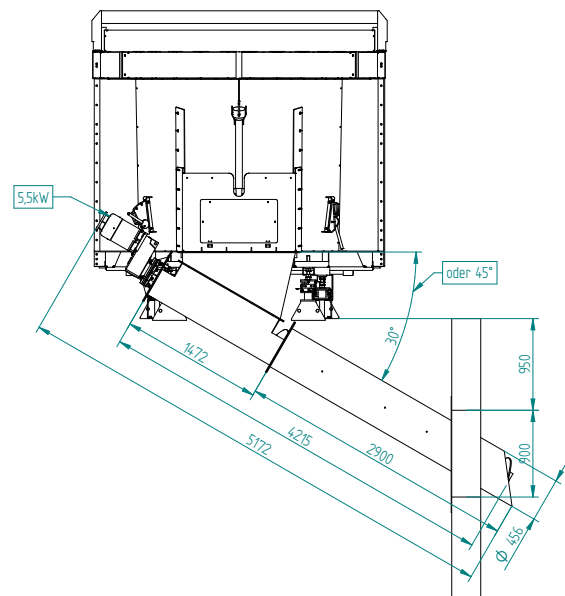
PolyPro42 + MultiMix attachment – bottom feed 45° angled – 3 m

Total kW:
 24.2 + 3.6 + 5.5 + 4 hydraulic unit = approx. 38 kW
 Amperage: approx. 76 A



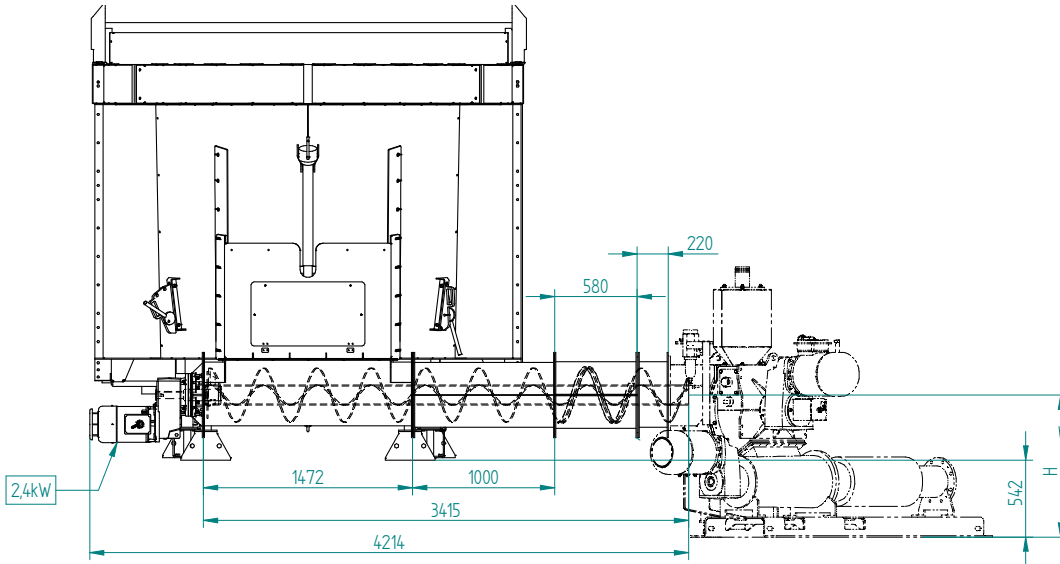
PolyPro42 + MultiMix attachment – bottom feed 30°

Total kW:
 24.2 + 5.5 + 4 hydraulic unit = approx. 35 kW
 Amperage: approx. 70 A



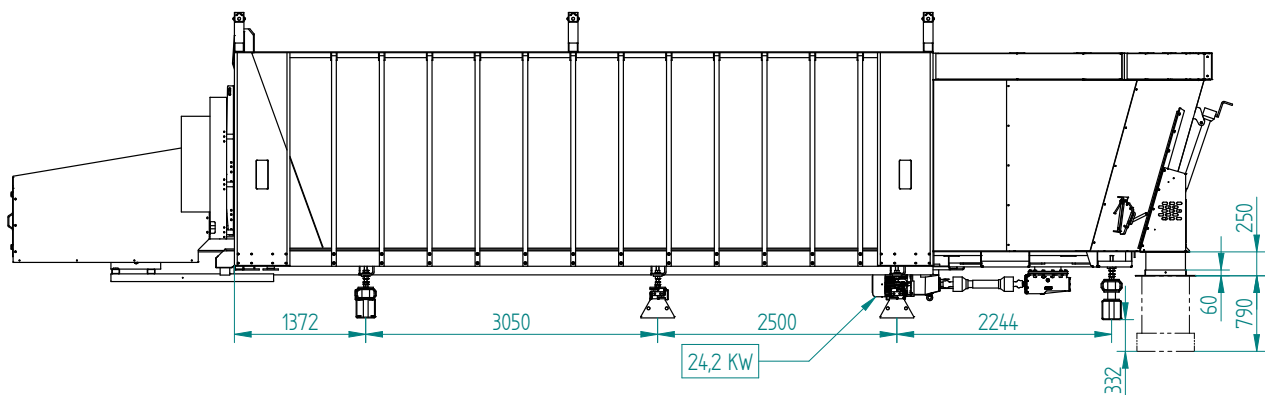
Example: PolyPro42 + MultiMix attachment – Premix

Total kW:
 24.2 + 2.4 + 4 hydraulic unit = approx. 31 kW
 Amperage: approx. 62 A



PolyPro42 + MultiMix attachment – Wangen

Total kW:
 24.2 + 4 hydraulic unit = approx. 28 kW
 Amperage: approx. 56 A



If the longitudinal and inclined screw conveyor (outer pipe) is longer than 7,000 mm, a transfer joint with an additional screw conveyor is installed. If the feeder auger is longer than 4,200 mm, the power output is increased accordingly.

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RONDOMAT SOLO 9-20 M³
RONDOMAT ATTACHMENT 40-123 M³



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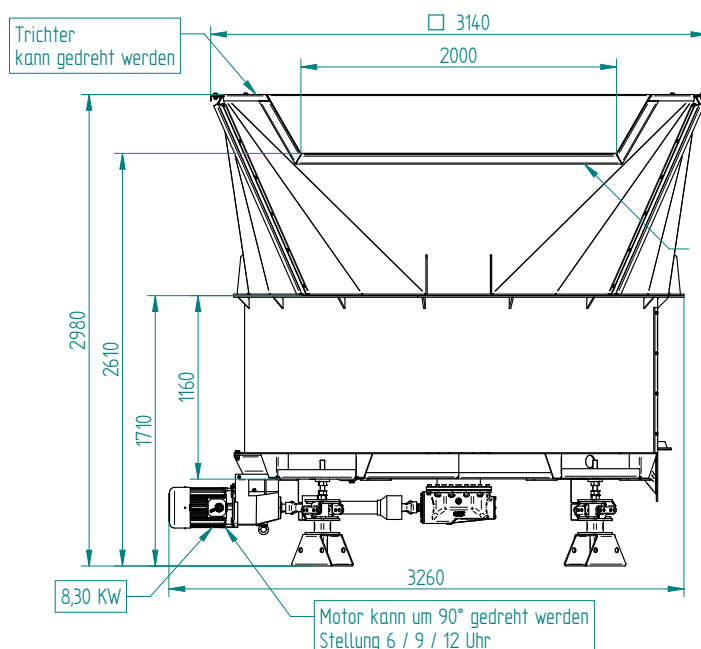
Rondomat 5.5 Solo

Capacity: 5.5 to 30.5 m³

The Rondomat Solo is a robust solid matter feeder for biogas plants. The energy-saving solid matter container is ideal for storing and delivering different chopped substrates and solids with short fibre length.



Optional: Stainless steel extractor blade with vertical auger on polyethylene base



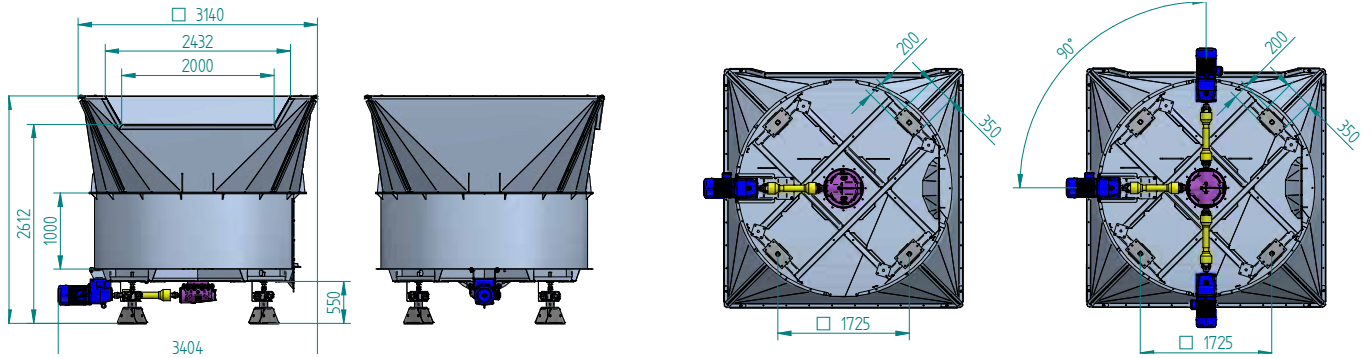
Rondomat Solo

Weighing feet	4
Weight	1.8t-3t

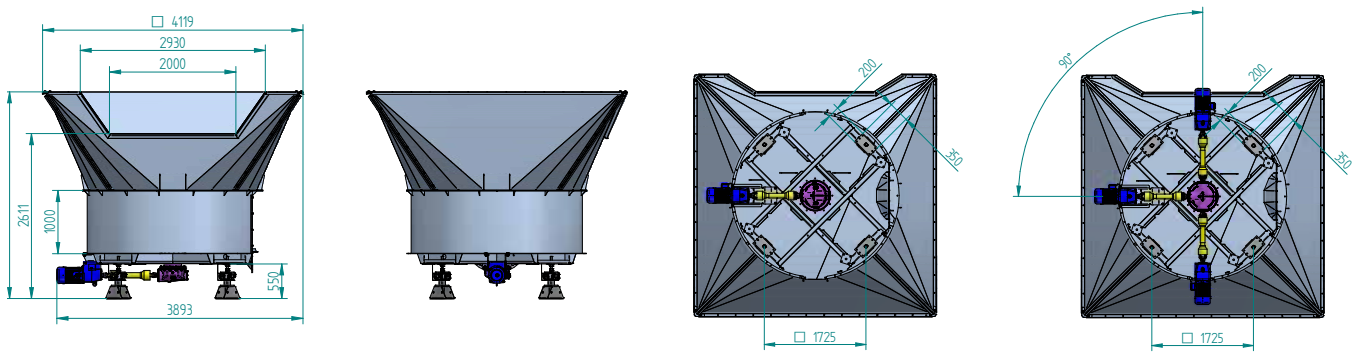
- The slow-turning tension extractor blade has a very low energy requirement.
- The special shape of the extractor blade in combination with the additional auger (optional) prevents bridging even with high manure content.
- Suitable for all biogas plants: with bottom, side or top feed

Rondomat Solo superstructures

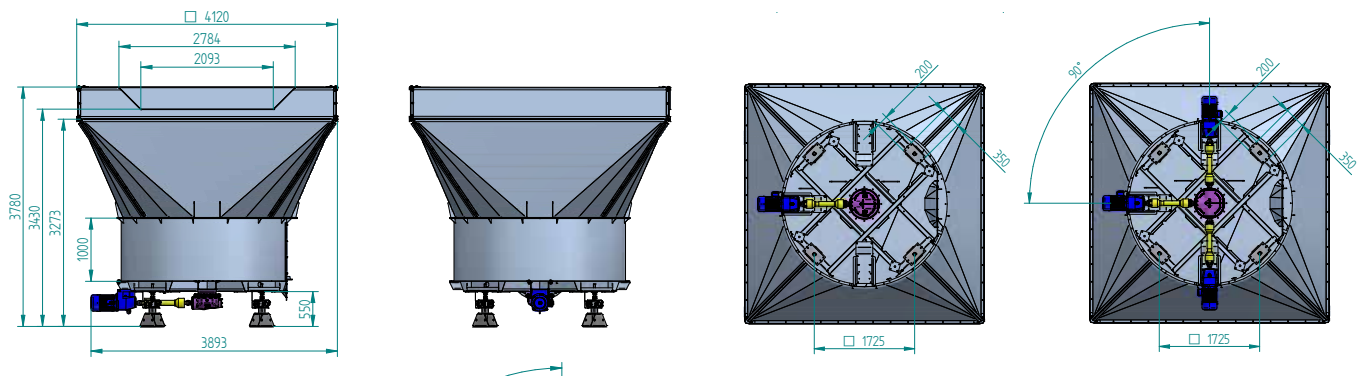
Trough 5.5 m³ / total 15.5 m³ / 5.5 + 10 m³ = 15.5 m³



Trough 5.5 m³ / total 22.5 m³ / 5.5 + 17 m³ = 22.5 m³



Trough 5.5 m³ / total 30.5 m³ / 5.5 + 17 + 8 m³ = 30.5 m³



For virtually all substrates



The slow-turning extractor blade has a very low energy requirement.

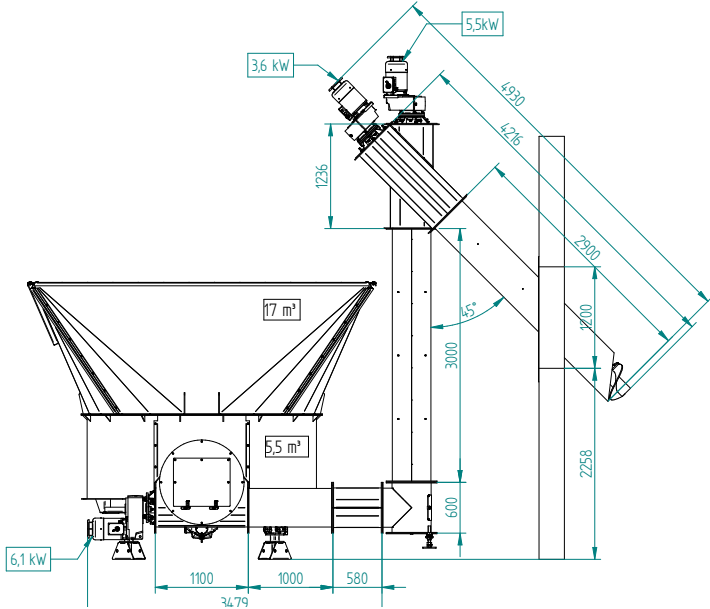


Additional auger for Rondomat joint

Feed technology – Rondomat 5.5 Solo

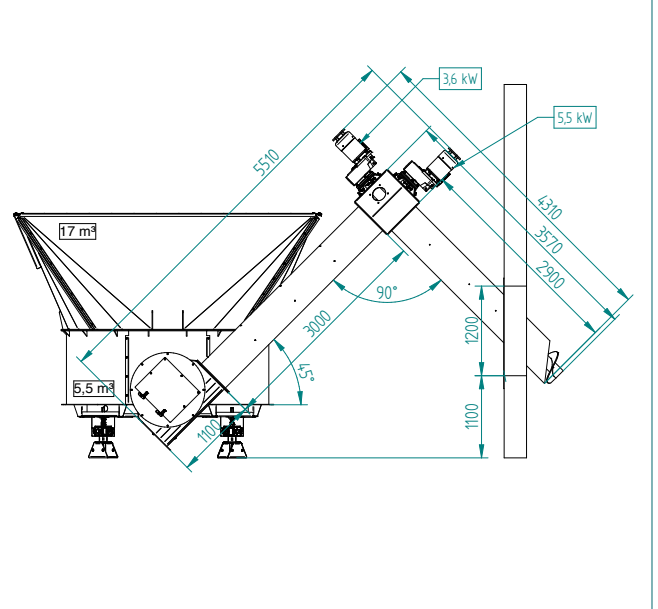
RDM 5.5 22.5 m³ – with feed opening – top feed 45° – 3 m

Total kW: 8.3 + 6.1 + 5.5 + 3.6 = 24 kW
 Total weight: approx. 2,504 kg



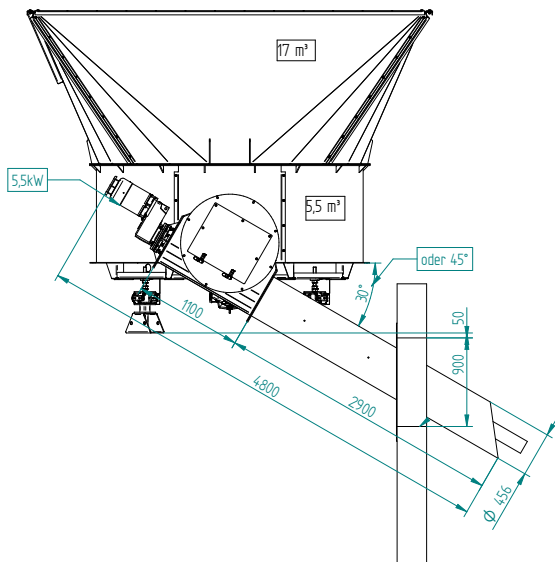
RDM 5.5 22.5 m³ – with feed opening – top feed 45° angled

Total kW: 8.3 + 5.5 + 3.6 = 18 kW
 Total weight: approx. 2,504 kg



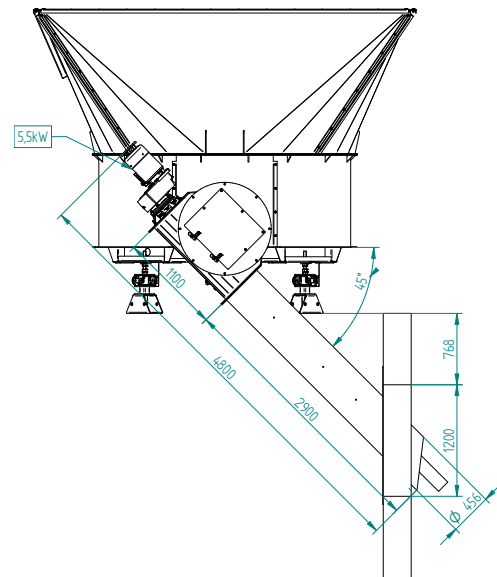
RDM 4.0 22.5 m³ – with feed opening – bottom feed 30°

Total kW: 8.3 + 5.5 = 14 kW
 Total weight: approx. 2,504 kg



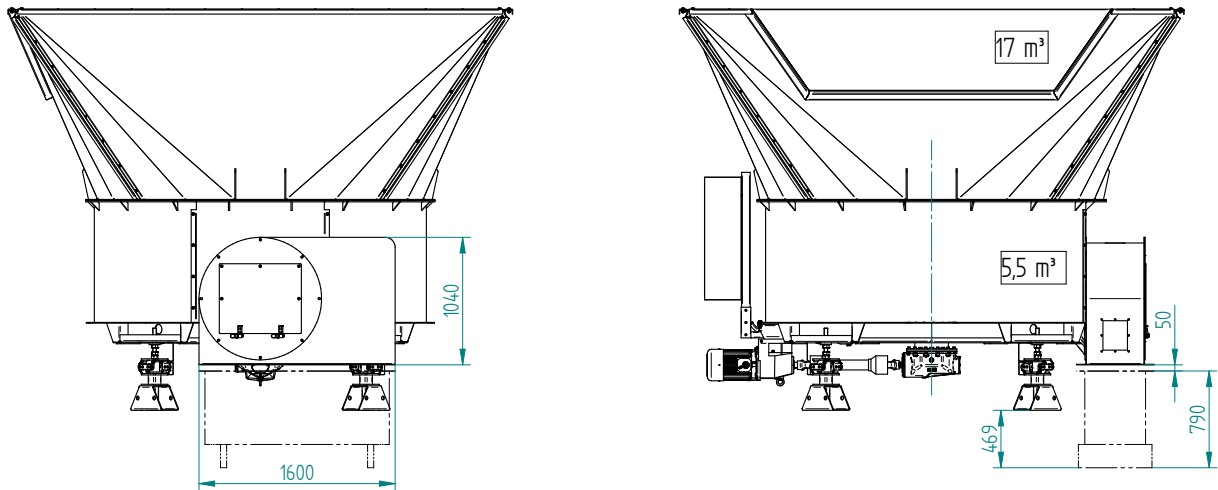
RDM 4.0 22.5 m³ – with feed opening – bottom feed 45°

Total kW: 8.3 + 5.5 = 14 kW
 Total weight: approx. 2,504 kg



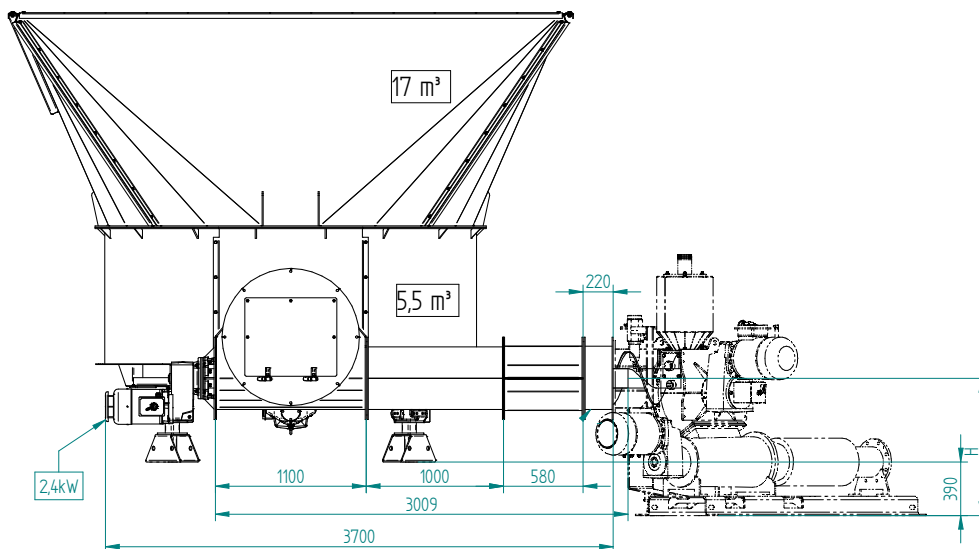
RDM 4.0 22.5 m³ – with feed opening – Wangen

Total kW: 8.3 kW
 Total weight: approx. 2,504 kg



RDM 4.0 22.5 m³ – with feed opening – Premix

Total kW: 8.3 + 2.4 = 11 kW
 Total weight: approx. 2,504 kg



If the longitudinal and inclined screw conveyor (outer pipe) is longer than 7,000 mm, a transfer joint with an additional screw conveyor is installed. If the feeder auger is longer than 4,200 mm, the power output is increased accordingly.



Rondomat attachment

Capacity: up to 123 m³

The Rondomat attachment combines the Rondomat with the PolyPro push-off container. This significantly increases the storage capacity up to approx. 123 m³. This system combines all the advantages of both the Rondomat Solo and the PolyPro.

ECONOMICAL

Low power consumption | low maintenance and wear
high throughput rates

RELIABLE

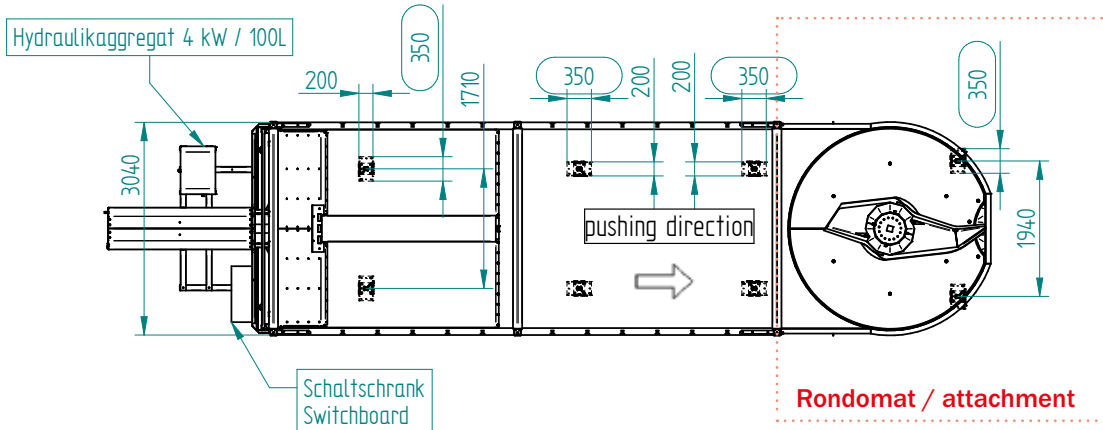
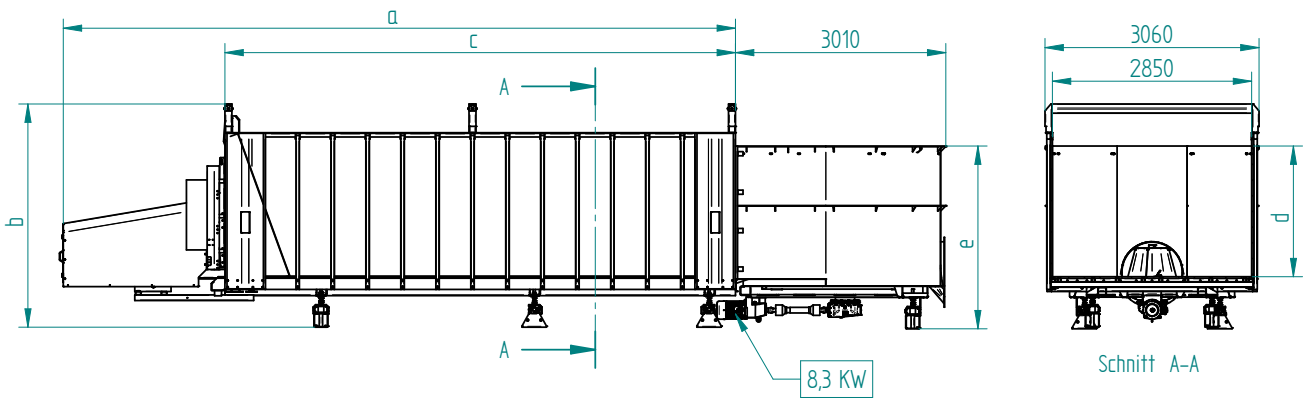
Precise dosing | proven weighing system | manufactured from V2A stainless steel

FLEXIBLE

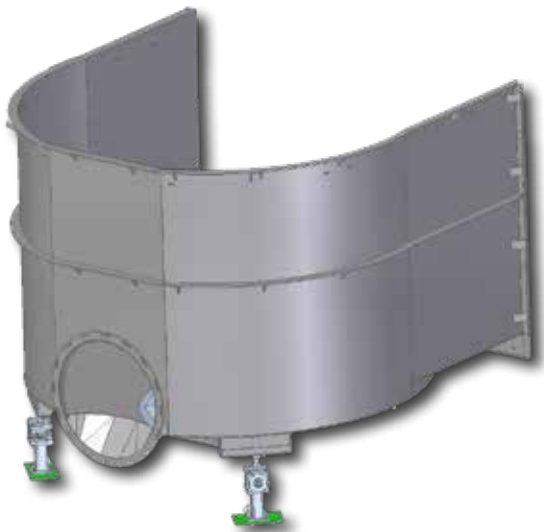
Different filling capacities | dosing via auger, pump, conveyor belt, etc. | Increased/targeted discharge capacity thanks to additional auger
compatible with existing conveying technology

SAFE

Few moving parts | 100% effluent leak-proof



Gesamt - kW =
 = 8,3 + 4 Hydraulikaggregat
 = ca. 13 kW
 Stromstärke = ca. 26 Ampere

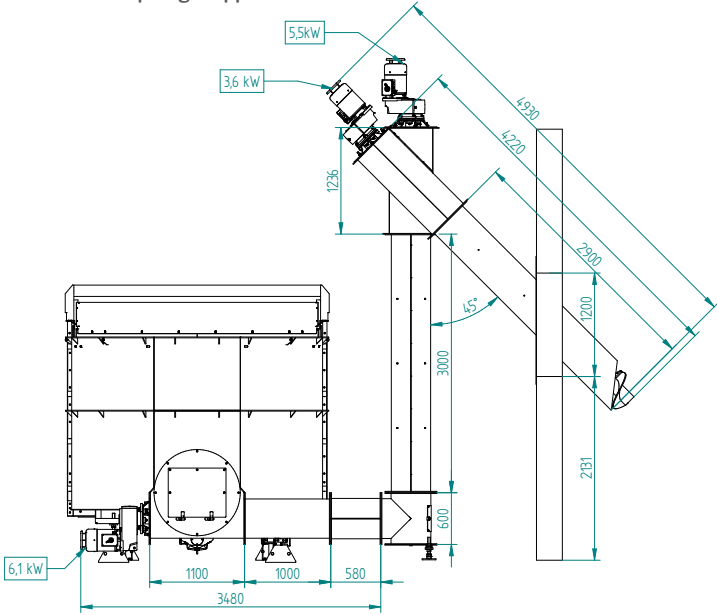


	Rondomat / attachment	Rondomat Mega / attachment
Inside height	2,000 mm	2,800 mm
Weighing feet	2	2
Weight	2.5t	2.9 t
Capacity*	approx. 17 m ³	approx. 23 m ³

Feed technology – Rondomat attachment* (examples)

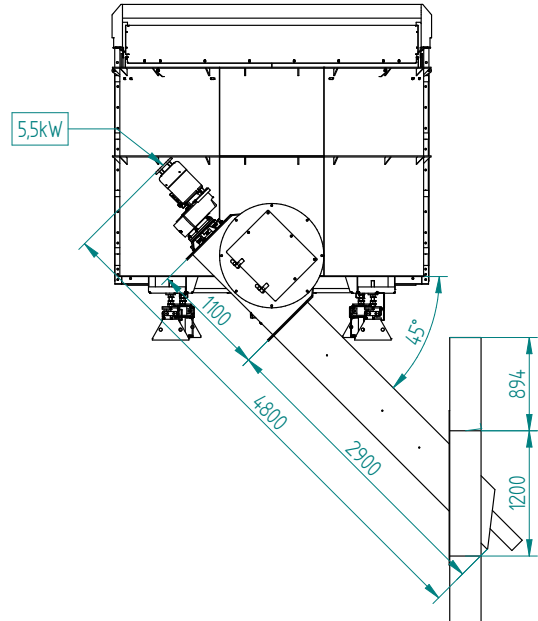
PolyPro42 + RDM attachment – top feed 45° – 3 m

Total kW:
 $8.3 + 6.1 + 5.5 + 3.6 + 4 \text{ hydraulic unit} = \text{approx. } 28 \text{ kW}$
 Amperage: approx. 56 A



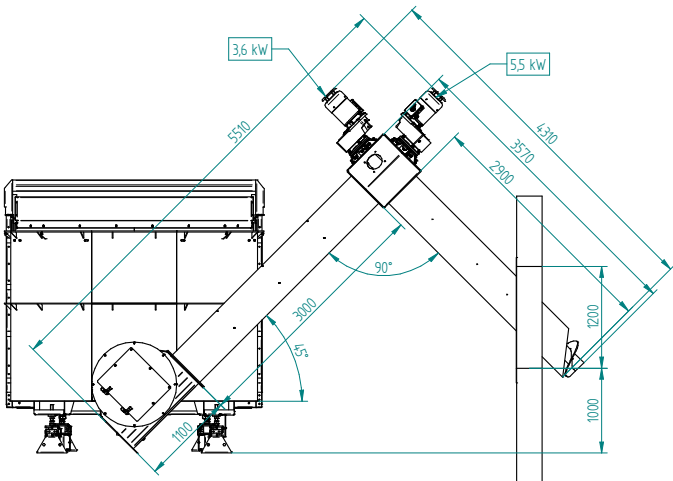
PolyPro42 + RDM attachment – bottom feed 45°

Total kW:
 $8.3 + 5.5 + 4 \text{ hydraulic unit} = \text{approx. } 18 \text{ kW}$
 Amperage: approx. 36 A



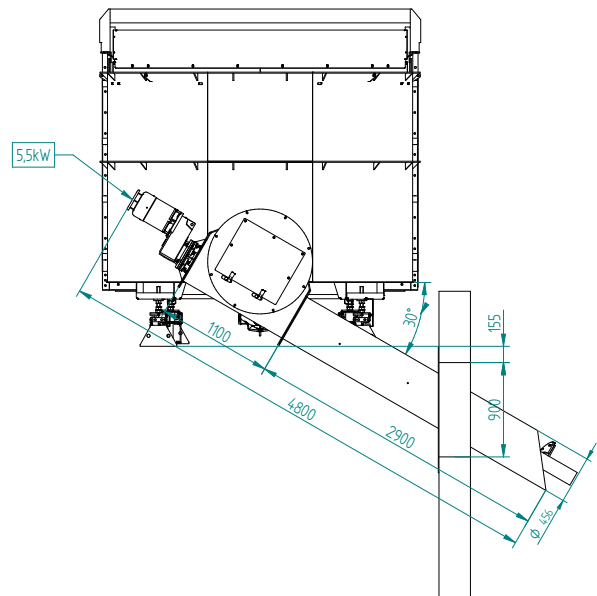
PolyPro42 + RDM attachment – bottom feed 45° angled – 3 m

Total kW:
 $8.3 + 5.5 + 3.6 + 4 \text{ hydraulic unit} = \text{approx. } 22 \text{ kW}$
 Amperage: approx. 44 A



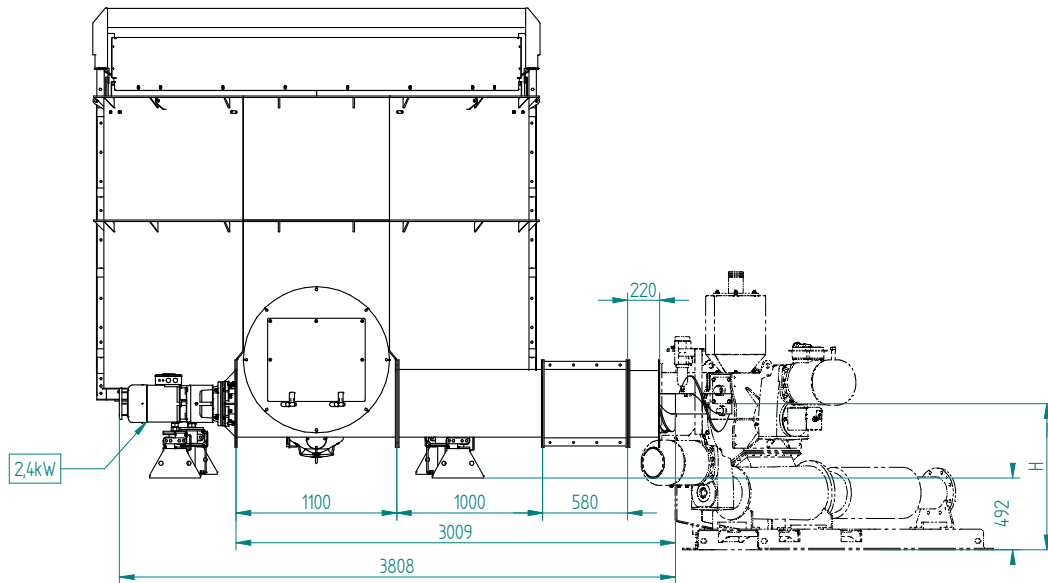
PolyPro42 + RDM attachment – bottom feed 30°

Total kW:
 $8.3 + 5.5 + 4 \text{ hydraulic unit} = \text{approx. } 18 \text{ kW}$
 Amperage: approx. 36 A



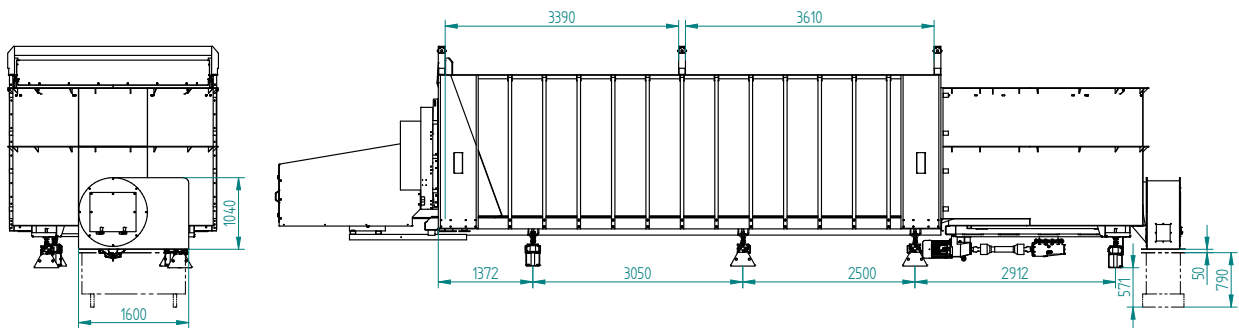
PolyPro42 + RDM attachment – Premix

Total kW:
 8.3 + 2.4 + 4 hydraulic unit = approx. 15 kW
 Amperage: approx. 30 A



PolyPro42 + RDM attachment – Wangen

Total kW:
 8.3 + 4 hydraulic unit = approx. 13 kW
 Amperage: approx. 26 A



If the longitudinal and inclined screw conveyor (outer pipe) is longer than 7,000 mm, a transfer joint with an additional screw conveyor is installed. If the feeder auger is longer than 4,200 mm, the power output is increased accordingly.

Equipment in detail



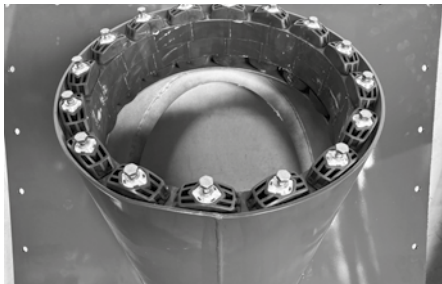
Auger flight with welded-on flat steel



Screw conveyor tube with PE half-shells



Trough auger with plug joint



Pipe-in-pipe connecting flange with link seal



Maintenance-free bearings



Additional auger for Rondomat joint - required for substrate lengths over 50 mm or for non-free-flowing materials



Feeder auger with PE flight



Attachment options for pumps, shredders or third-party systems

- Trough auger on Vogelsang Premix pump
- Transfer to shredder system
- Discharge hopper on Wangen pump
- Open transfer to existing conveyor system
- Trough auger on Wangen pump



Trouble-free conveying of substrate thanks to large transfer joints



Open transfer to existing conveyor system



Screw conveyor (casing tube) longer than 7,000 mm with transfer joint.

Digital technology in detail

Digital load cell



6-digit external display



Supporting foot with load cell, height-adjustable



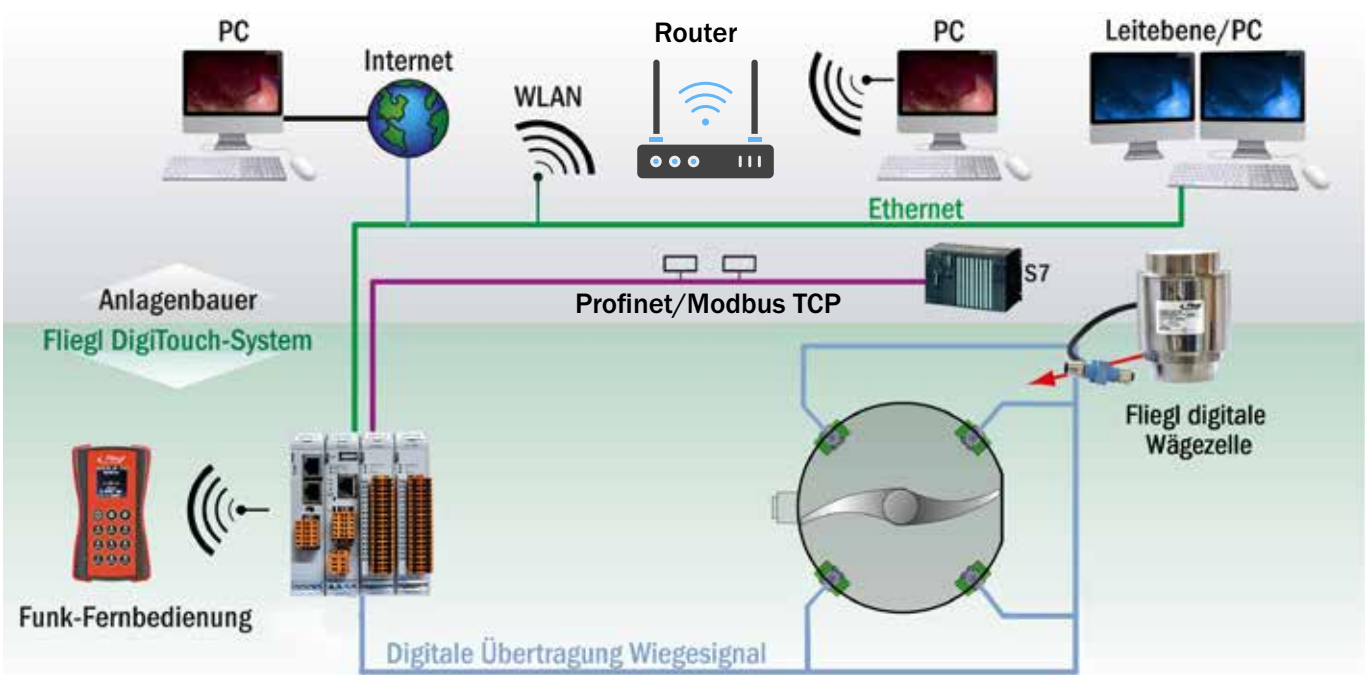
84-digit external display
Display: The total weight G and the preset weight R for a selected product.



Display: The total weight G and the weight F for the current fill quantity, recorded in ascending order.



Radio remote control with integrated display



Interfaces: Modbus/TCP - PROFINET/4..20 mA signal

Functional description

Biomat with MultiMix or Rondomat attachment

Once the screw conveyor has started, the spur gear motor on the planetary gearbox also starts. The extractor blade / vertical mixing auger in the Rondomat/MultiMix rotates until the desired quantity has been delivered or the screw conveyor moves too sluggishly. The spur gear motor on the planetary gearbox then pauses. Once the screw conveyor has run clear again, the spur gear motor on the planetary gearbox starts up again.

The current draw of the spur gear motor on the planetary gearbox is measured, and the sliding floor stops moving as of a configurable value exceeding X A. The solenoids remain in idle position.

As of a configurable value less than X A, the sliding floor moves since it can be assumed that the fill level of the Rondomat/MultiMix is low and substrate must therefore be replenished by the push-off unit. The solenoid valve for forward travel is actuated. In this case, the push-off process should ideally proceed at adjustable intervals: push for 4 to 8 seconds and wait for 8 to 80 seconds. Then push again briefly before waiting again. Push until the measured current draw has risen above the configurable value of X A. Then the solenoid valve of the hydraulic unit must pause. Once material has been conveyed out of the Rondomat/MultiMix and the drive can move freely again, the pushing operation continues at intervals.

Once the push-off process is completed and the push-off unit has reached the end of its travel, the magnetic sensor issues a signal. The moving panel should then reverse for approx. 10 seconds (adjustable), meaning that the solenoid for reverse travel is actuated, before moving forwards again (3 times by default, can be adjusted) to

ensure that any residue is pushed off. This means that 100% of the container's capacity can be utilised. This is referred to as the "emptying stroke": it keeps the push-off unit clear of residue, which would otherwise become stuck and dry out or rot after a few days.

Once the push-off container is completely empty (after 3 emptying strokes), has arrived at the rear magnetic sensor and the minimum weight has been reached, the container automatically travels all the way back to the front, where another magnetic sensor deactivates the solenoid valve and stops the hydraulic unit.

(For clarity, "rear" means at the Rondomat/MultiMix and "front" means at the hydraulic unit.)

The actuators are:

- Two solenoids on the hydraulic unit, 24 V
- The hydraulic unit
- The drive of the Rondomat, 8.3
Or MultiMix, 24.2 kW

The sensors are:

- The two magnetic switches at the front and rear in the side wall of the container
- The measurement of the current draw of the spur gear motor on the planetary gearbox
- The current weight of the scales in kg

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Dimensions, weights and technical data are subject to change.
Some images show special equipment.
Full catalogue 10-2024



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