

Doppstadt

INVENTHOR

TYPE 9

SLOW SPEED SHREDDER LINE



Best Solution. Smart Recycling.

doppstadt.com





**Discover the many advantages
of the largest mobile slow-speed
grinder made by Doppstadt.**

INVENTHOR TYPE 9

Innovation and technology for the future.

In the development of the INVENTHOR Type 9 we have leveraged the spirit of experience and innovation which has always been the company's hallmark. The result: A machine destined to set a new quality standard in the area of grinding technology.

NEW DEVELOPMENTS THAT MAKE A DIFFERENCE

The INVENTHOR Type 9 of our latest machine generation is based on the tried and trusted single drum principle used in the successful DW series and features a number of technological innovations. Among others, major changes affect a number of functional areas and components, such

as cooling unit, engine bay, material feed, grinding chamber and material discharge. Arguably the highlight is the off-the-shelf vario drive unit, VarioDirect Drive, which directly and continuously transmits power to the grinding drum and provides entirely new possibilities to further enhance efficiency and flexibility in the grinding process.

The grinding concept has also been thoroughly revised and updated at several key points, such as the grinding comb, which now has a comb flap that opens up to 120°. Overall, the grinding concept now ensures immediate machine availability following maintenance and service work and further improves operational safety.

SLOW SPEED SHREDDER LINE

The SLOW SPEED SHREDDER LINE encompasses all pre-grinding machines operating at low or high grinding speed. As it has become a distinctive feature of our company, our development approach focuses on solution-based thinking and puts the requirements and challenges of our customers in the center of attention.

Another valuable asset for the development of new machines is our extensive experience in the field of high-quality, forward-thinking recycling technology. All of this gives the INVENTHOR Type 9 the competitive edge over other grinding machines in this segment.

The new development of the entire drive train, the updated concepts for the infeed and grinding process, (including a stand-out monitoring concept), and the ability to tease out additional power reserves if so demanded by the grinding job make the INVENTHOR Type 9 a future-proof solution for almost all areas of application which easily handles a wide range of material requirements.

THIS IS DOPPSTADT

Doppstadt, the family-owned company based in Velbert, was founded in 1965. What started with the development of agricultural machines has turned into a leading worldwide solution and full-service provider in all areas of recycling/environmental technology and resource recovery.

„Best Solution. Smart Recycling.“ – under this motto we combine established procedures resulting in individual all-in-one solutions that distinguish themselves by innovative process workflows, maximum

efficiency and profitability. Especially in the field of water-based separation systems/wet recycling we can meet any requirements of our customers with flexible, tailor-made machines. From our company sites in Velbert, Wülfrath, Calbe and Wilsdruff, we serve customers in more than 40 countries, making use of our own dealer network and offering comprehensive services for all segments of the unique Doppstadt product range.

MACHINE-DETAILS



NEW COOLER DESIGN

Very efficient cooler geometry, right in front of the hydraulical, reversible cooler



NEW - PLUG AND PLAY

Easy machine operation concept facilitates routine work based on various program modes triggered at the touch of a button.



NEW - ENGINE COMPARTMENT

The available space has been optimized to provide easy access to all aggregates (e.g. engine components), the new transfer case with direct engine connection as well as to control systems such as Load Sensing.



NEW - FOLDABLE FEED HOPPER

Expands the feeding area and enhances the material feed process.



NEW - MATERIAL FEED AND GRINDING COMPARTMENT

The steep ascent of the feed hopper wall ensures maximum throughput rates. The flexible grinding concept based on various grinding packages allows for exact adaptation to the processing requirements of different materials.



NEW DRIVE CONCEPT

The new, patented VarioDirect Drive allows for continuous, variable power transmission directly to the grinding drum.



NEW CASING CONCEPT

For optimum accessibility, all doors open upwards. The GRP doors including vent slots efficiently reduce noise emission.



NEW - COMB FLAP

The comb flap opens up to 120°, providing easy access to the entire grinding compartment. It also further improves operational safety and ensures immediate machine availability following maintenance and service work.

NEW - REAR CONVEYOR OPTIONS

Using the new overall mounting unit different rear system configurations may be applied and easily exchanged. Thanks to selectable conveyor length variants, a great range of drop heights can be realized as well as continuously adjustable conveyor inclinations.



NEW - CHASSIS OPTIONS

Two chassis options are available for the INVENTHOR Type 9: semi-trailer configuration incl. travel drive and track-mounted configuration (remotely controlled).





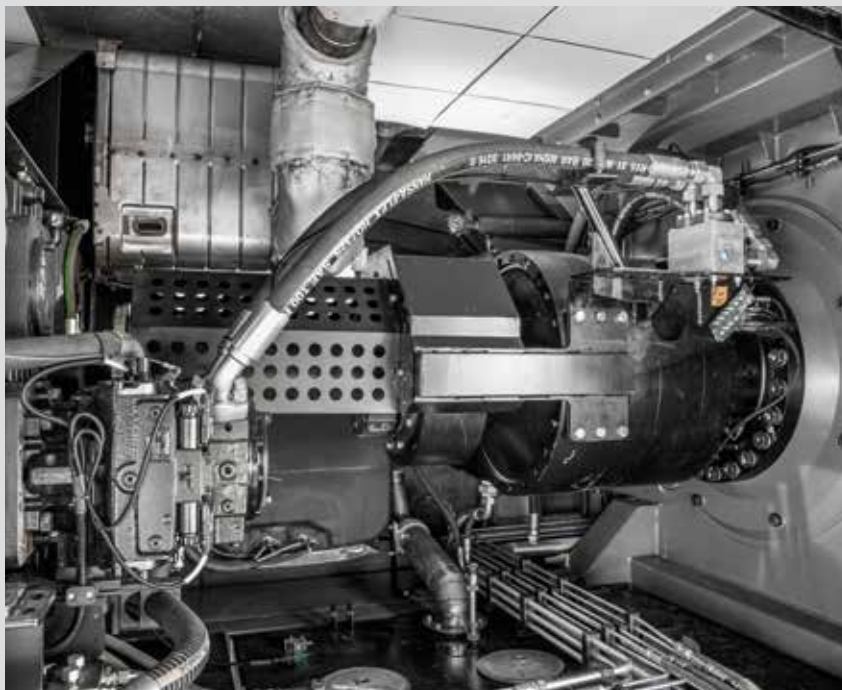
VARIODIRECT DRIVE

The new gear generation.

The new, patented gear system is able to cope with almost any grinding task. Even in difficult circumstances and when high requirements are put on the material, the tremendously flexible VarioDirect Drive operates at maximum efficiency.

SMART AND FLEXIBLE

The future-proof drive concept leaves nothing to be desired: The VarioDirect Drive stands out for a new reversing behavior towards the material, material-dependent rotational speeds and the inclusion of several material-specific modes of operation.



THE GRINDING CONCEPT

Proven and still improving.

The INVENTHOR Type 9 is used for on-site volume reduction, primary size reduction following homogenization in bio-mechanical treatment and recycling plants, for waste wood treatment and the homogenization process in thermal waste treatment. To satisfy such a variety of requirements, we have refined and enhanced the advantages and technical

qualities of the proven grinding concept applied in the DW series.

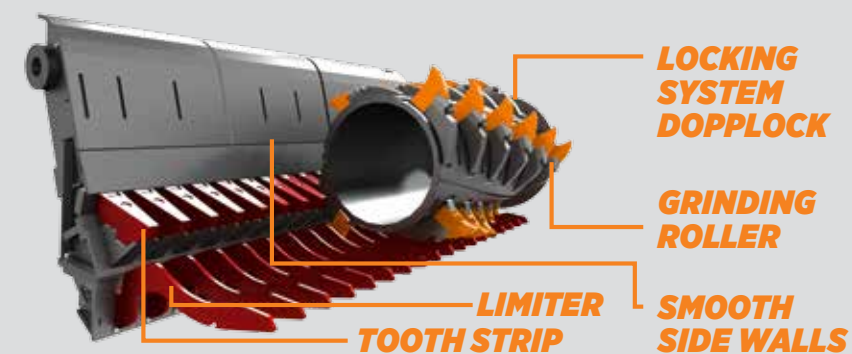
Grinding compartment: The steeper ascent of the drum walls in relation to the roller enhances the sliding ability of the material along the smooth side walls. The gap between grinding drum and lower band conveyor has been enlarged, resulting in reduced clogging

and better overall accessibility.

Grinding comb: Thanks to the comb flap which opens up to 120° the access to the grinding compartment has been made much easier which also enhances both operational safety and machine availability even after service work.

Limiter system & tools: A quick change of the grinding tools and limiters can be carried out with just a few motions. A new mounting concept for the limiters called for the separation of the wearing part from the suspension.

Grinding roller: The roller can be removed in an upward direction without having to apply slings. It is also possible to hydraulically turn the roller in order to change tools in an easy way.





INVENTHOR TYPE 9: A CLOSER LOOK

Efficient, flexible, performance-oriented.

Apart from the revolutionary **Vario-Direct Drive** and the updated grinding concept the INVENTHOR Type 9 combines a number of powerful components in an outstanding, future-proof machine solution Made in Germany. The interaction of the individual components results in **unprecedented throughput** rates and positions the INVENTHOR as a one-of-a-kind roller-based grinding system in the market.

The **new cooler** is hydraulically propelled and automatically regulates rotational speeds. In addition, a large frontal, upward-opening door ensures easy accessibility, making the cooler extremely maintenance-friendly.

The **further development of the engine compartment** makes maintenance and service work in this part of the machine easier. GPR-made, upward opening doors provide comfortable access to the entire engine compartment from either side. The space-efficient, well-organized positioning of the drive chain allows for easy accessibility of individual components and aggregates.

The **530 PS (ca. 522 HP) diesel engine** is fully compliant with exhaust emission standards Euromot IIIA and Euromot IV / Tier 4. From 2019, it will also comply with the requirements of emission category V.

The **enhanced transfer case** provides several outputs for hydraulic pumps. Because of the direct engine connection, a v-belt drive is not required. As a result, power is transmitted to the connected hydraulic pumps in a most efficient way, and the transfer case is extremely maintenance-friendly.

Thanks to the clever **Load Sensing system**, the flow rate of the hydraulic pump are perfectly adjusted to the requirements of the electrical consumer. This has the effect that the full function of the hydraulic system is available even at idle-running. Moreover, the system also ensures constant conveyor speeds when engine speeds

vary, while the additional hydraulic system is able to operate steadily thanks to the constant volume flow provided.

Depending on operational requirements, there are **several rear conveyor versions** to choose from (length 8.5 m for semi-trailer/track-mounted option, 7 m for semi-trailer/track-mounted option, 12 m stiff rear conveyor for the track-mounted option), all of which can be continuously height-and speed-adjusted. The **easy operational concept** is based on a comfortable, reliable 18-channel radio remote control.

New drive concept – new standards.

The INVENTHOR Type 9 is a genuine jack of all trades. This is not just due to the smart grinding concept and the many technology updates and enhancements – it is also owing to the many advantages of the new VarioDirect Drive:

MOBILE:

During operation, the running direction of the roller may be reversed.

SMART:

In the case of overload, automatic operation will be abandoned.

ADAPTIVE:

The drive unit allows for variable rotational speeds of the grinding roller.

SECURE:

In the case of malfunctioning, grinding operations are immediately abandoned.

POWERFUL:

The drum roller may be turned down to an almost complete standstill at idle-running so that the machine can also be started on-load.

FLEXIBLE:

The gear allows for the inclusion of various modes of operation.

TECHNICAL DETAILS

INVENTHOR TYPE 9		SEMI-TRAILER CHASSIS	TRACK-MOUNTED CHASSIS	
				
Total Weight	32,000 kg		35,000 kg	
Chassis	Center-axle trailer chassis Approved for 80 km/h, according to Road Traffic Licensing Regulations, incl. ABS		Track-mounted chassis for independent driving, two driving speeds	
Drive	Diesel engine		Diesel engine	
Type	MTU 6R1300*		MTU 6R1300*	
Nominal Output	390 kW (522,75 HP) at 1,800 min ⁻¹		390 kW (522,75 HP) at 1,800 min ⁻¹	
Exhaust Emission Standard	EUROMOT IIA or EUROMOT IV/Tier 4		EUROMOT IIA or EUROMOT IV/Tier 4	
Cubic Capacity	11,970 cm ³		11,970 cm ³	
Filling Capacity (Tank)	950 l		950 l	
Roller Drum Length	3,000 mm		3,000 mm	
Roller Diameter	600 / 800 mm		600 / 800 mm	
Roller Rotational Speed	– 5 to 32 min ⁻¹		– 5 to 32 min ⁻¹	
Conveyor Belt	Lower Conveyor Belt	Rear Conveyor Belt	Lower Conveyor Belt	Rear Conveyor Belt
Width	1,000 mm	1,200 mm	1,000 mm	1,200 mm
Length	4,450 mm	8,500 mm	4,450 mm	8,500 mm
Drop Height	5,050 mm		4,890 mm	
Conveying Velocity	1.3 to 2.9 m/s	to 2.0 m/s	1.3 to 2.9 m/s	to 2.0 m/s
Additional Equipment	Fine grinding system „Limiter“, grinding packages Sitze M, S or XL, hydraulic traction drive, rear conveyor length: 7 m, overhead magnetic system, folding hopper, hopper extension plates, moisturization system, winter package, LED lighting package.		Fine grinding system „Limiter“, grinding packages Sitze M, S or XL, rear conveyor length: 7 m, rear conveyor (rigid): 12 m, overhead magnetic system, folding hopper, hopper extension plates, moisturization system, winter package, LED lighting package	

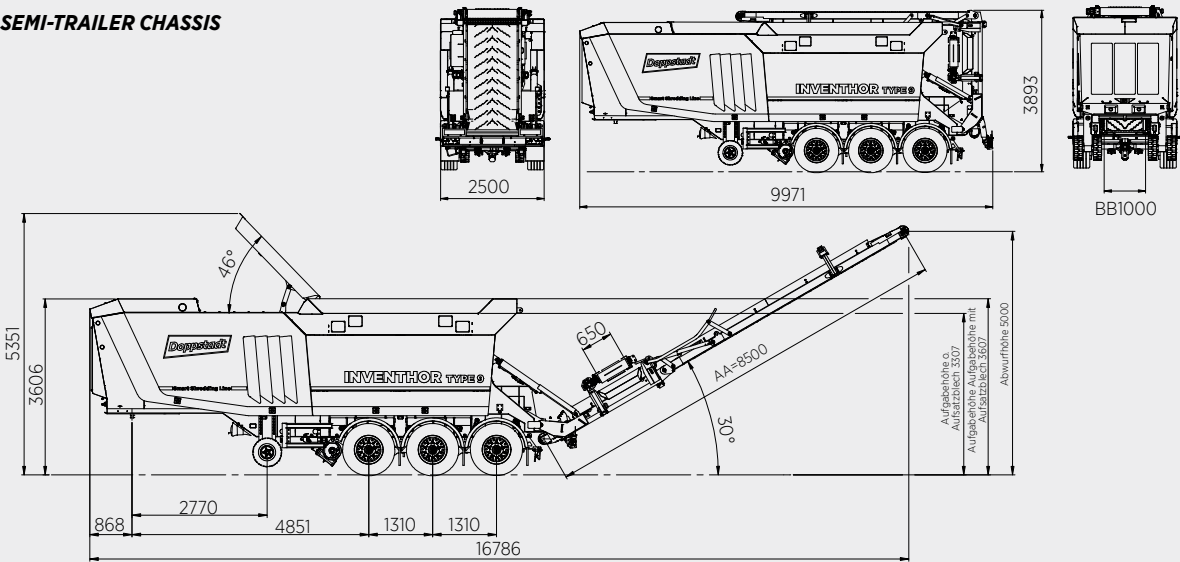
*MTU engines based on proven engine technology by Mercedes-Benz
As at December 2018 - subject to modifications. All indicated dimensions in mm. Specifications are to be considered approximate.
Illustrations and descriptions may contain additional or special equipment not included in standard shipment.

Standard Configuration

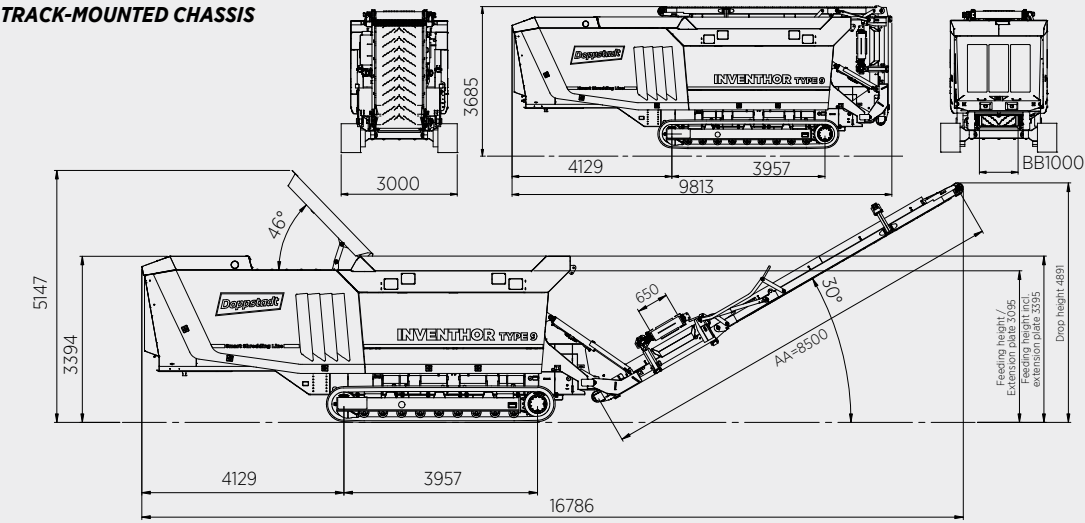
Grinding system Variomat Size L, 42 roller teeth, 174 mm C, armored comb tooth, wireless remote control, additional hydraulic connection (40 l/min or 70 l/min), rear conveyor length: 8.5 m, telematics system



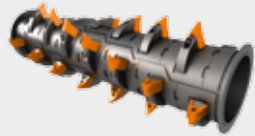

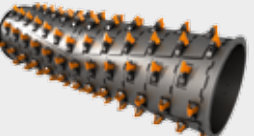
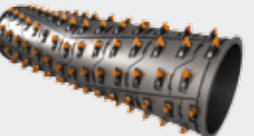
SEMI-TRAILER CHASSIS



TRACK-MOUNTED CHASSIS



GRINDING PACKAGES ROLLER INCL. TEETH + TOOTH STRIP + LIMITER (IF REQUIRED)

PACKAGE	SIZE XL (600/4)	SIZE L (600/4)	SIZE M (800)	SIZE S (800)
				
Type	Grinding Roller equipped with 28 teeth	Grinding Roller equipped with 42 teeth	Grinding Roller equipped with 100 teeth	Grinding Roller equipped with 145 teeth
Diameter	600 mm	600 mm	800 mm	800 mm
Tooth height	170 mm	174 mm	100 mm	60 mm
Limiter	15 x Limiter XL 600 (15 comb teeth)	20 x Limiter L 600 (20 comb teeth)	24 x Limiter M 800 (24 comb teeth)	30 x Limiter S 800 (30 comb teeth)
Core application areas	heavy waste / old growth	green waste / old growth / waste / roots	old growth / bulky waste (limited)	old growth only

Limiter system available for all tooth types
Limiter to be used with old growth – only limited use with other materials



December 2018

Setting new standards for the recycling process

- high flexibility thanks to a variety of grinding systems to choose from
- outstanding power reserves for the most demanding requirements
- immediate machine availability after service work and improved operational safety
- high-quality, future-proof technology
- reduced noise emission
- sophisticated monitoring of the entire grinding process
- maximum throughput rates



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