



ADDITIONAL EQUIPMENT



Slurry Tankers

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IDEALLY EQUIPPED FOR ALL TASKS

In order to adapt your slurry tanker perfectly to your operational requirements, we offer you a wide range of additional equipment. Because only tailor-made technology prepares you for all tasks in the field. Rely on the wide range of accessories and the proven garant quality.



FILLING

No matter where and how you want to fill your slurry tanker: the various garant equipment options allow you to put together the best solution for your business. Suction arms and docking stations offer maximum ease of operation; cutting unit devices protect the pump and spreading technology from foreign bodies. Filling aids increase the suction efficiency of vacuum slurry tankers, while filling domes enable external filling.

Front suction arm

Suction arms

Our garant suction arms enable you to fill your professional slurry tanker easily, quickly and safely – with no losses whatsoever. You stay clean and work comfortably and efficiently at the same time.



Suction arm with a swivel joint



Suction arm with two swivel joints



Suction arm Multi 3in1



Suction crane Profi XL

suction arms options

	Front suction arm	Suction arm with one swivel joint	Suction arm with two swivel joints	Suction arm Multi 3in1	Suction crane professional L, XL and XXL
<i>Docking height (m)</i>	ca. 1.30 - 5.00	ca. 1.30	ca. 1.30 – 4.30	ca. -2.5 – 4.30	ca. 1.3 – 4.30
<i>Positioning</i>	In the front hydraulic system of the tractor	right or left	right or left	right or left	on top of the container
<i>Special features</i>	· LED lighting · Ballast weights (up to 1,000 kg) · Parking supports	—	—	modular construction	swivels up to 270
<i>Suction pipe (continuous)</i>	NW 200 or NW 250	NW 200	NW 200	NW 200	NW 200
<i>Centrifugal pump / filling aid at the end of the suction arm for increased filling capacity (up to 12 m³/min)</i>	standard	optional	optional	standard	standard
<i>Further options</i>	Attachment in the rear optionally in the 3-point or mounting frame	—	PVC suction hose for pits	· Extension tube with suction cup · PVC suction hose for pits	· Drip tray · Telescope · Automatic parking position

Docking stations

If you store large quantities of slurry in pits or elevated tanks, docking stations in combination with a suction arm are a particularly efficient means of filling your tank. Our garant radio docking stations offer you maximum safety, especially when filling from elevated tanks.



Docking station for pits



Docking station Mini



Radio docking station for elevated tanks and pits

Docking station options

	Docking station for pits	Docking station Mini	Radio docking station
<i>Usable for ...</i>	pits	pits	elevated tanks and pits
<i>Three-point transport trestle</i>	standard	—	standard
<i>Support rollers for positioning</i>	—	standard	standard
<i>Suction line (continuous)</i>	NW 200	NW 200	NW 200 with hydraulic knife gate valve
<i>Quick coupler</i>	NW 200	NW 200	NW 200
<i>Special features</i>	—	Can be transported on the slurry tanker	<ul style="list-style-type: none"> Numerous safety functions (secured radio frequency, proximity sensor, PLC safety circuit with signal lamp for operating status, emergency stop switch, integrated tractor battery with charger). Optionally with NIR sensor and flow meter

Cutterbar device with stone trap

A cutterbar device with stone trap protects the pump, the pipes and the spreading technology from damage caused by foreign bodies. In addition, the slurry becomes much more free-flowing, so that blockages in the spreading technology are largely prevented. The optimum cutting force of the cutterbar device can be set manually or automatically.



Cutterbar device with stone trap

Filling aids

Filling aids help you fill your vacuum slurry tanker much more efficiently. They not only save time, but also achieve a significantly higher degree of filling in addition to creating a vacuum effect.

Another advantage is the low foam produced in pig manure. When handling cattle manure you avoid the vacuum-induced increase in volume. This means that the filling aid also protects the vacuum compressor.



Profi filling aid NW 200

Filling dome

Whether for regular filling or exclusively for maintenance – we offer the right filling dome variant for every need. In addition to simple mechanical filling domes with hinged or swivel lids, we also provide hydraulic alternatives.



Hydraulic filling dome with sliding lid for pump tankers



Hydraulic filling dome with hinged lid for vacuum tankers



Mechanical filling dome with swivel lid for vacuum tankers

Options filling aids

	NW 150 Standard	NW 200 Standard	NW 200 Profi
<i>Required oil quantity</i>	60 l	60 l	80 – 100 l
<i>mounting options</i>	front left or right under the tank at the suction arm	front under the container, suction possibility right and left via T-piece or at the suction arm	at the front under the container, suction possibility right and left via T-piece or at the suction arm

Options filling dome

	Filling dome with hinged lid	Filling dome with sliding lid	Filling dome with swivel lid
<i>Actuation</i>	hydraulic	hydraulic	mechanical
<i>Diameter</i>	600 mm	650 x 500 mm	450 mm
<i>Suitable for ...</i>	vacuum tankers	pump tankers	vacuum tankers



EMPTYING

With the two-chamber system and uphill and downhill emptying, we offer you tailor-made solutions for the efficient emptying of your slurry tanker.

Two-chamber system

With the garant two-chamber system, you can optimise the drawbar load on the tractor, especially on slopes. The principle is simple and smart: the inside of the slurry tank is divided into two chambers. There is more slurry in the front chamber during the spreading process than in the rear chamber. This ensures that a sufficient drawbar load is maintained on the tractor, especially when driving uphill.

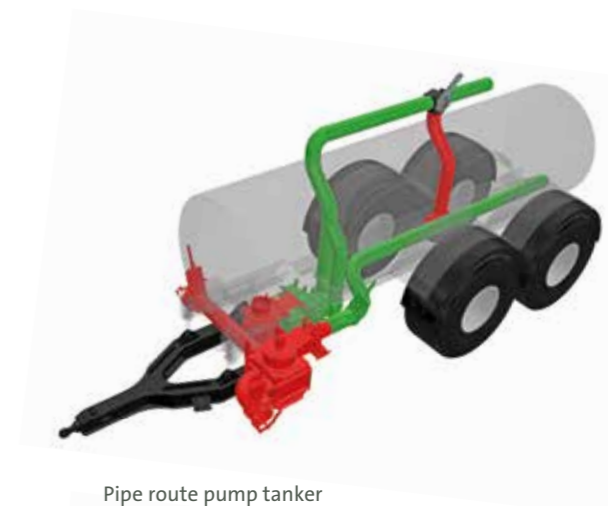
This is how the two-chamber system works: the front baffle in the container is closed at the top. An overhead pipe connects the first with the second chamber. If the two-chamber system is activated, first the rear chamber and then the front chamber are emptied during spreading. If the liquid level in the rear chamber drops below the edge of the baffle, the liquid manure gradually flows on.



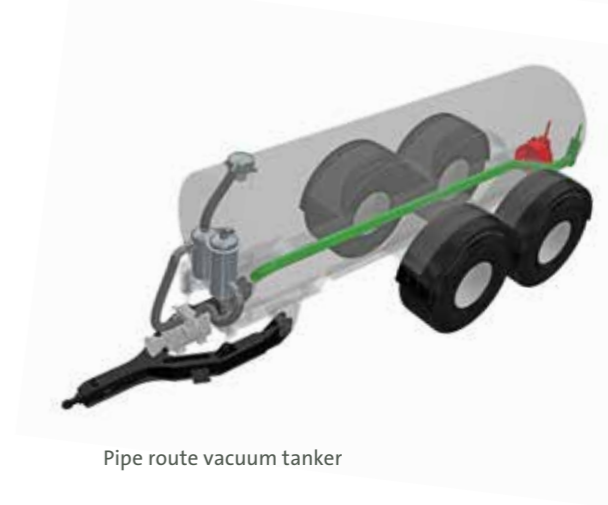
Baffles in the two-chamber system

Slope emptying

When operating uphill or downhill, pump or vacuum tankers are not completely empty. The solution: the garant slope emptying system for optimally emptying the tanker tanker when operating on slopes. An additional pipe in the tanker moves the liquid manure from the lowest point in the tank to the pump or spreading technology even when driving uphill or downhill. This systems enables to completely empty the tanker and the full volume of the tank is utilized.



Pipe route pump tanker



Pipe route vacuum tanker



MEASUREMENT AND CONTROL

The requirements for process safety and documentation are constantly increasing – for quality reasons, for ecological reasons and for economic reasons. garant technology enables you to keep track of all values in an easy and reliable manner: Flow meters or a rotary lobe pump with on-board hydraulics allow you to precisely measure and control the application rates. And with the help of intelligent sensors, you can determine the nutrients in the slurry and make optimum use of them.

NIR sensor

Know what's inside. A near-infrared sensor (NIR sensor) allows you to determine the precise ingredients of the liquid manure in real time. While you are filling your container or spreading the slurry, the NIR sensor measures the total nitrogen, ammonium nitrogen, phosphorus, potassium and dry matter content. This measuring method ensures easy and reliable compliance with the legal requirements. In addition, you can spread the liquid manure on the basis of nutrient target values and limit values in kilograms per hectare as required.

We have our NIR sensor NutrientContent-Lab (NCL 2.0) for you in our programme. Alternatively, the John Deere HarvestLab 3000 can also be integrated into our controllers.



garant NCL 2.0



NIR sensor on pump tanker

Flow meter

An inductive flow meter continuously determines the amount of liquid manure spread in a measuring range from 0.5 to 12.0 cubic metres per minute. The current value can be read on a digital display at any time. If desired, you can also actively control the spread rate.



Flow meter

Metering systems

If your slurry tanker is used in several plants, the operating hours or the drums driven are the basis for an exact accounting. Our metering systems provide the data you need, conveniently and efficiently.

A vibration meter records the operating hours of your slurry tanker by means of vibrations. If your vacuum or pump tanker is equipped with a float ball, you can alternatively use a drum counter.



Vibration meter



Drum counter

On-board hydraulics for rotary lobe pumps

Pump tankers with rotary lobe pumps can be optimally controlled via on-board hydraulics. This is because the on-board hydraulics drive the rotary lobe pump via a separate unit and make it independent of the tractor PTO shaft speeds. A speed sensor on the pump measures the flow rate. This allows you to control the desired application and nutrient quantity via the on-board hydraulics without delay and in an infinitely variable manner. The technology only delivers the quantity you really need and thus avoids unnecessary wear on the pump. No additional flow meter or gearbox is required.



Pump tanker with on-board hydraulics

Pressure accelerator

For application techniques with large working widths or high output rates, a pressure accelerator can also be selected. This ensures a high distribution accuracy and a steady, high-pressure flow of manure. Depending on the design of the pressure line, this is designed in NW150 or NW200 and thus ensures efficient feeding of the attached application technology.



Pressure accelerator on the vacuum barrel



LIFTING GEAR

Our durable and robust garant three-/four-point hydraulics are the basis of your success. Choose between sizes L, XL, XXL and HD depending on your requirements.

Four-point hitch HD

Lifting gear options

	Four-point hitch size L	Four-point hitch size XL	Four-point hitch size XXL	Four-point hitch HD
<i>Maximum tractive force (t)</i>	2	3	4	4
<i>Maximum lifting forces (t)</i>	up to 4.25	up to 7.5	up to 7.5	8
<i>Suitable for ...</i>	<ul style="list-style-type: none"> · Drag hose or drag shoe distributor up to 30 m · Lightweight break-in equipment up to 2 t 	<ul style="list-style-type: none"> · Drag hose distributor up to 30 m · Drag shoe distributor up to 24 m · Heavy working equipment up to 3 t 	<ul style="list-style-type: none"> · The heaviest tools up to 4 t · Drag hose splitter up to 36 m · Drag shoe distributor up to 30 m 	<ul style="list-style-type: none"> · The heaviest tools up to 4 t · Drag hose splitter up to 30 m · Drag shoe distributor up to 24 m
<i>Reinforced rear panel 8 mm</i>	—	standard	internal, welded reinforcement elements	standard
<i>Bracket for cross beam for top link</i>	optional	standard	standard	standard
<i>Lower link with catch pockets and safety hook in cat. 3, optionally also cat. 2</i>	standard	<ul style="list-style-type: none"> · standard · additionally reinforced 	<ul style="list-style-type: none"> · standard · additionally reinforced 	<ul style="list-style-type: none"> · standard · Cat. 2 not possible
<i>Manhole</i>	flat manhole cover at the rear of the container	manhole cover, offset to the side of the container	manhole cover, offset to the side of the container	manhole cover, offset to the side of the container

◀ The HD four-point hitch has the lower links mounted to swing in the working position, which reduces the force on the slurry tanker significantly. When in transport position, the lower links are automatically fixed through mechanical side stabilizers, which significantly increase driving stability. This significantly increases driving stability. Alternatively also hydraulic side stabilizers can be used, if desired.



Four-point hitch XL



OTHER

The most efficient possible spreading of liquid manure not only benefits you, but also the environment. It enables you to improve your work processes and also makes optimum use of nutrients. To further increase efficiency, we offer you various additional equipment options.

Tyre pressure control system

Our tyre pressure control systems allow you to work three times more efficiently. Lower the tyre pressure in the field, increase the contact area and thus reduce the pressure on the ground. On the road, you can reduce rolling resistance by increasing tyre pressure and thus significantly reduce diesel consumption. This also reduces tyre wear.

We offer you only proven and reliable tyre pressure control systems from the manufacturer PTG (single and dual pipe systems). Depending on the size of your slurry tanker, the number of tyres and the tyre size, different compressor systems are available. Depending on the tyre size and air capacity of the compressor, the pressure can be increased from 1.5 bar to 3.5 bar within 2.5 minutes.

A supply via the tractor compressor is a possible option. You can also choose the patented PTG quick release valves.

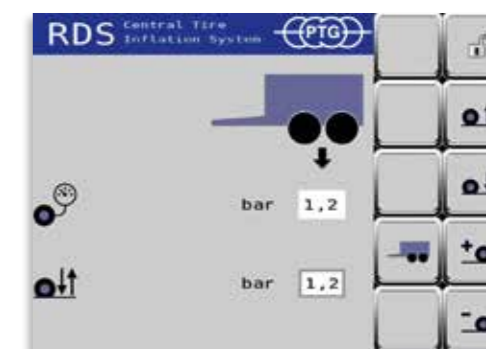
The PTG tyre pressure control system is operated via its own terminal. If desired, the PTG system can also be operated via ISOBUS as a separate participant.



PTG multi-cell compressor V4000



PTG Tyre pressure control system with two-pipe system



PTG ISOBUS view

Dosing device for nitrification inhibitors

Nitrification inhibitors increase the efficiency of liquid manure, especially on light soils. Nitrification inhibitors prevent the ammonium nitrogen that is immediately available to the plants from being washed out. A dosing system for nitrification inhibitors offers numerous advantages. Thanks to the storage tank, you don't have to constantly refuel. In addition, you can precisely dose the target quantity per hectare – and you can largely do so automatically.



Dosing system for nitrification inhibitors

Lubrication

A central lubrication system on your slurry tanker ensures simple and automatic lubrication of all lubrication points on the slurry tanker and on the application techniques. This reduces maintenance and increases the operational reliability of your technology. We offer lubrication systems with up to 125 lubrication points.

Alternatively, you can also choose a lubrication bar with progressive distributor or lubricate the axle manually.



Central lubrication system



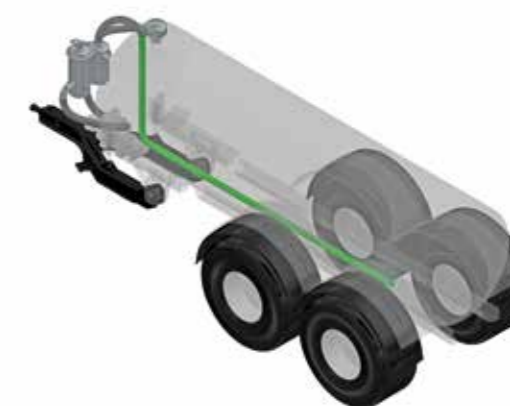
Lubricating bar

Agitators for vacuum tankers

If liquid manure is kept in the container for a longer period of time due to long transport distances or if it contains rapidly sinking solids, the solid and liquid components can separate from each other. Agitators in the tank prevent blockages and ensure that the nutrients are evenly distributed before application.

Air agitator

The air stirring line at the bottom of the tank flushes out deposits. A vacuum compressor installed on the slurry tanker generates the necessary compressed air.



Hydraulic agitator with blades

The hydraulic agitator with wings works according to the principle of a slurry mixer. It is mounted on the front wall of the tank and stirs up the contents.



Camera systems

A camera system gives you more safety when reversing. In addition, you always have a good view of your application technology as well as the vehicles following you.

We used a colour camera with a 90-degree aperture angle. The front glass is hardened and therefore very robust. The glass can be heated and ensures the best possible view in all weather conditions.

Connection options:

- 7 and 10 inch TFT LCD monitor (up to four cameras included)
- via existing tractor system (the possible number of cameras depends on the manufacturer)



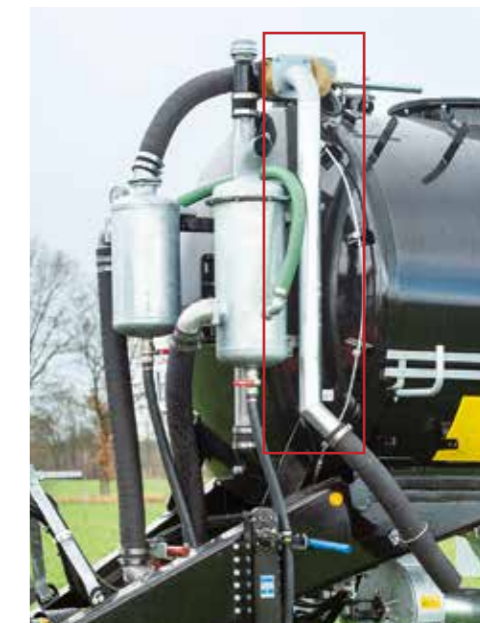
Top cylinder

A top cylinder allows you to make optimum use of the tractive power of your tractor: The cylinder transmits power to the tractor, thus increasing the front axle load and improving tractive effort. A top cylinder can be fitted in conjunction with a drawbar suspension.



Air vents for vacuum tankers

If you switch from the “Spreading” function to the “Filling” function on a vacuum slurry tanker, the overpressure generated in the tank must escape and a vacuum must be generated. Air release valves can speed up this process, saving you valuable time. Venting can be done either via an electrical valve on the siphon or via a separate vent line.



For healthy growth

This has been our guiding principle in the five decades that we have been developing and producing individual slurry technology for agriculture under the “garant” brand. With a broad product portfolio, our family-run company based in Rieste, Lower Saxony, is the German market leader for liquid manure technology. Our slurry tankers encompass sophisticated technology that is tailored to your needs.

Every vehicle is different

Thanks to the modular construction principle, you can put together exactly the equipment for your slurry tanker that best meets your operational requirements. This brochure provides an overview of our accessories and all equipment options. Our slurry tankers and the options for the basic equipment are presented in the brochure „Slurry tankers“. Information on spreading technology and on our operator terminals can be found in the brochures of the same name.

