



# SLURRY TANKERS



Containers and basic equipment

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## ALWAYS THE RIGHT SOLUTION

With garant application technology, you are guaranteed to have the right solution for your business. We have aligned our entire product range to fulfil individual customer wishes and to develop tailor-made products. Thanks to our modular system, you can put together exactly the equipment you need for your business.



## OUR SLURRY TANKER MODELS

We offer you an extensive portfolio ranging from single-axle to four-axle slurry tankers and container sizes between 6 and 32 cubic metres. In addition, we adapt the container, the filling and spreading technology as well as other equipment options to your needs and requests. We want to make sure that you receive exactly the slurry technology that best meets your operational requirements.

Single-axle slurry tankers from 6 to 16 m<sup>3</sup>



Tandem slurry tankers from 8 to 21 m<sup>3</sup>



Tridem slurry tankers from 19 to 31 m<sup>3</sup>



Four-axle slurry tankers from 30 to 32 m<sup>3</sup>



## CONTAINERS

garant slurry technology is robust and durable – an investment in the future. We only use high-quality steel containers from German manufacturers to ensure you achieve the best results even in the long term. Tailor-made solutions are our guiding principle. That's why we adapt all containers to your specific chassis and tyre size.

### Corrosion protection

Every garant container offers reliable corrosion protection. You can choose between galvanising or a special internal coating.

The galvanising process, which has been tried and tested for decades, is particularly robust. The galvanised containers are coated with clear varnish on the outside as standard.

Alternatively, you can opt for a coloured exterior coating in combination with a high-quality Sika Permacor interior coating based on epoxy resin. The internal coating makes your container particularly resistant to aggressive substances and increases impact, shock and abrasion resistance. Thanks to the smooth structure of the exterior coating, the container is also much easier to clean.

By the way, you can freely choose the paint colour. You are guaranteed to draw attention to your business with your individually designed container.



Painted container



Galvanised container

### Construction

Our containers are manufactured in a special low-profile design and thus offer you optimum driving comfort – both on the road and in the field. Another advantage is their low design in combination with the corresponding wheel housings, which allows all standard tyre sizes to be fitted to the slurry tanker. All tanks are equipped with surge walls in accordance with the DIN EN 707 standard.



Bolted baffles and Sika Permacor internal coating



## RUNNING GEARS

We also rely on top quality for our running gears. To ensure a high level of operational safety, we only use original BPW axle units. In order to guarantee optimum driving safety, we adapt the BPW running gear individually to your vehicle while taking into account the permissible total weight, the tyres and the application.

### Technical features:

- Square axis up to 150 x 150 mm
- Brake drum up to 410 x 180 mm
- TÜV acceptance up to 60 km/h
- Preparation of axles for tyre pressure control systems

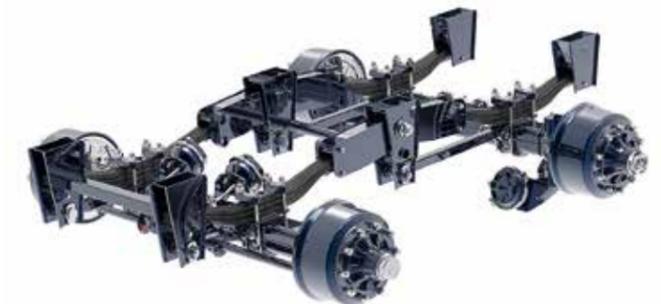
### Single-axle unit

Single-axle units are extremely resilient and optimally designed for use in agriculture. Depending on your requirements, we install unsprung or parabolic-suspension single-axle units.



### Composite unit with parabolic suspension

The composite unit is characterised by very good slope stability. The load is evenly distributed. This ensures that the support load is maintained, even if you are using heavy spreading techniques.



## Boogie axle unit with parabolic suspension

The large spring balance between the axles makes the Boogie axle unit with parabolic suspension ideal for use in agriculture. Due to its good suspension properties, it is also ideal for road use.



## Pneumatically sprung axle unit

The air suspension compensates most of the forces acting on the slurry tanker. This ensures optimum driving comfort. In addition, the air bellows of the first axle can be vented. This makes it possible to transfer additional drawbar load to the tractor.



## Hydraulically sprung axle unit

Hydraulically sprung axles are suitable for vehicles with a high deadweight and special roll stability requirements. These axle units guarantee a very safe and at the same time comfortable ride.



## Movable axis

If you use different spreading techniques, the height of the support loads can vary considerably. This pneumatically sprung axle can be moved hydraulically so that you always achieve an optimum drawbar load.



### Undercarriages options

	Single-axle slurry tanker	Tandem slurry tanker	Tridem slurry tanker	Four-axle slurry tanker
<i>Single-axle unit unsprung or with parabolic suspension</i>	x			
<i>Boogie axle unit with parabolic suspension</i>		x		
<i>Composite unit with parabolic suspension</i>		x	x	
<i>Pneumatically sprung axle unit</i>		x	x	x
<i>Hydraulically sprung axle unit</i>		x	x	x
<i>Movable axis</i>		x		

## STEERING SYSTEMS

Steering axles offer numerous advantages. They improve manoeuvrability and directional stability and thus significantly reduce tyre wear and stress on the entire undercarriage. In addition, you save fuel with a steering axle, as the slurry tanker is much easier to pull. Less erasing also protects the soil and turf. In our garant slurry tankers, we only use high-quality Agroturm axles of the latest generation made by BPW.

### Hydraulic forced steering system

The hydraulic forced steering system is the easiest way to control one or more steering axles on the slurry tanker. It is of robust construction and has proven itself in practical use for decades. When you steer the towing vehicle, you also activate the cylinders between the towing vehicle and the trailer according to the curve radius. The amount of oil thus displaced controls the steering movement on the steering axle.

Thanks to direct power transmission, the hydraulic forced steering system enables a larger steering angle and narrower turning radii. This significantly improves driving comfort. Since the cylinders are mounted underneath the drawbar, no steering limiting collision protection is required. The cylinders can be easily and conveniently attached to the tractor.



### Electronic forced steering ESS – ElectronicSteeringSystem

Our electronic steering system (ESS) is the electronic alternative to hydraulic forced steering and enables you to choose between different steering strategies. The steering linkage can be connected via a standardised knee-joint eyelet with 50 mm diameter. The central element is the drawbar sensor, which

measures changes in the steering angle. The steering axle is then controlled accordingly via a proportional valve.

Of course, you are always safe on the road with the ESS: critical states are automatically indicated to you via a terminal.



### Electrohydraulic steering system MSS – MultiSteeringSystem

The MultiSteeringSystem (MSS) electrohydraulic steering system allows you to steer all the axles of the slurry tanker and choose between different steering strategies. When used on the road, the

in-track driving mode minimises tyre wear. When working in the field, you protect the soil by driving in lane or off-track (crab steering).





## HITCHES

Whether top or bottom hitching, with or without drawbar suspension – we have the right hitch for every tractor and every system. To make your work even more efficient, we adapt the hitch of your slurry tanker individually to the existing tractor and to the permissible drawbar load.

### Rigid top hitch

The top hitch for a flange towing eye or a K80 ball is suitable for slurry tankers with or without light spreading technology.



### Rigid bottom hitch

The bottom hitch for a knee-joint eyelet with 80 mm diameter improves driving comfort and increases the ease of towing. In addition, higher drawbar loads can be achieved compared to the top hitch.



### Bottom hitch with drawbar suspension

The bottom hitch with drawbar suspension offers the highest driving comfort. It can be adjusted to different coupling heights. This allows you to optimally adjust the slurry tanker's inclination to any situation during filling and emptying.



#### Hitch options

	Single-axle slurry tanker	Tandem slurry tanker	Tridem slurry tanker	Four-axle slurry tanker
<i>Rigid top hitch</i>	x	x		
<i>Rigid bottom hitch</i>	x	x	x	
<i>Drawbar suspension</i>	x	x	x	x



## TYRES

Tyres for every operating situation. Type, tread pattern and size must be perfectly matched to the application. Whether it is a simple water barrel with 385 road tyres or a “bog racer” – we supply you with the right tyre for all working conditions and every type of ground.

### Not all tyres are the same

Our range includes both radial and diagonal tyres. You can choose between diameters from 22.5 to 42 inches and widths from 385 to 1,050 millimetres. Of course, we rely exclusively on well-known manufacturers such as Vredestein or Trelleborg.



Trelleborg Twin Radial



Vredestein Flotation Trac



## FILLING TECHNIQUES

No matter whether you are using a vacuum tanker or a pump tanker – garant provides you with the filling technology that suits you. Whether you want to speed up filling, operate large working widths or precisely dose the application quantities – we have the optimum solution for your needs and requirements.

## Vacuum tankers

Our vacuum tankers are easy to operate and known for a long service life and an excellent price-performance ratio. All of them are exclusively equipped with Juroq quality compressors. As the compressors do not come into contact with the liquid manure during filling and emptying, wear is very low. In addition, maintenance work can be carried out easily and cost-effectively.

The special features of the DL series are oil-free operation, continuous operation and an extremely low noise level.

### How the vacuum tanker works

A vacuum tanker is filled and emptied by means of underpressure and overpressure. If the tanker is to be filled, a vacuum compressor generates a vacuum. As a result, the liquid manure flows into the tank. During application, the compressor generates an overpressure which actively pushes the liquid manure out of the tank.



Juroq compressor PN



“Filling” Vacuum tanker



“Spreading” Vacuum tanker

### Compressor options

Compressor types	air output
PN 84	9,000 l/min
PN 106	11,000 l/min
PN 124	12,400 l/min
PN 142	14,200 l/min
PN 155	15,200 l/min
DL 100*	10,000 l/min
DL 150*	15,000 l/min
DL 180*	17,600 l/min

\* oil-free, low-wear & suitable for continuous operation

### Power Boost technology for vacuum slurry tankers

The garant Power Boost technology is a combination of a vacuum pump system and a centrifugal pump system. The container is filled and emptied by means of a centrifugal pump driven by a power take-off shaft. The vacuum compressor is driven hydraulically. Unlike a normal vacuum tanker, the compressor on this model only sucks the liquid manure up to the centrifugal pump.

The unbeatable advantage of Power Boost technology is that you can fill your slurry tanker quickly and completely. At the same time, an agitator ensures that no solids sink and thus prevents blockages.

Another plus: the Power Boost technology enables large working widths of up to 27 metres. Compared to a pump tanker, the wear is also significantly lower.



“Filling” Power Boost technology



“Spreading” Power Boost technology



“Stirring” Power Boost technology

### Pump tankers

Pump tankers offer you maximum efficiency, especially for large suction depths and difficult suction conditions. When spreading, they generate a high and constant pressure, which is also sufficient for spreading techniques with large working widths. In addition, you can easily and accurately dose the application rate with a pump tanker.

All our garant slurry tankers are equipped with quality pumps from renowned manufacturers. In addition to rotary lobe pumps from Vogelsang and Jurop, our range also includes eccentric screw pumps made by Wangen.



Pump tanker with eccentric screw pumps

### Rotary lobe pumps

Rotary lobe pumps are powerful: they have a suction capacity of up to 14,000 litres per minute. They operate independently of the direction of rotation and are insensitive to foreign bodies.

The pump is installed below the filling level of the pump boxes. This position ensures maximum efficiency: it ensures a consistently high suction power and at the same time prevents the pump from running empty. With a rotary lobe pump you can also spread the liquid manure particularly constantly and evenly. Last but not least, these pumps are very easy to maintain and repair.



Vogelsang rotary lobe pump VX 186-260Q

#### This is how the pump tanker with rotary lobe pump works

The suction effect of the rotary lobe pump is created by a pair of pistons which rotate uniformly within the pump. The slurry flows into the tank via a pressure line located on top of the tank. This suction-pressure line is laid flow-optimised so that the performance of the pump can be optimally utilised. A float in the rear wall of the tank reliably measures the filling level and activates an automatic switch-off as soon as the maximum filling level is reached.

A pump sump and a "stationary" suction line in the tank ensure that the drum is completely and optimally emptied when it is discharged. With the help of a slider, you can easily switch between the three functions "filling", "spreading" and "stirring".



"Filling" Pump tanker with rotary lobe pump



"Spreading" Pump tanker with rotary lobe pump



"Stirring" Pump tanker with rotary lobe pump



"Filling" Pump tanker with eccentric screw pump



"Spreading" Pump tanker with eccentric screw pump



"Stirring" Pump tanker with eccentric screw pump

### Eccentric screw pumps

Eccentric screw pumps stand out for a good price-performance ratio and very low life cycle costs. The robust technology is insensitive to foreign bodies and offers high operational reliability.



Wangen eccentric screw pump GL 65 F 140.0

#### How the pump tanker with eccentric screw pump works

The eccentric screw pump generates its suction effect by means of a rotor which rotates inside a stator and thus generates a vacuum. The slurry flows into the tank through a pressure pipe which is located under and in the tank. With the help of a slider you can easily switch between the three functions "filling", "spreading" and "stirring".

## 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, has become to the German market leader for liquid manure technology. Our slurry tankers stand out for their 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 requirements. This brochure provides an overview of our slurry tankers and the options available for the basic equipment. All additional options are presented in the brochure “Additional equipment“. Information on spreading technology and on our operator terminals can be found in the brochures of the same name.

