

>> SAMSON SLURRY TANKERS

PG II 21 AND PG II 25



- growing together

SAMSON PG II 21 AND PG II 25

SLURRY TANKERS

SAMSON AGRO has expanded the PG II series with two more sizes. A PG II 21 and a PG II 25. The two sizes have been developed from the PG 21 and PG 25, which like the rest of the PG series have been deleted from the product range for the 2016/2017 season. These were both very popular PG tanker sizes that SAMSON AGRO wants to offer in the new future-proof PG II series.

The PG II series is now available as a 2-axle version in sizes PG II 16, PG II 18 and PG II 20 and the 3-axle versions PG II 21, PG II 25, PG II 27, PG II 31 and PG II 35.

The PG II series has been developed for the professional users of slurry application equipment. That is to say, users who place great demands on the capacity, efficiency, durability and reliability of their machines, which must also be easy to use and maintain. SAMSON AGRO aims to be the top supplier where these parameters are concerned.

The PG II series offers many exciting new features such as an ejector discharge pump, hydraulic wheel drive, SAP suction arms, easy to use control system with touch screen and joystick, and various sensors that can help the driver to deliver the slurry optimally and prevent damage to the equipment.

Robust construction

The new PG II slurry tankers from SAMSON AGRO have a very simple but robust construction. An optional extra is hydraulic

suspension on the drawbar that can absorb the shocks that propagate to the tanker from the tractor.

The tank is placed horizontally on two through-going strong profiles. The tank is also supplied with three anti-surge partitions for improved stability, even when carrying smaller loads. This type of construction gives a very strong and stable tanker that allows for a faster drive both in the field and on the road and in this way makes the application of slurry easier and faster.

Even when the vehicle is on level ground, the inclined bottom construction ensures optimal flow to the centrifugal discharge pump at the front end of the slurry tanker.

High capacity discharge pump

SAMSON AGRO has developed a completely new high-capacity discharge pump. The pump is centrifugal and of simple construction. There is no contact between the rotating blades and the casing. The pump can therefore cope with all forms of foreign bodies, including stones, bits of metal and plastic, and is distinguished by being particularly robust and requiring very little maintenance. The pump has a very high capacity of up to 15,000 litres per minute. This ensures that the full capacity can be utilised even with the widest booms, also at low engine speeds. Flow reduction is an optional extra if a lower pump capacity is required.

More Compact pump tower and "return to centre"

The big pump tower has a very compact design. The reflux pipe, hydraulic hoses, etc., are now better integrated inside the pump tower and therefore better protected. The pump tower consists of only two moving parts compared with three parts in the previous versions of the SAMSON AGRO pump towers. The new parts are very flexible, making the operation of the pump tower very fast and easy. The pump tower is also fitted



Market differences in the equipment

Please be aware that on the different markets there may be variations in what is defined as standard equipment and what are optional extras for PG II slurry tankers. This is SAMSON AGRO's attempt to adapt to the different traditions or requirements for slurry application equipment on the individual markets. There may also be a difference in the range of new equipment launched on the different markets. Finally, the selection of, for example, the Slurry-Master control system will have an effect on the type of equipment and optional extras that can be added. But all this will be explained in the price list.

with a double telescopic extension which makes it more compact while not compromising on its reach. The new construction of the pump tower makes it easier to empty covered concrete slurry tanks and other slurry stores that are not easily accessible.

A kit including projectors for the pump tower is available. This kit includes two projectors fitted on extension brackets at the front of each side of the pump tower. These projectors give a perfect illumination by filling and driving in the field. Furthermore the kit can include an integrated projector in a close cover fitted on the last part of the pump tower.

A camera can be positioned under the pump tower. It ensures a good view for the driver during filling and makes it very easy to fold the pump tower back into place once the tank is full. This allows the driver to oversee the operation without the need to turn

around in their seat. It also makes the long working days in the slurry season much more comfortable.

The diameter of the filling pipe is now 30% larger than on SAMSON AGRO's former pump tower. The pump tower hydraulics have also been optimized to increase the capacity of the filling pump.

There is an option for a "return to centre" function on the pump tower on PG II tankers with the SlurryMaster8000 control system. Two sensors installed under the rim of the pump tower control the pivot function. When the pump tower returns to the transport position, its speed decreases before stopping completely. An audio signal alerts the driver that the centre position has been reached so they can then easily lower the pump tower into the waste tray. This is a great help for everyday operation of the slurry tanker.



The pump tower is now more compact. The 6-inch reflux pipe is integrated into the pump tower. It now has a telescopic function giving it a longer reach.



The new pump tower is more flexible, making the operation of the pump tower easier when emptying covered slurry lagoons where you navigate through small openings, or when emptying underground slurry stores.

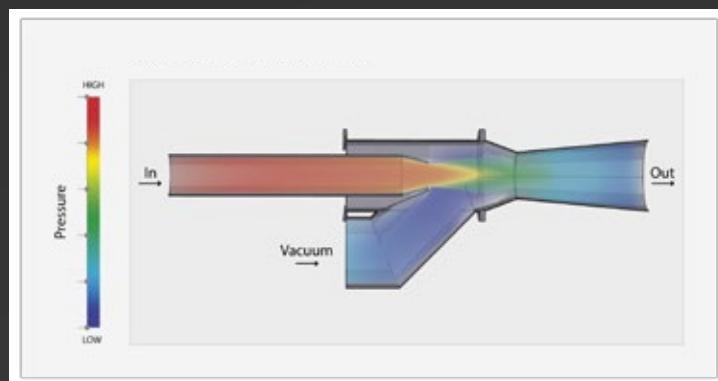
Revolutionary **Ejector**

SAMSON AGRO has developed a new powerful ejector-vacuum pumping system (simply called the ejector in the following). This is a robust pump that can pump any kind of liquid, needs very little maintenance, has very low operating costs and does not lose its effect over time.

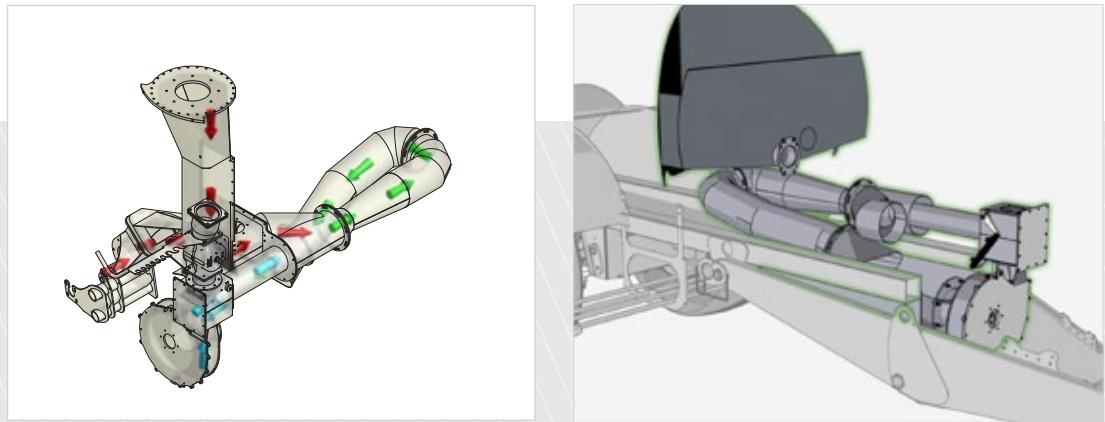
The ejector uses the so-called Venturi effect, which is named after the Italian physicist Giovanni Battista Venturi who described the effect back in the 19th century.

In simple terms, the Venturi effect is the acceleration of a fluid when it is compressed. This takes place, for example, if a fluid carried in a pipe has to go through a narrower section. In the narrowed part the velocity of the fluid will increase and a vacuum will be built around the fluid.

The SAMSON AGRO ejector is a so-called inline ejector, where the construction minimises flow losses and optimises the creation of a vacuum. This type of ejector is a well-recognised pumping technique within the maritime and offshore sector. The simplicity and robustness of the system also makes the ejector very handy when very difficult fluids need to be pumped.



SAMSON AGRO Ejector vacuum system



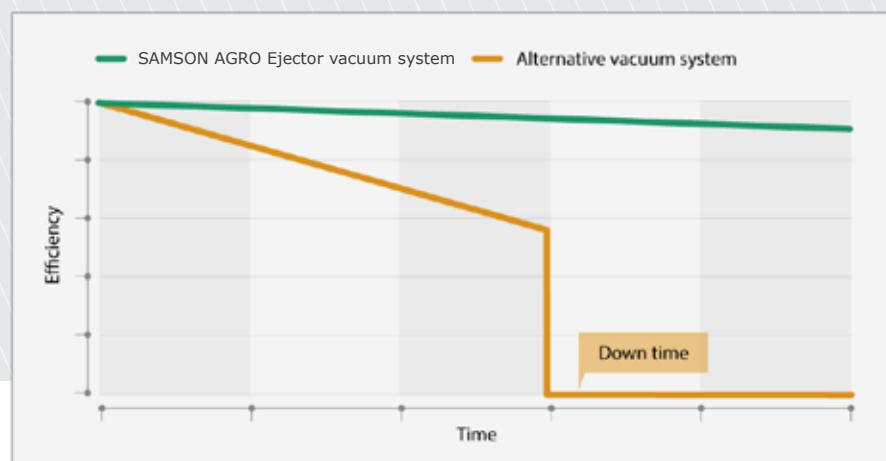
Sketch SAMSON AGRO's ejektor

More than just an ejector

In order to drive the SAMSON AGRO ejector, a small volume of slurry needs to be retained in the slurry tanker. The slurry is retained in a reservoir within the tanker. If the ejector is not used, this retainer function can be disconnected. The ejector can be used for filling the tanker under its own power via a valve at the side of the tanker or for vacuum attachment of centrifugal pumps to either the fixed filling pump, the SAP or pump tower. The use of centrifugal pumps results in a higher performance of the filling system. The ejector is fitted with a safety valve that ensures that the flow of slurry is only one way with no reflux.

No reduction in pump effect

Since the ejector does not have any moving parts, there is very little wear and tear. Even when slurry contains a lot of foreign objects, these will have free passage through the ejector. This means that the high capacity of the ejector will be maintained even after many years of heavy use. There is no need for regular maintenance and repairs, which are normal practice for other pumping systems.



Advantages of the SAMSON AGRO ejector

Foreign objects:

- Copes well with all forms of foreign objects in the slurry: stones, bits of metal, plastic, wood and wire/string from straw bales
- Needs no stone trap or slicers for chopping the slurry and foreign objects
- No unplanned stoppages or regular maintenance because of sharp objects in the slurry

Pump effect:

- Very high effect. Since there are no vacuum restrictors in the system, the ejector is capable of building a very high vacuum; under optimal conditions down to -0.9 bar. This means that emptying even from deeper stores is no problem
- Maximum filling capacity is up to 6,000 litres per minute in water at a lifting height of 1 m. Filling capacity will in practice depend on the filling method used, viscosity of the slurry, lift height, length of hose and hose diameter
- No risk of pumping system overheating. When filling at very high vacuum, there are no moving parts that can be worn or damaged and therefore result in reduced capacity
- Constant performance practically throughout the lifetime of the tanker

Inline-ejector principle:

- The tank on the vehicle is not exposed to a vacuum. This ensures a light construction
- No vacuum in the tank means that the slurry does not expand during filling and ensures that the tank is 100% full when filling has stopped
- No complicated valves and rubber balls for airing the tanker
- Quick priming of centrifugal pumps since only the pipe will be under vacuum and not the tank. This ensures a rapid start of the filling process
- Inbuilt safety valve. The valve ensures a one-way flow of slurry and no reflux. This prevents the slurry from running backwards and out of the filling system

Ejector:

- Simple system of pipes made from S235 steel. This ensures a high resistance to wear and a low weight
- Low unladen weight of approx. 150 kg
- No mechanical moving parts. This prevents wear and tear and the risk of broken parts
- No risk of incorrect operation or adjustments that damage the filling system

Service and maintenance:

- No topping up of lubricants or coolants needed
- No daily maintenance or inspections needed
- No regular repairs of the pumping system needed
- Only one annual clean and inspection needed





» **Severel** filling options

PG II slurry tankers can be filled in several ways. These filling options can be combined in different ways. Please check the price list for the different combinations. But the different options are:

» EXTERNAL FILL



External fill via a funnel



Filling from external pump via a flexible
10" rubber funnel.

» PUMP TOWER

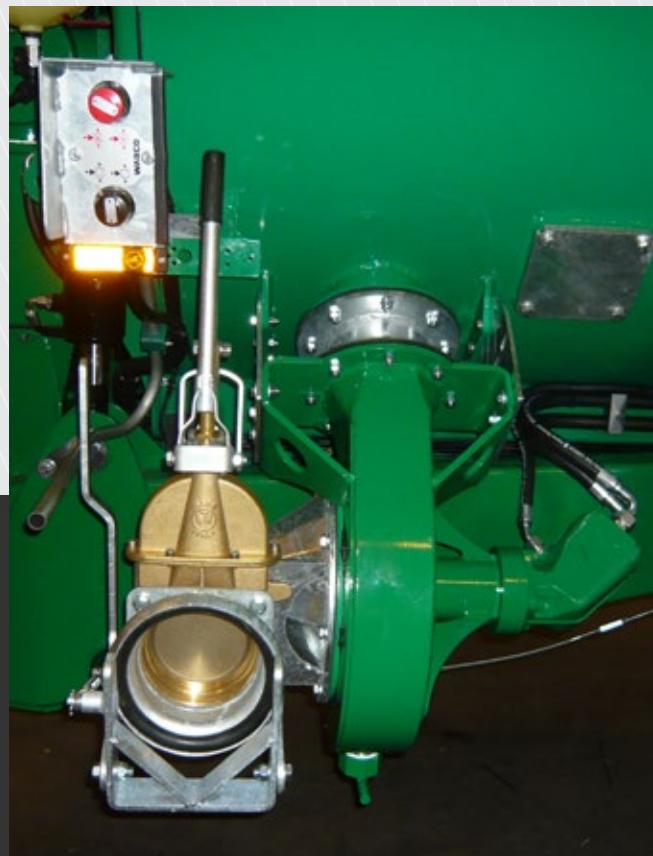


Pump tower with
telescopic arm

>> EJECTOR



Hose connector



Hose with pump



Single-articulated SAP arm (SAP 1 Mk 2) – with pump.



Double-articulated SAP arm (SAP 2) – with or without pump.

» Flexible filling options with an ejector

The ejector pump can be combined with different filling solutions. Filling can take place via a hose coupling or a hose with a pump on the side of the slurry tanker, via a single-articulated SAP arm (SAP 1 Mk 2) with a pump, via a double-articulated SAP arm (SAP 2) with or without a pump, or via a pump tower with a suction coupling.

These filling options can be used to empty all types of slurry transports, buffer tanks and slurry stores - as well as difficult to access underground slurry stores, lagoons and covered slurry stores, when the pump tower and SAP arms are combined with a suction plug/connector, docking station and/or suction hoses.

» FILLING OPTIONS WITH EJECTORPUMP AND PUMP TOWER



>> FILLING OPTIONS WITH EJECTORPUMP AND SAP ARM



SAMSON AGRO control systems

SAMSON AGRO has expanded its product range of control systems so customers are offered a variety of control systems depending on their requirements. There are two control systems for the 3-axle PG II slurry tankers.

SlurryMaster6000

SlurryMaster6000 is the name of SAMSON AGRO's most well-known control system for slurry tankers. The system has been designed specially for SAMSON's slurry tankers and is a highly advanced tool that will aid the user in their everyday work. With SlurryMaster6000, the driver can select a number of automatic functions that make machine operation simple and safe. The system uses a CANBUS system to communicate between the monitor in the tractor cab and the slurry tanker. This is a very safe method of communication that provides a very robust system and minimizes the number of cables in the cab.



» Read more about the two control systems in the separate information materials

SlurryMaster8000

SlurryMaster8000 is the name of SAMSON AGRO's new touch screen control system for slurry wagons. The system has been designed with a focus on the driver. The result is an easy to operate system with an intuitive and user friendly interface. This is a stand-alone system designed solely for the operation of slurry tankers, so no compromises have been made, which would have been the case if we had used a standard platform that has to fit many different machines. This system is an upgrade to the already familiar SlurryMaster6000 control system.





» Standard

1. BPW wheel axles

Wheels are mounted on specially designed, strong BPW axles with integrated speed sensor as standard. The brakes (410x180 mm is the standard) are dimensioned to comply with even the strictest legal requirements. The large steering angle of the axles combined with the compact 900 mm wide chassis results in a very manoeuvrable slurry tanker. This reduces the damage to plants while driving in the field and the wear on tyres when driving on the road. The new steering system on the axles consists of a minimum of moving parts which results in fewer lubrication points and less maintenance.

2. Wheels and tyres

PG II 21 and PG II 25 are supplied with 165 cm diameter wheels. There is a wide range of tyres to choose from. The wheels ensure smooth driving over any terrain.



German BPW has supplied specially designed wheel axles for PG II slurry tankers.



The wheels have a diameter of 165 cm.



3. LED Lights and PTO

All PG II slurry tankers are fitted with LED lights that are highly reliable and require a minimum of maintenance. A Walters-heid PTO drive shaft is standard on all tankers. This has the advantage of long service and maintenance intervals.

4. Hydraulic coupling and mudguards

There is space for as many as 14 hydraulic couplings and central lubrication points on the back of the slurry tanker. The quick couplings are of the push-pull type with dust caps to ensure a smooth engagement/disengagement. The couplings are placed on each side of the slurry tanker under the rear lights to avoid the need to get in between tanker and implement when attaching hydraulic hoses. The couplings are turned 45 degrees to the ground to avoid sharp kinks in the hoses. It is possible to fit mudguards so the implements are not dirtied by soil from the tyres.



PG II is equipped with LED lights as standard.



Hydraulic couplings are located where they are easily accessible.
The mudguards are optional.

>> Optional extras and accessories



Drawbar suspension gives optimal driving comfort. The height can also be adjusted.



The Three-point linkage can lift up to 9 tonnes in a horizontal position and deliver a pressure of 5 tonnes.

5. Adjustable suspended drawbar with jack

An adjustable drawbar with hydraulic suspension is available as an optional extra for PG II 21 and PG II 25. It absorbs shocks from both the tanker and tractor to make driving smoother. It also increases the lifespan of the slurry tanker since it reduces the stress on the chassis.

The height of the drawbar can be adjusted to ensure that the coupling between tractor and trailer is optimal at all times.

When the slurry tanker is being filled the drawbar can be adjusted to ensure the tank remains in a horizontal position, thus allowing it to be fully filled. For emptying, the front end can be lowered to improve the flow to the pump at the front.

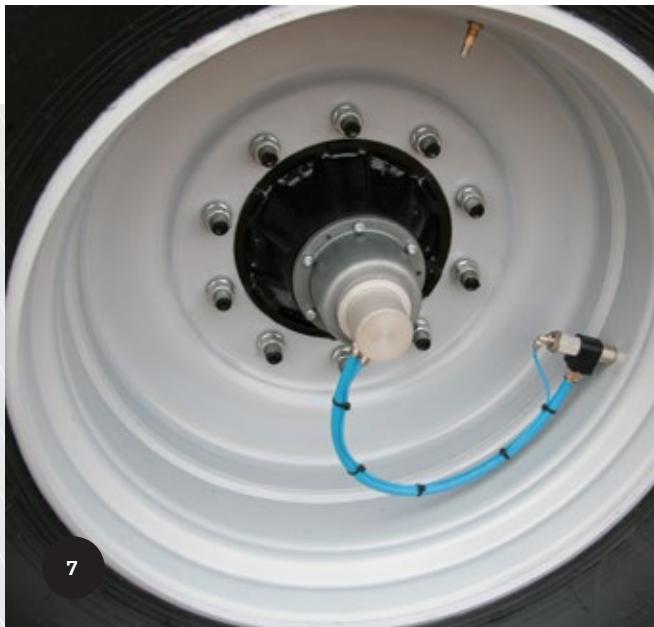
An integrated hydraulic jack on the drawbar makes for easy hitching and unhitching when the tanker is parked. This is an optional extra.

6. Three-Point linkage and height sensor

SAMSON AGRO has developed a brand-new three-point linkage for the PG II slurry tankers. The linkage has greater lifting capacity and lifting height. The higher lifting capacity meets the future requirements for larger and heavier implements. The improved lifting height ensures optimal clearance between the implement and the ground both when driving on the road and in the field. It will, for example, be easier to enter and exit fields without implements touching the ground.

The linkage is no longer bolted onto the tanker. Instead it is welded to the chassis of the slurry tanker which means re-tensioning of the linkage is no longer required and the construction more stable and solid.

If you choose the SlurryMaster8000, a height sensor can be purchased for the three-point linkage. This allows even better control of the implement. This makes it easy to avoid exceeding the maximum transport height.



7

SAMSON AGRO's automatic tyre pressure regulation is a two-circuit system with shut-off valves in each wheel.



8

The PG II 25 can be supplied with fully hydraulic wheel drive.

7. Tyre pressure regulation

The PG II slurry tankers can be fitted with an automatic tyre pressure regulation system to allow the driver to select different tyre pressures when, for example, changing from driving in the field to driving on the road. The pressure can also be adjusted according to soil and crop type. In this way crop damage and soil compaction are minimized.

The compressor has a capacity of 3,300 litres per minute. The system is a two-circuit system with shut-off valves on each wheel. This has the advantage that there is only pressure on the turning parts when the pressure is adjusted. This minimizes the wear on these parts in the hubs.

8. Fully hydraulic wheel drive (HWD)

The PG II 25 can be purchased with HWD. This means you will have a very powerful and efficient slurry tanker which can handle hillier terrain and wetter soil. The wheel drive is fully automatic and can be used in both forward and reverse. This ensures particularly smooth driving over any terrain. When you purchase a PG II 25 HWD, you therefore get the ultimate incorporator, as it will be extremely smooth on the ground. The pump unit suspended from the tractor's lifting arms is equipped with a split gearbox. The two variable pumps supply oil to the two wheel motors and the filling and spreading pump respectively. This ensures even faster filling of the slurry tanker. HWD is not available in all markets.



This is why you have to buy

a **PG II slurry tanker**

» **Long lifespan**

Long lifespan

- The tank is made of 5 mm steel
- The tank is placed on two through-going supporting profiles
- The wheel guards are made of Domex 600 high-strength steel
- It has a fully-welded chassis
- A new anti-surge partition in the three sections of the slurry tanker ensure stability also at smaller loads
- Suspended adjustable drawbar able to absorb shocks and vibrations
- The wheels are positioned at the side of the slurry tank, which results in a low centre of gravity. This makes the construction more stable and less exposed to stress, extending the lifespan of the slurry tanker
- Can carry heavy and wide implements such as drip hose booms, grass disc injectors and black soil incorporators

Less corrosion – strong surfaces on the inside and outside of the tank. The inside is epoxy-coated

New durable ejector loading pump

New optimised discharge pump

» **High efficiency**

High stability – faster driving and more loads per hour

- The wheels are positioned on the side of the slurry tank. This gives a low centre of gravity and allows for faster driving on the road and in the field

- Hydraulic suspension – stable driving
- A new optimised high-capacity unloading pump
- SM 80 ball hitch is standard

Effective workhorse

- Can use a wide range of implements such as drip hose booms, grass disc injectors and black soil incorporators
- New, more powerful lift with increased capacity and greater lifting height
- Numbered quick-release hydraulics couplings of the push-pull type between tanker and implement
- Rapid switches between implements
- New flexible pump tower that can be easily navigated into the openings on slurry lagoon covers
- Increased pump tower capacity
- Driver can remain in the cab during the filling process when using pump tower

Effective filling options

- Via external funnel
- Via pump tower
- Via filling coupling
- Via filling pump and hose on the side
- Via SAP arm – single- or double-articulated

Effective ejector pump

- Large capacity
- Can pump even difficult, viscous or nonuniform fluids
- Does not lose its effect over time



Effective centrifugal pump for unloading

- The pump is ready to use immediately compared with a vacuum pump which needs time to build up pressure
- Can cope with many different types of liquid – results in fewer stoppages

Safety

- Specially designed BPW axles
- Stronger brakes, 410x180mm
- Electronic wheel steering
- Hydraulic supporting legs
- LED lights
- Rotating beacon and LED working light at the back

» **Optimal application of slurry - optimal yield**

- The centrifugal pump gives a more precise and consistent application along the entire width of the implement compared with a vacuum pump
- The weight of the slurry tanker is relatively low for its size, which minimizes crop damage and soil compaction
- The slurry tanker is made up of sections and the rear-most section is emptied first. This ensures high weight transfer to the tractor and minimises the risk of wheel spin and damage to the field
- Because of the high loading and unloading capacity, there is a greater chance of being able to apply the slurry and its nutrients at the most suitable time for crop uptake and in the most suitable weather conditions

» **Low energy consumption (diesel)**

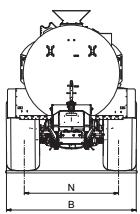
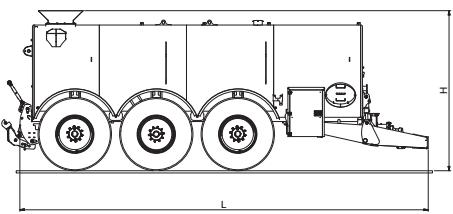
- The tanker has a relatively low weight for its size
- The tanker is emptied from the back first
- There is an effective centrifugal pump for unloading. The pump is immediately ready for use compared with a vacuum pump which needs some time to build up pressure

» **Low maintenance costs**

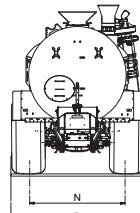
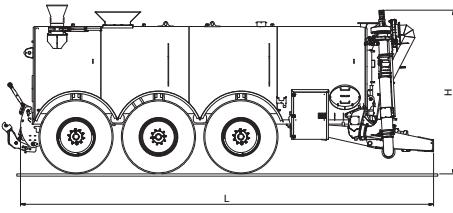
- Both the filling and discharge pumps have a long service life. At the same time, they are not expensive to renovate
- A hydraulic chassis such as the one on PG II slurry tankers does not become worn or "tired" like a spring chassis does. It therefore requires less maintenance
- PG II slurry tankers are fitted with a strong lift with few moving parts that require maintenance

>> TECHNICAL SPECIFICATIONS

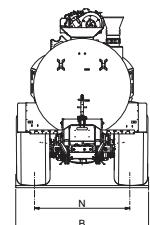
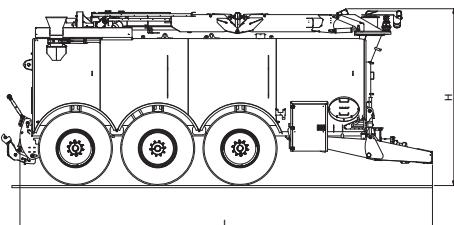
External filling



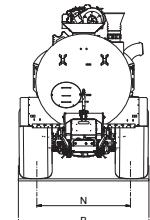
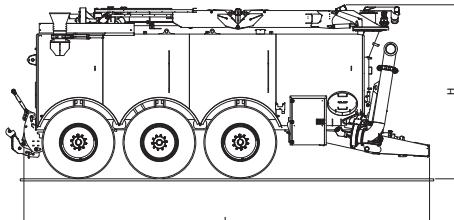
Ejector



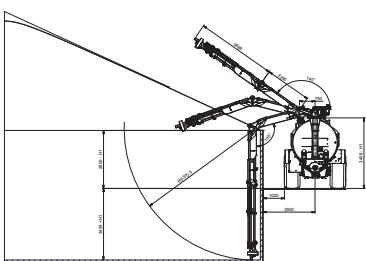
Pump tower



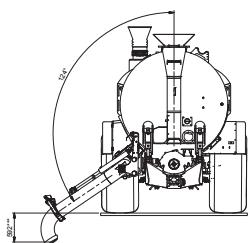
Pump tower and ejector



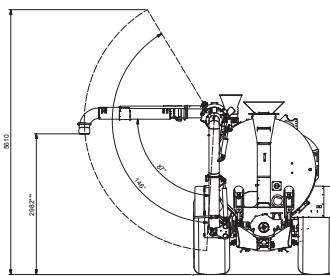
Pump tower



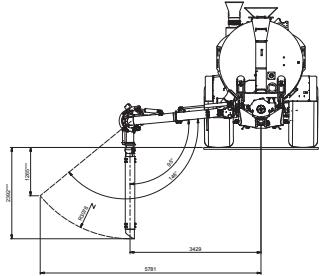
SAP 1 (Mk 2)



SAP 2



SAP 2



Dimensions in mm / tanker size		PG II 21	PG II 25
Length	L	9315	
Tanker diameter	Ø	1950	2200
Height*	H	4000	
Alliance 650/60-R30,5 - Diagonal type 328	B	2850	
Alliance 650/65-R30,5 - Radial type 380	B	2850	
Alliance 710/55-R34 - Radial type 388	B	2930	
Alliance 750/60-R30,5 - Radial type 380	B	2920	
Alliance 750/60-R30,5 Radial Type 390 HD	B	2920	
Nokian 710/55-R34 - Radial type ELS SB	B	2960	
Nokian 800/50-R34 -Radial type ELS SB	B	2980	
Nav-gauge	N	2150	
Net weight**, extern filling, [kg]		10.925	11.625
Net weight**, pump tower, [kg]		12.200	12.900
Net weight**, ejector, [kg]		11.125	11.825
Net weight**, pump tower and ejector, [kg]		12.400	13.100
Gross volume, cubic meters [m ³]		20,6	25,9

* Height depending on equipment, but Max. Height 4 meter

** Net weight for basic tanker with only standard equipment

Weight:

SAP 1 = 350 kg / SAP 2 = 500 kg / 3-point lift (liftarm, mittle console and cylinder. NB - a part of the lift console is welded onto the tank): 350kg