AMAZONE

Pantera

Pantera 4504 and 7004 self-propelled sprayers

On request, all new AMAZONE sprayers can be provided with a country-specific sprayer proficiency certificate.
The proficiency certificate meets current EU regulations according to EN ISO 16122, which is, for European member states, supported also with the CEMA label.

The Pantera self-propelled sprayers come with a tank capacity of either 4,500 l or 6,600 l and can be equipped with sprayer booms in widths from 21 m to 48 m. Stepless track width adjustment as standard makes the Pantera a universal all-rounder, particularly when shared across neighbouring farms. A wide variety of requirements can be met thanks to the different chassis options. The Pantera focuses on increasing work rates as well as reducing the work load on the driver.

More intelligence, more precision

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Learn more about operating the machine
Click here to go to SmartLearning:

www.amazone.net/smartlearning

Pantera 4504 self-propelled sprayer

21 m – 48 m

4,500 l

up to 96 part-width sections

520 l/min pump capacity

The advantages at a glance:

- Outstanding tandem chassis design – for a smooth horizontal boom ride and better stability on slopes
- Intelligent chassis management with front wheel, all-wheel and dog leg steering for even greater manoeuvrability
- Infinitely variable hydrostatic single range drive – for speeds from 0 to 50 km/h
- Working speeds of up to 30 km/h ensure high outputs
- Performance when needed. ECO mode and POWER mode
- Pantera^{+} wheel drives for improved climbing ability in hilly terrain
- DistanceControl or ContourControl and SwingStop fully automatic boom guidance system

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Standard equipment for the Pantera 4504

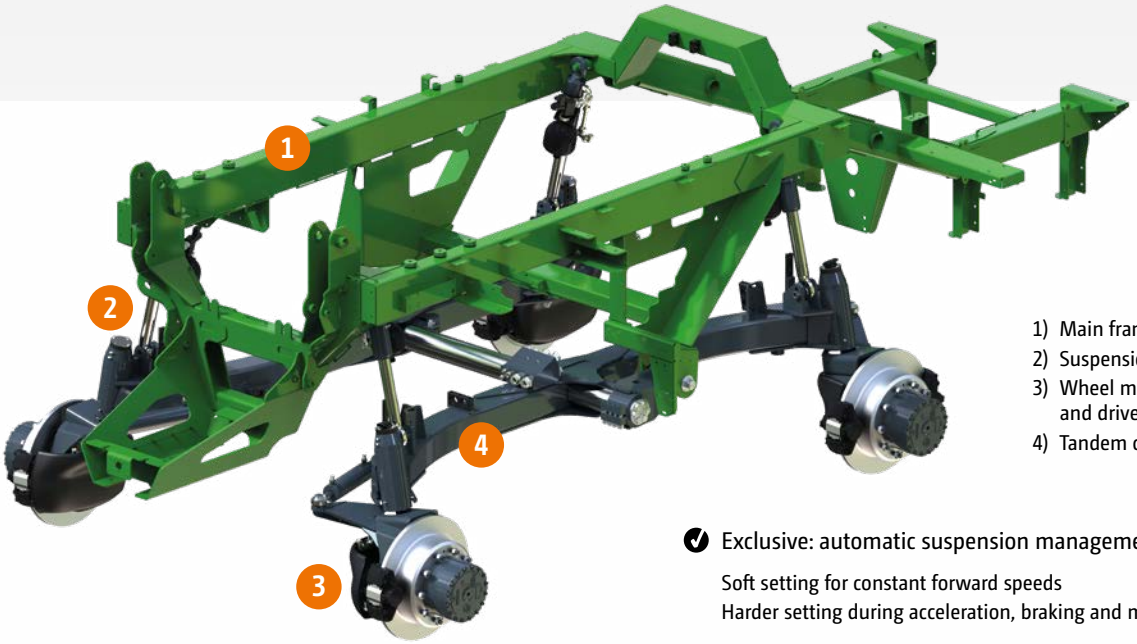
- Hydro-pneumatic suspended tandem chassis with automatic level regulation as well as level-regulated and forward-speed related suspension control
- Track widths from 1.80 m to 3.20 m (differs depending on the chassis type and tyre size); the track width can be adjusted steplessly on the AmaDrive vehicle terminal
- Hydraulic front-wheel steer, all-wheel steer and "dog leg steering"; steering angles tailored to the speed and application
- Headland management with automated changeover from front-wheel to all-wheel steer, boom lift with AutoLift
- Forward speeds up to 50 km/h, infinitely variable hydrostatic single range transmission with traction control
- Hydraulic braking system with disc brakes and hydraulic parking brake
- Deutz 6-cylinder turbodiesel engine, Common-Rail injection technology, maximum power rating 160 kW/218 hp in accordance with ISO 14396, Stage 3A or Stage 5 exhaust emissions compliant
- ECO-Mode: fuel saving, performance-related engine rev regulation on the road and in the field

- Fuel tank with a capacity of 290 l;
  Stage 5 exhaust emission with additional DEF tank (Diesel Exhaust Fluid, e.g. AdBlue) with a capacity of 20 l
- Claas Vista cab, climate control, heating, air-suspended comfort seat, adjustable steering column, radio with USB SD slot, Bluetooth hands-free phone connectivity, windscreen and rear window sunblinds
- AmaDrive vehicle terminal with 7-inch colour touch screen for vehicle operation
- AmaPilot multi-function joystick^{+} for drive control and sprayer operation

- Side lights, dip and main beam headlights, four-fold front work lights, twin side-view work lights and twin side-view lights on the cab roof, front illumination of the boom as well as illumination of the operator station
- Spray liquid tank with a capacity of 4,500 l and with agitation, level indicator, tank cleaning nozzles; 500 l fresh water tank and induction bowl
- 520 l/min pump capacity with 3" suction port, max. filling capacity 700 l/min via the injector
- The pump speed is set from the terminal with remote control of the pump down at the operator station
- Suction valve with 3" suction filter (32 mesh) and fill port for fresh water tank
- Valve chest, self-cleaning 1 1/4" pressure filter (50 mesh) and part-width section control, quick emptying
- Comfort-Pack with digital external fill level indicator, automatic fill stop, fill-level dependent and auto-dynamic agitation regulation and remote-controlled cleaning from the cab
- Super-light and super-stable Super-L boom
- Spraying height 0.35 m - 2.65 m, up to 3.15 m on the Pantera-HW and Pantera-H (with 380/90 R50 tyre sizes)

Pantera 4504

Intelligent chassis management



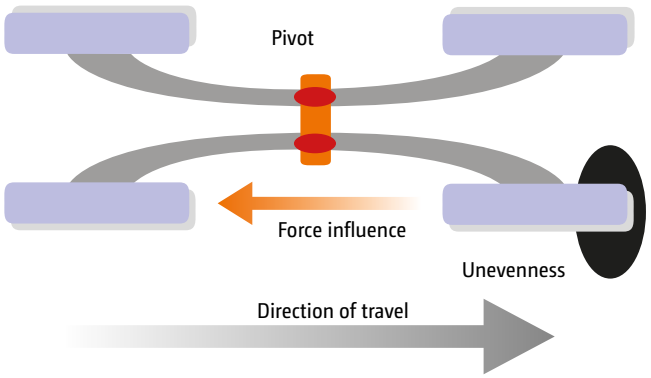
1) Main frame
2) Suspension
3) Wheel motor with disc brakes and drive hubs
4) Tandem chassis

- Exclusive: automatic suspension management

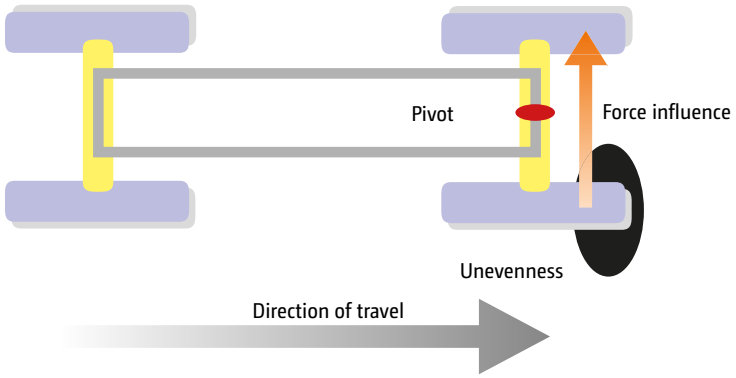
  Soft setting for constant forward speeds
  Harder setting during acceleration, braking and manoeuvring

The outstanding longitudinal tandem chassis

AMAZONE Pantera



Conventional chassis



- The unevenness under the right hand front wheel is compensated by the elongated tandem. The pivot point is only slightly lifted. Only a slight transmission of the forces onto the frame.

The advantages of the Pantera chassis:

- Pendulum frame for optimised soil contact and reduced slip
- Comfortable and safe driving behaviour from the longitudinal tandem
- Hydro-pneumatic suspension system with level regulation
- Super-robust frame
- Reliable hydraulic system – no air regulation
- Stepless track width adjustment
- High ground clearance
- Headland management for steering and boom functions
- Stress relief for the driver and gentle boom treatment

Weight distribution when full and with the booms folded out

Pantera 4504, 24 m, 520/85R38, unladen weight 9,850 kg

Pantera – light-footed intelligence

The special tandem chassis design of the Pantera not only ensures perfect adaptation to ground undulations but also an optimum boom ride – especially, of course, in sloping terrain. Thanks to the level regulated hydro-pneumatic suspension, the Pantera operator also enjoys the maximum level of comfort.

The combination of this unique chassis design and the proven AMAZONE boom suspension additionally ensures an optimally smooth boom ride even under the most arduous of conditions.

Weight distribution at the optimum!

Even weight distribution between the front and rear wheels is one of the basic requirements for efficient power transfer to the ground.

The Pantera 4504 was therefore designed to have an optimal weight distribution of approximately 50:50 on both the front and the rear axles when the tank is full. Depending on the tank level and the boom type, the weight distribution varies only by around 5%.

Nearly unbounded – exceptional ground clearance

The high ground clearance of 1.20 m also proves to be an important advantage for the Pantera in practice.
The Pantera-H and Pantera-HW have a ground clearance of 1.70 m. This advantage is of particular benefit when spraying rape during flowering or also in taller maize crops. The SunflowerKit is available for the Pantera-HW, in order to protect the plant when spraying (see page 13).

High ground clearance for minimisation of crop damage

Pantera 4504

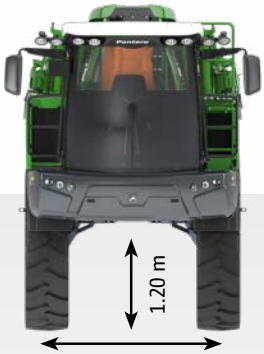
Track width adjustment in no time at all

Wheel motor guards on the Pantera 4504 as standard

Maximum flexibility offered by the chassis variants on the Pantera 4504

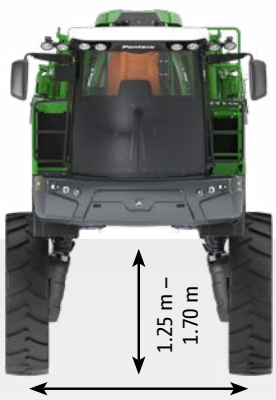
The standard, automatic track width adjustment allows a quick response to different applications and crops. Once the desired track width has been pre-selected, the exact centimetre precise setting is carried out automatically.

Pantera 4504



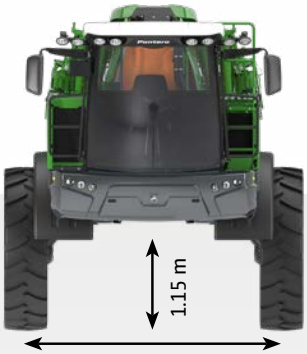
Track width adjustment:
1.80 – 2.40 m

Pantera 4504-H



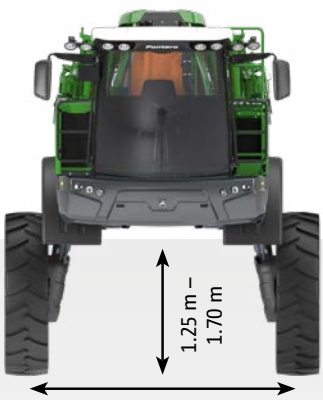
Track width adjustment:
1.80 – 2.40 m (down)
2.10 – 2.60 m (up)

Pantera 4504-W



Track width adjustment:
2.25 – 3.00 m

Pantera 4504-HW



Track width adjustment:
2.25 – 3.00 m (bottom)
2.45 – 3.20 m (top)

Track width and ground clearance respectively with tyre sizes 380/90 R50 (offset depth + 50 mm)

Pantera 4504-H

Ground clearance up to 1.70 m

Pantera-H chassis

Increased flexibility

The driver can lift the machine up to give a ground clearance of 1.70 m at the touch of a button on the operator terminal. The track width can be adjusted between 2.10 m and 2.60 m with the machine in the lifted position.

The broad track width spectrum makes it possible to vary the track width of the machine from 1.80 m to 2.40 m in normal applications which only require a 1.25 m ground clearance.

The advantages of the Pantera-H chassis:

- Ground clearance from 1.25 m to 1.70 m, depending on the tyre sizes
- Sufficient room in all crops without plant damage

Pantera 4504-W

Track width adjustment up to 3 m

Enhanced flexibility

The Pantera 4504-W is equipped with track width adjustment from 2.25 m to 3.00 m. In "Controlled Traffic Farming" systems, the track width potential of the Pantera-W provides the ideal alternative. This specification is also of advantage if working in potato crops without tramlines: four rows of potatoes under the machine provide high stability and ensure minimal plant damage.

The advantages of the Pantera-W chassis:

- Stepless track width adjustment from 2.25 m to 3.00 m, depending on the tyre sizes
- High flexibility and therefore minimal damage to plants
- Compliance with the permissible transport widths

Pantera 4504-HW

For tremendous stability

Maximum flexibility

The Pantera-HW self-propelled sprayer is extremely versatile with a track width adjustment range from
- 2.25 m to 3.00 m with a 1.25 m ground clearance or
- 2.45 m to 3.20 m (3.30 m) with a 1.70 m ground clearance.

In spite of its higher centre of gravity, the Pantera 4504-HW turns out to be very stable and can be flexibly used in a wide variety of crops and row spacings. In particular, contractors looking to offer a flexible plant protection service across a wide range of customers and crops can clearly increase the scope of crop protection treatments possible.

The advantages of the Pantera-HW chassis:
- Angled lifting cylinders provide tremendous stability
- Larger track width in combination with the high-clearance chassis for maximum flexibility

Lift module

The optional Lifti module 700 can be used to raise the Super-L2 boom by a further 70 cm. In combination with this Lift module, the Pantera-H or Pantera-HW has an application height of 3.85 m* measured from the lower edge of the nozzle.

The Lift module is available for the Super-L2 boom and across all chassis versions.

1.70 m ground clearance

3.85 m lift height
(*with tyre sizes 380/90 R50)

Wheel motor guards on the Pantera-H and Pantera-HW

Better protection for both machine and crop

In addition to the standard drive wheel motor guards, AMAZONE offers an additional range of special equipment, such as the drive wheel gearbox covers, crop dividers and the underbelly cover.

SunflowerKit

The crop-saving SunflowerKit

The SunflowerKit was specifically developed for the Pantera-HW, in order to be able to carry out plant protection and liquid fertiliser applications in tall sunflower crops without causing too much plant damage. The kit consists of crop dividers, wheel hub casings and a shaped, flexible underbelly sheet.

The crop dividers precisely separate the plants between the rows directly in front of the tyres. Thanks to the profile of the underbelly sheet and the properties of the flexible material, the sunflowers gently slide under the machine without hindrance.

Drive management with optimised fuel efficiency

Pantera – high-powered intelligence

Stage 5 emissions compliant engine

The new Stage 5 emission complaint engine from AMAZONE uses exhaust gas recirculation, a diesel oxidation catalyst and a diesel particle filter to help protect the environment. The diesel particulate filter is continuously regenerating during operation. The SCR catalytic converter reduces the levels of nitrogen oxide with the aid of a diesel exhaust fluid (DEF) injection. The new 20 litre DEF tank is positioned at the side of the 290 litre diesel tank.
The DEF consumption amounts to approximately 2.5% of the fuel consumption. This means that the DEF only requires refilling every 3 or 4 tankfuls.

The benefits:

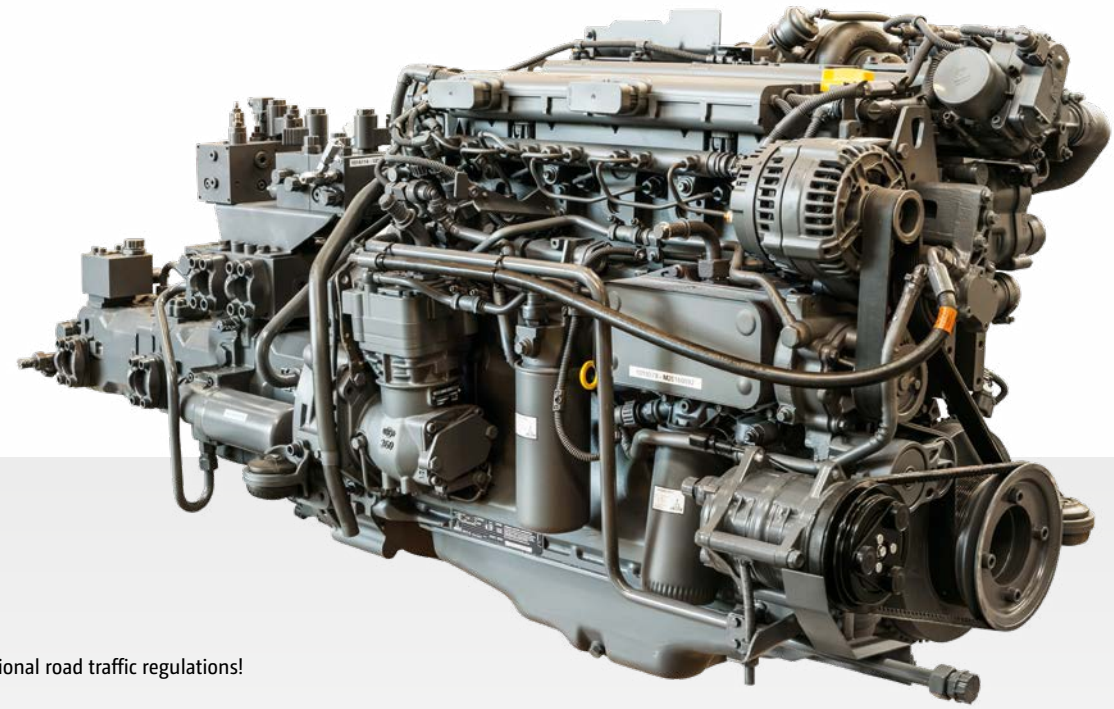
- Stepless hydrostatic drive from 0 to 50 km/h*
- State-of-the-art fuel management on the road and in the field with ECO mode and POWER mode
- Tailor-made speed regulated cooling fan drive
- Proven Deutz technology with a comprehensive service network

The heart as a unit: engine and hydrostatic drive

Deutz 6-cylinder turbo diesel engine with a maximum power rating of 160 kW/218 hp

- Turbocharger with intercooler
- Common-Rail injection technology
- 6.06 l capacity
- Country-specific execution in accordance with either Stage 5 or Stage 3A exhaust gas emission compliance

"The Amazone Pantera impresses with its low diesel consumption, the minimal noise level, the good weight distribution and sufficient payload."
(profi 12/2011)



* Please be aware of national road traffic regulations!

The benefits of the clever cooling system:

- Revs on demand
- The fans even switch off under low power demands and cool temperatures
- Positioned beyond the reach of dirt.
  Left: charge air, hydraulics.
  Right: engine, air-conditioning

Working at optimum fuel saving: ECO or POWER

The new and optimised engine rev regulation mean that you can always operate the Pantera at the optimum fuel consumption efficiency. When ECO mode has been selected on the AmaDrive vehicle terminal, the engine will seek out the optimum operating point for torque and revs for the given driving situation.

When spraying on the flat, an engine rev reduction down to 950 rpm is possible. This finely tuned, automatic adaptation of engine speed takes place continuously between 950 and 2,000 rpm.
However, when working on steep slopes, or operating with a full tank in hilly terrain, maximum power at up to 2,000 rpm can be drawn upon by using the POWER Mode.

Example in ECO mode

1) **Around 80 kW is required on the flat**

2) **When the machine is climbing a hill, the torque increases under load.** The speed remains constant.

3) **The climb is harder: the power consumption increases to 120 kW.** The speed remains constant with slightly increased fuel consumption.

Infinitely variable power

The powerful Deutz 6-cylinder diesel engine with Common-Rail injection technology delivers 218 hp and impresses by its high performance and low fuel consumption. Thanks to the modern hydrostatic drive mechanism, you can drive the Pantera with absolute infinite variability.

This system allows, even at a low engine speeds, high start-up torques and a very dynamic acceleration.

Good power/weight ratio

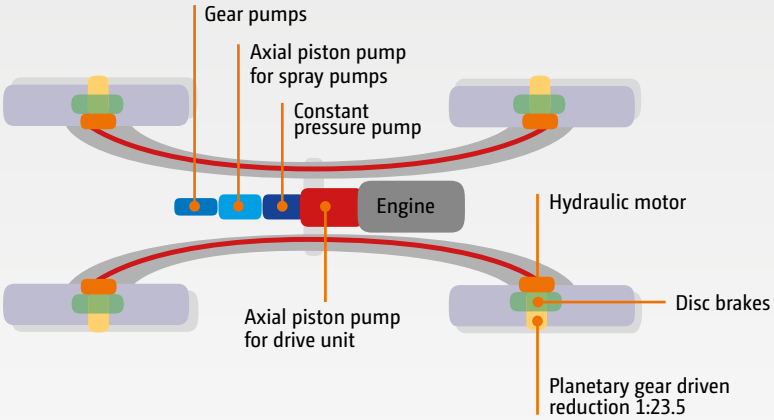
The low unladen weight of the Pantera 4504 (9,900 kg with a 24 m boom) is of further advantage with regard to its low fuel consumption. The fuel tank capacity of 290 l enables high work rates across long days.

- Integrated DEF tank for the Pantera with its Stage 5 emission compliant engine

Intelligent drive and brake management

Your safety is paramount!

"The Amazone Pantera shows very good driving behaviour with a speed of 42 km/h at just 1400 revs."
(profi 12/2011)



Pantera – Reliable intelligence

Due to the large wheel diameter, particularly high torques are necessary when starting of. The intelligent drive concept of the Pantera does not build up these high forces hydraulically but mechanically via the fixed reduction ratio of the planetary gearbox. This is an extremely reliable drive under difficult ground conditions and when starting off.

Pantera^{+} drive concept – Powerful intelligence

With the Pantera^{+}, AMAZONE offers a drive concept that is particularly suitable for extreme terrain in hilly areas. All Pantera models can be equipped with a wheel drive with a gear reduction of 1:30 instead of the standard drive with a gear reduction of 1:23.5. The Pantera^{+} has significantly more power with the alternative wheel drives. Maximum forward speed is 40 km/h.

Traction control as standard

The drive torque at each of the 4 wheel motors is constantly being monitored electronically and regulated to ensure optimum vehicle behaviour, even under difficult ground conditions. Power-consuming differential locks are avoided. Traction control (TCS) also ensures safe driving on the road at all times.

Pantera – Safe intelligence

When the speed is reduced via the drive lever, the Pantera's hydrostatic brake is activated and the vehicle is braked down to a complete stop without fuss. In addition, the Pantera has a hydraulic braking system with disc brakes, which are applied via a foot pedal. The drive stops automatically when they are applied.

Advantages of the drive system:

- High torque at all times
- No speed change steps
- A fixed reduction ratio in the planetary gearboxes drives the wheels

Advantages of the braking system:

- Safe and elegant driving performance
- Reliable braking performance, even during emergency stops from 50 km/h
- Automatic activation of the parking brake when standing still
- Autohold assist when starting off on a slope

Cab management

A professional working environment – get on board and off you go!

"The cab [...] is spacious and pleasantly quiet."
(traction magazine "Working Test Pantera 4502-H" · 2/2015)

Relax ...

... when you sit in this cab

Advantages of the cab:

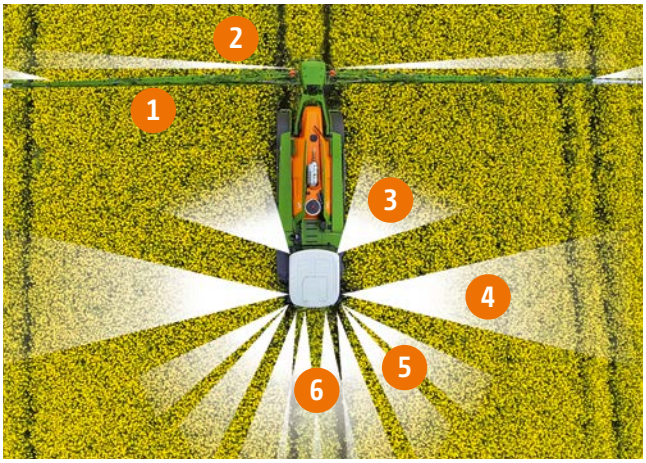
- Good all-round visibility
- Superb sound insulation
- Convenient, wide access with hydraulically folding ladder
- Individually adjustable air-suspended comfort driver seat with leather option, seat ventilation and seat heating
- Large folding passenger seat
- Adjustable steering column
- Height-adjustable and longitudinally-adjustable arm rest with integrated controls
- Climate control
- Active carbon filters or optional Category 4 cab air filtration system
- Electrically adjustable and heated exterior mirrors
- Additional mirror for best view of the front wheel
- Document compartment
- Large cool box under the passenger seat
- Radio with USB SD slot, Bluetooth hands-free connectivity
- Sun blinds for the front windscreen and the rear screen

The optional Category 4 cab air filtration system creates an overpressure, so that the ingress of dust and vapour is prevented.

By day and night - illumination for long and safe working days

1) LED individual nozzle lighting (option)
2) Work lighting (2 halogen spotlights)*
3) Boom work lights (2 halogen spotlights)*
4) Side-view work lights (2 halogen spotlights)*
5) Side work lights (4 halogen spotlights)*
6) Front headlights (4 halogen spotlights)*

* Lights 2) to 6), also optionally available as LED lights



Standard LED rear lights

Everything safely stowed!

The storage compartment under the cab offers useful space.

A two-part clothing locker for clean and contaminated protective clothing is also located on the access to the cab.

The storage area: practical and spacious

Tool box under the cab

Operation management

Everything under control, everything in view

Twin terminal solution for comfortable operation

ISOBUS terminal for operation of the sprayer
The TopCon X35 operator terminal with a 12.1" display and the AmaTron 4 operator terminal with an 8" display are offered for ISOBUS control. Both terminals have a multi-touch colour display. The practical MiniView layout means that handling is extremely comfortable and meets the highest demands of Precision Farming. The sprayer can be conveniently operated via the freely programmable AmaPilot^{+} multi-function joystick.

AmaDrive 7.0 vehicle terminal
The new AmaDrive 7.0 vehicle terminal is integrated in the ergonomic armrest. All vehicle-specific functions can be clearly displayed and intuitively operated on the colour 7" touchscreen. This is provided by the self-explanatory operating structure without multi-level sub-menus, which can be used to control the most important settings from the main screen. The freely configurable status bar means that particularly relevant information is always in view. Switching between day and night mode also makes operation easier.

Twin-terminal solution with the TopCon X35 ISOBUS terminal and AmaDrive 7.0 vehicle terminal as well as the AmaPilot^{+} multi-function joystick

Control of the following functions via the AmaDrive 7.0 vehicle terminal:
- Cruise control
- Engine management with ECO mode or POWER mode
- Steering management and headland management
- Track width adjustment
- Vehicle lighting
- Control of the central lubrication system

Display of:
- Forward speed and engine revs
- Fuel tank level and engine temperature
- Diagnostic data of engine and hydraulic system
- Field mode and road mode

Perfect ergonomics thanks to an adjustable palm rest

AmaPilot+ multi-function joystick – Many functions in one hand

"Get in and drive off" is the motto! Drive the machine steplessly and intuitively using the AmaPilot+ multi-function joystick. In cruise control, and with the maximum forward position of the multi-function joystick, the Pantera achieves speeds of up to 50 km/h on the road and, in the field, it achieves the individually pre-selected desired operating speed (the permissible maximum speed may vary depending on national road traffic regulations).

When the joystick is pulled back, the hydrostatic brake is automatically applied. This automatically actuated hydraulic brake assists the driver in all situations.
The highest sensitivity on start-up and when manoeuvring is guaranteed.

All functions of the sprayer can also be controlled via the multi-function joystick. In this way, you can use the AmaPilot+ for all the functions of steering management, part-width section and boom control and additional functions such as end nozzle control as well as the +/- application rate button.

Advantages of AmaPilot+:
- Perfect ergonomics
- Almost all the functions directly to hand via the 3 levels
- Adjustable palm rest
- Freely programmable individual key layout

Camera systems

The image from the optional reversing camera, which provides a view to the rear or of the manoeuvring device, is fully integrated in the AmaDrive 7.0 vehicle terminal. The display is automatically activated when reverse is selected.

A second optional camera system with a separate screen can be used to permanently display the image from a camera pointed at the right front wheel.

Reversing camera on the rear of the Pantera

- Wide viewing angle of 135 degrees
- Camera with heating and lotus coating
- Clear picture even after dark thanks to infrared night vision technology
- Automatic back light function

Pantera 7004 self-propelled sprayer

24 m – 48 m

6,600 l

up to 96 part-width sections

610 l/min pump capacity

The advantages at a glance:

- High tank capacity and wide boom widths at a working speed of up to 30 km/h
- Lightweight design and large tyre sizes with optimum weight distribution
- Compact design and minimal turning circle for the utmost efficiency, even in smaller fields
- Ultra-modern chassis and cab technology as well as user-friendly operation
- Hydraulic track width adjustment and a wide variety of booms for many different areas of application
- Low centre of gravity and highly-stable running gear with automatic slope compensation

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Standard equipment for the Pantera 7004

- Hydro-pneumatic running gear with independent trailing arm suspension with automatic level regulation and adaptive, forward-speed related suspension control
- Track widths from 2.00 m to 3.00 m (will differ depending on the chassis type and tyre size); the track width can be adjusted steplessly on the AmaDrive vehicle terminal
- Hydraulic front-wheel steer, all-wheel steer and "dog leg steering"; steering angles tailored to the speed and application
- Active slope compensation for more comfort and safety
- Headland management with automated changeover from front-wheel to all-wheel steer, boom lift with AutoLift
- Forward speeds up to 50 km/h, infinitely variable hydrostatic single range transmission with traction control
- Hydraulic braking system with disc brakes and hydraulic parking brake
- Deutz 6-cylinder turbo diesel engine, maximum power output 225 kW/306 hp with emission Stage 5; maximum power output 200 kW/272 hp with emission Stage 3A

- Tyres with a diameter of up to 2.05 m ensure maximum soil protection

- ECO-Mode: fuel saving, performance-related engine rev regulation on the road and in the field
- Fuel tank with a capacity of 290 l or 400 l; Emission Stage 5 compliant with DEF tank (Diesel Exhaust Fluid, e.g. AdBlue) with a capacity of 20 l
- Claas Vista cab, climate control, heating, air-suspended comfort seat, adjustable steering column, radio with USB SD slot, Bluetooth hands-free phone connectivity, windscreen and rear window sunblinds
- AmaDrive vehicle terminal with 7-inch colour touch screen for vehicle operation
- The comfortable armrest, with the AmaPilot^{+} multi-function joystick for drive control and sprayer operation, was developed in-house

- Side lights, dip and main beam headlights, 12 front work lights and 2 side view work lights on the cab roof, front illumination of the boom as well as lighting of the operator station
- Spray liquid tank with a capacity of 6,600 l with agitation, level indicator, tank cleaning nozzles; 500 l fresh water tank and induction bowl
- 610 l/min pump capacity with 3" suction port, max. filling capacity 750 l/min via the injector
- The pump speed is set from the terminal with remote control of the pump down at the operator station
- Suction valve with 3" suction filter (32 mesh) and fill port for fresh water tank
- Valve chest, self-cleaning 1 1/4" pressure filter (50 mesh) and part-width section control, quick emptying
- Comfort-Pack with digital external fill level indicator, automatic fill stop, fill-level dependent and auto-dynamic agitation regulation and remote-controlled cleaning from the cab
- Super-light and super-stable Super-L boom

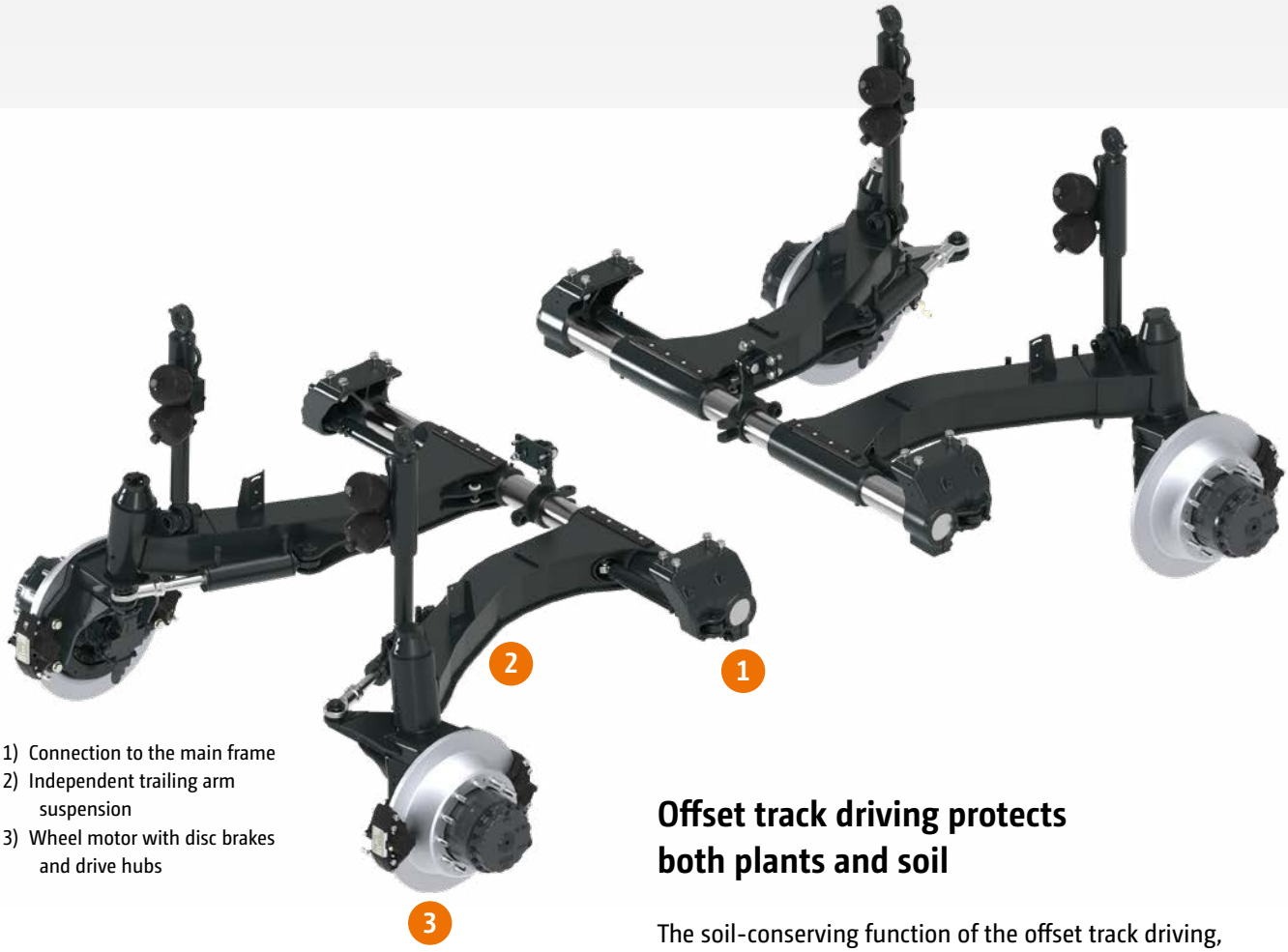
Experts and designers from all over the world were impressed and delighted with the combination of form and performance.

DESIGN AWARD 2023

reddot winner 2023

Pantera 7004 and Pantera 7004-W

Intelligent chassis management



1) Connection to the main frame
2) Independent trailing arm suspension
3) Wheel motor with disc brakes and drive hubs

The advantages of the chassis with independent wheel suspension with slope compensation:

- Independent suspension with perfect contour following
- Comfortable and safe driving characteristics in any situation thanks to adaptive chassis control
- Hydro-pneumatic suspension system with level regulation
- Super-robust frame
- Reliable hydraulic system – no air regulation
- Stepless track width adjustment
- High ground clearance
- Headland management for steering and boom functions
- Stress relief for the driver and gentle boom treatment
- Offset track driving for maximum soil protection
- Safe driving on slopes via the automatic slope compensation

Offset track driving protects both plants and soil

The soil-conserving function of the offset track driving, in which, for example, the front wheels can be set at the minimum track width and the rear wheels at maximum, ensures that the soil is travelled over just once. As a result, especially in unfavourable soil conditions, the soil is not smeared as much and young plants suffer hardly any damage. In contrast to dog-leg steering, the machine is always aligned to the direction of travel.

Offset track driving protects plants and soil

Pantera 7004

Pantera 7004-W

Pantera 7004 – The optimum chassis for all requirements

The new running gear with independent trailing arm suspension is of a unique design. The hydro-pneumatic suspension is adaptive, whereby the characteristics of the running gear are tailored to suit the driving situation. This intelligent control provides the best driving stability and maximum driving comfort combined with a simple and weight-reduced design in comparison with a conventional independent suspension. In addition, the system prevents any rocking when the tank is not completely full which enables high driving speeds, even on poor quality roads.

Hydraulic track width adjustment

Hydraulic track width adjustment, with a standard track width from 2.00 m to 2.75 m, is standard equipment. The Pantera-W, with track widths from 2.25 m to 3.00 m, is also available. The ground clearance in both machines is approximately 1.30 m, which means that tall crops can be driven through without damage.

Active slope compensation

The integrated slope compensation is another highlight. The inclination of the vehicle is detected via sensors and the machine is automatically kept horizontal up to a gradient of 10 %. In combination with the low centre of gravity of the machine and the hydro-pneumatic chassis, this feature provides extremely high slope stability. In addition to the enhanced driving comfort, this enables the driver to work extremely safely, even in very hilly terrain.

Low risk of tipping over in hilly terrain thanks to automatic slope compensation

Drive management with optimised fuel efficiency

Pantera – high-powered intelligence

Stage 5 emissions compliant engine

The new Stage 5 emission complaint engine from AMAZONE uses exhaust gas recirculation, a diesel oxidation catalyst and a diesel particle filter to help protect the environment. The diesel particulate filter is continuously regenerating during operation. The SCR catalytic converter reduces the levels of nitrogen oxide with the aid of a diesel exhaust fluid (DEF) injection. The 20 litre DEF tank is positioned at the side of the standard 290 litre diesel tank. The DEF consumption amounts to approximately 2.5% of the fuel consumption. A tank extension of 110 litres is available as an option, meaning that a tank capacity of 400 litres is possible.

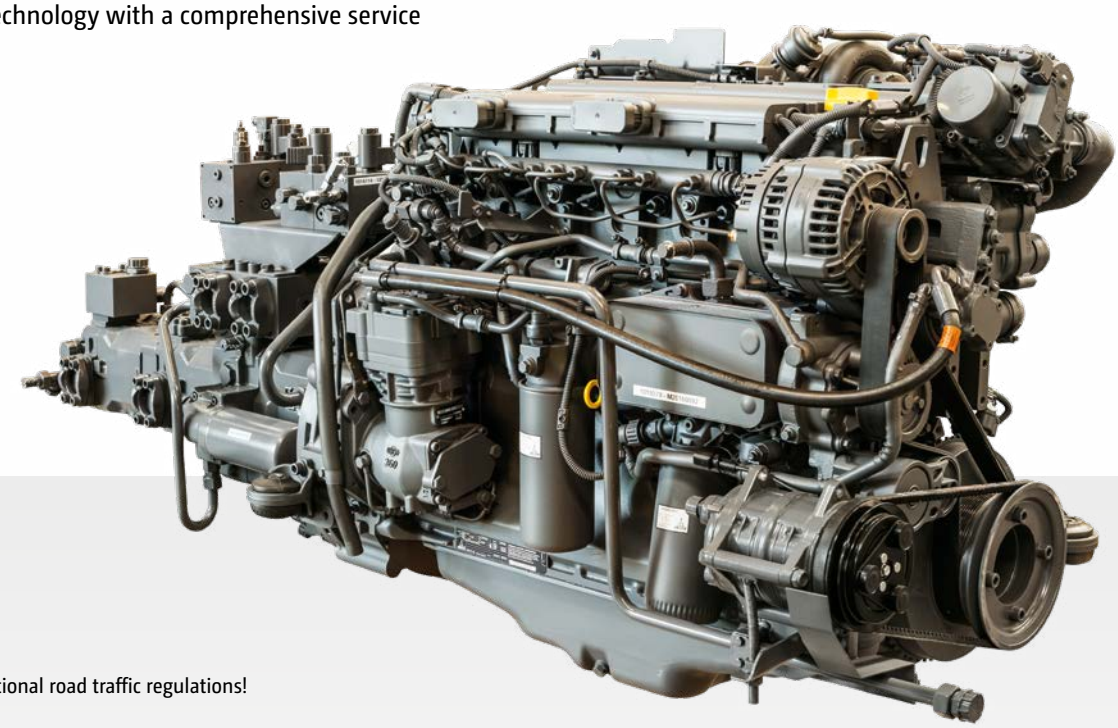
The benefits:

- Stepless hydrostatic drive from 0 to 50 km/h*
- State-of-the-art fuel management on the road and in the field with ECO mode and POWER mode
- Tailor-made speed regulated cooling fan drive
- Proven Deutz technology with a comprehensive service network

The heart as a unit: engine and hydrostatic drive

Deutz 6-cylinder turbo diesel engine with a maximum power rating of 225 kW/306 hp or 200 kW/272 hp

- Turbocharger with intercooler
- Common-Rail injection technology
- 7.8 l capacity
- Country-specific execution in accordance with either Stage 5 or Stage 3A exhaust gas emission compliance



* Please be aware of national road traffic regulations!

The benefits of the clever cooling system:

- Revs on demand
- The fans even switch off under low power demands and cool temperatures
- Positioned beyond the reach of dirt.
  Left: charge air, hydraulics.
  Right: engine, air-conditioning

Working at optimum fuel saving: ECO or POWER

The new and optimised engine rev regulation mean that you can always operate the Pantera at the optimum fuel consumption efficiency. When the ECO mode has been selected on the AmaDrive vehicle terminal, the engine will seek out the optimum operating point for torque and revs for the given driving situation.

When spraying on the flat, an engine rev reduction down to 950 rpm is possible. This finely tuned, automatic adaptation of engine speed takes place continuously between 950 and 2,000 rpm.
However, when working on steep slopes, or operating with a full tank in hilly terrain, maximum power at up to 2,000 rpm can be drawn upon by using the POWER Mode.

Example in ECO mode

1) **Around 80 kW is required on the flat**

2) **When the machine is climbing a hill, the torque increases under load.** The speed remains constant.

3) **The climb is harder: the power consumption increases to 120 kW.** The speed remains constant with slightly increased fuel consumption.

Infinitely variable power

The powerful Deutz 6-cylinder diesel engine with Common-Rail injection technology delivers 306 hp and impresses with its high performance and low fuel consumption. Thanks to the modern hydrostatic drive mechanism, you can drive the Pantera with absolute infinite variability.

This system allows, even at a low engine speeds, high start-up torques and a very dynamic acceleration.

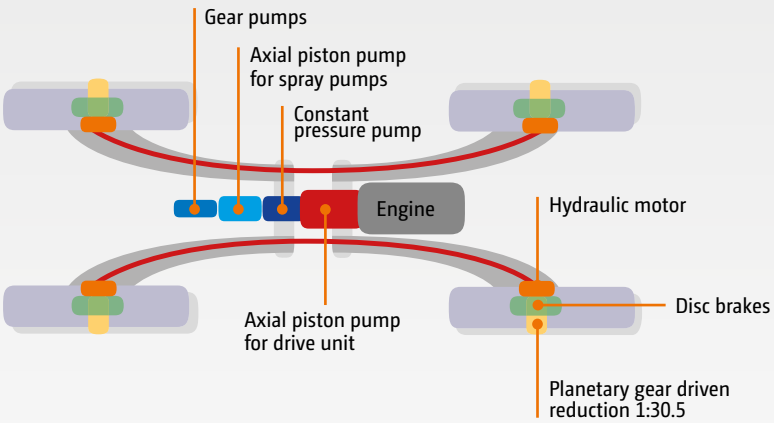
Good power/weight ratio

The low unladen weight of the Pantera 7004 (approx. 11,750 kg with a 24 m boom) is a further advantage with regard to its low fuel consumption. With a tank capacity of up to 400 l, you can cover high acreages and long working days.

- Integrated DEF tank for the Pantera with its Stage 5 emission compliant engine

Intelligent drive and brake management

Your safety is paramount!



Pantera – Reliable intelligence

Due to the large wheel diameter, particularly high torques are necessary when starting of. The intelligent drive concept of the Pantera does not build up these high forces hydraulically but mechanically via the fixed reduction ratio of the planetary gearbox. This is an extremely reliable drive under difficult ground conditions and when starting off.

Tyres with a diameter of up to 2.05 m ensure maximum traction and optimum soil protection. The higher gear drive reduction ratio in the Pantera 7004 also ensures that enough torque is available in any driving situation.

Traction control as standard

The drive torque at each of the 4 wheel motors is constantly being monitored electronically and regulated to ensure optimum vehicle behaviour, even under difficult ground conditions. Power-consuming differential locks are avoided. Traction control (TCS) also ensures safe driving on the road at all times.

Pantera – Safe intelligence

When the speed is reduced via the drive lever, the Pantera's hydrostatic brake is activated and the vehicle is braked down to a complete stop without fuss. In addition, the Pantera has a hydraulic braking system with disc brakes, which are applied via a foot pedal. The drive stops automatically when they are applied.

Advantages of the drive system:

- High torque at all times
- No speed change steps
- Possibility of larger wheel diameters
- A fixed reduction ratio in the planetary gearbox drives the wheel

Advantages of the braking system:

- Safe and elegant driving performance
- Reliable braking performance, even during emergency stops from 50 km/h
- Automatic activation of the parking brake when standing still
- Autohold assist when starting off on a slope

Cab management

A professional working environment – get on board and off you go!

Relax ...

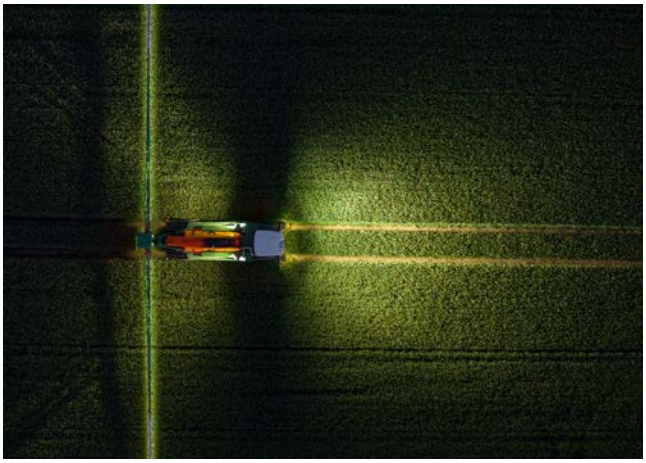
... when you sit in this cab

Advantages of the cab:

- Good all-round visibility
- Superb sound insulation
- Convenient, wide access with hydraulically folding ladder
- Individually adjustable air-suspended comfort driver seat with leather option, seat ventilation and seat heating
- Large folding passenger seat
- Adjustable steering column
- Optional footrests
- Height-adjustable and longitudinally-adjustable arm rest with integrated controls
- Climate control
- Active carbon filters or optional Category 4 cab air filtration system
- Electrically adjustable and heated exterior mirrors
- Additional mirror for best view of the front wheel
- Document compartment
- Large cool box under the passenger seat
- Radio with USB SD slot, Bluetooth hands-free connectivity
- Sun blinds for the front windscreen and the rear screen

By day and night – illumination for long and safe working days

14 LED work lights are now incorporated in the cab roof as standard. Night turns to day in conjunction with the LED work lights at the rear of the machine and the option of individual nozzle lighting on the boom.



Standard LED rear lights

Everything safely stowed!

The storage compartment under the cab offers useful space.

A two-part clothing locker for clean and contaminated protective clothing is also located on the access to the cab.

The storage area: practical and spacious

Tool box under the cab

Operation management

Everything under control, everything in view

Twin terminal solution for comfortable operation

ISOBUS terminal for operation of the sprayer
The TopCon X35, Trimble TME 1260 and the AmaTron 4 operating terminals are available for ISOBUS operation. All terminals have a multi-touch colour display.
The practical MiniView layout means that handling is extremely comfortable and meets the highest demands of Precision Farming. The sprayer can be conveniently operated via the freely programmable AmaPilot+ multi-function joystick.

AmaDrive 7.0 vehicle terminal
The new AmaDrive 7.0 vehicle terminal is integrated in the ergonomic armrest. All vehicle-specific functions can be clearly displayed and intuitively operated on the colour 7" touchscreen. This is provided by the self-explanatory operating structure without multi-level sub-menus, which can be used to control the most important settings from the main screen. The freely configurable status bar means that particularly relevant information is always in view. Switching between day and night mode also makes operation easier.

Twin-terminal solution with the TopCon X35 ISOBUS terminal and AmaDrive 7.0 vehicle terminal as well as the AmaPilot+ multi-function joystick

Control of the following functions via the AmaDrive 7.0 vehicle terminal:
- Cruise control
- Engine management with ECO mode or POWER mode
- Steering management and headland management
- Track width adjustment
- Vehicle lighting
- Control of the central lubrication system

Display of:
- Forward speed and engine revs
- Fuel tank level and engine temperature
- Diagnostic data of engine and hydraulic system
- Field mode and road mode

- The new armrest was developed in-house and is characterised by its extremely clear and ergonomic design. It is tailored specifically to the functionality of a self-propelled sprayer, and all the important functions are always within reach.

Perfect ergonomics for the driver

AmaPilot+ multi-function joystick – Many functions in one hand

"Get in and drive off" is the motto! Drive the machine steplessly and intuitively using the AmaPilot+ multi-function joystick. In cruise control, and with the maximum forward position of the multi-function joystick, the Pantera achieves speeds of up to 50 km/h on the road and, in the field, it achieves the individually pre-selected desired operating speed (the permissible maximum speed may vary depending on national road traffic regulations).

When the joystick is pulled back, the hydrostatic brake is automatically applied. This automatically actuated hydraulic brake assists the driver in all situations.
The highest sensitivity on start-up and when manoeuvring is guaranteed.

All functions of the sprayer can also be controlled via the multi-function joystick. In this way, you can use the AmaPilot+ for all the functions of steering management, part-width section and boom control and additional functions such as end nozzle control as well as the +/- application rate button.

Advantages of AmaPilot+:
- Perfect ergonomics
- Almost all the functions directly to hand via the 3 levels
- Adjustable palm rest
- Freely programmable individual key layout

Camera systems

The image from the optional reversing camera, which provides a view to the rear or of the manoeuvring device, is fully integrated in the AmaDrive 7.0 vehicle terminal. The display is automatically activated when reverse is selected.

A second optional camera system with a separate screen can be used to permanently display the image from a camera pointed at the right front wheel.

Reversing camera on the rear of the Pantera

- Wide viewing angle of 135 degrees
- Camera with heating and lotus coating
- Clear picture even after dark thanks to infrared night vision technology
- Automatic back light function

AmaTron 4 ISOBUS terminal

Full functionality

The AmaTron 4 ISOBUS operator terminal, developed in-house by AMAZONE, enables convenient tablet-style, touch-screen control of any ISOBUS-enabled agricultural machine. AmaTron 4 makes all ISOBUS functionality possible – with added convenience, user-friendliness and overviews. And yet: it performs even better in combination with AMAZONE agricultural machinery and guarantees full functionality when it comes to precision farming.

ROBUSTNESS

STURDY!

- Low-reflection, 8" display with waterproof and dustproof aluminium housing
- Rear-mounted hand rest for a secure grip

RELIABILITY

WELL THOUGHT THROUGH!

- Practical and clear menu navigation for simple and intuitive use
- Actuation via touch screen or soft keys
- Simple documentation and job management: work first – then save the data
- Optional software licences for maximising every opportunity in precision agriculture

COMFORT

COMFORT!

- App carousel for quick and easy navigation at the swipe of a finger
- Freely configurable status bar – the most important parameters available at a glance, all of the time
- The practical quick-start menu allows quick and easy import and export of job data

Extended functionality via licences	Functions for the Pantera in the AmaTron 4
GPS-Maps&Doc	• Inactive field boundaries and automatic field detection • Documentation via ISOBUS Task Controller or PDF export • Application maps in ISO-XML format and Shape file format • Online data exchange via the AmaTron Share App
GPS-Switch basic	• Section Control with up to 16 part-width sections • Virtual headland • Automatic boom lowering
GPS-Switch pro	• Section Control with up to 128 part-width sections • Auto-zoom, obstacle marking • MultiBoom - Section Control for up to 4 different materials • Spot spraying
GPS-Track	• Optical parallel guidance aid • Various different track modes
AmaCam	• Display of a camera image on the AmaTron 4 including reverse detection
AmaTron Twin	• Display extension using the AmaTron Twin App
GPS-ScenarioControl	• Extension of the AmaTron Twin App, cross-machine route display

Automated steering systems

Automated steering systems

AMAZONE offers the Steer-Ready kit as a GPS-based automated steering solution which controls the hydraulic steering. This provides a reproducible track-to-track accuracy of approx. 2 cm in combination with an RTK correction signal.

Steer Ready prepared connection for third-party systems

As an option, the Pantera can be equipped with the Steer Ready prepared connection for automatic steering systems. As a result, the Pantera is prepared ex works for the installation of various steering system products.

Two versions ex works

There is a choice of two manufacturers with regard to the steering system which can be installed in the Pantera in the factory. The customer can choose between the premium suppliers TopCon and Trimble, each of which can be equipped with different correction signals up to and including RTK accuracy, depending on the requirements.

TopCon X35ISOBUS terminal with AGS-2 receiver for automatic track guidance and part-width section control

Trimble TME 1260 ISOBUS terminal with NAV-900 receiver for automatic track guidance and part-width section control

Workday made easy –

Make the most of the possibilities!

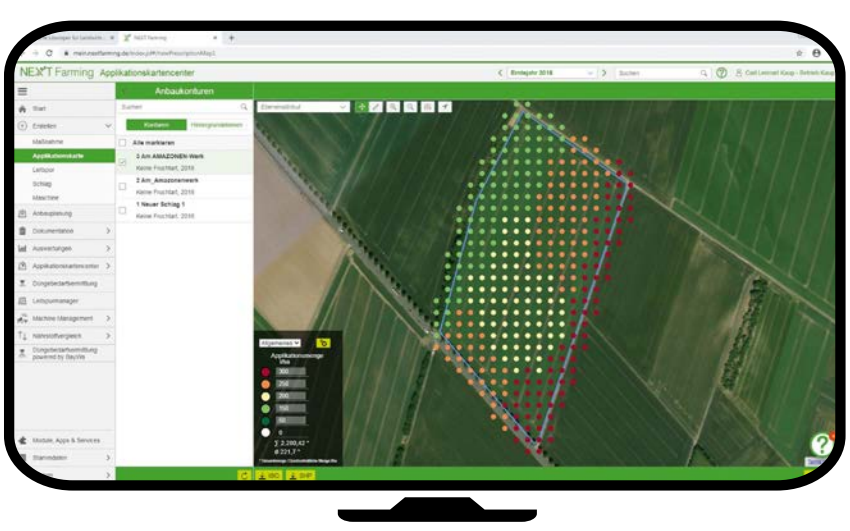
GPS-Maps&Doc
with data exchange via the AmaTron Share App

With the GPS-Maps&Doc licence, the AmaTron 4 can gather and document both machine data and georeferenced data via Task Controller (TC).
Part-area, site-specific operation via application maps in either Shape file or ISO-XML format is also possible.

Advantages of GPS-Maps&Doc with the AmaTron Share App:

- Intuitive system for processing application maps
- Automatic part-area, site specific regulation of the application rate
- Indication of inactive field boundaries and automatic field detection when approaching the vicinity
- Optimum crop management via needs-based application
- Comfortable import of jobs in ISO-XML or Shape file format and export of completed jobs in ISO-XML format or as a job summary in PDF format via the AmaTron Share App
- Start a new task straight away and decide later whether the data is to be saved or not

AmaTron Share App – for comfortable data management!



Generation of an application map in a farm management information system for automatic part-area, site-specific control of the application rate via the AmaTron 4

Display of the application map in AmaTron 4

Display of the camera image in the AmaTron 4

GPS-Track

The GPS-Track parallel guidance greatly helps with orientation in the field, especially on grassland or in areas without tramlines.

- With a virtual light bar in the status bar
- Automatic tramline control via GPS for seed drills
- Various track modes such as A-B lines or contour following
- Optional with AmaTron 4

AmaCam

Software licence for displaying a camera image on AmaTron 4.

- Automatic display of the camera image on AmaTron 4 when reversing

AmaTron Share App for digital data transfer. Try it now!

The AmaTron Share App, which is connected to the AmaTron 4 via Wi-Fi, allows all data to be conveniently transferred online. For example, the App enables application maps to be easily sent from the office to the AmaTron 4 for completion. Job data can also be sent to customers or back to the office as PDF documentation via the cloud, email or messenger services such as WhatsApp after the job has been completed. This is user-friendly data management!

The AmaTron Share App

Automatic part-width section control GPS-Switch with Section Control

GPS-Switch

If the operating terminal facilitates Section Control, such as GPS-Switch part-width section control from AMAZONE, the part-width sections are activated completely automatically and in relation to the GPS position.
Once a field has been created, and then in automatic mode, the driver can concentrate fully on the operation of the towing vehicle, since the part-width sections are switched automatically in wedge shaped fields and on headlands.

Benefits of automatic part-width section control:

- Stress relief on the driver
- Increase in precision especially at night or at higher speeds
- Fewer overlaps and gaps
- Saving on input costs
- Less crop damage and less environmental pollution

"With Section Control, the ISOBUS terminal takes a lot of pressure away from the driver."

("dlz agrar magazine" – test report ZA-TS fertiliser spreader · 02/2017)

With GPS-Switch, AMAZONE offers GPS-based, fully automatic part-width section control for all AMAZONE operator terminals and ISOBUS-compatible fertiliser spreaders, crop protection sprayers or seed drills.

GPS-Switch basic

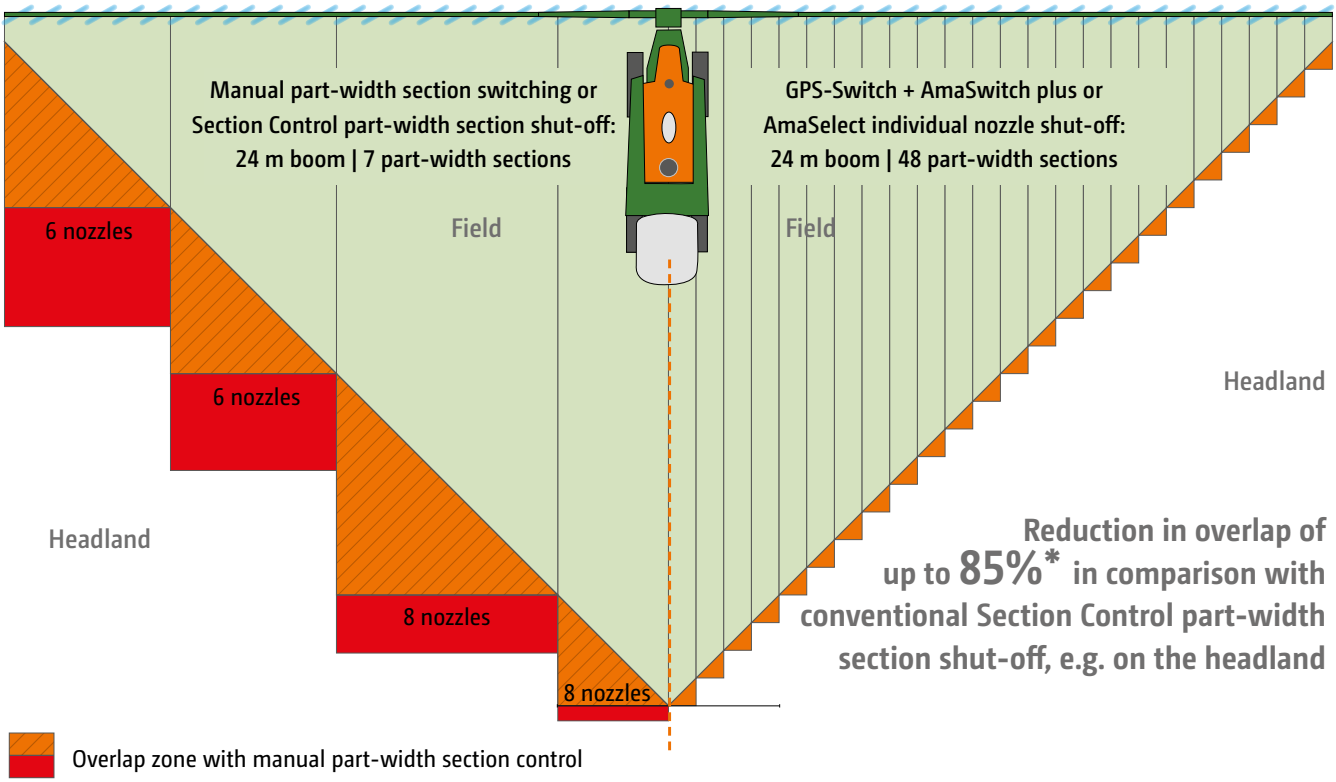
- Automatic part-width section control with up to 16 part-width sections
- Creation of a virtual headland
- Automated boom lowering on AMAZONE crop protection sprayers

GPS-Switch pro (as an extension of GPS-Switch basic)

- Automatic part-width section control with up to 128 part-width sections, ideal, in particular, for sprayers with individual nozzle control
- Auto-zoom when approaching the headland and obstacle marking
- Spot spraying

Overlaps on the headland or in wedge shaped fields are prevented via precise switch points with GPS-Switch.

Example: 24 m working width (6-6-8-8-8-6-6 = 48 nozzles)



Overlap zone with manual part-width section control

Overlap zone with Section Control part-width section shut-off

Overlap zone on 50 cm GPS part-width sections

Automatic part-width shut-off on the headland and in wedge-shaped fields GPS-Switch

5%*

Saving on crop protection agent usage

* Savings are dependent on field shape, boom width and the number of part-width sections

Electric individual nozzle control

AmaSwitch plus or AmaSelect

5%*

Additional saving in crop protection agent usage

Precise switching with 50 cm part-width sections

The decisive benefit of individual nozzle control is the possibility to operate with small part-width sections giving an even greater degree of accuracy in wedge shaped fields, short work and on the headland. The automatic switching of individual nozzles on 50 cm part-width sections is made possible by combining AmaSwitch plus or AmaSelect and the automatic GPS-Switch part-width section control.

Overlapping is reduced by up to 85% in comparison with conventional Section Control part-width section shut-off. So, the combination of GPS-Switch and individual nozzle control results in, depending on field shape and size, the working width and number of part-width sections, significant savings in spray agent compared with a normal spraying system used thus far.

Steering management on all Panteras

It has to be manoeuvrable, compact and flexible!

Front-wheel steering

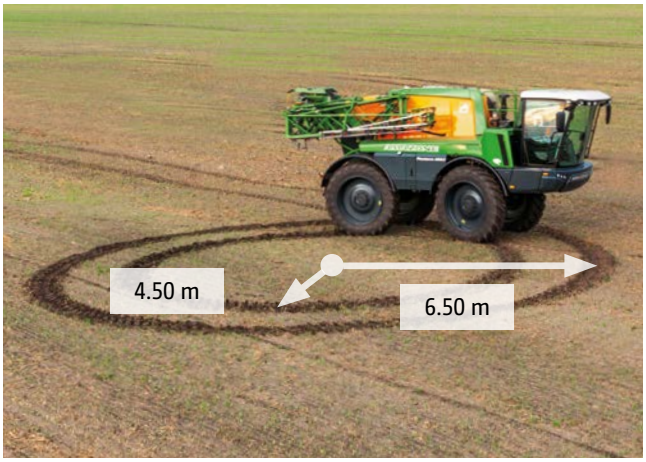
All-wheel steering

Dog leg steer

Relax and enjoy the job – Even on the headland

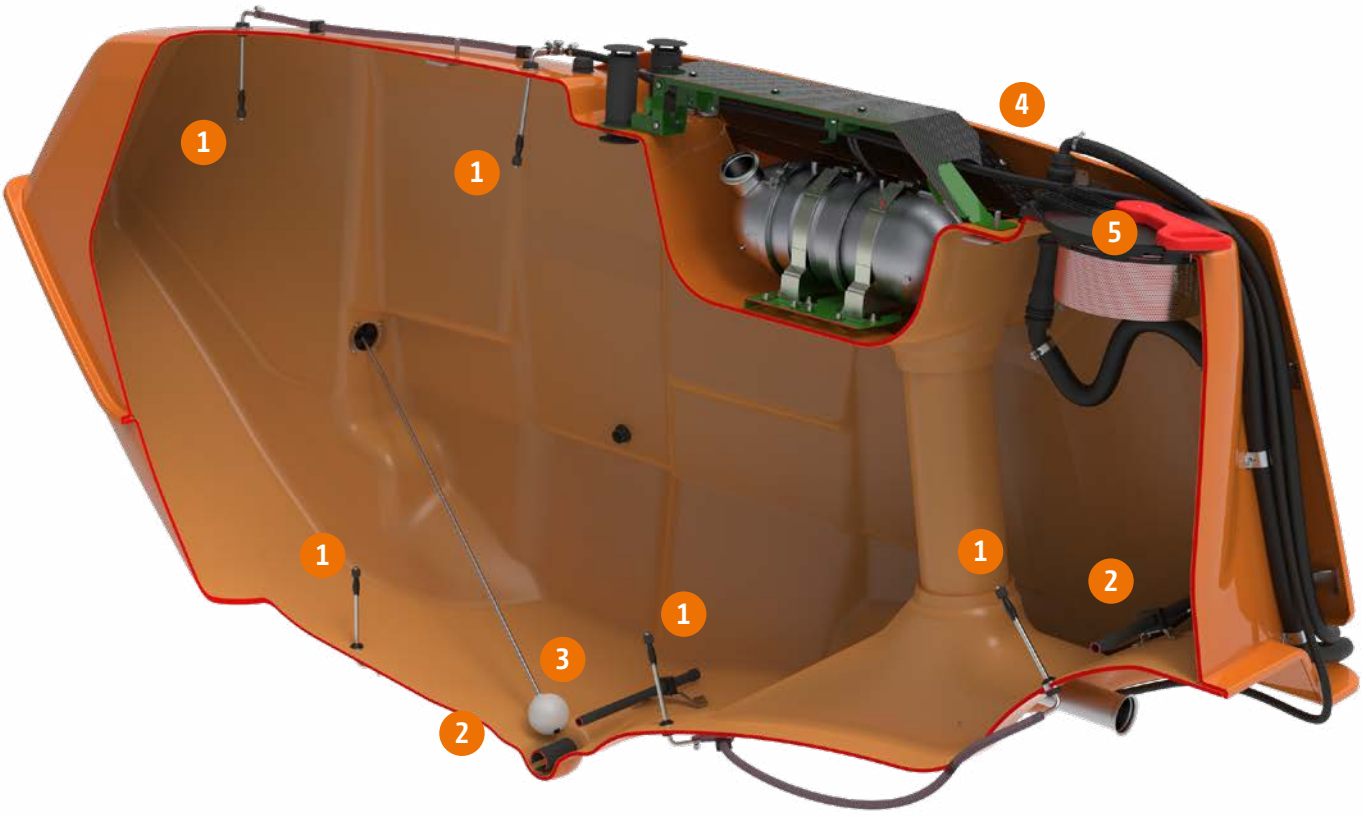
In spite of the size of the vehicle, the minimum turning circle of the Pantera is only 4.50 m when in all-wheel steer. This extreme manoeuvrability significantly increases work rates, particularly in small fields. Switching between all-wheel and front-wheel steer is carried out on the AmaDrive 7.0 vehicle terminal. Dog leg steer helps you keep perfectly on track, even on a side slope.

The Pantera also shows its intelligence on the headland: If headland management has been activated on the AmaDrive 7.0 vehicle terminal, switching off the nozzles automatically switches to all-wheel steer and the boom is lifted. Front-wheel steering is restored when the nozzles are switched on after turning has been completed.



AmaDrive 7.0 vehicle terminal

Intelligent liquid management: integrated into the total machine concept



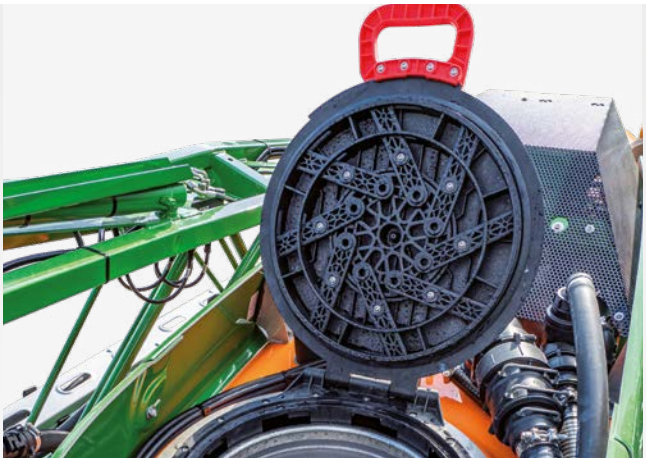
1) High-pressure nozzles
2) Agitator
3) Fill level sensor
4) Venturi
5) Tank lid

Optimised for professional use

The spray agent tank with a capacity of 4,500 l (actual capacity 4,750 l) or 6,600 l (actual capacity 7,000 l) is positioned low in the frame and ensures a favourable centre of gravity and even weight distribution to all 4 wheels of the Pantera. The spray agent tank consists of high-grade glass fibre reinforced plastic with smooth internal and external walls.

The low positioned outlet sump ensures the smallest of residual volumes even on sloping terrain. An electronic fill level indicator and 4 rotating high-pressure nozzles for internal cleaning are standard. The 500 l fresh water tank with level indicator is located at the rear of the Pantera.

Pump system on the right-hand side of the machine



Securely closing tank dome cover

High-capacity pumps

The 2 high-performance piston diaphragm pumps with a pump capacity of 520 l/min for the Pantera 4504 or 610 l/min for the Pantera 7004 ensure that spraying is possible even at high water rates and high forward speeds, and that sufficient agitation capacity is always available. A pump speed from 380 to 580 rpm can be chosen in the AmaDrive terminal. The pumps are positioned on the right-hand side of the machine and are easily accessible.

Bowser fill connection with automatic fill stop

The automatic fill stop prevents overfilling of the machine when filling via the suction hose. Automatic fill stop is optionally available for the bowser fill port. The bowser fill port is located up front in the storage compartment, which allows pressure filling from the edge of the field without having to fold in the boom. The 3" port in the Pantera 7004 enables filling to be carried out at up to 1000 l/min.

Tank dome cover

The tank dome cover is completely developed and manufactured by AMAZONE and is unique on the market. The ergonomic handle makes it simple to open and close with little effort. The tank dome lid is robustly designed and optimally closed by the 8-fold locking system.

High application rates thanks to HighFlow^{+}

HighFlow^{+} allows both pumps to be used for spraying. If the normal spray output of 200 l/min is not sufficient, the liquid flow from the agitation pump is automatically used as required until the desired application rate is reached. The remaining capacity of the agitation pump continues to be used for agitating the liquid in the spray agent tank.

- It allows large quantities of liquid fertiliser to be applied at higher speeds
- For vegetable applications, then rates of 2,000 l/ha at 5 -6 km/h are possible

- Bowser fill port in the storage compartment with automatic fill stop

- HighFlow^{+} is equipped with an additional, self-cleaning pressure filter

SmartCenter with Comfort-Pack

Handling made easy

The operating components of the Pantera with Comfort-Pack

1) Induction bowl
2) Hand lance pistol for rinsing out the induction bowl
3) Self-cleaning pressure filter
4) Suction filter
5) Seven-way pressure valve
6) Soap dispenser
7) Control tap for induction bowl
8) TwinTerminal 3.0
9) Pressure filter drain
10) Hand wash tank tap
11) Fill port for fresh water tank including Gardena coupling
12) Control tap for venturi/induction bowl draw-out/additional filling capacity
13) 3" Camlock suction port

Comfort-Pack with TwinTerminal 3.0

In-house designed seven-way pressure valve

Comfort-Pack – Simple and intuitive operation

With Comfort-Pack, the TwinTerminal 3.0 comes as standard. Also, in addition, automatic fill stop for the suction fill is also included and, as an option, fill stop is also available when filling under pressure from a bowser. During application, the intensity of the agitation is regulated depending on the tank fill level. As the fill level decreases, the agitation capacity is automatically reduced down until it is completely switched off preventing the formation of foam at low tank volumes. In addition, the automatic agitation regulation offers auto-dynamic agitator control. This means: the auxiliary agitator is closed when a higher application rate is required at the boom.

After the spraying operation is finished, Comfort-Pack provides fully automatic cleaning which can be controlled completely remotely from the cab. Additional functions such as boom rinsing, cleaning the spray liquid circuit from heavy deposits or a defined dilution of a subsequent tank mix in the field are all functions included within Comfort-Pack.

The benefits:

- Comfortable filling of the spray agent tank and the fresh water tank via the automatic fill stop
- No foaming of the spray agent due to the automatic fill-level dependent control and switching off of the agitation
- Always maximum capacity when spraying and agitating thanks to the auto-dynamic agitator control
- Remote-controlled, automatic cleaning programmes for a clean sprayer

Seven-way pressure valve safe changeover with seat valves

The seven-way pressure valve provided on Panteras with Comfort-Pack is extremely practical. As opposed to a normal pressure tap, the in-house developed valve from AMAZONE consists of a cam and seat valves. Exclusively by swivelling in and out the handle on the pressure tap, the relevant route for the liquid is reliably opened or closed.

The benefits:

- All functions on the pressure side are actuated via one tap
- Minimal wear of the seals and insensitivity to sand and suspended matter in the water
- No unwanted route is activated when changing the function

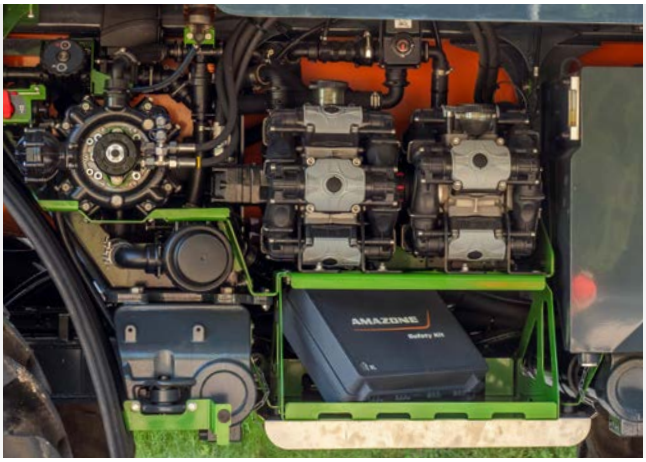
SmartCenter with Comfort-Pack plus

Operation with maximum comfort

The operating components of the Pantera with Comfort-Pack plus

1) Induction bowl
2) Hand lance pistol for rinsing out the induction bowl
3) Closed Transfer System, pressure connection ¾"
4) Suction filter
5) Self-cleaning pressure filter
6) TwinTerminal 7.0
7) Soap dispenser
8) Control tap for induction bowl
9) Hand wash tank tap
10) Fill port for the fresh water tank including Gardena coupling
11) Closed Transfer System, pressure connection 1"
12) 3" Camlock suction port

TwinTerminal 7.0 can be operated in gloves without any problems



The fresh water pump (160 l/min) is located next to the two high-capacity piston diaphragm pumps

TwinTerminal 7.0 with pressure-sensitive touchscreen

Handling is made especially comfortable by Comfort-Pack plus. Instead of operating taps, TwinTerminal 7.0 makes machine operation much easier with its pressure-sensitive touchscreen. The complete control of the spray agent circuit is carried out solely via the pressure-sensitive touch screen which functions perfectly even when wearing gloves. The user just selects the desired function and the sprayer adjusts itself automatically!

In the job computer, two individual filling profiles for different operators or applications can be stored. Then only the hose has to be coupled for filling, and the machine automatically fills the spray agent tank and fresh water tank up to the desired tank fill level. As an option, the operator can select individually an adjustable pause in the filling of the spray agent tank.

Fresh water pump

Comfort-Pack plus includes a fresh water pump with an output capacity of 160 l/min. This can be used to supply the induction bowl with fresh water from the fresh water tank during bowser filling.

The fresh water pump can be used to fill the fresh water tank and the spray agent tank in parallel via the suction port. The additional fresh water pump also enables faster cleaning of the Pantera.

Automatic and independent cleaning

The complete sprayer along with the induction bowl can be cleaned fully automatically. For this purpose, the Pantera with Comfort-Pack plus is equipped with the following cleaning programmes: intensive clean, quick clean and boom rinsing.

In addition, after every fill, the induction bowl rinses itself on its own.

The benefits:

- Simple operation: choose the function and the machine adjusts everything fully automatically
- Maximum comfort: automatic filling and automatic fill stop for both suction and bowser filling
- Maximum safety: fully automatic cleaning of the entire machine including the induction bowl
- Maximum capacity: automatic quick fill via the venturi when the chemical induction is completed
- Auto-dynamic agitation control

DirectInject direct feed system

Quick, flexible and needs-based metering of additional plant protection agents

Why use DirectInject?

The demands on farmers and technology are constantly increasing with regard to plant protection. Flexibility in the selection of plant protection agents in the field becomes an increasingly important point here. From a plant establishment perspective, the needs-based application of specific products and active ingredients only in sections or on individual fields is a frequent response. There are also restrictions relating to protection-sensitive fields and bodies of water which farming must consider when selecting the appropriate plant protection agents.

Activation of DirectInject in the AmaTron 4 terminal

DirectInject tank with integrated sieve for easy and safe filling

System overview

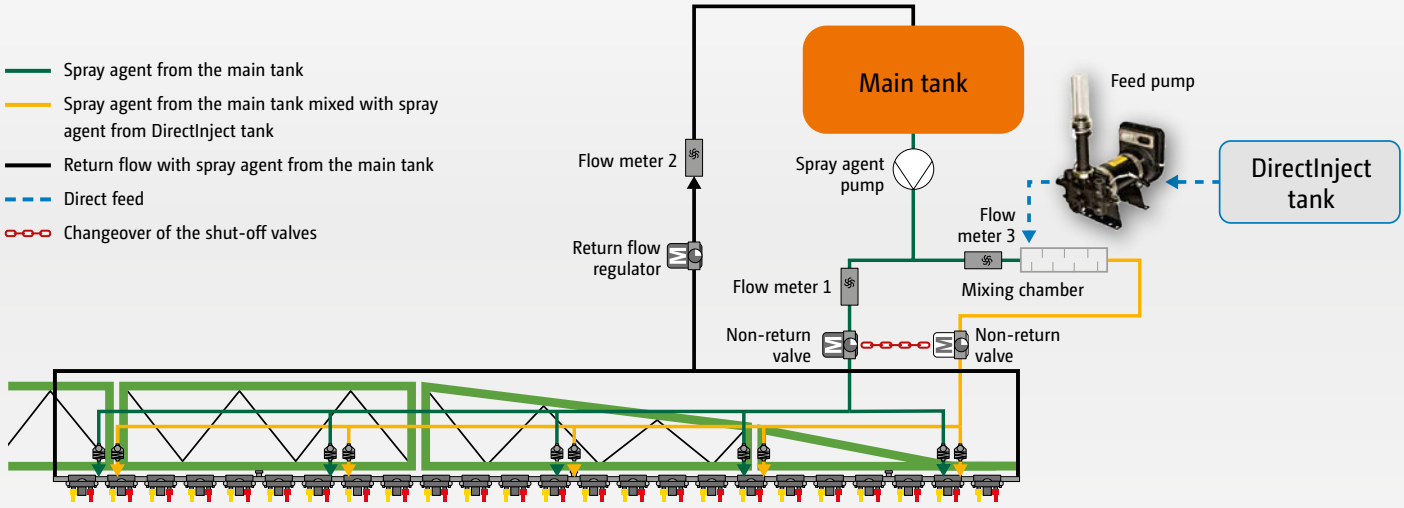
DirectInject from AMAZONE is a system for the direct injection of plant protection agents. These can be injected or stopped during application as required. The special feature of DirectInject compared to conventional systems is the fast response time of the injection and its complete integration in the spray agent circuit and operation of the sprayer. DirectInject consists of an additional 50 l tank with a corresponding metering system which is integrated between the cab and the main spray agent tank.

The advantages at a glance:

- Flexible, fast and needs-based use of plant protection agents
- Optimised crop canopy
- Environmentally-friendly
- Saving on:
  - Working time and labour costs
  - Machine costs
  - Plant protection agents

Application in the field

If the driver of the Pantera notices, for instance, a prevalence of unwanted weeds which need to be controlled in a specific part-area, they can activate the DirectInject metering system from the cab at the touch of a button. The supplementary product from the DirectInject tank is then added to the spray agent from the spray agent tank in the mixing chamber. The optimised reaction time compared to conventional systems is achieved by a twin-line system. Pre-mixed spray agent from the spray agent tank and the plant protection agent from the DirectInject tank are held in a second spray line in the boom. When the direct feed system is activated, the mixture is supplied to the nozzle bodies via several injection points on the boom and applied. This guarantees minimal reaction times. In this regard, the valve for the spray agent from the spray agent tank and the valve for the second spray line with the pre-mixed DirectInject agent are switched alternately, meaning that spray agent is only taken from one line at any time.



Short routes along the boom for fast reaction times

Reaction distance in the field approx. 30 m

Operating options at a glance

		Comfort-Pack	Comfort-Pack plus
Operation: suction side	Electrically actuated via TwinTerminal 3.0	■	–
	Electrically actuated via pressure-sensitive TwinTerminal 7.0	–	■
Operation: pressure side	Seven-way pressure valve	■	–
	Electrically actuated via pressure-sensitive TwinTerminal 7.0	–	■
Bowser fill	- fresh water tank with Geka coupling	■	■
	- with non-return valve	□	□
	- free-flow return (from above into the tank with lid opened)	□	□
	- automatic fill stop for the spray agent tank and the fresh water tank	□	□
Functions Suction valve	Drawing in via the suction port	■	■
	- automatic fill stop for suction port	■	■
	Drawing in via spray agent tank / fresh water tank	■	■
	Dry coupling connection port	□	□
Functions Pressure valve	Filling the spray agent tank & drawing out of the induction bowl via the venturi	■	■
	Liquid at the induction bowl (rinse ring, high-pressure nozzle, jet nozzle, hand lance)	■	■
	Forced emptying	■	■
	Internal cleaning	■	■
	External cleaning with fresh water	□	□
	Spraying	■	■
	Filling of fresh water tank	■	■
	- with automatic fill stop	–	■
Additional functions	Automatic cleaning of the induction bowl	–	■
	2 individually programmable fill profiles	–	■
	Adjustable filling and foam damping function	–	■
	Electric emptying of spray lines and filters	–	■
	Capacity increase for canister cleaning	■	■
	Fresh water pump with continuous internal cleaning	–	■
Agitation	Fill level dependent agitator output	■	■
Cleaning	Remote cleaning control from the in-cab terminal	■	■
Other systems	HighFlow+	□	□
	DirectInject	–	□

■ = included □ = optional – = not possible

Comfort-Pack

Comfort-Pack plus

The induction bowl

Perfect operator comfort via the simple and centralised controls

- The function of the main valve means that fresh water is always available at the induction bowl during both suction and bowser filling.

High performance and efficient

The 60 l induction bowl is located directly in front of the operator station. The conical form of the bowl, with central outlet and an enormous suction rate of more than 200 l/min, ensures fast and trouble-free filling and complete emptying.

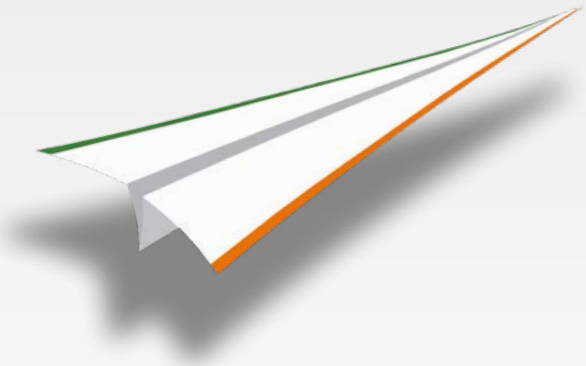
Advantages of the induction bowl:

- Draw out rate of up to 200 l/min – for fast and trouble-free filling and complete emptying
- Infinitely variable mixing nozzle – prevents any clogging of powdery and granular spray agents
- Infinitely variable high-capacity rinse ring
- In conjunction with Comfort-Pack plus, the induction bowl can be permanently supplied with high water pressure via the fresh water pump during bowser filling.
- Dust-tight and leak-proof induction bowl lid as a practical storage option with integrated run-off collection
- Canister rinse nozzle with practical pressure plate for cleaning the measuring jug and chemical canisters
- Small contact area on the canister rinse nozzle where the nozzle can be activated for cleaning the canister neck

The lid is provided with holders for measuring jugs or spray agent canisters, in order to allow them to drain after rinsing.

The closed induction bowl can be flushed for self-cleaning.

Boom in aircraft wing design



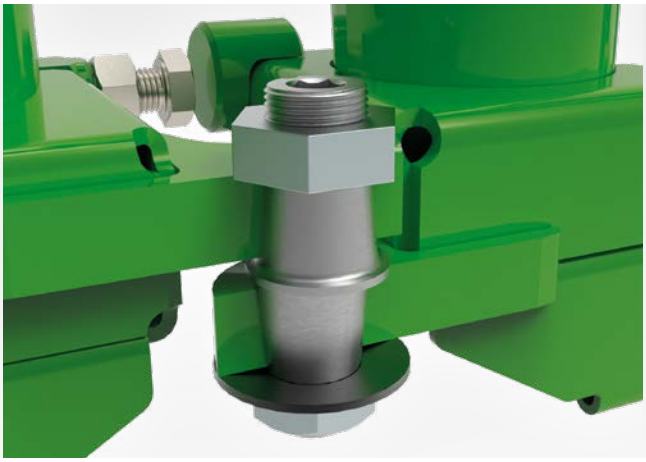
Large height adjustment range from 0.35 m to 2.65 m via the sprung parallelogram (on Pantera 4504 with 380/90 R50 tyre sizes)

Super-light yet super-stable

Thanks to the special profile design, AMAZONE booms are at the same time superbly light and superbly strong. Boom widths from 21 to 48 m allow optimum adaptation of the sprayer to the farm structure . The exceptional high quality ensures a long operational life even over very high acreages.

Compact transport dimensions with transport widths from 2.55 m contribute to safe road transport.

The hydraulic fittings made from stainless steel ensure a long service life and a high resale value.



A pivot joint that lasts!
The boom pivot points self-adjust against any play on the conical hinge pins, thus ensuring an optimal boom function for the operator, even after many years.

Maintenance-free and with a long service life

The decades of experience in boom design pays off: the conical hinge pin is the intelligent centre of a well thought-out boom philosophy! The boom pivot points self-adjust against any play on the conical hinge pins, thus ensuring an optimal boom function for the operator, even after many years.

The standard use of stainless steel, the use of automotive-industry standard, cathodic dip painting process and the targeted use of plastics and aluminium are the perfect guarantee of a long service life.

High-quality, multi-layer paint

A high-quality multi-layer paint finish guarantees top quality that lasts

1) Sheet steel
2) Zinc phosphate (galvanising layer)
3) CDP priming
4) Top coat

1 2 3 4

Everything is shipshape:
The boom is located safely without movement in its transport position. The parallelogram suspension dampens shock loads in the field as well as in the transport position. This is pure comfort and, above all, ensures the long service life of the boom.

Compact transport dimensions:
- 2.55 m wide
- 3.90 m high

Super-L2 boom

Super-light, super-stable and super-compact for widths up to 36 m

Super-L2 boom suspension

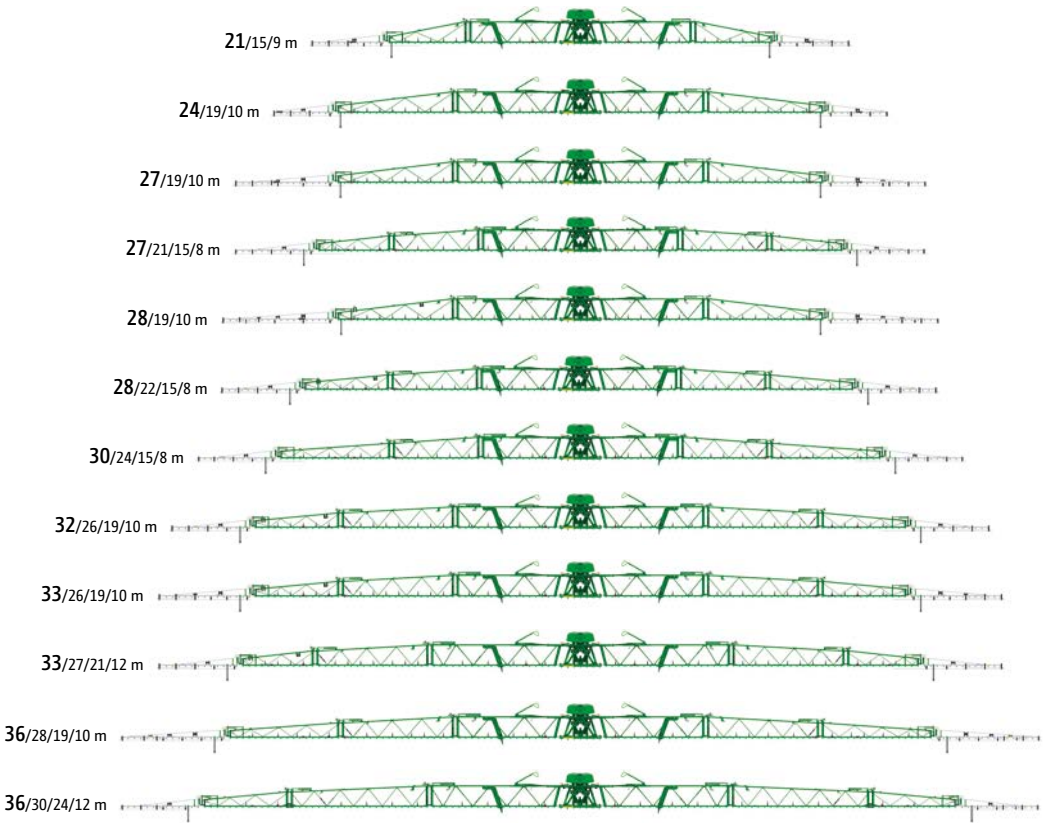
Super-L2 boom with a width of 36 m, folds down to 30 m, 24 m and 12 m

Super-L2 boom in boom widths from 21 to 36 metres

Superbly narrow transport width of just 2.40 m on all three-fold Super-L2 booms in boom widths of 21, 24, 27 and 28 m. Amazing transport width of only 2.60 m on all four-fold Super-L2 booms in boom widths of 27, 28, 30, 32, 33 and 36 m.

Wide boom profiles with multiple folds provide maximum rigidity yet with a very low weight.

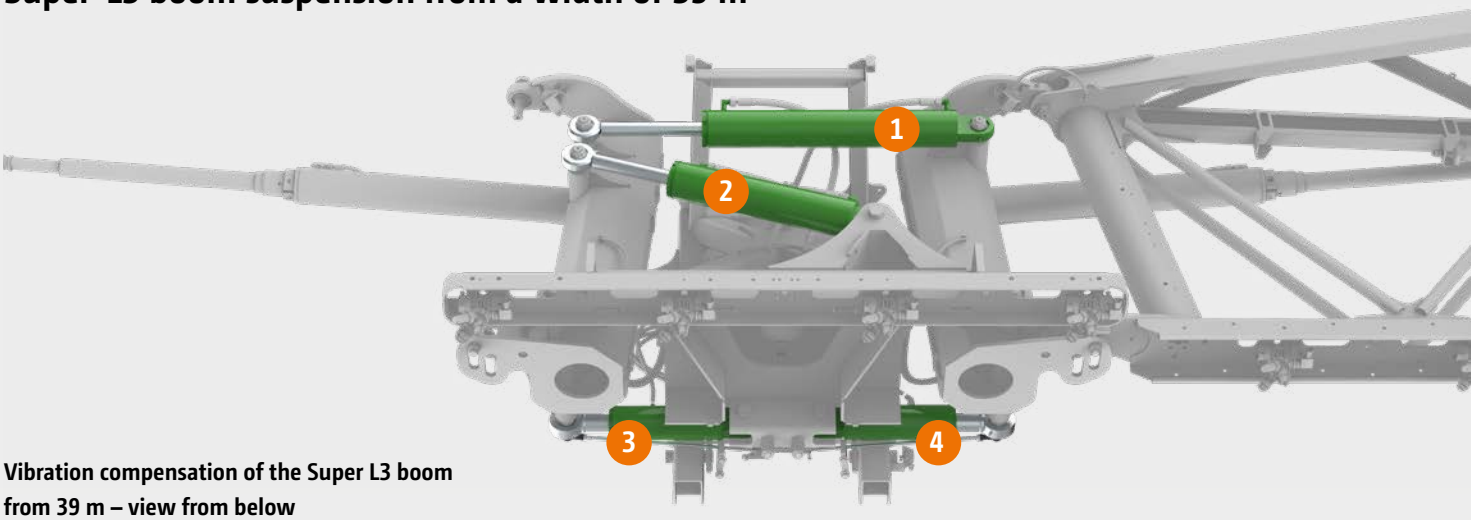
Potential folding widths of the Super-L2 boom



Super-L3 boom

Super-light, super-stable and super-compact for widths up to 48 m

Super-L3 boom suspension from a width of 39 m



Vibration compensation of the Super L3 boom from 39 m – view from below

① Positive angling cylinder: angling up and down of the left and right booms
② Tilt cylinder: tilt adjustment of the entire boom in conjunction with the angling up cylinder (1) Angling up and down of the left-hand boom
③ SwingStop plus cylinder, left: active swing compensation of the left-hand boom section
④ SwingStop plus cylinder, right: active swing compensation of the right-hand boom section

Super-L3 boom with a width of 36 m, folds down to 24 m and 12 m

Super-L3 boom in widths from 30 to 48 metres

The special AMAZONE profile design of the boom provides maximum stability with a low weight. The inner boom sections of the Super-L3 boom are made of steel. The outer boom sections are manufactured from aluminium to keep the total weight down to a minimum. The advantage of the light-weight outer boom sections is that only a little amount of extra weight has to be guided smoothly over the crop on the outside. Smooth boom guidance at the boom ends is extremely important, especially in the case of large working widths. The profiles of the penultimate boom section of the 48 m wide Super-L3 boom are made of carbon fibre for maximum rigidity with a low weight.

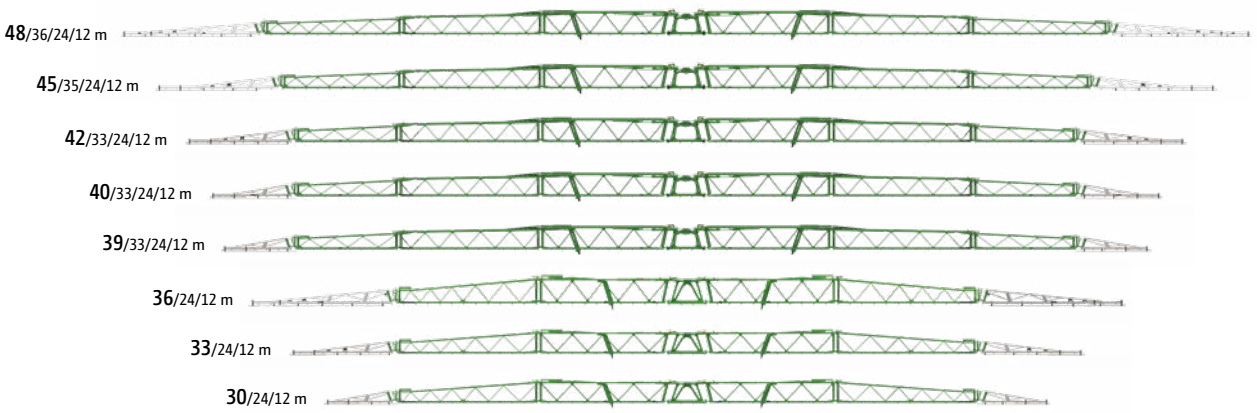
The hydraulically pressurised break back system on the boom end (which works just like the saloon door principle) can cope with obstacles from the back, front or from the top and ensures a reliable return to the working position and a long service life.

Always the best level of equipment

Super-L3 booms from a working width of 39 m are equipped as standard with the ContourControl active boom guidance, the SwingStop plus vibration damping and the AmaSwitch plus or AmaSelect individual nozzle control with DUS pro in each case.

The over-engineered boom sections, with hydraulically pressurised break back joints in the boom ends, ensure an completely smooth boom ride under any conditions. If any vibrations caused by cornering or acceleration occur in spite of the massive design, they are directly reduced by SwingStop plus.

Potential folding widths of the Super-L3 boom

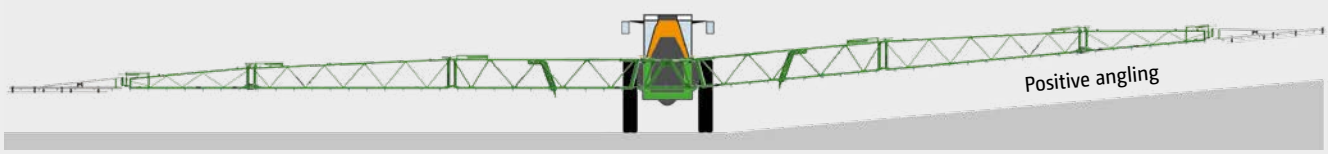


Flex-fold

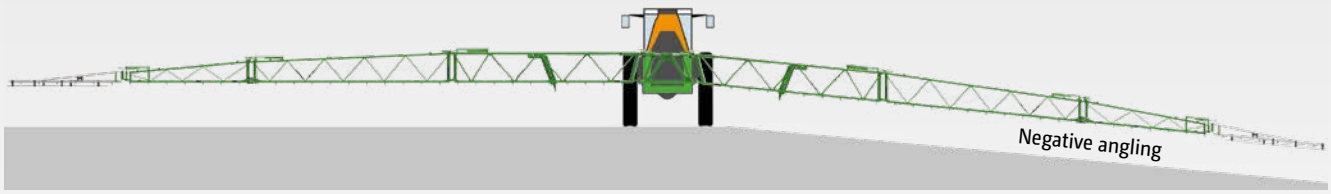
The outstanding made easy

The Pantera 4504 with Flex-fold 2 and ContourControl enables optimum boom guidance with positive and negative angling of the boom, suitable even in the most challenging of terrain conditions

One-sided independent fold (via Flex-fold 1)



Positive angling (via Flex-fold 2)



Negative angling (via Flex-fold 2 in combination with ContourControl)

Flexible, fast and accurate

Reduction, angling, one-sided independent fold

Flex-fold for Super-L2 and Super-L3 booms

AMAZONE offers two electro-hydraulically actuated boom fold options, Flex-fold 1 and Flex-fold 2. Each boom pivot joint is equipped with an electro-hydraulic valve block that is directly controlled by the machine software. This enables faster folding. As soon as the first boom section has been folded in or out by approximately 70%, the next section automatically starts to fold in or out.

Individual user profiles for reduced working widths

Via the user profiles in the machine software, individual profiles with a reduced working width can be stored. If e.g. it is intended to fold out a 36/30/24 m boom to just 30 m, this can be carried out quickly and simply via a profile change. After folding out, the active working width is automatically detected and the outer nozzles are deactivated via the AmaSwitch plus or AmaSelect individual nozzle control. The reduced working width is automatically stored for Section Control.

Flex-fold 1

In addition to the benefits already outlined, Flex-fold 1 provides the following extra functions:

- Height adjustment
- Folding in and out
- One-sided independent fold at reduced speeds (max. 6 km/h)
- Boom width reduction
- Tilt adjustment

Flex-fold 2

In addition to the advantages mentioned previously, Flex-fold 2 offers the following functions:

- One-sided/simultaneous positive boom angling
- One-sided/simultaneous negative boom angling (in combination with ContourControl)

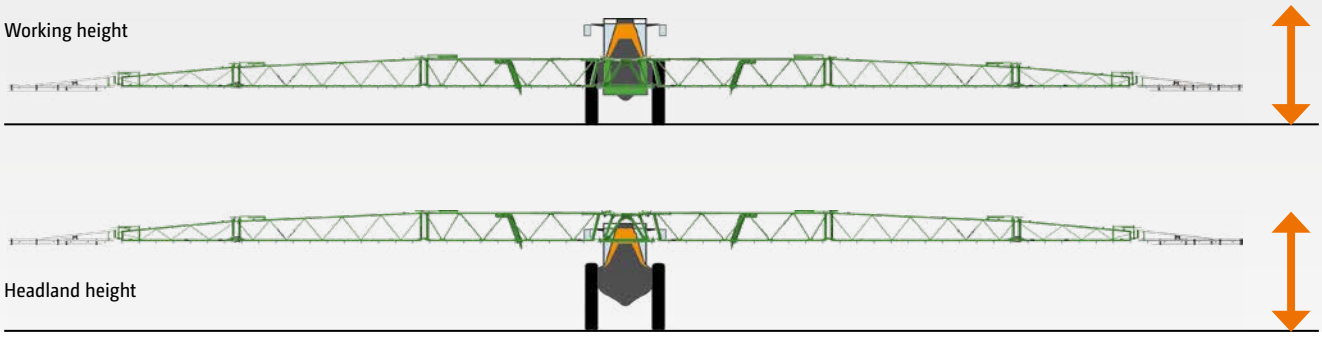
"To speed up the folding procedure, AMAZONE has replaced the simple sequence control by a sensor controlled process. With this we clocked a quick 19 seconds for folding out and 27 seconds for folding in – great!"

("profi" – Test report Amazone UX 5201 Super - 10/2017)

Boom guidance

With maximum comfort and even more precision

Automatic boom pre-lowering in the GPS-Switch
The GPS-Switch function in the operator terminal can be used to start lowering the boom before it reaches the untreated area. This means that the boom is already at the correct working height when the nozzles come on. Requirements for this function are just a field boundary saved within the GPS-Switch in the AMAZONE ISOBUS terminal.



AutoLift – the comfortable automatic headland system

AutoLift automatic boom lift (standard equipment) lifts the boom to a pre-selected height every time the machine is switched off.

It lowers back down again to the target height when the sprayer sections are switched on.
This reduces the risk of damage to the boom while turning on the headland.

DistanceControl or ContourControl? Decide for yourself!

The DistanceControl and ContourControl automatic boom guidance systems offered by AMAZONE provide a suitable solution for every demand. The fully automated DistanceControl boom guidance leaves the control of your sprayer boom in the hands of the machine.

The innovative ContourControl boom control is AMAZONE's high-end solution, ideal for customers with difficult terrain conditions. ContourControl provides maximum precision, even at high forward speeds.

DistanceControl with 2 sensors or DistanceControl plus with 4 sensors

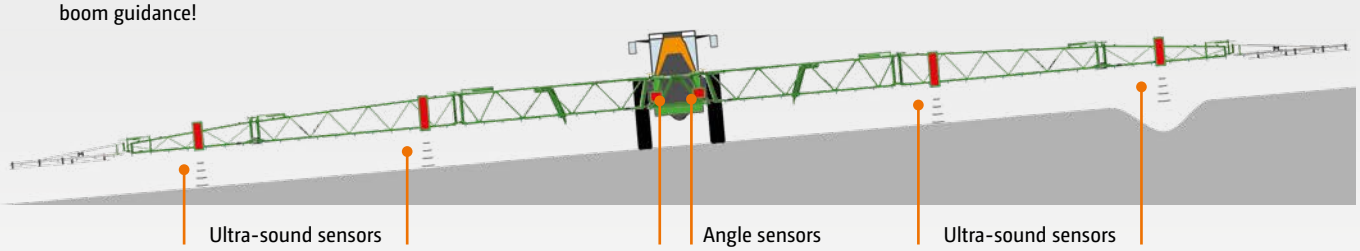
As an option on the Super-L boom, AMAZONE offers the DistanceControl fully automated boom guidance system with 2 sensors or DistanceControl plus with 4 sensors for the Pantera self-propelled sprayer. DistanceControl with 4 sensors is recommended if the crop height varies greatly or there are areas with partially lodged corn. The sensors are electrically connected in parallel and so it is always the sensor that is closest to the target surface that is sensing.

Benefits of the DistanceControl boom guidance

- Fully automatic boom guidance including boom height, tilt adjustment and boom lifting on the headland
- Automated simultaneous boom angling, in combination with Flex-fold 2

- DistanceControl plus

  The driver is able to concentrate on correctly applying the plant protection agent, while the technology looks after the optimal boom guidance!



ContourControl and SwingStop

Active boom guidance and boom tip swing compensation under difficult conditions

ContourControl – Reduces those vertical boom movements

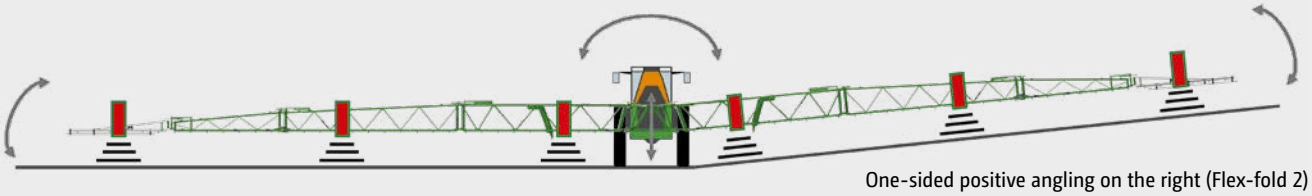
With the active boom guidance system, ContourControl, AMAZONE offers a fully automatic boom guidance system for booms starting from a working width of 21 m. This meets the increasing demand for higher precision during application owing to the minimal deviations in the distance from the target surface, even at higher forward speeds and larger working widths. ContourControl can be used with Super-L booms in conjunction with either Flex-fold 1 or Flex-fold 2.

The basis of the new boom guidance system is a highly responsive electro-hydraulic system and 4 sensors, or as many as 6 sensors in combination with Flex-fold 2, which enable both automatic positive and negative angling.

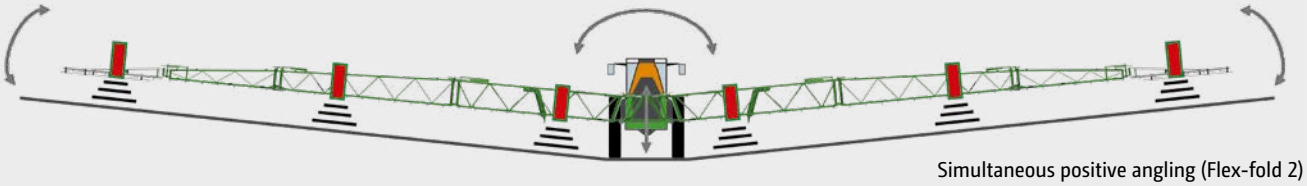
Super-L2 boom suspension

The benefits of ContourControl:

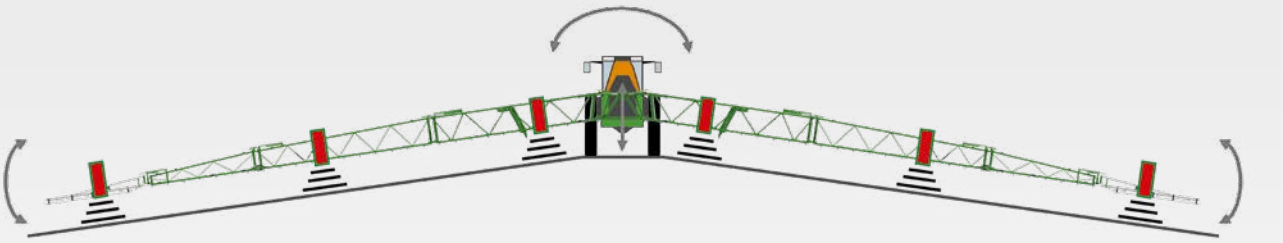
- Optimum lateral distribution
- Precise, super-fast automatic height guidance
- Target surface distance below 50 cm – less drift
- Very quick folding processes
- Higher accuracy at faster working speeds
- Elegant boom control for those wider working widths



One-sided positive angling on the right (Flex-fold 2)

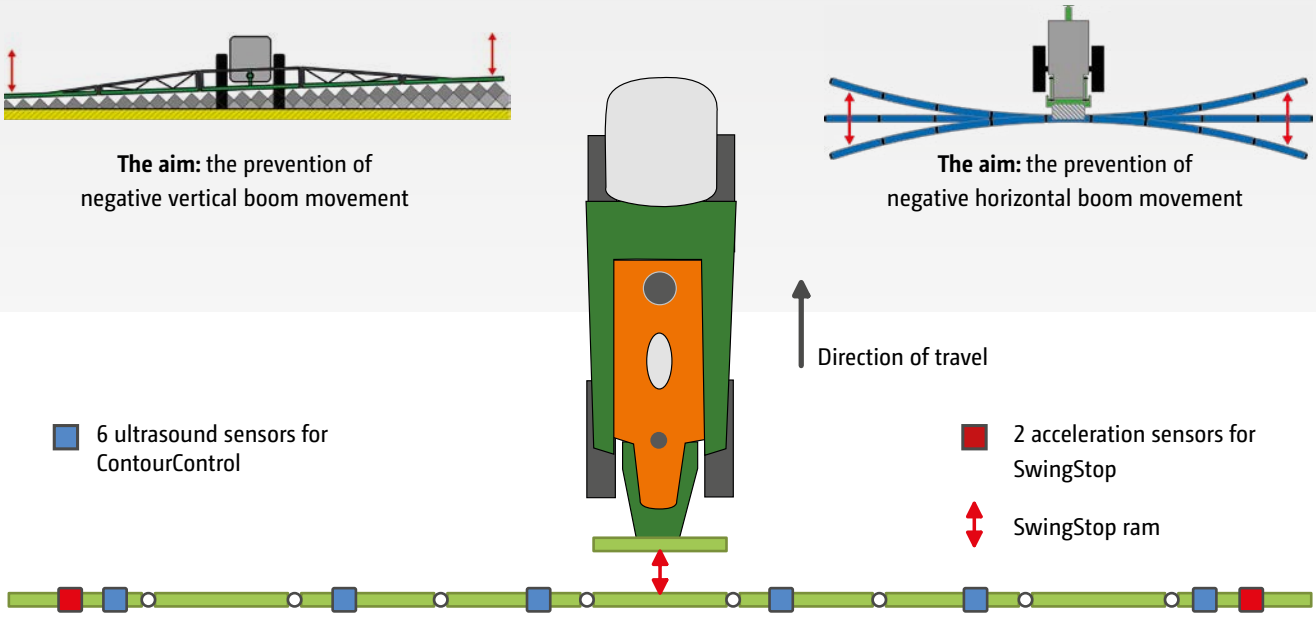


Simultaneous positive angling (Flex-fold 2)



Simultaneous negative angling (Flex-fold 2)

Fast and precise – as one



SwingStop – For reducing the horizontal boom movement

In order to tailor the horizontal boom ride to the growing demands, e.g. wider working widths and higher forward speeds, AMAZONE offers SwingStop active boom tip movement prevention as an option for the ContourControl boom guidance system. By external influences, such as ground undulations, driving round bends, acceleration and deceleration and increasing operating speeds, the boom is under extraordinary strain in the horizontal plane. This may result in the boom ends swinging back and forth and thus negatively affecting the lateral distribution at the outer ends of the booms.

Since horizontal movement occurs more at the boom ends, this effect is amplified by large boom widths. To reduce this horizontal tip swing effect, SwingStop measures, via acceleration sensors, the resulting acceleration at the boom ends. The two actively operating hydraulic rams in the boom suspension compensate live for these swing movements and in this way provide a very smooth horizontal boom ride.

The benefits of SwingStop:

- Optimum longitudinal distribution
- Reduction of the horizontal boom movement for a very smooth boom ride
- A system which operates very quickly and precisely, even at high working speeds
- Highest performance and outstanding precision

"A total of six ultrasound sensors take care of the height guidance of the parallelogram frame, the adjustment of the slope compensation and the control of the boom angling (positive and negative). It is fantastic in hilly terrain, particularly when it comes to being able to spray more quickly and with a shorter distance above the target surface."

("profi" - "Practice test Amazone UX 4201 Super" 02/2020)

"And now when it comes to the keyword "fast", then "SwingStop" also comes into play: This is an active, hydraulic control system with acceleration sensors in the ends of the boom which counteracts horizontal swinging - and does so before any movement visible to the eye occurs."

("profi" - "Practice test Amazone UX 4201 Super" 02/2020)

SwingStop plus

The right solution for every requirement

Vibration compensation for Super-L3 booms
with working widths of 39 m or more

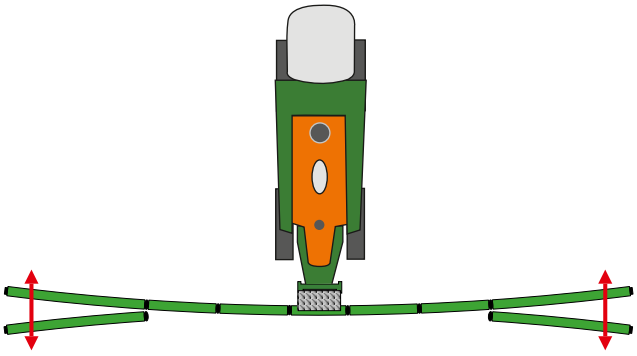
SwingStop plus – independent boom tip swing compensation for both halves of the boom

A new swing compensation system is installed on Super-L3 booms in widths from 39 m which includes the new SwingStop plus boom tip swing compensation. This offers the well-known advantages of SwingStop but differs in that the movements of the two halves of the boom are hydraulically damped independently of each other in the direction of travel. This provides an even better basis for optimum longitudinal distribution of the application.

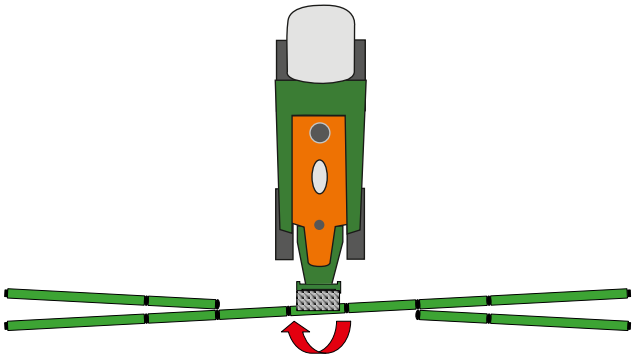
Reducing symmetrical and asymmetrical vibrations

SwingStop plus can compensate for symmetrical oscillations which occur through acceleration and braking extremely effectively. The new design of the swing compensation system now permits the individual control of either boom half. In SwingStop plus, each boom section is equipped with a hydraulic cylinder which actively counteracts any oscillations which occur in that boom half. This means that even asymmetrical boom oscillations which occur after negotiating bends are effectively reduced.

Symmetrical oscillation
mainly during field work



Asymmetrical oscillation
mainly during and after bends



Overview: boom guidance

The right solution for every requirement

Boom functions	Pantera 4504 / 7004			
Folding	Flex-fold 1	Flex-fold 2	Flex-fold 1	Flex-fold 2
Automatic boom guidance (option)	DistanceControl (plus)		ContourControl	
Number of relevant sensors	2 (4)		4	6
Sprayer boom folding in and out	remotely controlled (ISOBUS terminal)			
One-sided, independent boom fold	remotely controlled (ISOBUS terminal)			
Folding in to a reduced working width	automatic			
Break back protection at reduced working width	Standard			
Folding time	quick		very quick	
Height adjustment	remotely controlled (ISOBUS terminal) / automatic with DistanceControl or ContourControl			
Boom lift on the headland	remotely controlled (ISOBUS terminal) / automatic with DistanceControl or ContourControl			
Adjustment of tilt	remotely controlled (ISOBUS terminal) / automatic with DistanceControl or ContourControl			
One-sided/simultaneous positive boom angling	—	automatic	—	automatic
One-sided/simultaneous negative boom angling	—		—	automatic
Active horizontal boom tip swing compensation (option)	—		SwingStop	SwingStop / SwingStop plus *
Boom guidance (overall view)	good		excellent	
Recommendation for working widths	—		> 30 m	
Recommendation for operating speeds	medium		extremely high	
Recommendation for ground conditions	level	hilly	level	hilly

* from boom widths of 39 m

TG part-width section valves

Electrically controlled TG valve chest

The TG part-width valve chest with up to 13 part-width sections is available with ISOBUS control. The part-width sections are switched quickly and without drips via electric motor valves with pressure relief. The spray rate is precisely and quickly controlled directly by the machine's job computer in all situations.

Single and multi-nozzle bodies

The nozzle bodies with integrated diaphragm non-return anti-drip valves fit up into the boom profiles reliably preventing any dripping at the nozzle. Self-adjusting bayonet fixings ensure a tool-less quick nozzle change. The triple or quad nozzle bodies are suitable for frequent nozzle changes caused by different applications and crops.

AMAZONE offers a wide range of nozzles from agrotop, Lechler and TeeJet.

DUS pressure recirculation system

High output and reliable

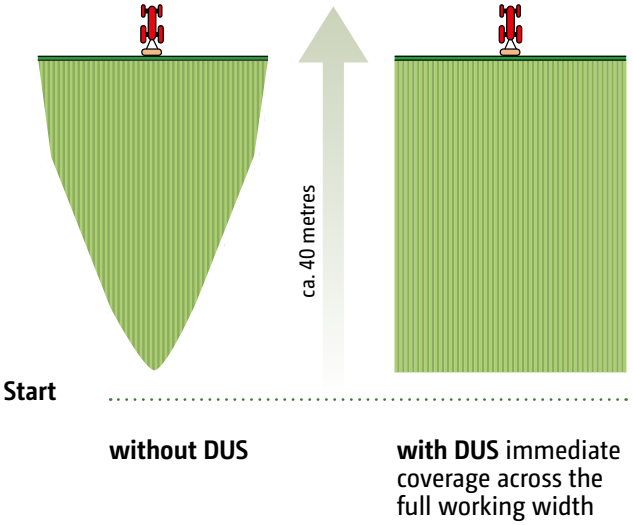
DUS pressure recirculation system

The DUS pressure recirculation system – proven more than 10,000 times

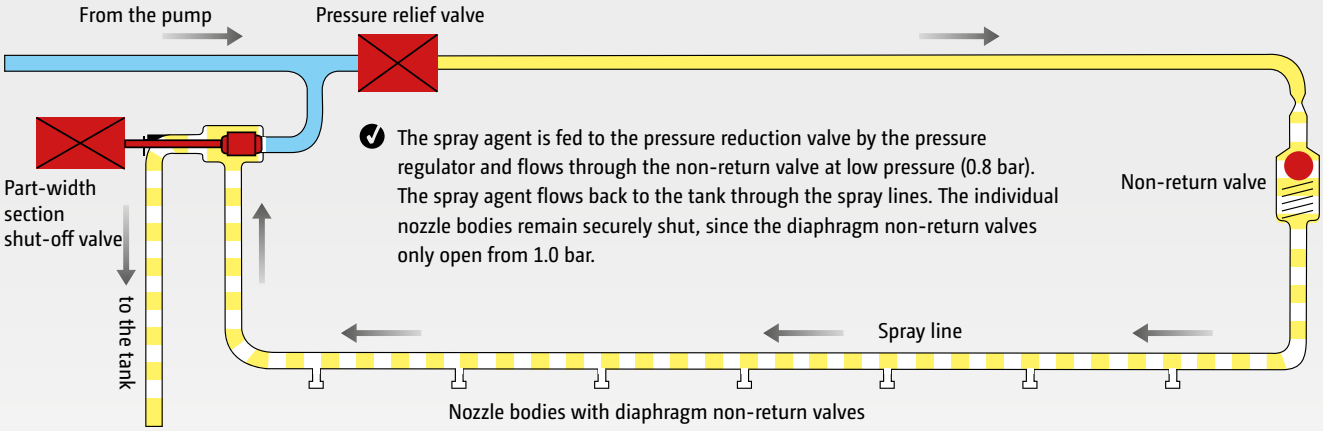
The AMAZONE DUS pressure recirculation system ensures a reliable circulation throughout the entire system. When starting the spraying operation, all the hoses including the spray lines are filled under pressure in the reverse direction with the pre-mixed spray agent. This means the spray lines are always full and immediately ready to use across the entire working width. There is no waiting on the headland.

Every time individual part-width sections are shut off, during the turning operation and during transport, the spray liquid circulates continually thanks to the pressure recirculation system. This reliably prevents deposits, blockages or segregation in the spray lines.

During the cleaning operation, fresh water flushes the spray lines out right up to the nozzles without any spraying being necessary. During this cleaning procedure, the concentrated spray liquid is returned back to tank via the pressure recirculation system leaving the spray lines clean.



DUS pressure recirculation system with part-width section switched off



AmaSwitch plus

Electric individual nozzle switching with 50 cm part-width sections

The simple solution for automatic 50 cm part-width section control

With AmaSwitch plus, AMAZONE offers the precise solution for automatic part-width section control on 50 cm sections. AmaSwitch plus is the ideal alternative for users who want to maximise the benefits of very precise switching in wedge shaped fields and areas of overlap, thanks to the 50 cm part-width section control.

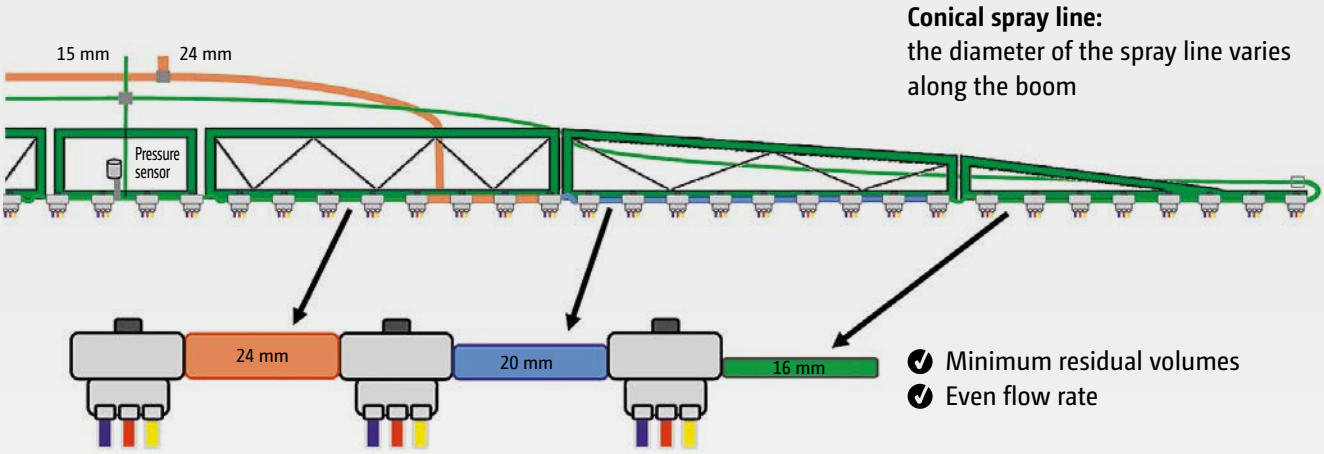
AmaSwitch plus includes the DUS pro high-pressure recirculation system as standard and can also be equipped with LED individual nozzle lighting.

Equipped with the DUS pro pressure recirculation system as standard

As in the case of DUS, the spray pressure in DUS pro is constant up to the individual nozzle and remains at the pre-set spray pressure. In addition, minimal residual spray volumes are achieved thanks to the conical spray lines.

AmaSwitch plus triple nozzle body

DUS pro – constant spray pressure with minimal residual volumes



Conical spray line:
the diameter of the spray line varies along the boom

- Minimum residual volumes
- Even flow rate

DUS pro high-pressure circulation system with conical spray line, such as with AmaSwitch plus, as an example

AmaSwitch plus triple nozzle body with individual nozzle LED lighting

Triple nozzle body with electric on/off switching

The AmaSwitch plus technology is based on a conventional manually rotated triple nozzle body with electric switching on and off of each individual nozzle. Opening and closing is achieved via an electric valve which is mounted directly on the nozzle body. In conjunction with GPS-Switch, it is thus possible to very precisely control 50 cm part-width sections in short work and on the headland. In addition to the automatic switching using 50 cm part-width sections, it is also possible to configure the desired number of part-width sections from choice.

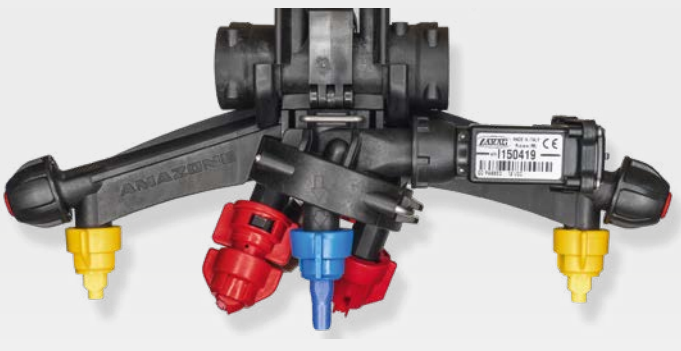
Quad nozzle body with electric on/off switching

In addition to the triple nozzle body, the AmaSwitch plus electric individual nozzle switching can also be equipped with a quad nozzle body.

With true 25 cm nozzle spacing

The quad nozzle body enables genuine 25 cm nozzle spacing to be achieved with the aid of the optional off-set kit. This provides the benefit, in combination with special 80 degree nozzles, of reducing the boom to target area distance down to less than 50 cm.

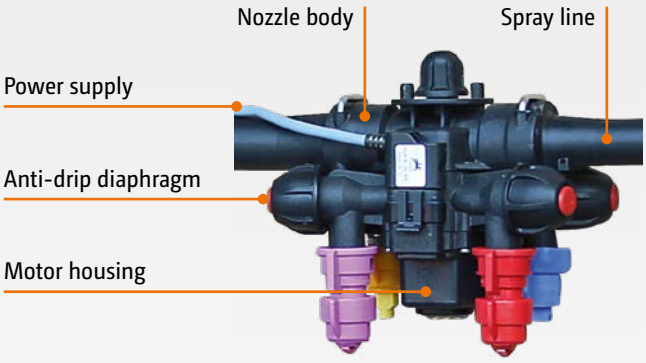
AmaSwitch plus quad nozzle body



AmaSwitch plus with quad nozzle body and off-set kit for a genuine 25 cm nozzle spacing

AmaSelect

Electric individual nozzle control with 50 cm part-width section and nozzle switching



AmaSelect – components of the system

Quad nozzle body with automatic electric nozzle changeover

The electric AmaSelect individual nozzle control consists of a quad nozzle body with electric on/off control and, additionally, the changeover of the nozzles. In addition to the 50 cm part-width sections, which can be switched automatically via the GPS Switch, the system offers electrical changeover between the 4 mounted nozzles via the operator terminal or even fully-automatically if the forward speed or application rate is changed. This offers the possibility, for instance when leaving the optimum pressure range of a nozzle, to switch on a second nozzle or to changeover to a larger nozzle.

Flexible configuration of working widths and part-width sections

AmaSelect enables any number of part-width sections with any number of nozzles to be freely configured. So for farmers or agricultural contractors with different tramline systems, a simple matching of the nozzle switching with the relevant working width is possible.

Automatic 50 cm part-width section control via GPS-Switch with Section Control

The automatic control of individual nozzles in 50 cm part-width sections is made possible by combining the AmaSelect individual nozzle control with GPS-Switch (with Section Control). This enables the amount of overlap to be considerably reduced, meaning that there is a significant saving in spray agent.

With true 25 cm nozzle spacing

As an option, the AmaSelect nozzle body can also be equipped with an off-set kit giving 25 cm nozzle spacing. This provides the benefit, in combination with special 80 degree nozzles, or 90 degree nozzles, of reducing the boom to target area distance down to less than 50 cm.

AmaSelect electric individual nozzle control with quad nozzle body and 50 cm and 25 cm nozzle spacing

HeightSelect – always the optimum target surface distance

With the aid of HeightSelect (only in conjunction with AmaSelect), the distance between the boom and the target crop is now also continuously adjusted automatically depending on the nozzle spacing and nozzle type.
When the nozzle has been switched on, the automatic boom guidance system controls the appropriate target distance. This automisation improves the efficiency of the crop protection agent used as well as decisively relieving the stress on the driver.

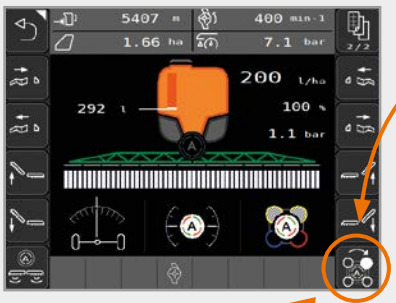
High-End as standard – LED individual nozzle lighting and DUS pro

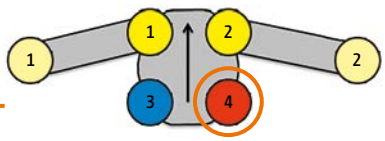
AmaSelect is equipped with the DUS pro high-pressure recirculation system and LED individual nozzle lighting as standard.

The crop protection technology of the future is already here

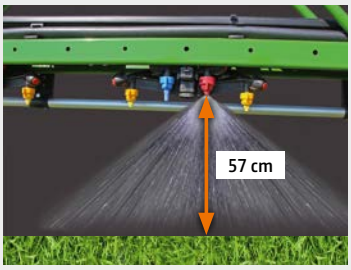
AmaSelect individual nozzle control offers the potential for absolute precision with the additional optional functions AmaSelect Curve-Control, AmaSelect Row and AmaSelect Spot.

Principle of function of HeightSelect

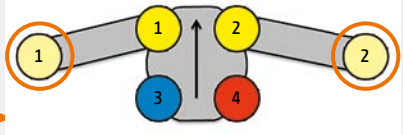




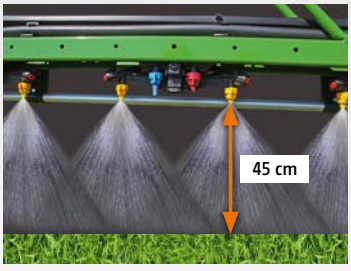
Automatic spraying height: 57 cm



110° nozzles: 50 cm nozzle spacing



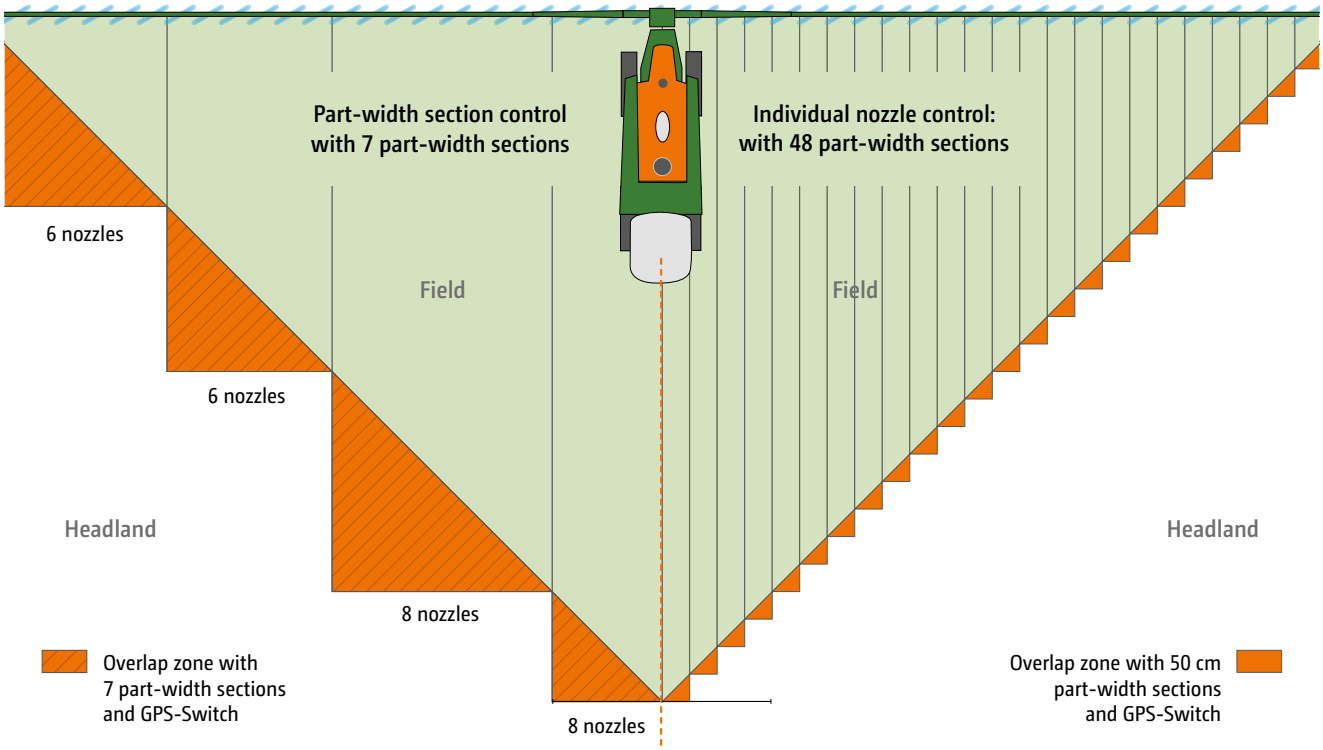
Automatic spraying height: 45 cm



80° nozzles: 25 cm nozzle spacing

Electric individual nozzle control AmaSwitch plus and AmaSelect

Example: 24 m boom width



Automatic part-width shut-off on the headland and in wedge-shaped fields GPS-Switch

5%*

Saving on crop protection agent usage

* Savings are dependent on field shape, boom width and the number of part-width sections

Electric individual nozzle control

AmaSwitch plus or AmaSelect

5%*

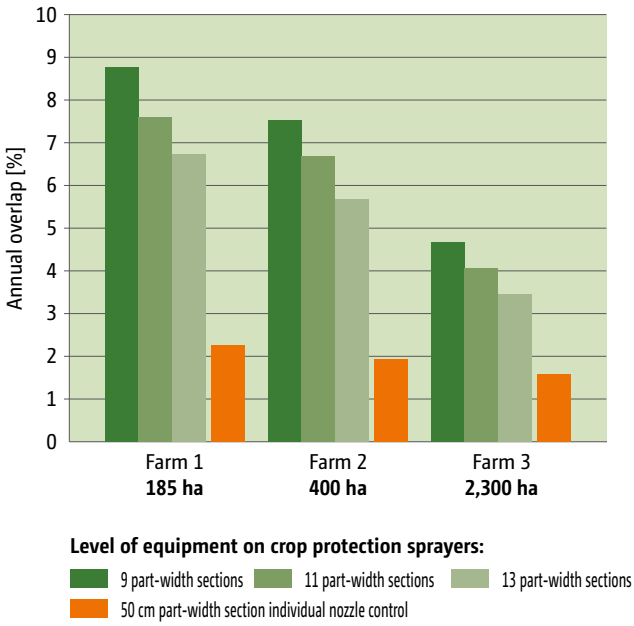
Additional saving in crop protection agent usage

AmaSwitch plus electric individual nozzle control

AmaSelect electric individual nozzle control

Calculated example:

Annual average overlap of **conventional part-width sections vs 50 cm part-width sections in combination with Section Control**



Important knowledge for field analysis

- Average overlap with 50 cm part-width sections only 1.92%
- Average overlap with 9 part-width sections 7%
- Short payback period for larger farms due to the annual potential savings
- Due to smaller field sizes, smaller farms save proportionally more
- When growing crops with a high crop protection demand (e.g. potatoes, sugar beet), 50 cm part-width sections are particularly cost-effective

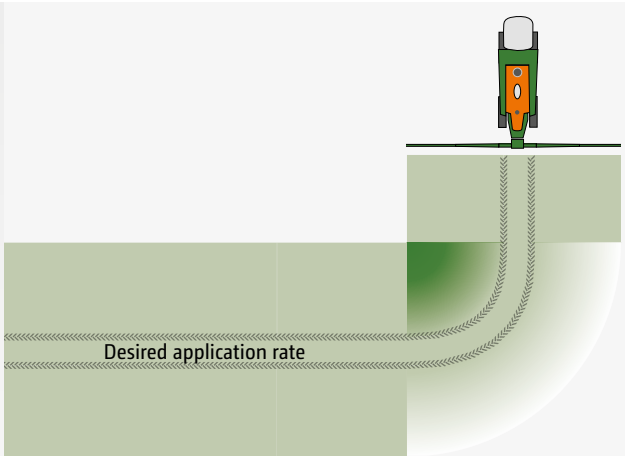
Comparison of systems:

The benefits	Standard valve chest	AmaSwitch plus triple	AmaSwitch plus quad	AmaSelect
Multiple boom sections	up to 13	up to 96	up to 96	up to 96
50 cm part-width sections	–			
Number of nozzles per nozzle body	1, 3, 4	3	4	4
Manual nozzle switching				–
Automatic nozzle changeover and nozzle actuation	–	–	–	
Nozzle selection from the cab	–	–	–	
Nozzles used in combination	–	–	–	
High-pressure circulation system (DUS pro)	–			
25 cm nozzle spacing (off-set kit)	–	–		
Individual programming of the part-width sections	–			
LED individual nozzle lighting				
Switching to band application from the cab (AmaSelect Row)	–	–	–	
Optimised application rate during cornering (AmaSelect CurveControl)	–	–	–	
Part-area, site-specific application on the basis of spot application maps (AmaSelect Spot)	–	–	–	

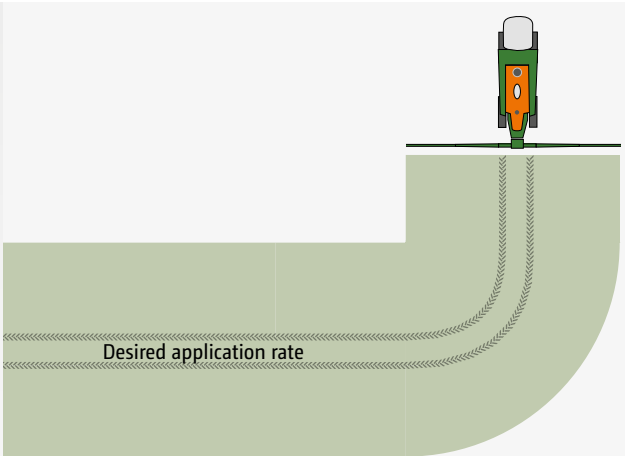
Nozzle switching –system overview = included = optional – = not possible

AmaSelect CurveControl

Optimised application when driving round bends



Without AmaSelect CurveControl – uneven application rate when negotiating bends



With AmaSelect CurveControl – a more even application rate when negotiating bends

Over-metering and under-metering when negotiating bends

In the past, the distribution of plant protection products when driving round bends has led to an over-application on the inside of the bend and an under-application on the outside of the bend. The problem increases with increasing boom widths. Over-applying on the inside of the boom must be viewed more critically, as potential overdose levels of more than 300% are possible.

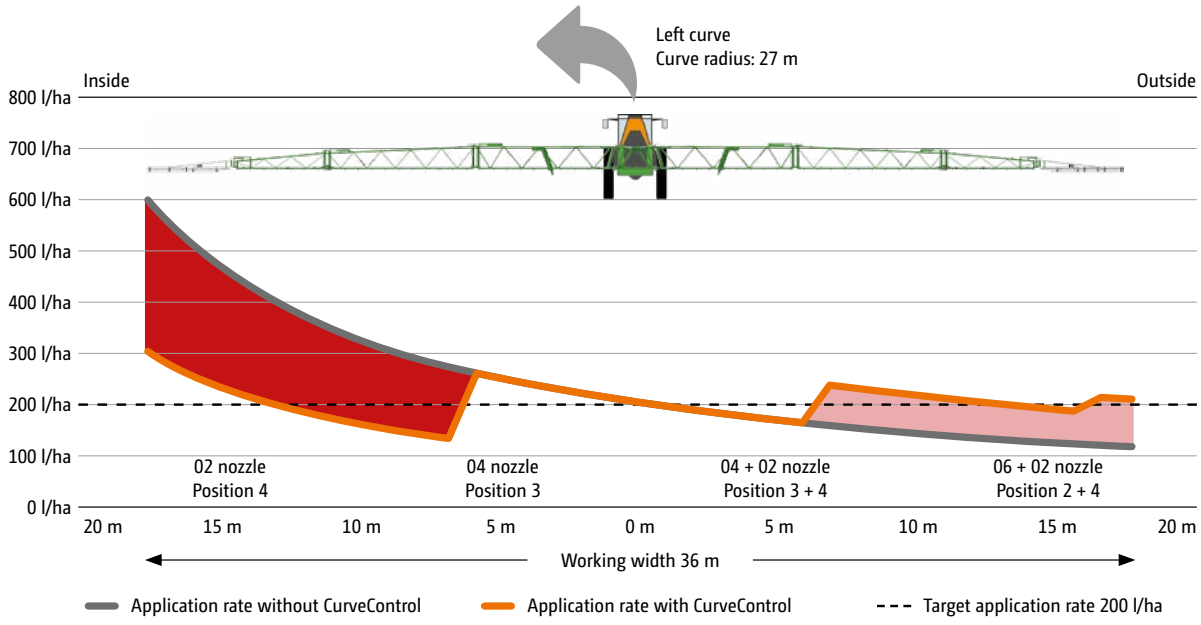
AmaSelect CurveControl

AmaSelect CurveControl offers a precise solution for keeping the application rate as constant as possible across the whole of the working width when driving round bends. The CurveControl function is equipped as standard **in conjunction** with **AmaSelect individual nozzle control** and **ContourControl** active boom guidance.

In addition to the nozzle pressure, AmaSelect CurveControl uses sensors to determine the curve radius and automatically calculates the pressure adjustment for the changed flow rate. The system then balances the application rate in the boom independently of the part-width section by means of automatic nozzle changing in the boom.

Benefits of AmaSelect CurveControl:

- Virtually uniform application rates when negotiating bends over the entire working width
- Optimum crop management
- Prevention of resistance caused by under-dosing



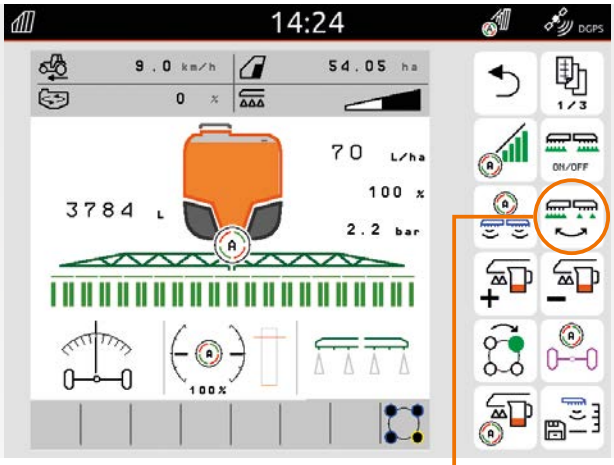
Comparison of application rates around a bend with and without CurveControl (left hand curve)

AmaSelect Row

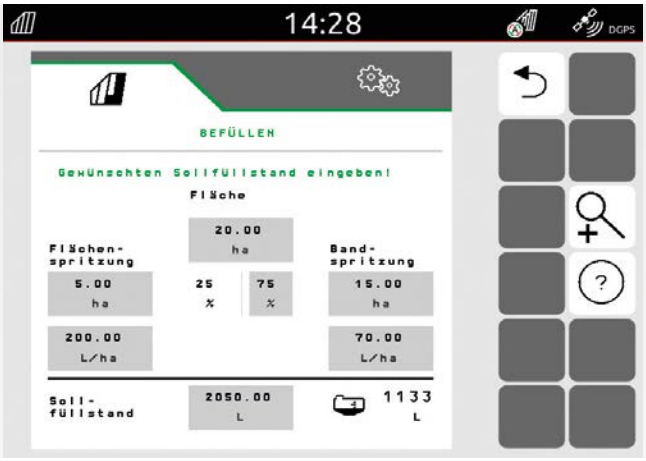
Accurate band spraying at the press of a button to reduce the use of plant protection agents

Row-specific band spraying in a potato crop

In addition, in combination with the mySprayer App, it is now possible freely to configure and control individual nozzles. This means, for example, that specialist crops with a specific row spacing and also bed systems can be treated in a targeted manner.



Easy switching between band spraying and full-width spraying at the push of a button



Useful fill menu for determining the required filling quantity

Row-specific band spraying

AMAZONE offers the AmaSelect Row function for the AmaSelect electric individual nozzle control for remote switching from full-area application to row-specific band spraying. Row-specific band spraying with special 40 degree nozzles makes it possible to reduce the consumption of plant protection agents by up to 65%.

Different row spacings

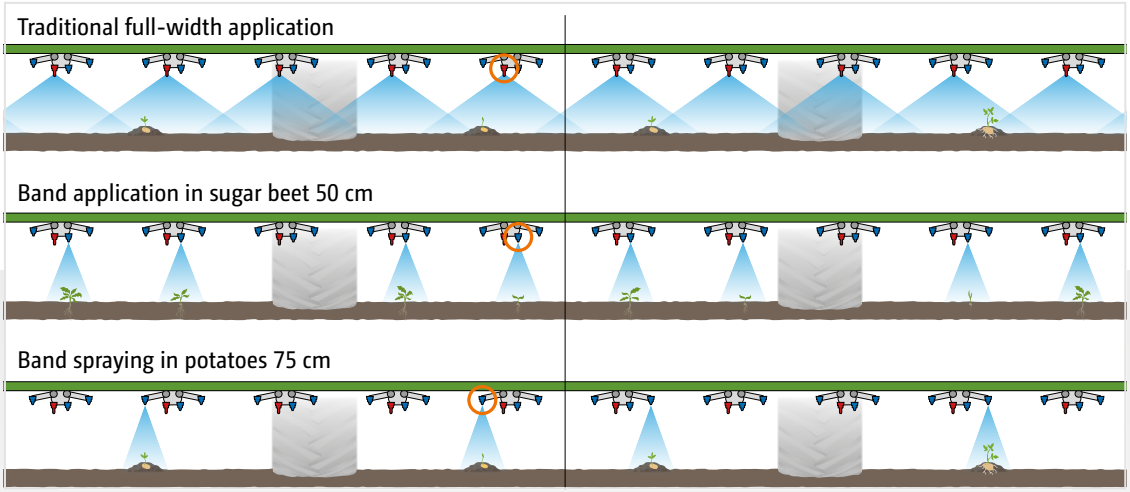
Band applications in crops with a 50 cm row spacing can very easily be implemented without any further retooling. The optional off-set kit for the AmaSelect nozzle body to give a 25 cm nozzle spacing also enables band applications to be implemented in crops with a 75 cm row width. Only the nozzles at the desired spacing are switched on for that purpose. Alternative row widths, e.g. 45 cm for sugar beet, can also be realised with an additional nozzle arrangement and a connecting hose.

Maximum operational comfort

Via the fill menu, the area to be treated by band and full-width spraying as well as the desired application rates of the two types of spraying is stored, and the required fill quantity is automatically calculated so as to minimise any residual spray volumes. The row spacing, spraying angle and application height of the nozzles are easily adjusted via a separate menu in the ISOBUS machine controller. The selection of the right nozzle and the associated nozzle positions to the band needing to be treated is carried out automatically. It is then possible to switch between band and full-width spraying in a matter of seconds at the push of a button on the ISOBUS terminal.

Benefits of AmaSelect Row:

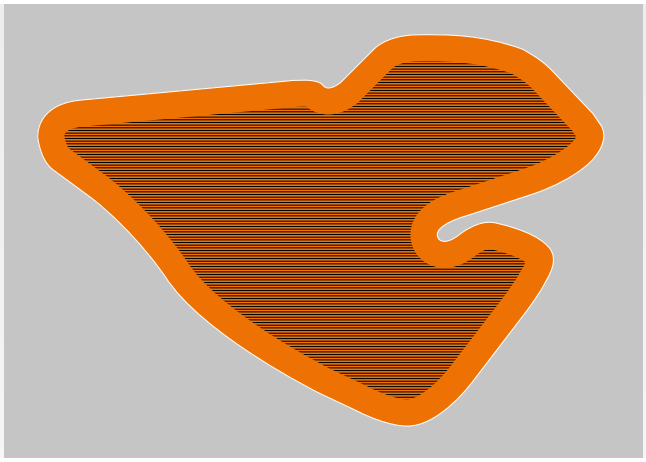
- Highly efficient band spraying in row crops – and all at the touch of a button
- Different row spacings possible thanks to the optional off-set kit at 25 cm
- High operating comfort with an integrated filling menu with fill quantity calculation
- Reduction in plant protection agent usage by up to 65%



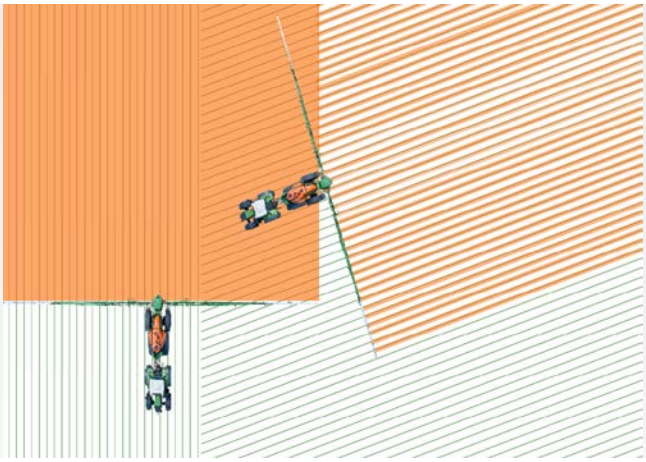
AmaSelect Row: Uniquely flexible options in plant protection

AmaSelect Row and CurveControl

The perfect combination in practice!



Band application in the inner area, full-width application with CurveControl in the outer area of the field



Individual nozzle control in band application for perfect application in wedge-shaped fields and short work

Full-width application with AmaSelect CurveControl in the outer area

Comprehensive full-width application is recommended for the outer area of fields. The advantages of CurveControl are particularly evident in fields with curves. Furthermore, obstacles at the edge of the field can be avoided during full-width application without any problems. In addition to this, the matching to the seed drill is not always exact on the headland. This has a negative effect on band spraying.

Changing to band application at the touch of a button

The material can then be sparingly applied in the inner area of the field with AmaSelect Row. The full-width application can be easily changed to band application on the terminal for this purpose. Absolutely straight rows and exact matching up to the seed drill are the prerequisites for the use of AmaSelect Row. The application rate is automatically adjusted in this respect.

The particular features of band application

The perfect use of band application depends on several factors:

1. The nozzles must be at the right application height when they come on.
- ✓ Automatic boom lowering with the AmaTron 4 ISOBUS terminal and GPS-Switch

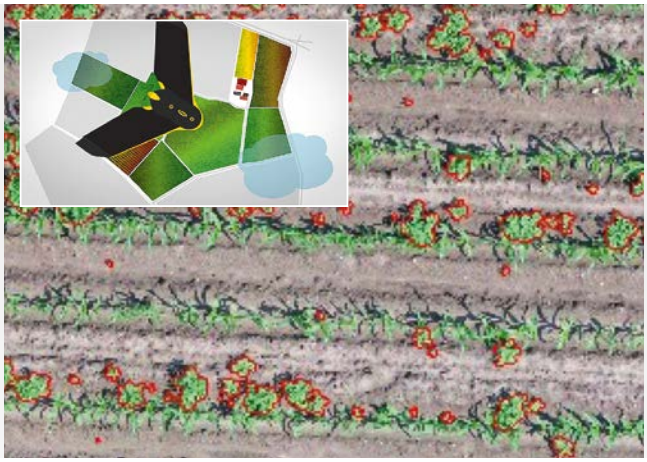
2. Precise maintenance of the distance to the target surface required for a uniform band application and even concentration of the plant protection agent
- ✓ ContourControl active boom guidance for the optimum target surface distance

3. Smooth boom ride over the entire working width
- ✓ SwingStop or SwingStop plus boom tip swing compensation to reduce horizontal boom movements

4. Precise vertical alignment of the nozzles directly over the band
- ✓ Flexible extension kit for precise alignment of the nozzles in all row spacings

AmaSelect Spot

Part-area, site-specific plant protection treatment on the basis of spot application maps



Processing of the spot application map in the AmaTron 4 ISOBUS terminal

Part-area, site-specific weed treatment

To reduce the use of crop protection agents, AMAZONE offers AmaSelect Spot, a individual nozzle control system which allows part-area, site-specific weed treatment based on highly accurate spot application maps. External service providers produce the spot maps.

Scanning the area and creation of spot maps for weed treatment

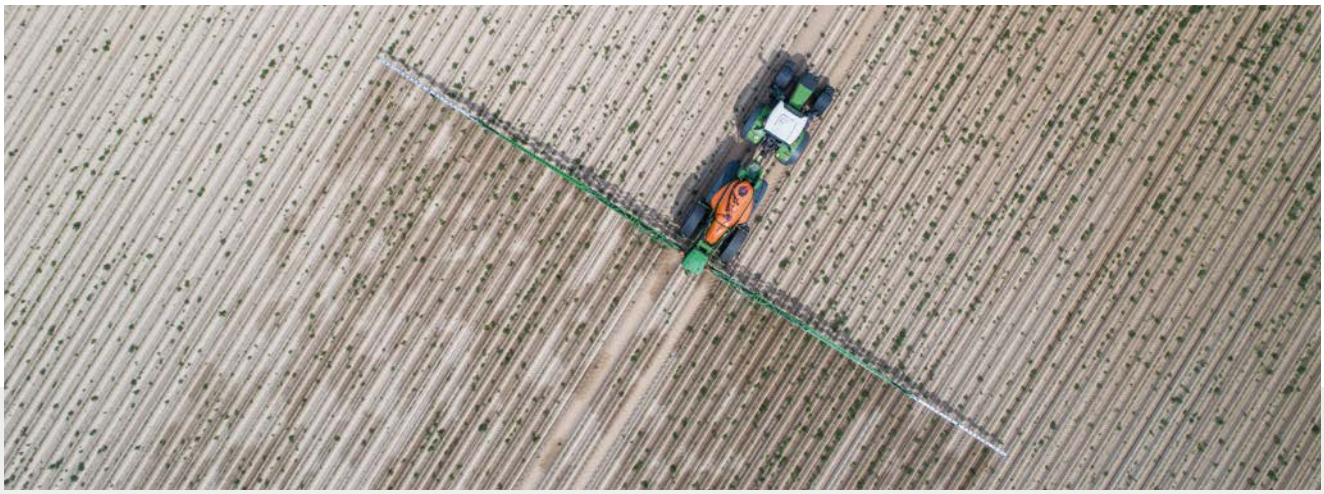
In the first step, the field to be treated is scanned and a spot application map created. Depending on the service provider, various processes are used for scanning the area in this first step, such as overflying with a drone, by satellite or via special sensor booms.

Targeted spot application

The second step is the treatment of the weed areas in the field. All that is required for this is to load the spot application map in the ISOBUS operator terminal. In contrast to full-area treatment with the AmaSelect individual nozzle control system, only those areas where weeds are present are treated during the pass.

Benefits of AmaSelect Spot:

- Precise spot treatment of weeds with a standard AMAZONE crop protection sprayer
- Reduction in plant protection agent usage by up to 80%
- Better protection of the environment
- Minimal residual spray volumes, thanks to exact planning of the application rate using the spot application maps
- Prevention of resistance thanks to the small spot area and 100% of the plant protection product applied



State-of-the-art crop protection technology in use: targeted treatment of volunteer potatoes in a carrot crop on the basis of a spot application map with a standard UX 5201 Super trailed sprayer

The right nozzle choice

The basis for success in crop protection

- Nozzle protection tubes are fitted as standard on the outer sections or, if desired, across the entire boom width and ensure optimum protection of the nozzle bodies.

Examples

1) Lechler IDN 120-025
2) TeeJet XRC 110-025
3) Injector flat fan nozzle AirMix 110-04

Everyone purchasing an AMAZONE crop protection sprayer receives, free of charge, an AMAZONE nozzle fitting tool that makes for a much easier nozzle change.

Less drift also at higher wind speeds

Injector nozzles (ID, TTI) have a relatively coarse droplet spectrum and are particularly versatile with regard to their range of application. A pressure range of 2 to 8 bar is possible. They are universally usable in all crops and under all classifications. Because of the coarse droplet application, these nozzles can also be used in higher wind speeds.

If coverage quality is at the foreground of the application, the use of standard or anti-drift fine droplet nozzles, such as XR or AD, is recommended. Special care is required here due to their tendency to drift above 3 bar.

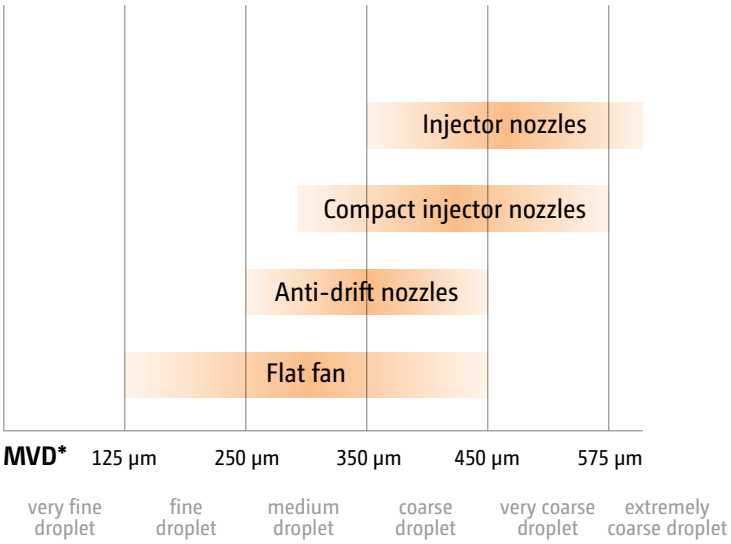
A good compromise is provided by the modern ID-K or Airmix compact injector nozzles. These have relatively little drift, but do not have too coarse a droplet spectrum and are operated at 2 to 4 bar.

When it comes to special coverage qualities, the double flat fan nozzle is an interesting alternative: the AVI Twin from Agrotop also produces droplets that are not too fine.

The split spray pattern ensures a more even deposit on the front and back of the plant and is an interesting alternative in many applications.

For speeds of more than 10 km/h, the TD HiSpeed nozzle with its asymmetrical spraying angle is becoming a new industry trend.

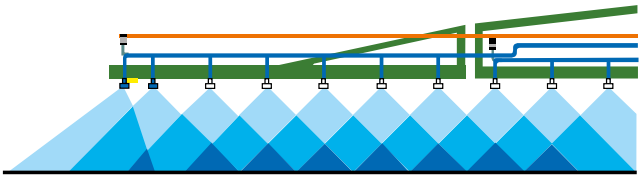
Distribution of the droplet size



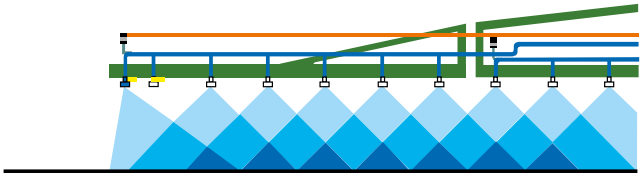
* mean volumetric diameter

Electric boundary nozzle switching

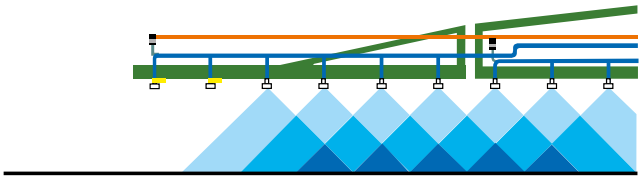
For environmentally-friendly spray application at the field edge



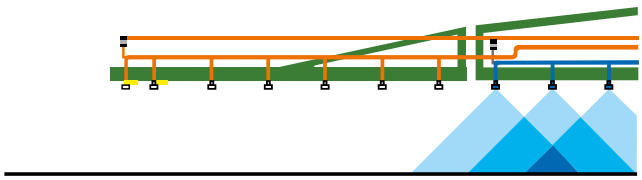
Additional nozzle switching
In order to extend the normal working width, an asymmetrical nozzle can also be switched on. This is particularly useful if the distances between tramlines are not precise enough.



Boundary nozzle switching
For precision border spraying between two sensitive crops, the boundary nozzle kit can be used to make sure that the spray pattern is accurately defined.



End nozzle switching
If a one metre buffer zone is needed around the edge of the field to remain unsprayed due to distance constraints, then an end nozzle kit can be used.



Outer part-width section switched off – DUS is active
Direct electric control of the boundary nozzles.
Every nozzle body is integrated in the DUS circulation!

Drag hose equipment on the AmaSwitch plus individual nozzle control system with a quad nozzle body and an off-set kit on the Super-L2 boom

Liquid fertilising

AMAZONE sprayers are particularly suitable for using liquid fertiliser: the use of high-quality plastics, the good paint finish and the use of stainless steel ensure a long service life, even when liquid fertiliser is used.

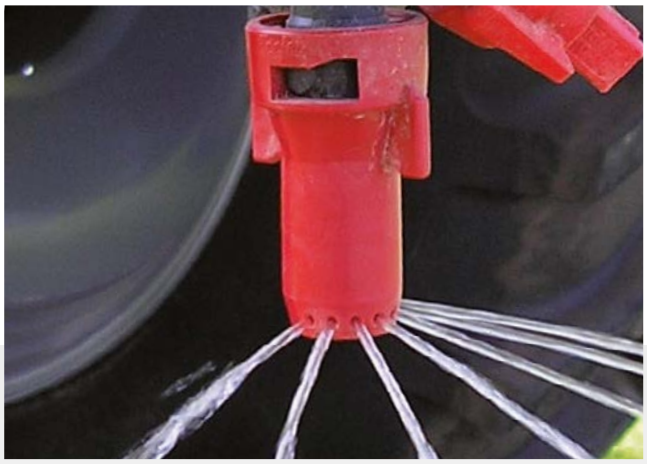
Drag hose equipment

Drag hose equipment for the Super-L boom consists of a drag hose kit and can be used in conjunction with an AmaSwitch plus quad nozzle body or AmaSelect system and an off-set kit for 25 cm nozzle spacing.

Stainless steel weights help keep the position of the drag hoses in the crop.

Multi-hole nozzles

Multi-hole (three-hole or seven-hole nozzles) or FD sluice nozzles are also available on request for coarse droplet distribution of liquid fertiliser.



Seven-hole nozzle

Useful equipment to cope with many requirements

Compressed air supply system

A compressed air supply system is available for cleaning the machine, checking tyre pressures, and for when using the trailer coupling hitch.

Central lubrication system

The central lubrication system offers maximum convenience by automatically supplying all lubrication points without the need for a time-consuming search and manual lubrication. This enables maintenance work to be significantly reduced and operational reliability further improved.

The central lubrication system is mounted in a clearly visible location in front of the spray agent tank. Central operation takes place conveniently via the AmaDrive 7.0 vehicle terminal.

Manoeuvring device

A manoeuvring device is available for manoeuvring when away from public roads.

External wash kit

A spray lance on a 20 m long hose is used to clean off thoroughly the outside of the self-propelled sprayer, immediately after work whilst still in the field.

A hand wash tank with a capacity of 20 l and a soap dispenser is located in the SmartCenter.

Towing eyes

A trailer coupling is available in combination with the compressed air supply system. This means that trailers with a total weight of up to 16,000 kg can be towed on public roads. In addition, the required compressed air braking system must be also specified.

The original is simply better

AMAZONE service and quality

Experience that pays off. That's why AMAZONE guarantees you the highest quality thanks to a very high level of vertical integration within its own factories in Europe – and it has been doing so for more than 140 years. The original is simply better.

In most cases, things need to happen very quickly, especially when there is limited time for the optimum application of plant protection agents. That is why AMAZONE offers a first-class parts service with genuine parts that are precisely matched to your machine. So your machine is always ready for use – quality parts and available worldwide.

The Global Parts Center in Tecklenburg-Leeden in Germany is the base for our worldwide parts logistics system. This ensures the optimum availability of parts, even for older machines. Whenever you need us, the AMAZONE service team is there for you, supported by a network of competent and highly trained sales partners and service technicians.

AMAZONE also offers an intensive introduction to the operation and handling of your new machine on your farm by a trained member of the AMAZONE team. Alternatively, you can use "SmartLearning" – AMAZONE's interactive driver training – to familiarise yourself with the machine's operation before using it for the first time.

Effective plant protection from the very first metre.

The advantages of genuine parts and wearing metal:

- Quality, reliability and performance
- Immediate availability, even for older machines
- Higher resale value of your used machine

myAMAZONE

for more performance

Register now
www.amazone.net/myamazone

WARRANTY

Register now and apply for a 36 month manufacturer guarantee!

- Extend the protection offered for your machine with a 36 month manufacturer guarantee.

  » The extended guarantee can be applied for within the contractual warranty period of 12 months after initial installation.

NEW

PARTS

Parts – find the right parts for your machine even more easily now!

- The right parts list for your machine with just one click.
- Identify the correct part in the exploded views in no time at all.
- Create a shopping basket and send it to your service partner.

ADJUSTMENT AND OPERATION

Now enter the machine number and see at a glance all the relevant information to help get the maximum performance from your machine

- Season start and commissioning
- Adjustment and operation
- Parts lists and operating instructions
- Maintenance and storage

Tyres for Pantera 4504

Dimensions	Pantera	Pantera-W	Pantera-H	Pantera-HW	Load index	Outer diameter in mm
300/95 R52	X	X	X	X	156 D	1890
320/90 R54	X	X	X	X	156 B	1948
340/85 R48	X	X			151 D	1805
380/90 R46	X	X	X	X	168 D	1842
380/90 R46	X	X	X	X	173 D	1842
380/90 R50	X	X	X	X	170 D	1956
380/90 R50	X	X	X	X	175 D	1947
420/80 R46	X				159 D	1840
480/80 R42	X	X			156 B	1840
480/80 R46	X	X	X	X	158 B	1945
480/80 R46	X	X	X	X	177 D	1943
520/85 R42	X	X	X	X	165 D	1956
520/85 R42	X	X	X	X	162 B	1951
620/70 R38	X				170 B	1864
650/65 R38	X				157 D	1811
710/60 R38	X				160 D	1814

Illustrations, content and technical data are not binding and may differ depending on the level of equipment. Country-specific road traffic regulations apply and must be complied with, meaning that special approval may be required.

Tyres for Pantera 7004

Dimensions	Pantera	Pantera-W	Load index	Outer diameter in mm
320/105 R54	X	X	172 D	2040
380/105 R50	X	X	177 D	2052
380/90 R54	X	X	171 D	2054
380/90 R54	X	X	176 D	2050
420/95 R50	X	X	177 D	2052
480/80 R50	X	X	166 D	2050
480/80 R50	X	X	179 D	2050
520/85 R42	X	X	170 D	1956
520/85 R46	X	X	170 D	2052
620/70 R42	X	X	166 D	1935
650/65 R42	X	X	170 D	1945
650/65 R42	X	X	165 D	1936
710/60 R42	X	X	173 E	1885

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Pantera 7004

Technical data: Pantera 4504

Model	Pantera 4504	Pantera 4504-W	Pantera 4504-H	Pantera 4504-HW
Nominal volume (l) / Actual volume (l)	4,500 / 4,750			
Fresh water tank (l)	500			
Boom width (m)	21 – 48			
Pump capacity (l/min)	520			
Max. suction capacity (l/min)	700			
Fuel tank capacity (l)	290			
DEF tank (l)	20			
Max. working speed (km/h)	20 (30 optional)			
Transport speed (km/h)	up to 50			
Length (m) (Transport position, incl. external wash down kit)	8.60			
Transport width (m)	2.55	2.75	2.55	2.75
Spraying height min./max. (m) with tyre sizes 380/90 R50	0.35 – 2.65 with lift module 0.35 – 3.35		0.35 – 3.15 with lift module 0.35 – 3.85	
Part-width sections min./max. (number)	7 – 13			
No. of sections with individual nozzle switching: AmaSwitch plus or AmaSelect	up to 96			
Unladen weight (kg)	10,100	10,400	11,100	11,400
Max. total weight (kg)	17,200 (depending on tyres)			
Turning circle, all-wheel steer (m)	4.50			
Track width (m) with tyre sizes 380/90 R50 (offset + 50 mm)	1.80 – 2.40	2.25 – 3.00	1.80 – 2.40 (down) 2.10 – 2.60 (up)	2.25 – 3.00 (down) 2.45 – 3.20 (up)
Ground clearance (m) with tyre sizes 380/90 R50	1.20	1.15	1.25 / 1.70 in lower / upper working position	1.25 / 1.70 in lower / upper working position
Engine power	max. 160 kW (218 hp)			

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Technical data: Pantera 7004

Model	Pantera 7004	Pantera 7004-W
Nominal volume (l) / Actual volume (l)	6,600 / 7,000	
Fresh water tank (l)	500	
Boom width (m)	24 – 48	
Pump capacity (l/min)	610	
Max. suction capacity (l/min)	750	
Fuel tank capacity (l)	290 / 400	
DEF tank (l)	20	
Max. working speed (km/h)	20 (30 optional)	
Transport speed (km/h)	up to 50	
Length (m) (Transport position, incl. external wash down kit)	9.77	
Transport width (m)	2.55	2.75
Spraying height min./max. (m) with tyre sizes 380/90 R50	0.35 – 2.75 with lift module 0.35 – 3.45	
Part-width sections min./max. (number)	7 – 13	
No. of sections with individual nozzle switching: AmaSwitch plus or AmaSelect	up to 96	
Unladen weight (kg)	approx. 12.000 kg depending on the level of equipment	
Max. total weight (kg)	20,000	
Turning circle, all-wheel steer (m)	4.50	
Track width (m) with tyre sizes 380/90 R50 (offset + 50 mm)	2.00 (1.85)* - 2.75	2.25 – 3.00
Ground clearance (m) with tyre sizes 380/90 R50	1.30	
Engine power (emission standard 3A / emission standard 5)	max. 200 kW (272 hp) / 225 kW (306 hp)	

*with tyre size 380/90 R54

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