

# **UF 02**





# **UF 02 mounted sprayer**



The UF 02 mounted sprayer is available in tank capacities of either 1,600 or 2,000 litres and booms in working widths from 12 to 30 metres. UF 02 is particularly distinguishable by its compact design, as well as its simple and comfortable operation. In combination with a FT front tank, the tank capacity of the highly-manoeuvrable tractor-mounted combination can be increased to 3,500 litres. That sets the standards!



# **UF 02**highly-efficient – comfortable operation

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The UF 2002 is a state-of-the-art sprayer with so many features. The new operator centre is well thought-through and logically designed."

("agrarheute" – Test report UF 2002 with FT 1001 · 03/2018)





# **UF 02 mounted sprayer Compact and comfortable**

Spray agent tank with

1,600 and 2,000 litres

Boom widths from

12 to 30 m



With FT front tank

up to 3,500 litres

#### The advantages at a glance:

- Lifting force optimised design with a favourable centre of gravity mounting position
- Clever quick coupling system and a convenient parking mechanism for easy mounting and demounting
- The enclosed SmartCenter and integrated, dust-tight storage compartment prevents any contamination
- SmartCenter: tailored operator valve chests from the intuitively-operated Standard-Pack through to the Comfort-Pack with TwinTerminal 3.0
- High-performance 60 litre induction bowl with a suction capacity of up to 150 l/min ensures the shortest possible filling times and a homogeneous spray liquid mixt.
- High-performance self-priming, low maintenance piston diaphragm pump for large application rates even at high spray pressures
- Outstanding, multi-facet spring suspension for a smooth boom ride
- DUS and DUS pro pressure recirculation systems for a continuous circulation of the spray liquid
- 50 cm part-width sections thanks to the AmaSwitch electric individual nozzle control
- Automatic cleaning programme for perfect cleaning results under all conditions
- **♦** Extendable up to 3,500 litres with the FT front tank for even higher outputs

The advantages at a glance







# High output – compact – safe



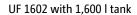
#### **Exceptional performance**

With its teamwork of shape and performance, the UF 2002 convinced and inspired the iF Jury, consisting of experts and designers from all over the world. The jury's evaluation criteria included, in addition to the quality of design, the finish and material choice, the degree of innovation and the environmental compatibility, its functionality and ergonomics and, finally, a visualisation of use and safety.



Spray agent tank







UF 2002 with the larger capacity 2,000 I tank

#### High-capacity spray agent tanks

The UF 02 is available as the UF 1602 with a nominal volume 1,600 l and, as the UF 2002 with a nominal volume of 2,000 l. The specially shaped, polyethylene tank is integrated into the main frame to give a favourable centre of gravity. The advantages of this tank design are the absolutely smooth tank inner and outer walls, the rounded internal design and the low positioned sump on the tank bottom. This allows for quick, effective tank cleaning as well as minimal residual volumes.

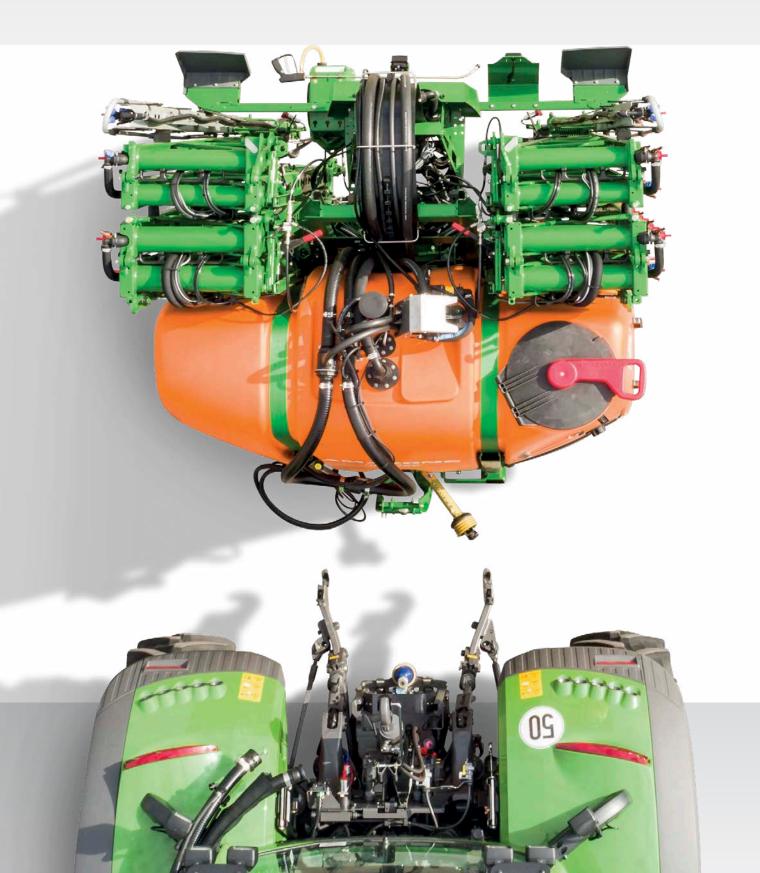
The filling of the tank is carried out, both on the suction side and also when pressure filling from a water source, near to the tank bottom. This reliably eliminates any tendency to form foam during the filling procedure. For an intensive agitation capacity and to prevent any deposits settling in the tank, the agitator is positioned down on the tank bottom. The internal cleaning nozzle, the tank breather and the easily opened, domed lid are positioned right up in the tank. In addition to the spray agent tank, the UF 02 mounted sprayer also has either a 200 litre or 350 litre fresh water tank.





# Hitch up, fill up, and off we go!

For any tractor the optimum mounting position!





Favourable centre of gravity mounting



Swivelling in and out of the parking device

# Favourable centre of gravity – perfect frame design

Due to the large tank volumes of the UF 02, it is of importance to link the machine to the tractor with as favourable a centre of gravity as possible. To ensure this, the UF 02 is equipped with two different link arm positions for different tractors. Guide plates in front of the frame help to link the lower link arms to the torsion-safe, lower link pins which are ready fitted with Cat. 3 balls. The coupling geometry is designed for both Cat. 2 and Cat. 3 link arms. The pin size for the top link is also Cat. 3.

# Comfortable demounting – the parking system

The new parking system is completely integrated in the frame. As an option, the patented system can be equipped with caster wheels that remain on the machine even during operation. Via its simple and robust mechanical design, the parking stands or rollers can be quickly swivelled from the transport position to the work position. Any trouble-some removal of parking rollers or skids is avoided.

# Comfortable hitching up – the quick coupling system

To simplify the mounting of the UF 02 to the tractor, the front side of the tank is completely free from hoses and holders. For an even more relaxed coupling and uncoupling of the UF 02 from the tractor, it can be equipped with the optional quick coupling system. In conjunction with the TeleSpace PTO shaft, the machine can be hitched on and off with greater comfort.



**♥** Optional quick coupling system



### Perfect down to the last detail



UF 2002 mounted sprayer with the FT 1001 front tank

Pump technology | Agitator 10



The UF 02 can be equipped with 200 l/min, 250 l/min or 300 l/min capacity pumps.

#### High performance and reliable pump technology

The UF 02 can be equipped, from choice, with a single pump system that has a capacity of 200 l/min, 250 l/min or 300 l/min. During the filling procedure at a nominal pump speed, the full pump capacity is available for filling the spray agent tank. At the same time, either the contents of the induction bowl can be drawn out via the venturi or the total fill capacity can be increased up to 450 l/min.

#### Stepless hydraulic main agitator

The intensity of the hydraulic agitator can, steplessly, be reduced down to nothing in order to avoid any foaming of the crop protection agent or to facilitate spraying out the remaining tank contents.







#### Benefits of a piston diaphragm pump:

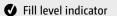
- Simple handling due to its self-priming capability at the start of the filling procedure
- Very high, consistent application rates with system pressures of up to 10 bar
- Can run dry and is liquid-fertiliser proof
- Long service life

#### **Everything thought of!** Fill level and cleaning

The fill level can be read off both via a clearly visible scale or the operator terminal.

High-performance, rotating nozzles clean the spray agent tank internally. Short pipe runs and hose cross-sectional areas as small as possible make for low residual volumes. Continuous internal cleaning is available as an option (not with Flow Control+).



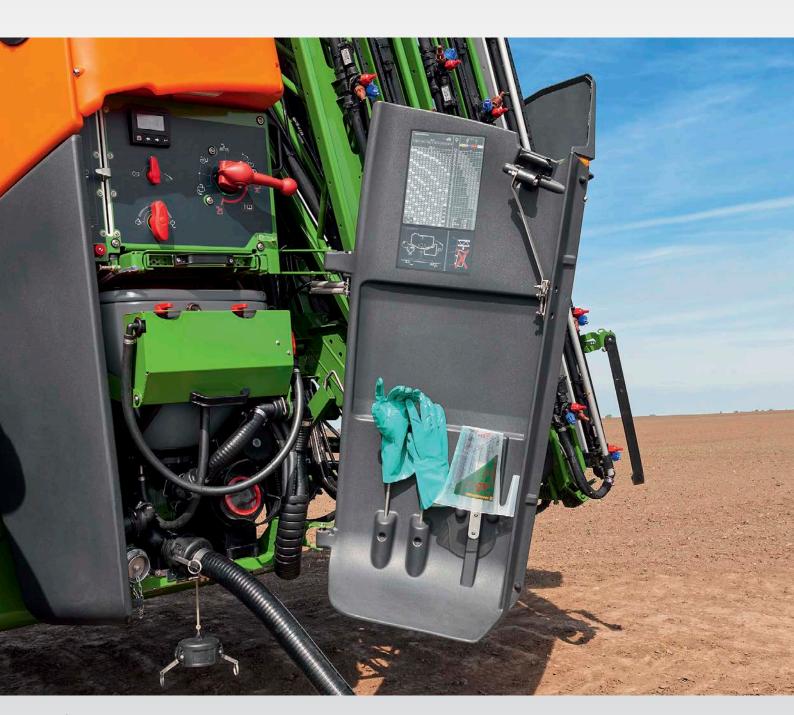






### **SmartCenter**

Perfect operational comfort via the simple and centralised control



• The inside of the swing door offers storage space for a pair of gloves and a measuring jug.

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**▼** SmartCenter with Standard-Pack

### Central actuation – all via the SmartCenter

The new SmartCenter operator station is equipped with a large hinged door that protects all the relevant operating controls and the induction bowl from dirt and water splashes. In the inner panel of the swing door, a holder for gloves and a measuring jug is provided. As the swing door opens backwards towards the boom, it protects the operator from chemical contact on his clothing from the booms plus, at the same time, creates plenty of free space between it and the tractor. With the Standard-Pack and the Comfort-Pack, AMAZONE offers two particularly comfortable solutions for the operation of the UF 02.

#### Well thought through – in every detail

The 20 I hand wash tank is positioned above the induction bowl and it is completely integrated into the machine design. The wash water runs directly into the induction bowl and is sucked into the tank. In addition, a easily-accessible soap dispenser is positioned underneath the hand wash tank. As standard, the UF 02 features a 30 I dustproof and splash water safe clothing locker for carrying any personal protective equipment.

#### The benefits:

- Central layout of all relevant operating components; and all perfectly accessible
- Operator station is sealed against dirt and splash water ingress
- 30 I dirt and waterproof clothing locker
- ✓ Integrated 20 I hand wash tank



**③** Easily accessible soap dispenser underneath the hand wash tank

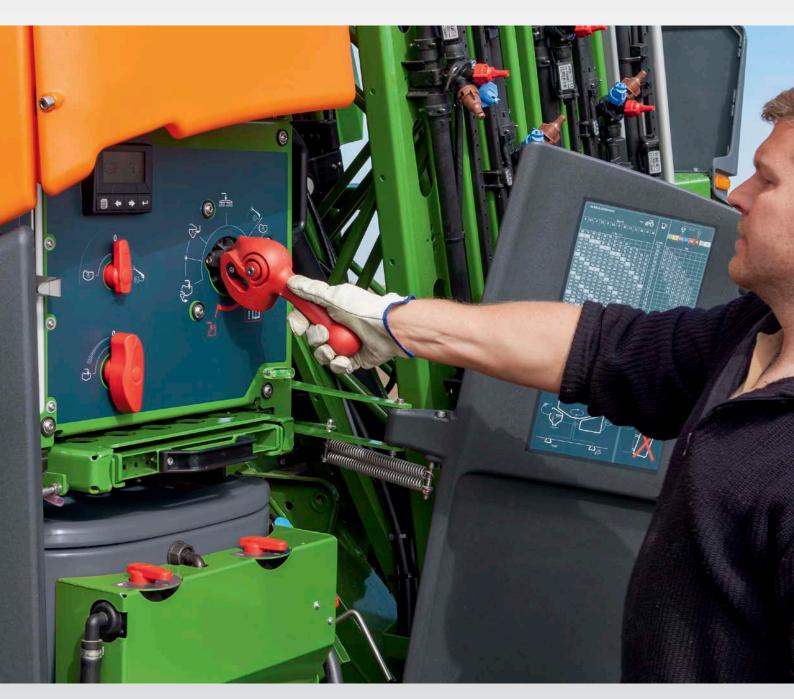


30 I dust and waterproof clothing locker



# Intuitive, simple, efficient –

The right solution for any application



"Striking is the new 7-way pressure tap which serves all the functions on the pressure side. Because of this, operator errors are virtually impossible."

("agrarheute" – Test report UF 2002 with FT 1001 · 03/2018)

**▼** SmartCenter with Comfort-Pack

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Easy actuation via the 7-way pressure tap

# SmartCenter with Standard-Pack – simple and intuitive operation

Essentially, Standard-Pack means that the UF 02 is operated mainly via the manual suction and the pressure taps. The suction tap determines from where the pump is going to draw the liquid from, whereas, correspondingly, the pressure tap determines where the pump will send the spray liquid to. In addition, the in-house developed 7-way pressure tap from AMAZONE simplifies control of the pressure side.

# SmartCenter with Comfort-Pack – Operation made easy!

In conjunction with Comfort-Pack, the TwinTerminal 3.0 is also utilised. In addition, automatic fill stop for the suction fill is made possible. As an option, fill stop is also available when force filling 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 a low fill level. In addition, the automatic agitation regulation offers auto-dynamic agitator control. This means: If larger application rates are required at the nozzle, the agitator output is reduced. If the nozzles are switched off again on the headland, the agitation is automatically restored.

#### 7-way pressure tap

The UF 02 is equipped with a 7-way pressure tap. As oppose to a normal pressure tap, the in-house developed valve from AMAZONE consists of a cam and valve seats. Exclusively by swivelling in and out the handle on the pressure tap, the relevant liquid paths are reliably opened or closed.

After the spraying operation is finished, Comfort-Pack provides fully automatic cleaning which can be controlled completely remotely from the tractor cab.

Additional functions such as boom rinsing, the cleaning the spray liquid circuit from heavy deposits or a defined dilution of a subsequent tank mix in the field are also included within Comfort-Pack.

"Via the electronics, spraying is almost made child's play. The automated system controls the filling and the spraying processes."

("agrarheute" – Test report UF 2002 with FT 1001 · 03/2018)



TwinTerminal 3.0



# **Exact mixing**

Quick and safe with the induction bowl



#### The benefits:

- **▼** Exceptionally quick, trouble-free filling
- **❸** Suction capacity of 150 l/min
- Fresh water supply during both suction and pressure filling
- **⊘** Safe induction even of powder and granular spray agents, thanks to the additional mixing nozzle
- Practical folding measuring jug holder in the induction bowl lid

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"For the induction bowl, everything has been thought of; even canisters can be left to drain."

("agrarheute" magazine – Test report UF 2002 with FT 1001  $\cdot$  03/2018)

The 60 I induction bowl manages anything. We experienced this when inducting Epsom salts."

("agrarheute" magazine – Test report UF 2002 with FT 1001  $\cdot$  03/2018)

The 60 l induction bowl is positioned directly underneath the operator control chest. The phenomenal suction capacity of 150 l/min guarantees the quick, absolutely trouble-free filling and a complete emptying. For inducting powders or granular spray agents, an additional mixing nozzle is positioned underneath the suction aperture which safely prevents any blockage of the suction aperture. The mixing nozzle is infinitely-variable and can be operated in parallel to the infinitely-adjustable output of the high capacity rinse ring.

When either suction or pressure filling, the induction bowl can be also supplied with fresh water via a steplessly-adjustable 3-way valve!

The canister cleaning nozzle is activated simply by pushing down the canister or measuring jug. In the upper zone of the canister cleaning nozzle there is an additional, smaller contact area which is positioned where the nozzle can be activated, specifically for a more effective cleaning of the canister neck.

Details, such as the measuring jug holder, or the drain off possibility for the canisters located on the inner side of the dustproof and liquid tight lid, provide the operator with an exceptionally convenient operation. When the induction bowl is closed a complete internal cleaning can be carried out with the aid of the canister cleaning nozzle. The spray lance, included in the standard execution, is positioned to the right hand side of the induction bowl.



Induction bowl with drain off facility for empty canisters



◆ A holder for gloves and a measuring jug are provided in the inner panel of the operator station cover



# AMAZONE aircraft-style boom design



"Very smooth boom ride in the field during work from the 30 m booms"

("agrarheute" magazine – Test report UF 2002 with FT 1001 · 03/2018)

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# Simultaneously superbly strong and superbly light

Due to the special profile design, AMAZONE sprayer booms are very light yet, at the same time, very robust. 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. For any operational use and any application rate, the right nozzles are available, for example, for optimum wetting, anti-drift or for liquid fertiliser use.

# 3-fold shock absorbed suspension for the most arduous of operational conditions

As standard, all AMAZONE booms are equipped with

- springs and shock absorber pack for damping the vertical roll movements
- ▼ rubber buffer damping elements with ball suspension to damp down the horizontal yaw movements
- tension springs for the shock absorbed suspension of the entire boom

As standard also are hydraulic height adjustment and guide skids that results in the perfect boom guidance and thus, the accurate longitudinal and lateral distribution of the spray agent.

#### Boom design to perfection

In hilly terrain and with large working widths, hydraulic tilt adjustment makes sense. The quick and precise tilting and return of the boom into the level position is possible via a tractor spool valve or via the electro-hydraulic functions in the ISOBUS terminal.

The AMAZONE Super-S series booms are JKI approved and comply to the highest European demands on crop protection implements!





### **Compare for yourself!**

It's those important quality features that make the difference!

#### AMAZONE booms an idea becomes reality

#### Compactness matters!

Due to the low centre of gravity and the light and robust design of the machine, it is easy to carry and the tractor front axle weight reduction is much less than with many competitors.

#### Drive safely!

The visibility in road transport is exemplary. Anywhere the tractor can go, the sprayer, with its narrow booms, goes as well. No protruding parts, no boom damage, minimal transport width.

#### **Everything shipshape!**

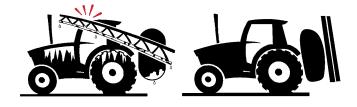
The boom locates safely in the transport hooks. No rattling. No susceptible wear on the boom pivots. Travelling fast is not a problem.

#### Maintenance-free and with a long service life

The decades of experience in boom design pay off: The conical hinge pin is the intelligent centre of a well thought-out boom philosophy! The boom pivots self-adjust against any play on the conical hinge pins and that ensures for the user an optimised boom function even after many years.

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





#### Clean working!

No spray agent from the booms drips on to the tractor or on the operator station and the booms also do not hit the tractor cab.



Exclusively from AMAZONE: All hydraulic connectors are always made from stainless steel!

A pivot joint that lasts!

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### **Q-plus boom**

12 - 12.5 - 15 metres

#### The robust, entry-level boom

With the horizontally folded Q-Plus boom in working widths of 12 m, 12.5 m and 15 m, AMAZONE offers an entry-level boom that is second to none when it comes to quality and reliability. Folding in and out is hydraulic as standard, as are the boom height adjustment and one-sided folding in the left-hand direction of travel.

#### The advantages:

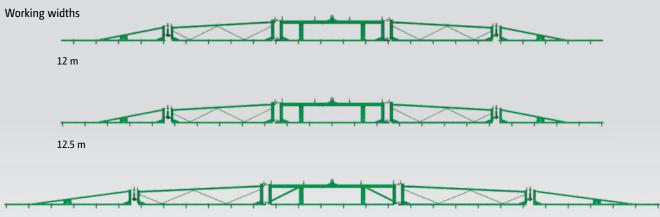
- **❸** Super-stable and, at the same time, super-light
- 3-fold shock absorption
- Hydraulic height adjustment as standard
- One-sided folding on the left-hand side as standard
- Available with hydraulic tilt adjustment



#### Central hose guidance

The central hose guidance ensures a clean and kinkfree routing of all hoses and cables.

#### Boom layout and folding variants for the Q-Plus boom



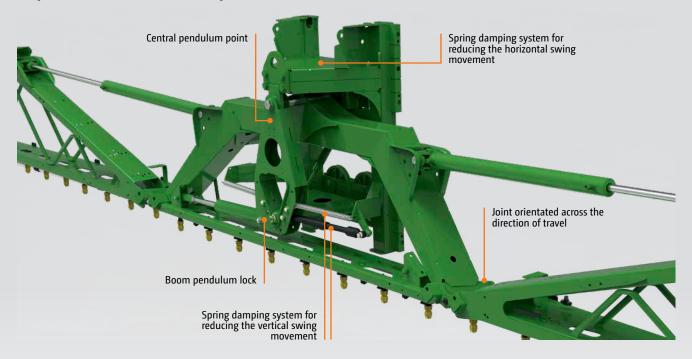


# **Super-S boom**

The top-class boom from 15 to 30 metres



#### **Super-S1 and S2 boom suspension**



The 3-fold, shock-absorbed suspension, with hydraulic height adjustment and elastic boom height indicators, guides the boom safely over the crop at the right height.

Boom | Super-S 22 | 23

# The comfortable, top-class boom in working widths up to 30 metres

The vertically folded Super-S booms are available in working widths from 15 m to 30 m. Due to the layout of the boom, there are only a few pivot points, which enables a quick folding and, more importantly, a transport width of just 2.40 metres. When equipped with Profi-fold electro-hydraulic boom actuation and DistanceControl height control, operation is made so much easier.

The Super-S boom is available in the Super-S1 boom from 15 m to 21 m and the Super-S2 boom from 15 m up to 30 m.

#### The advantages:

- Super-stable and, at the same time, super-light
- Super narrow transport width of just 2.40 m
- 3-fold shock absorption
- Hydraulic height adjustment as standard
- Expandable with fully automatic DistanceControl height control
- Expandable with hydraulic tilt adjustment
- **▼** Expandable with end nozzle control
- Expandable with Profi-fold electro-hydraulic boom actuation

# More than just the solid core: Profiles made from high tensile steel

That what has been taken away from the boom's weight is returned in efficiency. The clever lightweight design makes use of the material where it makes sense. For instance, aluminium for weight reduction at the outer boom sections of the Super-S2 boom, but not however, in the middle of the boom. There, high tensile steel is necessary so that the boom is kept rigid and in line and so spray errors due to vibration are prevented.





The Super-S2 boom is super-stable and, at the same time, super-light.



### Super-S1 boom

15 – 18 – 21 metres

Due to the layout of the boom sections, there are only a few pivot points, which allows faster folding. The well-known robust profile construction of this execution also convinces. Despite the individual sections of the Super-S1 boom being 50 centimetres longer in comparison with the Super-S2 boom, the machine height comes to just 3.30 metres.

The Super-S1 boom, in working widths of 18 and 21 metres, can be easily reduced to 15 metres by folding in the outer boom section.



The boom is so robust and, during our use of it, the boom ride was pleasantly smooth."

(dlz agrar magazine – Field test UF 1201 "Super also in small widths" · 05/2016)

#### Boom layout and folding variants for the Super-S1 boom

Working widths

15 m

18 m

24

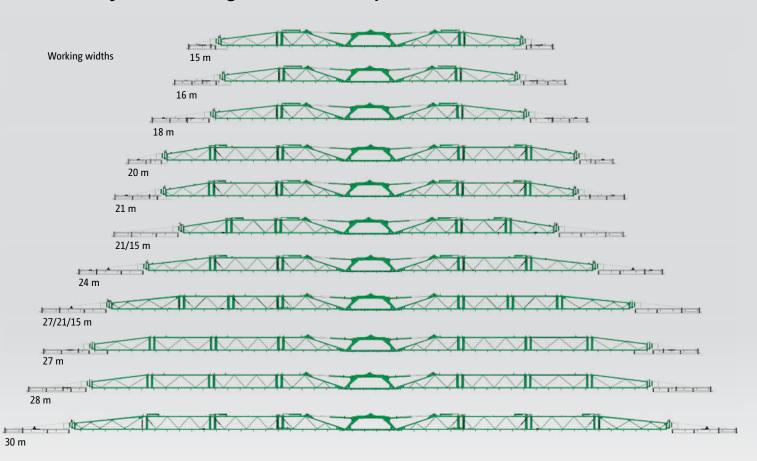
# Super-S2 boom

15 - 16 - 18 - 20 - 21 - 24 - 27 - 28 - 30 metres

Due to the shorter, individual sections, a machine height of just 2.90 m is achieved.



#### Boom layout and folding variants of the Super-S2 boom

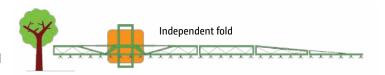




# With maximum comfort and even more precision

#### **Pre-select folding:**

Independent folding is possible via either the AmaSpray<sup>+</sup> in-cab terminal or an ISOBUS terminals via the tractor spool valves.



#### Profi-fold – flexible and comfortable

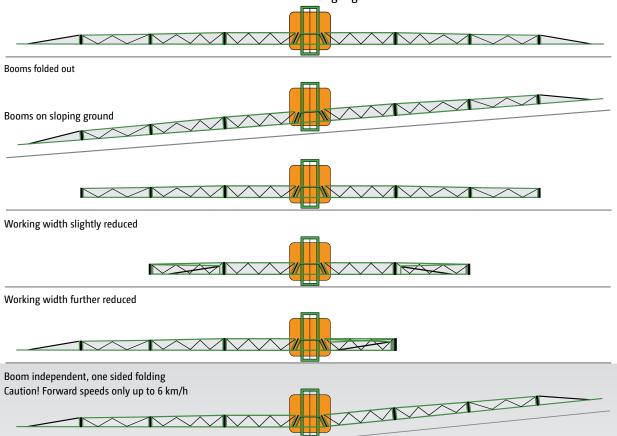
As an option for all Super-S booms, AMAZONE offers the Profi-fold electro-hydraulic actuation system. All hydraulic functions can be performed reliably and easily from the cab using the ISOBUS terminal or a ProfiClick switch box. The multi-function joystick makes handling especially comfortable.

#### Profi-fold 1:

Height adjustment, folding in and out, independent, one side folding at reduced speeds (max. 6 km/h), boom width reduction, and tilt adjustment.

#### Profi-fold 2:

In addition with variable geometry, individual boom tip angling.





Sensors precisely detect the target height distance and take over the operation.

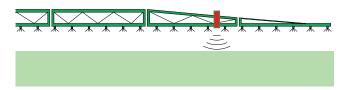
#### DistanceControl with 2 sensors or DistanceControl plus with 4 sensors

As an option for the Super-S boom, AMAZONE offers, either DistanceControl fully automated boom height control with two sensors or DistanceControl plus with four sensors. In heavily differing crop heights, or in areas with partially lodged corn, it could be that the boom, when equipped with 2 sensors, dips into the crop. In this case equipping the boom with four sensors will prevent this. The sensors are electrically connected in parallel and so it is always the sensor that is closest to the target surface that is actuated.

The driver is able to concentrate on correctly applying plant protection agents, whilst the computer optimises the boom guidance!

#### Benefits of the DistanceControl boom guidance

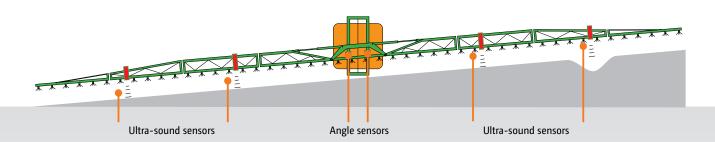
Fully automatic boom guidance including height guidance, tilt adjustment and boom lifting on the headland



DistanceControl when equipped with two sensors: measuring to the crop



DistanceControl when equipped with two sensors: The boom can dip into the crop, for example, where there is lodged corn



DistanceControl plus:

Remedy for difficult operating conditions by equipping with four sensors



### TG part-width section control



#### **Electrically-controlled TG valve chest**

For either ISOBUS control or AmaSpray<sup>+</sup>, the TG part-width valve chest is available. The part-width boom sections are switched, on and off, quickly and drip-free via electric motor valves with pressure relief.

In all situations the spray rate is exactly and quickly controlled directly via the computer and so negating the need for any mechanical equal pressure control.



# Pressure recirculation system

With DUS you determine the timing



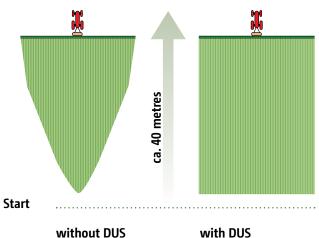
DUS pressure recirculation system

# 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 mixed spray agent. This means the spray lines are always full and immediately ready to use over the entire working width. There is no waiting on the headland.

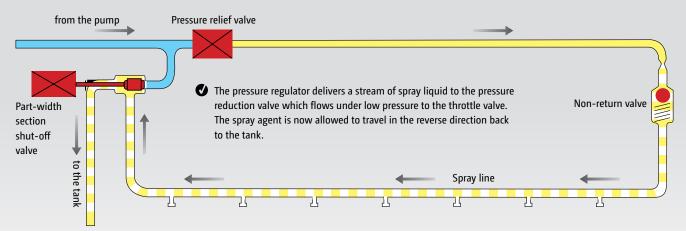
Every time individual part-width sections are shut off, during the turning operation and during transport, the spray liquid circulates continually thanks to the pressure recirculation system. This reliably prevents deposits, blockages or segregation in the spray lines.

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.



Immediate coverage over the full working width

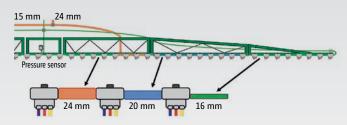
#### DUS pressure recirculation system: supplies each individual part-width section





### **AmaSwitch**

# Electric individual nozzle switching with 50 cm part-width sections



DUS pro high pressure recirculation with conical spray line on here, for example, AmaSwitch

# Automatic 50 cm part-width section switching

With AmaSwitch, AMAZONE offers the precise solution for automatic part-width section control on 50 cm sections. AmaSwitch 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.

Standard equipment with AmaSwitch includes the DUS pro high pressure recirculation system and, in addition, can be equipped with LED individual nozzle lighting.

# 3-fold nozzle body, with electric on/off switching

The technology behind AmaSwitch is based on a conventional, manually-rotated, 3-fold nozzle body with electric individual on/off. The opening and closing is achieved via an electric valve which is fixed directly onto 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 possible to configure the amount of part-width sections from choice.

#### **DUS** pro

With DUS pro, the spraying pressure is constant right up to each individual nozzle and at the set spraying pressure. Thanks to the conical spray lines, minimal residual spray volumes are achieved.

#### **Conical spray line:**

The dimensions of the spray line vary along the boom

- Minimum residual volumes
- Even flow speed

# 4-fold nozzle body, with the additional 25 cm nozzle spacing

In addition to the 3-fold nozzle body, AmaSwitch electric single nozzle control can also be equipped with a 4-fold nozzle body. In addition, a true 25 cm nozzle spacing can be achieved with the aid of an optional extension kit. This offers the benefit, in combination with specific 80° nozzles, to reduce the boom to target surface distance down to less than 50 cm.



AmaSwitch 3-fold nozzle body with electric individual nozzle lighting



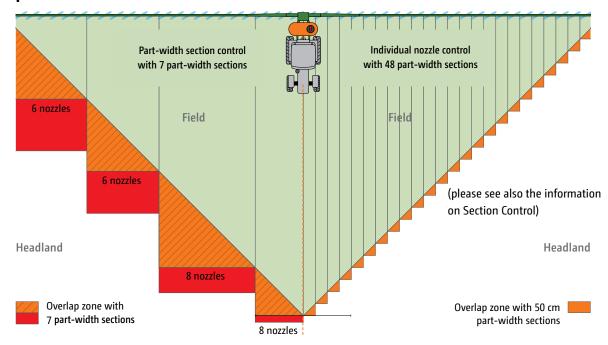
AmaSwitch 4-fold nozzle body



AmaSwitch with 4-fold nozzle body and extension set for an actual 25 cm nozzle spacing

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#### Example: 24 m boom width

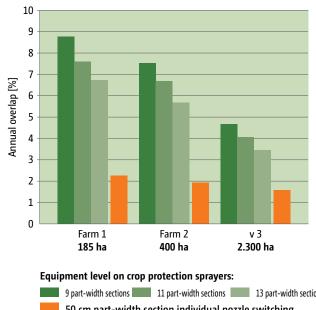


#### **Calculated example:**

Annual average overlaps 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 large farms due to annual saving potential
- Due to smaller field sizes, smaller farms save proportionally more
- When growing crops with a high crop protection demand (e.g. potatoes, beet), the 50 cm part-width section is particularly cost-effective



9 part-width sections 11 part-width sections 13 part-width sections 50 cm part-width section individual nozzle switching

#### **Comparison of systems:**

		Electric single nozzle control	
The benefits	Part-width section valves TG	AmaSwitch 3-fold	AmaSwitch 4-fold
Multiple boom sections	up to 13	up to 60	up to 60
50 cm part-width sections	_		
Number of nozzles per nozzle body	1, 3, 4	3	4
Manual nozzle switching			
Low pressure recirculation (DUS)		-	-
High pressure recirculation (DUS pro)	-		
25 cm nozzle spacing		-	
Individual programming of the part-width sections (TB)	-		
No need for compressed air			
LED individual nozzle lighting			
Nozzle switching – Review of systems	= includ	ed = optional	– = not possible



### The right nozzle choice

The basis for success in crop protection



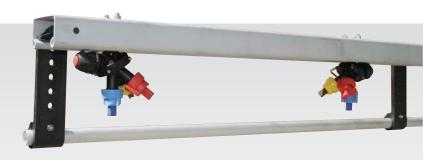
#### Less drift also at higher wind speeds

With the air-assisted injector nozzles, crop protection agents can be applied with very little drift. They are universally usable in all crops and all classifications. Because of the coarse droplet application, these nozzles can also be used in higher wind speeds.

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

#### 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 3-fold or 4-fold nozzle bodies are suited to frequent nozzle changes due to different applications and crops. Nozzle protection tubes, as standard on the outer sections, or, if desired, over the entire boom working width, ensures protection for long injector nozzles and multiple nozzle bodies.







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

Injector nozzles (ID, TTI) have a relatively coarse droplet spectrum and are particularly versatile with regard to their field of application. A pressure range of 2 to 8 bar is possible.

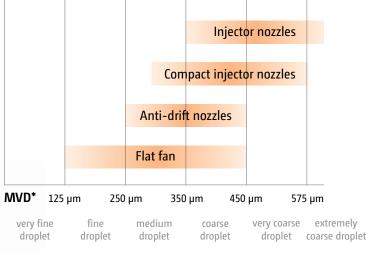
If coverage quality is at the foreground of the application, the use of standard or anti-drift fine droplet nozzles, such as XR or AD, is recommended. Special care is required here due to the tendency to drift above 3 bar.

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 makes sense maybe, for example, in ear treatment.

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

#### Distribution of the droplet size



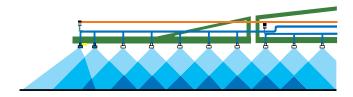






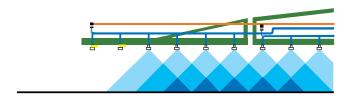
### **Equipment for every requirement**

# Electric boundary nozzle switching For environmentally-friendly spray application at the field edge



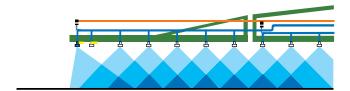
#### Additional nozzle switching

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.



#### **End nozzle switching**

If a one metre buffer zone around the edge of the field needs to remain unsprayed due to distance constraints, end nozzle switching can be used.



#### **Boundary nozzle switching**

For precision border spraying between two sensitive crops, the boundary nozzles can be used to make sure the spray pattern is accurately defined.







Stainless steel weights on the drag hose

#### **Under-leaf spraying**

Elegant solutions for successful under-leaf spraying are also possible in combination with AMAZONE crop protection sprayers. The Dropleg system from Lechler, for instance, is an easy and robust under-leaf spraying system that hangs freely between the rows and which fulfils professional demands.

#### **Operator-friendly liquid fertilising**

In conjunction with the AMAZONE boom, a separate drag hose kit for risk-free late fertilising is available. The self-contained aluminium profiles can be attached with a few hand clamps. Drag hoses offer a risk-free late top dressing with liquid fertiliser and stainless steel weights help keep the position of the drag hoses within the crop. For the coarse droplets distribution of liquid fertiliser AMAZONE offers multi-hole nozzles (3, 5, or 7 hole).

The nozzles are easy to access and only Amazone provides any relevant drag hose equipment."

(profi – Practical test "5 mounted sprayers in comparison" · 01/2013)

#### LED individual nozzle lighting

Professional work lighting is today the basis of a flexible, output-increasing solution to operating in twilight and at night. LED individual nozzle lighting picks out each individual spray fan. An absolutely immediate assessment of their operation down to the very last nozzle on the boom can be made.

#### **LED boom lighting for Super-S booms**

For flexible and efficient operation at twilight and in the dark, LED boom lighting is available.

Two far-reaching LED work lights, mounted in the middle of the boom, ensure excellent visibility of all the nozzles at a glance.







### FT 1001 and FT 1502 front tank

For the affordable self-propelled sprayer with up to 3,500 litres



High-capacity and compact, UF 02 with FT front tank

# Self-propelled sprayer: UF with FT for even higher outputs

The FT front tank allows the tank volume of the UF mounted field sprayer to be very easily extended by either 1,000 litres or 1,500 litres. Thanks to the optional FlowControl System and the compact design, the UF front tank is the ideal solution for increasing the overall capacity of the UF.

#### From mid-April to mid-May...

... huge tulip fields light up North Holland. For targeted plant protection, tulip grower Siem Munster relies on a UF 2002 mounted sprayer and a FT 1001 front tank. The core characteristics of this combination are particularly important when working in his tulip crop: efficient, comfortable, compact and precise!

• With the FT 1,000 I front tank one gets a highly-manoeuvrable sprayer with the capacity of a small self-propelled machine." ("agrarheute" magazine – Test report UF 2002 with FT 1001 · 03/2018)



### The advantages at a glance:

- FlowControl<sup>+</sup> intelligent fill level management for optimum weight distribution
- Improved driving stability on slopes due to the intelligent loading of the front axle
- Very compact design thanks to front linkage better manoeuvrability in the field and for a safer road transport

Model	Nominal volume		
Front tank FT 1001	1,000 l		
Front tank FT 1502	1,500 l		

The special advantages offered of more manoeuvrable tractors with a mounted implement compared with trailed sprayers in smaller and more awkward shaped fields as well as the better behaviour on slopes are the major arguments for the front tank solution.

But also in the 3,500-litre self-propelled sprayer class, a comfortable tractor equipped with a high-quality combination of mounted sprayer and front tank makes an interesting alternative.

Growers, for whom the volume of their UF 02 mounted sprayer is not large enough, can expand the nominal volume up to 3,500 litres by combining it with a front tank. With the aid of FlowControl<sup>+</sup>, the front tank is completely integrated into the spray liquid circuit of the UF 02.

### Benefits over a self-propelled sprayer

- Huge advantage on price
- **●** 80 km/h permitted speed with Fastrac
- Tractor can also be used for other operations

### Benefits over a trailed sprayer

- Compact unit
- Less side crabbing on side slopes
- Optimum ballasting of the front axle results in a smooth travelling behaviour in sloping terrain
- Faster to back into corners on the headland
- Easy manoeuvre in smaller and in wedge shaped
- Compact transport on narrow country lanes and along roads
- The front tank simultaneously serves as front weight ensuring an optimum balance
- Reduction of soil compaction





## **Automatic regulation via FlowControl+**

Operates just like using one large tank





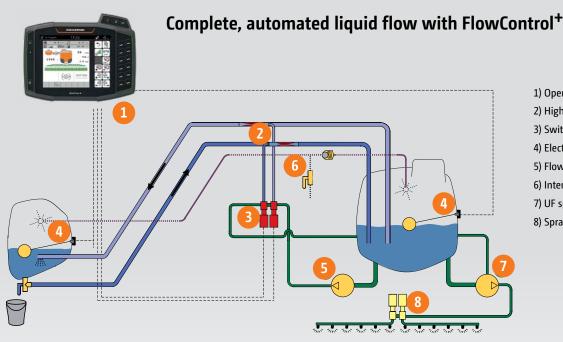
The operator terminal controls the liquid circuit. Only when the fill level of the rear mounted sprayer reaches the 30 % mark is the spray agent pumped from the front tank to the rear.

### **Electronic fill level management system**

The special feature of the FT front tank is the complete integration of the front tank into the mounted sprayer liquid circuit using the FlowControl<sup>+</sup> electronic fill level management via the ISOBUS terminal. The technological basis of FlowControl<sup>+</sup> is the two electronic fill level indicators in the tanks and the two high capacity injectors. The transfer capacity in both directions is up to 200 l/min ensuring that the liquid in both spray tanks is always ideally homogenised.

The ISOBUS terminal automatically controls the liquid circuit, ensuring always, an optimised weight distribution. Premature relief of the weight on the front axle is prevented and, depending on the fill level, new liquid is delivered from the front tank early enough so that the mounted sprayer is never emptied prior to the front tank and the liquid always remains homogeneous.

The manual control also enables the transport of just fresh water to the front tank. In practical terms, the FlowControl+ pump additionally assists the filling procedure so that a maximum suction capacity of up to 400 l/min is possible.



- 1) Operator terminal
- 2) High capacity injectors
- 3) Switch valves for injectors
- 4) Electronic fill level indicators
- 5) FlowControl+ pump 150 l/min
- 6) Internal cleaning
- 7) UF spraying pump
- 8) Spray line



# Handling and transport ... superb!





### Sophisticated design for the utmost in safety

No matter whether in the yard or in the barn: there is always a safe parking place for the compact combination on its parking rollers. The system's simple handling is already convincing even after just a few hours in the field. The internal cleaning of the sprayer combination is carried out via the fresh water rinse tank on the UF. The additional 100 I capacity of the fresh water rinse tank allows the appropriate cleaning according to European guidelines (rinse tank capacity: min. 10 % of the tank volume).

The compact sprayer-tractor unit is favourable especially in narrow lanes with hardly any obstruction to the view thanks to the well thought out design.



The AMAZONE FT complies with all relevant EU traffic safety directives and standards.

The optional traffic light kit is necessary in cases where the traffic lights of the tractor are hidden. The covered headlights of the tractor must be duplicated on the tractor roof. The fitting on the front tank is not allowed.





### Optional camera system

In difficult driving situations, such as when pulling out of road junctions, the optional camera system on the front tank and on the mounted sprayer provides better visibility, and thus more safety, to the front and the rear. The high resolution, anti-glare monitor has a backlit display and can display two cameras at the same time.



# Operation from simple to high-end, everything and anything is possible





• "With the AmaSpray in-cab terminal in combination with ProfiClick, the sprayer can be operated comfortably."

> dlz agrar magazine - Field test UF 1201 "Super also in small widths" · 05/2016)

### AmaSpray+ operator terminal

The handy AmaSpray<sup>+</sup> is specifically designed for the operation of AMAZONE sprayers and offers simple, but nevertheless, automatic control of the UF mounted sprayer. Switches integrated into the operator terminal enable the control of 5, 7 or 9 part-width sections. AmaSpray<sup>+</sup> has a digital pressure display and digital tank level indicator. It records the quantity applied and area worked. The hydraulic functions are operated using the spool valves on the tractor. Boom tilt and pendulum lock are also displayed in the AmaSpray+. As an option, AmaSpray<sup>+</sup> enables one-sided folding of the boom or, alternatively, access to the boundary and end nozzle spraying systems.

The AmaSpray<sup>+</sup> operator terminal with serial Interface can also be used for the automatic documentation (ASD) and part area site-specific application via a GPS terminal.

#### Functions of AmaSpray+:

- Single, high-contrast, backlit screen
- Overall and part-width section on/off
- Up to 9 part-width sections
- Digital pressure indication
- Digital fill-level indicator
- Display of boom position and lock status
- Hectare counter (total and daily counter)
- **4** +/- 10 % key
- **▼** Field record management system

#### Option possible:

- Pre-select fold for independent boom folding
- **❸** End or boundary nozzle for the Super-S boom (alternatively with pre-select fold)
- Fold or tilt via 1 double-acting control valve (electro-hydraulic changeover valve)
- ◆ ASD inside: serial interface for documentation and GPS terminal versatility

### **ProfiClick**

### The small switchbox with a huge comfort factor

The new ProfiClick switchbox offers the simple and precise actuation of all hydraulic functions of the booms on AMAZONE crop protection sprayers.

It is available in combination with the electro-hydraulic "Profi-fold 1" for the entire range of AMAZONE crop protection sprayers. All the operational functions of the ProfiClick switchbox are ergonomically arranged and directly linked with a function. The potentiometer for the re-adjustment of boom tilt can be controlled on the move without looking thanks to the centre position via a detent function. So the driver can concentrate perfectly on driving.



- ProfiClick switchbox without steering
  - for UF mounted and UG or UX trailed sprayers
  - Operation of the boom functions via a constant oil flow
- 1 Ergonomic hand support
- (2) On/off
- 3 Boom pendulum lock
- (4) Boom fold
- (5) Boom up/down
- 6 Boom tilt



### ISOBUS -

### Machine actuation in the digital age



### One language, many benefits!

Each ISOBUS-enabled machine from AMAZONE comes with the latest technology and almost unlimited possibilities. It does not matter whether you use an operator terminal by AMAZONE or an ISOBUS terminal directly installed in your tractor. ISOBUS is a worldwide recognised communication standard between, on the one hand, operator terminal, tractor and connected implements and, on the other hand, agricultural office software.

### **Operation with any ISOBUS terminal**

Which means that ISOBUS enables you to take control of all your ISOBUS compatible equipment. You just connect the machine with the relevant ISOBUS terminal and immediately the normal operator interface is displayed on the monitor screen in your tractor cab.

#### **Benefits of ISOBUS:**

- This worldwide standard provides a uniform interface and data exchange formats that ensure the compatibility even with third party manufacturers
- Plug and Play between machine, tractor and additional ISOBUS implements



### **AMAZONE** – more than just ISOBUS

Improved control, more yield! Precision Farming 4.0

### Our competence in electronics

To increase the operational comfort, AMAZONE implements and operator terminals feature a scope of functionality way beyond ISOBUS standards.

#### The benefits of more than just ISOBUS:

- ✔ Highest compatibility and safety functionality of your ISOBUS equipment
- No additional modules on the machine side. All ISOBUS machinery from AMAZONE is already equipped as standard with the necessary ISOBUS functions
- MiniView display with all AMAZONE terminals and additional ISOBUS terminals. See, for instance, the machine data in the GPS view
- The possibility using the tractor terminal or in a twin terminal solution to separate the functionalities of tractor and connected implement

- Unique operation concept. Freely-configurable displays and individual user interfaces in the operator terminal
- Up to 3 user profiles are possible. Establish for every driver or operation an individual user profile!
- Freely-configurable machine operation as, for instance, the folding procedure of the booms of your AMAZONE crop protection sprayer
- ◆ Tractor ECU function evaluation Automated movement sequences such as automated blocking of the steering axle while reversing
- Integrated TaskController data logger. As a matter of principle, every ISOBUS telemetry solution is possible (for example, TONI telemetry from CLAAS).
- **▼** Freely-configurable part-width sections





# Make the most of the possibilities

### Job management and documentation

All standard ISOBUS terminals from AMAZONE can collect and save machine and site-specific data using Task Controller. The collected data can subsequently be used in your Farm Management Information System.

- Easily compile or load jobs
- Processing jobs
- Ocument and export the work performed
- Processing of application maps in an ISO-XML format

### **GPS-Maps**

GPS-Maps enables uncomplicated part-area site specific management because this software module provides easy use of application maps in a shape file format. Either the target amount of the material to be applied or the target amount of effective ingredient can be directly processed.

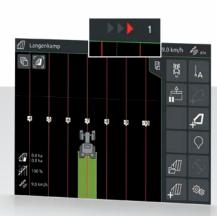
- Intuitive system for working from application maps
- Automatic part-area site specific regulation of the application rate
- Optimum crop management via need-oriented application
- Standard on AmaTron 4 and AmaPad 2

### **GPS-Track**

The GPS-Track parallel tracking aid makes orientation in the field much easier, particularly on grassland or in areas without tramline tracks. It has various track modes such as A-B Line and contour lines. Deviation from the ideal track is graphically shown on the display by an integrated light bar. Thanks to the clear steering recommendations with exact tramline distances you always remain on track!

- The virtual light bar in the status bar
- is standard for AmaPad 2
- Optional for AmaTron 4

GPS-Track – your parallel driving aid in the field





### agrirouter –

## The independent data hub for agriculture



### Simple and safe data exchange

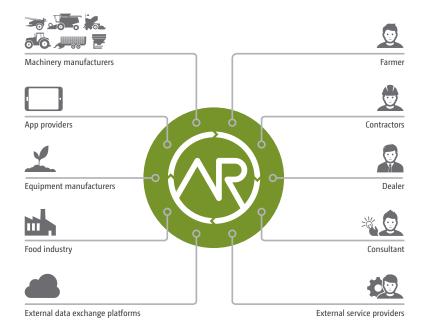
agrirouter can work with products and services from different manufacturers and facilitates universal data exchange for AMAZONE. agrirouter provides a safe and easy way to exchange data between AMAZONE machines, agricultural software, manufacturers and companies.

### Full control -- choose for yourself!

agrirouter simplifies data exchange by allowing wireless exchange of job data and application maps between AMAZONE machinery. It simplifies operating procedures, reduces administrative effort and improves profitability. You retain control of the data and decide who gets which data and to what extent.

#### Advantages of agrirouter:

- Simple and easy handling
- Comfortable and fast transfer
- Full control of your data
- Data are transferred, not stored
- Manufacturer-independent use

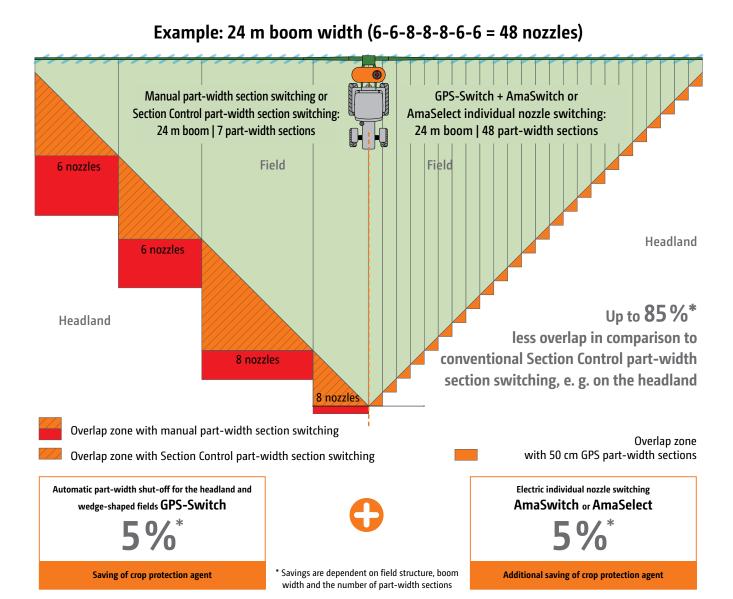




Source: DKE-Data GmbH & Co. KG



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



### Precise switching in 50 cm part-width sections

The decisive benefit of the individual nozzle control is the possibility to operate with small part-width sections giving an even greater degree of precision in wedge shaped fields, short work and on the headland. If AmaSwitch or AmaSelect is combined with the automatic GPS-Switch Section Control, the automatic switching of individual nozzles in 50 cm part-width sections is made possible. With this system, areas of overlap

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

### Automatic part-width section control

If the terminal to be operated features Section Control, such as, for example, GPS-Switch part-width section control from AMAZONE, the switching of the part-width sections can be carried out completely automatically and in relation to the GPS position. Once a field has been established by the driver, then, in the automatic mode, they can fully concentrate on handling the vehicle whilst the switching of the part-width sections in wedges and on the headland is carried out automatically.

#### Benefits of automatic part-width section control:

- Stress relief on the driver
- Increase in precision especially at night or at higher speeds
- Less overlaps and gaps
- Saving of resources
- Less crop damage and environmental pollution
- With Section Control, the ISOBUS computer relieves the driver from a lot of work."

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

### **GPS-Switch**

With GPS-Switch, AMAZONE offers a 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 of up to 16 part-width sections
- Optional for AmaTron 4

#### **GPS-Switch pro**

- Automatic part-width section control of up to 128 part-width sections
- Creation of a virtual headland
- Creation of Point of Interests (POI)
- Automated boom lowering for an AMAZONE sprayer
- Standard for AmaPad 2
- Optional for AmaTron 4



Special crops and bed work often require the on/off switching of the individual part-width sections in the middle of the boom. AmaClick is an additional ergonomic control unit that can be used either in conjunction with the multi-function joystick or also though as a standalone system alongside an ISOBUS terminal.





### **ISOBUS terminals from Amazone**

Intuitive, comfortable, better – workday made easy

## From simple to high-tech – everything is possible

AMAZONE offers two particularly convenient operator terminals for your ISOBUS machinery in the form of the ISOBUS-compliant AmaTron 4 and the AmaPad 2. In addition to pure machine operation, there are additional application options, such as automated GPS-Switch partwidth section control.

- All applications come pre-installed and can be initially tested free of charge
- Intuitive and clear actuation

### Everything in view with the 2-terminal solution

As well as operating the AMAZONE ISOBUS machine through the tractor terminal, there is also the handy alternative of separating the functionalities of the tractor and the attached machine and operating them by using two terminals. The tractor terminal can continue to control the tractor or also display the GPS applications whereas the additional operator terminal in its UT display mode is fully utilised to monitor and control the machine.





Terminal	AmaTron 4	AmaPad 2
Display	8 inch, multi-touch colour display	12.1 inch, multi-touch-colour display
Mode of operation	Touch and 12 soft keys	Touch
Interfaces	1 x Ethernet 2 x RS232 (GPS & ASD)	1 x Ethernet 2 x RS232 (GPS & ASD)
	2x USB interfaces	2x USB interfaces with WLAN dongle
Job management and processing of application maps (ISO-XML and Shape)	GPS-Maps&Doc * with integrated Task Controller	Task Controller
Parallel driving aid	GPS-Track * with virtual light bar	GPS-Track pro with virtual light bar
Automatic track following	-	GPS-Track Auto for the Pantera self-propelled crop protection sprayer
Automatic part-width section control (SectionControl) Note: dependent on the max. no. of sections of the machine!	GPS-Switch basic * with up to 16 part-width sections or GPS-Switch pro * with up to 128 part width sections	GPS-Switch pro with up to 128 part width sections
Camera connectivity	1x camera connection * with AmaCam automatic reversing detection	2x camera connections *

ISOBUS | ISOBUS terminals 50 | 5.



### **Everything from a single source!**

Thanks to the AUX-N feature, you can operate multiple functions of the machine via AmaPilot<sup>+</sup> or any other ISOBUS multi-function joystick.



- Perfect ergonomics
- ◆ Almost every function directly controlled via 3 levels
- Adjustable palm rest
- Freely-programmable, individual key layout
- "The joystick rests comfortably in the hand."

  ("dlz agrar magazine" "Test report Pantera 4502" · 02/2016)



"The ISOBUS control is an in-house development from AMAZONE and has been designed clearly and is easily understandable. If desired, some keys can be freely allocated. Also the multi-function display can be freely selected."

("agrarheute" magazine— "Test report Centaya seed drill"  $\cdot$  06/2018)



### AmaTron 4

Manager 4 all



## Easy and comfortable operation as intuitive as your tablet

Why not handle a terminal as intuitively like a tablet or a smartphone? With this in mind AMAZONE has developed the highly intuitive and operator-friendly AmaTron 4 which offers a noticeably smoother operational process, especially when it comes to job management. The AmaTron 4, with its 8"multi-touch colour display meets the highest expectations and offers maximum user-friendliness. A swipe of the finger or using the App carousel allows quick changes between applications and the simple and clearly structured operating menu. A useful MiniView, a freely configurable status line as well as a virtual light bar make the use of the AmaTron 4 particularly clear and convenient.

#### **Benefits of AmaTron 4:**

- Automated full image mode during non-operation
- Practical MiniView concept
- Operation via the touch display or via soft keys
- Especially intuitive and user-friendly
- **▼** Field-related documentation
- Practice-oriented and intelligent menu guidance
- Day-night mode

Standard with:

### GPS-Maps&Doc



Automated AmaCam reverse driving recognition that gives direct access to a reversing camera and prevents dangerous situations

Machine operation (UT, Universal Terminal) in day-night mode

ISOBUS | ISOBUS terminals 52 | 53

### AmaPad 2

The especially comfortable way to control agricultural machinery



## The new dimension of control and monitoring

AmaPad 2 from AMAZONE is a particularly high-quality operator terminal. The 12.1" multi-touch colour display is particularly comfortable and fulfils the highest demands on Precision Farming. The operation of AmaPad is carried out solely via touch.

With the practical "MiniView concept", applications which aren't being actively operated at that moment but need to be monitored are clearly displayed at the side. When needed these can be enlarged via "a finger swipe". The possibility to individualise a "dashboard panel" with the displays of choice rounds up the user ergonomics.

In addition to the GPS-Switch pro part-width section control, GPS-Track pro, a high-end parallel tracking aid with virtual light bar is included in the standard specification.

#### **Benefits of AmaPad 2:**

- ✓ Large 12.1" multi-touch colour display
- Extended MiniView concept
- ✔ Upgrade to automatic steering is possible thanks to the automatic GPS-Track Auto track guidance
- Day-night mode

Standard with:

GPS-Maps pro GPS-Track pro GPS-Switch pro





# Crop protection technology from AMAZONE

Benefitting from more than 50 years of experience



### **Technical data**

### UF mounted sprayer and front tank FT

Model	UF 1602	UF 2002	
Hopper volume (I)	1,680	2,125	
Nominal volume (I)	1,600	2,000	
Working width (m)	15 – 30 with Super-S2 boom		
Empty weight (kg)	1,400¹	1,550²	
Length (m)	2.00		
Height (m)	2.90		
Transport width (m)	2.40		
Height adjustment (m)	0.50 – 2.20		

Model	FT 1001	FT 1501
Hopper volume (I)	1,125	1,580
Nominal volume (I)	1,000	1,500
Empty weight (kg)	217	225

Illustrations, content and technical data are not binding! Deviations of technical data are possible depending on the equipment. The illustrations may deviate from the requirements for local road traffic regulations.







 $<sup>^{1}</sup>$  with 21/15 m Super-S2 booms and Profi-fold 1

<sup>&</sup>lt;sup>2</sup> with 30 m Super-S2 booms and Profi-fold 2







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