

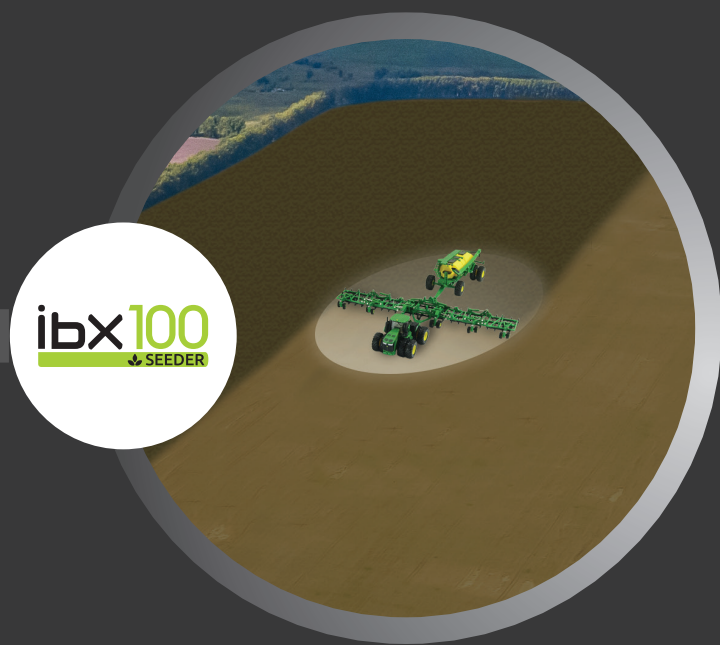
ARAG[®]

ISOBUS

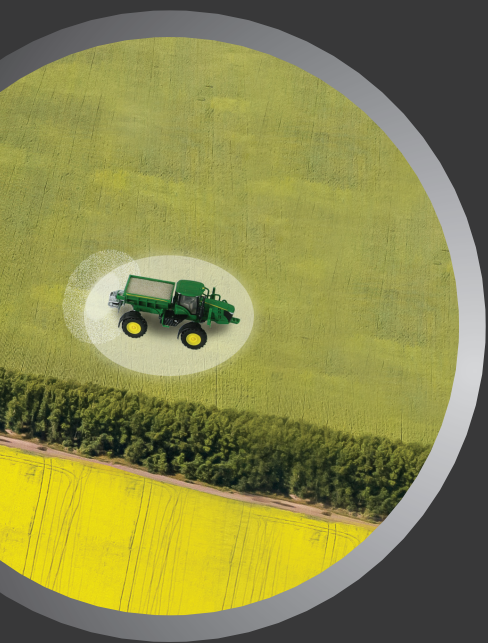
ARAG INTELLIGENCE



ISOBUS... Plug and Play



IBX100... THE SPRAY > SEED > SPREAD SOLUTION



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What Is ISOBUS?

ISOBUS is an international standardised communication protocol that allows different agricultural equipments to **communicate through a common language**.

What Does This Mean?

The ISOBUS control system allows the operator to **connect and control different implements** using the same tractor and screen for all applications.

ibx100

IBX100 APPLICATIONS



ibx100
SPREADER

ibx100
SPRAYER

ibx100
MULTIROW

ibx100
SEEDER

ibx100
PLANTER

ibx100
MULTIFLOW



POLARIS

The new POLARIS assisted driving system automates steering on both straight and curved paths, when connected to Delta 80T.

- Reduces skipped and overlapping areas.
- Allows saving time, fuel and chemical product.
- Easy to install.
- Requires less efforts of the operator and allows focusing on the spraying.





DELTA 80T ISOBUS

Large 8.4" color display, maximum ergonomics and possibility to connect to data networks anywhere and at any time.



- ISOBUS (VT) monitor 8.4" touch screen
- GPS navigation
- Automatic boom shut-off (TC-SC)
- Variable application (TC-GEO)
- Task Isoxml management (TC-BAS)
- Manages data relevant to spraying treatments.
- Compatible with POLARIS automatic steering



delta80t



explorer

Joystick Controller

The joystick EXPLORER allows **to manage all spraying and hydraulic functions** directly from the handle. This ensures a solid anchor point and a stable acceleration control.

- Tactile feedback about status messages will be transmitted through vibration (haptic technology).
- 15 keys to control up to 39 functions
- 4 status LED
- Silicon rubber back-lit keyboard
- Completely waterproof IP65.



Switch Boxes

Sequential control allows the user to command **up to 13 boom sections using two switches only**, one for the right side and one for the left side.

A special software controlling boom sections allows the operator to work according to the preset mode and **control more sections** or half booms at the same time by simply activating just one control.

- For section valve control
- Available with 5, 7 and 13 boom sections
- Versions with 7 or 9 hydraulic functions.



Boom leveling with fixed geometry

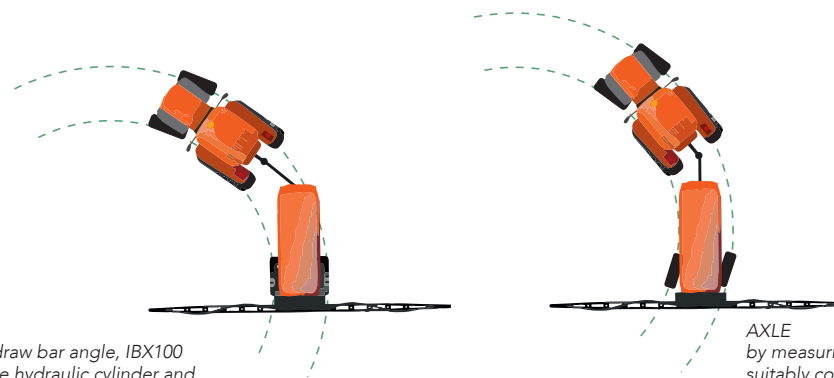
This function has been designed for the IBX100 to maintain a uniform distance of the boom from the ground even in case of gradients thus ensuring a correct treatment coverage.

- High precision and reduced response time.
- User friendly
- Suitable also for already existing sprayers.



Draw bar and steering axle

Draw bar and steering axle management are additional functions of the IBX100 Hydraulic ECU. With these functions the machine will drive to the tram line minimizing crop crushing.



DRAW BAR
by measuring the draw bar angle, IBX100 suitably controls the hydraulic cylinder and allows to vary the draw bar steering angle.

AXLE
by measuring the draw bar angle, IBX100 suitably controls the hydraulic cylinder and allows to vary the steering angle of the axle.



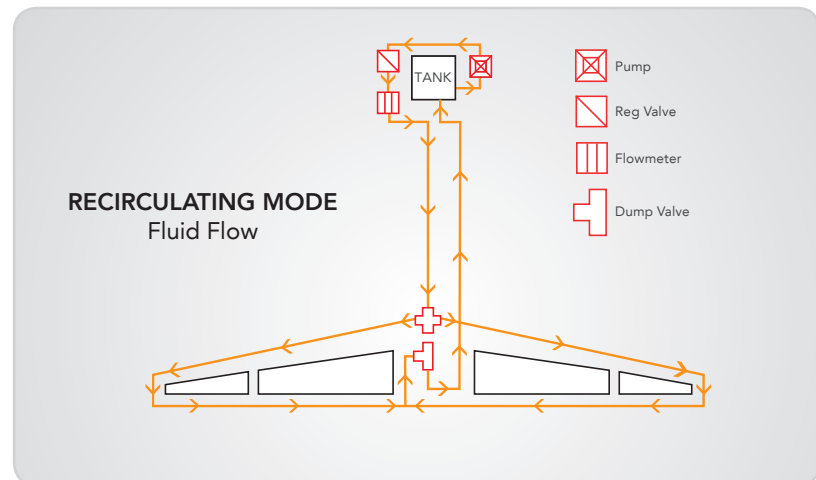
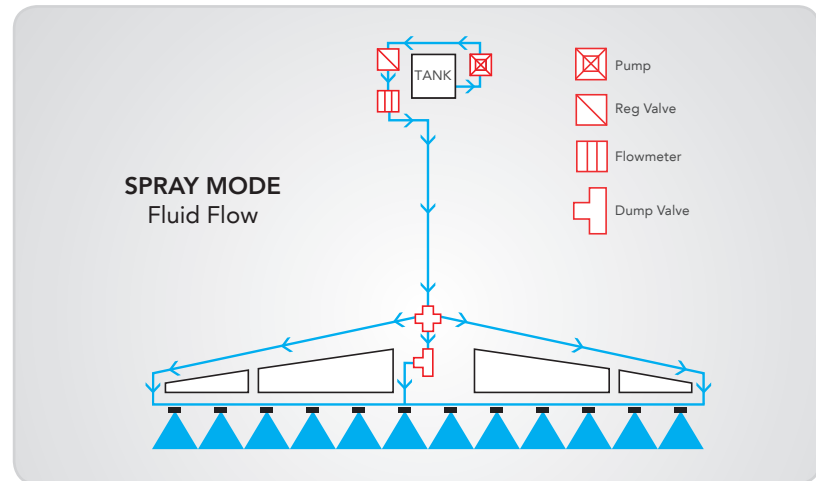
Spray and Recirculating Diagrams

Boom Recirculation System (BRS)

Arag ISOBUS makes BRS easy! The BRS allows the boom to be plumbed in recirculation configuration. This means that when dump valve is switched in the OFF position, the flow continues to run through the boom and back to the tank. The BRS prevents heavy particles from settling in the boom line by allowing the full flow of the pump being returned to tank when not spraying, helping to prevent possible contamination.

BRS also helps to keep the chemicals properly mixed and primed in the boom for spraying resumption in the current field or the beginning of a spray job in a new field.

- Reduces contamination
- Full boom prime
- SeleTRON and Flow Stop ready.



What Is 3TS?

A Three Tier System (3TS) provides three different nozzle configurations using two "rows" of nozzles, giving the operator more versatility while spraying. The below example uses 01 & 015 nozzles @ 70 l/ha.



FIRST TIER

As acceleration starts 01 nozzles and operate from 8 to 12 kph.

SECOND TIER

As acceleration increases 01 nozzles turn OFF at approx 12 kph, 015 nozzles turn ON and spray up to 15 kph.

THIRD TIER

As acceleration increases from 15 to 25kph, 01 + 015 nozzles will be spraying (01+015=025) giving 3 Tier Spraying).



*sele*TRON

What is SeleTRON

SeleTRON is an **electronic actuating shut-off nozzle valve** that turns each nozzle on the boom into a section. This allows individual on/off control of every nozzle.

- Auto Section Control (ASC)
- Individual nozzle control
- Eliminates over/under spray, leading to chemical savings
- 3TS capability and custom nozzle shift
- High speed operation
- BRS



Single SeleTRON

Turns every nozzle ON/OFF individually to prevent any overlap or missed area.



Twin SeleTRON

Turns every nozzle ON/OFF individually to prevent any overlap or missed area. Allows 3TS for extended speed range.



Also available with:
(2+2) Rotational Head



What is Compact Flow Stop?

Compact Flow Stop is an **air operated shut off nozzle valve**. The Compact Flow Stop can also be run as a 3TS System and allows BRS.



Single Compact Flow Stop

- Turns nozzles off in Sections
- Reduces overlap and overspray
- Full boom prime
- BRS.



Twin Compact Flow Stop

- Turns nozzles off in Sections
- Reduces overlap and overspray
- Full boom prime
- BRS.



**Also available with:
(2+2) Rotational Head**

Valves

The ISOBUS valves system is a **conventional sprayer setup, using Arag electric motor valves** to control the sections.

The ISOBUS valves system can be configured either as a single line, single tier or dual line, 3TS system.

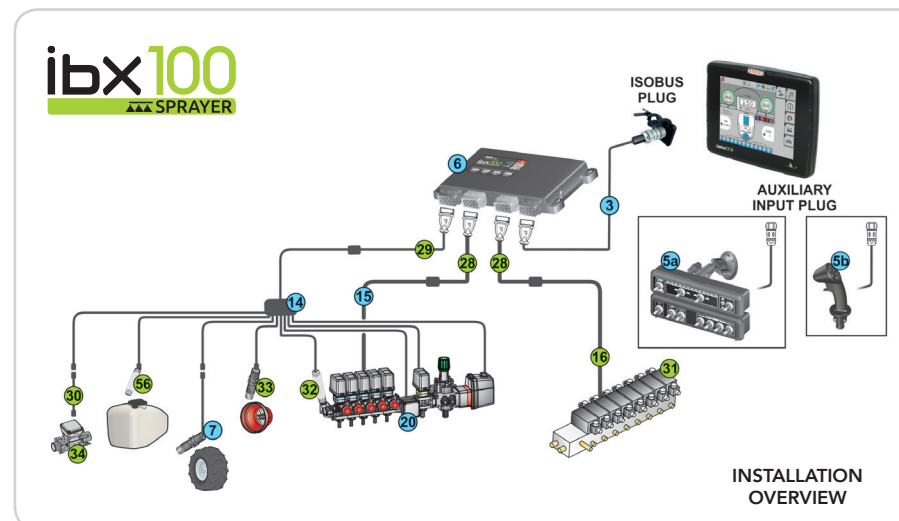


Single Line, Single Tier System

- Maximum of 13 section valves
- Hydraulic control
- 2 Fence line outputs (left and right)

Dual Line 3TS System

- Maximum of 7 + 7 section valves (primary + secondary nozzle)
- Hydraulic control
- 2 Fence line outputs (left and right)
- Allows 3 Tier System (3TS)
- Custom nozzle shift.



34 filling flowmeter, 56 tank level sensor, 7 speed input, 33 rpm sensor, 32 pressure sensor 31 hydraulics, 20 flow meter, master dump valve and pressure regulating valve
5a 7 and 9 panel control OR 5b Explorer joystick.



ISOBUS SYNCRO

SYNCRO is an innovative **control system to manage auxiliary services** on spraying machines. Through the CanBus connection to the new electric valves 853 and 863 series and several sensors, it is now possible to automate the control sequences (tank filling, circuit and boom washing, etc).

- Automate Control Sequences
- Tank filling and flushing
- Agitation and spraying
- Boom flushing
- Easily programmed
- Can manage up to 40 different sequences
- Displayed and operated also on VT



ISOBUS VISIO

VISIO is a **multifunction display** featuring compact dimensions and accuracy at an affordable price. It can be directly connected to the ISOBUS line and several sensors to view a wide range of data.

- Can be connected to tank level sensor
- Auto shut off when filling
- Excellent resistance against the elements
- USB port (Data transfer and software update)
- Display on VT
- Visual and acoustic alarms
- Can use different units of measurement

ISOBUS Multirow

The ISOBUS Multirow software has been designed for horticultural and viticultural usage.

Advanced features for the ISOBUS multi row include:

- ASC and VRC
- Visual and sound alarms + Up to 7 rows/section valves
- Application rate from flow, pressure or both
- Control ½ , 1 or 2 rows per section.
- Manages also sprayers with recovery



Spreader

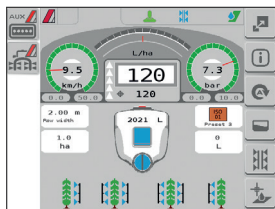
Arag has developed an ISOBUS control unit that **controls the output of a granular fertilizer spreader with belt conveyor.**

- Variable Rate Control (VRC)
- Headland control
- Automatic control of belt and disc speed.
- Automatic regulation of application rate
- User-friendly, intuitive calibration of application product, with capability to store and retrieve by name 8 constants for 8 products.

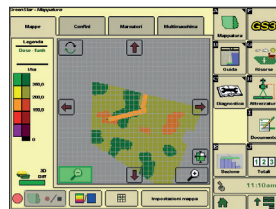


ibx100

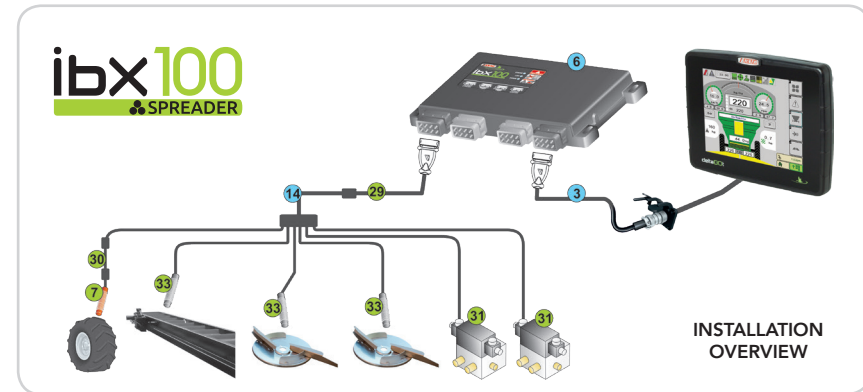
MULTIROW ISOBUS



ISOBUS Spray Screen



Variable Rate Map

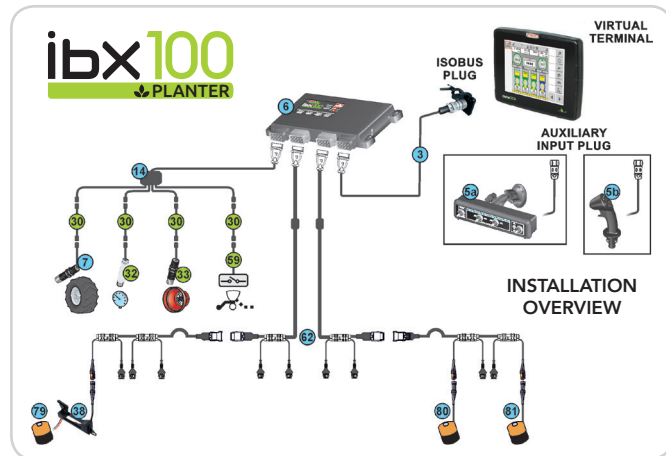


7 spinner sensor, 33 spinner belt rpm sensor, 31 proportional hydraulic valves.

Planter

IBX100 Planter ISOBUS, allows to manage **all functions of a modern planter**, either with electrical or mechanical transmission.

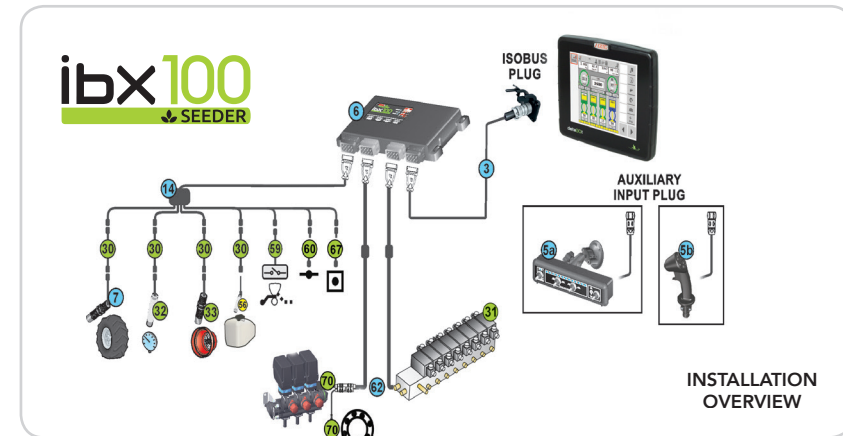
- ASC up to 24 rows, via CANBUS electric motors or electromagnetic clutches
- VRC of seed, fertilizer and microgranular
- Self-loading function for all products
- Monitoring rows status with deviation diagram



Seed Rate Controller

Manages **all functions of monitoring and control** with the Arag Seed Rate Controller System.

- Control up to 6 bins (liquid/granular)
- Remote calibration switch
- Headland control plus ASC and VRC
- Fan pressure monitoring
- Controls:
 - CANBUS Electric Motors
 - 3 Hydraulic Motors
 - 3 Actuators and
 - 3 Liquid Controls.



7 speed sensor, 32 fan pressure, 33 rpm sensor, 56 tank level sensor 59 external master 60 calibration switch, 67 electric motor, 70 valve set and dump OR clutch for granular, 31 hydraulics.

Liquid Fertiliser ISOBUS Multiflow

The ISOBUS Multiflow application allows to monitor up to 48 lines of **liquid fertilizer distribution system** on precision seeders. Operators are warned by the VT in the cabin if there is any malfunction and are free to carry out other operations.

Orion Multiflow is an **electro-magnetic flowmeter** with 4 channels provided with a CanBus port that allows its connection to the network with other flowmeters through a single wiring.

- Status indication LED on each single channel
- Operating pressure up to 20 bar
- Maximum absorption of 0.6 A
- T1 fork couplings. Modular manifold for each inlet fitting with T3 fork coupling
- No moving parts.



- Controls or monitors liquid lines
- Monitors up to 48 liquid lines
- Orion electromagnetic flowmeter: *completely independent from liquid viscosity*



Liquid ISOBUS Multiflow screen



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