

NAVIGATOR



Tank: 3000 - 4000 - 5000 - 6000 l

Track: IntelliTrack, high performing and stable drawbar steering

Controller: HC 5500, HC 6500, HC 8600, HC 9600 or ISOBUS

TurboFiller: Efficient handling of liquid and powder

Liquid system: DynamicFluid4 for precise application in all conditions

Axle: Fixed 1.8 / 2.0 m or adjustable 1.5 – 2.25 m

Booms

EAGLE: Simple and strong booms 18 to 30 m

DELTA: Compact and high-performing 18 to 24 m

DELTA FORCE: For higher speeds and greater performance 27 to 36 m



The Obvious Choice

NAVIGATOR is synonymous with high quality and design which supports functionality. Properties which secure the value for money and ease of use. In the HARDI trailer family, NAVIGATOR offers features from midsize to full specification solutions.

The large range of high quality features makes the NAVIGATOR the obvious choice.

Concept

Demands for simple and reliable solutions, serviceability and high capacity are universal world-wide.

The product represents HARDI's experience as sprayer specialist. The proven success for NAVIGATOR sprayers since the introduction has shown the value of this position.







IntelliTrack

IntelliTrack is a high-end steering drawbar concept combining the advantages of an excellently designed chassis with the use of advanced electronics.

The tracking concept is easy to connect and operate, ensuring safe tracking even in difficult field conditions.

IntelliTrack has an integrated safety feature which prevents the cylinders from steering the drawbar when the driving speed is too high for the given track width.

HC 8600 and HC 9600 with AutoSectionControl

"Touch the future" with integrated electronics.

The HC 8600 and HC 9600 controllers provide growers a powerful, full-featured precision farming tool.

AutoSectionControl, guidance, data logging and Auto-Slant/AutoHeight are integrated in the ISOBUS terminal.

The colour display has an excellent readability, also in sunlight. All primary functions are controlled by the intuitive grip.

DynamicFluid4

DynamicFluid4 secures a precise and fast control of the application rate. All challenges from fast driving speed and acceleration as well as use of GPS controlled section control are handled in the most superior way by DynamicFluid4.

The system also offers features like SoftStart so no pressure peak will overload the fluid system. Another feature is sensor backup, preventing faults on the electronics to stop the spray job.

Chassis

The heavy-duty NAVIGATOR chassis and axles are designed for high-speed driving under the most demanding field and road conditions. The robust NAVIGATOR frame is made of high-tensile steel and is ready to meet the tough demands of the professional farmer.

The concept gives the best compromise between excellent clearance and low centre of gravity.

Low centre of gravity

The entire NAVIGATOR design has the lowest possible centre of gravity without compromising clearance under the sprayer.

Unique design with long drawbar

The long drawbar is one straight line from the coupling point to the axle. Being bolted underneath the frame, it ensures good driving stability and absorbs the up-and-down forces at high-speed driving. The drawbar is available as a fixed or as a steering drawbar and in a low or high-hitch version.





Perfect clearance

The unique design of axle and frame ensures excellent crop clearance, reducing crop damages to the absolute minimum. No brake rods or steering components are lower than the axle.



SmoothRide

The optional SmoothRide suspension system is uncomplicated, reliable and requires little or no service. The suspension provides a better ride of the sprayer, ensuring higher capacity and comfort.

IntelliTrack

This high-end steering drawbar concept offers a tight turning radius. A combination of advanced electronics, proportional valve and two large hydraulic cylinders ensures a safe, accurate tracking with user-friendly operation.

Dynamic Electronic Control (DEC) preventing tilt over

IntelliTrack has an integrated safety feature which prevents the cylinders from steering the drawbar when the driving speed is too high for the given turning radius.



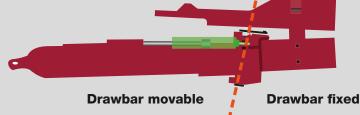
The controller will constantly monitor the forward speed and steering angle width to make sure that the tracking is not used when it is not safe. If the tractor driver attempts a 90° turn at e.g. 15 km/h, the IntelliTrack system automatically computes the data and straightens up the drawbar. These settings are user defined.

Gravity curve

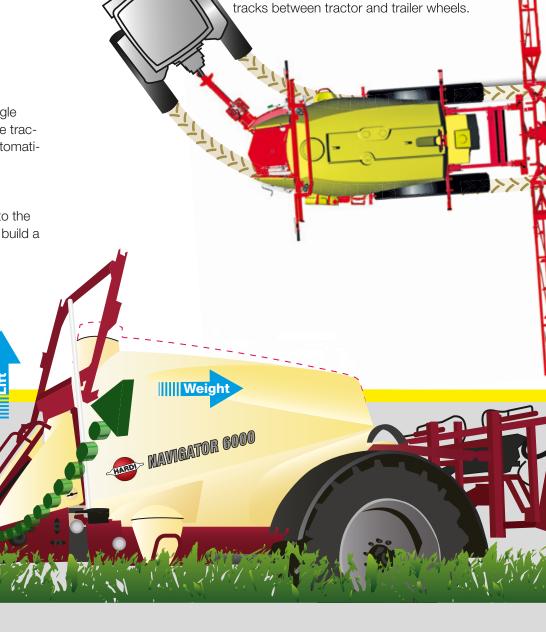
When the IntelliTrack has been calibrated, the operator only needs to attach 2 small chains to the tractor, before he can start spraying. Together with the brackets, the two connection chains build a trapeze which tolerates slack forced or drawbar torsion.

For a better stability when turning, the pivot point between trailer and drawbar is angled. This feature helps you minimizing the turning radius down to 6.0 m on the NAVIGATOR 3000 and 4000 and 8.5 m on 5000 and 6000.

The steering geometry and the angled pivot axis ensure that the centre of gravity of the trailer is following the gravity curve and minimize the risk of tilt over.



Pivot axsis



Tracking

The turning angle of the tractor is measured,

and the steering computer will ensure matching

Liquid system

To be able to handle large volumes of liquid with a minimum of pressure loss, the NAVIGATOR has large dimensions in all valves, tubes and filters.

SmartValve

All primary functions needed for filling or cleaning the sprayer are built into two handles located in the centre of the working zone. The logically placed handles with easy-to-read icons make the system very intuitively to operate and greatly reduce the start-up and operation time of the sprayer.









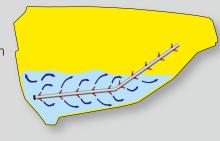


Pump

The NAVIGATOR liquid system is driven by the robust grease-lubricated HARDI diaphragm pump. The diaphragms separate the liquid from the vital parts of the pump such as its bearings and crankshaft, ensuring reliable and durable operation.

HARDI diaphragm pump features:

- Self-priming
- Able to run dry without damage
- Easy to service
- Grease-lubricated crankcase



Powerful agitation

Use of Venturi nozzles increases the input for agitation by approx. 4 times.

The nozzles are positioned so there are no blind spots in the tank. The agitation concept has proven to be extremely efficient for both liquid and powder.



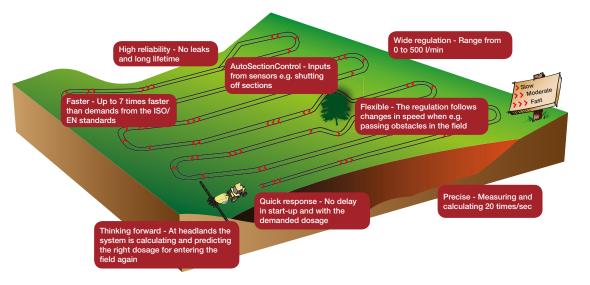
DvnamicFluid4

The HARDI's DynamicFluid4 regulation system has received 3 major awards at the exhibitions AGROMEK, TechAgro and SIMA.

With its 4-sensor technology and no leakage design, DynamicFluid4 results in faster regulation with the highest possible accuracy and works with a fast "feed forward" regulation software to deal with all the challenges in modern spraying.

Also challenges forced by tractors with stepless transmissions, the DynamicFluid4 is programmed to cope with different driving behaviours and fast speed changes giving the crop the absolute right dosage.





TurboFiller

The HARDI TurboFiller is developed to handle large quantities of powders and liquids. Its high capacity is a result of high vacuum combined with rotation of the liquid forced by the TurboDeflector placed in the bottom of the hopper.

Changing from transport to the 95 cm high filling position is easily made by a spring-loaded bracket with automatic transport lock.

A multifunctional 3-valve operating unit and a cleaning pipe make the chemical filling easy and efficient. The cleaning of containers and the TurboFiller itself is managed by a rotating nozzle.



DilutionKit

The HARDI NAVIGATOR can be equipped with a DilutionKit, allowing the operator to flush the liquid system from the driver's seat.

The operator can flush only the boom or rinse the tank with the flush nozzles. The need of rinse water is reduced due to the optimized liquid system. All return lines and agitation will be flushed when spraying out the diluted liquid from the main tank.

EasyClean filter

The EasyClean filter is a high capacity suction filter. The condition of the filter can be constantly monitored via a SafeSpray vacuum gauge; this ensures that the filter is cleaned when needed and only when needed.

When cleaning the filter, all you have to do is to twist the lid 90°. This will close a main tank valve in the bottom of the filter and open the filter for inspection.

CycloneFilter

The CycloneFilter at the pressure side is a unique self-cleaning filter with a high-speed cyclone action that increases the cleaning capability of the filter significantly.

In addition, the CycloneFilter has a unique boost function allowing the filter to be flushed when needed.

Booms

DELTA FORCE

Compact in transport - Wide in field

DELTA FORCE is designed to be a large boom. The selection of features and the layout of the boom structure are targeted to perform at high driving speed and high performance at boom widths of 27-36 m.

The result is a boom with many simple and strong solutions which together give a high-performing and reliable boom with a simple setup, low maintenance and a great design.



A "stop and lock" system minimizes the risk of slack between the boom elements. This will secure a good and reliable transfer of forces from one boom element to the next.

The system is very easy to adjust and prevents stress in the folding mechanism.

All folding is made with SoftOpen and SoftClose for an easy and fluent folding of the boom sections.





Perfect suspension

A very advanced, but yet simple centre part controls the movements of the DELTA FORCE boom. A pendulum suspension minimizes movements, while a low centre of gravity ensures a perfect balance of the boom.

Less adjustment - more performance

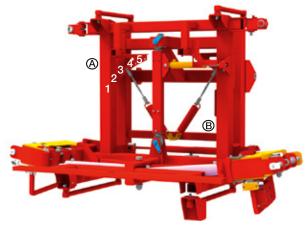
With just two parameters to set up, the DELTA FORCE boom gives you most possibilities in the field.

A) The five pendulum settings allow to adjust the boom performance, either to a pendulum, which follows the sprayer movements, or to follow the level of the terrain.

B) An adjustable dampening function on the pendulum lock cylinder is installed to slow down the speed of roll movements from the boom.

StackFold - Compact transport

Stacking the boom when folding gives the possibility of optimizing the relation between the dimension of the boom elements and the space occupied, when the boom is in transport.

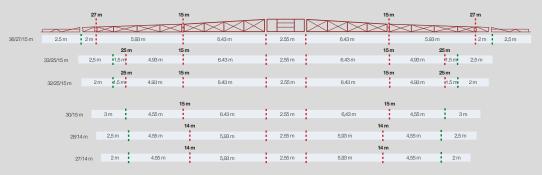


Hydraulic anti-yaw

Forces from yaw movements are absorbed by accumulators. The oil system is active and automatically recharged every time the boom is unfolding. The hydraulic anti-yaw is standard on 32 to 36 m. The smaller versions have a mechanical system with rubber dampers as standard.



HARDI DELTA FORCE is available in: 3-fold: 36/27/15 m, 36/24/13 m*, 33/25/15 m, 32/25/15 m. 2-fold: 30/15 m, 28/14 m, 27/14 m.



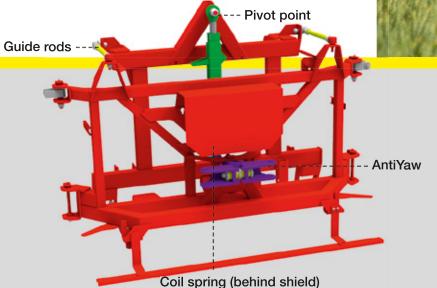
DELTA

The 18-24 m DELTA boom is a compact, high-performing boom. The boom has highly advanced suspension features, which in combination with the three-dimensional boom design ensures accurate application.

The centre section with coil spring pendulum and telescopic dampers absorbs the movements caused by the tractor and the trailer. The hydraulically activated pendulum lock stabilizes the boom whilst folding or unfolding.

An anti-yaw system dampens the forward and backward horizontal movements as well as any horizontal shock load.





AutoSlant and AutoHeight

The HARDI AutoSlant and AutoHeight systems will automatically control the boom. This makes the job much easier for the driver, and the result will be a better spray application.

The system is known for the following features:

- Robust and precise ultrasonic sensors
- Option to choose between soil, crop or hybrid mode
- Proportional valve for smooth movements (AutoHeight)
- Slant, tilt and height correction (AutoHeight)
- Slant and height correction (AutoSlant)



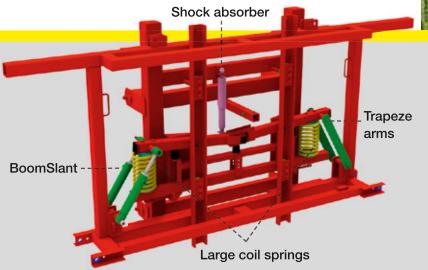
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EAGLE

The 18-30 m EAGLE boom is designed for heavy-duty use under the most demanding conditions and minimum service. The boom is well-known around the world for its performance under the hardest conditions.

The EAGLE boom is suspended on two large coil springs with shock absorbers. The horizontal movements are controlled by a heavy-duty trapeze system that allows spraying and turning at very high working speeds.





Two different setups

The EAGLE boom is available with two different hydraulic set-ups. Y-version gives an easy folding where left and right side of the boom are folded symmetrically.

Z-version is electro-hydraulic and gives the possibility of individual tilt and single-side folding.

Boom slant is an option on both versions.



Controllers

HC 8600 and HC 9600

The complete integration of all important information on one work screen is a highly demanded criterion for most farmers. The HC 8600 and HC 9600 have multicolour HD touch screens that are very easy to operate while providing an optimal overview for maximum control of the spray job.

Integrated electronics

From the working screen the driver can operate AutoHeight, AutoSectionControl as well as guidance and dosing. The view can be switched between 2D and 3D when guidance is active. The HC 9600 is able to divide the information with split screen for a better overview.

Data management and data transfer

The HC 8600 and HC 9600 have USB ports and WiFi adapter as standard, allowing data to be exchanged. This simplifies application reporting, providing an easy way to generate detailed application reports for governmental record keeping. Reports provide location, product information, applied totals, field areas, applied maps and field boundaries. The data can be transferred to different farm management software.

The HC 9600 automatically creates an application report in a pdf-format which can be saved, emailed or printed. For this no additional software is required.

Basic information about weather, soil conditions, products, etc. can be added.

Universal Terminal

The HC 8600 and HC 9600 displays are designed to meet the ISO 11783 ISOBUS Universal Terminal standard. So the sprayer could also operate with a HC 6500 terminal.

Feature	HC 9600	HC 8600
Dimension	12.1" (30.7 cm)	8.4" (21.3 cm)
ISOBUS Universal Terminal	•	•
USB ports	2 x USB	1 x USB
AutoSectionControl	•	•
Guidance	•	•
Coverage Mapping	•	•
Data Logging	•	•
Variable Rate Application	•	•
Smart Report™	•	N/A
Boom Height Control	0	0
AutoSteer Control	0	0
OptRx® Crop Sensors	0	N/A
Camera Support	0	0
ISOXML data transfer	•	•



ISOBUS terminal

The HARDI NAVIGATOR can be operated with a universal ISOBUS terminal. The customer can order the NAVIGATOR and use the intelligent functions like AutoSectionControl direct from his own ISOBUS terminal if supported.

To make the complex sprayer operation easier, the proven HARDI JoyStick will be delivered with the NAVIGATOR sprayer.



HC 6500

The HC 6500 is designed only for spraying and has for years proven it easiness in practical use around the world. The colour display and HARDI Joy-Stick operation, together with a user-friendly menu, will make the NAVIGATOR an even more obvious choice.

There are no compromises in functionality to meet the demand for other implements. The ergonomic optimal design supports the demands given by long working hours and easy operation.

All buttons are placed in a logical way which harmonizes with the corresponding function. As an example, all functions often used during the spray job are placed in the HARDI JoyStick, so these functions can be activated without lifting the arm from the arm rest of the seat. To make it as easy and simple as possible, the connection between sprayer and tractor is made with only one cable.



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Controller	HC 6500	HC 5500
Number of registers	98+1	98+1
Maximum number of distribution valves	13	9
"GPS", data transfer and print	Yes	Yes
Clock (Time/Date/Alarm/Stop watch)	Yes	Yes
Alpha-numeric keyboard	Yes	N/A
Colour display	Yes	N/A
Help functions	Yes	N/A
Dilution kit	Yes	Yes
Foam marker	Yes	Yes



HC 5500

The HC 5500 is a powerful computer making the spray features easier and safer to use and easily supplies more information when needed. It is the obvious choice where features like IntelliTrack and advanced farming tools are desired. The operator is instantly informed of the operation status and warned if vital parameters like pressure, speed, etc. are incorrect.

It is advanced farming, ready with up to 98 register and connection possibilities to a site-specific application map or a remote sensor.

Various optional extras like AutoSectionControl, TankGauge or 12-V printer are available.

The LogicMenu makes it easy to get vital information very quickly; when pressing pre-set keys, the information appears in the large-format area of the screen. They double up as short cut keys for the most used functions. Volume rate can be changed on the go as a percentage or as a volume value.

HC 5500 is equipped with the new SprayBox III, allowing connection of spray management systems like SprayRover 570.

SprayRover 570

The SprayRover 570 is a stand-alone AutoSectionControl which can work in combination with the well-known HC 5500 controller. The 5.7" (14.5 cm) colour touch screen display can be used in 2D or 3D graphic while offering guidance with five different guidance modes.

The HARDI SprayRover 570 is equipped with an antenna, which works with the free of charge EGNOS/WAAS signal, accurate and fine under normal field conditions. An optional higher quality antenna, the RXA-30, is available if running in hilly conditions.





Optionals

- 1 Tracking with 2 cylinders
- **②** Manifold pressure valve
- **3** TurboFiller
- **4** FastFiller or PumpFiller
- **5** Manifold suction valve
- 6 RinseTank
- ① Pressure Empty

- **8** SafetyLocker
- Adjustable axle
- 10 SmoothRide suspension
- 11 Mudguards
- 12 Clean water tap
- Controllers



In-Line filter



ChemLocker



BoomFlush



External cleaning kit



EcoFill coupling



Hydraulic pump drive



HARDI AutoSlant/AutoHeight



Hoses for liquid fertilizer

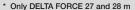


BoomPrime



Night spraying light

Technical specifica	atio	ons			
Tank, I		3000	4000	5000	6000
Pumps, type – I/min		364 -194 / 464 - 280 / 464H - 334			
Booms		EAGLE, DELTA	EAGLE, DELTA, DELTA FORCE*	EAGLE, DELTA, DELTA FORCE	EAGLE, DELTA, DELTA FORCE
Suspension		Optional	Optional	Optional	Optional
Tracking		Optional	Optional	Optional	Optional
Hydraulic outlets needed (Y models) **		1 single- + 1 double-acting	1 single- + 1 double-acting	1 single- + 1 double-acting	1 single- + 1 double-acting
Hydraulic outlets needed (Z models) **		1 double-acting	1 double-acting	1 double-acting	1 double-acting
Weight on drawbar (empty tank)***, kg	J	280	460	400	475
Weight axle (empty tank)***, kg		3,120	3,020	4,150	4,712
Weight total (empty tank)***, kg		3,400	3,480	4,550	5,552
Turning radius IntelliTrack, m		6.0	6.0	8.5	8.5
Total length, m	Α	7.21	7.21	8.0 - 9.35	8.0 - 9.35
Total height, with EAGLE boom, m	В	3.80	3.80	3.94	3.94
Total height, with DELTA boom, m	В	3.80	3.80	3.80	3.80
Total height, with DELTA FORCE boom, m	В	-	3.80	3.80	3.80
Width with EAGLE boom, m	С	3.00	3.00	3.00	3.00
Width with DELTA boom, m	С	2.55	2.55	2.55	2.55
Width with DELTA FORCE boom, m	С	-	2.55	2.55	2.55
Track width fixed axle, m	D	1.80 / 2.00	1.80 / 2.00	-	_
Track width adjustable axle, m	D	1.50 - 2.25	1.50 - 2.25	1.80 - 2.25	1.80 - 2.25
Length draw to axle, m	Е	4.61	4.61	5.45	5.45
Clearance, m	F	0.8 (13.6 × 48)	0.8 (13.6 × 48)	0.8 (13.6 × 48)	0.8 (13.6 × 48)
RinseTank, I		500	500	500	500
CleanWater tank, I		20	20	20	20



^{**} Minimum requirement. Extra function can require extra outlets.

EAGLE 18 - 30 m

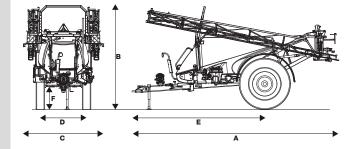
The EAGLE boom offers unequalled performance in rough conditions. The strong and well-proven two-dimensional EAGLE boom is the ideal choice for operators looking for durability and value.

DELTA 18 – 24 m

The DELTA boom offers excellent performance and dependability. The rugged three-dimensional structure guarantees good durability. The design makes it compact in transport and storage.

DELTA FORCE 27-36 m

DELTA FORCE is designed to be a large boom. The selection of features and the layout of the boom structure is targeted to perform at high driving speed and high performance at boom widths of 27-36 m.



^{***} Weight 3000 I is with 24 m EAGLE boom, 4000 I with 28 m DELTA-Z boom, 5000 I is with 30 m EAGLE boom, 6000 I is with 30 m DELTA FORCE boom



Nørre Alslev, Denmark



Savigny, France



Beaurainville, France



Davenport, USA



Lleida, Spain



Adelaide Australia

HARDI - The Sprayer

HARDI INTERNATIONAL A/S is an international group whose basic idea is to satisfy the user's requirements for quality products which ensure efficient, punctual and precise application of crop protection products. Our worldwide distribution and sales network comprise more than 100 countries where we are represented by importers, agents and sales subsidiaries. These are situated in Sweden, Norway, Denmark, UK, France, Spain, North America, Germany and Australia.

Since 1957 HARDI has committed to the ever-increasing demands for efficient and precise plant protection. HARDI is the trendsetter within application of crop protection products. To achieve this position continued developments and innovation are essential. HARDI is committed to the long term future of plant protection.





Superb surface treatment

The high-technology surface treatment contains 13 treatments, including a pre-treatment and powder coat painting of all major components.

Together with the Delta/Magni treatment of nuts, bolts and other items, we supply high corrosion protection of our products.

HARDI INTERNATIONAL ^A/_S Herthadalvej 10 • DK 4840 • Nr. Alslev • Denmark E-mail: hardi@hardi-international.com • www. hardi-international.com



Testing procedures

Sprayers leaving HARDI INTERNATIONAL A/S are tested according to the strictest quality standards.

The staff of the assembly line is accredited to match the demands from both NSTS (National Sprayer Testing Scheme), UK and JKI (Julius Kühn Institut), Germany. This ensures that the highest quality sprayers are delivered to farmers.



