

Chassis Designed for high-speed driving

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 suspension

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.

Accurate tracking with userfriendly operation

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.

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.

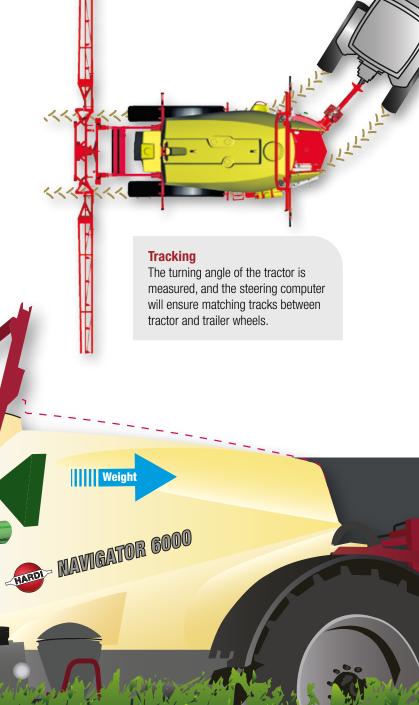
The controller will constantly monitor the forward speed and steering angle width to make sure that the tracking is not used when it is not safe.

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.

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.

Gravity curve



Safe steering

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

Drawbar movable

Drawbar fixed

WorkZone

Easy operation

The NAVIGATOR has been designed with a strong focus on user-friendliness and ease of operation, with the WorkZone being a fine example. In this area, everything you need to operate the sprayer is available, with all primary functions placed in easy-to-reach positions. The WorkZone is designed to be simple and logical to operate. For NAVIGATOR "i" versions, the operation of the SmartVales is done remotely from the FluidBox.

SmartValve

All primary functions needed to operate the sprayer when filling or cleaning are located in the centre of the WorkZone. The logically placed handles with easy to read icons make the system

very easy to operate. This greatly reduces the start-up and operation time of the sprayer.

TurboFiller

The HARDI TurboFiller is developed to handle large quantities of powders and liquids. Its high capacity is achieved through a combination of high vacuum and liquid rotation produced by a TurboDeflector inside the hopper.

High mixing capacity

Liquid at high pressure is being used to create a powerful rotation of the liquid inside the hopper. This movement gives the effect that every powder or liquid chemicals are mixed before they are sucked into the sprayer.





Easy operation

With the NAVIGATOR "i", an updated FluidBox is located at the WorkZone in the front. With a functional design, the sprayer operator will be able to quickly start the demanded operation. For non "i" version NAVIGATOR machines, a manual handle operation is offered.

- Easy operation of the SmartValves
- · Control of filling, agitation, spraying and cleaning



The liquid system

- Fast and reliable

The NAVIGATOR's fluid system (DynamicFluid4) employs advanced fluid dynamics and application rate control to deliver fast response and accurate target rate application.

Pressure, flow, pump speed, forward speed, boom sections and application rate are monitored and processed using advanced computations. The DynamicFluid4 processor analyses the spraying data 20 times a second and provides pre-emptive rate control capability, altering the pump speed with pinpoint precision.

The proportional hydraulics used to control the pump speed are highly accurate and smooth but incredibly fast.

The liquid system can be operated from the cabin or from the ground.

The diaphragm pump

At the heart of the NAVIGATOR sits the robust and easy-to-service pump that HARDI is so well known for. The invention of this pump constituted the foundation upon which HARDI was founded more than 60 years ago. HARDI was the first to use diaphragms to separate the liquid from bearings, crankshaft and other vital pump parts, thereby allowing the pump to run dry without damage. In addition, this pump distinguished itself by being operated directly from the tractor's PTO shaft.

Fast filling

The advanced TurboFiller is one of the best on the market. It is specifically developed to handle large quantities of powders and liquids. Using a combination of high vacuum and powerful rotation inside the hopper, it mixes all types of chemicals quickly and safely. In addition, the TurboFiller is easy to both operate and clean.



Advanced filters

- EasyClean filter (Suction)
- CycloneFilter (Pressure)

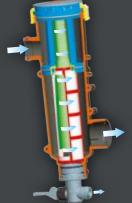
Suction filter

The EasyClean filter is a high-capacity suction filter. The filter's condition can be constantly monitored via a SafeSpray vacuum gauge to ensure it is cleaned only when necessary. When it's time for cleaning, simply twist the filter's lid 90° to close off its tank valve and open the filter for inspection. It doesn't get much easier than this.



Pressure filter

The CycloneFilter is a unique self-cleaning pressure filter. A high-speed circular flow makes the cleaning very effective. A unique boost function allows the filter to be flushed when needed.



Intelligent features

AutoWash – Ultimate cleaning process

For an easier, faster and more efficient rinse process — we offer the automated AutoWash. The SmartValves are operated automatically from the tractor cabin and the operator avoids contamination from the equipment and the sprayed crop, while three rinse programmes ease the cleaning. The process is done whilst in the field, where multiple rinse actions are made, reducing the residual concentration best level in class — with only 400 litres of clean water.



- Only choose cleaning program, rest is automatic
- Operator and tractor cabin are not contaminated
- Time-saving as the process is controlled from cabin
- Pesticide cross-contamination is avoided.



AutoFill - Fast and accurate filling

To ease the filling process and prevent overfilling, we offer AutoFill. The operator sets the fill volume, connects the hose and starts the fill via the FluidBox. The filling process will automatically stop when the demanded volume is reached.

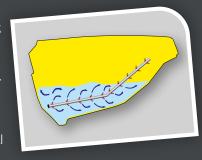
- Time saving so other tasks can be done
- Choice between maximum contents or volume added
- Start/Stop control is at the FluidBox in WorkZone
- Prevents overfilling
- Agitation is reduced automatically for maximum fill effect



AutoAgitation – Best agitation performance

To maximize the agitation without foaming and minimise tank residues — we offer the fully automatic AutoAgitation. When filling, AutoAgitation ensures maximum FastFiller capacity — while a manual override is always possible from the FluidBox.

- Maximizes agitation without foaming
- Minimizes tank residues when the spray job is finished
- Automatic tank contents readout displayed on the terminal



PrimeFlow – Pressure circulation

PrimeFlow circulates and primes the boom before the actual spraying and is controlled by an ON/OFF motor at each nozzle body. Open/close action is instant.

- No untreated areas at spray start
- HARDI PENTALET 5-nozzle holders as standard
- No chemical sedimentation in the spray lines
- Flush of boom lines is possible without spraying on the ground
- Dynamic setup of sections



AutoSelect – Fast nozzle change

The two-nozzle AutoSelect with four different settings, allows to switch between nozzles from the drivers seat. For example using a specific drift reduced nozzle on headland or in buffer zones. Increased working speed without compromises, when reducing speed at the headland a smaller nozzle can be used.

- Easy volume rate changes
- Increased working speed
- Bigger area sprayed with the optimum spray pressure
- In Auto mode, changes are done at defined spray pressure or defined working speed





Field AutoSectionControl AutoNozzleControl Headland

AutoNozzleControl

Single nozzle control

Get full control of your spray job with the automated nozzle on/off feature AutoNozzleControl. Thanks to the PrimeFlow system, you will receive the highest level of precision, due to the exact control of each nozzle.

- Every nozzle is controlled automatically
- Minimize double sprayed area thereby saving up to 10% chemicals
- Avoid crop damage due to double spraying
- Avoid spraying in critical areas by switching off outer nozzles
- In auto mode the sprayer works with 50 cm sections
- Turning on and off of nozzle whenturning in headland

AutoNozzleControl AutoSectionControl Double sprayed area

SmartCom Prepared for the future

The HARDI SmartCom - A future of plug-and-play with unlimited capacity

The intelligent HARDI SmartCom platform offers the user a full ISOBUS experience, meaning easy connection to tractors and controllers. The faster processor also offers you a more accurate and responsive liquid regulation system, as well as the ultimate steering system, thanks to faster response times.

We have prepared the HARDI Smart-Com for online connections, so you

will be able to connect to your favorite cloud solutions.

We have developed the new HARDI SmartLink cable to give the service staff the possibility of updating the sprayer, diagnosing errors and adding features, directly from the HARDI ServiceTool.

All in all, with the HARDI SmartCom, you are prepared for the future.





SmartCom benefits

- Full ISOBUS for easy connection
- Quick and easy diagnostics with the HARDI ServiceTool
- Prepared for remote diagnostics
- Faster and more precise regulation system
- Ultimate steering precision
- Prepared for cloud connections
- Faster processing time



HARDI ServiceTool

Update machines. Prepared for cloud connections The HARDI ServiceTool has two main functions. First it is used for updating the SmartCom ECUs, the second is to use it as a diagnostic tool in the field.



Controllers

Full ISOBUS control

Complete integration

The complete integration of all important information on one work screen is a highly demanded criterion for most farmers. The HARDI touch-screen controller series are very easy to operate while providing an optimal overview for maximum control of the spray job.

All HARDI touch-screen terminals are ISOBUS terminals and made for spraying purpose. In combination with the Grip and the SetBox the operation in the field is easy and fast.

Integrated electronics

From the working screen, the driver can operate Auto-Height, AutoSectionControl as well as guidance and dosing. The map screen view can 2D or 3D. The HC 9600, HC 8700 and HC 9700 screens are able to divide the information with split screen for a better overview.

Data management and data transfer

The USB ports and the WiFi adapter allows data to be exchanged. This simplifies application reporting, providing

an easy way to generate detailed application reports for governmental record keeping. The data can be transferred to different farm management software.

ISOBUS terminal

The SmartCom system is always ISOBUS. 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 Grip and Setbox are standard equipment.

Extend your work screen

Use your mobile device or tablet to perform calibration, diagnostics, tank fill and many other activities anywhere around your machine. Using the XTEND technology, you can extend the user interface of your HC 8700 and HC 9700 to the screen of a iOS or Android device using a WiFi connection.

Feature	HC 9700	HC 8700	HC 9600	HC 8600
Mode of action	12.1" (30.7 cm)	8.4" (21.3 cm)	12.1" (30.7 cm)	8.4" (21.3 cm)
ISOBUS Universal Terminal	•	•	•	•
Mini view screens	3	2	UT Split screen	N/A
Dashboard & Interaction Keypad	•	•	N/A	N/A
HARDI workscreen	N/A	N/A	•	•
USB ports	•	•	•	•
WiFi adapter			•	•
Horizon XTEND	Optional	Optional	•	•
AutoSectionControl	•	•	•	•
Lightbar Guidance	On screen	On screen	In housing	In housing
Coverage Mapping	•	•	•	N/A
Data Logging	•	•	•	•
Variable Rate Application	•	Optional	•	•
Application Report	•	•	•	N/A
Boom Height Control	UT	UT	Integrated	Integrated
Camera Support	•	•	● Out	● Out
ISOXML data transfer	● In/Out	● In/Out	● Out	Out
Horizon XTEND AutoSectionControl Lightbar Guidance Coverage Mapping Data Logging Variable Rate Application Application Report Boom Height Control Camera Support	On screen UT	On screen Optional UT	Integrated Out	N/A N/A Integrated Out





Field mapping benefits

High application precision

work in conditions of low visibility such as dust or darkness.

- Less usage of chemicals
- No overlapping areas



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Booms

- For all your needs

The NAVIGATOR can be fitted with three types of booms:

- The high-performing DELTA FORCE boom (see page 14-15)
- The vertically folded VPZ boom (see page 17)
- The heavy duty **EAGLE** boom (see page 17)

Each one comes with unique advantages, but all our booms deliver on application precision and speed.





Compact on the road - wide in the field

The DELTA FORCE boom is made to perform. It is a practical but strong boom designed for productivity and performance. We have optimised weight and strength to produce a large boom for reliable performance at fast spray speeds. Despite its width, the DELTA FORCE boom is only 2.55 m wide when folded up for transport. The boom's simple yet effective pendulum suspension controls boom movements, while a low centre of gravity ensures perfect boom balance. With just two parameters to adjust (pendulum and dampening), the DELTA FORCE boom is easy to customise and maintain.

The DELTA FORCE boom is available from 24 m to 39 m.

One boom – two spray widths: HARDI's boom-folding system allows the operator to spray at two different widths by choosing whether to fold out the last section.



Less drift

The DELTA FORCE boom can be fitted with additional nozzle holders to allow for a 25 cm spacing between nozzles in addition to the standard 50 cm.

In combination with the AutoTerrain boom management system. this reduces potential drift by allowing for a lower boom height. It also means that smaller nozzles with smaller droplets can be used to improve crop coverage.



Minimize boom movement

For a perfect application result, reduction of the horizontal movements is crucial.

The DELTA FORCE boom is as standard equipped with an anti-yaw dampening system between the center section and the boom wings. The 24 to 30 m booms have a rubber dampening system as standard and hydraulic dampening as option, while the 32 to 39 m are equipped with an hydraulic dampener as standard.



Material optimisation

We always seek to use the most innovative combinations of materials. The DELTA FORCE boom is a prime example. The 39 m boom consists of a high-strength steel centre with lightweight aluminium outers and break-away.

- Superb boom stability with AutoTerrain and NegativeTilt
- Precise application with hydraulic AntiYaw dampening
- Higher durability and lower weight, due to new folding system and extensive use of aluminium in the outer wings
- Manual control at power outage
- Easy handling with hydraulic support wheels and AutoTerrain sensors











24-39 m

AutoTerrain

AutoSlant

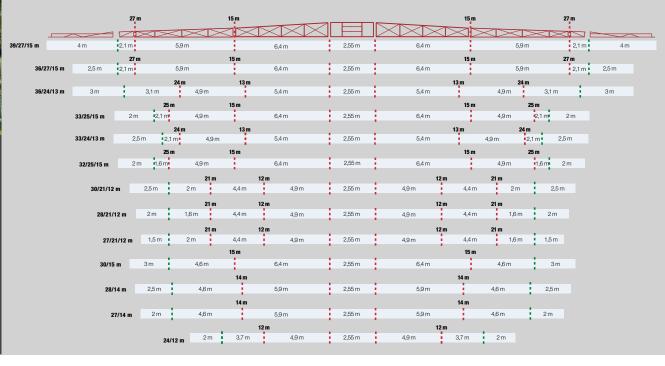
AntiYaw

NegativeTilt

HARDI DELTA FORCE is available in:

3-fold: 39/27/15 m, 36/27/15 m, 36/24/13 m, 33/25/15 m, 33/24/13, 32/25/15 m, 30/21/12 m, 28/21/12 m, 27/21/12 m.

2-fold: 30/15 m, 28/14 m, 27/14 m, 24/12 m





Our boom management systems are all designed to ensure superb boom stability. A stable boom is key to spray precision and productivity, especially when working with low boom heights at high speeds

Automatic control of height, slant, tilt and yaw optimises the boom position, and all but eliminates the risk of hitting the ground. It also reduces the risk of drift to the benefit of farmer and environment. Yaw is counteracted by hydraulic accumulators, which power up every time the boom unfolds. Each side can be automatically levelled independently, giving you the possibility of negative tilt. The result is exceptional application precision, even at fast driving speeds.

A stable boom reduces wear and tear on both the sprayer and its operator. The sprayer will have a longer lifespan, and the operator

will experience less fatigue and stress, because the automatic systems reduce the need for constantly monitoring the boom.

AutoTerrain

This unrivalled boom management system distinguishes itself from others by preventing rather than correcting unintended boom movements. Using ultrasonic sensors on the boom wings and angle sensors at the centre, it monitors the boom's movements continuously, responding to forces acting upon the boom before it is disturbed. By making smooth adjustments to the boom's slant,

tilt and height, AutoTerrain provides accurate contour following and crop clearance — essential for precise spray application.

The AutoTerrain system has been tested under rigorous field conditions, showing excellent performance when spraying with low boom heights at high driving speeds of more than 15 km/h.

When turning on headlands, the AutoTerrain system will counter the boom's natural pendulum effect to prevent the inner side from dipping. The result is a level boom throughout the turn.



AutoSlant

AutoSlant controls boom height and slant.

- Boom height
- Hydraulic slant
- 2 ultrasonic sensors
- Available for: VPZ and DELTA FORCE



AutoTerrain:

- Boom height
- Hydraulic slant
- Individual tilt of boom wings
- Negative tilt
- 3 or 5 ultrasonic sensors
- 3 angle sensors on the center
- 3 temperature controlled proportional valves
- Available for: DELTA FORCE



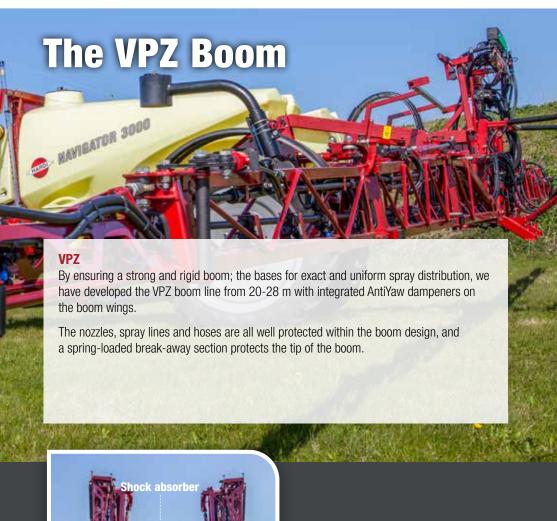
NegativeTilt

Negative tilt for superb boom stability, allows for downward tilting of the boom by up to -4°, especially useful when spraying a lower level, for instance on a ridge.

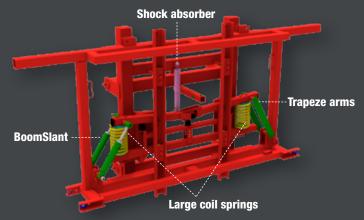


AntiYaw

Dampens horizontal movements and shock loads in the boom.



The EAGLE boom **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.



BoomSlant

Large coil springs





In-Line filter



Hydraulic pump drive



ChemLocker



HARDI AutoSlant/AutoTerrain



BoomFlush



Hoses for liquid fertilizer



External cleaning kit



BoomPrime



Night spraying light

Technical specifications

Tank, litres	3000	4000	5000	6000			
Pumps, type – I/min		364-194 / 464-280 / 464H-334					
Booms, m	DELTA FORCE 24-28 m (2-folded) DELTA FORCE 27-36 m (3-folded) EAGLE 18-30 m VPZ 20-28 m	DELTA FORCE 24-28 m (2-folded) DELTA FORCE 27-36 m (3-folded) EAGLE 18-30 m VPZ 20-28 m	DELTA FORCE 24-39 m EAGLE 24-30 m	DELTA FORCE 24-39 m EAGLE 24-30 m			
RinseTank	500	500	500	500			
Total height, m (A)	3.80 (340/85R48)	3.80 (340/85R48)	3.80 (520/85R42)	3.80 (520/85R42)			
Total length, m (B)	7.2	7.2	8.00	8.00			
Length draw to axel, m (C)	4.80	5.30	6.05	6.05			
Turning radius IntelliTrack, m	6.00	6.0	8.5	8.5			
Track width, m (D)	1.50-2.25	1.50-2.25	1.80-2.25	1.80-2.25			
Width DELTA FORCE, m (E)	-	2.55	2.55	2.55			
Width EAGLE, m (E)	3.00	3.00	3.00	3.00			
Width VPZ, m (E)	2.30	2.30					
Clearance, m (F)	0.8 (340/85R48)	0.8 (340/85R48)	0.81 (520/85R42)	0.81 (520/85R42)			
Weight total (empty tank), kg	3300-3600	3400-4700	4950-5850	5000-5900			
Suspension	Optional	Optional	Optional	Optional			

DELTA FORCE 24-39 m

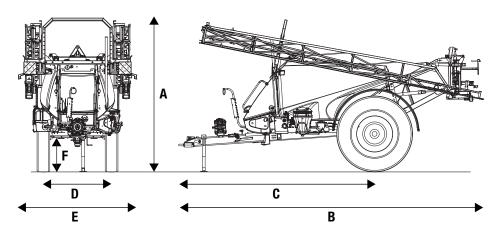
DELTA FORCE is designed to be a large boom. The selection of features and the layout of the boom structure is targeted to perform at high driving speed and high performance at boom widths of 24-39 m.

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.

VPZ 20-28 m

By ensuring a strong and rigid boom; the bases for exact and uniform spray distribution, we have developed the VPZ boom line from 20-28 m with integrated AntiYaw dampeners on the boom wings.





at the centre of our innovative solutions, we strive to shape the future in plant protection. Our increasingly intelligent products are capable of delivering exact doses and targeted applications with minimal drift and waste – to the benefit of the farmer and the environment.

We believe in a future where our products will be able to take care of plants one by one.



HARDI INTERNATIONAL A/S

