

Proven technology with large capacity

Master of performance



MASTER plus

MASTER plus



Tank size: 800, 1000, 1200, 1500 and 1800 l
Controller: HC 2500 or HC 5500
TurboFiller: High capacity, easy to operate
Liquid system: Simple to operate with many features

Chassis: High tensile steel chassis
PRO booms: Compact, vertically folded booms from 12 to 28 m
TWIN STREAM: Air assistant 12 – 15 m
MB boom: Manually folded 12 m

Simple, robust and easy to use

All key functions on the MASTER plus are unsurpassed. The integrated Quick Hitch, the well arranged MANIFOLD fluid system and the versatile boom range are some of the key features making handling a pleasure and spraying efficient.

The large range of high quality features makes the MASTER plus a perfect choice for the demands of the modern farmers.

Concept

Demands for simple and reliable solutions, serviceability and capacity are universal worldwide. The MASTER plus is designed so that the weight is close to the tractor, and the centre of gravity is low.

The pump is mounted on the rear frame of the chassis, providing easy service access, and the PTO is not widely angled when the sprayer is lifted up.



TurboFiller

TurboFiller is a high capacity induction hopper which makes the filling of chemicals fast and easy. The unique TurboDeflector creates a powerful liquid circulation in the hopper and mixes all types of chemicals quickly and safely.

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

Quick Hitch

The Quick Hitch (cat.II) is an integrated part of the chassis and ensures easy and safe attachment to the tractor.

To secure the sprayer attachment, the Quick Hitch is locked by safety hooks at the lower attachment points.

Tank

The high-impact polyethylene tank has a deep sump that ensures complete emptying of the tank also on slopes.

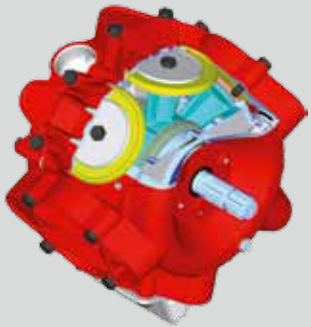
The design ensures easy and efficient tank cleaning with the use of a tank flushing nozzle.

MANIFOLD SYSTEM

Easy to operate

All primary functions of operation are built into a centrally located manifold system. The colour-coded valves and icons are easy to understand. The MANIFOLD valves operate all the fluid system functions on the sprayer; easily reached and logically incorporated into the MASTER design.

- 1 Pressure manifold valve
tank rinsing / extra agitation
- 2 Pressure manifold valve
spraying / chemical filling
- 3 Return manifold valve
- 4 Suction manifold valve
main tank / rinse tank
- 5 Filling device
- 6 15 l Clean water tank
- 7 TurboFiller
- 8 Dry level indicator
- 9 EVC operating unit with pressure
relief and constant pressure
- 10 Self-Cleaning Filter
- 11 Rinse tank
- 12 Quick Hitch
- 13 Safety locker



HARDI diaphragm pumps – the heart of the sprayer

The MASTER 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 without special tools
- Grease-lubricated crankcase
- Chemical-resistant diaphragms and valves



Liquid system

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 means of 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.



Filter system

The Self-Cleaning Filter (optional for BK control unit) is a very important safety feature, which minimises annoying downtime due to nozzle blockage and filter rinsing. A large and colour-coded suction filter is mounted on the main tank upper surface to allow inspection without spillage of spray liquid - even when the tank is full.



RinseTanks

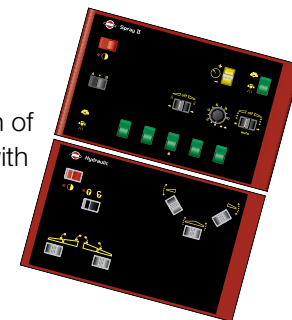
80 l RinseTanks (one or two) are integrated into the sprayer's design to allow safe and efficient cleaning in the field; a very important component of good agricultural practice.



Controller

Control boxes

Less strain to the operator is the philosophy around the design of the HARDI control boxes. They are compact and ergonomic with large, colour coded switches. With the operator's palm resting on the right hand side, the logical switch layout puts all frequently used functions at the operator's finger tip.



Proven HARDI controllers

The HARDI Controller 2500 and HC 5500 are very simple to use. The volume rate is automatically controlled. Pressing the "up" arrow increases the volume rate ... it is easy, quick and simple. The Controllers can only be used in combination with the EVC operating unit.

HC 5500

The LogicMenu makes it easy to get vital information very quick; when pressing pre-set keys, the information appears in the large-format area of the screen. The HC 5500 is advanced farming, ready with up to 98 registers and connection possibility to a site-specific application map or a remote sensor.



EVC operating unit

The EVC electric controls feature remote-controlled section valves and pressure regulator. The section valves are fitted with a constant pressure device and a pressure drop line. These are features which allow the operator to shut off individual sections and maintain accurate application rates. All vital parts of the EVC control unit are completely sealed off from the liquid.



Booms

PRO booms

The PRO boom is designed and manufactured utilising our knowledge and experience as the world's leading sprayer specialist. The boom offers every conceivable facility to meet different spraying requirements.

The PRO VP booms 20, 21 and 24 m have integrated AntiYaw damper on the boom wings.



The lattice boom structure ensures a strong and rigid boom; the basis for exact and uniform spray distribution. The nozzles, spray lines and hoses are all well protected within the boom design.

The PRO boom is durable, and reinforced boom hinges ensure a steady boom in spraying position. A spring-loaded breakaway section secures the tip of the boom.

The slim tank design and the compact folded PRO boom ensure optimal weight distribution and tractor stability while spraying and during road transport.



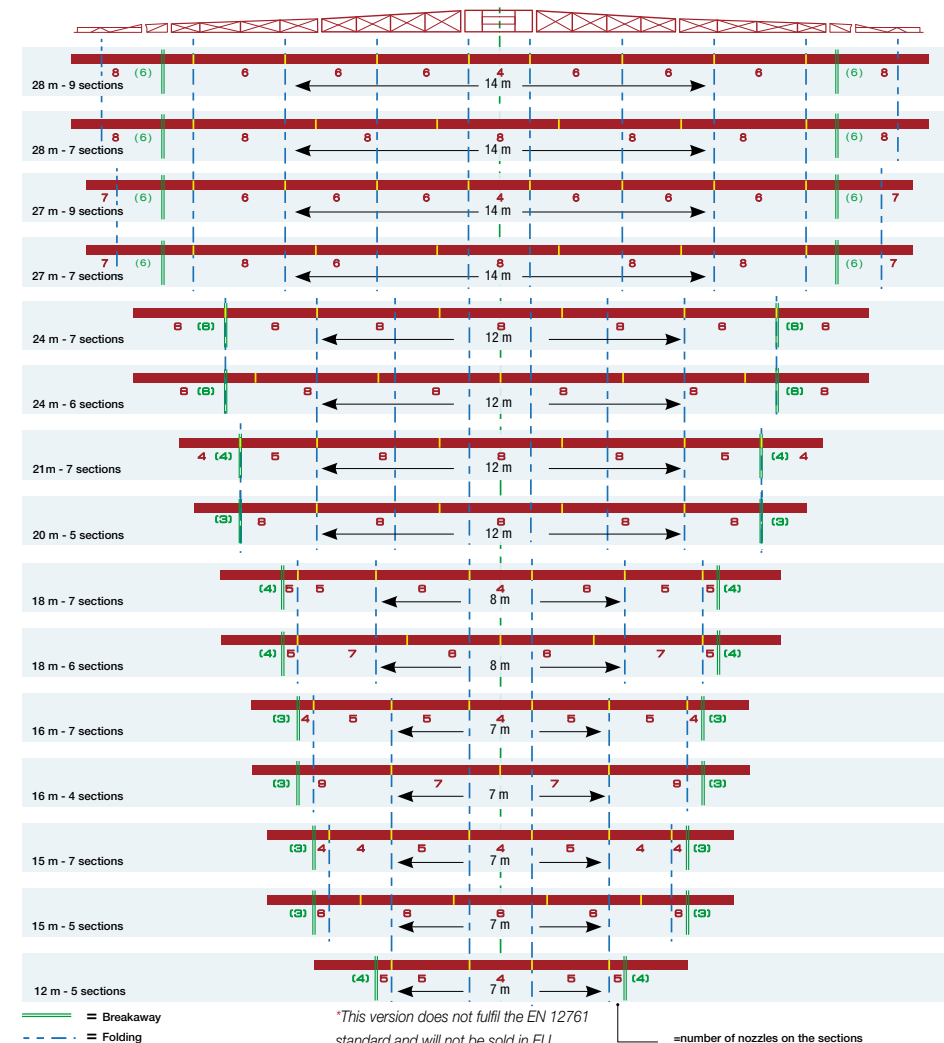
The PRO booms are available in two hydraulic versions:

Y version: Operated by tractor hydraulic outlets – one single-acting and one double-acting outlet are required.(12 - 18 m)

Z version: Operated by direct hydraulics (DH) – one double-acting outlet is required for 6 different operations, and 1 single-acting outlet for lifting the boom. The Z version offers several facilities such as reduced folding, single-side folding and individual boom tilt.

Boom sections

The vertically folded PRO boom has 2, 3, 4 or 5 segments on each boom wing. The drawing illustrates how many nozzles each boom section has, and where the boom is folded.



Booms

TWIN STREAM

The HARDI TWIN is the most proven spraying system in the world and has shown its reliability. Its unique form of air assistance provides magnificent drift control, the highest fieldwork rate with benefits of notable chemical savings.

HARDI TWIN user survey results

The work rate of one TWIN sprayer is equivalent to two conventional sprayers.

An average of 16 % pesticide reduction compared to conventional spraying techniques.

www.hardi-twin.com

The TWIN STREAM is available in 12 and 15 m spray widths. The angling of the air curtain and nozzles – as well as adjustment of the air speed – are important features for minimising drift and optimising coverage.



HARDI TWIN – advanced technology

TWIN advantages:

- Application at higher spraying speeds
- More »right time« spraying hours
- Lower application volume rates
- Remarkable drift reduction
- Chemical savings

Angling of the spray ranges from $\pm 18^\circ$, and the fan blower provides 1500 m³/h/m boom width at speeds up to 27m/s.

All hydraulic functions, including the blower, are driven by the tractor's hydraulic system. Hydraulic boom slanting is optional, requiring one extra double-acting tractor outlet.

Better penetration and coverage

Grass weed can be difficult to control, especially when using coarse drops.

The movements in the plants caused by the air assistance and the fine droplets secure a high deposit on the grass weed. Higher deposit on the target increases the efficacy, which makes it possible to reduce the chemical rate.

Excellent drift control with TWIN makes it possible to use smaller drops under a greater range of conditions. With TWIN air assistance, lower water volumes will still maintain excellent coverage over all leaf surfaces. Typical broadacre users of TWIN are using 70 to 80 l/ha for all their products whilst high value crops such as vegetables and strawberries are at 150 to 300 l/ha; massive savings in water haulage and time refilling from traditional spraying practices.



Forward angling



No angling



Backward angling

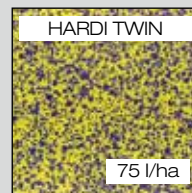
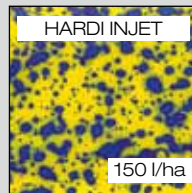
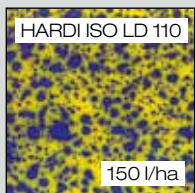
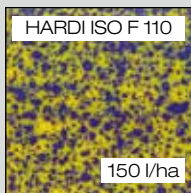
MB boom

The well-proven and very robust MB boom is available in a boom width of 12 m. The boom is manually folded with hydraulic boom height adjustment that requires one single-acting tractor outlet.

The MB trapeze suspension for self-stabilisation of the boom is an important feature for optimising and improving spray distribution.



At lower water volume - save at least 50% water



The blue colour shows the coverage on the weed.



Boom lock between intermediate and outer boom sections ensures optimal boom stability. An adjustable spring-loaded breakaway protects the boom from accidental collisions.

Single SNAP-FIT nozzle holders with diaphragm check valves are standard on the MB booms.

Front Tank

HARDI FT 1000 Front Tank

Front Tank is a good solution in order to have extra weight and increase the spray capacity.

On hilly terrain and in slope areas, or on smaller fields, a Front Tank combination is a perfect solution as a good weight distribution and an excellent manoeuvrability are given.

For bigger lift mounted sprayers like the HARDI MASTER 1500 and 1800 I, the tractor sometimes needs an extra front weight.

The HARDI Front Tank can be used in different set-ups. Depending on the demands, it is either a nurse tank to bring more water into the field or a second chemical tank.

The tank is made in high impact polyethylene and has a liquid free level indicator on top of the tank, which can be seen from the driver's seat.

Agitation kit - Optional

The agitation kit takes care that the spray solution in the Front Tank is mixed well. A 12V driven robust stainless steel centrifugal pump is keeping the mixture homogeneous while the rear tank is emptied.

Technical data

Tank size (net/gross)	Width	Height	Length	Weight
1000 (1190)	176 cm	84 cm	148 cm	137 kg

The linkage is made for a category 2 front linkage.

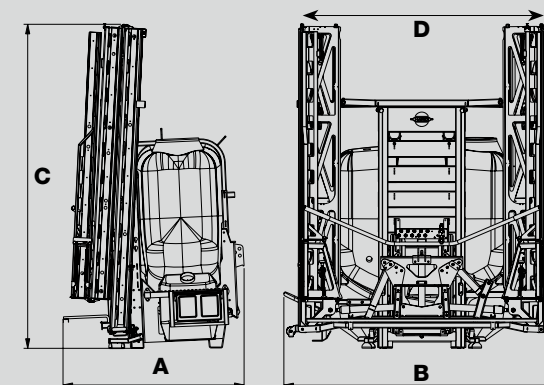
The national legislations regarding axle overhang, road safety equipment and front axle load should be considered.



Technical specifications

Tank size (net/gross)	800 (880)	1000 (1100)	1200 (1320)	1500 (1600)	1800 (1895)
Pump 1303 (114 l/min)	☒	☒			
Pump 363 (194 l/min)	☒	☒	☒	☒	☒
Weight, kg					
PRO 12 m - 12.5 m	913	922	955	1077	1089
PRO 15 m - 16 m	970	979	1012	1134	1146
PRO 18 m	1028	1037	1070	1192	1204
PRO 20 m		1102	1135	1257	1269
PRO 21 m		1107	1140	1262	1274
PRO 24 m		1127	1160	1280	1292
PRO 27 m				1388	1400
PRO 28 m				1402	1414
TWIN STREAM 12 m	924	933	966		
TWIN STREAM 15 m	1013	1022	1055		
MB 12 m	661	670	733		

Measurements, cm	D	A × B × C	A × B × C	A x B x C	A x B x C	A x B x C
PRO 12 m - 12.5 m	225	153 × 253 × 271	153 × 253 × 271	166 × 253 × 271	183 × 253 × 271	183 × 253 × 271
PRO 15 m - 16 m	225	153 × 253 × 271	153 × 253 × 271	166 × 253 × 271	183 × 253 × 271	183 × 253 × 271
PRO 18 m	225	153 × 253 × 296	153 × 253 × 296	166 × 253 × 296	183 × 253 × 298	183 × 253 × 298
PRO 20 m	220		174 × 253 × 275	187 × 253 × 275	204 × 253 × 275	204 × 253 × 275
PRO 21 m	220		174 × 253 × 275	187 × 253 × 275	204 × 253 × 275	204 × 253 × 275
PRO 24 m	220		174 × 253 × 325	187 × 253 × 325	204 × 253 × 325	204 × 253 × 325
PRO 27 m	220				204 × 253 × 325	204 × 253 × 325
PRO 28 m	220				204 × 253 × 325	204 × 253 × 325
TWIN STREAM 12 m	260	190 × 260 × 271	190 × 260 × 271	203 × 260 × 271		
TWIN STREAM 15	260	190 × 260 × 348	190 × 260 × 348	203 × 260 × 348		
MB 12 m	240	132 × 240 × 250	132 × 240 × 250	148 × 250 × 250		



A = Total length in cm

B = Maximum transport width in cm

C = Total height in cm

D = Transport width boom in cm

Optional



Safety locker



RinseTank



Filling device



Traffic lights



External Cleaning Kit



Maneuvering wheel kit



HC 5500



In-Line filters



Hydraulic boom slant



TurboFiller



Folding kit



Calibration kit



HC 2500



Superb surface treatment

The high-technology surface treatment contains 13 treatments, including an Oxasilan 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. The chassis, the boom and all other steel parts have been pre-treated with Oxasilan followed by a high-quality coating of powder paint.

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.



HARDI reserves the right to change the specifications without notice. Illustrations shown may include optional extras and accessories.



Høje Taastrup, Denmark



Nørre Alslev, Denmark



Savigny, France



Davenport, USA



Ilmo, 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 world-wide 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, the 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.

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