Spray with Confidence

Your ‘no risk’ choice of vine sprayer

HARDI

Vine sprayers

Your Benefits of Ownership

Robust **Efficient** **Practical**

Tank: Impact proof, UV resistant, 12 mm wide walls

Pumps: Diaphragm, self-priming, can run dry

Frame: Heavy-duty design and construction

Air delivery: Meet your air volume/air speed needs from L-540, HF-540, HF-540D and HF-640D

Spraying: IRIS, pneumatic and hydropneumatic systems for every pesticide formulation needs

Turbine: Fans selected and adjusted to deliver your specified optimal performance

Unique versatility

This range of sprayers can – without any compromise – spray all types and growing systems of vines. Whatever your needs, from small young vines to well established plantations, this product range from HARDI will truly meet all your needs. Consider, for example, the adjustable blower with its 2 speed gearbox that can deliver the widest range of controlled and variable air volumes and air speeds. You choose and we deliver!

Performance without stops

From the comfort and safety of your tractor seat, use HARDI electrical switching gear to simply make critical adjustments – such as your angle of air and spray delivery - to win unparalleled accuracy ‘on the go’.

Robustness and simplicity

The overall design of these sprayers benefit, time and again, from the expertise gained with HARDI’s unique worldwide experience in vine spraying. Everything about this valued heritage can be seen in the quality of its construction; from the tank to the boom to its electronic control system and to the nozzles themselves.

Details do matter!

Time and again, we have listened to your needs! These vine sprayers are equipped, for example, with a centrifugal clutch to ensure a smooth start and stop, avoiding damage to the drive system when PTO speeds cannot be kept constant under difficult driving conditions.

TurboFiller

Filling, mixing and loading your sprayer exceeds every standard with this unbeatable but compact TurboFiller.
Undiluted liquid formulations are induced safely and at speed.
Dry formulations can be premixed and induced too.
No mess, no hold back, no spills, no need for buckets and stirring sticks.

Outstanding air control with IRIS

Directing the air in a controlled manner is critical for quality spraying. Wasteful drift can be greatly reduced, spray deposits maximised, by directing and controlling the air as and when it is needed. Early in the season, for example, air outlets can be completely closed so the spray is safely retained by the young developing plant. In contrast, air speed may need to be high when controlling mildew on maturing grape bunches hidden by foliage.

Operator and environmental safety come first with HARDI

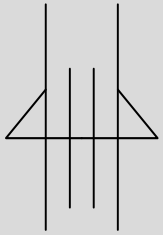
Every varying need has to be met with an appropriate spray delivery system; only the IRIS can meet all these changing needs for optimised pesticide use in vines.

LINER boom

The LINER boom family is the lightest in structure as well as the narrowest booms in the HARDI vine boom range. The START version is never wider than your tank of the sprayer. Being adjustable for height and angle, these spouts ensure the very best spraying methods whenever your row access is restricted.

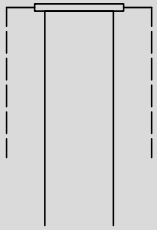
The START CONVERT holds the spraying device from the upper part, and allows a wider side adjustment, Optionally, HARDI provides hydraulics with adjustment of 2 x 0.35 m on the CONVERT. The LINER AGILE boom holds a cannon spray device on an angle adjustable spray arm. That is used early in season to point the spray device towards next row, and a total of 4 rows is sprayed.

All 3 models allow manual height adjustment and offer optional hydraulic width adjustment.



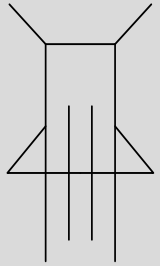
LINER START

The boom is ideal for use where vines are grown with narrow access rows. Spouts are adjusted to spray the vines to the nearer sides of both adjacent rows.



LINER START CONVERT

Holds the spraying IRIS dropleg in the top and allows a wider width adjustment from 1.2 m using the S adapter and up to 2.1 m.

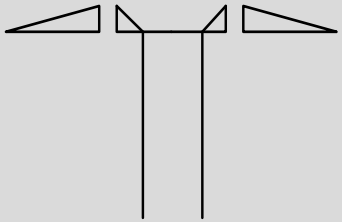


LINER AGILE

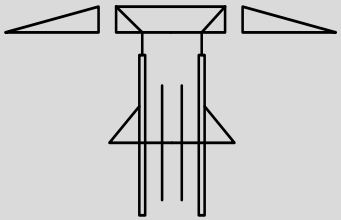
Provides an overrow arm that holds a cannon spray device , which early in the season lets you spray 4 row sides at a time, as the upper cannon spray device is directed towards the next row.

ATLAS boom

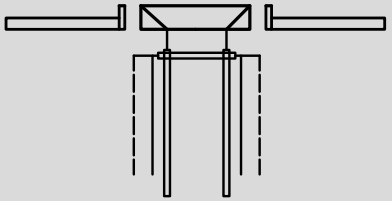
Simple to adjust and operate but with low maintenance costs. Setting up the ATLAS boom and spraying spouts is very intuitive. No special tools nor long explanations are needed !
Every operator soon makes the few adjustments needed to gain the air and spray mix required. Most vine spraying tasks can be met.
Early in the season when the vegetation is very open, sprays can be applied from just one side of the row.
Adjusting each upper spout to spray both adjoining rows means four row spraying will be your normal practice. Later in the season, your vine vegetation will have greatly increased so the upper spouts can then be adjusted to spray just the two adjoining rows.
Spraying these rows from both sides ensures a complete and uniform spray cover despite a big increase in leaf and shoot coverage.



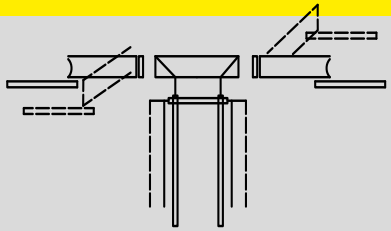
ATLAS START
Manually folded and width adjusted from 2.9-3.6 optionally hydraulic width adjustment. Manually height adjusted.



ATLAS AGILE
Hydraulically folded and height adjusted. Adjustable boom width from 3.2-3.9 option for hydraulic width adjustment.



ATLAS SOLID
Hydraulically folded and height adjusted, physical boom width 5.6 m but let you set the dropleg in any position.

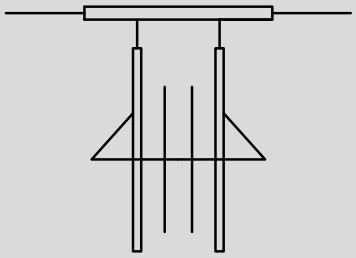


ATLAS SOLID GV
Hydraulically folded and height adjusted, boom width 5.6 m, the Variable Geometry makes turning in narrow row practical.

BOXER AGILE

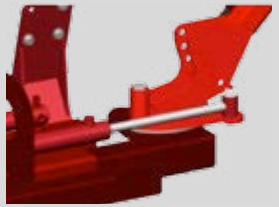
A compact narrow boom structure, ideal in narrow row conditions, as it packs closely in behind the sprayer.

Fitted in fixed height position and has a boom width in spraying position from 2.5 to 3.9 m according to set-up of outer spray device. The telescoping folding sequence is hydraulically operated from the drivers position.



BOXER AGILE

Boom width 2.5 telescoping to 3.9 m according to angling of outer device. Fixed boom height and hydraulic fold, option for electrohydraulics.



The pivoting point in the outer bracket with breakaway clutch folds in parallel ly with the sprayer in transport position.

BOXER SOLID

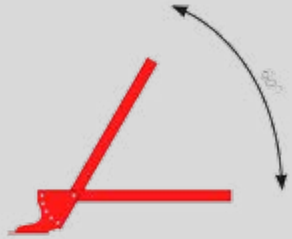
This boom has horizontal telescopic actions. Each telescoping section is capable of being adjusted in steps from 0 cm to 65 cm on each side of the boom to ensure that most vine spraying needs can be met. The central application device has a horizontal manual adjustment of 45 cm on left and right side.

Outer boom wing sections fold out to the spray position when the telescopic sections of the boom have been extended.
Maximum boom widths of the BOXER SOLID are 485 cm; an overall width that makes it capable of spraying vine rows spaced from 100 to 285 cm.

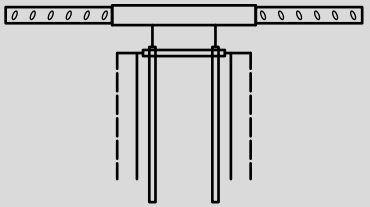
This advanced boom structure uses telescoping sections made from high tensile 4 mm drum metal. High resistance, nylon slide shoes keep all inner surfaces separated, protecting them from dust and other contaminations to ensure a smooth working action under any condition.

See how the "HARDI BOXER" works on YouTube.

The outer boom sections are manually adjusted but, as an option, electrically driven pistons are available for control from the tractor cab.



Both versions of BOXER boom are equipped with an adjustable boom arm, to position the nozzle right to the target.



BOXER SOLID
Boom width 2.5 telescoping to 4.7 m according to angling of outer device. Fixed boom height and hydraulic fold, option for electrohydraulic.

The CRONOS VARIA V

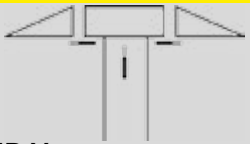
Capable of spraying both sides of three vine rows using pneumatic spray heads.

CRONOS offers the widest range of booms. Starting from a more basic configuration, this boom range offers scope for all, with versions available to the other extreme with a fully hydraulic system and a width of 8.2 m.

Available for trailed mistblowers: ZATURN and MERCURY.

Vertical breakaway

Horizontal breakaway

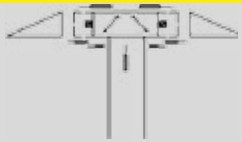


CRONOS SOLID Y

Hydraulic boom fold and hydraulic lift of 0.65 m. Total boom width of 6 m. Suitable, with appropriate application system fitted, for row spacings from 2.2 to 3.5 m. Y3 hydraulics require two double acting spool valves.

CRONOS RIDER Y

Central with RIDER suspension. Hydraulic boom fold and hydraulic lift of 0.65 m. Total boom width of 6 m. Suitable, with appropriate application system fitted, for row spacings from 2.5 to 3.5 m. Y3 hydraulics require two double acting spool valves.



CRONOS VARIA V

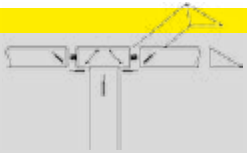
Central with VARIA on RIDER suspension. Hydraulic boom fold and hydraulic lift of 0.65 m. Total boom width of 7.3 m. Suitable, with appropriate application system fitted, for row spacings from 2.5 to 4.2 m. V7 hydraulics require one double acting spool valve.

VARIA technology is used to provide hydraulically controlled horizontal adjustments of both boom wings and the inner section. Each boom wing can be adjusted independently of the other one.

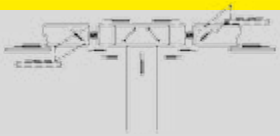
Each dropleg on the SOLID and VARIA booms has individually adjustable settings to meet the challenges of any spraying task.

RIDER suspension
Rougher terrain, hard land surfaces, faster spraying speeds are only possible with the safety and comfort of RIDER suspension.

See how the "HARDI CRONOS" works on YouTube.



CRONOS RIDER
Central with RIDER suspension.
Hydraulic boom fold and hydraulic lift of 0.65 m.
Total boom width of 6.9 m. Suitable, with appropriate application system fitted, for row spacings from 1.8 to 4.9 m. Z5 hydraulics require one double acting spool valve.



CRONOS VARIA GV
Central with VARIA & RIDER suspension.The outer boom arm can mechanically be positioned to provide a boom width from 7.6 to 8.2 m including the central VARIA extension of 2 x 0.65 m. wThe outer boom arm holds hydraulic positioning of spray device 2 x 0.65 m. Z11 hydraulics require one double acting spool valve.

IRIS

Polyethylene droplegs that are completely knock and shock proof against damage. The standard IRIS dropleg is 1.5 m long and has four adjustable air/spray outlets each 30 x 240 mm in size.
The XL IRIS dropleg is 1.8 m long and has five adjustable air/spray outlets.
Air/spray outlets are adjustable and can be blanked off to meet your needs for the optimised spraying of varying crop canopies and cultural methods.

Spray is entrained into a controlled and directed air flow after the initial dispersion of the drops by the nozzle; a technique proven to optimise subsequent spray deposition.

Nozzles are inset within the structure of the dropleg such that they are shielded from damage and their spray formation is always unhindered.

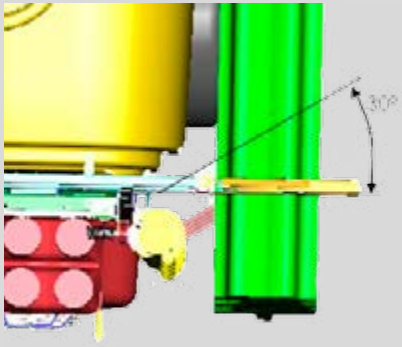
Standard nozzle packages for each dropleg are 8 or 10 of the popularly sized lilac ceramic hollow cones.
All other nozzle types and sizes are easily and rapidly switched with the use of standard nozzle caps.

Options available:

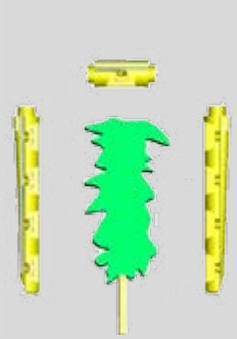
- IRIS 2-2 for spraying the sides of two adjacent rows.
- IRIS 2-4 for spraying both sides of two rows.
- Top Spray can be used to direct spray downwards and over the top of the canopy with the minimum of spray loss
- IRIS 2-6 for spraying both sides of three rows.

Growers, advisors and researchers endorse the winning ways of IRIS.
Better spray coverage.
Less physical damage to crop from sprayer use.
Fully adaptable to all varying needs. User friendly and intuitive for operators.

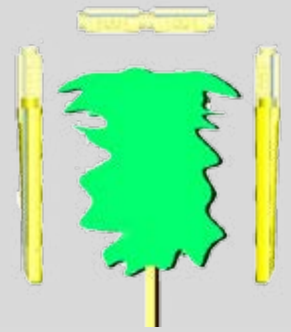
Adjustable air outlets make it quick and easy to adjust the air stream towards the canopy as well as providing an optimised air velocity and direction;
all critical features of the IRIS to ensure the most effective movement and penetration of drops, onto and through canopies and their secure target retention.



Variable angling



IRIS 2-4 with Top Spray



IRIS 2-4XL with Double Top Spray

IRIS: Tested, proven and grower acclaimed

Field tests by independent experts and commercial growers assess spraying performance in a range of ways.

Water Sensitive Paper: Attached onto target plants, these specialist paper strips are used to show where the spray drops will be deposited; their numbers, distribution and sizes being all instantly recorded in the field. [Image 1].

Fluorescent tracers: Special dyes added to the spray liquid. Spray deposits from drops containing these dyes are seen and recorded under UV light. Whole grape vines can be scanned to record where the spray is deposited; from the tops of the vines [Image 2] to the fruit itself [Image 3].


1


2


3

Pneumatic and Paraflow

Developed for the low volume spraying of vines. Pneumatic (air shear) nozzles are particularly suited to cope with spray formulations such as powders that cannot be easily sprayed using low volume conventional nozzles.

Sprays Fine to Medium sized drop in water volumes up to 170 l/ha.

Spouts available with 1 to 4 atomisers or 4, 5 or 6 atomisers on the PARAFLOW.

Nozzles


1099
Ceramic


1299
Ceramic hollow cone


MINIDRIFT
Syntal ISO flat fan


1553
Syntal hollow cone

Hydropneumatic Spraying System

Hydropneumatic spouts have 3 or 5 ceramic nozzles located within the air stream. Sprays of Medium or Coarse sized drops can be sprayed in water volumes up to 800 l/ha.

Blowers / Air kits

Designed by aerodynamic specialists, these air kits are the key to better air distribution, lower noise levels and less power consumption; all benefits that deliver enhanced spraying efficiency, greater savings on fuel costs and less environmental impact.

Blowers are adapted to your plantation and growing techniques.

The full HARDI range of air kits, fans and turbines are made from the finest steel and aluminium. Note carefully every major feature such as the patented centrifugal clutch that minimises wear to the sprayer and tractor as well as economising on fuel and enhancing your safety.

L-540
10,000 m^3/h. Suitable for treatments in vine and berry bushes. Belt driven. Disengagement. Centrifugal clutch. Air intake from the rear. Polyethylene fan housing. Power consumption: 10 kW.

Polyethylene fan housing.

HF-540
14,000 m^3/h. Suitable for treatments in vine and berry bushes. Two-speed gear box with neutral position. Centrifugal clutch. Air intake from the rear. Polyethylene fan housing. Transport lights (optional in ZENIT). Power consumption: 16 kW.

HF-540D
18,000 m^3/h. Suitable for treatments in vine and berry bushes. Two-speed gear box with neutral position. Centrifugal clutch. Air intake from both rear and front. Polyethylene fan housing. Transport lights (optional in ZENIT). Power consumption: 22 kW.

HF-640D
37.000 m^3/h. Suitable for vine in hedge row plantation. Two speed gear box with neutral position. Centrifugal clutch. Transport lights.
Air intake from both rear and front. Polyester fan housing. Power consumption: 36 kW.

Gearbox and Pump

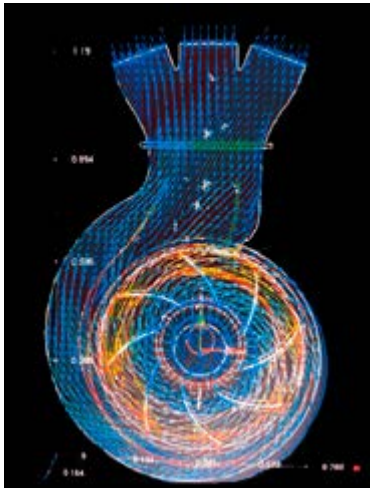
The HARDI heavy-duty gearbox stands up to the extreme conditions that orchard applications provoke, in very warm climate conditions as well as in servere terrain, where engine revolutions cannot maintain constant.

- Safety device to avoid unintended disengagement.
- Strong all-in-one body casing with simplified greasing needs.
- Easy access.

HARDI diaphragm pumps need no introduction! From the very beginning, these pumps were exclusively designed and made for agricultural and horticultural sprayers and, for decades, have continued to uphold their world leading position. Every need is met. Look, for example, at:
Model 363 with 6 diaphragms that can deliver 140 to 195 l/min at pressures of up to 20 bars whilst the **Model 321** has 2 diaphragms and will deliver an output of 70 l/min at a pressure of 25 bars.

Features

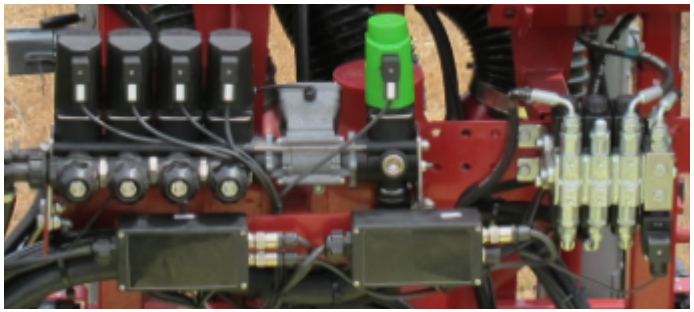
- Self-priming..
- Able to run dry without damage.
- Grease lubricated crankcase.
- Chemical resistant diaphragms and valves.
- Can be used to rotate clockwise or anti-clockwise.
- Easy to service without special tools.



Designed by aerodynamic specialists, these air kits are the key to better air distribution, lower noise levels and less power consumption; all benefits that deliver enhanced spraying efficiency, greater savings on fuel costs and less environmental impact.

Operating units CB/2 and CB/4

Precision spraying is dependent on these - the very best - valve controls and constant pressure systems.
Spray computer use is aided with the addition of a sonic flowmeter.



M70

Easy to use and very effective manual regulation control systems.
The M70/2 control unit includes the main ON/OFF valve, an easy to read pressure gauge and the distribution valves for 2 spray lines.
Note that spray guns can be usefully connected directly to the manifold.

SV/2

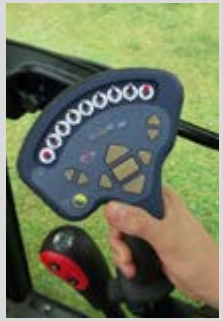
Electrically operated Solenoid valves on the SV/2 control system allow the operator to control the main ON/OFF valves and the two distribution valves from the safety and convenience of the cab.
Made of brass and fitted with a precision pressure gauge, these units are of the highest standard.
Pressure control is manually adjusted by the operator usually during calibration.

Controls

Section and pressure control for electrical operating unit.

Electrohydraulic systems need only one double acting outlet.
A multifunctional control box is located in the tractor cab where all hydraulic and spraying actions are safely controlled.

Although the HC3250 control box, and optionally rate controller, is slightly larger, it neatly incorporates every sprayer function into one unit; a benefit that makes their use more than justifiable in today's often cluttered tractor cab. These units are standard with V and Z hydraulic functions.



The joystick control is offered on V and Z hydraulics and can be supported with the spray computer HC3050, providing outstanding control and comfort in the field.

LB

Ideal for the smaller vineyard user and offering great safety in use on hilly terrains. These popular sprayers are available with or without the vine deflector that offers a very uniform air distribution.

ZEBRA

There is no doubt that the ZEBRA can offer professional solutions to all the challenges of spraying vineyards with the most narrow access between cropping rows. Choose your boom from the 3 ATLAS options to meet any need; very narrow access to ‘over- the-row’ spraying.

ZENIT

Large vine plantations and contractors demand all the benefits of the ZENIT range. Tank sizes up to 1200 l and the BOXER booms ensure that these professionals can meet any vine spraying challenge. Easily adjusted booms are just one feature offered by this range to ease the rapid and safe adaptations from one spraying need to another.

MERCURY

No other vine sprayer has been sold for use in such numbers as the MERCURY. A success story owing much to its design, bullet-proof strength and a diversity that offers, for example, tank sizes up to a mighty 4000 l capacity.

ZATURN

Narrow access rows of just 0.94 m can be sprayed using the ZATURN COMPACT with tank sizes of 800 or 1000 l.

Larger and slightly wider ZATURN 1000, 1500, 2000 and 3000 l are ideal for the larger vineyards and soft fruit plantations. Choose your ZATURN to meet your needs from the JET, BOXER or CRONOS range.

ZATURN

The ZATURN range has won the poll position in the world of vine spraying. Trend setting designs allow this sprayer to be available in versions to meet almost every need. Every detail is a winner. Look at the clean design and the outstanding weight balance; features demanded to meet every need.

Consider the benefits, for example, the incorporated front mounted rinsing tank; better sprayer cleaning = greater crop safety; better weight balance = greater hill stability, yet all integrated into the flowing ZATURN lines.

Høje Taastrup, Denmark

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 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.

Superb surface treatment

The high-technology surface treatment contains 13 treatments, including an Oxsilan 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 Oxsilan 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 AUSTRALIA Pty. Ltd.
534-538 Cross Keys Road, Cavan • South Australia, 5094
Phone: QLD(07)3375 3544, NSW(02)96274555,
VIC(03)9310 2211, SA(08)8343 9933, WA(08)9353 2088
Email: info@hardi-aus.com • www.hardi.com.au

HARDI INTERNATIONAL A/S
Helgeshøj Allé 38 • DK 2630 • Taastrup • Denmark
E-Mail: hardi@hardi-international.com • www. hardi-international.com

ILEMO HARDI S.A.U.
Polígono Industrial "El Segre", parcela 712-713
Apdo. de Correos 140 • 25080 Lleida • Spain
Tel.: +34 973 20 81 47 • Fax: +34 973 18 42 47
E-mail:ilemo@hardi-es.com • www.hardi.es

HARDI
The Sprayer

Read more at www.hardi-international.com and www.hardi.es

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

HIA MARKETING ER.895669-10-2013