HARDI

RUBICON

6500 & 9000

Don’t compromise on the most important piece of farm machinery

The RUBICON establishes a new class in self-propelled sprayers, designed to meet the productivity demands of large scale Australian farmers.

The seamless integration of capacity and width delivers acre eating performance to conquer everyday spraying tasks with ease and ahead of time.

RUBICON delivers beyond expectation with:

- 6500L or 9000L payload
- Front mounted 36.5 to 48.5m booms
- Unrivalled visibility from a 3.4m high vantage point
- Road speed 50km/h (max)
- Spray speed 35km/h (max)
- 330 or 370hp Cummins engine
- Low noise level
- Ride beyond expectation
- Excellent boom stability

And much, much more

Tank:	9000/6500 litres
Engine 6500:	Cummins 330 hp
Engine 9000:	Cummins 370 hp
Transmission:	4WD hydrostatic
Controller:	TOPCON X35
Chem transfer:	60 litre hopper
Clearance:	1.85 metre
Track width:	3 - 4 metre
Boom:	RA bi-fold 36.5m to RA bi-fold 48.5m
Pump:	650 l/m Ace run dry centrifugal pump

Maximum Productivity

The RUBICON 6500 & 9000 will outperform most SP sprayers of a similar tank size, and will offer volume advantage over SPs of 4500 and 6000L capacities.

Capacity keeps you spraying for longer, by reducing travelling and filling down time.

When timing is everything - don't waste time filling.

RUBICON will keep you spraying!

Capacity	L/ha	ha/tank
9000	50	180
9000	60	150
9000	70	129
9000	80	113
9000	90	100
9000	100	90

Capacity	L/ha	ha/tank
6500	50	130
6500	60	108
6500	70	93
6500	80	81
6500	90	72
6500	100	65

1000 Hectares Per Day

Likewise by increasing the boom width you improve the work rate, which is what matters most when timing is all important.

A 48.5 m boom width represents a 35% increase in work rate over a comparable 36m boom.

RUBICON with a 48.5m boom at 35km/hr can deliver a work rate of 170 ha/hr.

Keeping the nozzles at the correct height above the target, across the full width of the boom in all operating conditions, present little effort for RUBICON, but is vitally important for good application and performance.

The boom suspension, auto height and stability control systems allow you to lower the boom while protecting it from ground contact.

Lowering the boom reduces spray drift and delivers better application, which gives peace of mind, especially at higher spraying speeds.

Boom	kph	ha/hr
48.5	35	170
48.5	30	146
48.5	25	121
48.5	20	97

It's never been easier to spray more area thanks to the combination of 9000 litres capacity and 48.5 m booms.

Powered For Efficiency

RUBICON has the power and torque to effortlessly carry up to 9000 litres and a 48.5m boom around the paddock.

Utilising the most technologically advanced, fuel efficient Cummins® 8.9L QSL 9 Tier 3A engine to generate up to 370 hp (276 kW) gives the ultimate performance, reliability and productivity.

The lean, clean engine is the best available to power the 4WD hydrostatic transmission from Danfoss.

Superb Comfort & Ride

Visibility, comfort and ride are central to RUBICON's productivity. Your view of the boom and the surrounding is from a lofty 3.4m! The entire boom and every nozzle can be seen from the driver's seat and with uninterrupted forward vision, you have the ultimate control of the sprayer.

Comfort is important to the operator who has to spend long hours behind the wheel. RUBICON's large tyres and triple convoluted airbag suspension combination is the key to its superb ride and driver comfort, which is paramount to keeping fatigue at bay.

OverRide Suspension

OverRide Suspension is designed for heavy duty applications, for greater load carrying capacity and for incredibly smooth running.

The suspension is fully independent, is integrated into each wheel console, and moves in and out with the wheel track width.

The front leading arm and rear trailing arm suspension components with triple convoluted low pressure air springs allows each wheel to address the paddock conditions undisturbed by the others.

This type of suspension allows for the highest ratio of sprung to unsprung weight on a vehicle. It permits a greater proportion of the sprayer's total weight to bear down on the wheels and tyres, keeping them in contact with the ground regardless of the nature of the terrain the RUBICON is travelling over. Maintaining ground contact also improves the handling and traction.

Heavy duty Koni shocks absorb impulses from the suspension to improve the performance and ride.

OverRide Suspension features

- o Superior ride and handling
- o Better traction
- o Moves with wheel track adjustment
- o More boom stability
- o Reduces fatigue
- o Better shock absorption
- o Reduces vibration transfer
- o Less pitch generated during braking and acceleration
- o Ride level sensing to maintain the optimum ride height

Incredible ride and driving performance boosts productivity

RUBICON 9000 above, and RUBICON 6500 right

Track width adjustment

The RUBICON axle track width can be infinitely adjusted, on-the-run, from 3m to 4m providing the ultimate flexibility for different applications and improved productivity.

- On road transport and spraying
- To suit varying field conditions
- To match the track width of other machinery
- Set up for control traffic farming
- To match row crop row spacing

The OverRide suspension is integrated into each wheel console and moves in and out with the wheel track width. Externally accessed PUKS are easily adjusted to take up play that may develop over time through changing the axle track.

Weight Distribution

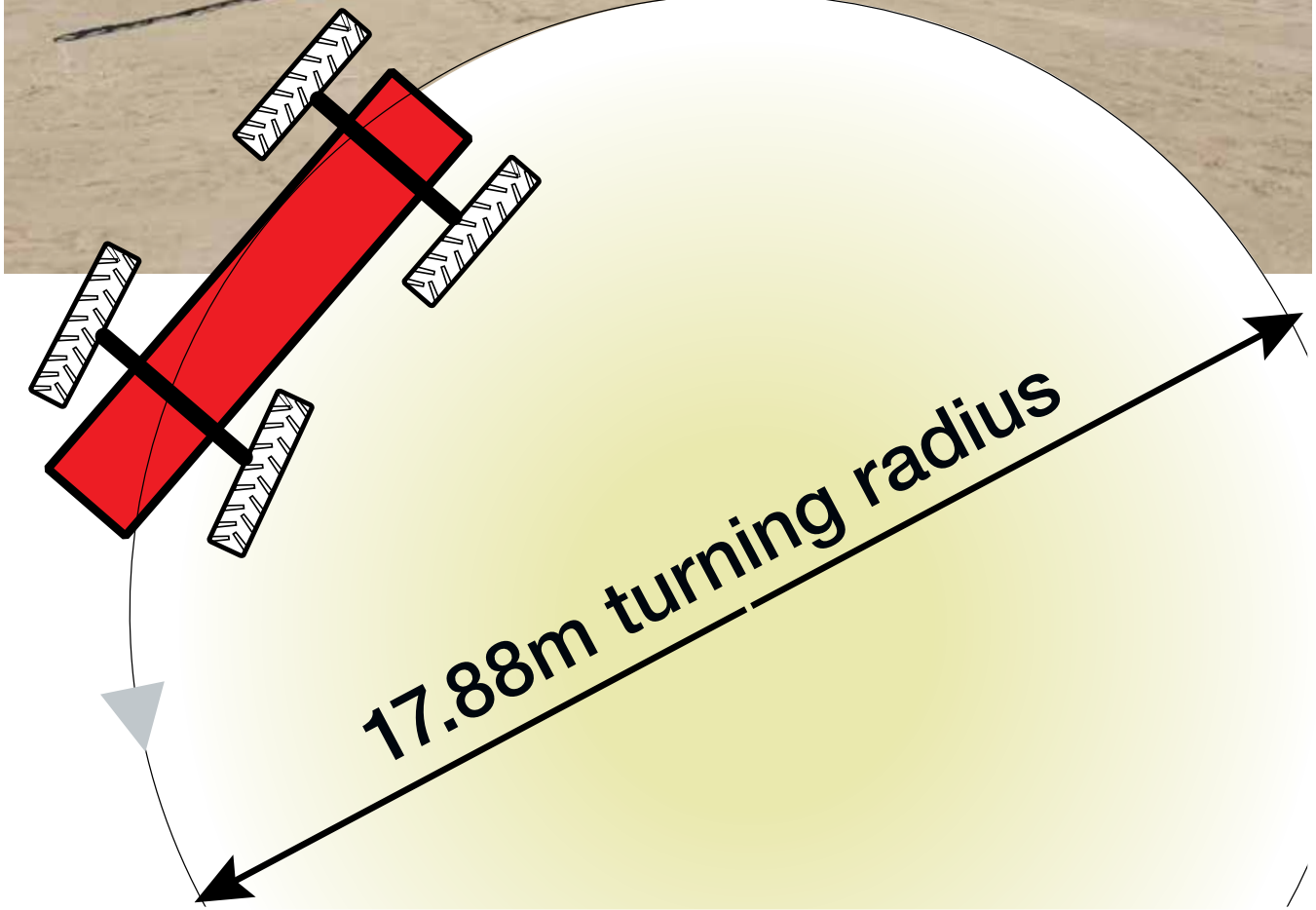
The under chassis clearance is huge at 1.85m.

The engine & transmission is at the rear, with the main, rinse and fuel tanks centrally located and boom at the front.

Everything is located to optimise the distribution of weight between the front and rear axles. With all tanks full and with a 48.5m boom open the weight distribution is:

- Front 48.7%
- Rear 51.3%

Steering



The RUBICON has a powerful load sensing hydraulic steering system which controls two large phasing cylinders, and is ideally suited to challenging operating conditions. The steering is precise, smooth and quiet with no vibration which makes spraying easy, safe and reduces operator fatigue.

The turning circle is 17.88m (radius is 8.94m)

Engine Power

RUBICON is powered by Cummins - the most advanced engine technology to deliver power and reliability when you need it.
Cummins engines run quieter, burn leaner and cleaner, and they are the industry leader in providing power to hydrostatic transmissions.
The Cummins® 8.9L QSL 9 Tier 3A engine delivers up to 370 Hp (276 kW) and features:

- Fully Integrated Electronic Controls provides seamless integration of all components to optimize engine performance.
- High-Pressure Common-Rail Fuel Systems. Increases power output and lowers fuel consumption, while reducing noise and engine vibration.
- Fleetguard® Fuel Filters featuring nanotechnology-based media, designed to remove 98.7 percent of all particles as small as 4 microns, which is up to 13 times more than competing filters.
- Cummins VGT™ Turbocharger has fewer moving parts than competitive turbochargers yet is infinitely adjustable – delivering the exact amount of air to the combustion chamber with the precision of electronic controls.
- Easy service access to all machine components via protective covers and hoods.

Transmission

RUBICON 4WD hydrostatic transmission is the latest intelligent self-propelled sprayer drive management system from Danfoss, which delivers the highest level of performance with reduced fuel consumption, and high operator comfort.

A Danfoss 250 cc variable displacement axial piston pump minimises control and charge pump losses to maximise available engine power. In addition the Danfoss H1 bent axis axial piston wheel motors are variable displacement and offer significant overall efficiency gains.

- Enhancing performance
- Improving fuel economy
- Providing power savings

The Danfoss H1 intelligent electronics is integrated on the Cummins “CAN” communication platform to ensure engine power is optimised to the wheel motor torque delivering precision and consistent smooth performance.

The micro-controller is pre-programmed with 4 different operator selectable modes to vary the drive behaviour to meet the application requirement.

The controller provides “watch dog” capability and real time fault monitoring.

The micro-controller measures the speed at each wheel motor 86 times per revolution to optimise drive torque and to minimise slippage. In ‘field mode’ the system manages the pump displacement and individual wheel motor output relative to the conditions, gradients, transmission operating pressure, and fuel efficiency.

Engine Cooling System

An oversized fan located in the engine compartment consistently cools the oil in the hydraulic circuit. The RUBICON can thus run with as little as 200 litres of hydraulic oil.

Control

TOPCON X35 can be used to display up to five precision farming functions simultaneously in a range of layouts and user interfaces. No other terminal currently offers this versatility! It is also one of the first to feature a capacitive touch screen. The touch-film is protected beneath the glass pane, making the technology ideal for tough, everyday usage.

The terminal is fitted with an integral Tractor-ECU (TECU) to receive information from the RUBICON which is essential for precision farming applications.

Features:

- Up to 5 applications can run simultaneously.
- Latest touchscreen technology.
- Customised expansion options.
- ISOBUS standardised control and machine settings - reduces downtime and Interface problems as well as calibration processes.
- Unrestricted visibility in the cab.
- TOPCON X35 is the latest generation ISOBUS terminal – unbeatable in terms of flexibility, versatility and user-friendliness.


CAUTION

Commanding View

A better view of the boom from the cab not only contributes to comfort, but to the quality of the productivity.

The operator has a commanding view over the boom from the driver's seat which makes spraying easier and safer.

The RUBICON cab is a special workplace and every detail counts: including the synchronised movement of the arm rest console to provide improved ergonomics, to unsurpassed visibility of the boom, clean air and responsible sound and vibration levels.

With superior comfort and the best view in the business, RUBICON makes spraying enjoyable and efficient.

All Day Comfort

Operator comfort enhances productivity and is an essential for long spraying days.

The new Panorama cab is larger, more spacious and uncluttered, with top level ergonomics.

The climate controlled, pressurised cab has active charcoal filtration that delivers high quality air which protects the operator from contaminants while spraying.

The cab provides a quiet and stress-free relaxed environment, which is easy on conversations and mobile phone use.

Tinted safety glass with front and side retractable sun screens filter the light and minimise glare into the cab.

An air-ride fully adjustable drivers seat provides exceptional operator comfort for those rough paddock conditions.

The joystick and SprayCentre are attached to the driver’s seat and move in unison with it.

A compact trainers seat is large and comfortable, and can fold out of the way with ease.

The steering column pivots in two places and extends to provide adjustment for the most comfortable driving position.

In-cab storage is included in the arm rest console, in a drawer under the seat and pocket behind the seat for the operator's manual.

A Special Workplace!

Every detail contributes to the overall benefits and gains.

The drivers seat has its own suspension to provide many hours of fatigue-free spraying. It can be adjusted for weight, height, lumbar, back and leg position.

A full size instructor's seat can fold up and easily stowed out of the way. Both have compact storage facilities built into and under them.

Climate control air conditioning and cab pressurisation is delivered through 10 roof and 2 floor mounted, fully adjustable outlets.

Windscreen de-mist vents ensure you will never have to experience fogged up windows.

Up to five precision functions can be displayed simultaneously in a range of layouts and user interfaces.

The SprayCentre can be adjusted for the operators comfort. Switches for the transmission, axles, fluid and boom functions are logically placed and grouped for easy fingertip operation. They are illuminated for night spraying.

Turning indicators, driving lights, high/ low beam and hazard light selection are all located on the steering column.

A roof console houses the radio, and sound is delivered through four speakers.

An auxiliary spare 12-volt power socket is standard.

Boom Centre

RUBICON redefines boom stability:
Revolutionary boom suspension system allows independent stiffness control settings on the springs and rams fixed to either side of the centre frame.
The boom remains stable under the harshest operating conditions.

The wide centre frame provides excellent on-road visibility.

Spring tension holds the centre frame in the middle position while the hydraulic damper absorbs energy from the boom movement.

A hydraulic actuator operated from the cab exerts more or less pressure on the spring to change the resistance.

Wide Paralift Enhances Boom Stability

The ParaLift is extra wide and provides the basis for unbeatable boom stability. It is anchored to the chassis at 1.7 metre centres and picks up the boom at 2.3m width. The ParaLift's width and torsional strength greatly exceeds the requirement for the widest booms currently available.

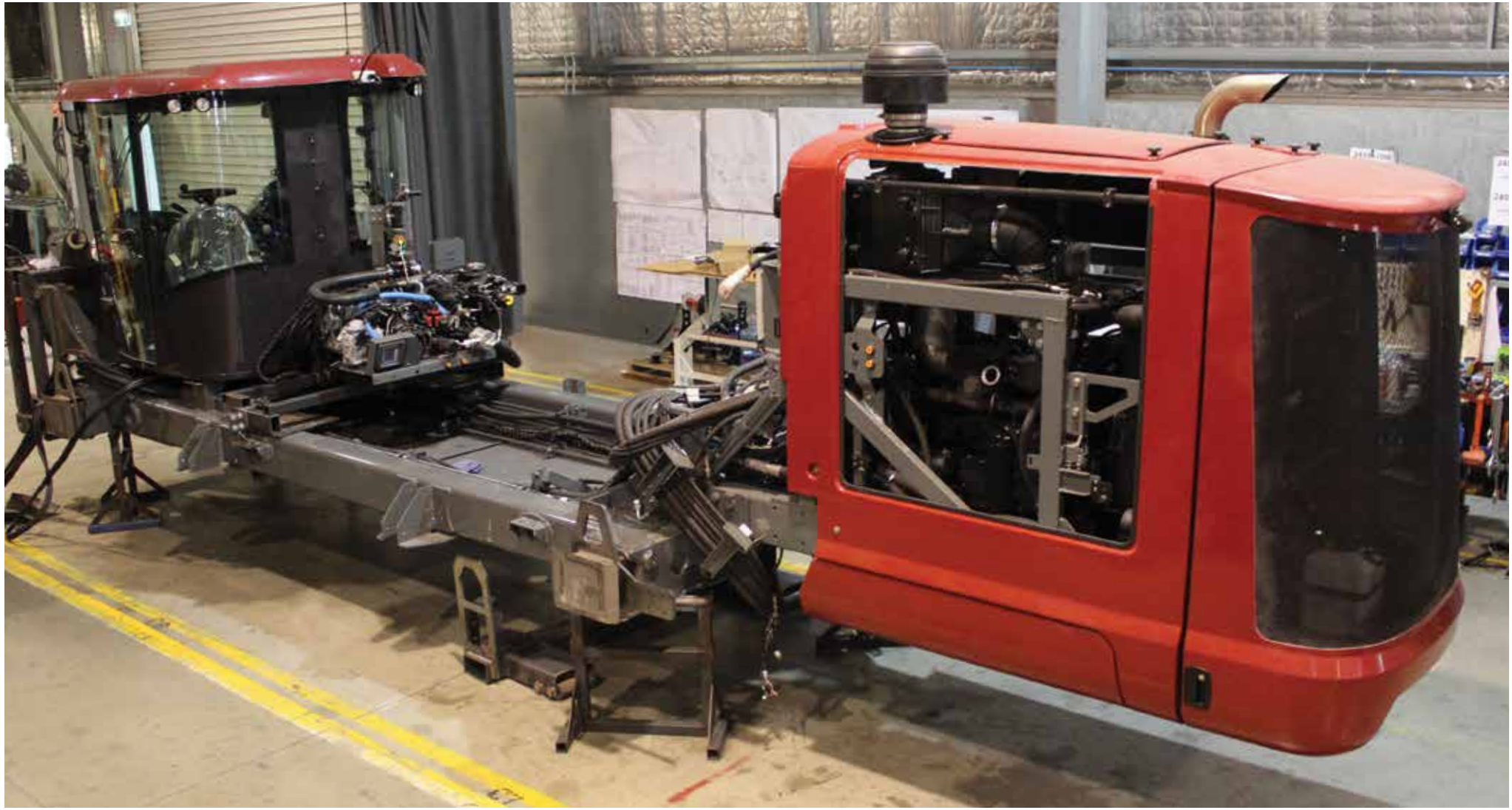
Two large ParaLift plunge cylinders with nitrogen accumulation provide the boom with vertical shock absorption and height control. The boom can be raised from 0.5m to 2.7m above the ground.

An air activated ParaLift locking system secures the boom into position for safe road transport.

Strong Core

The RUBICON's heavy duty rigid chassis is constructed using high tensile rectangular hollow section steel, and is designed not to flex which improves the suspension performance, steering, and handling.

The frame of the RUBICON is much wider than on a regular self-propelled sprayer, contributing greatly to the strength and stability of the sprayer.



POMMIER Aluminium Booms:
Width Without Weight

When it comes to wide boom innovation and design POMMIER is the market leader.

Their 30 years of experience provides real benefits for farmers considering a lighter, stronger and wider boom option.

The RA bi-fold 36.5 to 48.5 booms are well proven in field performance and reliability, and the weight reduction benefits over steel cannot be underestimated.

Optional AutoHeight control sets a new benchmark in wide boom performance, maintaining a lower boom height which provides better drift control.

With the RA boom wings at half the weight of equivalent steel structures and when combined with POMMIER patented yaw dampening, load and forces transferred to the centre during spraying are significantly reduced.

POMMIER soft close feature protects the boom when folding.

Main, Rinse and Fuel Tanks

The 6500 & 9000 litre baffled stainless steel tank is integrated into the RUBICON chassis and is designed for capacity spraying.

Baffles not only enhance the integrity of the tank structure but improve the handling and directional stability of the sprayer. Suppressing the magnitudes of fluid slosh by controlling its flow and movement improves braking performance and yaw stability, making spraying comfortable and safe.

Three rotational tank rinse nozzles are fitted standard and provide consistent tank flushing.

A deep sump running the full length of the tank ensures total draining, easy cleaning and minimal residue.

There is a sturdy ladder on the right hand side of the Main Tank which allows easy access to the lid.

RUBICON's1000 litre Diesel tank provides enough fuel for a whole day or night of spraying.

Ground Control

The right side of the RUBICON houses the fluid pumps, control valves and the electronic valve sequencing control panel.

The fluid systems compact design minimises the volume retained once the tank is emptied, which makes rinsing and decontaminating fast and efficient.

The fluid is driven by an ACE 680 l/m wet seal run dry centrifugal spray pump which is controlled by a hydraulic Pulse Width Modulation (PWM) valve to adjust the output.

An inline suction filter protects the pump and fluid components downstream from sedimentary contamination.

A 3 inch hydraulically operated rotary valve controls the suction source from the main tank or the rinse tank or an external supply.

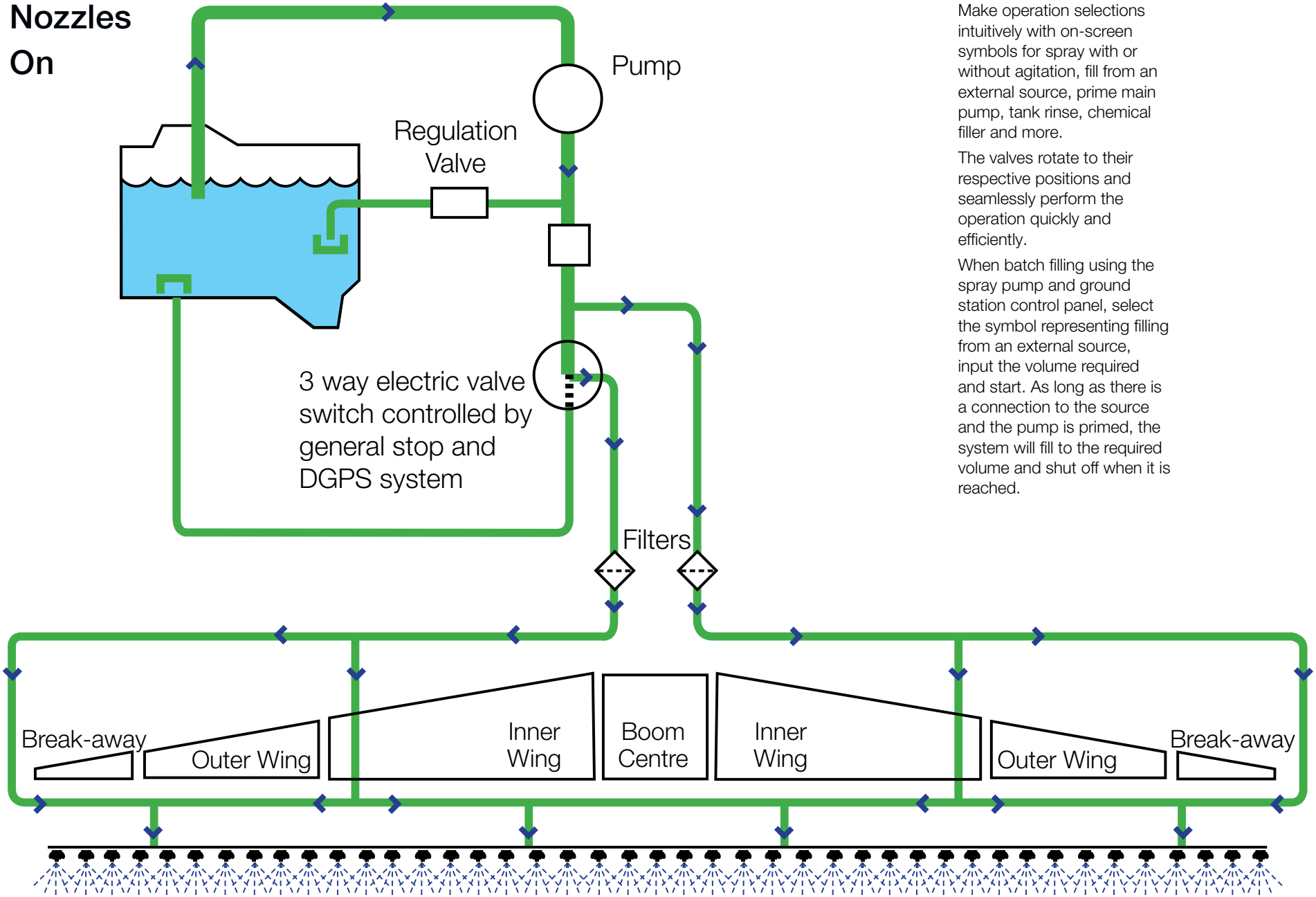
On the pressure side a similar 2 inch hydraulically operated rotary valve controls the supply to the boom recirculation system & nozzles, to the chemical filler, to the main tank or for pressure empty.

A dedicated hydraulic driven 70 l/m diaphragm pump with electric rotary control valve is used exclusively for clean water supply for the main tank, rinse nozzles, priming Ace pump or hand gun.

The electronic ground station control panel is duplicated in the cab and is used to sequence the rotary valves for suction, pressure and clean water supply. The correct operating positions are performed automatically and at the touch of a button.

Fluid Diagram

Nozzles On

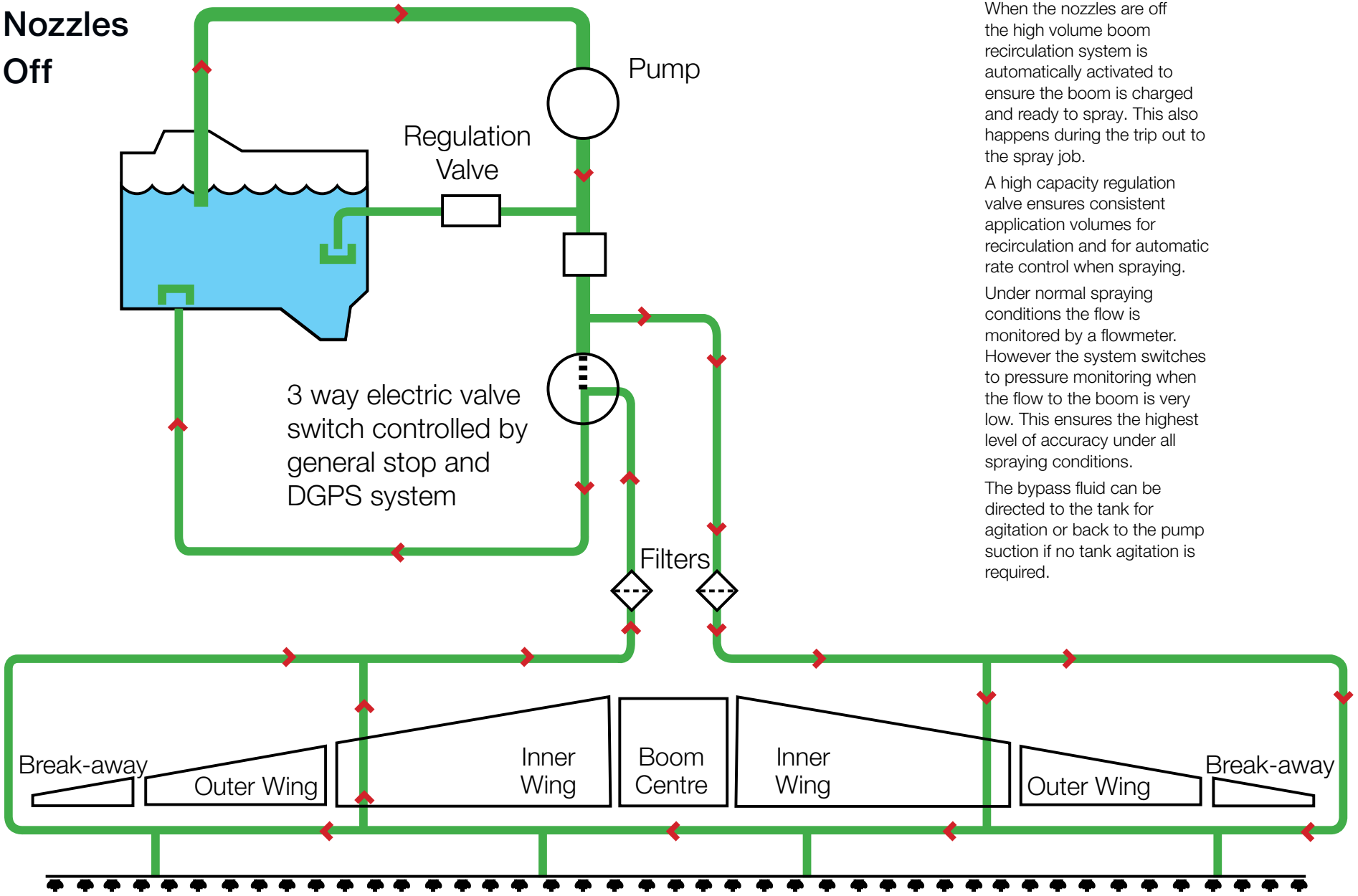


Make operation selections intuitively with on-screen symbols for spray with or without agitation, fill from an external source, prime main pump, tank rinse, chemical filler and more.

The valves rotate to their respective positions and seamlessly perform the operation quickly and efficiently.

When batch filling using the spray pump and ground station control panel, select the symbol representing filling from an external source, input the volume required and start. As long as there is a connection to the source and the pump is primed, the system will fill to the required volume and shut off when it is reached.

Nozzles Off



When the nozzles are off the high volume boom recirculation system is automatically activated to ensure the boom is charged and ready to spray. This also happens during the trip out to the spray job.

A high capacity regulation valve ensures consistent application volumes for recirculation and for automatic rate control when spraying.

Under normal spraying conditions the flow is monitored by a flowmeter. However the system switches to pressure monitoring when the flow to the boom is very low. This ensures the highest level of accuracy under all spraying conditions.

The bypass fluid can be directed to the tank for agitation or back to the pump suction if no tank agitation is required.

Filling Station

Designed to make loading safe, quick and easy, the combined mixing and transfer station is hydraulically lowered into position for refilling.

The filling station is a robust stainless steel construction and includes the Chemical Hopper, Direct Chemical Suction connection, Fast Fill connection, optional Multi-Stage Fast Fill Pump and Hand Gun.

For safe connection and working the 60 litre hopper is 700mm above the ground when lowered into position. When folded away the entire work station is tucked out of the way under the right hand side panel.

Chemical can be drawn directly into the RUBICON or mixed through the hopper and transferred.

Batch mixes can be pumped directly into the tank or the system can be programmed through the electronic valve sequencing control panel to suck in a given volume.

The filling station is a user friendly, functional, and ergonomic design.

AutoHeight Boom Control

AutoHeight provides stress-free boom height control as it maintains the correct nozzle operating height, delivers better application and reduces spray drift.

AutoHeight uses ultrasonic sensors fitted to the boom centre and wings to control and maintain a preset height of the entire boom above the ground or crop.

The sensors, developed for field conditions, are robust and precise.

The proportional valve control of individual boom wing height corrections is smooth, even and automatic.

AutoHeight maintains a preselected boom height from the ground or crop.

It features:

- 5 precision ultrasonic sensors
- Choice of soil or crop mode
- Proportional valve control
- 35 km/h operation speed

AutoHeight takes the stress out of having to monitor the boom position in anticipation of frequent terrain changes, and allows more efficient use of crop protection chemicals.

ActivAir

ActivAir is a rapid nozzle on/off control system, that utilises the RUBICON's on-board air supply to instantaneously open and close the non-drip nozzles during spraying.

Air pressure is reticulated along the boom through 8mm tubing to electrically activate solenoid valves and then through 4mm tubing to each non-drip valve.

ActivAir's rapid nozzle control is fast and accurate, making it ideal for AutoSection control systems. The spray lines are divided into 14 sections to ensure minimal overspray when AutoSection control is in operation.

When a solenoid is activated to turn the nozzles on, air pressure opens the non-drip valves and the nozzles start spraying. When the solenoid is deactivated to turn the nozzles off, the non-drip valves are held closed under spring tension.

When the nozzles are off, the fluid system continuously recirculates the spray mix through the boom tubes at high volume to ensure the boom is primed before spraying starts.

Recirculation

Essential for priming, rinsing and for looking after the environment. As soon as the tank is recharged the fluid system automatically switches to recirculation, which means the boom is charged so you can go spraying as soon as the boom is unfolded.

The recirculation system also allows you to run clean water through the boom, back to the main tank at the end of the day rather than to spray rinse onto the ground.

Night vision

Lighting

The under boom lighting kit allows the spraying to go on long after the sun has set.

If the opportunity to spray comes at night, it is so much easier with the RUBICON's extensive lighting package.

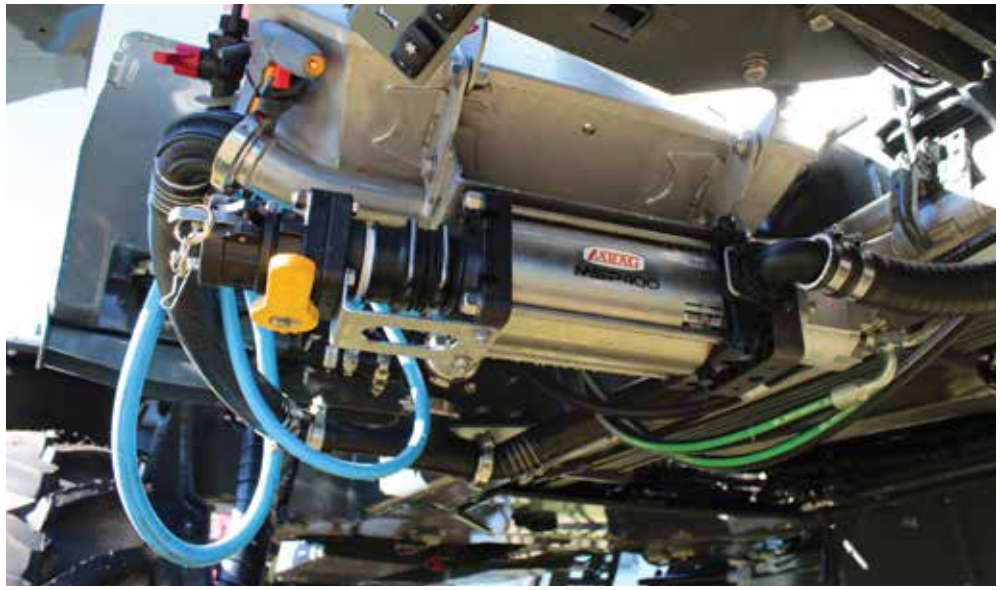
The rear access stairway light is activated from the ground to show the way along the platform to the cab.

The forward facing LED lightbar mounted on the boom centre, and sidewards orientated lights will illuminate the route to and around the paddock to a distance of 150 metres.

The under-boom blue cast lights provides a clear and non-invasive view to the end of the boom, and for visual conformation of functioning nozzles.

Options

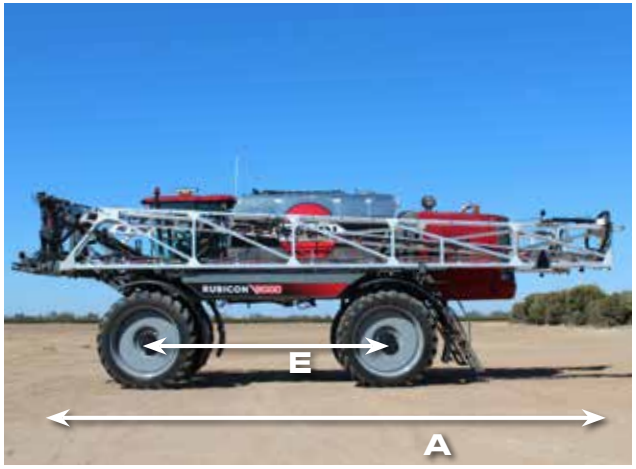
- AutoHeight control with 5 sensors.
- Dual centrifugal pump filling of the main and flush tank
- Night spraying lighting
  - Under boom lighting
  - Spraying light bar
  - Machine lighting
- Alemlube Auto Greasing
- Chemical transfer pump

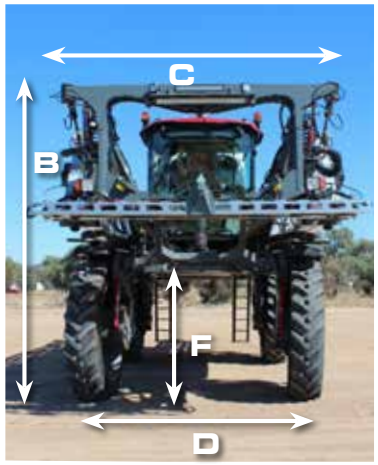


Productivity 9000

9000 litre capacity	Delivers 150 ha per tank @ 60l/ha, representing a 50% increase in sprayed hectares compared with alternative 6000 litre capacity SPs.
48.5m boom width	Covers 121.25 ha/hr @ 25 kph or 145.5 ha/hr at 30 kph, represents a 35% increase in work rate over alternative 36m boom widths.
Front boom	The operator has a commanding view over the boom and can see all of the nozzles from the driver's seat. Makes spraying easier and safer, which not only improves the comfort but the quality of the productivity.
OverRide suspension	Fully independent for an incredibly smooth ride. Allows each wheel to address the paddock conditions undisturbed by the others. Provides superior ride and handling, gives better traction, moves with wheel track adjustment and delivers a more stable boom.
Tyres	The ride and driving comfort is also attributed to the 480/70/R54, reduces rolling resistance and the longer contact area to the ground delivers the ultimate flotation. The narrowness of the tyres lessens crop damage.
Ground clearance	The under chassis clearance is a huge 1.85m.
Reduced turbulence	With a smooth underbelly, 1.85m free flow ground clearance and the narrower 480/70/R54 tyres there is less dust and wind drag than with lower wider tyred SP's.
Weight distribution	Balanced - with all tanks full and with a 48.5m boom open the weight distribution is - front 48.7% and the rear 51.3%
POMMIER	The weight reduction benefits of the RA boom wings at half the weight of equivalent steel structures cannot be underestimated. POMMIER use their patented yaw dampening to significantly reduce the load and forces transferred to the centre during spraying.
Track width	Infinitely variable with full tank, on-the-run, from 3m to 4m providing for different applications and improved productivity. The OverRide suspension moves in and out with the wheel track width.
Engine & Transmission	370 Hp Cummins - the most advanced engine technology delivers the power and reliability when you need it. The 4WD hydrostatic transmission is the latest intelligent drive management system from Danfoss, which delivers highest level of performance with reduced fuel consumption, high operator comfort and four wheel braking.
Fluid System	The AIS Circulation system is pressurised by a Run Dry Ace centrifugal pump and an automatic valve sequencing system. The tank fill volume is set, and once reached the fluid valves automatically switch over to agitation and boom priming. The tank content is then agitated and the spray circuit is primed and at standby operating pressure in readiness to start spraying.
ActivAir shut off	The reticulation system primes the boom tubes and the ActivAir section control provides instant nozzle opening at the right pressure so there is no lag and is ideal for ASC.

750 to 1000ha per day





Standard features:

630L rinse tank & rinse nozzles
POMMIER RA 36.5m boom
14 section boom distribution
Boom recirculation system
Boom line filters
Solenoid end nozzles
350/370hp Cummins engine
4WD hydrostatic transmission
Cruise control
2 wheel steer
3m to 4m hydraulic track width
OverRide Air bag suspension
1.85m under axle clearance
Mudguards
TOPCON X35 controller
with AutoSection Control
Electronic tank gauge sensor
Reversing camera
Ground control
Dual ladder and platform
Climate control
Radio VDO: earth cable, speakers
and aerial installed
650L/m WetSeal run-dry centrifugal pump
60L Chemical Hopper induction
Chem probe
Fast fill

Options available:

6500L or 9000L capacity
POMMIER RA to 48.5m boom
AutoHeight boom height control
Centrifugal pump directional fast fill
Auto steering
Night spraying lighting package
Alemlube auto greasing
Chemical transfer pump

Specifications

Tank, litres		6500 or 9000
Pump, type		HARDI / Ace 650 run-dry centrifugal
Boom POMMIER		36.5 & 48.5 RA
Control Type		TOPCON X35
Section distribution standard		All booms with standard 14 sections
Rinse tank, litres.		630 litres
Engine 9000		Cummins® QSL 9 Tier 3A 370 Hp (276 kW)
Engine 6500		Cummins® Tier 3A 330 Hp (246 kW)
Fuel Tank		1000 litres
Transmission		Sauer-Danfoss H1
Hydraulic oil		200 litres
Suspension		OverRide Airbag + hydraulic Koni's
Steering		2 wheel
Track width		3 to 4 m hydraulic adjustment
Turning circle (m)		17.88 m
Total length (m)	A	10.2m - 36.5m boom, 12.3 m - 48.5m
Total height (m)	B	4.2 m
Width with boom folded (m)	C	3.68 m
Track width, adjustment (m)	D	3 to 4 m
Wheel base (m)	E	4.6 m
Under axle clearance (m)	F	1.85 m
Wheels/Tires		480/70/R54 (9000), 480/95 R54 (6500)
Brakes		4 wheel dynamic

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HARDI
The Sprayer