Challenger ROGATOR 600

THE ALL-NEW Challenger ROGATOR 600

SERIOUS MACHINERY

Dawn of a New Era

Self-Propelled Sprayer

Accuracy, Stability and Economy

Challenger is proud to unveil a ground-breaking development in the world of self-propelled sprayers. The totally new RoGator 600 Series is based on a radical, single-beam chassis design and uses technology and specification never before seen in this type of machine.

Challenger consulted large-scale farmers and contractors from across Europe to establish exactly what the market is looking for in a self-propelled sprayer. However, instead of making improvements to an existing model, the company's design engineers decided to abandon conventional thinking and adopt a completely new approach.

The result? Unprecedented boom stability, cab-controlled chassis height and track-width adjustment, superb operator comfort and a host of other innovative features that go towards achieving the nearest-to-perfect spray performance yet.

The all-new Challenger RoGator 600 – headline features

- Unique, single-beam, high-grade steel chassis allows outstanding manoeuvrability and easy access to key components. Optimum weight distribution minimises ground compaction.
- New central boom frame and boom suspension provides industry- leading boom stability for extremely accurate spraying. The innovative symmetrical and asymmetrical suspension eliminates vertical and horizontal movements to give optimal boom stability.
- Specifically-designed, fully independent suspension on each wheel for a silky, smooth ride on - or off-road, at the same time minimising vehicle-imposed boom movement.
- Extreme manoeuvrability from the four-wheel steering system - switch back to two-wheel (front) mode with the press of a button or select the offset dog-walk option.
- Unique hydraulic working height control from within the cab, for superb stability of operation and variable crop clearance.
- Unrivalled, stepless HydroStar transmission, combining the easy operation of CVT with the faultless traction - controlled at each individual wheel - of a full Powershift driveline.
- Unique hydraulic track-width adjustment - on the move - from crop to crop, from customer to customer.
- Top-of-the-range Pinnacle View tractor cab, providing supreme operator comfort and all-round visibility, with fingertip control of all machine functions. A special three-step active filtration system keeps cab air clean and fresh.
- Super-efficient, low maintenance high-flow water management system, with fixed, easy-to-clean pipework for minimum pressure losses.
- Easy-access filling station, with high-capacity (60 litre) chemical induction unit, and a range of spray tank sizes to satisfy all requirements.

Three models:-

RoGator 635 - 175 hp, tank size 3500 or 4800 litres

RoGator 645 - 210 hp, tank size 3500 or 4800 litres

RoGator 655 - 243 hp, tank size 3500, 4800 or 6000 litres

Unique, single-beam chassis

The revolutionary design of the RoGator 600 Series chassis brings a host of user benefits to this remarkable machine.

It allows all major components to be positioned to achieve optimal distribution of weight combined with ease of access for maintenance and service and maximum stability on sloping ground, regardless of tank size.

The low centre of gravity, together with the precision placing of the tank and driveline components provides unprecedented stability in a self-propelled sprayer. This means optimal and even load distribution on all four wheels, which, in turn, ensures maximum traction and reduced soil compaction.

When the tank is full, with 36 m booms folded in transport mode, 55 per cent of the weight is carried by the front axle, However, when the booms are extended the weight distribution between front and rear is exactly 50:50.

The RoGator 600's unique chassis design also allows an extremely tight steering angle of 35° on all four wheels for superb manoeuvrability and makes it possible to fit wider and larger diameter tyres when required.

Weight Distribution

Rear	Spray Boom	**Front**
45%	Closed	55%
50%	Open	50%

Completely new boom construction & Boom Glide suspension

The all-important trait of boom stability has been much enhanced on the RoGator 600 Series with the development of a new 3D construction design, which enables the boom to move through five axes.

Challenger's decision to introduce dedicated damper suspension cylinders means the system gets closer to eliminating horizontal (symmetric and asymmetric) and vertical boom movements, together with those created by vehicle acceleration and deceleration. This boom independence also has the effect of reducing the stress forces imposed on the mainframe.

Lightweight and of immensely strong construction, the boom incorporates a breakaway facility and independent left and right tilt.

The significant reduction in horizontal movement and swivels in the boom construction makes it possible to avoid spray overlaps, delivering environmental benefits and meaningful cost savings by maintaining a consistent, accurate spraying height across the full width of the boom.

Opti-sonic boom control enables the booms to independently follow the ground contours without the need for adjustment by the operator Ultrasonic sensors mounted on the booms ensure precise spraying accuracy by maintaining a consistent boom height, significantly reducing operator fatigue.

Ascenting Field: automatic spray boom angle adjustment

Plain Field: no adjustment necessary

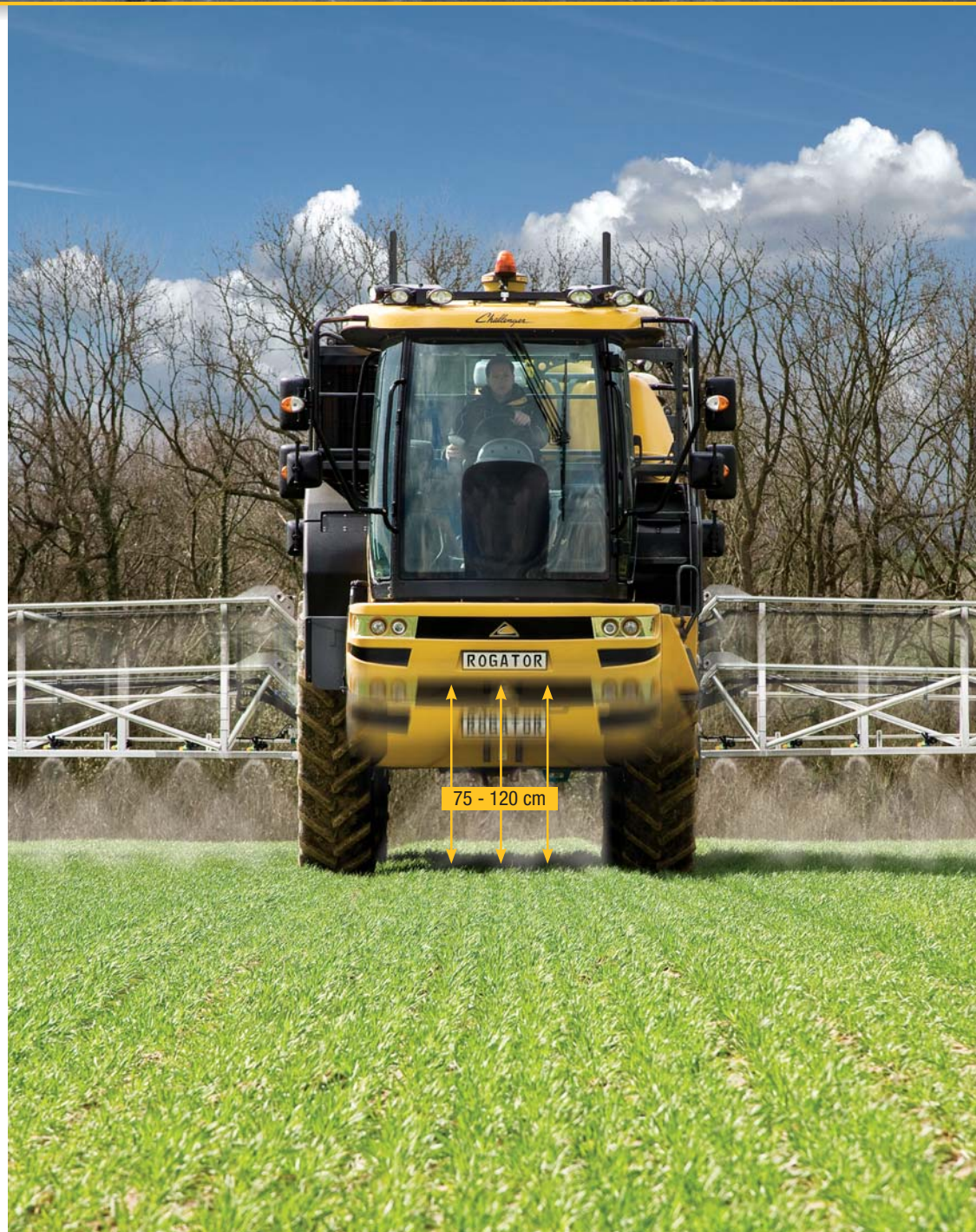
Rough Field: full automatic boom adjustment

Innovative Opti-Ride wheel suspension and variable working Dual-height

The performance of RoGator 600 Series sprayers receives a huge boost from the totally new independent, hydro-pneumatic suspension system.

In addition to providing the whole machine with outstanding stability and smoothness of operation, the machine can also be raised and lowered in the range of 75 cm -120 cm, using the in-cab controller, to take account of crop type and height. The suspension's clever design allows height to vary without affecting track width and allows exceptional spraying speeds of up to 20 km/h.

The RoGator's wheel suspension acts to eliminate all but the most severe lateral and vertical vehicle movements before they reach the boom. It also provides the operator with a wonderfully smooth, safe ride, with no loss of traction and a reassuringly transport height. Also, the strength and sheer design quality of the suspension reduces the stress forces on the chassis and other key components.



The ultimate in manoeuvrability

The new RoGators are capable of turning in incredibly tight corners and headlands, thanks to a steering angle of 35° on all four wheels. The vehicle can be steered in four-wheel, two-wheel or the offset dogwalk modes, and has the ability to be fitted with larger diameter wheels and wider tyres without compromising the steering angle.

The outer turning radius when four-wheel steer is engaged is just 4.73 m, with the inner wheel turning radius a mere 3.14 m. Steering modes are selected using ergonomically-positioned buttons in the armrest and when switching from four-wheel to two-wheel steer, the rear wheels are automatically fixed in the straight position. Switching between steering modes can be integrated as a function within the highly-advanced One Touch system.

Opti-Track width adjustment – on the move

When working with multiple crops, the RoGator 600 Series can be specified with a hydraulic Opti-Track width adjustment facility which can vary the track width from 1.8 m up to 2.25 m, without the operator having to leave the cab.

This allows a quick, stepless change between multiple row crops and between farms with different tramline widths - a simple operation in which the adjustment is made electronically through the machine's TMC (Tractor Management Centre). The system has the added advantage of being completely maintenance -free and works effortlessly with a wide choice of wheel diameters and tyre sizes.

Pinnacle View – the most spacious cab on the market

Challenger leads the world in the design, layout and comfort of its tractor cabs and this expertise has now been applied to the RoGator 600 Series self-propelled sprayers.

Operators can look forward to working in a calm, quiet and safe environment, with plenty of leg-room, ergonomic positioning of all controls and superb visibility through a massive glass area of more than 6 square metres. The cab is pressurised, with a double stage carbon filter, for a healthy, chemical- and dust-free work space. Air conditioning comes as standard.

Floor clutter is avoided by the use of suspended pedals and the intelligent location of numerous storage areas. Durable materials create a clean, modern feel to the cab, which is safely and easily accessed through the huge, all-glass door.

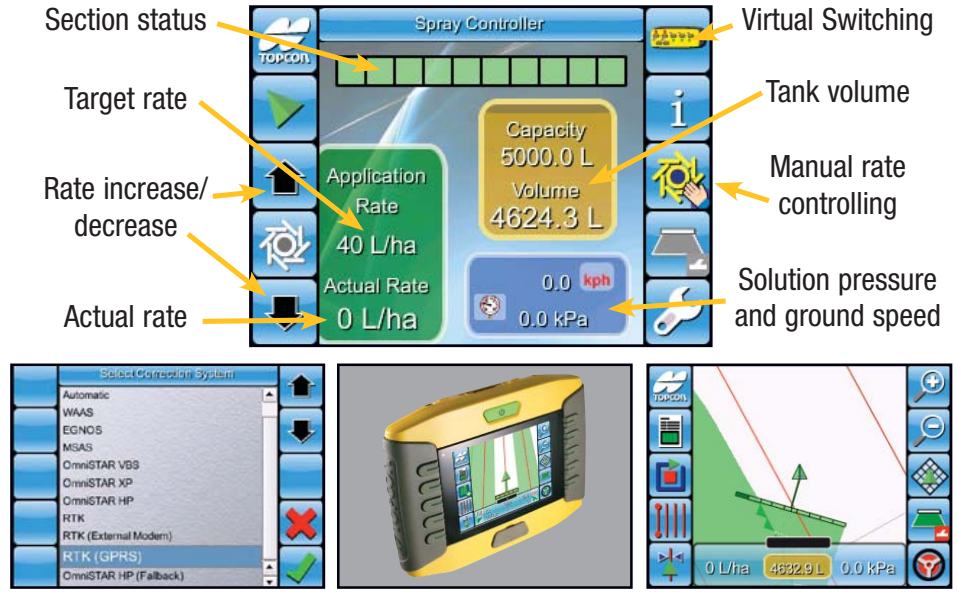
Primary spray and drive functions are Multi-Function Lever controlled, while the multi-functional armrest houses the secondary controls, such as track width adjustment, boom folding and height modes. The TMC Tractor Management Centre display shows the chassis functions data, with both analogue and digital dials for more basic information. The cab includes a passenger seat and the steering wheel is adjustable for optimum comfort and safety.

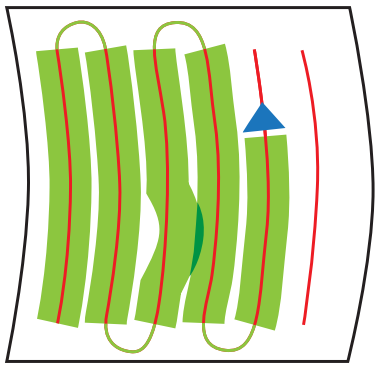
New machine, new Sprayer Display Control

Alongside the TMC is the Sprayer Display Controller terminal, which allows the operator to monitor both chassis data and sprayer working information.

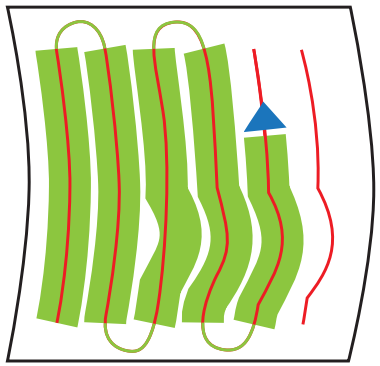
The terminal has a high-resolution, full-colour screen with a clear layout and a greater reliance on icons rather than text, effectively making it multi-lingual. Functions can be adjusted and controlled using the soft keys.

Offering real advantages not found in other controllers, the SDC has been designed with simplicity of operation in mind. Just set the target application rate and the computer does all the work, with the display showing application rate, volume sprayed, system pressure, sprayer speed and area covered. AutoGuide 150 and automatic section shut-off control are also incorporated into this terminal.

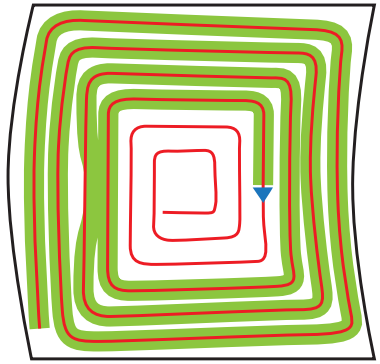




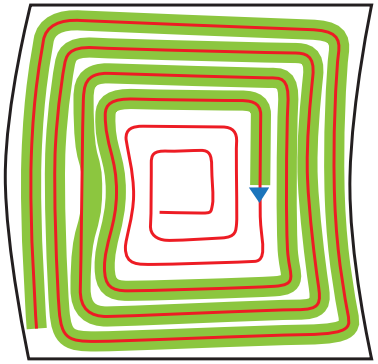
Identical curves
'up and back'



Adaptive curves
(last pass) 'up and back'



Identical curves
'round and round'



Adaptive curves
(last pass) 'round and round'

A completely new spray system

At the heart of the system is the plumbing – pipework, pump and valves, which has been subject to a total re-design in order to achieve faster, more effective, problem free spraying.

The spray mix moves around the system through the large diameter pipework - a uniform 3" / 2" supply lines and 25 mm spraylines with boom feeding on 8 points, and recirculation function throughout and with fewer bends to eliminate fluctuations in flow - driven by a centrifugal pump, with a filling capacity of a massive 800 litres/minute.

The pump itself can operate within a range of 784 l/min @ 2 bar and 167 l/min @ 8.3 bar, and has either a manual 5-way valve or electric servo valve for redirecting the pump flow. The number of hose connections on the pipe circuit has been kept to an absolute minimum, in order to reduce the risk of leakages.

The electronically-controlled filling station is easily accessed and is operated using touch-pad indicator buttons and a very clear display screen. Automatic filling modes can be monitored on the electronic volume indicator, which can be viewed both in the cab and at the filling station. Operator safety was the prime consideration in the design of the filling station.

Users will value the wide range of application rates the new RoGator can provide, with just a single, maintenance-free pump.

The centrifugal pump is driven by a dedicated load-sensing pump. Combined with a flowmeter the spraying system is flow-controlled that is much more accurate then conventional pressure controlled systems.

AGCO SISU POWER – clean, efficient, reliable

With a choice of three engines to meet the differing demands of users, the RoGator 600 Series makes the most of industry-leading power unit technology for year round reliability and optimum performance.

The RoGator 635 uses a 4-cylinder engine which generates 175 hp max, while the 645 and 655 have larger, 6-cylinder units that deliver 210 hp and 243 hp max respectively. In each case, the engine is mid-mounted on the right hand side of the machine for optimum weight distribution, giving a lower centre of gravity and easy access for maintenance.

These engines all meet the Stage 3A emissions regulations and feature four valves per cylinder, a turbodiesel intercooler and Bosch common rail diesel injection. Additional benefits include the SisuTronic intelligent engine management system and full Can-bus engine control.

So, what do all these features mean for the user? Most noticeable is that the perfect power curve for the machine has been calculated, followed by the electronic engine transmission communication - thanks to Power Management - for optimum engine performance. A highly efficient combustion process results in minimal fuel consumption and an instantaneous engine response on ignition. Other advantages of AGCO SISU POWER engines include low noise levels in the cab, with reduced engine rpm drive modes, and extended service intervals.

Rugged hydrostar CVT transmission and driveline

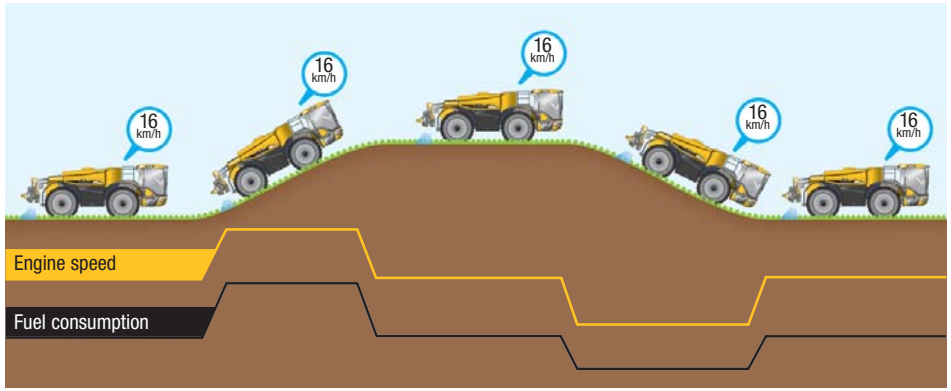
Robust, hydrostatically-driven wheel motors, specifically developed for agricultural applications, power the new RoGators. Continuously variable, with no ranges, they are capable of maximum travel speeds of up to 40 km/h at a reduced engine rpm of 1600.

The new RoGator is also equipped with a traction control system through individually-driven variable wheel motors. An integrated Electronic Stability Program (ESP) function ensures maximum safety and stability of the machine at transport speeds.

Sensitive, but powerful wet disc brakes perform superbly in combination with the intelligent, dynamic brake management system. This optimises the relationship between mechanical and hydrostatic stopping power on the brake pedal without the risk of engine rpm overload.

In addition to the feature of active wheel-slip regulation, Power Management ensures that the optimum engine rpm is matched precisely to the desired travelling speed. This means that maximum traction is maintained across the full speed range and on each individual wheel.

The machine can be driven in several modes - using the brake pedal, lever control or by means of two cruise control settings.

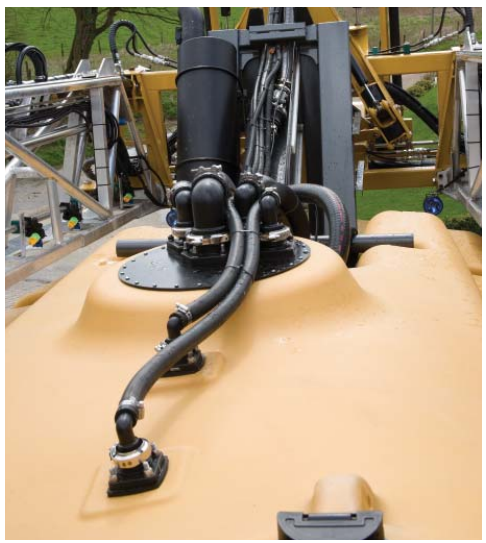


A new tank concept

Much time and effort has been devoted to the design of the new RoGator tanks to ensure even weight distribution around the vehicle and a completely smooth, obstruction-free lining for high-speed, but thorough cleaning through the five nozzles.

The tank is constructed using extremely durable, 12 mm high density lightweight polythene, with thicker dimensions on corners and angles. It has a single, 600 mm inspection/filling hatch, 500-litre clean water tank, emergency manual drain and electronic level indicator.

The design and specification minimises the risk of contamination or residue and facilitates fast mixing for homogenous product applications.



Safe, speedy filling

Getting product into the tank has never been easier with the specially designed, 60-litre chemical inductor and its 200 l/min suction capacity.

Conveniently situated at the side of the machine, and with a comfortable filling height of just 80 cm, the inductor can also take in 30 kg/min of solid, soluble products. An electronic control panel ensures operator and environmental safety and can be folded in and out by means of a gas spring cylinder.

Ample storage has been built in to the new RoGator, with chemicals being stowed in a large box below the cab access steps adjacent to the hand-wash tank. An additional storage cabinet for personal protection equipment is located beneath the cab.

State-of-the-art booms

The spray booms on the new RoGator 600 Series have been designed to provide users with a range of really practical features that will improve the quality of work, reduce costs and increase the range of applications.

Available in widths from 24 m up to 36 m, these precision-built, lightweight aluminium booms, feature pneumatic section control, with re-circulation as an option. The re-circulation line doubles as a secondary feed line for higher application rates are required and serves to dampen any pressure fluctuations to ensure even pressure over the entire boom width. A rotary five-nozzle body on the boom is the standard specification.

Additional desirable options include automatic boom height correction and GPS boom section control, allowing nozzle shut-off.

Boom configurations

Width	Material	Working width	Sections
24 metres	Aluminium	12/24	7

Width	Material	Working width	Sections
24 metres	Aluminium	18/24	8

Width	Material	Working width	Sections
27 metres	Aluminium	18/27	9

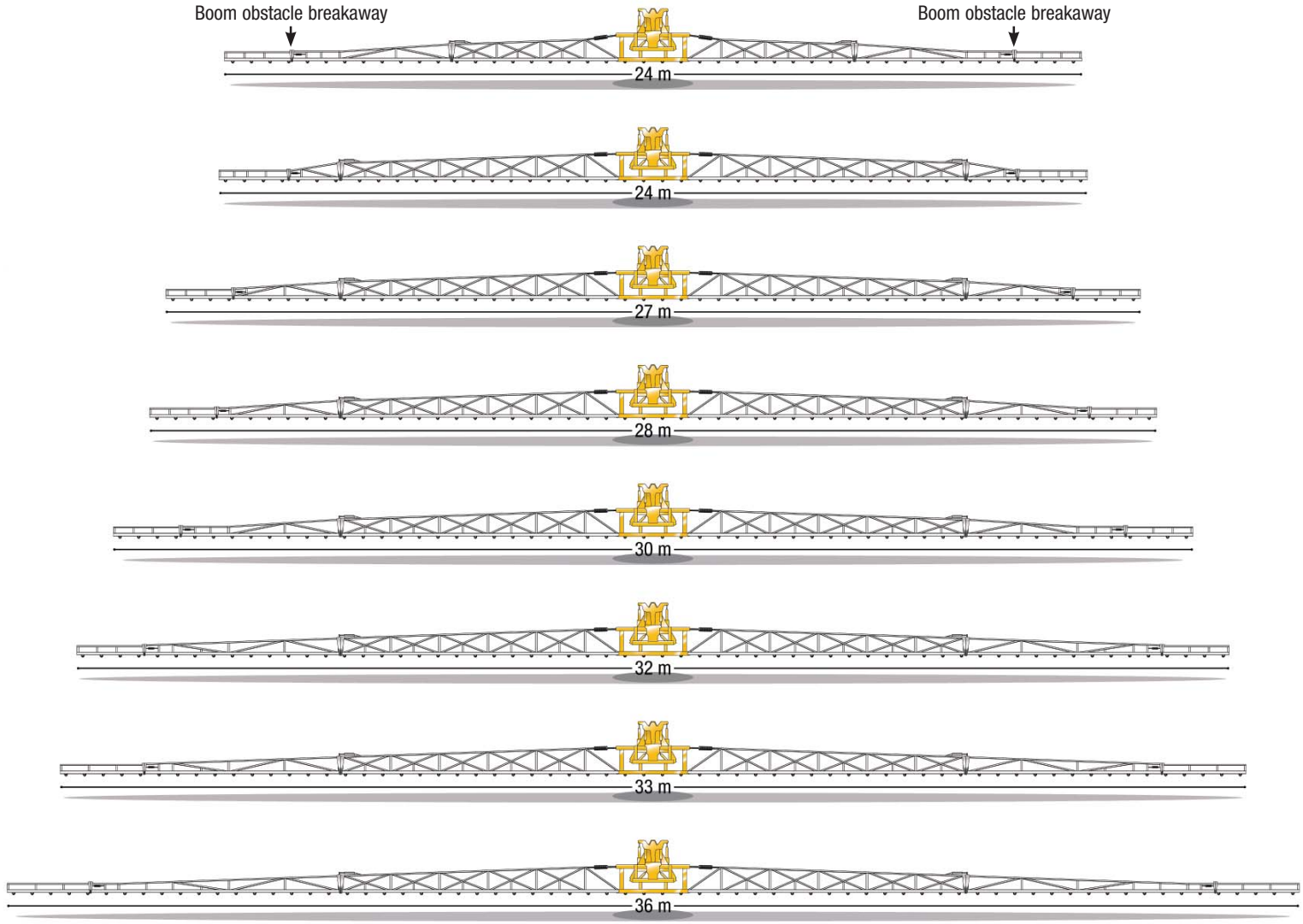
Width	Material	Working width	Sections
28 metres	Aluminium	18/28	10

Width	Material	Working width	Sections
30 metres	Aluminium	18/30	10

Width	Material	Working width	Sections
32 metres	Aluminium	18/32	10

Width	Material	Working width	Sections
33 metres	Aluminium	18/33	10

Width	Material	Working width	Sections
36 metres	Aluminium	18/36	10



Challenger after sales service

In addition to bringing new thinking to machines, Challenger brings a whole new concept to sales and service through AGCO dealers. It may be our biggest difference and our greatest strength. It may be the reason your operation could become more profitable with Challenger equipment.

We're already creating Challenger loyalists - because every Challenger machine is backed by premium quality support. AGCO dealers are second to none in on-location service, with more mobile service trucks loaded with more diagnostic equipment than most repair shops, and better-trained technicians who work as hard at preventing problems as they do at repairing them. Combine it all with our 24-hour a day parts network and you have the absolute gold standard in service. It's all at work, ready to maximise your productivity and uptime.

AGCO dealers have a rock-solid commitment to agriculture and have underlined their confidence in the Challenger product by putting their name behind the sales force and service network. Challenger Factory Engineering and Service support ensures maximum support for dealers in the field, providing continuous improvements for maximum machine performance.

Specifications

	RoGator 635	RoGator 645	RoGator 655
Engine	AGCO SISU POWER 4.9 ltr, 4-cyl	AGCO SISU POWER 7.4 ltr, 6-cyl	AGCO SISU POWER 7.4 ltr, 6-cyl
Rated Engine Power @ 2200 rpm	170 hp	208 hp	227 hp
	125 kW	153 kW	167 kW
Max Power @ 2000 rpm	175 hp	210 hp	243 hp
	129 kW	155 kW	174 kW
Drive System		Electronically controlled hydrostatic 4-wheel drive	
Transport Speed	40 km/hr @ 1800 rpm or 50 km/hr @ 2000 rpm	40 km/hr @1800 rpm or 50 km/hr @ 2000 rpm	40 km/hr @ 1800 rpm or 50 km/hr @ 2000 rpm
Tank size	3500 litres	3500/ 4800 litres	3500/4800/ 6000 litres
Clean water tank	500 litres	500 litres	500 litres
Boom width	24-36 m	24-36 m	24-36 m
Spray Pump	Centrifugal spray pump	Centrifugal spraying pump	Centrifugal spraying pump
Adjustable track width	1.80m - 2.25 m	1.80m - 2.25 m	1.80m - 2.25 m
Steering	4-wheel steering	4-wheel steering	4-wheel steering
Options	Suitable for 12t trailer*	Suitable for 12t trailer*	Suitable for 16t trailer*
	Auto-Guide™ available	Auto-Guide™ available	Auto-Guide™ available
	AGCOMMAND® available	AGCOMMAND® available	AGCOMMAND® available

* Where local legislation permits

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Every effort has been made to ensure that the information contained in this publication is as accurate and current as possible. However, inaccuracies, errors or omissions may occur and details of the specifications may be changed at any time without notice. Therefore, all specifications should be confirmed with your Challenger Dealer or Distributor prior to any purchase.

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