

# Frutteto 5/V ACTIVE DRIVE







#### FRUTTETO S/V ACTIVEDRIVE:

PREVIOUSLY UNIMAGINABLE
LEVELS OF COMFORT,
MANOEUVRABILITY AND
EFFICIENCY IN A SPECIALISED
MACHINE, ARE MADE POSSIBLE
BY INNOVATIVE INDEPENDENT
FRONT SUSPENSION.

Frutteto S/V ActiveDrive tractors are specialised machines conceived and developed specifically for the fruit orchard and vineyard, which cater for the unique needs of working in restricted spaces.

Offered with a soundproofed, air conditioned cab or as specific platform versions for different rear wheel diameters, and a choice of specification variants (LS with mechanical reverse shuttle and GS with hydraulic reverse shuttle), Frutteto S/V ActiveDrive tractors let the professional define the ideal configuration for superior productivity in the fruit orchard or

vineyard. The S versions (for fruit orchards with narrow rows) and V versions (for vineyards) embody the ultimate specialisation in an agricultural tractor, while the innovative and exclusive independent front suspension system adds further to the impressive specialist capabilities of these machines.

### **BEST OF SPECIALIZED 2016**

SAME Frutteto S ActiveDrive was awarded the "Best of Specialized" prize in the Tractor of the Year 2016 awards.



This prize, awarded each year by a panel of 23 journalists from Europe's most important agricultural machinery publications.





# THE NEW INDEPENDENT FRONT SUSPENSION SYSTEM

The established leader in the specialised application sector and boasting a long tradition of innovation, SAME has now extended its range with the Frutteto S/V ActiveDrive family of tractors with independent quadrilateral front suspension.

This geometry allows the two front wheels to travel vertically independently of each other, while allowing a low front hood profile and without compromising the compact dimensions of the tractor. It also improves weight distribution which, together with the lower centre of gravity, contributes to maximising grip and traction. Independent suspension arms are connected to the front axle carrier with an all-new linkage geometry. This is sustained by a pair of hydraulic cylinders equipped with a position sensor, 3 accumulators and electronic speed and steering angle sensors, making

the capabilities of this new system are truly formidable. As a result, these are the first specialised tractors ever to offer levels of driver comfort and stability which, until now, were the sole domain of much more costly, high power output models. The independent front suspension system uses hydraulic oil, which allows the damping action of the entire system to be continuously varied.

All the elements of the front suspension are managed precisely by an advanced electronic control system to keep the machine ideally levelled in all conditions.



The particularly compact dimensions of the suspension system combined with the extremely narrow forms of the axle carrier have made it possible to achieve an impressive steering angle of 53°. The geometry of the suspension allows for very tight turning circles, maximising agility and manoeuvrability even in the narrowest spaces and with limited headland area. The suspension geometry also keeps the front wheels vertical throughout the entire movement of the suspension, for constant grip in all conditions.



## ANTI-DIVE AND ANTI-ROLL FUNCTIONS

With advanced electronics and innovative control software, Frutteto S/V ActiveDrive tractors also boast Anti-dive and Anti-roll functions. Anti-dive improves stability and safety under braking by countering sudden front suspension compression and the subsequent shift in load towards the front axle, while Anti-roll automatically adjusts

the movement speed of the system in relation to steering angle and ground speed to maximise stability and traction both in the field and on the road. The Anti-Roll system uses the inner and outer cylinders to generate system pressure to counter the rolling motion of the tractor, increasing stability and active safety.



# MORE SAFETY, MORE COMFORT

The independent front suspension geometry of Frutteto S/V ActiveDrive tractors drastically reduces vibration transmitted to the driver.

The permanently active self-levelling function optimises suspension comfort at all times by keeping the cylinders as close to their mid-stroke positions as possible, maximising available suspension travel in all operating conditions

The damping control system, however, is selectable directly by the driver with a button in the cab.

When damping control is off, the damping level (or suspension pressure) is fixed at a predefined value; when the control function is on, suspension pressure is adjusted continuously in response to working conditions (adaptive damping), increasing driver comfort.

The advanced features used in Frutteto S/V ActiveDrive tractors offer the best

levels of safety, traction, stability and steering precision available on the market today - even in the most challenging work conditions.

With a low centre of gravity and ideal weight distribution over the front and rear axles, maximum traction is available even in the most difficult terrain conditions. The Auto 4WD function means that the driver no longer has to engage and disengage front wheel drive manually: as all-wheel drive is controlled completely automatically in relation to ground speed and steering angle. The front differential lock is also controlled automatically: the system uses two speed sensors on the front wheels to progressively engage and disengage the differential lock, saving the driver from having to perform

tiresome repetitive operations to maximise comfort and productivity. Last but not least, the traction control system ensures sure-footed traction even in varying ground conditions by controlling the front differential lock proportionally. Due to their narrow, tapered structure, the profile of the hood, the axle with independent suspension and intelligently laid out systems, Frutteto S/V ActiveDrive tractors boast a minimum turning radius of just 3.0 m. On top of all this, a dedicated gear pump for the hydraulic steering system ensures outstanding manoeuvrability and precise, responsive steering at all times, even in the most challenging conditions.





#### **3 OR 4 CYLINDER ENGINES**

Providing the power for Frutteto S/V ActiveDrive tractors are 1000 Series engines, with turbocharger and air-air intercooler, and compliant with Stage 3A emissions regulations.

These modular design engines, with a unitary cylinder capacity of 1000 cm³, produce 82 and 90 HP in the 3 cylinder configuration and 85, 96 and 106 HP in the 4 cylinder configuration. This wide choice of variants allow the customer to choose the ideal model for their needs, with compact 3 cylinder versions for greater agility or 4 cylinder models predominately for maximum draft force.

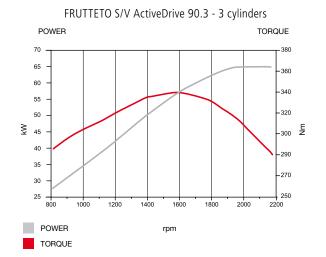
Of all the different cylinder/displacement configurations offered in the specialised tractor sector, with multiple, small displacement cylinders on the one hand, for a more compact but less powerful engine,

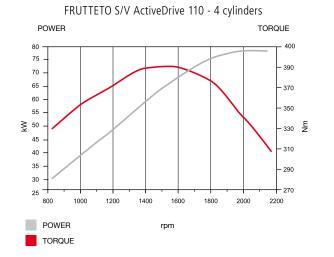
and conventional engines on the other, with fewer, larger displacement cylinders - which are more powerful but too bulky for specialist applications - a unitary cylinder capacity of one litre strikes the most effective balance. The intercooler equipping Frutteto S/V ActiveDrive tractors cools air pressurised by the turbocharger and makes it more dense, making it possible to feed more oxygen into the cylinders and significantly increase combustion efficiency.

The result is a substantial increase in power, reduced fuel consumption and lower engine operating temperatures. The exclusive injection system with an individual injection

pump for each cylinder is a unique feature in this market sector, and is more reliable and advanced than more commonly used rotary pumps. The extremely high operating pressures of the system make much shorter injection times possible (managed by an electronic governor in response to engine load), optimising both performance and consumption.

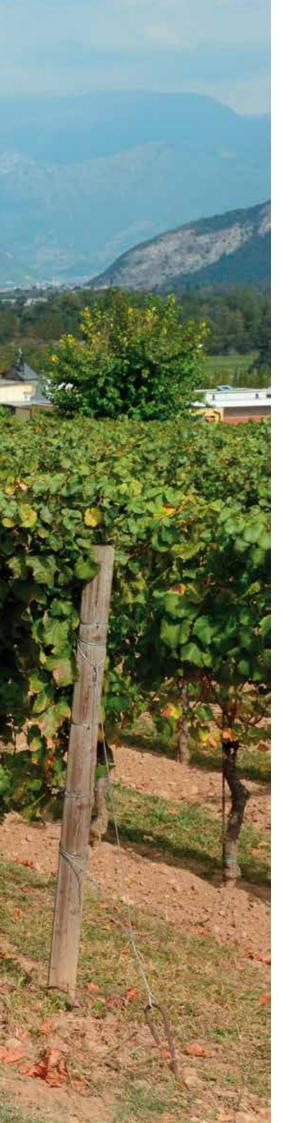
The driver can also set and store a specific engine speed, which the engine control unit then maintains at a constant value to ensure consistent working results.











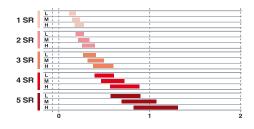
# THE MOST EFFECTIVE TRANSMISSION OPTIONS FOR WORKING BETWEEN ROWS

The transmissions equipping Frutteto S/V ActiveDrive tractors draw from the extensive experience gained by the SAME group in developing specific versions for specialised applications, to create transmissions responding to the increasingly demanding needs of modern agriculture. Outstanding versatility and efficiency are the two greatest strengths of these transmissions: with 3 ranges (with supercreeper gear), a 5 speed gearbox and 3 powershift ratios offering total of 45 different speeds available in both directions. As an alternative, a mechanical transmission with 30+15 speeds is also available. Versions with Powershift allows the driver to shift gears effortlessly by simply pressing the clutch button (ComfortClutch) situated ergonomically on top of the gear lever, without having to use the clutch pedal.

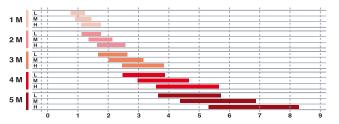
But that's not all. For even more transmission efficiency, these tractors may be equipped with the Overspeed gearbox, with specifically spaced higher ratios to let the driver either choose maximum economy, with a speed of 40 km/h attainable at engine economy speed (regardless of tyre size) in top gear, or maximum performance, by shifting down to the next ratio below top gear. For road transport usage, lower engine speeds reduce fuel consumption, while still offering the advantage of generous torque back-up. This also reduces noise, which in turn benefits driver comfort. 4WD and electrohydraulically operated 100% lockable front and rear differential locks ensure good performance and traction in all conditions.

#### Ground speed in km/h

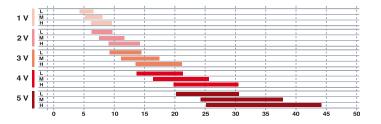
Creeper range



Low range



High range







#### **ELECTROHYDRAULIC REVERSE SHUTTLE**

# AND Stop&Go SYSTEM

GS versions are equipped with a hydraulic PowerShuttle with two long life multiplate wet clutches (for extended durability and superior reliability) and managed by a reverse shuttle controller unit allowing directional manoeuvres with no interruption in drive power. This feature ensures unparalleled safety even when manoeuvring on gradients, protecting the mechanical components involved against damage.

The ergonomic and easy to use control lever located under the steering wheel has a neutral position and an interlock function for working in total safety. The steering wheel-shuttle

lever assembly is also height adjustable, to let the driver easily find a comfortable working position.

In addition to the hydraulic reverse shuttle, the transmission may also be equipped with the Stop&Go function, which increases the potential of the reverse shuttle itself, especially in situations when it is necessary to hold the tractor stationary, such as when hitching implements or starting on an uphill gradient. This function lets the driver control the tractor precisely simply from the brake pedals and without having to use the clutch.

When the driver presses the brake pedals, the

tractor stops and the Stop&Go function waits for the directional change request or for the driver to set off again. Shuttle manoeuvres are enabled when the driver lifts his or her foot from the brake pedal, and drive in the desired direction is progressively restored by the two hydraulic clutches (one for forward drive and one for reverse). In addition to improving safety, reliability and driver comfort, this system is also extremely helpful when manoeuvring, especially in tight spaces.







## HIGH PERFORMANCE, MODULAR HYDRAULICS

Specialised crop farming often entails the use of hydraulic implements with very high oil flow demands. This means that having a high performance hydraulic system, with superior flexibility in terms of the number and location of auxiliary valve couplings, is crucial. The hydraulic system equipping Frutteto S/V ActiveDrive tractors has a dual tandem pump with a flow rate of 33 + 25 l/min. A wide variety of configurations is available for the hydraulic couplers: with up to 3 mechanical valves at the rear with flow regulator (for a total of 6 couplers), plus

the option of two mid-mounted valves for front implement operation with one valve available with float mode. The centre of the tractor may be equipped with 4 mid-mounted couplers connected into the pipelines of rear couplers, or 6 additional couplers (2 electrohydraulic controlled valves plus one duplicate valve) with separate flow control, controlled from the joystick on the right hand console.



# PRECISION, RELIABLE AND PRECISE LIFTING

The unique lift linkage arm and tie-rod geometry ensures the rear lift of these tractors are undaunted by even the most challenging task, with a maximum lift capacity of 2600 kg. The mechanical lift is efficient, simple to use and offers precision linkage control. However, an electronically controlled hitch offers an even higher-tech option.

External hitch controls on the rear mudguards makes coupling implements safe and simple. A dedicated front hitch with a maximum

capacity of 1500 kg with a 1000 rpm front PTO is also available for working with front mounted implements: an option which further extends the capabilities of Frutteto S/V ActiveDrive tractors to include tasks with both front and rear implements.



# VERSATILE PTO

The extraordinary versatility of Frutteto S/V ActiveDrive tractors also extends to the choice of PTO configurations (all with multiplate wet clutches), with 4 different speeds available (540/540ECO/1000 and ground speed PTO). This makes it possible to work effectively with power-hungry pneumatic atomisers, and effectively with implements such as side shoot remover machines and small inter-row mowers. A ground speed PTO is available for

transport applications on gradients. This is particularly ideal for connecting to driven wheel trailers, but also for using manure spreaders. The PTO clutch is engaged and disengaged electrohydraulically from a button, ensuring progressive, shock-free activation of implements. The effective PTO output shaft speed is indicated digitally on the instrument cluster.

### TRUE ALL-WHEEL BRAKING. FOR TOTAL SAFETY

New brake system. Front wet disc brakes integrated in the front axle work in conjunction with the tried and tested wet disc brakes on

the rear axle to increase braking performance, brake durability and safety.













## AN ERGONOMIC AND COMFORTABLE WORKING ENVIRONMENT

The cabs of Frutteto S/V ActiveDrive tractors offer one of the best operating environments on the market in terms of comfort, ergonomics, functionality and design, to make the job more pleasant and profitable. The 4-post structure with single piece windscreen offers unobstructed allround visibility. New sound insulating and sound absorbent panels (also in the under hood area), special glass and a host of other technical features (such as viscostatic drive for the cooling fan) ensure excellent levels of acoustic comfort in the cab. The controls are colour-coded for instinctive use and immediate recognition. The roof and engine hood feature a tapered design

with rounded corners to prevent the risk of tangling with branches or overhanging shoots and damaging the plants. The cab is equipped with a powerful air conditioning system which now includes a new condenser to further improve performance, while the optimised layout of the numerous directional vents in the cab ensures a uniform and effective distribution of treated air in the cab. Everything the driver needs to make life on board more comfortable, and ensure an ergonomically comfortable driving position.



#### THE WATCHWORDS:

## QUICK, SIMPLE MAINTENANCE, SUPERIOR PERFORMANCE AND LOW FUEL CONSUMPTION IN ALL CONDITIONS

All engine ancillaries (radiators, fans, hoses, filters etc.) are specifically designed to keep the engine as compact as possible, but also to allow regular maintenance and repairs. The compact radiator pack is quick and easy to clean, even in the field. The air filter is situated in a dedicated, moulded compartment within the fuel tank structure, and includes a dust ejector which significantly extends maintenance intervals.

A hydraulic oil radiator is fitted as standard to keep the oil at the ideal operating temperature even in the most demanding working conditions and in the hottest climates. Other ancillaries in the under hood area are engine oil filters, a fuel pre-filter with water separator and an effective exhaust silencer, available with either a horizontal or a vertical tailpipe. Even before you access the engine, it is clear that everything is designed for simple maintenance, from the single-piece rear-hinged hood, which also features a lift mechanism for effortless opening.

This makes it extremely simple to access the

engine compartment and quickly check coolant and brake fluid levels or clean the engine air filters and radiators. What's more, the engine oil level can be checked without even opening the hood, while the cab air filters are easily accessible without tools to encourage regular cleaning.

FRUTTETO S/V ActiveDrive		80	90.3	90	100	110
ENGINE						
Emissions		Tier3	Tier3	Tier3	Tier3	Tier3
Manufacturer		SDF	SDF	SDF	SDF	SDF
Cylinders/Displacement	No./cm³	3/3000	3/3000	4/4000	4/4000	4/4000
Intake	1101/2111	Turbo Intercooler	Turbo Intercooler	Turbo Intercooler	Turbo Intercooler	Turbo Intercool
	kW/HP	60/82	66/90	63/85	71/96	78/106
Max. power (2000/25/EC) at 2200 rpm						
Max. torque @ 1600 rpm	Nm	310	340	345	373	390
Electronic engine control		•	•	•	•	•
Fuel tank capacity	litres	31 + 30	31 + 30	31 + 30	31 + 30	31 + 30
SHUTTLE						
Mechanical Synchronised Shuttle		•	•	•	•	•
Hydraulic PowerShuttle with Stop&Go system		•	•	•	•	•
MECHANICAL TRANSMISSION						
5 speed gearbox			•		•	
Number of speeds with underdrive and supercreeper gear	No.	30 + 15	30 + 15	30 + 15	30 + 15	30 + 15
	INO.	30 + 13	30 + 13	30 + 13	30 + 13	30 + 13
POWERSHIFT TRANSMISSION						
5 speed gearbox		•	•	•	•	•
Number of speeds with underdrive and supercreeper gear	No.	45 + 45	45 + 45	45 + 45	45 + 45	45 + 45
Powershift number of speeds	No.	3	3	3	3	3
REAR PTO						
Electrohydraulically engaged					•	•
		•	•	•	•	
PTO 540/540ECO		-	-	-	-	
PTO 540/540ECO/1000		0	0	0	0	0
Ground speed PTO		0	0	0	0	0
FRONT PTO						
Electrohydraulically engaged		•	•	•	•	•
PTO 1000		0	0	0	0	0
FRONT AND REAR AXLE						
Four wheel drive electrohydraulically engaged		•	•			
					-	
Electrohydraulically engaged differential lock		•	•	•	•	•
BRAKES AND STEERING						
Parking brake independent		•	•	•	•	•
Trailer braking hydraulic		•	•	•	•	•
Hydrostatic steering with independent pump		•	•	•	•	•
HITCH						
Mechanical rear hitch		•			•	•
Electronic rear hitch						
		0	0	0	0	0
Rear lift capacity	kg	2600	2600	2600	2600	2600
Front hitch		0	0	0	0	0
Front lift capacity	kg	1500	1500	1500	1500	1500
HYDRAULIC SYSTEM						
Hydraulic system with dual pump	l/min	33 + 25	33 + 25	33 + 25	33 + 25	33 + 25
· · · · · · · · · · · · · · · · · · ·	No. of					
Rear auxiliary valve valves	couplers	6	6	6	6	6
PLATFORM						
Suspended on Silent-Block mounts		•	•	•	•	•
ROPS folding		•	•	•	•	•
CAB						
Suspended on Silent-Block mounts						
Ventilation and heating		•	•	•	•	•
Air conditioning		0	0	0	0	0
DIMENSIONS AND WEIGHTS						
Standard rear tyres		360/70R24	360/70R24	380/70R24	420/70R24	420/70R24
Max. length without rear linkage	mm	3186	3186	3338	3363	3363
Width (min./max.)	mm	1314 / 1813	1314 / 1813	1391 / 1873	1461 / 1911	1461 / 1911
Max height at ROPS		2228	2228	2380	2405	2405
	mm					
Height at hood	mm	1296	1296	1318	1343	1343
Height at steering wheel	mm	1306	1306	1328	1353	1353
Height at mudguards	mm	1161	1161	1183	1323	1323
Cab height	mm	2303	2303	2325	2,350	2,350
Ground clearance	mm	234	234	252	260	260
Wheelbase	mm	2027	2027	2157	2157	2157
Front track (min./max.)	mm	985 / 1270	985 / 1270	1034 / 1270	1088 / 1324	1088 / 1324
Rear track (min./max.)	mm	982 / 1489	982 / 1489	992 / 1489	1022 / 1520	1022 / 1520
Minimum turning circle without brakes	mm	3400	3400	3500	3600	3600
			2227 / 2542	2437 / 2750	2427 / 2750	2437 / 2750
Weight with ROPS (min/max)	kg	2297 / 2610	2297 / 2610	243//2/30	2437 / 2750	243//2/30

Area dealers

