JUMP IN THE SKY

SKY JUMP

BCS GROUP

SKY JUMP

AIMING HIGH WITH BOTH FEET ON THE GROUND

Sky Jump takes its name from the deck of state-of-the-art aircraft carriers, no longer flat as in the past, but curved at the end in order to launch the aircraft “into the heavens” during take-off. Thanks to the outstanding climbing capacity of the Sky Jump tractor, the driver “sees the heavens”, the same way as the fighter pilots who take off from the “sky jump” deck of aircraft carriers.

THE REVOLUTIONARY IDEA

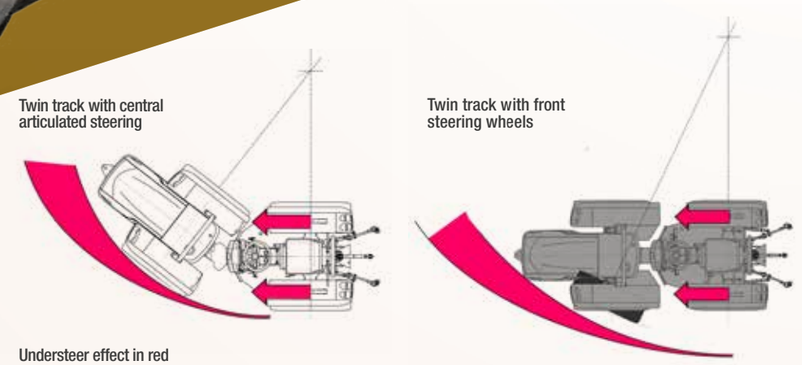
We've been looking into the best solution for equipping our specialist tractors with tracks since 2005, so that they can occupy the market sector reserved for classic tracked tractors.

HOW AN INNOVATIVE PRODUCT IS BORN
THE INITIAL DESIGNS: PROBLEMS AND CRITICAL ISSUES

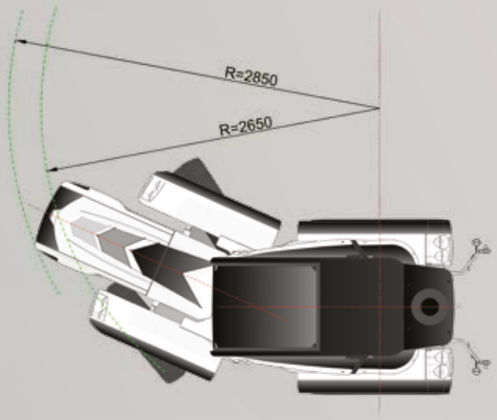
The first study involved an articulated isodiametric tractor with four rubber tracks to replace the wheels, a solution which was then shelved because of serious shortcomings, above all in use on steep slopes in espalier vineyards arranged transversely with respect to the sloping ground. In these conditions, the machine was able to highlight dangerous stability issues with a serious risk of overturning when, in headland, it needed to steer downhill while it exited a row to enter the one below. Irregular wear was also observed between the rubber of the rack and the guide rollers positioned within the track itself, an issue caused by the high grip of the track on the ground during steering, causing a braking effect with great friction that was able to weaken the tracks. The premature wear of the tracks, above all at the front, was able to reduce their life and expose them to dangerous risk of slipping. All of this adversely affected the safety of the tractor with distinct increases in costs for maintenance and downtime.

THE TWIN REAR TRACK SOLUTION

The four-track solution was therefore rejected in favour of the alternative with twin rear rubber track, front wheels with tyres and central articulated steering system or front steering wheels. However, both these solutions to the track wear problem had the disadvantage of excessive understeer due to the great traction of the tracked rear axle, with distinct limitations in steering and turning radiuses that were out of the question.



THE PERFECT RESULT

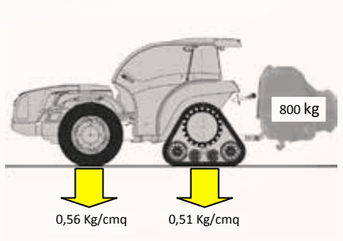


Sky Jump twin track with Dualsteer steering system

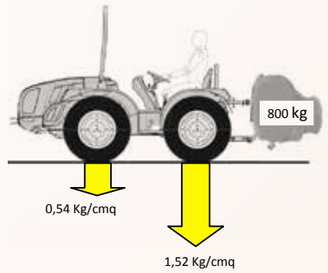
The solution was to adopt our own exclusive “Dualsteer” steering system, which permits the negative impact of the understeer to be countered and a very limited turning circle to be guaranteed, thus lending the Sky Jump general manoeuvrability and stability characteristics that are extremely favourable, in vineyards with very steep slopes in particular.

WINNING CHARACTERISTICS

The Sky Jump tracked vehicle has a traction capacity which, depending on the terrain, can exceed that of its siblings with tyres, SDT, AR or RS from the BCS Group, by 60%. Used on steep slopes, it also has a greater lateral stability that allows it to travel through espalier rows, generally sloping downwards, perfectly maintaining the set trajectory, even when carrying lifted implements. The soil compaction, noticeably lower than that of a tractor with tyres, allows the Sky Jump to be used even on wet soil, guaranteeing maximum traction and minimising damage to the ground between rows. Thanks to the special rubber tracks, it can travel at 40 km/h by road without damaging the asphalt and with greater stability than its siblings with tyres. Equipped with “Dualsteer” steering, it is highly manoeuvrable, approaching its sibling with tyres and capable of a 60° steering angle with extremely limited turning radiuses.



Sky Jump



Isodiametric vehicles with tyres

WINNER NEW TECHNOLOGY INNOVATION CHALLENGE

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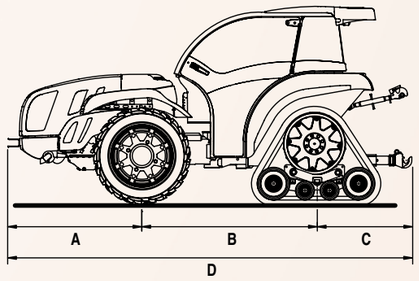
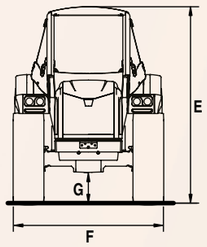
TECHNICAL FEATURES SKY JUMP

TECNICAL FEATURES	SKY JUMP V950 DUALSTEER®	SKY JUMP K105 DUALSTEER®
CHASSIS	Swinging integral chassis OS-FRAME with central articulation and steering wheels	
DRIVE	Four-wheel drive. Front-wheel drive disengagement with electro-hydraulic control	
ENGINE	VM D754 IE3	KUBOTA V3800 CR-TE4
Number of cylinders	4	4
Displacement (cm^3)	2970	3769
Suction	Turbo Intercooler	Turbo
Emission level	Tier 3A	Tier 3B
Balancing	With counter-rotating balancing weights	
Power (kW/HP)	67 / 91	72,1 / 98
Nominal speed (rpm)	2300	2400
Torque max (Nm/rpm)	420 / 1000	330 / 1500
Cooling	Water	
Tank capacity (lt)	70 lt (version with roll-bar) - 54 lt (version with cabin)	
TRANSMISSION	Synchronized gearbox: 32 speeds (16 FWD and 16 REV) with synchronized reverser	
Transmission clutch	Multidisc in oil bath with hydraulic control and PRO-ACT System	Multidisc in oil bath with electronically-managed hydraulic control and PRO-ACT System
DIFFERENTIAL	Front and rear. Differential lock: front and rear simultaneously or only rear with electro-hydraulic control	
AXLES	Front with epicyclic reduction units and rear with cascade reduction units	
REAR PTO	Independent from the gearbox and synchronized with forwarding speed. Engageable under load with brake in disengaged position	
PTO clutch	Multidisc in oil bath with electro-hydraulic control	
PTO rotation speed (rpm)	Standard: 540/540E - Optional: 540/1000	
HYDRAULIC SYSTEM	Double circuit with independent pumps and heat exchanger	
Flow rate to the hydroguide and the electro-hydraulic controls (lt/min)	31	33
Flow rate to the lift and the control valves (lt/min)	31 (optional oversized pump with flow rate 49 lt/min)	30 (optional oversized pump with flow rate 49 lt/min)
Maximum hydraulic pressure (bar)	180	
REAR CONTROL VALVES	Mechanical control	
Standard	2 double acting	
Optional and in addition to the standard ones	1 single acting and 1 double acting or 1 double acting and 1 double acting with float	
Joystick (optional)	With electronic control of the control valves consisting of: 1 single acting with adjustable flow and free return, 1 single acting with free return, 3 double acting (replacing the standard ones) and oversized pump 49 lt/min	
FRONT CONTROL VALVES (only with joystick)	n.a.	4 double acting with E-Plug System
ELECTRIC SYSTEM	Battery 100 Ah - Alternator 70 A	Battery 100 Ah - Alternator 95 A
REAR LIFT	Standard: by two external rams - Optional: position and draft control	
Three-point hitches	Standard: standard couplers cat. 1 and 2. Optional: quick couplings cat. 1 and 2, arms with non-adjustable length or quick couplings, L-shaped, cat. 1 and 2, arms with adjustable length and hooks with adjustable width	
Three-point tie bar	Standard: with manual adjustment - Optional: hydraulically controlled upper link and tie rod link arm	
Lifting capacity (kg)	2700	
FRONT LIFT (optional)	With front protection and 2 double acting control valves with free return	
Three-point hitches	Rigid with quick couplings cat. 1	
Lifting capacity (kg)	800	
DRIVING PLATFORM	Monodirectional with platform suspended on silent block. Suspended brakes and clutch pedals mounted on control column	
Steering wheel	Fixed	With adjustable inclination
Seat with safety belt	Standard: comfortable sprung seat, adjustable according to the driver’s weight - Optional: “Kab Seating” or pneumatic seat	
SERVICE BRAKES	Multidisc in oil bath with hydrostatic control, acting on the four wheels	
Parking brake	Automatic and independent BRAKE-OFF	
STEERING	Double steering system DUALSTEER® with 4-cylinders. Hydrostatic steering acting on front wheels and central articulation	
COMPACT CABIN	Homologated with monocoque body fitted on silent-block, flashing light and fabric covered seat. Safety cell integrated in the structure, instrument panel and air ducts (car type). Air conditioning system	Pressurised and homologated cat. 4. Sound-proof with monocoque body fitted on silent-block, flashing light and fabric covered seat. Safety cell integrated in the structure, instrument panel and air ducts (car type). Air conditioning system
INSTRUMENT PANEL	With digital display complete with: tachograph/rate gyro, water thermometer, warning light for oil pressure and acoustic alarm, simultaneous reading of engine r.p.m., forwarding speed and PTO rotation speed	With digital display complete with: tachograph/rate gyro, water thermometer, warning light for oil pressure and acoustic alarm, simultaneous reading of engine r.p.m., forwarding speed and PTO rotation speed
FRONT TYRES	280 / 70R20	
REAR RUBBER TRACKS	Width 305 mm, length 1223 mm	
TOW HOOKS (standard)	Rear CUNA and front	
Optional	Rear tow hook: EC approved or EC approved (Slider type) or CUNA (Slider type)	
WEIGHT in order of speed		
With roll-bar (kg)	2775	2925
With cabin (kg)	2850	2988
OPTIONAL	Front bumper, Flash light kit, Front weight, Weights for front wheels, Self Cleaning System, Oil filter protection kit, Muffler protection kit, Cyclone prefilter with external air intake, Steering wheel with adjustable inclination, Active carbon filter for cabin	Front bumper, Flash light kit, Front plate for implements connection, Active carbon filter for pressurised cabin, Front weight





Sky Jump Dualsteer with cabin

mm	A	B	C	D	E	F	G
V950	1260	1607	850	3717	1850	1350	225
K105	1348	1607	850	3805	1850	1350	225

THE SERVICES

SPARE PARTS
A complete range of original spare parts, guaranteed directly by the manufacturer.

ASSISTANCE
A team of specialists, well prepared and available to assure an efficient and resolving service.

WARRANTY
A precise certainty for the customer's satisfaction: 2-year warranty included in the price.

LUBRICANTS
BCS recommends to use the original PowerLube lubricants.

MADE IN ITALY

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