



AR SERIES PLANNING EACH SITUATION



In order to be successful, a great project must include the greatest number of possible solutions: so for the **VOLCAN series** we created the **version with central articulation AR**, designed for the various needs that our customers motivate us to satisfy every day.

Performance, dimensions, manoeuvrability, comfort and safety are the qualities our technicians gave emphasis to in order to create this project, what really makes **the difference between a specialised BCS tractor and a regular tractor.**





VOLCAN AR

reversible isodiametric tractors, with central articulation

The **VOLCAN AR** is the version that BCS designed for use in narrow spaces: row cultivations, nurseries and greenhouses.

The structure of the machine together with its maneuverability makes **VOLCAN AR** extremely suitable for the greens maintenance and municipalities.

Maneuverability and reliability are the best qualities of these performing and versatile machines, thanks to their reversible driving position. Designed and built for heavy duty under maximum stress conditions, the **VOLCAN AR** have got a comfortable and practical driving position.

Ergonomics, functionality and safety are also combined in an original and exclusive manner.



We are an **international company**, one of the most successful in the field of **farm machinery** and for **greens maintenance**.

Established in 1943 and certified ISO 9001 since 1994, we distinguish ourselves by the high quality of our products and the operational capability which embraces every stage of the process: design, production and distribution.

The **BCS dealers**, an integral part of our sales network, are expert professionals who are qualified to advise and assist every customer in choosing the most suitable machine for their own needs.



We carefully attend the **quality of our after-sales services**: authorized
dealers and parts dealers, with technical
and business support, are available to anyone
who needs prompt and safe servicing.

The reasons for choosing us



At the time of purchase of a **AR SERIES** tractor, we issue a **two-year warranty** which is included in the price and also covers the engine. Because safety and satisfaction of our Customers are dear to our hearts.







SERIE AR: QUALITY CHOICES BRING YOU FARTHER

CUTTING-EDGE TECHNOLOGY

because, since we have been manufacturing them, we are continuing to redefine the rules of the specialized tractor world.

EMISSIONS AND REDUCED CONSUMPTIONS

thanks to the new technology of the cutting-edge engines.

TRANSMISSIONS

with "long-life" multidisc wet clutches and axles with epicyclical step-down gears for maximum power transmission.

MULTIDISC WET BRAKES

assuring reliability and safety.

RECORD DIMENSIONS: minimum width at 112 cm. and reduced pitch at 150 cm. only, the best in the category.

ADVANCED SYSTEMS TO IMPROVE THE RELIABILITY OF THE MACHINES: the Self-Cleaning System takes care of the cooling system.

HYDRAULIC SYSTEM WITH LARGE OIL OUTPUT to the many control valves with oversized hydraulic pumps which guarantee high pressures and maximum performance.

DRIVER'S SEAT THAT CAN BE REVERSED IN JUST A FEW SECONDS to make the machines more versatile and allow the driver to be able to easily operate both the front and rear equipment.

ACTIVE AND PASSIVE SAFETY guaranteed by the perfect weight distribution on the axles, by the low centre of mass, by the efficient braking system and by the design logic of the controls and of the driving position.

which give a sensation of wellness and safety.



Engines: performance

The reduction of fuel consumption and emissions to a minimum and the maximization of engine performance are the results of the innovative technological approach that distinguishes the propellers supplied with the **VOLCAN AR**. With the new **VM D753 and D754** the **VOLCAN AR** are equipped with an even larger and higher performance heart.

The new engines are distinguished by greater efficiency: more powerful thanks to the intercooler, cleaner and quieter thanks to the new technology in full compliance with the continually more restrictive regulations and even simpler in order to further enhance the choice of a **VOLCAN AR** tractor, able to give you fantastic response from the start.

There are three VM engines available for the AR series, dedicated to harnessing the power of each individual drop of fuel.

VOLCAN 750 VM D753 IE3 3 inline cylinder 2,2 liter Diesel turbo engine, 70 HP at 2300 r.p.m. thanks to the intercooler.

VOLCAN 850 VM D754 TE3 4 inline cylinder 3 liter Diesel turbo engine, 79 HP at 2300 r.p.m..

VOLCAN 950 VM D754 IE3 4 inline cylinder 3 liter Diesel turbo engine, 91 HP at 2300 r.p.m. thanks to the intercooler.

SERIE AR	Туре	Power (kw/hp)	No. of cylinders	Displacement	Aspiration	Cooling system
VOLCAN 750	VM D753 IE3	51,5 / 70	3	2230	Turbo Intercooler	Liquid
VOLCAN 850	VM D754 TE3	58 / 79	4	2970	Turbo	Liquid
VOLCAN 950	VM D754 IE3	67 / 91	4	2970	Turbo Intercooler	Liquid



is the heart of evolution

For these models, VM has developed the new EGR System located inside the engine. The system provides for the recycling of the exhaust gases which, properly mixed, return to the combustion chamber, drastically reducing the nitrogen oxide (NOx) emissions and fuel consumption.



The decision to use a lower number of rpms, **2300 rpm/min** was conceived to reduce consumption, noise level and vibrations, with the benefit of savings and comfort.

FEATURES:

THE TUNNEL BORE BASE allows great torsion and flexural rigidity.

ROTARY MECHANICAL INJECTION PUMPS
that make these propellers perform in all conditions, increasing reliability and lifespan.

GEAR DISTRIBUTION WITH FORCED LUBRICATION,

the maximum that you can ask for from a diesel.

- HYDRAULIC TAPPETS
 to minimize noise and eliminate maintenance.
- LOW-INERTIA TURBOCHARGERS for an immediate response when power is required.
- BALANCING SHAFTS to eliminate vibrations.





Self Cleaning System®

Heat disposal, from both the engine and the hydraulic system, is essential to enable compact and powerful tractors to perform the demanding jobs for which they are intended without any problems.

Prevention is better than treatment!

Heat disposal

Considering the primary uses for **VOLCAN AR** tractors, a special cooling system was designed to allow the engine and the entire hydraulic system to always operate with the maximum safety margin.

The engine is protected by a large radiator assisted by the patented SCS (Self Cleaning System®).

A heat exchanger stabilizes the hydraulic system temperature while a series of watertight grills on the engine hood also allows the propeller to breathe better and protects the radiator cores from clogs due to dust and debris raised by work equipment.

The system is controlled by a three function button, which activates in order:

SCS the double fan system

ECO the single intake fan with intermittent function that activates/deactivates upon reaching a certain temperature

CMF the single intake fan which functions constantly

The operator can thus select the most suitable function based on the various uses and needs.

Always clean air

The special cooling system is assisted by the patented SCS (Self Cleaning System®), characterized by two fans with combined intermittent operation: an electromagnetically controlled intake and an electric blower. The system prevents dangerous overheating of the engine and hydraulic system, keeping the radiators and ventilation grills always clean, thus preventing continuous stops in order to clean them.

Besides the **SCS (Self Cleaning System®)** function, the cooling system allows, at the operator's discretion, to adjust the radiator fans in order to activate or deactivate them according to the climatic and operational needs.





Superior quality clutch

Transmission clutch

The **LONG-LIFE clutches** designed for the **VOLCAN AR** are multiple-discs in oil bath and do not need adjusting and maintenance. Modular and progressive, they are inserted in the transmissions in order to reduce motor overhang and consequently the length of the unit. This technologically advanced solution, especially adopted on conventional, high-powered machinery, was preferred to the more economical and less reliable "dry mono-disc" one used by most of the **VOLCAN AR** series direct competitors.

PLUS

The clutch also has a **proportional hydraulic control** that perfectly modulates coupling and uncoupling, much more powerful than the traditional hydraulic controls that operate dry mechanical clutches.

Operational comfort is also ensured by the **PRO-ACT System**, a system that allows the drive to operate the clutch in a convenient and efficient manner using a parallelogram-shaped progressive action pedal with adjustable backlash.



OS-FRAME

Engine performance would be nothing if it weren't supported by the excellence of the transmissions.

The **VOLCAN AR** are provided with **OS-Frame transmissions** awarding lots of advantages:



The double-mass flywheel with long-travel torsional damper is highly capable to eliminate the engine cyclic irregularities and also to give more torque to the engine itself.



A unique transmission shaft through the central assy moves both the gearbox main clutch and the PTO independent clutch, while assuring the best mechanical output and the highest tractor maneuverability.



It is a "monolithic" structure in a single cast iron casting The joint in the middle of the machine lets the front axle oscillate up to 15° with respect to the rear axle (maximum slewing angle), stabilizing the machines on steep terrain. This assures the highest stability and constant traction, as the four wheels are always stuck on the ground.



Absolutely unique transmissions





4WD for maximum traction in total safety

The **4-wheel drive** has got an electrohydraulically controlled disengagement of the front one, which allows you to move efficiently on steep slopes as well as on uneven grounds, while improving the transfer of loads on the road. The electro-hydraulically controlled front and rear differential lock, simultaneously or rear only, assures the best traction on any type of grounds.



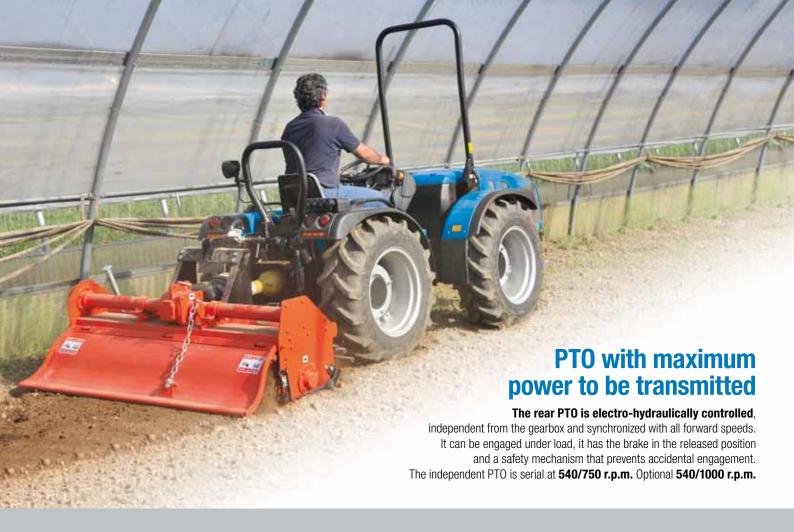
Gearboxes with the best speed range

The **new 32-speed Sincro gearboxes** of the **VOLCAN AR** with synchronized reverser and helical gears offer the best performance in drivability and comfort. The logical speed sequence, without overlapping for all ranges, allows you to always select the right gear ratio for the requested use, allowing an efficient use of the machines: fuel savings, less stress on the mechanical components, less engine fatigue and, above all, better quality of work.

Graph of the speeds in km/h with 320/70R20 tyres for VOLCAN AR tractors. Engine speed: 2300 rpm

	Revers	e		ı	Forward gear		
41,72 Km/h			IV	IV	4° [38,82 Km/h	
29,65 Km/h			IV	IV	3° [27,59 Km/h	
	25,57 Km/h	2°	IV	IV	2° [19,14 Km/h	
	14,18 Km/h	1 °	IV	IV	1° [13,19 Km/h	
	12,16 Km/h	4°	III	Ш	4°	11,31 Km/h	
	10,24 Km/h	4°	II	Ш	4° [9,53 Km/h	
	8,64 Km/h	⊿] 3°	Ш	Ш	3° [8,04 Km/h	
	7,28 Km/h	3°	П	Ш	3° [6,77 Km/h	
AN AR	5,99 Km/h	2°	Ш	Ш	2° [5,58 Km/h	
EDS	5,05 Km/h	2°	П	Ш	2° L	4,70 Km/h	
	4,13 Km/h	1 °	III	Ш	1° [3,84 Km/h	
	3,48 Km/h	/ 1°	II	Ш	1° [3,24 Km/h	
	2,68 Km/h	4°	ı	ı	4°	2,49 Km/h	
	1,90 Km/h	3°		ı	3° [1,77 Km/h	
	1,32 Km/h	2°		ı	2° [
	0,91 Km/h	10			1°	0,84 Km/h	





Enhance performance



Superior quality axles

The decision to employ axles with epicyclic reduction gears is determined by the need to keep the wheelbase of the tractor units to a minimum while increasing maneuverability, besides increasing the prestige and reliability of the machine.

In comparison to older and more economical axles with "cascading" gears used by the competition, the fundamental characteristics of epicyclical step-down gears are their nearly unlimited duration and greater transmission of power (they have three gears always engaged in comparison to only one in the more economical version).

Brakes that always rise to the occasion

The efficiency of the braking system, with **the 4 latest generation multiple disc wet brakes**, ensure completely safe braking in **VOLCAN AR** tractors. The brakes are assisted by an hydrostatic control acting as braking distributor which intervenes constantly and simultaneously on the 4 wheels when acting on the pedal.

Exclusive to this category of machines is the **independent BRAKE-OFF parking brake** that is automatically inserted when the engine is off. When the unit is operating, on the other hand, it is controlled with a practical button, electro-hydraulically controlled on the dashboard and equipped with a safety catch.





Hydraulic system: never so efficient

The hydraulic system of the **VOLCAN AR** version is a **double circuit one, but with independent pumps and dedicated heat exchanger**. The hydroguide pump has a flow rate of 31 lt/min, like the one for the attachments. As optional, an oversized pump of 49 lt/min can be also supplied. Hydraulic operating pressure is 180 bar.

For the Volcan, in the version without Joy-Stick, there are up to a maximum of 8 rear hydraulic control valves with oil recovery system which allow you to use equipment that requires a large hydraulic flow rate.



Everything in one handful

For our most demanding customers we designed an **electronically controlled Joy-Stick** which allows you to keep the entire hydraulic system under control with a single device.

The **Joy-Stick** controls not only the hydraulic system, powering 11 rear hydraulic control valves, but also the lifts, making every maneuver involving the machine's hydraulics practical and secure. To get the best performance, the Joy-Stick is always supplied with the oversized pump 49 lt/min.

The Joy-stick is positioned on the right of the driver, is fixed on the seat arm and rotates with the driving position when setting the tractor in reversed position.

Lifting Equipment

The **VOLCAN AR** are often used with performance equipment set on the lift. The **robust rear lifts** that are supplied with the machine rely on practical and versatile multipurpose attachments, designed to easily and quickly adapt to all equipment on the market. On demand, they can be also supplied with position and draft control for all those attachments requiring it. The lifting arms are available with: standard couplers and L-shaped quick couplers. It is also foreseen a hydraulically controlled upper link and tie rod for right link arm, which allows adjusting the attachments from the driver's position simply acting on the control valves lever.

In addition to the rear lift, it is also available a performing front lift with 4 hydraulic control valves, which is necessary when using combined attachments.



Driver's Seat



When the **cabs** for the **VOLCAN AR** were designed, we decided to set our expectations higher than anyone else had ever done.

The cabs, in fact, available in the **LUXUS and COMFORT** versions with standard configuration or
conical structure studied to be sued in narrow row
cultivations on slopes, were carefully designed in
every detail to guarantee interior comfort.

Equipped with fabulous, spacious and ergonomic interiors, they have large windows that optimize the driver's view when driving either in the normal position or in reverse.

The structure is mounted on silent-blocks completely independent from the tractor chassis, to cushion noise and vibrations.

Air conditioning and heating are guaranteed by a reliable and efficient system.







The **VOLCAN AR** are equipped with reversible driving position that allows for practical and efficient operation with both rear and frontal equipment.

Reverse is achieved in just a few seconds thanks to the rotating console which allows the driving position consisting of steering wheel-instrument panel and brakes-clutch pedals, to rotate by 180°

Reserved for the driver

The pleasure in driving a BCS tractor doesn't come only from the performance of the machine but also from the area reserved for the driver.

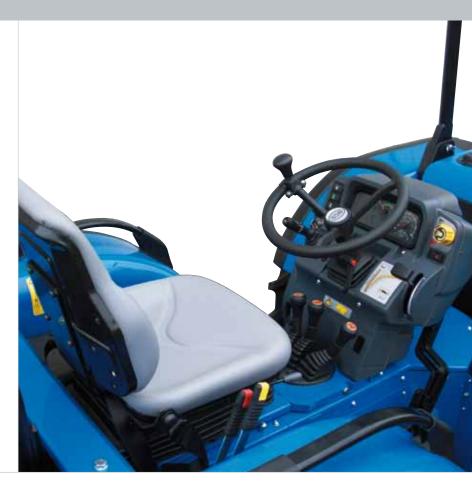
The **VOLCAN AR** driving area was designed to guarantee comfort, ergonomics, functionality and safety in an absolutely original manner.

The driving position with platform mounted on shockabsorbers assures the best comfort to the driver.

An **instrument console** with anti-reflective screen gathers all the function in a logical manner in a central display and ensures control over the machinery status.

Instrumentation is available in both the analog and digital version: the latter provides for simultaneous reading of the engine rpms, drive speed and PDF rotation speed.

The steering wheel, adjustable according to the operator's physical structure, is assisted by an interactive hydroguide, controls a steering system which assures extremely low turning radii. This, in addition to the machine's structural characteristics, ensures maximum maneuverability in any use conditions.





The **VOLCAN AR** series tractors are specialized like few others. Built for those who want only the best. Its large range of options and original accessories makes it even more unique.



Front Lift:

with 4 hydraulic couplers, allows to use front and combined attachments.



Tow Hitches:

approved according to the current rules in various countries. The towing hitches can also be supported by the frames that quickly adjust their height in order to optimize the use of the various towed equipment.



Three-Point Hitch:

available with standard or L-shaped couplings with side adjustment of the hooks.



Three-Point Tie Bar:

allows to adjust the attachments directly from the driving position.





Weights:

available for 18" and 20" wheels (50 kg. each) or front (120 kg.) positioned on the engine cover side not to modify the tractor length.



Prefilter Range:

cyclone prefilter with external air intake to better filter the air in particularly dusty work conditions.



Seat Range:

Bostrom seats or pneumatic to allow the best comfort to the operator.

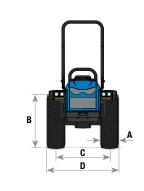


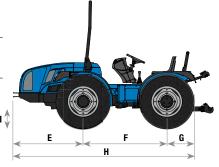
Wheel Range:

the width and height, the degree of ground compaction, the more or less aggressive "GRIP" are only some of the aspects that give the wheels on specialized tractors a fundamentally important role.

Technical Features _ VOLCAN AR

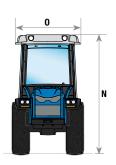






	320/70R20	340/65R20	31x15.50-15 XTC	31x15.50-15 STG	33x12.50-15 T413	13.6-16 Garden
	WITH ADJUSTABLE RIM	WITH ADJUSTABLE RIM	WITH FIXED RIM	WITH FIXED RIM	WITH FIXED RIM	WITH FIXED RIM
A Tyre width mm.	316	343	390	390	325	390
B Tyre height mm.	975	958	790	790	846	968
C Wheel track min/max mm.	996/1144	996/1144	1016	1016	959	1042
D Width min/max mm.	1312/1460	1339/1487	1406	1406	1284	1432





VOLCAN AR DIMENSIONS (mm):

	E	F	G	Н	 min-max	L min-max	M	N min-max	0	P min-max	Q
VOLCAN 750 AR	1030	1495	563	3088	237/330	2102/2195	740	2039/2131	1102	2092/2184	850
VOLCAN 850 AR	1142	1495	563	3200	237/330	2102/2195	740	2039/2131	1102	2092/2184	850
VOLCAN 950 AR	1142	1490	303	3200	23//330	2102/2195	740	2039/2131	1102	2092/2104	630



STEERING RADIUS VOLCAN AR WITH THE FORESEEN WHEEL:

TYPE OF TYRE	250/80-18	11.5/80-15.3	280/70R18	320/65R18	250/85R20	300/70R20	320/70R20	340/65R20	31x15.50-15	33x12.50-15	13.6-16
mm	2680	2710	2700	2770	2670	2740	2760	2775	2930	2870	2950

TECHNICAL FEATURES	VOLCAN 750 AR	VOLCAN 850 AR	VOLCAN 950 AR						
CHASSIS		ng integral chassis OS-FRAME with central artic							
DRIVE	Four-wheel drive	Front-wheel drive disengagement with electro-	hydraulic control						
ENGINE									
Manufacturer	0770150	VM	P35.1150						
Model	D753 IE3	D754 TE3	D754 IE3						
Number of cylinders	3	4	4						
Displacement cm3	2230	2970	2970						
Suction Emission level	Turbo Intercooler	Turbo	Turbo Intercooler						
Power KW/HP	51,5 / 70	Tier 3 58 / 79	67 / 91						
Nominal speed (rpm)	31,3770	2300	01791						
Maximum tractor torque (Nm/rpm)	265 / 1200	274 / 1800	420 / 1000						
Cooling	2037 1200	Water	4207 1000						
Tank capacity (lt.)		55 lt							
TRANSMISSION	Synchronized dea	rbox: 32 speeds (16 FWD and 16 REV) with sync	hronized reverser						
Main clutch		le discs in oil bath with hydraulic control PRO AC							
DIFFERENTIAL	-	lock: front and rear simultaneously or only rear wii							
AXLES	Tront and real. Differential	Front and rear with epicycloidal reduction gear	in electro-riyaradiic control						
POWER TAKE-OFF	Rear independent from gear and synd	chronized with forward speed. Engageable under lo	and with brake in disengaged position						
TO clutch	near, independent from gear and synt	With multiple discs in oil bath	bad with brake in disengaged position						
ingagement control		Electro-hydraulic							
ndependent PTO rotation speed (rpm)		Standard: 540/750 - Optional: 540/1000							
IYDRAULIC SYSTEM	Doub	le circuit with independent pumps and heat excha	anner						
low rate to hydraulic pump which controls the hydroguide and lectro-hydraulic control (I/min.)	Doub	31	A.1901						
low rate to the hoist and the distributors (I/min.)		31 (optional 49, standard with Joystick)							
Maximum hydraulic pressure (bar)	_								
DISTRIBUTORS		180							
dear (standard)	Mechanical control to max 8 hydraulic couplers 2 double acting with oil recovery								
Rear (optional)	1 single acting an	d 1 double acting or 1 double acting and 1 doubl	e acting with float						
oystick (optional)		rs consisting of: 1 single acting with adjustable flow							
ELECTRIC SYSTEM	With electronic control of the distributo	3 consisting of. I single acting with adjustable now	rate, 3 double acting and 1 free return						
Battery (Ah)		100							
Alternator (A)	55								
REAR LIFT	Standard:	by two external rams - Optional: draft and position	on control						
Three-point hitches	Standard: by two external rams - Optional: draft and position control Standard: standard couplers cat. 1 and 2 and adjustable tie rods. Optional: quick couplings cat. 1 and 2, L-shaped lift arms, lift rods adjustable in length and hooks adjustable in width								
Fhree-point tie bar		justment - Optional: hydraulically controlled uppe							
ifting capacity at the end of the arms kg	Standard, With mandard	2300	in wand no rod mix arm						
FRONT LIFT (optional)	By two exter	rnal rams with front guard and 2 double acting co	ontrol valves						
Three-point hitches	Dy two oxion	Rigid with quick couplings cat. 1	THE TRANSPORT						
ifting capacity kg		800							
PRIVING UNIT		With suspended platform on "Silent-block"							
Driving platform	Reversible with rotating platfo	orm, suspended brake and clutch pedals mounted	d on revolving control column						
Steering wheel	The following branch	Adjustable in height	a contraction and a contractio						
Gas spring SEATS with easy adjustment and seat belt	Standard: comfortable sprung seat, ac	djustable according to the driver's weight - Option	nal: "Bostrom" seat or pneumatic seat						
SERVICE BRAKES		multidisc brakes, acting on the wheels with hydr	``						
Parking brake	-	omatic and independent with BRAKE-OFF SYSTI							
STEERING		static steering by two rams, acting on the central							
SAFETY	in injurior	o , a say, a say a							
Roll-bar frame (standard)		Front, homologated							
Cabin (optional)	Sound-proof, mounted on 'Silent block'. Versions: Lu.	xus (with heating and ventilation systems) or Comfort (wi	th air conditioning) with standard or conical struc						
CONSOLE			<u> </u>						
Analogue type (standard)	With chrono-tacho-qv	rometer, water thermometer, control warning ligh	its and acoustic alarm						
Digital type (optional)		reading of rpm, forward speed and rotation spee							
TYRES		, , , , , , , , , , , , , , , , , , , ,	· · · · · · · · · · · · · · · · · · ·						
Standard		250/80-18							
	11.5/80-15.3 * 280/70R18 * 320/65R18 * 250/85R20 * 300/70R20 * 320/70R20 * 340/65R20 * 31x15.50-15								
Optional		n treat XTC or STG * 33x12.50-15 * 13.6-16 Gard							
TOW HOOKS									
Standard		Rear cat. C and front tow hook							
Optional	Rear rotating or rear adjustable in height	(Slider type) tow hooks, both EC approved or CU	NA rear adjustable in height (Slider type)						
VEIGHT OPERATIONAL									
Vith chassis (kg)		2010							
With Luxus cabin (kg)		2150							
	2150								
With Comfort cabin (kg)		2130							
With Comfort cabin (kg) OPTIONAL	Self Cleaning System, oil filter p	roctection, muffler protection, flash light, cyclone	prefilter with external air intake,						

BCS recommends to use the original PowerLube lubricants.

Come and join us at your local BCS dealer or visit us at **www.bcsagri.it** to discover the innovations that waiting for you.

