

e-VANGUARD



language





NEW e-VANGUARD

SILENT, POWERFUL, AND ZERO-EMISSION TRACTOR FOR A MORE SUSTAINABLE FUTURE

Municipalities and modern farms increasingly aspire to operate in a more sustainable way by reducing exhaust and noise pollution emissions.

To support them in their mission, BCS presents e-Vanguard, a compact and multifunctional isodiametric tractor with 100% electric power supply.

Highly specialized DNA, premium features, and modern design for an innovative tractor that fully unleashes the power of its two electric engines installed under the hood.

APPLICATION FIELDS

e-Vanguard is available in two versions:

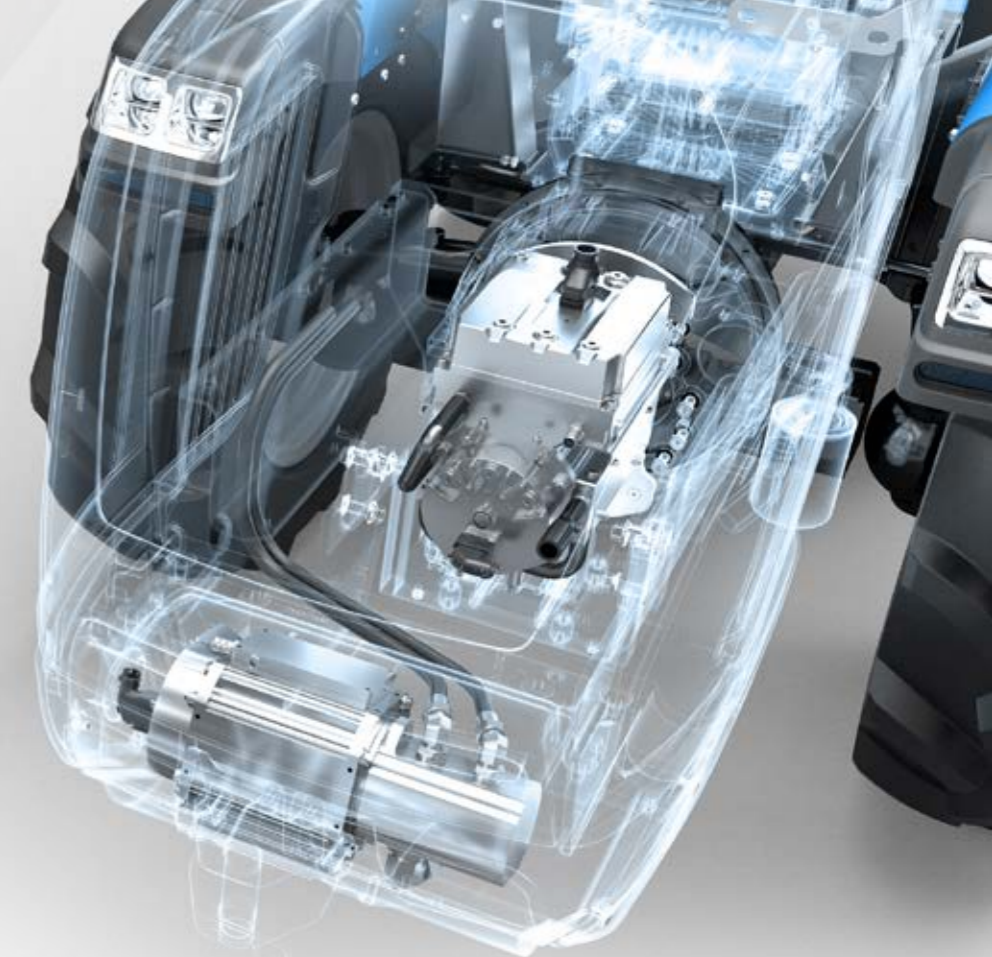
- ✦ 'AR' with an articulated chassis, a minimum width of one meter, and a turning radius of only 2.5 meters;
- ✦ 'RS' with a traditional chassis featuring steering wheels and a dual brake pedal used to reduce turning radii.

The major application fields of e-Vanguard are:

- ✦ in municipalities for green maintenance work and snow removal in urban centres;
- ✦ in horticulture and animal husbandry for use in enclosed areas, such as greenhouses and stables;
- ✦ in specialised agriculture for all narrow space applications in vineyards and orchards.



BE NEXT BE GREEN BE ELECTRIC



100% ELECTRIC

Under the bonnet of the e-Vanguard are two electric motors: the first 16 kW motor serves the hydraulic system, power steering and services while the second 25 kW motor is dedicated to traction.

INSTALLED ELECTRICAL POWER

A total of 41 kW of pure power to ensure high performance and sufficient autonomy.

AUTONOMY

New e-Vanguard has an autonomy of 3 to 6 hours depending on the application and working conditions.

RECHARGING

With 6 kWh input, the battery recharge time to 80% is about 3 hours.

THREE OPERATING MODES

The advantage of the two motors is the ability to manage power according to the task at hand for more efficient use of the tractor and longer battery life:

- ✦ **Traction mode « T »** : maximum power available on the traction motor while the hydraulic motor runs at idle, only for power steering needs. Useful mode during transfer or for stationary work and implement driven by the pto such as with chipper or irrigation pump.
- ✦ **Hydraulic mode « H »** : the traction motor is switched off and the hydraulic motor is switched on. In this mode, the tractor becomes a hydraulic power unit, useful for connecting/disconnecting implements to the tractor or, for example, for operating a log splitter.
- ✦ **Full mode « T+H »** : both motors are switched on. This mode is useful for the most common jobs carried out by the tractor that require movement of the machine and, at the same time, hydraulic power to lift and/or adjust and/or operate the equipment.

HIGHLY SPECIALISED DNA

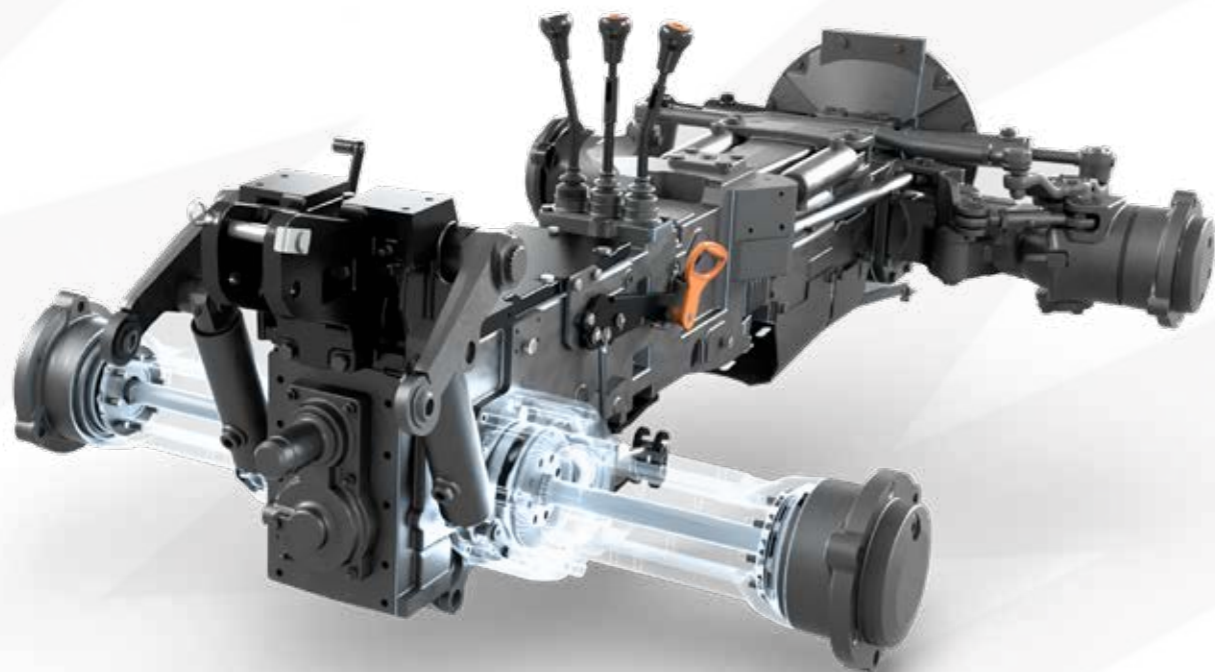
The transmission Made in BCS is equipped with a 12-speed forward plus 12-speed reverse gearbox with synchronised reverser and a new multi-disc in oil bath clutch.

The 24-speed synchronised gearbox allows you to always select the most appropriate gear for the job at hand, making the e-Vanguard highly productive in all circumstances.

The wet multidisc clutch is significantly softer and better performing than conventional dry clutches.

The adoption of this type of hydraulic clutch, fitted within the transmission, brings numerous concrete advantages:

- ✦ greater durability
- ✦ maintenance-free
- ✦ maximum manoeuvrability thanks to the tractor's more compact dimensions.



TOP-OF-THE-RANGE HYDRAULICS

The spread of fully hydraulic vineyard and orchard attachments led to the redesigning of the hydraulic system to achieve performance appropriate to the target attachments of this tractor range.

Two systems are available for actuating the rear control valves: via mechanical control valves or via a new proportional, multifunctional electronic joystick.

The lifting capacity at the ball joints is an impressive 1,510 kg, and category 2 is now available with length- and width-adjustable L-arms.

An independent wet multi-disc clutch operates the rear PTO with an electro-hydraulic solution that manages activation according to tractor, motors and safety conditions.

COMFORT AND 360° VIEW

The 'Vista Clima' cab with 4 uprights features a conical and compact profile to easily exit tight rows, also on side slopes.

Thanks to the large fully glazed windows and portholes, present both at the bottom and on the roof, the 'Vista Clima' cab offers a 360° unobstructed view of the wheel track, attachments and surroundings.

Equipped with standard ventilation, heating, and air conditioning, the cabin ensures a highly comfortable working environment throughout all seasons of the year.



REVERSIBILITY OF THE DRIVING POSITION

e-Vanguard is also available with a reversible driving position, which increases its versatility, efficiency and safety, making it suitable for many agricultural and other applications.

A few seconds are all it takes for the operator to rotate the driving position module consisting of the seat, steering wheel and dashboard by 180° so that he/she can work with the implement mounted on the rear lift but with front use, reducing fatigue and improving driving position comfort.

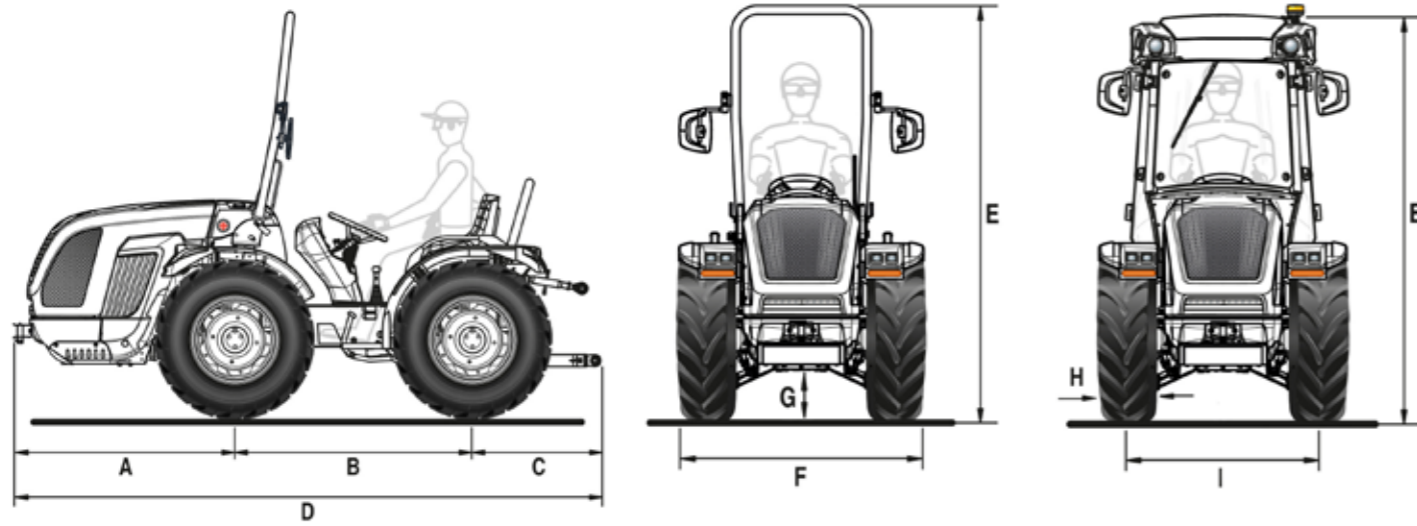
The reversible driving position also facilitates manoeuvring in confined spaces or near obstacles, thanks to the ability to optimally position itself for manoeuvring.

IOT SOLUTIONS FOR SMART AGRICULTURE

e-Vanguard's IoT solutions consist of the integration of Internet-connected devices and sensors that allow real-time data to be collected, analysed and shared, such as:

- ✦ Visualisation of master data and machine position via portal and web maps;
- ✦ Monitoring of machine operating parameters such as battery consumption, fluid temperature, engine revs, battery level, etc.;
- ✦ Tracking and recording of machine passes in the field;
- ✦ Remote control of certain machine functions.

e-VANGUARD AR



A	B	C	D	E min / max (with roll-bar)	E min / max (with cab)	F min / max	G min / max
1248	1390	779	3417	2195 / 2270	2061 / 2106	1002 / 1438	200 / 275

Dimensions in mm

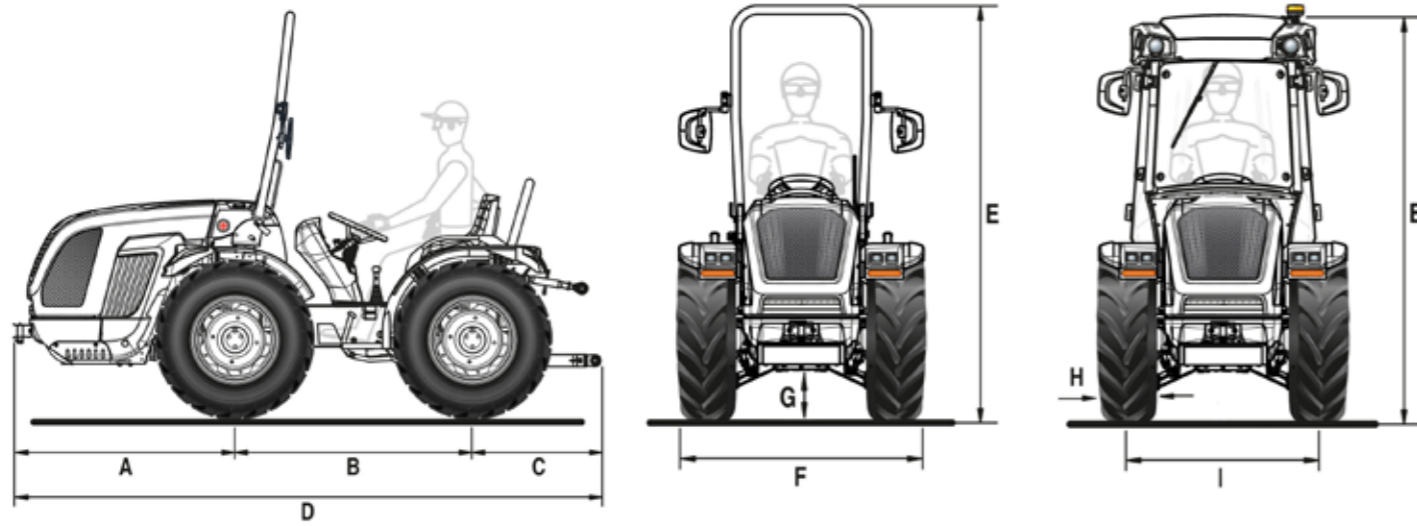
	8.25-16	210/95 R16	250/80-18	280/70 R18	280/70 R18 Garden
	with adjustable rim	with adjustable rim	with adjustable rim	with adjustable rim	with adjustable rim
H	212	208	240	282	282
I	794 / 1110	794 / 1110	865 / 1107	869 / 1119	869 / 1119
F	1006 / 1322	1002 / 1318	1105 / 1347	1151 / 1401	1151 / 1401

	320/65 R18	260/70 R20	31x15.50-15 XTC	31x15.50-15 STG	33x15.50-15 XTC
	with adjustable rim	with adjustable rim	with fixed rim	with fixed rim	with fixed rim
H	319	258	368	394	391
I	931 / 1119	846 / 1120	1003	1003	1003
F	1250 / 1438	1104 / 1378	1371	1397	1394

Dimensions in mm - min / max
H = Tyre width - I = Wheel track - F = Tractor width

TECHNICAL FEATURES	e-VANGUARD AR
ENGINE	Electric Total installed electrical power 41 kW
Batteries	Lithium Voltage 48 V Capacity 36 kWh
Autonomy	3 to 6 hours depending on application and working conditions
Charging time	Battery charging time with 6 kWh input: approx. 3 hours (20 to 80%) - approx. 5 hours (0 to 100%)
CHASSIS	Swinging integral chassis (±15°) OS-FRAME with central articulation
DRIVE	Permanent four-wheel drive
TRANSMISSION	24-speed synchronised gearbox: 12 FWD and 12 REV with synchronised reverser
Min/max travel speed (km/h)	0.6 / 35
Transmission clutch	Multidisc in oil bath
DIFFERENTIAL	Front and rear with simultaneous locking and electro-hydraulic control
AXLES	Front and rear with planetary reduction units
REAR PTO	Independent from the gearbox and synchronised with forwarding speed. Negative safety hydraulic brake to stop the PTO
PTO clutch	Multidisc in oil bath with electro-hydraulic control
PTO rotation speed (rpm)	540/540E
HYDRAULIC SYSTEM	Dual circuit with dedicated electric engine
Hydraulic flow rate of the power steering and electro-hydraulic controls (l/min)	17
Hydraulic flow rate of the lift and control valves (l/min)	23 (optional circuit with increased flow rate 33.5 l/min)
Maximum hydraulic pressure (bar)	180
REAR LIFT	By two external cylinders. Standard: up/down lift - Optional: position and draft-controlled
3-point implement hitch	Standard: normal couplings cat. 1 - Optional: quick-couplings cat. 1 and 2, L-shaped, arms adjustable in length and hooks adjustable in width
Third point tie rod	With manual adjustment
Ball joint lifting capacity (kg)	1510
REAR CONTROL VALVES	Mechanically controlled
Standard	With rear up/down lift: 1 double-acting and free flow oil return (total 3 hydraulic outlets) - With position and draft-controlled rear lift: 1 double-acting, 1 multifunctional double-acting and free flow oil return (total 5 hydraulic outlets)
Optional	With rear up/down lift: up to 7 hydraulic outlets in total and free flow oil return
Joystick (optional)	Proportional electronic control of rear lift and control valves consisting of: 1 continuous flow with adjustable flow rate and free flow oil return, 3 double-acting (replacing the standard ones) and circuit with increased flow rate (total 8 hydraulic outlets)
DRIVING POSITION	Monodirectional or reversible with rotating platform suspended on silent blocks and twin pedal assembly
Steering wheel	Height adjustable
Seat	Comfort seat with adjustable suspension according to the operator's weight, safety belt and man-on-board sensor
SERVICE BRAKES	Multidisc in oil bath with mechanical control, acting on the rear wheels
Parking brake	Acting on service brakes
STEERING	Hydrostatic steering acting on the central joint. Flow deviator for steering unit in the reversible version
SAFETY	Front homologated roll-bar with gas spring for easy lowering and lifting
CABIN (optional)	VISTA CLIMA model, homologated and soundproofed with monocoque body with a 4-upright suspended on silent block. Ventilation, heating and air-conditioning system. Fabric seat, car radio preparation, LED beacon lamp, front and rear working lights
DASHBOARD	Instrument panel with analogue gauges and TFT digital colour display. Remaining charge indicator, warning lights and horn
Standard equipment	Vehicle Control Unit, LED street light and indicator system, single-pole dashboard socket, rear 7-pin socket
TYRES	Tractor: 8.25-16 * 210/95R16 * 250/80-18 * 280/70R18 * 320/65R18 * 260/70R20 Garden: 280/70R18 Terra Tyre: 31x15.50-15 XTC * 31x15.50-15 STG * 33x15.50-15 XTC
TOW HOOKS	Standard: front and rear CUNA cat. B adjustable in height - Optional: rear tow hook EC approved or EC with Slider frame or CUNA with Slider frame or EC tow bar with Slider frame
RUNNING ORDER WEIGHT	With roll-bar: 1660 kg - With cabin: 1740 kg
ADDITIONAL OPTIONS	Recharge cable kit 25 A 3 phases 16.5 kW with 6 adapters, front bumper, beacon lamp, front LED working lights, rear adjustable working light, front weights 110 kg total and wheel weights 45 kg each

e-VANGUARD RS



A	B	C	D	E min / max (with roll-bar)	E min / max (with cab)	F min / max	G min / max
1248	1390	779	3417	2195 / 2270	2061 / 2106	1207 / 1643	200 / 275

Dimensions in mm

	8.25-16	210/95 R16	250/80-18	280/70 R18	280/70 R18 Garden
	with adjustable rim	with adjustable rim	with adjustable rim	with adjustable rim	with adjustable rim
H	212	208	240	282	282
I	999 / 1305	999 / 1305	996 / 1312	984 / 1324	984 / 1324
F	1211 / 1517	1207 / 1513	1236 / 1552	1266 / 1606	1266 / 1606

	320/65 R18	260/70 R20	31x15.50-15 XTC	31x15.50-15 STG	33x15.50-15 XTC
	with adjustable rim	with adjustable rim	with fixed rim	with fixed rim	with fixed rim
H	319	258	368	394	391
I	1074 / 1324	987 / 1325	1100 / 1208	1100 / 1208	1100 / 1208
F	1393 / 1643	1245 / 1583	1468 / 1576	1494 / 1602	1491 / 1599

Dimensions in mm - min / max
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TECHNICAL FEATURES	e-VANGUARD RS
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Batteries	Lithium Voltage 48 V Capacity 36 kWh
Autonomy	3 to 6 hours depending on application and working conditions
Charging time	Battery charging time with 6 kWh input: approx. 3 hours (20 to 80%) - approx. 5 hours (0 to 100%)
CHASSIS	Swinging integral chassis (±15°) OS-FRAME with steering wheels
DRIVE	Permanent four-wheel drive
TRANSMISSION	24-speed synchronised gearbox: 12 FWD and 12 REV with synchronised reverser
Min/max travel speed (km/h)	0.6 / 35
Transmission clutch	Multidisc in oil bath
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REAR LIFT	By two external cylinders. Standard: up/down lift - Optional: position and draft-controlled
3-point implement hitch	Standard: normal couplings cat. 1 - Optional: quick-couplings cat. 1 (arms not adjustable in length) or quick-couplings cat. 1 and 2, L-shaped, arms adjustable in length and hooks adjustable in width
Third point tie rod	With manual adjustment
Ball joint lifting capacity (kg)	1510
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Seat	Comfort seat with adjustable suspension according to the operator's weight, safety belt and man-on-board sensor
SERVICE BRAKES	Multidisc in oil bath with mechanical control, acting on the rear wheels. Independent manoeuvring brakes acting on the rear wheels
Parking brake	Acting on service brakes
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TOW HOOKS	Standard: front and rear CUNA cat. B adjustable in height - Optional: rear tow hook EC approved or EC with Slider frame or CUNA with Slider frame or EC tow bar with Slider frame
RUNNING ORDER WEIGHT	With roll-bar: 1680 kg - With cabin: 1785 kg
ADDITIONAL OPTIONS	Recharge cable kit 25 A 3 phases 16.5 kW with 6 adapters, Dual Floating System™ hydraulic suspension including 5 hydraulic outlets and free flow oil return, front bumper, beacon lamp, front LED working lights, rear adjustable working light, front weights 110 kg total and wheel weights 45 kg each

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.



LUBRICANTS

We recommend to use the original PowerLube lubricants.



MADE IN ITALY