

english



 **VITRAC**

A REVOLUTION IN SLOPE-TOOL CARRIER.



Santa Maddalena, Bolzano



How it all began...

Steep terraced vineyards, narrow paths between the vines and low pergolas have meant that, until recently, vineyards had to be tended manually. Hard, time-consuming work.

How could this work be made easier for South Tyrol's winegrowers?

In 2006, mechanical engineer Willy Mulser took up the challenge and developed a machine that could cope with narrow paths, extremely steep slopes and difficult terrain.

This is how a machine was developed that was initially designed to only integrate sprayers, but has since become ever-more multifunctional - the birth of the *VITRAC* slope-tool carrier, in series-production since 2015: An adaptable and extremely manoeuvrable vehicle to which even the most complex accessory units can be attached, which proves its worth on steep slopes and is comfortable and easy to operate.





2015 - 2018



A REVOLUTION IN SLOPE-TOOL CARRIER.



With *VITRAC*, a new generation of multifunction slope-tool carrier is born: It has been developed specifically for the winegrowing industry, and is capable of coping with terraces on extremely steep slopes as well as narrow paths. It combines perfect grip and safety with high performance and maximum agility without compromising on the driver's comfort.



VITRAC
Presentation





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MANOEUVRABILITY & COMFORT

Everything at a glance with the multifunctional display

All relevant information can be seen on the display: Temperatures, speed, daily distance and overall distance or maintenance intervals. Individual settings can be accessed for the accessory unit attached. The ignition switch and the control unit for the diesel engine are easy to reach and well protected.



Using the ergonomic accelerator, the speed can be regulated steplessly up to 10 km/h. The left footrest is angled to ensure that the driver has a secure hold even on steep slopes.



Left-hand control

It couldn't be simpler: A multifunctional joystick allows for left-hand operation of all hydraulic and electrical functions as well as the sprayer valves. The rotational direction and the oil quantity of the hydraulic PTO can be regulated independently of the diesel engine's speed. This system is also outstandingly practical: The joystick functions also adapt to the accessory unit installed, setting all parameters perfectly for the unit which has been mounted.



Right-hand joystick: an all-round talent

The right multifunctional joystick is one of the greatest technical innovations: Simply turning it 85 degrees in either direction provides the unit with an unrivalled steering angle of +/- 80 degrees, affording the VITRAC outstanding manoeuvrability. The joystick also operates the differential lock, turns the light on and off, reverses direction, regulates the speed and sets cruise control. All with the right hand, guaranteeing maximum operating safety, even after many hours of work.





Air-cushioned comfort seat for fatigue-free driving

Maximum seating comfort is particularly important for long working hours.

That is why we have developed an ergonomic driver's station that makes driving the slope-tool carrier extremely comfortable.

Shocks and vibrations are absorbed by rubber buffers, and all functions of the Grammer air-cushioned reversible seat can be controlled easily by joystick. This guarantees a high degree of driving and operating comfort in both driving directions.

A neatly laid out work place



MANOEUVRABILITY & SOIL PROTECTION



Dual-articulation
in action



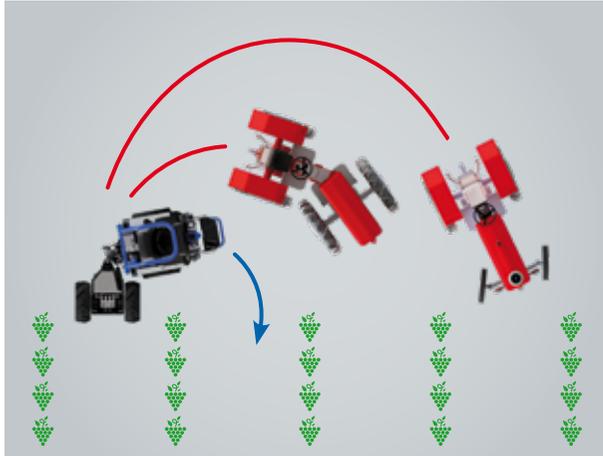
Experiment



Steering becomes child's play with dual articulation

Extremes are no problem for *VITRAC*: With its dual articulation, this vehicle can manage a turning radius of about 80° without losing its stability. The central positioning of the central joint means that the turning axle runs parallel to the vehicle's longitudinal axis even during steering, and the electric proportional valves allow even the smallest steering movements to be carried out with absolute precision.





Narrow, compact and manoeuvrable

With its precise steering, an overall length of 2.25 m or 2.55 m and a width *VITRAC* can enter the next row straight away without repeated manoeuvring from a row distance of 1.30 m. And with zero tail swing to worry about, the driver need only take care of the front.



Perfectly balanced

VITRAC's front section is perfectly balanced, as the internal combustion engine and the hydraulic components are laid out centrally with the driver's weight positioned above the centre of the wheel. The back section of the truck is also balanced, as the sprayer is located above the centre of the wheel. The entire machine is, therefore, in perfect equilibrium with barely any pressure on the central joint.



Extremely high manoeuvrability



Stable chassis

VITRAC combines maximum stability with lightness. The intricate structure of the high-tensile steel frame is both lightweight and stable. To prevent damage from collision, the underside is armoured with front and rear steel panels. The central joint also guarantees perfect ground adjustment.

Soil protection thanks to low weight

The truck's weight was kept at a low 750 kg in order to preserve the sensitive bio system of the soil. Owing to the tyres' optional width of 25 cm, pressure on the soil is also low. The symmetric design of frame and steering ensure that the wheels run in precise tracks, which means no tension in the drive train and a vehicle that is gentle on the ground.



Soil protection



HIGH PERFORMANCE & EFFICIENCY



High-performance cooling even in extreme temperatures

Even on hot days, *VITRAC* keeps a cool head. This cooler with generous dimensions is the guarantee; It cools the hydraulic oil and the engine unfailingly, even when the outside temperatures are high. The safety guard can also be removed for cleaning without using tools.

Low maintenance air filter

Even before the air reaches the filter, it is pre-cleaned by an additional cyclone separator.



Highly efficient hydraulic pumps

VITRAC's diesel engine drives an electronically regulated dual axial piston pump: The first pump, responsible for the drive, supplies 100 litres of oil, whereas the second pump, with 50 litres and 250 bars, ensures the drive of the accessory units. Additionally, there are 2 gear pumps for the steering and cylinder movement. All hydraulic components ensure optimum efficiency and a long service life.



Off-highway electronic components

Only electronic components that have been tested and designed for tough applications are used for the control of the vehicle. Where possible, all mechanical safeguards and switching elements have been substituted by shortcut-proof and overload-proof components. This means that nothing can get in the way of trouble-free and comfortable operation!

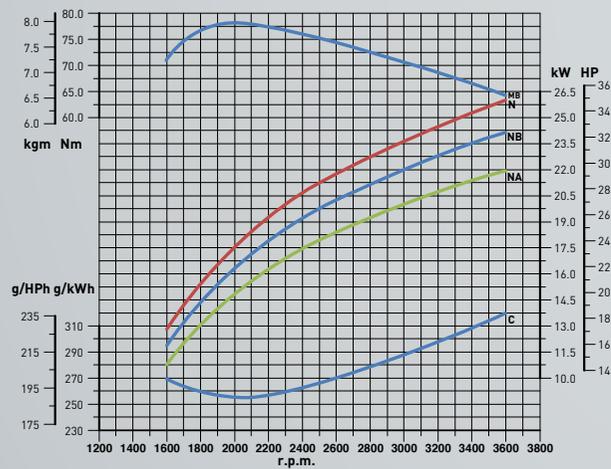
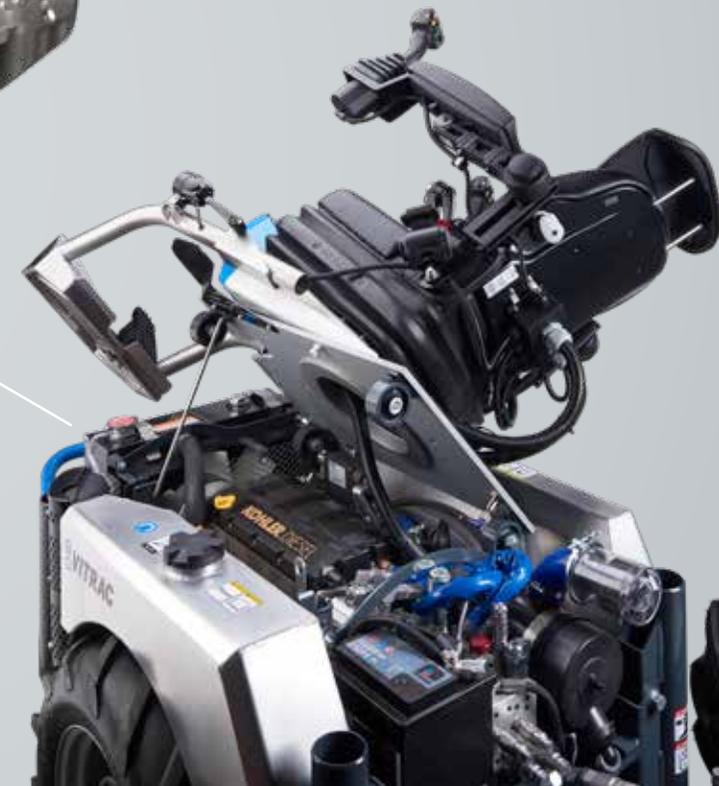


High performance

A compact and reliable engine

VITRAC is driven by a KDW 1404. This modern, compact and low maintenance engine by Kohler only weighs 98 kg. Its low profile and deep positioning in the frame guarantee a low centre of gravity.

The engine steering assembly is located in the cylinder head and is run by a maintenance-free belt. The cylinder block of this four-stroke diesel engine is cast iron and water-cooled. The engine head is made of a special aluminium alloy. With a working speed of 2,600 rpm, the engine is fuel-efficient and low-noise.



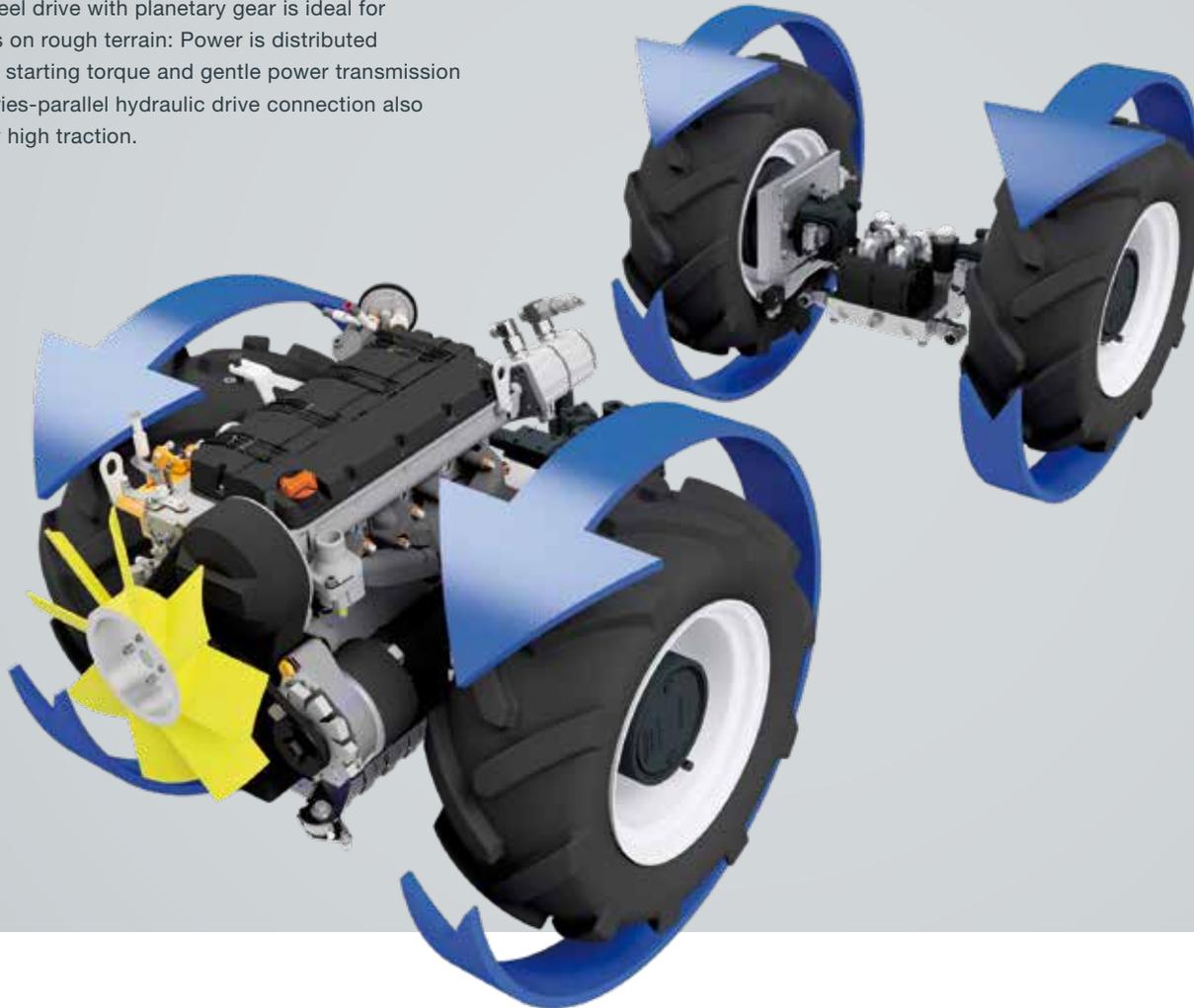
HYDROSTATIC DRIVE

Innovative all-wheel drive enables high tensile strength

The hydraulic all-wheel drive with planetary gear is ideal for special requirements on rough terrain: Power is distributed perfectly, and a high starting torque and gentle power transmission are ensured. The series-parallel hydraulic drive connection also ensure exceptionally high traction.



Innovative all-wheel drive



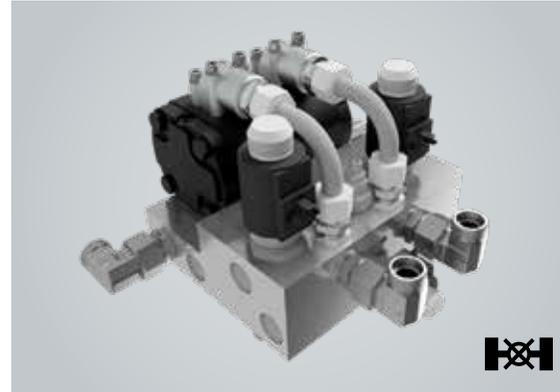
Self-braking system

Self-braking system

Owing to the self-locking hydraulic motor, *VITRAC* cannot move forward unless the driver gives the command. Regardless of the terrain the vehicle slows down automatically the instant the accelerator is released, turning a hill start into child's play!

Spring-loaded brakes for increased safety on steep slopes

The 4 spring-loaded brakes - one in each drive wheel - ensure safe shutdown when the drive joystick is released, the driver's station is vacated or the diesel engine is stopped.



The differential lock stops the wheels from spinning

The hydro-mechanical differential lock can be turned on and off within a split second, even under full load. This means that the power is equally distributed to all four wheels even in extreme situations.

Speed controller

If required, electronic cruise control will keep the selected speed consistent. This means that spraying agents can be spread evenly. It is also an advantage during mulching or using various accessory units. Independent of the diesel engine speed, the set speed is regulated precisely and quickly by the speed sensors in the drive motors.



Robust drive control

VITRAC masters even the toughest terrain: Extremely sensitive drive software allows absolutely precise manoeuvring.

VERSATILITY



Reversing the driver's seat - quick and uncomplicated

VITRAC's reversible seat allows the driver to operate both front and rear machinery. Both the seat itself and all control elements is simply reversed by 180° - and all without the need for tools. The roll cage can then be moved and the footrest and accelerator adjusted. The centre of gravity remains unchanged as the pivot point is positioned in the centre above the front axle.



Quick change of accessory units

VITRAC offers numerous accessory units that will accompany you throughout the season. The innovative slope-tool carrier has been developed so that you can change these units quickly and effortlessly: After installing the support feet, only the fixing bolt needs to be removed and the hydraulic and electric connections disconnected. The rear centre-bolt also allows for quick, uncomplicated attachment of the accessory unit.

Reversible seat



Reversible seat



Automatic recognition of accessory units

Innovative and intelligent: The vehicle automatically detects which accessory unit has been attached and adjusts all unit settings perfectly, including oil quantity and operating components. A total of 11 programmable electric outputs for the control of hydraulic valves as well as 7 analogue, digital and encoder inputs can be used by the accessory unit. Furthermore, a CAN bus interface allows *VITRAC* to control even the most complex accessory units.



Dumper skip DPK 265

Sprayer SP 200-60Q

Linkage + loader bucket

Flail mower SM

High performance hydraulic PTO

As standard, *VITRAC* is equipped with a high performance hydraulic PTO. Its pump can supply up to 50 litres per minute. The power of the diesel engine is hydraulically transferred to the accessory unit, without turning shafts, meaning there will be no twist torque between the front and the back of the truck. The risk of tilting is therefore reduced to a minimum.



Sprayer mount



Flail mower demount

SAFETY

Type-tested vehicle

Health and safety are a matter of course at *VITRAC*. The comprehensive and objective test by the accredited and notified Suva certification authority in Switzerland certifies that the vehicle complies with the requirements of European Directive 2006/42/EG. It covers a standardised level of protection concerning prevention of machine accidents.



In conformity with Suva no. E 7130.e and no. E 7131.e type-examination certificates



All the safety of an intelligent articulation system

Uneven terrain can create a risk of tilting. *VITRAC* reliably counteracts this by locking the central joint in the right direction. All danger is detected by an intelligent control system which records each wheel's ground pressure via sensors. As soon as a wheel loses ground pressure, the joint lock is activated and a warning signal is emitted.

Engine protection switch

If the multifunction truck tilts in extreme situations, the diesel engine stops automatically and immediately. This prevents self-priming of the engine oil and resultant engine damage. Additionally, a specially developed float gauge in the hydraulic tank lid will prevent leakage of the hydraulic oil.



Stable on steep slopes



Safety

Protective roll cage

Two different roll cages to protect the driver and the slope-tool carrier in the event of tilting: One high roll cage, specifically developed for the head, and one low cage designed for pergolas. When reversing the seat, the roll cages can be changed over without tools.

Protective roll cage, Pergola version



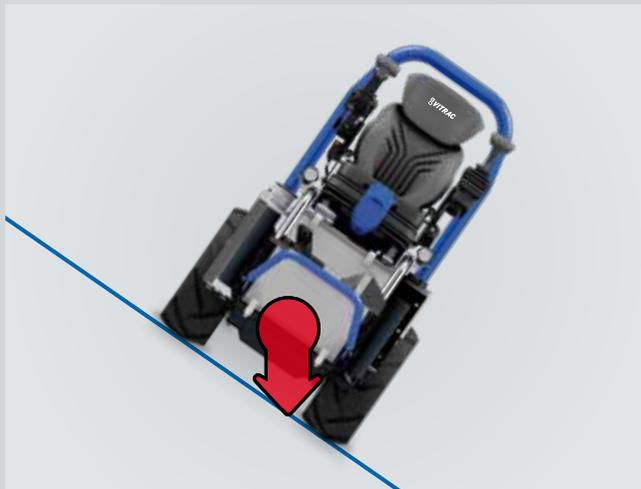
Reliable protection underneath

All-round protection: The high-tensile steel plates on the underneath can cope with even the hardest of rocks, protecting all mechanical and electric components. Additionally, enclosed wheel-casing stops vines, grass and similar from entering the engine.



Stable on steep slopes

VITRAC's safety is based on its low centre of gravity. This is a prerequisite for safe and efficient working on steep slopes. All hydraulic pumps and the diesel engine were installed as low as possible. The vehicle's base consists of heavy steel. All components higher up, on the other hand, are built with light materials - as used in aircraft construction.



3-side exit

While the driver gets into the vehicle via the front, in an emergency, he can also exit on both the left and right by simply pushing the armrests outwards.

Emergency exit



CUSTOMER SATISFACTION COMES FROM FORESIGHT

Instant maintenance

It has never been so easy to carry out maintenance in the engine compartment. Simply tilt the driver's seat sideways - without tools, and without demounting the attached accessory units.



Effortless
maintenance



Easy service intervals

VITRAC keeps an eye on maintenance costs: After 100 hours of operation, the slope-tool carrier only has to be serviced every 250 hours or 2 years. A signal on the display will remind you of the next service. The relatively large intervals are based on the truck's high quality components and generous filters.



Simple troubleshooting

Potential faults are shown to the driver directly and clearly on the display.



The right spare parts at all times

Do you need spare parts? We will deliver without delay, even outside business hours!



Quality guarantee

VITRAC is a product that is developed, manufactured and assembled at our site. Only by doing this are we able to guarantee top quality and punctual delivery.

FACTS AND FIGURES



Engine	Kohler diesel engine KDW1404/ B6
Number of cylinders	4
Performance	23.5 kW (32 PS)
Displacement	1,372 ccm
Drive	Stepless, hydraulic all-wheel drive (0 - 10 km/h) with electronic speed control
Axles	Hydraulic single-wheel drive via planetary drive
Differential lock	Powershift hydromechanical differential lock
Steering	Double articulation (+/- 80°)
Central joint lock	Central location with patented joint lock system and independent wheel monitor
Service brake	Hydrostatic
Parking brake	Hydraulically controlled brakes on all 4 wheels, integrated in the end drives
PTO	Can be regulated hydraulically via piston pump in both directions 250 bar from 0 to 50 litres
Working hydraulics	Gear pumps max. 12 litres and 160 bar, electrohy- draulic proportional valves, hydraulic accumulator
Driver's station	Supported by 4 rubber buffers, rotatable by 180°, pedal position can be set, 2 multifunction joysticks for operation

Seat	Air-cushioned, longitudinally and height adjustable, synthetic leather cover, back height and incline adjustable, arm rests: independently height, longitudinally and laterally adjustable
Instruments	Speed display with integrated operating hours counter, control lights and fuel supply display; Multifunction instrument with output of cooling water temperature, hydraulic oil temperature, speed, cruise control, PTO state as well as menu display for user specific setting and system data
Hand-arm vibrations	< 2.5 m/s ²
Whole-body vibrations	< 0.5 m/s ²
A-weighted sound pressure level at the driver's seat	VITRAC without implements: LAeq = 85,0 dB With mulcher, without load: LAeq = 90.3 dB With sprayer LAeq = 90.7 dB
A-weighted sound power level	VITRAC without implements: LWA = 102.8 dB(A) With mulcher, without load: LWA = 105.4 dB(A) With sprayer LWA = 108.0 dB(A)
Electric system	12V 44Ah, light system 33A, CAN bus and 20 electrical outputs/inputs for accessory units
Fuel tank	20 l
Hydraulic system	25 litres of type HVLP 46
Weight	Basic machine 750 kg
Perm. total weight	1,400 kg

Tyres	- 5.70 - 12 with 3.5 bar of air pressure Overall width 80 cm
Optional	- 23 x 8.50 - 12 10PR with 1.5 bar of air pressure Overall width 90 cm - 23 x 10.50 - 12 10PR with 1 bar of air pressure Overall width 102 cm
Overall length	Driving direction forwards 255 cm Driving direction backwards 225 cm
Height	With small roll cage 150 cm With large roll cage 190 cm
Operating temperatures	-15 °C to +40 °C
Turning radius at an overall width of 90 cm	Inner turning radius 425 mm Outer turning radius 1,325 mm



TYRES

STANDARD + OPTIONAL



Standard

5.70 - 12 with 3.5 bar of air pressure



Optional 1

23 x 8.50 - 12 10PR with 1.5 bar of air pressure



Optional 2

23 x 10.50 - 12 10PR with 1 bar of air pressure



800 mm



900 mm



1,020 mm

DISPLAY

OPTIONAL



Everything at a glance

The VITRAC colour display provides a clear view of all the relevant information for each accessory unit. If the sprayer is attached, for example, the display will indicate the spray pressure, the position of the air deflectors and the on-off status of each nozzle.

For the built-in hoist, the display provides information on lifting power and float setting.

The user can select the settings for standard and additional equipment from the menu and adjust according to requirements.



Display



OPTIONALS



Work site lighting

The high-performance, long-range LED spotlight illuminates the entire working area and guarantees excellent visibility, even under the most adverse of conditions.



Work site lighting

Spiked wheels

Spiked wheels mounted on the fore and rear axle provide optimum traction and stability.



Montage spiked wheels



Spiked wheels en action





Montage
dual tyres



Foam-filled wheels

VITRAC is also available with foam-filled wheels, making tyre damage and pressure checks a thing of the past!

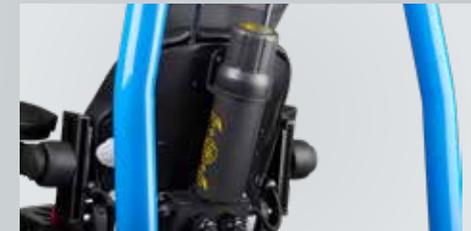
Dual tyres

The dual-tyre system is of great advantage to *VITRAC* in terms of stability and soil protection. All combinations can be fitted, regardless of the width of the wheels.



12V socket

To power accessory devices, *VITRAC* can be fitted with a 12V DIN 9680 power socket which can be operated from the driver's cab.



Transport box

The optional watertight transport box provides storage space for tools, drinks or documents, and can be fitted behind the driver's seat on request.

ACCESSORY



Sprayer SP 200-60R
Centrifugal



Sprayer SP 200-60Q
Cross-flow fan



Cross-flow sprayer
HQS 200-60



Flail mower SM
+ shoot remover



Transportation platform



Dumper skip DPK 265



Dumper skip DPK 265
+ extended panels



Linkage



Linkage
+ loader bucket VITRAC



Linkage
+ third-party manufacturer



Linkage
+ third-party manufacturer



Trimmer LSU

IMAGE GALLERY



Slope
mowing



Level-terrace
mowing



The sprayer
at work



IMAGE GALLERY



Foliage cutter LSU

TUTORIALS



Presentation
VITRAC



A neatly laid out
work place



Soil
protection



Extremely high
manoeuvrability



High
performance



Starting on
a slope



Reversible seat



Sprayer
mount



Stable on
steep slopes



Safety



Trailer
transportation



Easy
maintenance

**A REVOLUTION IN
SLOPE-TOOL CARRIER.**

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