

Universal Class

SUPER 1600-3i

TRACKED PAVER



Maximum pave width 7.5m
Maximum laydown rate 600 tonnes/h
Transport width 2.55m



Innovative Tracked Paver



A compact powerhouse, more manoeuvrable and versatile than its predecessor, the new SUPER 1600-3i is simply unbeatable. This typical member of the Universal Class handles pave widths up to 7.5m* with ease. It owes its excellent manoeuvrability to its high-quality drive components as well as its extremely compact design.

This paver is powerful, reliable and efficient, even when operating under extremely cramped and complicated job site conditions.

The SUPER 1600-3i naturally also includes all the "Dash 3" features. For instance, the VÖGELE EcoPlus package reduces fuel consumption and noise emissions significantly. In addition, VÖGELE's ErgoPlus operating system has been supplemented with many ergonomic and functional features: ErgoPlus 3 is now equipped with a particularly large colour display in the paver operator's console, ensuring brilliant readability even in poor lighting conditions.

The AutoSet Plus, the PaveDock sprung push-rollers and the PaveDock Assistant features additionally simplify working with this compact powerhouse.

*Pave widths of 7m and 7.5m are possible with extra equipment (available upon request).

The highlights of the SUPER 1600-3i



Tracked Universal Class paver with a large range of applications and pave widths up to 7.5m*

Powerful and economical drive concept, even when operating at full load in any climate zone

The VÖGELE EcoPlus low-emissions package significantly reduces fuel consumption and noise levels

Optimum feeding with mix thanks to the large material hopper, PaveDock sprung push-rollers and PaveDock Assistant communication system

ErgoPlus 3 operating system with numerous convenient and automatic functions

Screeds to meet all needs: option to combine the tracked paver with the AB 500 and AB 600 Extending Screeds

*Pave widths of 7m and 7.5m are possible with extra equipment (available upon request).

The drive concept – Efficiency, performance and low consumption



VÖGELE's modern drive concept is perfectly adapted to the large range of different uses of the SUPER 1600-3i.

Delivering a powerful drive when maximum performance is called for, this Universal Class paver is exceedingly economical in everyday operation.

Low input, maximum output – all drive components operate with maximum efficiency, from the diesel engine to the hydraulic system.

Intelligent engine management with ECO mode and the VÖGELE EcoPlus low-emissions package ensure low diesel consumption and low-noise operation.

Full power – Intelligent technology

Three main components define the power unit of a SUPER 1600-3i: its modern, liquid-cooled diesel engine, a splitter gearbox flanged directly to the engine and a large cooler assembly.

The driving force in this power pack from VÖGELE is its Cummins diesel engine of type QSB4.5 C155. This four-cylinder engine delivers 116kW at 2,000rpm. Yet the fuel-saving ECO mode is sufficient for many applications. And even then, the SUPER 1600-3i still has a full 106kW at its disposal. Moreover, the machine generates even less noise when running at just 1,700rpm.

A large cooler assembly ensures that the power unit always delivers its full output. With innovative air routing and a variable-speed fan, temperatures

are continually maintained within the optimum range, significantly extending the service life of both the diesel engine and the hydraulic oil. A further advantage is that the machine can operate without difficulty in all climate regions worldwide.

All hydraulic consumers are directly supplied with hydraulic oil via the splitter gearbox. Hydraulic pumps and valves are centrally located, making them optimally accessible for servicing. Even the powerful generator for screed heating is flanged directly onto the splitter gearbox; its integrated oil cooling system makes it completely maintenance-free and very quiet.



The large cooler assembly is made up of three parts. It ensures that engine coolant, charge air and hydraulic oil are maintained at the optimum temperature.

» **Machines with the suffix "i"** in their product designation are not only economical, but also extremely clean.

The "i" stands for "intelligent emission control" and is found in the type names of all machines from the WIRTGEN GROUP equipped with the latest engine technology. Thanks to their sophisticated exhaust gas after-treatment, these engines comply with the strict standards of European exhaust emissions level 3b as well as Tier 4i of the US standard EPA.

» **Powerful Cummins diesel engine** develops 116kW at just 2,000rpm.

» **ECO mode** for paver operation with 106kW at 1,700rpm is perfectly adequate for numerous applications. It cuts operating costs and allows superquiet operation.

» **A powerful, air-cooled generator** with direct drive ensures rapid, uniform heating of the screed. With "Dash 3" generation pavers, the generator is directly driven by the splitter gearbox and therefore maintenance-free.



VÖGELE EcoPlus Low-emissions package

The **philosophy** behind the drive concept of the "Dash 3" generation was "lower consumption – lower emissions – lower costs". In this respect, the innovative VÖGELE EcoPlus low-emissions

package includes a whole series of measures to significantly reduce fuel consumption and noise levels.

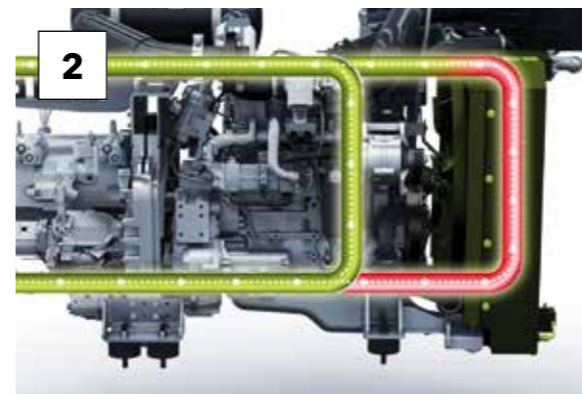
1



Splitter gearbox with ability to disengage hydraulic pumps

When the paver is stationary, e.g. during longer waits, all the hydraulic pumps needed for "traction", "conveyors and augers" and "compaction" are automatically disengaged. This function cuts fuel consumption considerably. Reducing the trailing load also makes it significantly easier to start the paver at low ambient temperatures.

2



Controlled hydraulic oil temperature circuit

A bypass circuit allows the hydraulic oil to reach its optimum operating temperature very quickly. This in turn permits rapid, fuel-saving operation of the paver. The hydraulic oil is not led through the cooler assembly before its temperature has exceeded the optimum level of 50 – 70°C.

3



Variable-speed fan

The variable-speed fan automatically adapts to the engine load and the ambient temperature. The fan is driven via a viscous coupling. This type of fan drive, in contrast to a hydraulic drive, stands out through considerably greater energy efficiency and much lower noise levels.

Precision on tracks

High-quality separate hydraulic drives are essential components of the VÖGELE drive concept. They allow our pavers to operate outstandingly and therefore extremely cost-efficiently.

Since the traction drive units are directly integrated into the sprockets of the crawler tracks, engine output is translated into pave speed without any loss of power.



- » **The hydraulic systems** for the traction drive, conveyors and augers as well as the compacting systems all operate in separate closed circuits for maximum efficiency.
- » **Long crawler tracks** with large footprints provide for maximum tractive effort, allowing the paver to progress well at a constant speed even when operating on difficult terrain.

- » **Positive tracking** when moving straight and accurate cornering due to separate drive and electronic control provided for each crawler track.



Perfect paving quality thanks to perfect material management



A continuous flow of mix is key to ensuring uninterrupted and high-quality paving. That is why we attach such importance to professional material management when designing our pavers.

All our development efforts focus on simple operation and the best possible overview for the paving team.

PaveDock Assistant from VÖGELE is an innovative solution for standardizing and simplifying communication between the paver operator and driver of the feed vehicle during the feed with mix.

Large material hopper, easy feed with mix

As with all VÖGELE pavers, supplying the SUPER 1600-3i with mix is a clean, safe and swift process.

Thanks to a hydraulically operated hopper front (option), the mix inside the material hopper is directed right onto the conveyors and the entire mix properly conveyed in front of the screed.

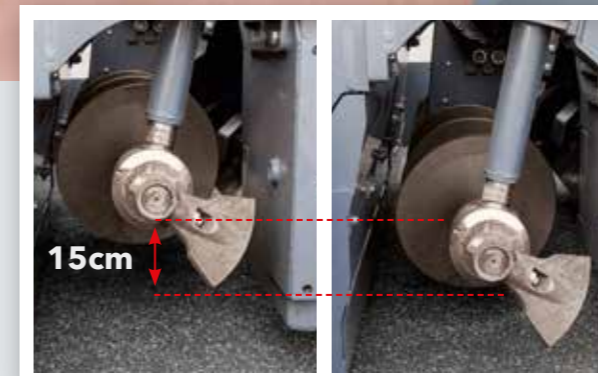


- » **The large material hopper** holding 13t is amply dimensioned so that a sufficient quantity of mix is stored at all times. There is no problem tiding over difficult situations such as paving under bridges, for instance.
- » **Easy feeding with mix** thanks to low material hopper, wide hopper sides and sturdy rubber baffles fitted to the hopper front.
- » **Especially large oscillating push-rollers** for convenient and shock-free docking of feed vehicles even in curves.

Premium paving quality thanks to perfect material handling

Thanks to the perfect spreading of mix, the SUPER 1600-3i provides for an optimal head of material in front of the screed in every paving situation.

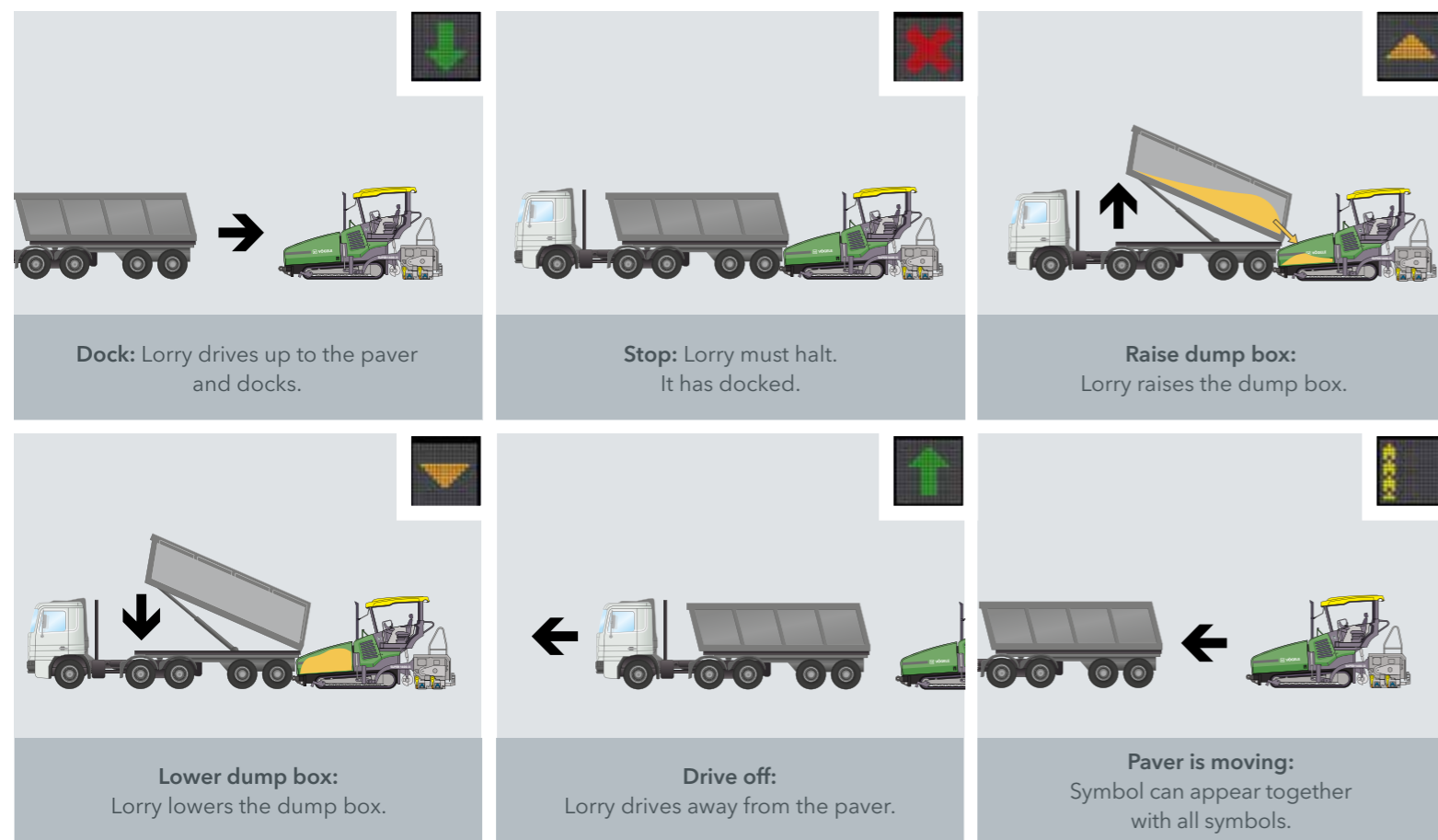
Powerful, separate hydraulic drives for conveyors and augers are installed achieving high laydown rates up to 600t/h.



The height of the auger complete with bearing boxes and limiting plates for the auger tunnel can be hydraulically adjusted by up to 15cm across the full pave width. This optimizes the head of mix in front of the screed, even when paving thin layers or when layer thickness varies.

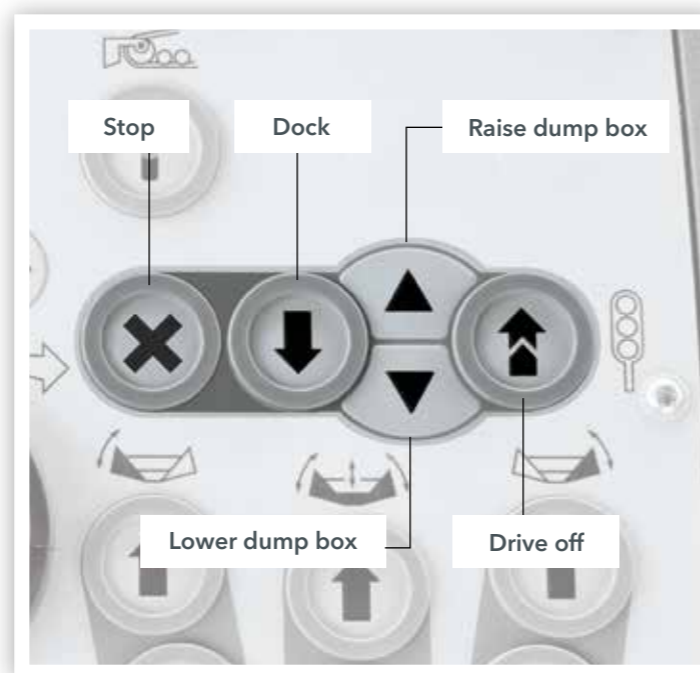
- » **Proportional control and continuous monitoring** provided for conveyors and augers guarantee a constant head of mix in front of the screed in line with requirements.
- » **Large diameter of auger blades** (400mm) for excellent spreading of mix when paving in large widths.
- » **An auger tunnel**, easily variable in depth, provides for an optimal flow of mix when large quantities are being laid.

PaveDock Assistant: The communication system

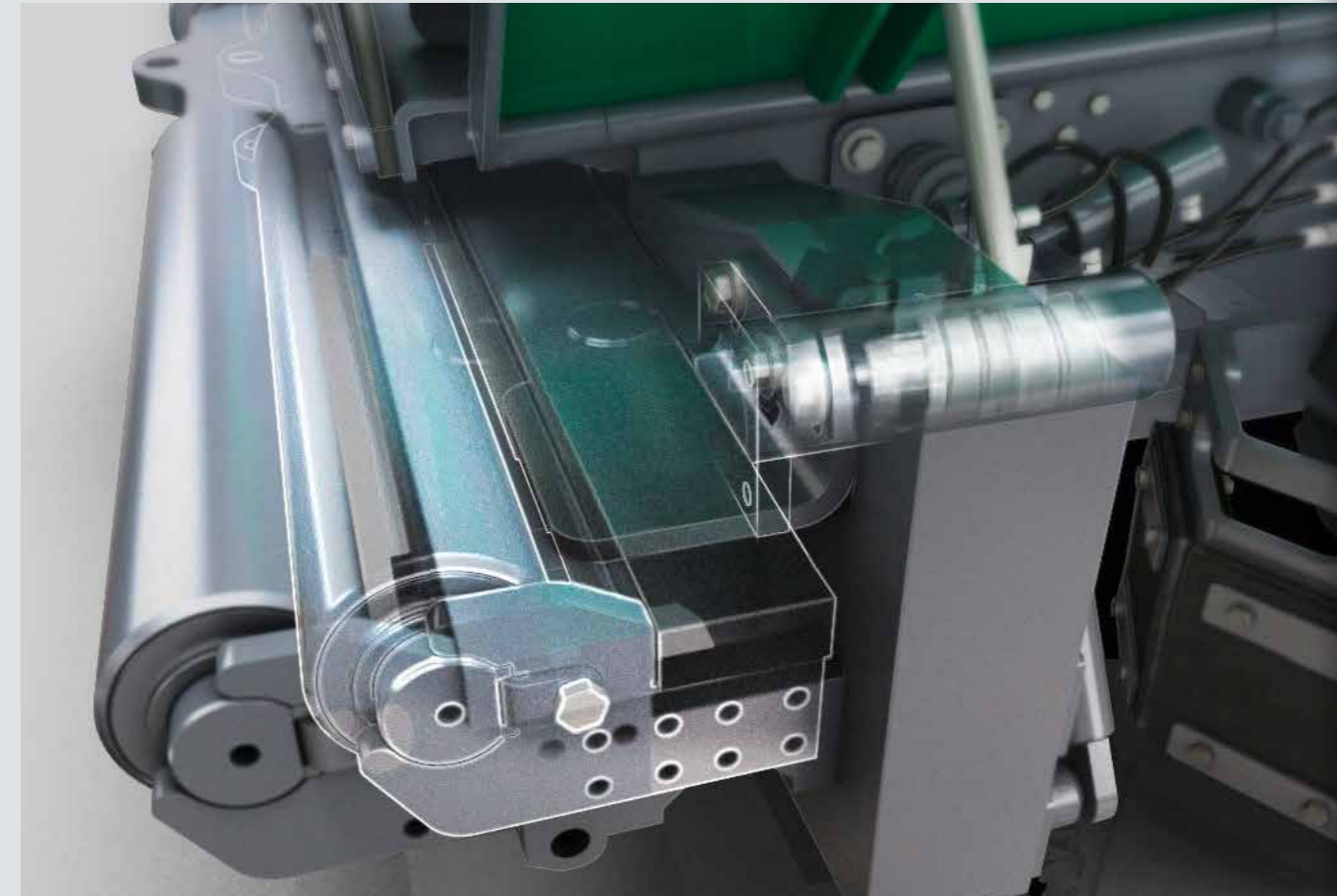


PaveDock Assistant is the communication system between the paver operator and the driver of the feed vehicle. It allows particularly fast and reliable transfer of mix to the paver. Signal lights on the paver and the associated controls on the paver operator's ErgoPlus 3 console are key components.

The paver has two sets of signal lights, mounted on the right and left of the hardtop. With these lights, the paver operator can give the driver of the feed vehicle unmistakable signals, indicating what needs to be done (e.g. reverse, stop, dump mix). Having two lights, each in an elevated position, ensures that all signals are clearly visible to the feed vehicle driver from all angles of approach.



PaveDock dampens impacts effectively



As an alternative to the oscillating push-rollers, VÖGELE also supply PaveDock sprung push-rollers. These absorb jolts by the feed vehicle even more effectively and reliably, thus ensuring that they are not transmitted to the finished pavement.

Together with the PaveDock Assistant, the sprung push-rollers maximize process safety during transfer of the mix: a sensor installed in the sprung push-rollers indicates whenever a feed vehicle has docked onto the paver. The signal lights automatically and directly indicate the stop signal. The feed vehicle driver can thus react immediately.

Automated processes with AutoSet Plus

With **AutoSet Plus**, we have enhanced the efficiency, convenience and quality of key job site processes. AutoSet Plus has two handy automatic functions.

The Repositioning and Transport function greatly facilitates the continuation of work when moving the paver on the job site from one work section to another, or after the paver has been transported.

Simply pressing the "Execute" button quickly and reliably readies the machine for travel on the job site, or for transport. Pressing the button again returns it to the previously stored working position.

The Paving Programs function allows the operating personnel to save the configured machine parameters and store these as a paving program in the menu. This program can then be called up and used whenever needed.

The two comfort functions of AutoSet Plus automate routine tasks, allowing work processes to be carried out more quickly and with greater control. This in turn means that construction projects can be completed faster and more reliably.



1 // AutoSet Plus – Repositioning function

Fast and safe repositioning of the paver on the job site.

No settings are lost between paving and repositioning.

Also prevents any damage to the augers and deflectors in front of the crawler tracks.

2 // AutoSet Plus – Paving Programs function

Automated configuration of the paver.

Stores all paving-relevant parameters.

Selection of stored paving programs.

Reproducible quality.



AutoSet Plus Repositioning function

AutoSet Plus is especially helpful when the machine frequently has to be moved on the job site.

Simply pressing the "Execute" button raises the augers, the hydraulically operated hopper front and the deflectors in front of the crawler tracks to the uppermost positions. The screed and the screed tow point rams are brought into transport position. In addition, the screed is locked hydraulically in transport position. The conveyors are temporarily reversed, preventing mix from falling to the ground when the paver travels to the next work section on site.

Once the paver has been repositioned, pressing the "Execute" button again returns all systems to the previously stored working positions.

This ensures that no settings are lost when changing from paving to repositioning or transport. It also effectively prevents any damage to the machine.

1. The AutoSet Plus Repositioning function

is activated just by pushing the "Execute" button.

2. Raise / lower screed.

3. Lock / unlock screed.

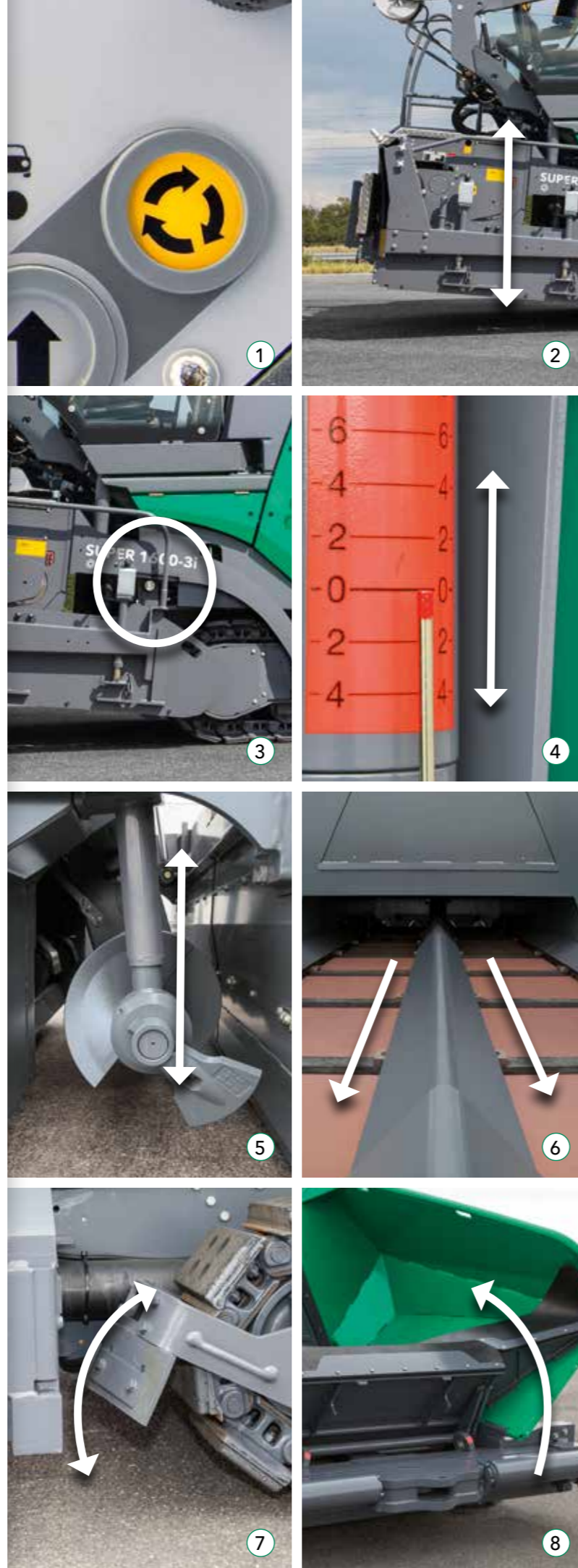
4. Screed tow point rams in transport position / at last set value.

5. Raise / lower augers.

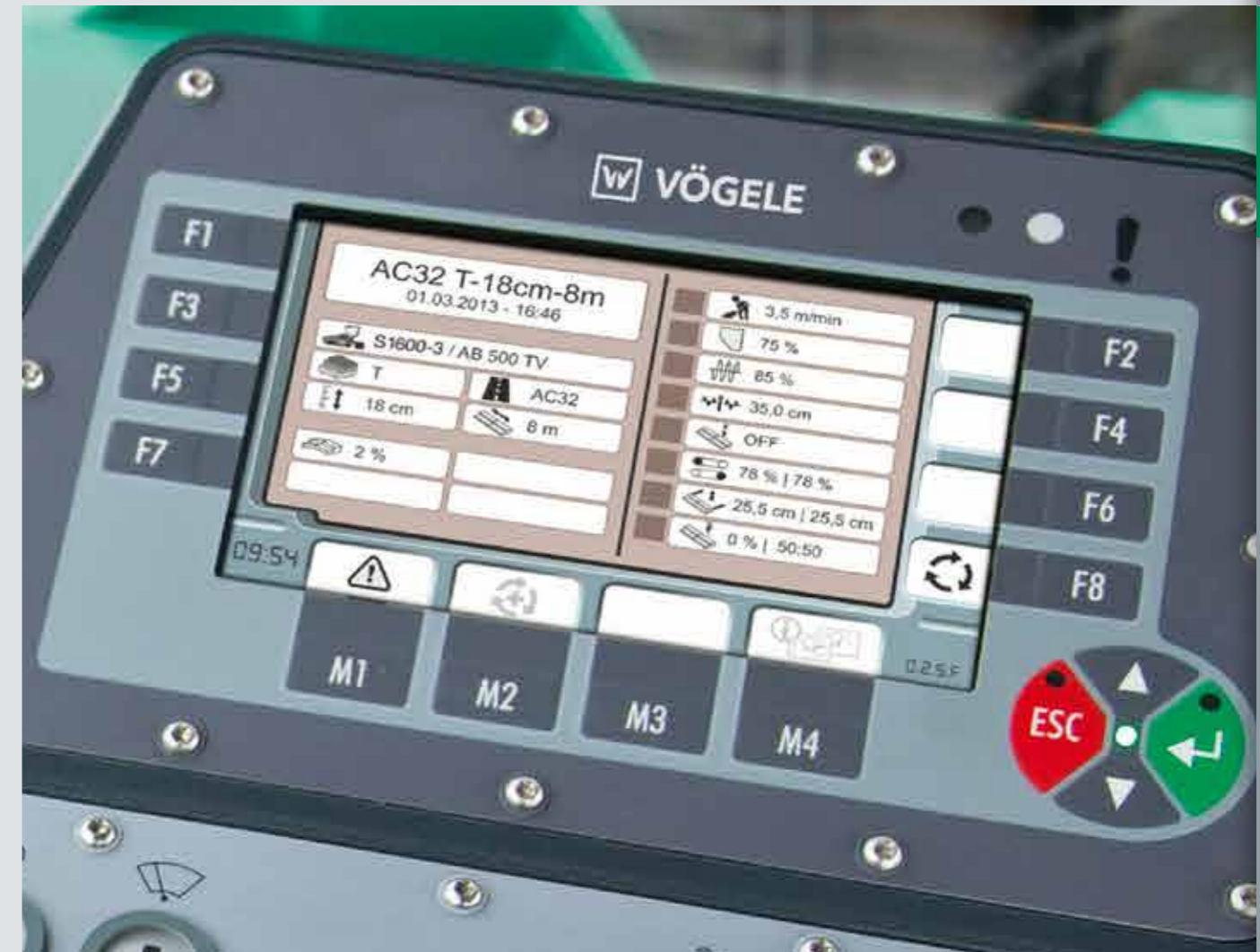
6. Conveyor movement reversible for a short time.

7. Raise / lower deflectors in front of the crawler tracks.

8. Raise hopper front.



AutoSet Plus Paving Programs



The automatic Paving Programs function allows the operating personnel to store their own paving programs. All key parameters for paving a specific layer (example: base course of asphaltic concrete, 18cm thick) can thus be saved.

On the display of his console, the paver operator saves the values set for the compacting systems (tamper and vibrator speed), height of the augers, position of the tow point rams, pressure for Screed Assist and the pave speed in his program.

He also enters the amount of crown and the screed temperature. The program is completed with additional information on the material being used, the layer thickness and the pave width.

The stored paving programs can subsequently be selected and used at any time via the menu. In the event of a repeat situation, this ensures that work is carried out with exactly the same settings while maintaining a consistent quality.

The ErgoPlus 3 operating concept

Even the very best machine with the most advanced technology can only really show its strengths if it can be operated easily and as intuitively as possible. At the same time, it should offer an ergonomic and safe working environment for the operating team. Therefore, the ErgoPlus 3 operating concept focuses on the operator. With VÖGELE pavers, the user consequently retains full control over the machine and construction project.

On the following pages example illustrations will provide you with more detailed information on the extensive functions of the ErgoPlus 3 operating concept. ErgoPlus 3 encompasses the operator's stand, the paver operator's console and screed consoles and Niveltronic Plus, the System for Automated Grade and Slope Control.



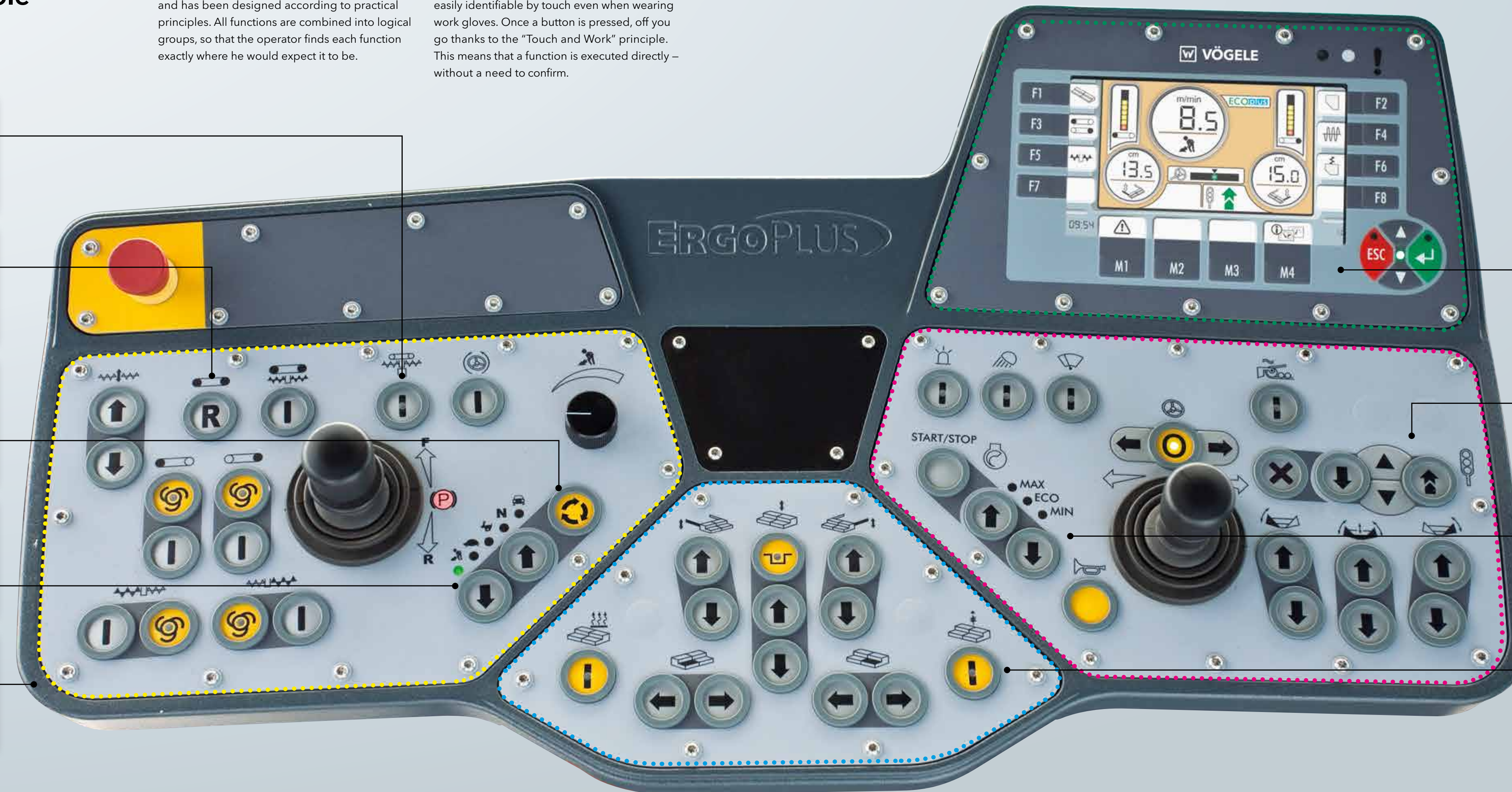
The paver operator's
ErgoPlus 3 console

“Full control for the machine operator”

The paver operator's ErgoPlus 3 console

The paver operator's console is extremely clear and has been designed according to practical principles. All functions are combined into logical groups, so that the operator finds each function exactly where he would expect it to be.

On the ErgoPlus 3 console, all push-buttons are easily identifiable by touch even when wearing work gloves. Once a button is pressed, off you go thanks to the "Touch and Work" principle. This means that a function is executed directly – without a need to confirm.



.....	Module 1:	Conveyors and augers, traction
.....	Module 2:	Screed
.....	Module 3:	Material hopper and steering
.....	Module 4:	Display for monitoring and adjustment of basic settings

No-load function

The no-load function is provided for the warm-up or cleaning of conveyors, augers and tamper.

Reversing conveyor movement

In order to avoid mix dropping from the conveyors during a move of the paver on the job site, conveyor movement can be reversed at the push of a button. Reverse movement, transferring mix from the rear of the conveyor tunnel back inside, takes place for a short time only and stops automatically.

AutoSet Plus Repositioning function (option)

With the AutoSet Plus Repositioning function, the paver is quickly and safely prepared for a move on the job site at the push of a button. After the move, all paver components are reset to their previous working positions, simply by pressing the button again. This ensures that no settings are lost when changing between "Pave" and "Job Site" modes. AutoSet Plus also effectively prevents damage during transport.

Choice of operating modes for the paver

All the main paving and machine functions can be controlled directly by individual push-buttons on the paver operator's ErgoPlus 3 console. By pressing the arrow buttons, up or down, the operator changes modes in the following order: "Neutral", "Job Site", "Positioning" and "Pave". An LED indicates the mode selected.

Safe operation during the night

Glarefree backlighting comes on automatically as darkness sets in so that the paver operator can also work safely on night-time jobs.

Display of the paver operator's console

The high-contrast colour display provides for brilliant readability even in poor lighting conditions. Vital information is shown on menu level 1, such as the positions of the screed tow point rams or the material level in the conveyor tunnel. Further paver functions such as speeds of tamper and vibrators or feed rate of the augers can easily be set up via the display, too. And the display gives access to machine-related information such as fuel consumption or service hours.

PaveDock Assistant (option)

With the PaveDock Assistant signal lights, the paver operator can give the driver of the feed vehicle unmistakable signals, indicating what needs to be done (e.g. reverse, stop, dump mix). The lights are conveniently activated directly from the paver operator's ErgoPlus 3 console.

Choice of engine speed ranges

For the engine, there is a choice of three modes to select from: MIN, ECO and MAX. To switch modes for engine rpm, all the operator needs to do is press the arrow buttons, up or down. In ECO mode, the engine delivers sufficient power for a great number of paving applications. Operating in ECO mode reduces noise emissions and fuel consumption considerably.

Screed Assist (option)

This button switches Screed Assist on (LED lights up) or off. Screed Assist pressure and balance can be set via the display. Screed Assist is active only when the screed is floating.

The ErgoPlus 3 screed console



The screed is crucial for pavement quality. Therefore, easy and positive handling of all screed functions is of the utmost importance for high-quality road construction.

With ErgoPlus 3, the screed operator has the process of paving at his fingertips. All functions are easily comprehensible and all controls are clearly arranged.

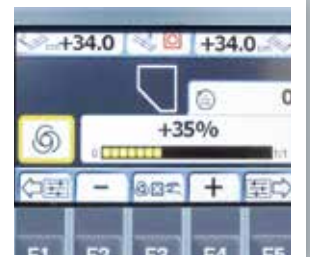
The screed console

The screed console is designed in keeping with the conditions prevailing on the job site. Push-buttons are provided for the frequently used functions operated from the screed console. These are watertight and enclosed in palpably raised rings, so that they are identifiable blindfold simply by touch even when wearing work gloves. Important paver and screed data can be called up and adjusted from the screed console, too.



The display of the screed console

The display of the screed console allows the screed operator to control and monitor both the left and the right side of the screed. Machine-related parameters such as tamper speed or conveyor speed can be adjusted conveniently via the display panel of the screed console. The clear menu structure, combined with easily understandable, self-explanatory symbols neutral in language, makes operating the display panel both simple and safe.



Crown adjustment at the press of a button

The crown can be conveniently adjusted at the press of a button on the screed operator's console. When pressing the "plus" or "minus" keys, the set crown value is shown on the display.



Ergonomic screed width control in two speeds

The screed width can be effortlessly adjusted by means of the SmartWheel. This is done in two speeds: slow, for precise control e.g. along an edge, or fast, for rapid extension or retraction of the screed.



Optimum visibility even in darkness

The screed console is specially designed for night-time operation. To prevent operator errors, the buttons are backlit as soon as dusk falls or in darkness. What's more, the downward-angled high-power LED lighting gives the operator a perfect view of all processes associated with the side plate.



VÖGELE Niveltronic Plus

Niveltronic Plus, the System for Automated Grade and Slope Control, is an in-house development by JOSEPH VÖGELE AG based on many years of experience in grade and slope control technology. Easy operation, precision and reliability are its hallmarks, ensuring perfect mastery of all grade and slope control jobs.

This fully integrated system is optimally adapted to the machine technology of the SUPER pavers. All wiring and connections, for instance, are integrated into the tractor unit and screed, effectively eliminating all risk of damage to these components.

VÖGELE naturally offer a particularly large and practical selection of sensors permitting versatile use of the Niveltronic Plus system. Whether car parks, roundabouts or highways need to be built or rehabilitated, VÖGELE offer the right sensor for every job site situation.

Sensors can be changed quickly and easily, for Niveltronic Plus automatically detects which sensor is connected, thus simplifying the configuration process for the user.



Left-hand side of screed	Right-hand side of screed
The value (in cm) displays the height of the tow point ram on the left-hand side.	The value (in cm) displays the height of the tow point ram on the right-hand side.
Shows the value specified for the sensor on the left-hand side. For grade sensors, values are indicated in mm. When working with the slope sensor, values are indicated in percent.	Shows the value specified for the sensor on the right-hand side. For grade sensors, values are indicated in mm. When working with the slope sensor, values are indicated in percent.
Shows the type of sensor selected for the left-hand side. Displayed here in this example is the symbol of the sonic sensor used in Ground mode.	Shows the type of sensor selected for the right-hand side. Displayed here in this example is the symbol of the sonic sensor used in Ground mode.
Shows the actual value picked up by the sensor.	Shows the actual value picked up by the sensor.
Shows the sensitivity set for the sensor selected.	Shows the sensitivity set for the sensor selected.





SUPER 1600-3i



The ErgoPlus 3 operator's stand

1. The comfortable operator's stand gives an unobstructed view of all crucial areas on the paver such as material hopper, steering guide or screed.

2. The seats swinging out to the sides and an operator's stand of streamlined design provide for maximum visibility of the auger tunnel, permitting the paver operator to keep an eye on the head of mix in front of the screed at all times.

3. Working comfort
The paver operator's seat and console, as well as the screed consoles can now be adjusted even more easily to personal needs.

4. A place for everything and everything in its place
The operator's stand, with its streamlined design, is well organized, offering the paver operator a professional workplace. The operator's console can be protected by a shatter-proof cover to prevent wilful damage.

5. Hardtop gives excellent protection
The modern hardtop made of glass fibre-reinforced polymer material shelters the operator, come rain or shine.

6. Consistent service concept
All "Dash 3" pavers have a consistent maintenance concept with identical service intervals.

7. Safe and comfortable ascent
The walkway and comfortable middle ascent on the screed ensure safe and convenient access to the operator platform.

8. Ergonomic screed console
The height and position of the console are easily adjusted. The high-contrast colour display can be read clearly from all angles.



Screed options for all paving applications

For the SUPER 1600-3i, VÖGELE offer two screed options, both of them perfectly capable of achieving excellent pavement quality. The nature of your paving operations primarily determines which option is best suited to your needs.

The tracked SUPER 1600-3i combines with AB 500 and AB 600 Extending Screeds. Either screed lends the paver a high variability for a wide range of applications and optimal utilization.

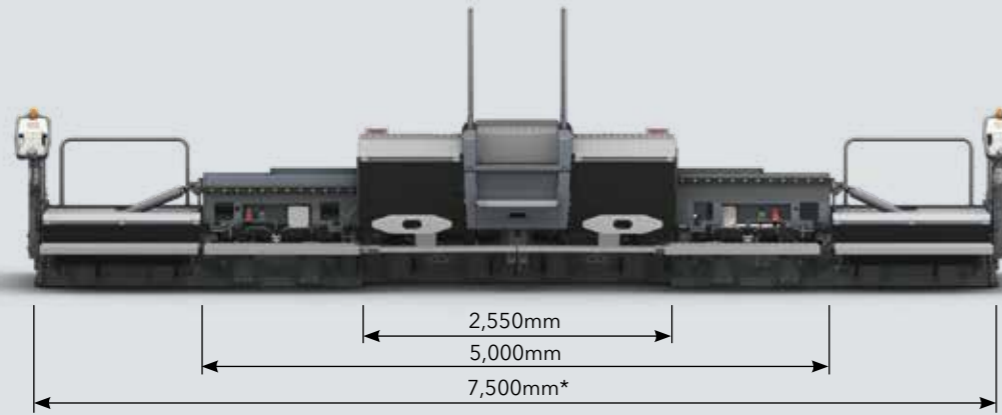
AB 500 and AB 600 Extending Screeds come with a sturdy single-tube telescoping system. Working with the highest precision, they offer quick screed width control accurate to the millimetre.

In the AB 500 and AB 600 Extending Screeds, tamper and vibrators provide for excellent precompaction. Both compacting systems are installed across the entire screed width.

Screed options for the SUPER 1600-3i

AB 500 TV

Built up to maximum pave width



Pave widths

- » Infinitely variable range from 2.55m to 5m.
- » Larger widths through the addition of bolt-on extensions up to a maximum of 7.5m.*

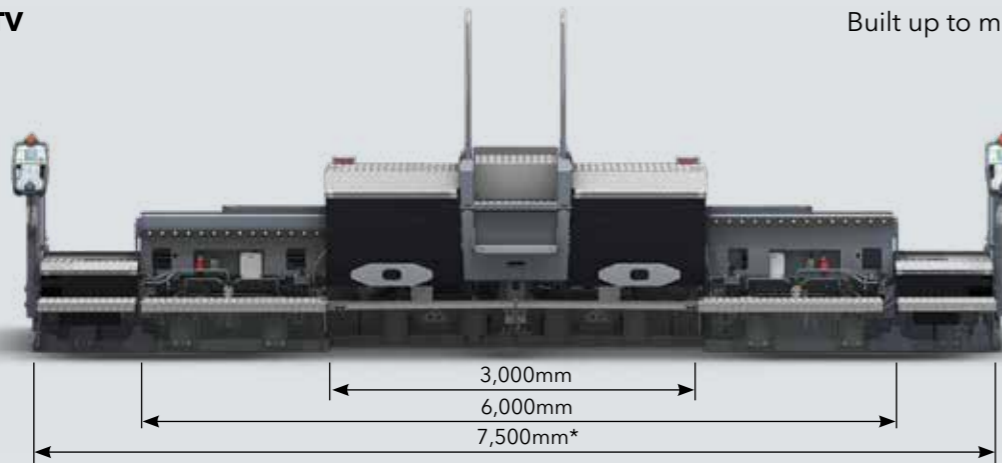
Compacting systems

- » AB 500 TV with tamper and vibrators



AB 600 TV

Built up to maximum pave width



Pave widths

- » Infinitely variable range from 3m to 6m.
- » Larger widths through the addition of bolt-on extensions up to a maximum of 7.5m.*

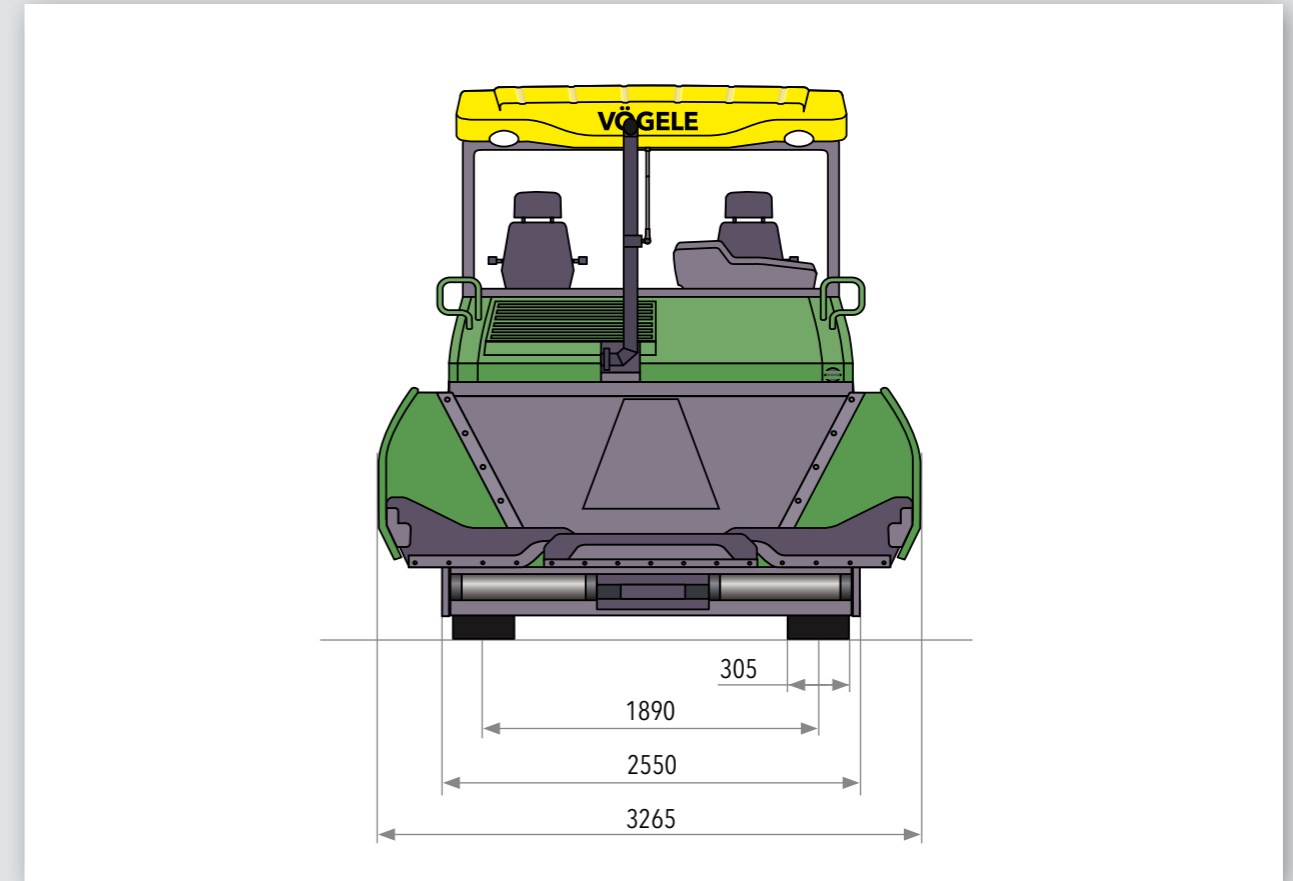
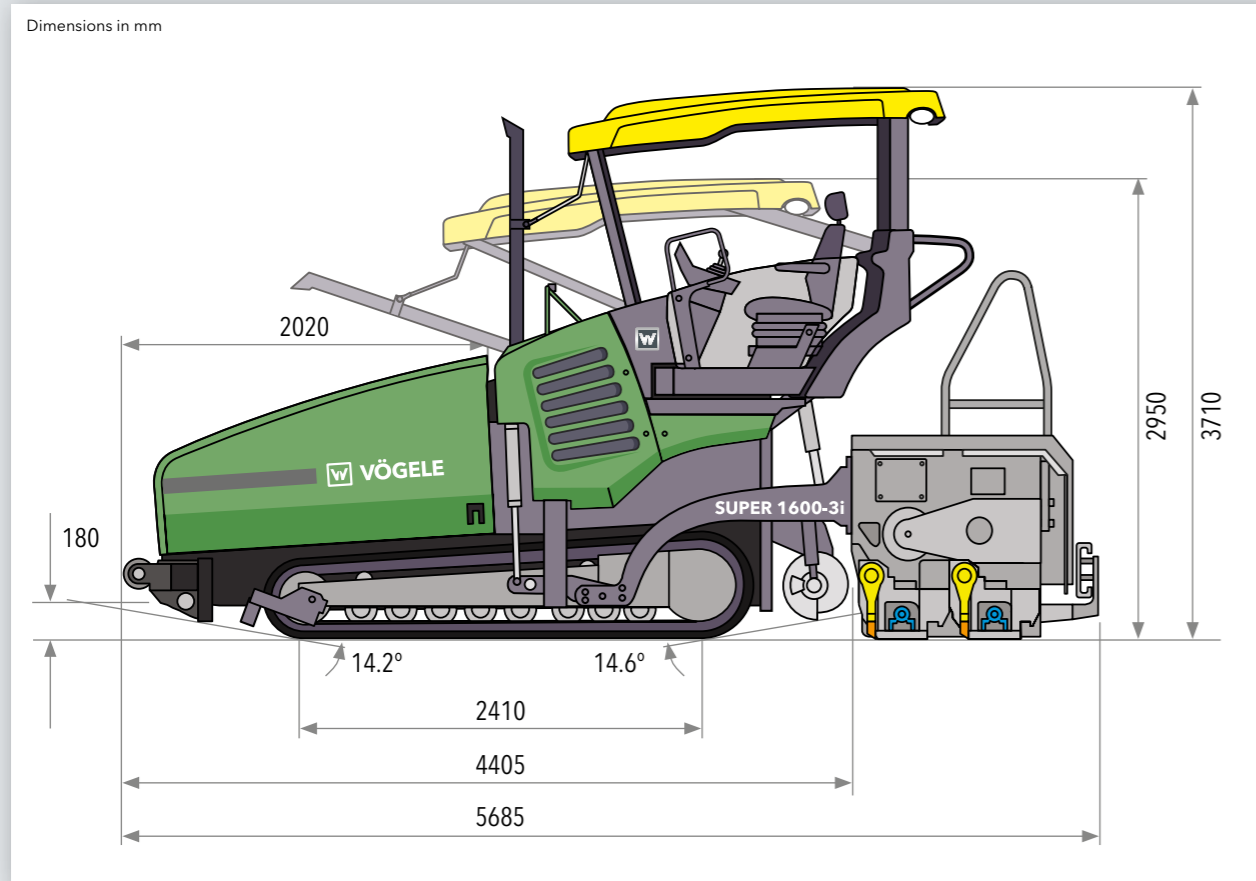
Compacting systems

- » AB 600 TV with tamper and vibrators



*Pave widths of 7m and 7.5m are possible with extra equipment (available upon request).

All the facts at a glance



Power unit	
Engine	4-cylinder diesel engine, liquid-cooled
Manufacturer	Cummins
Type	QSB4.5 C155
Output	
Nominal	116kW at 2,000rpm (according to DIN)
ECO mode	106kW at 1,700rpm
Exhaust emissions standard	EU Stage 3b, US EPA Tier 4i
Exhaust gas after-treatment	DOC
Emission data	
Sound power level	≤107 dB(A) (2000/14/CE and DIN EN 500-6)
Daily noise exposure level	>80 dB(A) (DIN EN 500-6)
Fuel tank	265 litres

Undercarriage	
Crawler tracks	provided with rubber pads
Ground contact	2,410 x 305mm
Track tension adjuster	spring assembly
Track roller lubrication	lifetime
Traction drive	separate hydraulic drive and electronic control provided for each crawler track
Speeds	
Paving	up to 24m/min., infinitely variable
Travel	up to 4.5km/h, infinitely variable
Material hopper	
Hopper capacity	13t
Width	3,265mm
Feed height	615mm (bottom of material hopper)
Push-rollers	
Standard	oscillating
Position	can be displaced forwards by 75mm or 150mm
Option	sprung (PaveDock)

Conveyors and augers	
Conveyors	2, with replaceable feeder bars, conveyor movement reversible for a short time
Drive	separate hydraulic drive provided for each conveyor
Speed	up to 33m/min., infinitely variable (manual or automatic)
Augers	2, with replaceable auger blades, auger rotation reversible
Diameter	400mm
Drive	separate hydraulic drive provided for each auger
Speed	up to 84 rpm, infinitely variable (manual or automatic)
Height	infinitely variable by 15cm, hydraulic, lowest position 10cm above the ground
Lubrication	automatic centralized lubrication system with electrically driven grease pump

Screed options		
AB 500	basic width	2.55m
	infinitely variable range	2.55m to 5m
	maximum width	7.5m*
AB 600	basic width	3m
	infinitely variable range	3m to 6m
	maximum width	7.5m*
Screed version	TV	
Layer thickness	up to 30cm	
Screed heating	electric by heating rods	
Power supply	three-phase A.C. generator	
Dimensions (transport) and weight		
Length	tractor unit and screed	
AB 500/AB 600 TV	5.69m	
Weight	tractor unit with screed	
AB 500 TV	pave widths up to 5m	18.1t

Key: **DOC** = Diesel Oxidation Catalyst
AB = Extending Screed
TV = with tamper and vibrators

Subject to technical modification.
 *Pave widths of 7m and 7.5m are possible with extra equipment (available upon request).



Your VÖGELE QR Code will take you directly to the "SUPER 1600-3i" on our website.



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