

Special Class

SUPER 1800-3 SprayJet

TRACKED PAVER



Maximum spray width 6 m
Maximum pave width 9 m
Maximum laydown rate 700 t/h

PREMIUM LINE

 www.voegel.info



The SUPER 1800-3 SprayJet



VÖGELE's SprayJet technology has proved its worth for many years and is used for pavement rehabilitation and construction in markets around the world.

The VÖGELE SprayJet comes with a large array of impressive innovations. One feature of fundamental importance is that operation of the spray module has been integrated in the ErgoPlus 3 operating concept.

The module is designed as a completely self-contained functional unit. This modular design makes the SUPER 1800-3 SprayJet simple to service and allows it to be used both as a spray paver and as a conventional asphalt paver.

The paver has a maximum spray width of 6 m. As a conventional paver without spray function it can even pave widths of up to 9 m.

It goes without saying that the paver also includes all the "Dash 3" features. The VÖGELE EcoPlus package, for instance, significantly reduces both fuel consumption and noise levels. The AutoSet Plus functions allow quick and safe relocation of the paver on the job site and make it possible to store frequently recurring paving programs.

The VÖGELE SUPER 1800-3 SprayJet is the world's unique spray paver for placing thin asphalt overlay as well as conventional binder and surface courses.

The highlights of the SUPER 1800-3 SprayJet



World's unique spray paver for placing thin asphalt overlay as well as conventional binder and surface courses

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

Cutting-edge ErgoPlus 3 operating concept for paver and spray module

Emulsion sprayed at a rate of 0.3 to 1.6 kg/m²* in a clean and controlled process

Uniform "Dash 3" service concept ensures easy maintenance and cuts training costs

AutoSet Plus automatic functions for rapid relocation of the paver on the job site and storing paving programs

ErgoPlus 3 screed console with SmartWheel for convenient screed width control

PaveDock Assistant for better and safer communication when feeding the paver with mix

Advanced and precise screed technology for perfect high-quality pavements

* The rate of spread per square metre must be determined as a function of the emulsion to be used. The rate of spread depends on the emulsion's consistency and temperature when applied, and on the size of nozzles used for spraying.

Range of applications for the VÖGELE spray paver

For many road construction and civil engineering contractors, the SUPER 1800-3 SprayJet offers an excellent opportunity to employ their paver in a variety of applications, be it as a classic upper mid-range paver or as a special machine for particular jobs.

The machine technology of the SUPER 1800-3 SprayJet is ideal in all cases and is based on VÖGELE's modular machine concept. As a result, the paver can be used either with the SprayJet module or, with just minor modifications, as a classic asphalt paver without the SprayJet module.



REHABILITATION OF A RACING TRACK



REHABILITATION OF A CAUSEWAY



RESURFACING A ROADWAY IN A RESIDENTIAL AREA



RESURFACING WORK ON A MOTORWAY



USED AS A CLASSIC PAVES

Paving thin overlay on spray seal, "hot on hot"

This is a cost-effective asphalt paving method for rehabilitating or renewing the surface course. It can be used on all traffic areas. The layer thickness is normally no more than 1.2 to 2 cm. The method owes its cost-effectiveness to saving expensive surface course material. The procedure is ideal in municipal areas, as paving thin overlay does not require any costly adaptation of kerbs or other pavement fittings.

With the SUPER 1800-3 SprayJet, thin overlay can be paved on a spray seal three to five times faster than with conventional equipment. The bitumen emulsion is sprayed and the asphalt layer placed by the VÖGELE machine in a single pass. This makes it unnecessary for job site vehicles to drive over the sprayed surface, so the emulsion film is never damaged.



Advantages of the technique

Cost savings

- 1 Thin layer saves up to 50% of material cost.
- 2 No costly adaptation or new installation of kerbs required.
- 3 When a spray paver is used, there is no possibility of job site vehicles driving over the sprayed area. This means that other roads in the area are not soiled and need not be cleaned once the job is complete.
- 4 Short construction time: roadworks are completed quickly, allowing the road to be reopened to traffic sooner.

High quality

- 5 An excellent bond between layers, perfect sealing and effective protection of the existing base all add up to a long service life for the road.
- 6 High initial and permanent roughness of the resurfaced road are guaranteed.

Paving binder and/or surface course on spray seal

This classic method is widely used in many countries when rehabilitating traffic areas. To date, it has been common practice to spray the surface with bitumen emulsion beforehand so that the water could evaporate overnight. This left a bitumen coat subsequently overlaid with a binder course or surface course. However, the time and equipment required have been considerable disadvantages of this method.

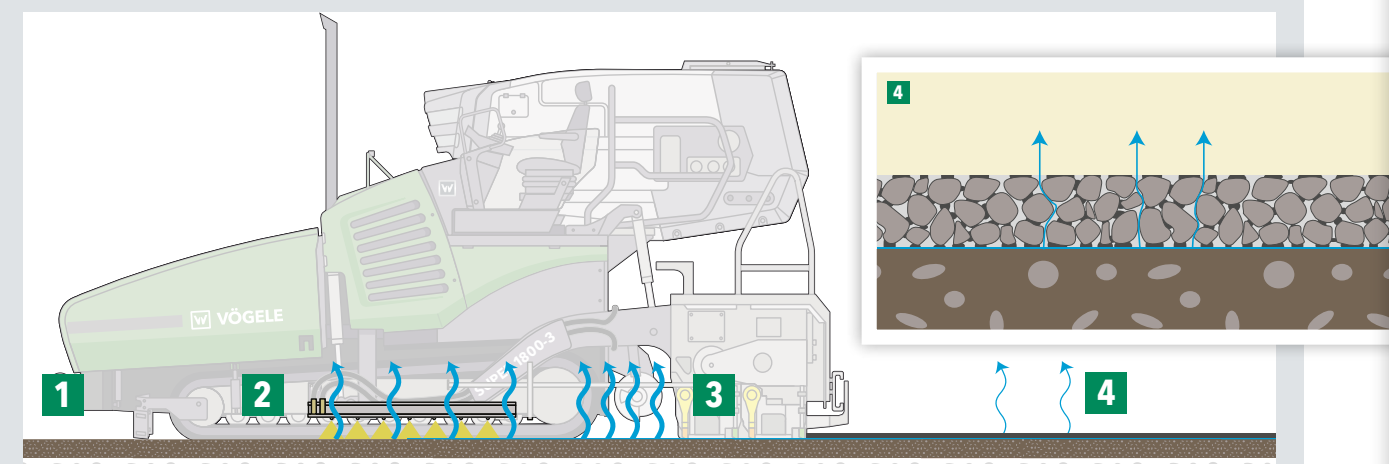
Another problem which should be avoided wherever possible is surrounding areas, roads and kerbs being soiled by passing job site vehicles. VÖGELE SprayJet technology has now made these problems a thing of the past.

With this VÖGELE technology, the fresh emulsion is directly overlaid with asphalt as soon as it is sprayed. Pavement rehabilitation using porous asphalt (OPA) is a method of growing importance in many countries. It is now commonly used mainly for noise control reasons, both on municipal roads and on motorways.

The VÖGELE paver with a SprayJet module has demonstrated on innumerable construction projects around the world that its special spray technology makes it the perfect machine for all road construction contractors - in terms of both quality and cost efficiency.

What happens when bitumen emulsion "breaks"?

The water begins to evaporate as soon as the hot bitumen emulsion is sprayed at a temperature of 70 to 80 °C. The remaining water evaporates spontaneously when the emulsion comes into contact with asphalt heated to over 100 °C. This causes the emulsion to "break" when VÖGELE SprayJet technology is used.



- 1 The prepared base is either a milled surface or a freshly-laid binder course.
- 2 Hot bitumen emulsion at a temperature between 70 and 80 °C is applied by the spray paver.
- 3 Paving of the binder or surface course starts. The bitumen emulsion "breaks" immediately, as the hot asphalt causes the water to evaporate, leaving a firmly-adhering film of bitumen.
- 4 Any water still remaining in the emulsion evaporates through the "open pores" of the asphalt overlay.

The VÖGELE SprayJet module

Effective insulation and the integrated electric heating (2 x 7 kW) ensure that the emulsion is maintained at the temperature required for spraying.

The capacity of the emulsion tank has been increased to 2,100 litres to extend the paver's range.

A compressed air system has been integrated in the module.

Even with the spray module installed, all the main service points are readily accessible behind **large hinged panels**.

An auxiliary gas heating system rapidly heats the bitumen emulsion to the required temperature if it is too cold on delivery.

A heated emulsion pump circulates the bitumen emulsion in the tank and ensures that it is permanently homogenized.

All circuits are switched automatically via **electronically-controlled ball valves**.

An additional filler port on the left-hand side ensures greater flexibility when refilling the emulsion tank of the "Dash 3" spray module.

VÖGELE spray technology



The **SUPER 1800-3 SprayJet** is equipped with five spray bars. The front spray bar has six spray nozzles and is located between the machine's crawler tracks right behind the push-rollers. An articulated spray bar installed on each side of the paver comes with 7 nozzles per side.

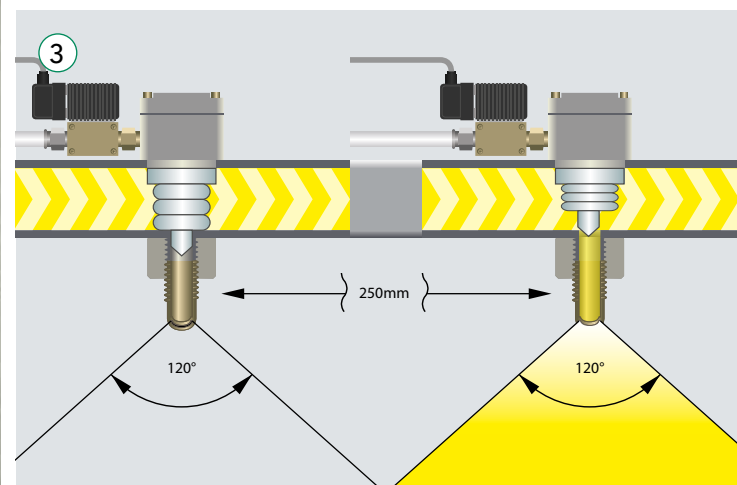
Finally, a short spray bar with two nozzles is provided right behind each crawler track. This arrangement of the spray bars allows full coverage of the road surface with emulsion, even when the pave width varies. The rate of spread can be selected accurately within the range of 0.3 and 1.6 kg/m²*.



The spray nozzles are opened and closed pneumatically. A compressed air system is integrated in the SprayJet module for this purpose.



A very low spray pressure of no more than 3 bar allows absolutely uniform spreading of bitumen emulsion and a clean result when spraying along kerbs.



The nozzles do not spray the emulsion continuously, but operate in pulsed mode. The frequency of the spray pulses is adjusted automatically as a function of the selected rate of spread, pave speed and pave width.



The particularly high quality of the spray nozzles guarantees perfect spraying.

The SprayJet nozzles do not spray the emulsion continuously, but operate instead in pulsed mode. The frequency of the spray pulses is adjusted automatically as a function of the selected rate of spread, pave speed and pave width. This achieves complete coverage of the existing surface with a uniform film of emulsion without any overlaps.

Emulsion is applied at an exceedingly low spray pressure of no more than 3 bar. In combination with the high-quality spray nozzles, this allows the emulsion to be sprayed in a clean, environmentally-friendly manner.

* The rate of spread per square metre must be determined as a function of the emulsion to be used. The rate of spread depends on the emulsion's consistency and temperature when applied, and on the size of nozzles used for spraying.

Perfect spraying even at the lowest rates of spread



VÖGELE SPRAYJET MODULE



The **VÖGELE SprayJet module** allows to precision selection of rates of spread, ranging from a very small to a large quantity of emulsion. The range extends fom 0.3 to 1.6 kg/m²*. Rate of spread and pave width can be selected independently of pave speed. The possibility of spreading emulsion accurately at a very low rate of just 0.3 kg/m²* makes VÖGELE SprayJet technology unique in the market. Please note that spread rates depend on the kind of emulsion used, emulsion viscosity and application temperature.

The SprayJet module’s colour touchscreen display provides the operator with all the important information and allows him to set the desired rate of spread easily.

Three different types of spray nozzle are available for the spray bars of the SprayJet module: nozzles of sizes 07, 10 or 16. Size 10 nozzles are fitted as standard. Size 07 nozzles have a throughput of 70% compared to size 10 nozzles (100%). Size 16 nozzles have a throughput of 160%.

Nozzle size	Spray pressure	Quantity	Length of sprayed patch
07	2 bar	0.3-0.5 kg/m ²	40-60 mm
10	2.5-3 bar	0.5-1 kg/m ²	40-60 mm
16	2.5-3 bar	1-1.6 kg/m ²	50-80 mm

* The rate of spread per square metre must be determined as a function of the emulsion to be used. The rate of spread depends on the emulsion’s consistency and temperature when applied, and on the size of nozzles used for spraying.

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 1800-3 SprayJet.

The Special Class paver has an exceedingly powerful drive system for jobs requiring maximum performance and is also highly economical in everyday use.

All drive components, from the diesel engine to the hydraulic system, operate at maximum efficiency.

Further innovations, such as the intelligent engine management with ECO mode and the VÖGELE EcoPlus low-emissions package, additionally ensure low fuel consumption and low-noise operation.

Modern drive technology

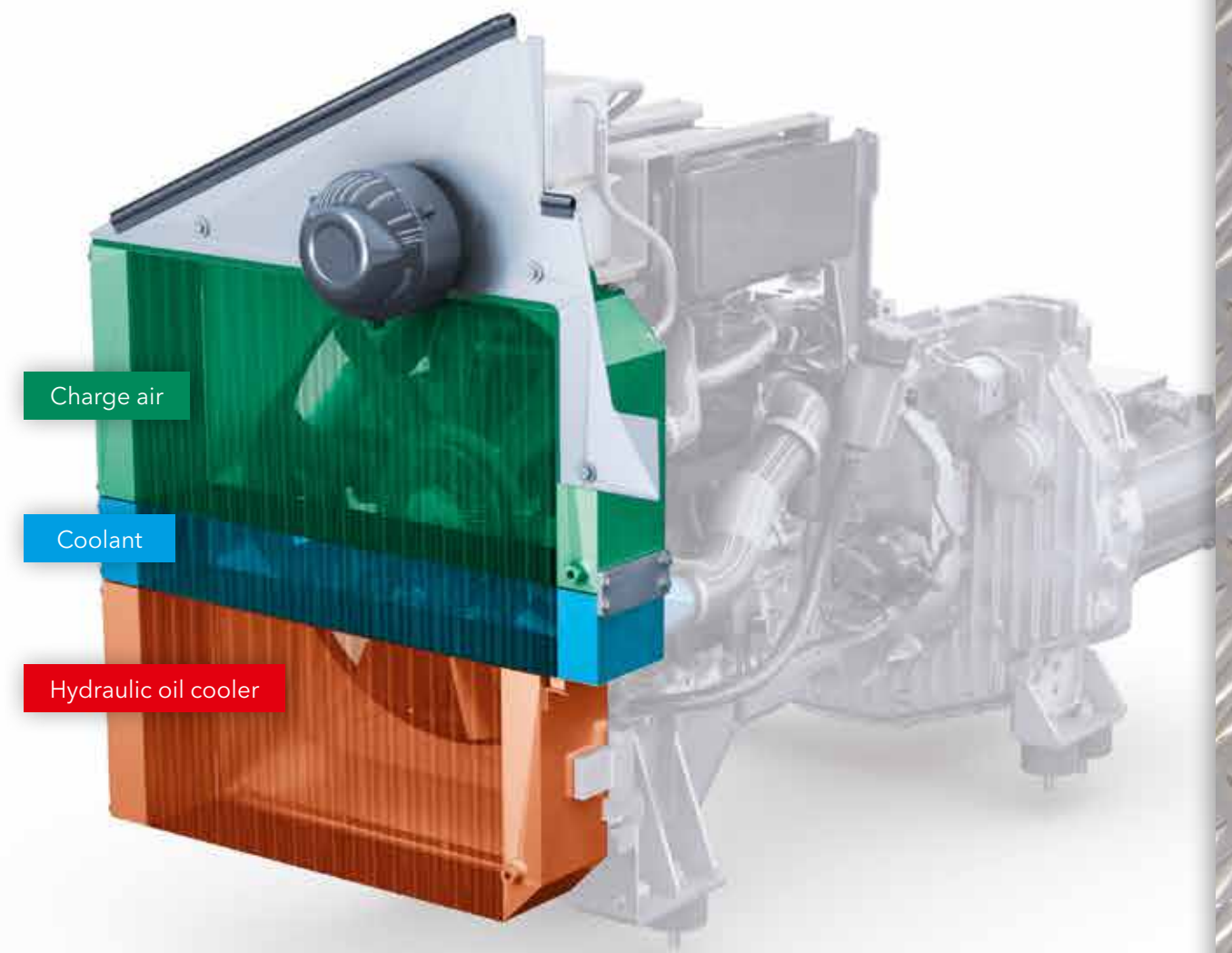
Three main components define the power unit of a SUPER 1800-3 SprayJet: its modern, liquid-cooled diesel engine, a splitter gearbox flanged directly to the engine and a large cooler assembly.

The driving force in this VÖGELE power pack is its diesel engine. The six-cylinder engine delivers 127 kW at 2,000 rpm, although fuel-saving ECO mode is sufficient for many applications. Even in ECO mode, the SUPER 1800-3 SprayJet still has a full 116 kW at its disposal. Moreover, the machine generates less noise when running at just 1,700 rpm.

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 continuously 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 by the splitter gearbox. Hydraulic pumps and valves are centrally located, making them easily 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.

- » **Powerful diesel engine** rated at 127 kW.
- » **ECO mode at 1,700 rpm** cuts operating costs and supports super-quiet operation..

- » **A powerful, oil-cooled generator** with direct drive ensures rapid, uniform heating of the screed.



Efficient transmission of engine power

High-quality separate hydraulic drives are essential components of the VÖGELE drive concept. They allow our pavers to operate incredibly cost-efficiently at a high level of performance.

Since the traction drive units are directly integrated in 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 ground contact deliver maximum tractive effort, allowing the paver to get on well at a constant speed even when operating on difficult terrain.

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



Advantages of the "Dash 3" generation



The **SUPER 1800-3 SprayJet** can be used both as a spray paver and as a conventional paver at any time. Regardless of the application, the machine always offers its operators all the various advantages resulting from the innovative edge of the "Dash 3" paver generation.

These advantages are of particular significance for construction projects in urban areas. The functions of AutoSet Plus automate on-site relocation and transport of the machine on the one hand, and store individual paving programs on the other.

This not only saves time, but also enhances process safety and pavement quality.

Despite all their differences, the "Dash 3" features have one thing in common: they are all consistently designed to improve the operator's control of the machine and the paving process, as well as to make the paver more eco-friendly. As a result, the SUPER 1800-3 SprayJet is also ideal for use as a powerful and versatile standard paver.



VÖGELE EcoPlus

The innovative VÖGELE EcoPlus low-emissions package includes a number of features for reducing both noise levels and fuel consumption. Fuel costs are cut by around 25% through the combination of an energy-optimized tamper drive, variable-speed fan, controlled hydraulic oil temperature circuit and splitter gearbox with ability to disengage hydraulic pumps.



PaveDock Assistant

PaveDock Assistant is the communication system between the paver operator and the feed vehicle driver. It allows particularly fast and reliable transfer of mix to the paver. The PaveDock Assistant communication system contributes greatly to process safety during transfer of the mix.



AutoSet Plus

AutoSet Plus incorporates two handy automatic functions: the Repositioning and Transport function makes it easier to change between work sections on the job site. The paver is automatically set to transport mode at the push of a button and the current settings are saved. The Paving Programs function allows paver and screed settings to be saved; they can then be called up when required at a later date, for instance on job sites with comparable conditions.

The **ErgoPlus 3** operating concept

Even the very best machine with the most advanced technology can only really show its strengths if it is as easy and as intuitive as possible to operate. At the same time, it should offer an ergonomic and safe working environment for the operating team. The ErgoPlus 3 operating concept accordingly focuses on the operator, so with VÖGELE pavers, the user retains full control over the machine and the construction project.

The following pages contain examples to provide you with more detailed information on the extensive functions of the ErgoPlus 3 operating concept. For the SUPER 1800-3 SprayJet, ErgoPlus 3 encompasses paver and screed operator's consoles and the control panel for the SprayJet module.

“Full control for the machine operator!”

The paver operator's ErgoPlus 3 console

Like all “Dash 3” generation pavers, the SUPER 1800-3 SprayJet comes with the VÖGELE ErgoPlus 3 operating concept which substantially facilitates the paver's handling. VÖGELE thus offers the operators every conceivable convenience expected of a modern operating system. All the important, regularly-used functions are clustered in logical groups, making their operation easy to learn.

Important spraying functions have been integrated in the large colour display on the paver operator's console which offers outstanding legibility, even in poor lighting conditions. Maximum possible pave speed as a function of the set rate of spread is displayed here for the paver operator. In addition, the handy automatic functions “Start of Job” and “End of Job” can be activated at the push of a button.



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

1// Indication of maximum pave speed

The display shows the maximum possible pave speed which still ensures full coverage of the road surface.

2// “Start of Job” and “End of Job”

The convenience functions “Start of Job” (F6) and “End of Job” (F8) are provided so that spraying always starts and ends at exactly the required point and continues over full pave width.

The screed operator's ErgoPlus 3 console

Safe and easy handling of all screed functions is a factor of utmost importance for high-quality road construction. All the essential data are displayed on the two ErgoPlus 3 screed consoles. Self-explanatory symbols make it easy to set or adjust parameters for the screed, conveyors and augers or for grade and slope control.

The VÖGELE SmartWheel is an exceedingly practical innovation. It allows pave and spray width to be conveniently adjusted at two speeds: slow, for precise screed width control along an edge, or fast for swift extension and retraction of the screed.

The two outermost nozzles on the spray bars at the sides can be switched on and off via the screed console to achieve precise spraying along an edge.



3// Outer spray nozzles

The two active outer spray nozzles can be switched on and off via the screed console. This enables the screed operator to master even more challenging job sites and to produce a perfect result.

4// SmartWheel

Both pave width and spray width are conveniently adjusted at two speeds by means of the SmartWheel.

The ErgoPlus 3 control panel for the SprayJet module

Operation of the SprayJet module has been consistently integrated in the ErgoPlus 3 operating concept. This applies not only to the icons used on the operator interface, but also to the “Touch and Work” principle.

All functions for preparation, spraying and cleaning are conveniently selected and started via the touchscreen mounted directly on the module. Work sequences are completed automatically in accordance with the function which has been selected.

All this makes operation of the SUPER 1800-3 SprayJet module extremely safe and simple.



5// Preparation

All the functions needed to prepare for spraying can be set via menus 5.1 to 5.3. Menu **5.1** controls the process of filling the emulsion tank, menu **5.2** is used to set up the nozzles, whilst the parameters for heating and circulating the emulsion are set in menu **5.3**.

6// Cleaning

The ErgoPlus 3 SprayJet module includes a fully automatic cleaning program to ensure that lines and valves are cleaned thoroughly.

7// Spraying

The paver operator can set up and monitor all the relevant spraying parameters, such as the filling level of the emulsion tank, temperature, spray pressure and rate of spread, as well as nozzle activity.

The ErgoPlus 3 control panel for the SprayJet module



Operation of the SprayJet module is effected entirely using the ErgoPlus 3 control panel on the spray module. Clearly legible in all weather conditions, the touchscreen assures the operator of full control over the spraying process at all times.

The "Dash 3" generation VÖGELE spray paver provides a large number of convenient automatic functions meeting practical needs. For the operator, they fundamentally simplify preparation of the spray module, the spraying process itself and maintenance of the spray module.

All the settings required for filling, circulating and heating the emulsion can be entered and monitored directly via the touchscreen.

Depending on the size of nozzle installed and the selected rate of spread, maximum pave speed is calculated by the SprayJet module's control unit and displayed on the paver operator's ErgoPlus 3 console. This ensures uniform application of the emulsion.

The rate of spread can be set here just as easily and the nozzles calibrated or switched on and off individually. Correct operation of the front spray bar is monitored electronically, as it is out of sight of the screed operator.

Lines and valves are cleaned in a fully automated process controlled by a separate program.



Spraying menu

The entire spraying process is monitored here. The operator can monitor at a glance all settings and values such as spray nozzle activity (active/inactive/switched off) and spray pressure.



Nozzle setup menu

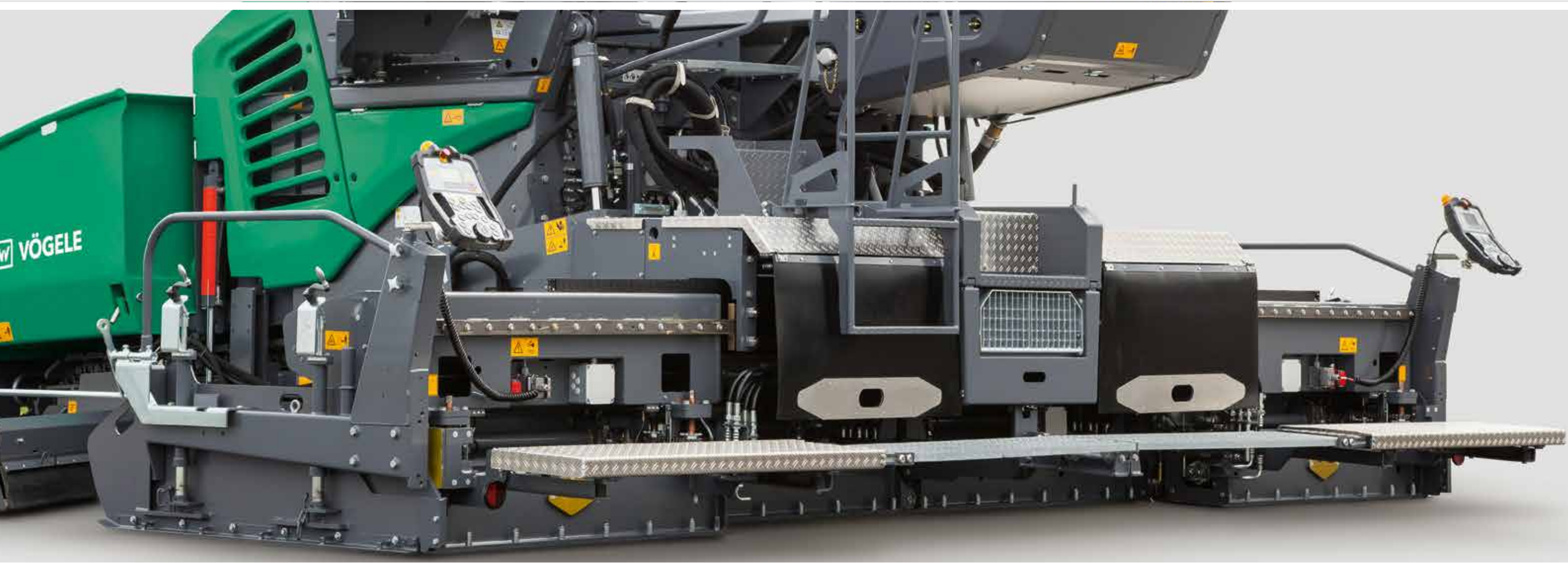
The size of nozzle installed can be entered in this menu, and nozzles can be tested and the rate of spread checked here.



Cleaning menu

The number of cleaning cycles is shown here as a function of the degree of soiling. The circuits to be cleaned are actuated individually. A preservative can be added to the final cleaning cycle. Once started, the cleaning process is executed entirely automatically.

VÖGELE extending screeds for perfect paving quality



For the **SUPER 1800-3 SprayJet**, two screed options are available: AB 500 and AB 600. Either of the extending screeds handles pave widths up to 6 m. The AB 600 comes with a basic width of 3 m and extends hydraulically up to 6 m. The AB 500 builds up to its maximum width of 6 m with additional bolt-on extensions (75 cm). The widths of the screeds are limited electronically to a maximum of 6 m. Either screed is available in the TV version (with tamper and vibrators) or in the TP1 version (with tamper and 1 pressure bar).

Like all VÖGELE screeds, the AB 500 and AB 600 Extending Screeds also feature efficient electric heating.

Screed and emulsion tank are heated independently, so the emulsion can be heated without the need to heat the screed.

All the vital information is displayed on the two ErgoPlus 3 screed consoles for the operators: self-explanatory symbols facilitate setup and the making of adjustments.

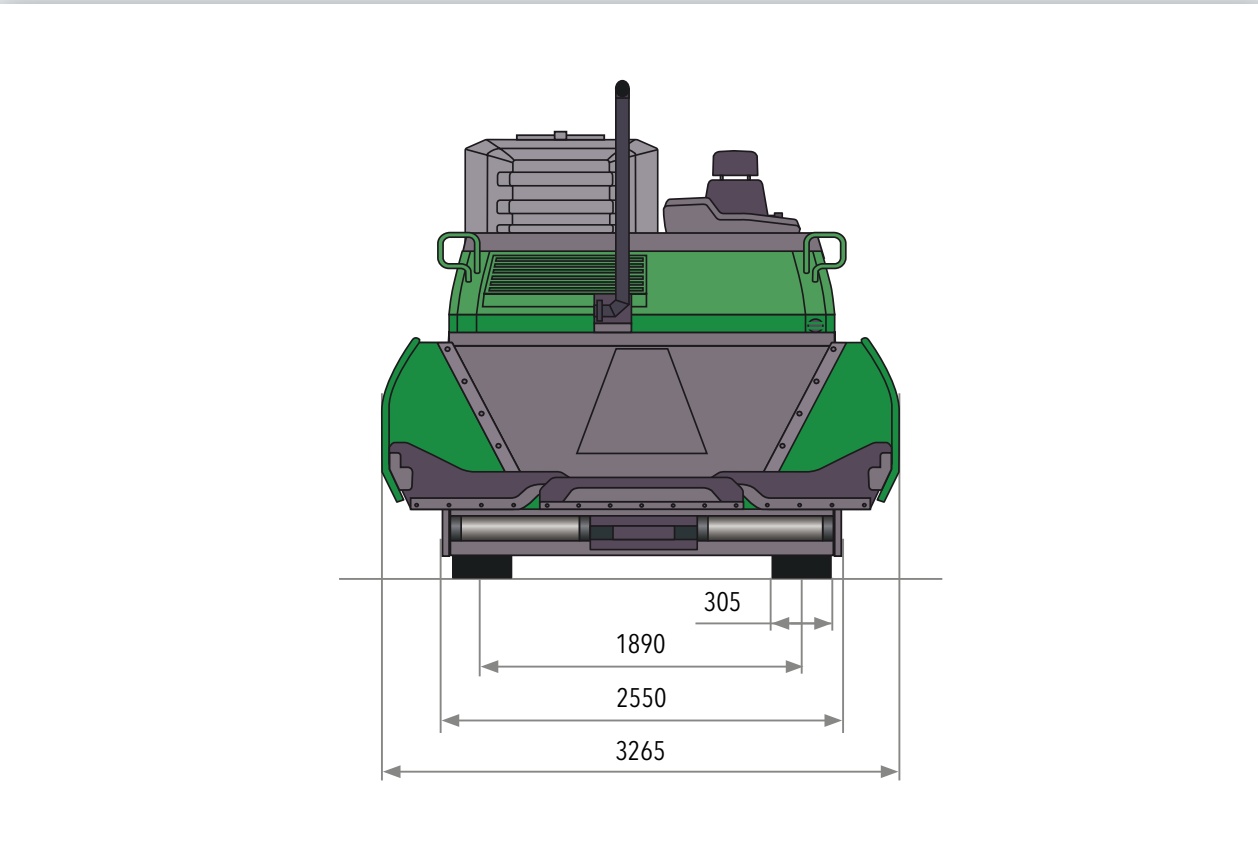
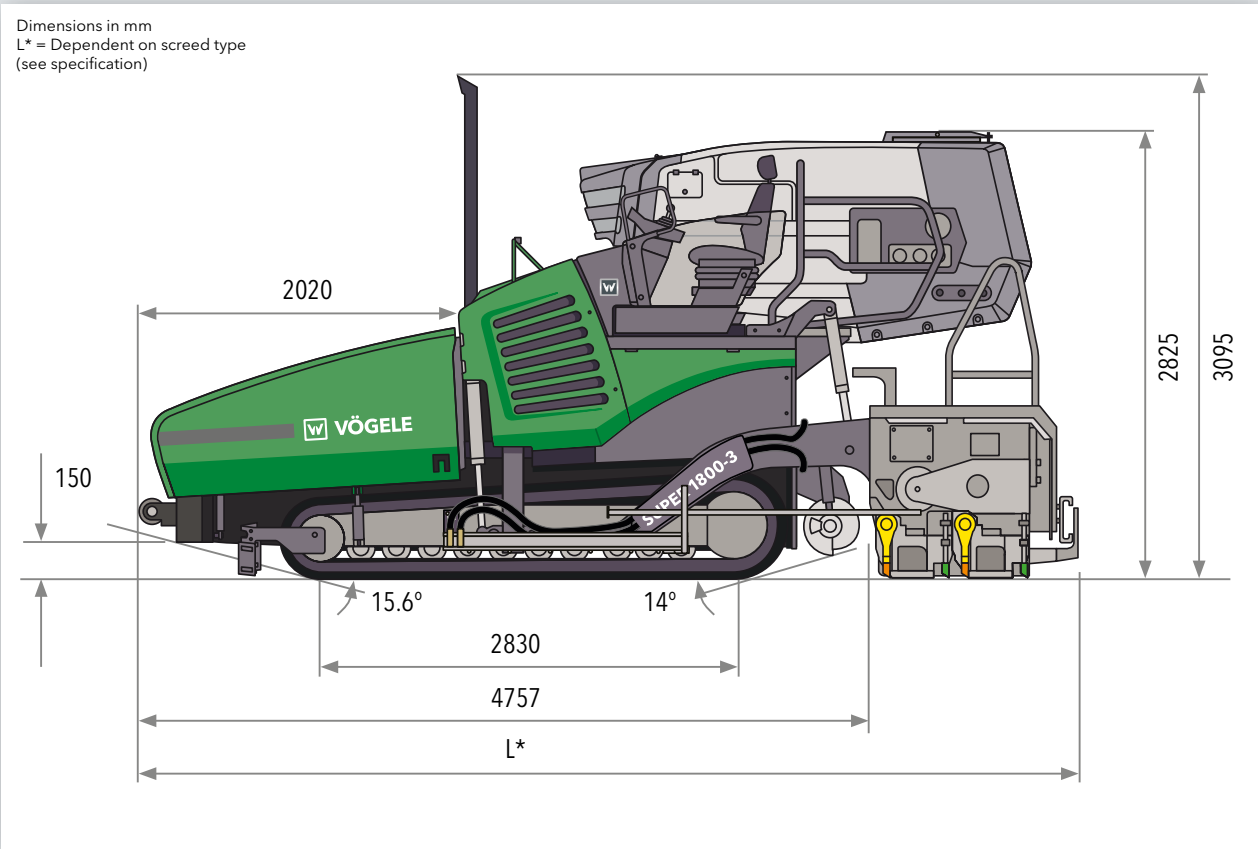
Possible configurations

SUPER 1800-3 SprayJet	Maximum spray width 5 m	Maximum spray width 6 m	Extra emulsion tank 5,000 litres
AB 500 TV Extending Screed	✓	✓	✓
AB 500 TP1 Extending Screed	✓	✓	✓
AB 600 TV Extending Screed		✓	✓
AB 600 TP1 Extending Screed		✓	✓

All the facts at a glance



FACTS



Power unit	
Engine	6-cylinder diesel engine, liquid-cooled
Manufacturer	Cummins
Type	QSB6.7-C170
Output	
Nominal	127 kW at 2,000 rpm (according to DIN)
ECO mode	116 kW at 1,700 rpm
Exhaust emissions standard	EU Stage 3a, US EPA Tier 3
Fuel tank	300 litres

Undercarriage	
Crawler tracks	provided with rubber pads
Ground contact	2,830 x 305 mm
Track tension adjuster	spring assembly
Track roller lubrication	lifetime
Traction drive	separate hydraulic drive and electronic control provided for each crawler track

Undercarriage	
Speeds	
Paving	up to 24 m/min., infinitely variable
Travel	up to 4.5 km/h, infinitely variable

Material hopper	
Hopper capacity	13 t
Width	3,265 mm
Feed height	594 mm (bottom of material hopper)
Push-rollers	oscillating
Position	can be displaced forwards by 75 mm

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 33 m/min., infinitely variable (manual or automatic)

Conveyors and augers	
Augers	2, with exchangeable auger blades, auger rotation reversible
Diameter	400 mm
Drive	separate hydraulic drive provided for each auger
Speed	up to 84 rpm, infinitely variable (manual or automatic)
Height	infinitely variable by 15 cm, hydraulic, lowest position 10 cm above the ground
Lubrication	automatic centralized lubrication system with electric grease pump

Screed options	
AB 500	basic width 2.55 m infinitely variable range 2.55 m to 5 m maximum pave width 8.5 m maximum spray width 6 m compacting systems TV, TP1
AB 600	basic width 3 m infinitely variable range 3 m to 6 m maximum pave width 9 m maximum spray width (TV/TP1) 6 m compacting systems TV, TP1

SprayJet module	
Emulsion tank	heated electrically, controlled by thermostat
Capacity	2,100 litres as standard, with extra tank (option) 7,100 litres
Tank shell	insulated
Spray bars	5 segments
Spray width	extending from 2.55 to 6 m
Distance between nozzles	250 mm
Spray nozzles	double-slotted
Rate of spread	0.3 to 1.6 kg/m²*
Spray cone	120°
Spray pressure	3 bar (max)

Dimensions (transport) and weight	
Length	tractor unit with screed
AB 500/600	TV/TP1 6 m
Weight	tractor unit with empty module and screed
AB 600 TV	22,420 kg

Key: AB = extending screed TV = with tamper and vibrators
TP1 = with tamper and 1 pressure bar

Subject to technical modification.
* The rate of spread per square metre must be determined as a function of the emulsion to be used.
The rate of spread depends on the emulsion's consistency and temperature when applied, and on the size of nozzles used for spraying.



Your VÖGELE QR Code
will take you straight to the
"SUPER 1800-3 SprayJet"
on our website.



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