

# RoadNews

Technical highlights for HAMM HD+ and DV+ series rollers:  
**Split drums boost quality**





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New WIRTGEN large milling machine generation with Mill Assist:  
Making the best use of smart technology.





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Top Feature

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# Editorial

**We deliver real added value for users and contractors.**

The first of the new generation WIRTGEN large milling machines have been put into service in North America. So we're taking the opportunity to introduce users to one of its real highlights in more detail: The smart Mill Assist feature makes milling even easier and economical.

Innovative technologies from VÖGELE and HAMM also make laying and compacting asphalt easier and more effective. The VÖGELE SUPER 1800-3i SprayJet paver with spray assembly, for example, is able to spread bitumen emulsion and pave over it in a single pass. The split drums in the rollers of the HD+ and DV+ enhance compaction quality in curves without the operator having to intervene.

And last but not least, KLEEMANN has launched a new generation of jaw crusher - the MOBICAT MC 110i EVO2. It integrates a whole range of benefits that make crushing more flexible, easier, and more efficient.

We hope you enjoy this sixth issue of RoadNews.

Best regards,



**Jim McEvoy**  
President & CEO  
WIRTGEN AMERICA, Inc.



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Mill Assist as standard

# Work in a more efficient yet relaxed way – automatically



With the new flagship W 250 Fi and W 220 Fi machines, cold milling specialist WIRTGEN has put the finishing touches to its new generation of large milling machines. The star of the F-series is the Mill Assist machine control system.





All the new-generation large milling machines - W 250 Fi, W 220 Fi, W 210 Fi, W 207 Fi and W 200 Fi - are equipped with Mill Assist machine control as standard. Mill Assist dynamically controls the operating point of the machine; in other words, it automatically adapts the speed of the diesel engine and the milling drum, the advance drive, machine advance rate and water usage to suit changing job site conditions. As a result, the enormous power reserves of the large milling machines are distributed to the various machine components to suit requirements.





## Simply preset the milling result you want – before you start



Operators of conventional cold milling machines have no choice: they have to continually adapt all the parameters manually to get consistently optimal settings. WIRTGEN large milling machines are different. Their automatic mode means operators don't have to worry about anything. The machine continuously calculates the optimal working balance of milling performance and operating cost.

Depending on the project, the operator can also select between "cost-optimized", "performance-optimized" or "milling pattern quality" strategies. The entire milling process is simulated in real time (job site analysis), and optimized based on a comprehensive analysis of all parameters. The control screen shows operators how they can further optimize the milling process, as well as displaying the savings and efficiency improvements on manual machine operation. Experience with the new large milling machines in the field indicates that users work with Mill Assist for over 90% of the time.



### Explained simply:

#### What the job site analysis displays.

- > **ACT**  
Savings potential on total cost, and performance boost achieved (ACT standing for "actual")
- >   
Overall rating of the milling job
- >   
Saving/performance boost when milling in two passes
- > **LA 25**  
Saving/performance boost from using a milling drum with a larger tool spacing than the one currently being applied







# 1

**Goal: Optimize cost when working.**

**Strategy: ECO**

## Scenario

On a job site with a daily all-inclusive rate, the machine encounters varying material hardness when milling. The operator has to adapt machine settings accordingly.

## How does Mill Assist help?

In ECO mode, it always automatically looks for the machine operating point delivering the best fuel consumption and pick usage per cubic meter of milled material. The machine runs primarily in the low milling drum speed range when doing this.

## What's the benefit?

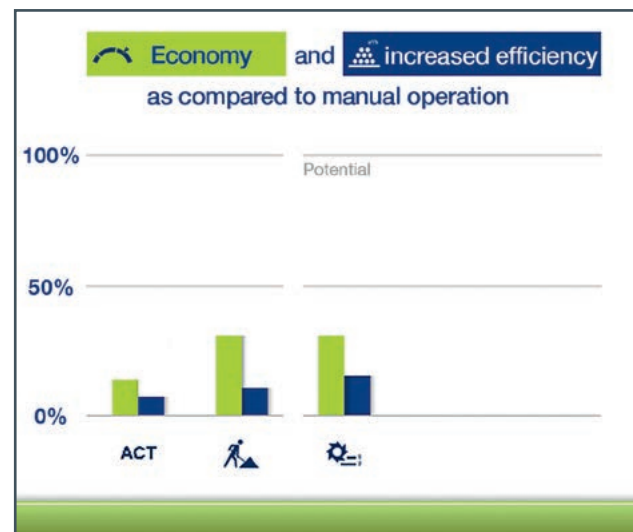
The control panel display indicates that using Mill Assist in ECO mode is currently achieving a 12% saving in fuel consumption and pick usage compared to manual adjustment. The display also tells the operator that by milling in two passes he could save around 30% more on fuel consumption and pick usage.

## What's the result?

The milling job site is executed in a highly efficient, economical and environmentally-friendly way. Diesel and water consumption, pick usage, CO<sub>2</sub> emissions and noise can be significantly reduced. Mill Assist simplifies operators' demanding work, allowing them to concentrate on loading and driving.

## Primary application:

Job sites with a daily all-inclusive rate



# 2

# POWER

**Goal: Maximum area performance.**

**Strategy: POWER**

## Scenario

The schedule for full upgrading of a highway has been changed. Milling needs to be completed in a shorter time frame.

## How does Mill Assist help?

In Power mode, it runs the machine in the operating range with the highest possible area performance rate. The engine and milling drum run more in the higher speed range.

## What's the benefit?

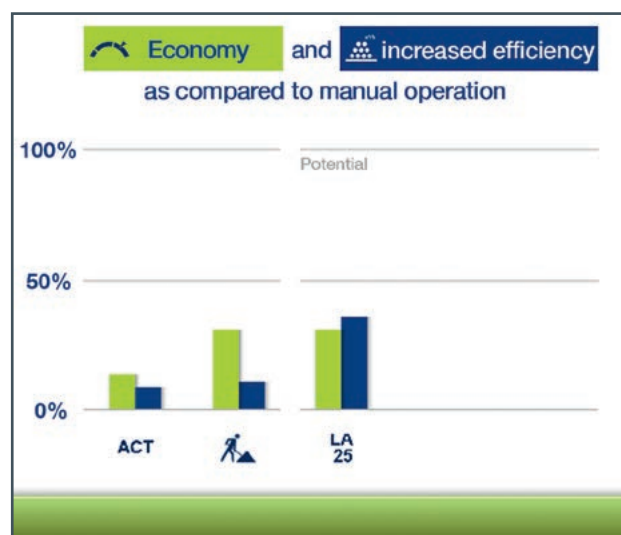
Job site analysis shows that in Power mode a performance boost of around 8% is currently being achieved. Switching to an LA 25 milling drum, with a 1 in tool spacing, would even make it possible to increase this another 35%.

## What's the result?

Milling projects can be completed very quickly, yet more economically. In this mode, too, the machine control system automatically controls the advance rate, engine speed, and water. With no need to make manual settings, the milling machine operator can concentrate on loading and driving.

## Primary applications:

Full upgrading, time-critical job sites







### 3

**Goal: Create a defined milling surface.**

**Strategy: Milling pattern**

#### Scenario

The specification for a surface layer rehabilitation requires a specific milling pattern quality.

#### How does Mill Assist help?

In Milling Pattern mode, Mill Assist continuously adapts the milling drum speed to the large milling machine's travel speed. If the machine moves too slowly, the operator is prompted to increase the advance rate. The advance rate is limited because, understandably, the milling pattern quality cannot be maintained above a certain travel speed.

If, on the other hand, the machine is traveling too fast, the operator is told to reduce the advance rate. In both cases, he can override the limit if required, though this will alter the milling pattern.

#### What's the benefit?

The machine maintains the preset milling pattern quality, regardless of how quickly milling needs to proceed or how hard the material is. The scale for milling pattern quality ranges from 1 (coarse) to 10 (very fine). The image below shows milling pattern quality 4.

#### What's the result?

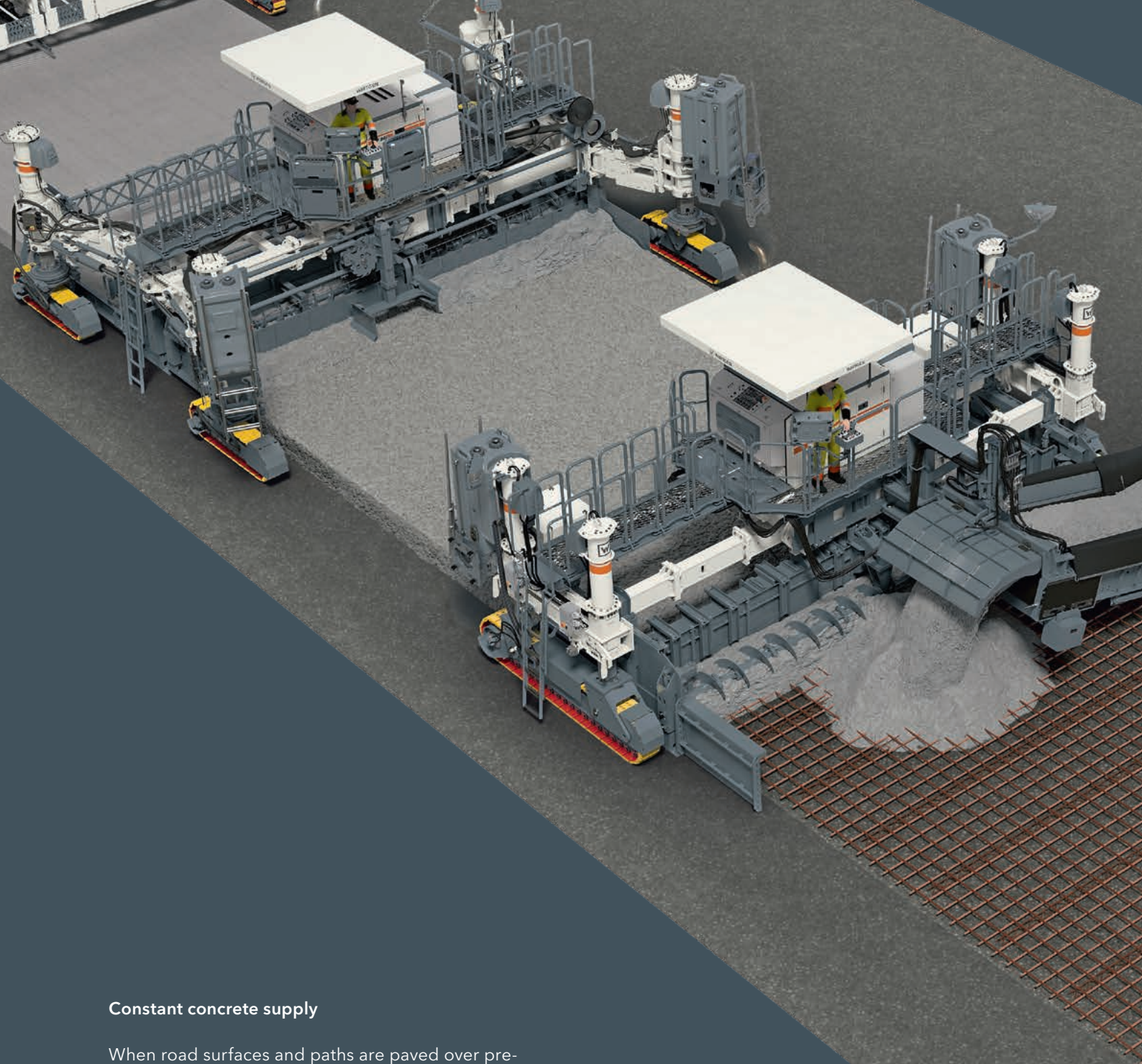
A consistent, uniform milling pattern is generated across the entire milling surface - a clear indicator of quality on a milling job site. Uniform quality also pre-empts any demands from clients for reworking. Consistency at this level is very hard to achieve without the computer-assisted system, even for highly experienced machine operators.

#### Primary applications:

Surface layer milling and fine milling







### Constant concrete supply

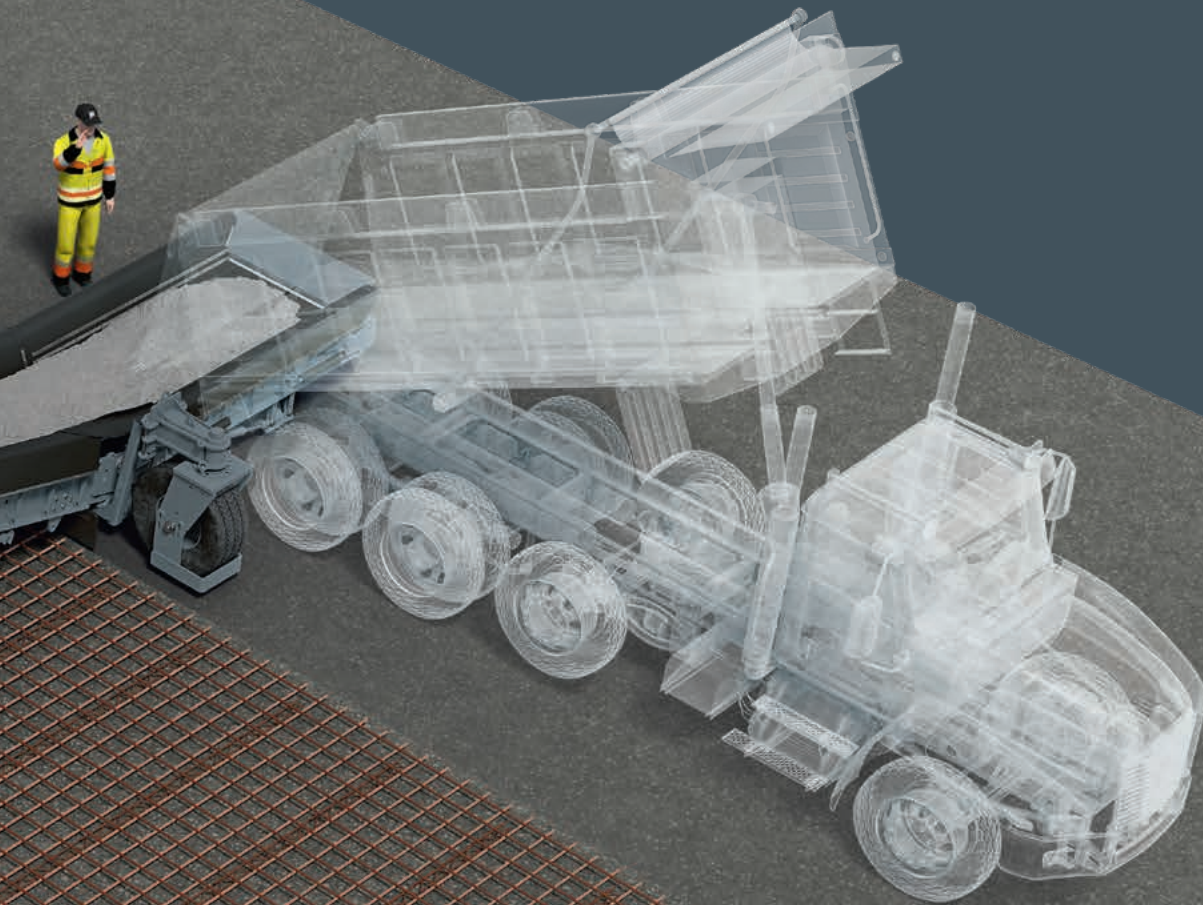
When road surfaces and paths are paved over pre-placed reinforcement, the concrete can often only be supplied from the side. As the first machine in the WIRTGEN paving train, the WPS 62i/WPS 62 side feeder travels along the pre-placed reinforcement in front of the slipform paver and the texture curing machine.

A truck feeds the concrete from the side, which the side feeder then evenly distributes over the entire working surface. The slipform paver following behind paves the concrete in the required width. At the same time, the paver compacts and smooths the concrete. To complete the process, the texture curing machine produces a defined surface structure, and sprays evaporation protection onto the fresh concrete surfacing.

### Different strike-off units

The WPS 62i/WPS 62 is available with two different strike-off units: in metric dimensions with working widths between 4 m and 7.5 m, and in imperial measures between 12 ft and 24 ft wide. The concrete can be pre-spread for a paving height of up to 500 mm/20 in. The machine's engine rated output is 180 kW complying with the EU Stage IV/US EPA Tier 4f emission standard (155 kW in EU Stage IIIa/US EPA Tier 3).





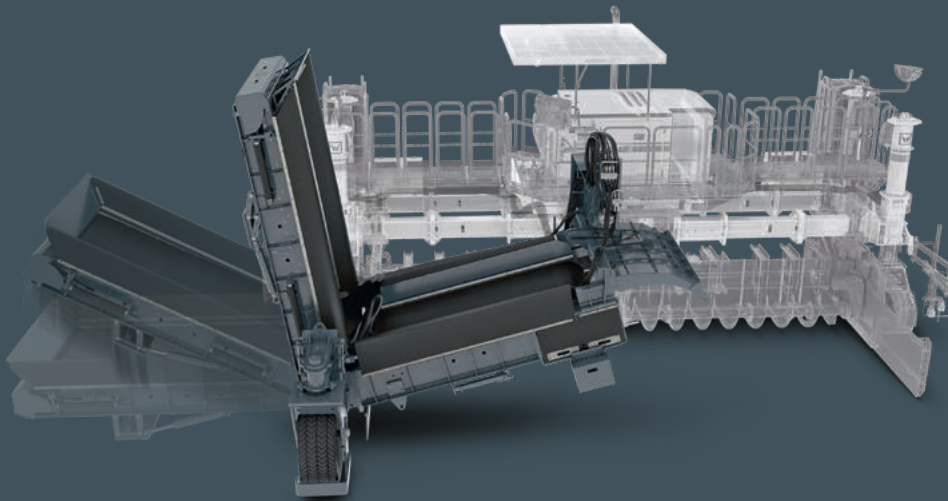
# The Number One in the paving train

The new WIRTGEN WPS 62i/WPS 62 side feeder  
powerfully feeds concrete from the side, spreading it  
homogeneously in front of the slipform paver.



## Powerful concrete feeding

The 94 kW drive motor on the belt conveyor ensures high conveyor speeds of up to 9.8 ft/s and high conveying capacity. The feeding unit only takes a maximum of 6 seconds to fold out, so avoiding waiting times for concrete transport vehicles.



### Concrete supplied quickly and reliably

Intelligent control of the powerful, fast-folding belt conveyor, and the high speed of the 5 ft 3 in wide belt, ensure continuous delivery of the concrete. Also, many of the concrete feeding functions are hydraulic as standard. This enables the concrete to be supplied quickly and reliably for the following slipform paver.





#### **High machine availability thanks to flexible conversion**

The hydraulically telescoping machine frame and the concrete strike-off unit enable the two-chain side feeder to be adapted to any job site situation. Thanks to its fully modular design with standard hydraulic quick-change couplings, the WPS 62i/WPS 62 can also be easily converted and quickly prepared for transport to the next location, so increasing the machine's availability.

#### **Standardized operating concept - for the entire Wirtgen paving train**

Operators also benefit from simple, standardized operation of the entire paving train. This is because the development experts at WIRTGEN adopted the operating concept for the WPS 62i/WPS 62 from the current series of slipform pavers and texture curing machines. As a result, machine operators can now easily control each of the three paving train machines without further training.

# Highlights

## WPS 62i

### 2 Powerful concrete feeding system

- > 5 ft 3 in wide conveyor belt
- > High drive power for high conveyor speed of 3 m/sec
- > Feeding unit folds very rapidly (max. 6 sec)
- > Hydraulically height-adjustable feeding unit

### 1 Intelligent Machine Concept

- > Homogeneous distribution of large quantities of concrete fed from the side
- > Two-chain side feeder based on the tried-and-tested SP 62/SP 62i slipform paver
- > Fully-modular machine setup for pave widths from 4 - 7.5 m/12 - 24 ft
- > Hydraulically telescoping machine frame





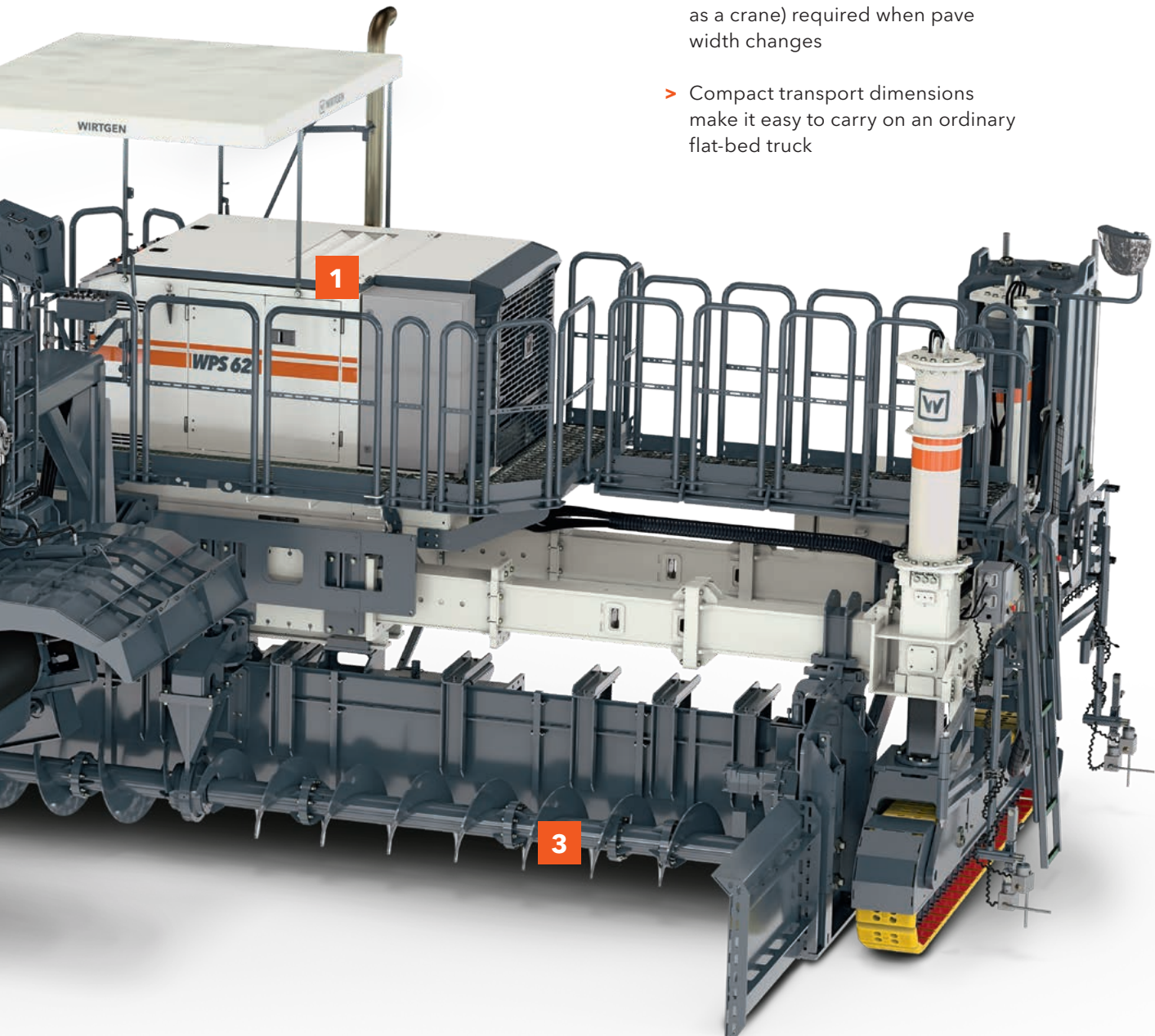


### 3 Heavy-duty concrete equipment

- > High-performance auger for powerful concrete spreading
- > Side headers which can be adjusted in height by up to 20 in for reliable operation
- > Solid strike-off wall with self-supporting telescoping system
- > Height of strike-off wall can be adjusted manually or by an extra remote control

### 4 Easy conversion and transport

- > Easy conversion of strike-off wall and spreading auger when paving width changes
- > Minimal adjustment of concrete feeding when paving width changes
- > No other auxiliary equipment (such as a crane) required when pave width changes
- > Compact transport dimensions make it easy to carry on an ordinary flat-bed truck



WPS 62i



The VÖGELE VF 600 impresses:

## New version of front-mounted screed enhances user-friendliness and paving quality

On a 10 mile stretch of US 51 in Holmes County, Mississippi, the new VÖGELE VF 600 screed proved how “smooth” its upgrades are for APAC-Mississippi. Mounted on the VÖGELE SUPER 2003-3i paver, the VF 600 is the latest generation of front-mounted extending screeds developed for the 10 ft Highway Class pavers. With numerous user-friendly innovations, it has made operations at the Holmes County job site even more efficient. On top of that the innovative electric screed heating reduced APAC-Mississippi’s start up time and more even distribution of the heat accounts for improved paving performance.



Mississippi | Holmes County



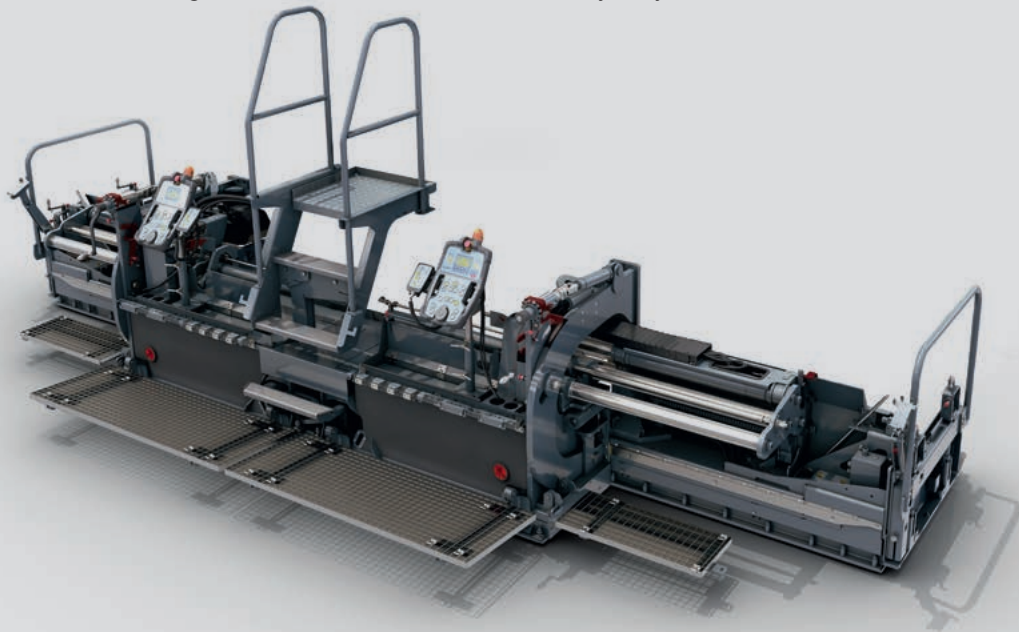


The sturdy, smoothly sliding telescoping system of the VF 600 guarantees precise paving across all widths.



### Highlights of the VF 600

- > Maximum paving width up to 25 ft 6 in
- > Smooth, robust telescoping system for precise operation at all widths
- > Innovative electric screed heating
- > Easy-to-use ErgoPlus 3 operating system
- > Compact design allows for great visibility to all areas
- > Particularly easy to clean



### High precision across the full paving width

As with every extending screed from VÖGELE, the VF 600 have a particularly robust guide system. Thanks to its sturdy design, it features excellent stability, even if the paving width varies continually.

The L-shaped main frame is an important element in this context. On the one hand, its high rigidity prevents the screeds from warping in a longitudinal or transverse direction. At the same time, it permits a controlled torsion of the screeds as required for certain paving tasks.

Stable guidance of the extensions is always guaranteed, despite this permitted torsion. As the guide system is mounted on the screeds at an outward position, the torsion of the main frame is never transferred to this guide system.

### Simple operation for high operating comfort

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.

The powerful hydraulic system controls each extension separately, ensuring that ample power is always available to move them as required. The fact that the screeds can be extended absolutely symmetrically on both sides enhances variability on the job due to independence of the paving direction.

This was also a key factor in the successful Holmes County job site. "This stretch of road has a lot of driveways and turnouts for fields, so we run the end gate in and out a bunch" reflects screed operator Fred Course Jr. "The controls are easy and hydraulics are smooth, giving us a good-looking job."





Paving 12 ft wide and 1.5 in thick, APAC-Mississippi was overlaying US 51 with 9.5 MM Superpave between Pickens and Durant, Mississippi.



**The controls are easy and hydraulics are smooth, giving us a good-looking job.**

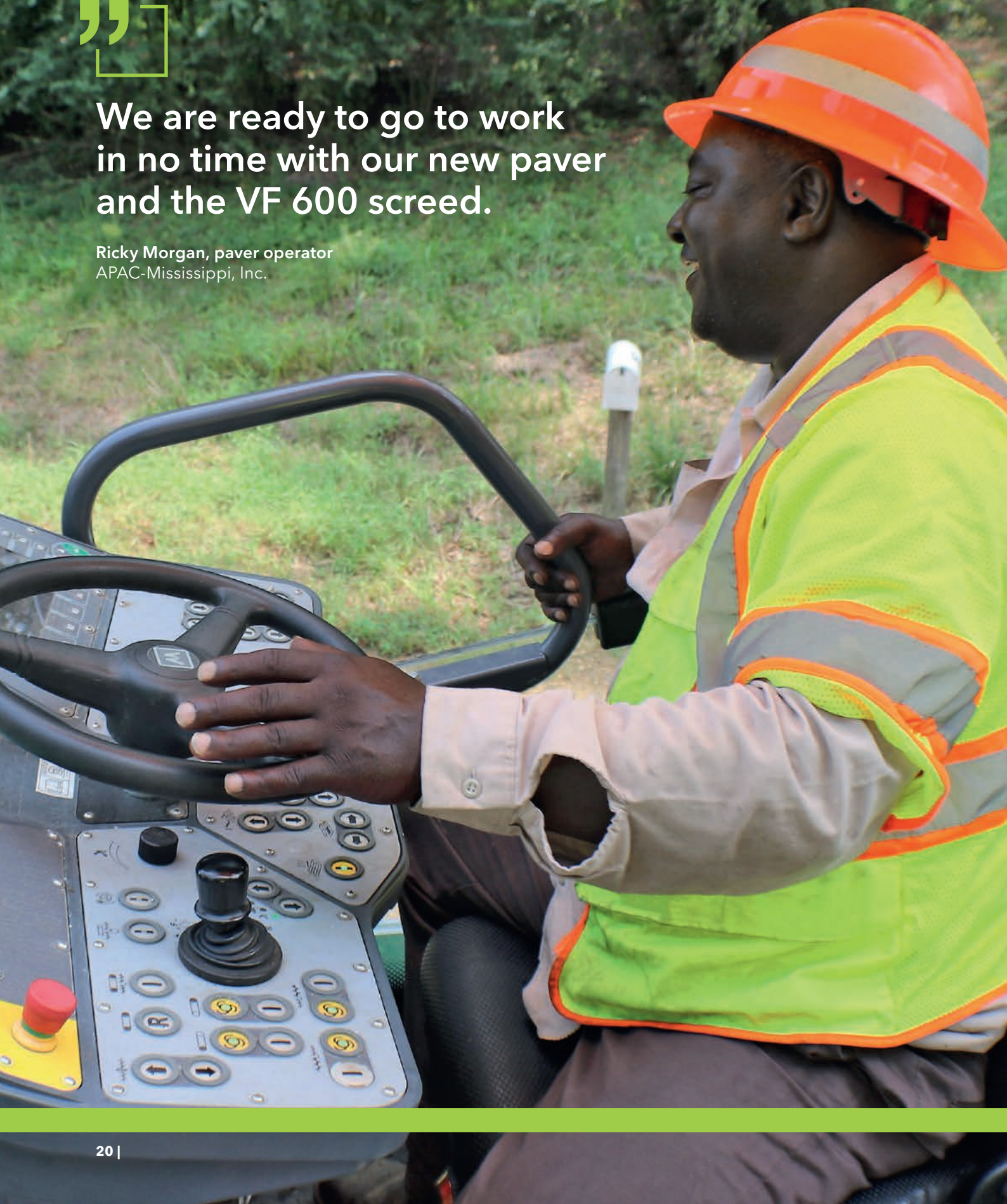
Fred Course Jr., screed operator  
APAC-Mississippi, Inc.





**We are ready to go to work  
in no time with our new paver  
and the VF 600 screed.**

Ricky Morgan, paver operator  
APAC-Mississippi, Inc.







### High degree of evenness thanks to Big MultiPlex Ski sensor system

To ensure a smooth ride, APAC-Mississippi, Inc. equipped their SUPER 2003-3i with the Big MultiPlex Ski option and Niveltronic Plus for automated grade and slope control. The latest version of the Big MultiPlex Ski is particularly user-friendly – and can be set up completely in just seven minutes. Its 16.5 ft to 42.5 ft beam can be fitted with three multi-cell sonic sensors. This enables the Big MultiPlex Ski to scan several reference points along the length of the beam. VÖGELE's Niveltronic Plus System for Automated Grade and Slope Control calculates a mean from the measurements taken across the entire measuring range, making up for any unevenness over long distances. In this way, the system operates with much greater precision than an individual single-cell or multi-cell sensor.

### VÖGELE technology the unanimous choice

Jim Holland, Vice President of Sales for VÖGELE in North America commented, "APAC-Mississippi invested in bringing their paving crews to the headquarters of WIRTGEN AMERICA in Nashville to see and experience the SUPER 2003-3i with the VF 600 screed firsthand before making a buying decision. After speaking with our product experts and operating the equipment on our demo grounds, the crews better understood the thought and engineering that goes into our pavers that make it easier to operate and provides superior productivity." After returning to Mississippi, the crews who were given the opportunity to choose between the different manufacturers all chose VÖGELE. We are proud to be a preferred partner.

APAC-Mississippi equipped their SUPER 2003-3i with the Big MultiPlex Ski: The system operates with much greater precision than an individual single-cell or multi-cell sensor.



SUPER 1800-3i SprayJet:

**"A machine  
like no other."**



Paving a thin surface layer "hot on hot" on top of sealer: The SUPER 1800-3i SprayJet paver with spray assembly for bitumen emulsion is a VÖGELE technical highlight.





North American contractors and government road agencies have relied on the VÖGELE SUPER 1800-3i SprayJet paver with the VR 600 extending screed to place ultrathin bonded overlays for years. However, SprayJet technology is increasingly being used by state departments of transportation for federally funded pavement preservation contracts.



# SprayJet Technology



### SprayJet technology saves time

Utilizing polymer-modified emulsion from the onboard tank, a computer-controlled spray system built into the SUPER 1800-3i SprayJet places a bond coat over a width up to 19 ft 8 in directly in front of the ultrathin bonded overlay. In addition to bonding the new open graded surface mix and existing asphalt road together, the emulsion creates a water barrier membrane, preventing water from wicking up through the pavement causing freeze and thaw fractures.

On top of this bond coat, the paver immediately places a polymer-modified, open-graded surface mix – fed by truck or material transfer vehicle – that cures very rapidly as it is compacted by a static roller. The resulting ultrathin lift optimizes water penetration to improve vehicle traction, while mitigating tire noise and back spray. The one-pass construction process moves quickly, minimizing the time necessary for lane closure and inconvenience to the traveling public. It also reduces the time crews are exposed to dangerous vehicle traffic.

### Highly economical thin layer paving

During a night job, the crew at Asphalt Paving Systems Inc., APS, was using their VÖGELE SUPER 1800-3i SprayJet paver and the VR 600 screed with rear-mounted extensions, on New Jersey's Route 8. The 19-mile section consisted of 7 miles of south bound lanes and 12 miles of the north bound. Tom Zook, the NJ DOT Resident Engineer on site stated that APS' new SUPER 1800-3i SprayJet paver with an integral bond coat spray system was contracted to place polymer-modified ultrathin bonded overlay, 3/4-in deep and 12 ft 6 in wide.

"The goal", Zook sighted "is to save state tax dollars by designating this project pavement preservation, which is funded by the federal government". Unlike a traditional mill and fill job, pavement preservation is achieved by prolonging the life of the existing asphalt by applying a new ride course of ultrathin bonded overlay. This was just the second time APS had the opportunity to demonstrate this technology to NJ DOT. "It is a process we could use more of." said Zook.



With the extra tank, a total of 1,875 gallons of bitumen emulsion are available for spraying.

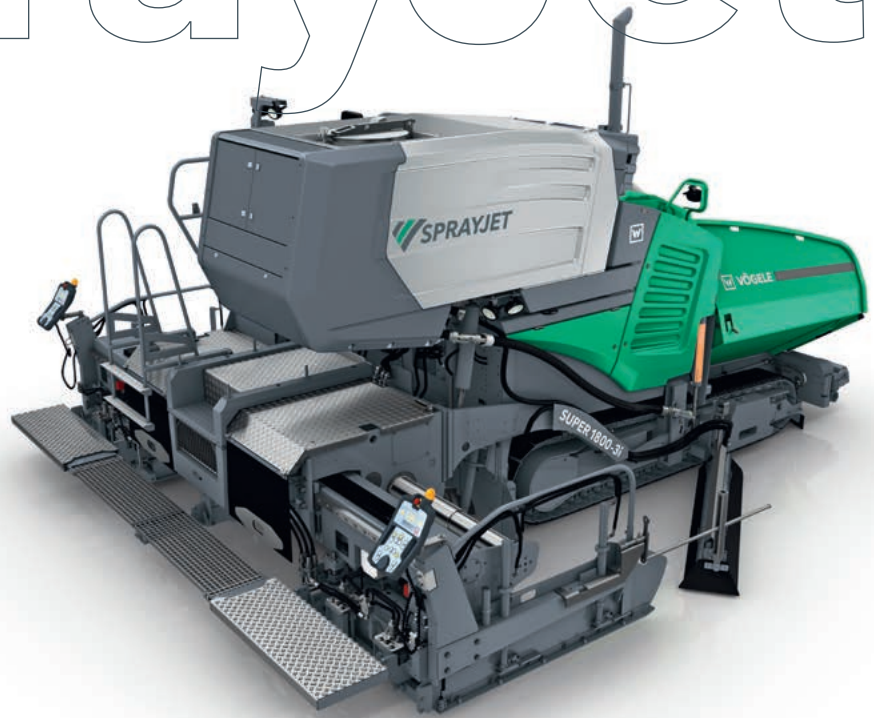






# SUPER 1800-3i SprayJet

Its advanced spray technology makes the VÖGELE Special Class paver ideal for placing polymer-modified ultrathin bonded overlay.



Application of bitumen emulsion and asphalt paving in one step: VÖGELE SprayJet technology makes it possible.



Exceptional technology, familiar operation: The SUPER 1800-3i SprayJet is also controlled easily and safely with the ErgoPlus 3 operating concept.





The paver's spray jet creates an even film of emulsion covering the entire area, and prevents contamination of the job site.

### Clean job site, high quality

Shooting polymer-modified emulsion at a rate of 0.23 lbs/sq.ft. immediately prior to paving results in superior bonding of the overlay to the existing pavement without the mess of traditional tack. Zook commented that in his 13 years of experience, the tack had traditionally been picked up by the material transfer vehicle, dump trucks and paver tracks right where the new asphalt bond is most important, the vehicles wheel path. It also makes a terrible mess of the jobsite.

As the VÖGELE SUPER 1800-3i SprayJet paver tracked down Route 8 at a consistent 57 ft./min., the owner of APS, Bobby Capoferri stated, "In my opinion there is no other machine on the market that will lay a thin overlay

like the VÖGELE will and I've had them all." Starting in the Mid 1990's with NovaChip, Capoferri has a level of expertise that is rare in the roadbuilding industry. As a matter of fact, he owned the first purpose built VÖGELE in the United States and now has three SUPER 1800-3i SprayJet pavers to cover the 11 states where his company is DOT certified.

Capoferri credits the quality of his new paver to the WIRTGEN GROUP's philosophy of CLOSE TO OUR CUSTOMERS saying, "It is phenomenal how much feedback they want from me, a guy that puts asphalt down." Listening to the customers is "something the WIRTGEN GROUP has taken a lot of pride in over the years", Bobby finished.





**In my opinion there is no other machine on the market that will lay a thin overlay like the VÖGELE will, and I've had them all.**

**Bobby Capoferri, Owner Asphalt Paving Systems, Inc.**  
(pictured above with Tom Zook of NJ DOT [right]  
and David Salzmann of WIRTGEN AMERICA [center])

This photograph was taken in compliance with the Coronavirus rules in effect on site at that time.

#### **High tech, user-friendly**

Feedback from the customer has continued to drive new innovation. The VÖGELE SUPER 1800-3i SprayJet has five spray bars with a total of 24 high-quality spray nozzles. Spaced 10 in apart with a 120° spray cone, these ensure the seamless application of emulsion. Depending on the type of emulsion and nozzle size, the rate of spread can be varied between 0.06 lbs/sq.ft to 0.33 lbs/sq.ft. All the paver operator has to do is set the required quantity before spraying starts. This produces a uniform film of emulsion which

covers the entire surface without overlaps. The nozzles of the VÖGELE SUPER 1800-3i SprayJet operate in pulsed mode rather than continuously. This, combined with the low spraying pressure of just 43.5 lbs psi, means that misting is almost completely prevented. VÖGELE technology, according to Capoferri, "allows us to take a road that was so-so and you can come up with something better." He continued, "That still excites me today after 35 years. That and a good jelly donut!"





Tandem vibratory roller HD+ 90i VT-S:

# A winning combination

Dynamic compaction with split vibrating roller drum on the front, utilizing the kneading effect of the rubber tires on the rear: The HD+ 90i VT-S combines different technologies to create a successful concept.



New Westminster | Canada





Winvan, a Canadian asphalt paving firm located in British Columbia, is growing by specializing in contract municipal work. In the City of New Westminster, BC, Winvan has a season contract and has multiple small paving jobs per day. In order to expedite the process, they are using modern paving, compaction and milling equipment. Multiple HD+ 90i VT-S combination rollers from HAMM provide a great deal of flexibility on the jobs, as the 19,602 pound roller (with ROPS) can be used for breakdown and finishing. And thanks to the split drum, the quality is right - even in tight curves.





The kneading effect of the tires helps to produce an excellent pore seal and superior surface finish.





# For us, the HD+ 90i VT-S is a winning combination.

**Rick Rogers, construction equipment manager**  
Winvan

## Small jobs mean big payoff

Winvan specializes in municipal (city) paving work on a seasonal contract basis, so these are simple overlays of streets milled earlier. They pave two blocks, then move to another street nearby, then again and again. The city tells them where to go.

The company has three complete paving spreads that are run with a backup, so the firm actually has four spreads. "We'll move from job to job, with one crew doing three to four jobs in a day, whereas some of our competition will do one job during the day," says Rick Rogers, construction equipment manager.

For this work, Winvan relies on a fleet in which the newer equipment is composed of cold mills from WIRTGEN, new and old asphalt pavers from VÖGELE, and split drum combination rollers from HAMM.

## Combination rollers as key to success

For compaction, Winvan discovered the combination rollers with a split vibratory drum on the front and pneumatic tires at rear. Their unique configuration combines dynamic compaction forces in front with the kneading action of pneumatic tires.

HAMM offers 18 different combination rollers: Models with 3-point articulation (HD+ series), and models with pivot steering (DV+ series). Winvan decided to use rollers with articulated steering. By now, they have five HAMM HD+ 90i VT-S combination rollers (operating weight with ROPS: 19,602 lbs, drum width: 66.1 in). In addition, they also own two small combination rollers, type HAMM HD 10 VT (operating weight with ROPS: 5,259 lbs, drum width: 39.4 in).

"For us, it works wonderfully for the small, multiple work zone, urban paving work that it does. This is our 'winning combination'", says Rick Rogers, construction equipment manager.







### Process optimization thanks to combination rollers

"Asphalt paving is all about compaction nowadays and Superpave mixes," Rogers says. "We're using highway class-size rollers for municipal work, and the variety within these combination rollers gives us flexibility. We can use them as a breakdown roller or a finish roller, that's the key. If we want to use them for breakdown rolling, we will use the smooth steel drum first. If we want to do finish rolling, we go rubber tires first."

In addition to the compaction flexibility, the combination rollers help Winvan to eliminate one piece of equipment in the paving train. "Instead of five pieces of equipment in the paving spread, we are down to four. And they're fast. They're heavy, they move quickly, and they burn very little fuel."





2

- 1 | For breakdown rolling, Winvan uses the HD+ 90i VT-S with smooth steel drum first.
- 2 | Intuitive, language-neutral operation: The Easy Drive operating concept is also a winner in Winvan's HD+ 90i VT-S.
- 3 | Combination rollers like the HD+ 90i VT-S are particularly well suited to precompaction. Using them minimizes the risk of material displacement.



3





Tandem rollers with split drums combine dual compaction units inside - offering lots advantages for contractors and users.





# Technological benefit of HD+ and DV+ series models: Split drums boost quality

Increasingly tough demands regarding the quality and cost-efficiency of road construction measures result in growing demand for machines with split drums. Why? When compacting corners and roundabouts, but also when performing tight steering maneuvers, compaction with a standard drum can lead to material being displaced and cracks forming on the surface. A split drum prevents this as the two halves rotate at different speeds. This minimizes shear stress on asphalt, which prevents the material from being displaced and thus no cracks are formed. When compacting asphalt types that are particularly susceptible to being displaced, such as stone mastic asphalt or polymer-modified mixed material, this characteristic is a key factor affecting the compaction quality.



## Series HD+



A split drum and a set of pneumatic tires are the keys to success: In New Westminster, BC, Canada, Winvan is using an HD+ 90i VT-S articulated tandem roller as part of its fleet.



## Experience with split drums ...

### ... in articulated tandem rollers of the HD+ series

Rick Rogers, construction equipment manager at Winvan, Canada, has closely analyzed the advantages of split drums in the HD+ series articulated tandem rollers: "The reason we go to split drums is that once you get a drum over 66 in wide, and you start turning a radius, you will start tearing the mat. Years ago, when

we had two HAMM DV 6 rollers with split drums, we did a lot of work in cul-de-sacs and on curved lines, and found the split drums keep the mat together."





Each time the tracks of the roller change, the rollers steer sharply immediately behind the paver. Split drums effectively prevent the cracking that can occur in this process.

## Series DV+

### ... in all-wheel-steered tandem rollers of the DV+ series

The advantages of split drums for compacting curves and roundabouts were demonstrated in initial applications using models of the DV+ series in Europe. "Despite the extremely tight radii, the DV+ 90i VS-OS created a crack-free high-quality surface for the roundabout," states building contractor Ferdinand Kalinowsky from Ewald Kalinowsky GmbH & Co. KG in

Bad Beverstedt, Germany. The new drum has delivered impressive performance in the Netherlands too, as Arnold Rijper from BAM Infra reports: "Using the split oscillation drum, we have achieved outstanding compaction results within a short time. We were particularly impressed at how it compacted curves."



## Models with split drums for the North American market

HAMM offers 17 models with split drums for the North American market, just like the following ones: HD+ 80i VO-S and HD+ 90i VT-S (both articulated tandem rollers), DV+ 70i VO-S and DV+ 90i VS-OS (both all-wheel-steered tandem rollers).

HAMM manufactures split drums for rollers of the HD+ and DV+ series. Both are identified by the suffix “-S” in the model name. The “S” stands for Split drum. In the DV+ series rollers, all vibration drums are split as standard. Moreover, HAMM is the only manufacturer in the world producing also split oscillation drums.

Model	HD+ 80i	HD+ 90i	DV+ 70i	DV+ 90i
	Articulated tandem roller		All-wheel-steered tandem roller	
Weight class	17,637 lbs	19,841 lbs	15,432 lbs	19,841 lbs
Variants with split drum	HD+ 80i VV-S HD+ 80i VT-S HD+ 80i VO-S	HD+ 90i VV-S HD+ 90i VT-S HD+ 90i VO-S HD+ 90i PH VV-S HD+ 90i PH VT-S HD+ 90i PH VO-S	DV+ 70i VV-S DV+ 70i VT-S DV+ 70i VO-S DV+ 70i VS-OS	DV+ 90i VV-S DV+ 90i VT-S DV+ 90i VO-S DV+ 90i VS-OS

VV-S = vibration on front (split), vibration on rear (split)  
VT-S = vibration on front (split), set of tires on rear  
VO-S = vibration on front (split), oscillation on rear (non-split)

VS-OS = vibration on front (split), oscillation on rear (split)  
PH = Power Hybrid (hydraulic hybrid drive)







### Easy Drive inside

Providing intuitive state-of-the-art operation control, HAMM has integrated its standard HAMM Easy Drive operating concept into the split drum models of the HD+ series (9 t) and all models of the DV+ series. It was developed with the aim of minimizing complexity, and

enabling users to react promptly and appropriately in the shortest possible time. In addition to its clear and intuitive operating concept, Easy Drive includes a range of features that enhance ergonomic comfort, safety, and service-friendliness.

# SPLIT DRUM



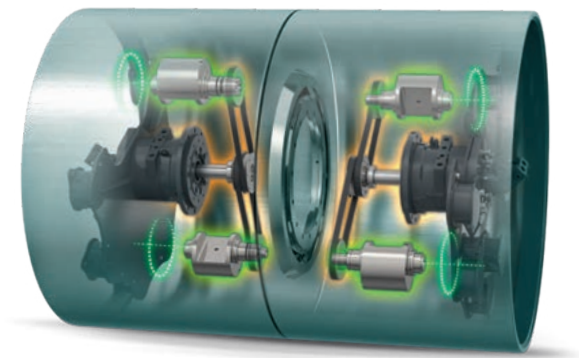


## Split oscillation drum: the premium solution for demanding jobs

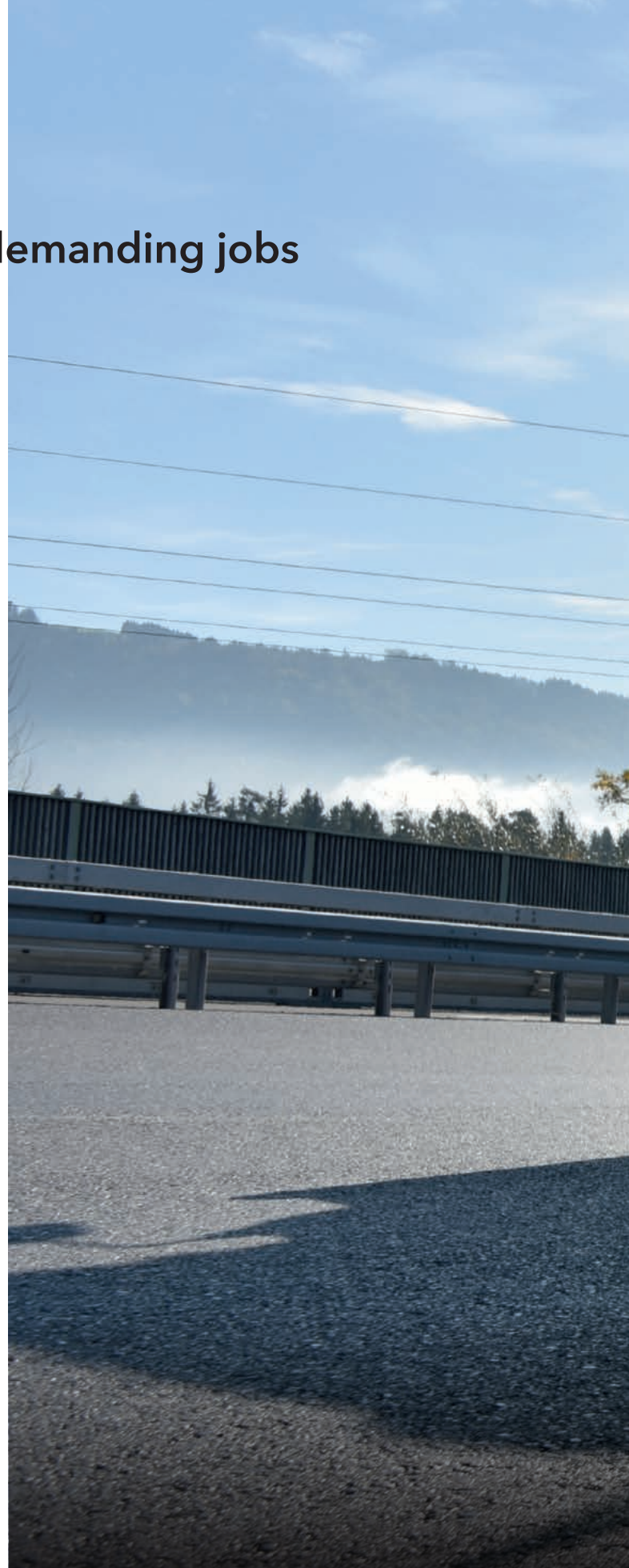
HAMM has combined the advantages of split drums with the benefits of oscillation. In this solution, each drum half contains a separate, mechanically independent oscillation unit. An integrated control system can therefore be used to adjust the position of the unbalanced masses quickly and precisely to suit the position of the drum halves. The two halves are synchronized by innovative digital hydraulics. This ensures that the two drum halves oscillate synchronously at all times, despite the difference in their rotational speed.

### The advantages of split drums at a glance:

- > Minimize shear stress on asphalt
- > No material displacement
- > No surface cracks
- > High compaction quality, even on curves or roundabouts and when compacting asphalt that is susceptible to displacement



The split oscillation drum is the latest development in HAMM's drum range.







Premium solution for asphalt construction: HAMM split oscillation drums are ideal for compacting in curves and on roundabouts, as well as for asphalt types that are susceptible to displacement.



## New MOBICAT MC 110i EVO2 jaw crusher: The efficient performer

With the MOBICAT MC 110i EVO2, KLEEMANN has launched a new generation of jaw crusher. The latest development of the tried and proven machine integrates a whole range of benefits that make the tough daily routine of customers and users more flexible, easier, and more efficient. The wide range of applications is particularly attractive to demolition and construction contractors, contract crushers, and quarry operators.

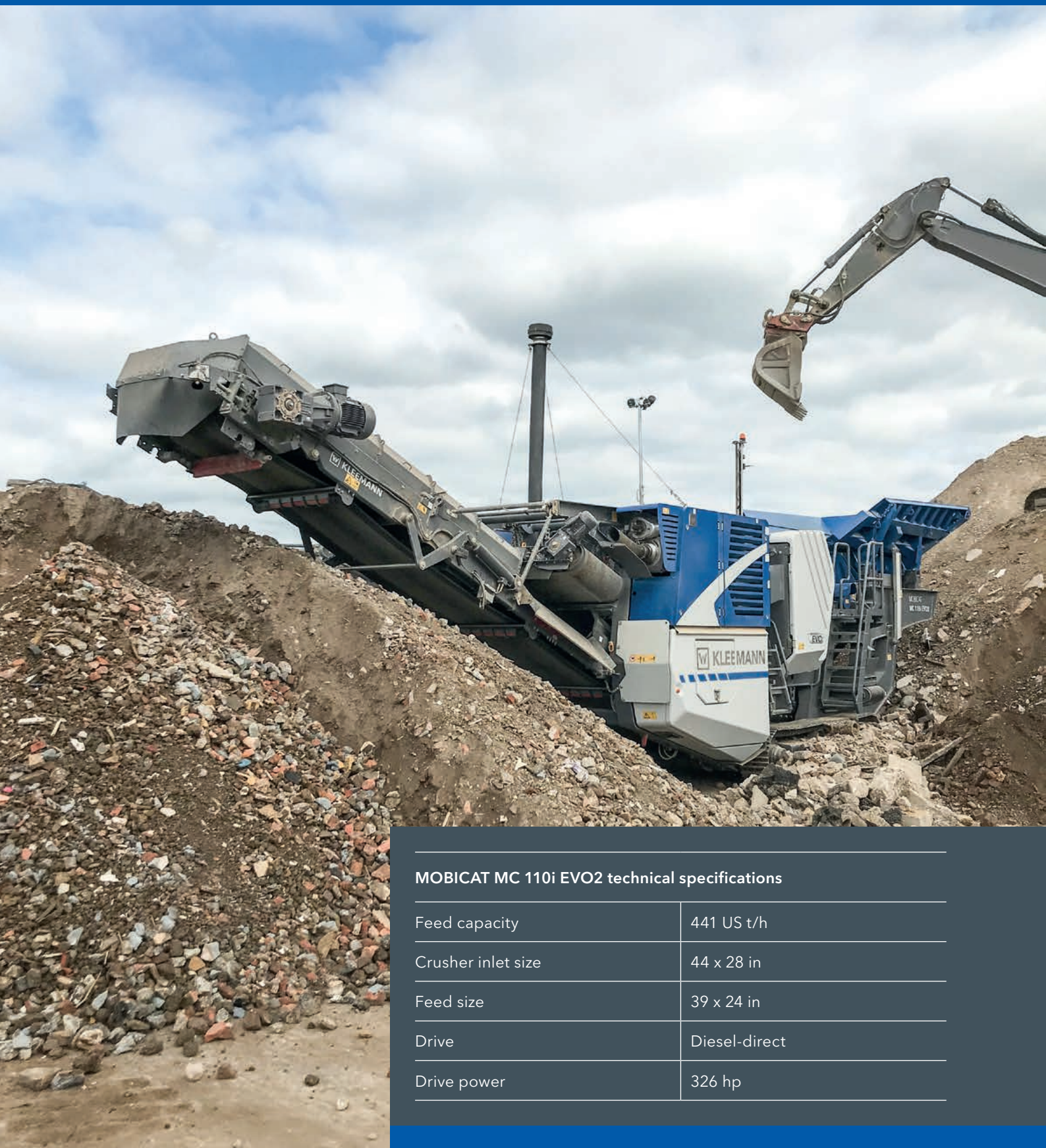






Today recycling, tomorrow natural stone:  
Built for first-stage crushing, the MC 110i EVO2's applications range from medium-hard to hard natural stone. The processing of construction residues is another starring role of the new jaw crusher.





#### MOBICAT MC 110i EVO2 technical specifications

Feed capacity	441 US t/h
Crusher inlet size	44 x 28 in
Feed size	39 x 24 in
Drive	Diesel-direct
Drive power	326 hp





### High efficiency to meet wide-ranging demands

With an hourly capacity of 441 US t, the new MC 110i EVO2 jaw crusher meets requirements in the medium output range. It delivers impressive performance in a wide variety of quarrying and recycling applications where effective coarse crushing is key. The feed size is a maximum of 39 in long and 24 in wide. The necessary power of 326 hp is provided by an economical diesel direct drive.

### Advanced design for quicker machine startup

In developing this latest MC 110i EVO2 design, the engineers at KLEEMANN's headquarters in Göppingen, Germany focused on optimal transportability and rapid startup. The results were impressive. The machine's transport height has been reduced by 8 in to 11 ft 2 in, meaning it can be transported from site to site much more easily by semi-low loader.

The cleverly optimized machine design is of special interest to operators. The feed unit is folded out and locked hydraulically, by user-friendly radio remote control, so the machine can be started from a safe

distance. This is done with one of two new robust, intuitively designed remote control units. The startup process itself, including setup of the folding flaps, conveyors and feed hoppers, takes just 10 minutes.

### Extensive options package meeting customers' needs

KLEEMANN has integrated a wide range of technologies in developing the new generation MOBICAT crusher. The Continuous Feed System (CFS) is a standard feature that ensures constant crusher feed, resulting in high capacity utilization. The standard equipment also includes the SPECTIVE operating concept, which can be combined with WITOS FleetView. The WIRTGEN GROUP telematics solution enhances the added value for contractors by recording and analyzing the machine's operational, positioning and maintenance data.

KLEEMANN also caters to a wide range of customer needs with additional technology options. Highly practical and useful extras, tailored to meet specific job requirements, include a camera/monitor system, premium lighting, and a refueling assist. There are also solutions for noise reduction and dust containment.

# MC 110i EVO2



The MOBICAT MC 110i EVO2 is a new-generation jaw crusher. This is demonstrated most strongly by two innovative new features: a new overload system, and the SPECTIVE operating concept, integrating the machine for the first time, and directly, into its updated version.

## Highlight innovation #1: Optimized SPECTIVE operating concept

With SPECTIVE, KLEEMANN has raised the bar for user interfaces in the industry. The digital operating concept is intuitive in design, and makes operating the machine easier at every stage – from startup, to troubleshooting, and maintenance.

Integrated for the first time with the updated SPECTIVE version, its 12 in touch panel display gives the operator a clear view of all the key machine data. It works with optimized software that provides even clearer user guidance and visualization of the operating process. Troubleshooting guidance has also been enhanced, helping to minimize downtimes.

### Two innovative radio remote control units

Operators don't actually have to be by the machine to run most processes. They are able to use the standard radio remote control, as well as a new additional compact remote control unit. The handy tools enable most processes to be controlled wirelessly from a safe distance. As well as for starting up, they can also be used to control key machine functions.

# SPECTIVE

### Safe and efficient handling: Intuitive. Easy. Clear.

- 1 | A 12 in touch panel and user-friendly control: operators will love using SPECTIVE.
- 2 | New SPECTIVE compact radio remote control: pocket-sized machine control. Its handy size and clear layout incorporating all the functions for running in automatic mode offer a real boost to operators.
- 3 | The MC 110i EVO2 can additionally be controlled by the SPECTIVE standard radio remote control unit.







## Highlight innovation #2: New efficient overload system

KLEEMANN has completely redesigned the overload system for the MOBICAT EVO2 jaw crusher. It includes a load reduction system (LRS) and a two-stage overload system that effectively prevents blockages and misalignments that can lead to machine damage.

### LRS reacts when the load is too high

In day-to-day operations it can sometimes happen that the operator of the excavator or wheel loader feeds too much material. If this condition persists for a lengthy period of time, the MC 110i EVO2's LRS reacts to prevent damage caused by unusually high forces. It does this by adjusting the feed rate, which reduces the forces acting on the housing and swing arm. When the overload is cleared, it readjusts to maximum output.

### Overload system intervenes in response to unbreakable material

If unbreakable material such as large lumps of metal is fed, the overload system activates to prevent damage to the machine. This prevents blockages without the

operator having to intervene at all. When such sporadic short-time overloads occur, the crushing gap (closed side setting, CSS) opens automatically within its adjustment range.

In the event of an overload caused by excessively large material in the feed, the active overload system ensures an even faster response, opening wide for a short time. It does this twice as fast as the predecessor model – and optionally even 40 times as fast.

- > **Gap opening over adjustment range:**  
Crusher detects overload automatically and opens the crushing gap – to prevent damage to the crusher.
- > **Active overload system (option):**  
Even faster response to overload by hydraulic pump to prevent damage to the crusher; automatic repositioning of the gap – for consistent product quality.
- > **Mechanical pressure plate:**  
The final mechanical safety feature installed in the MOBICAT EVO2 series is a pressure plate with a predetermined breaking point, which causes the machine to stop when it breaks.

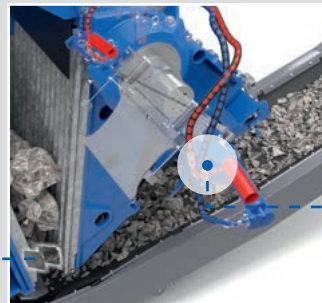
## OVERLOAD SYSTEM



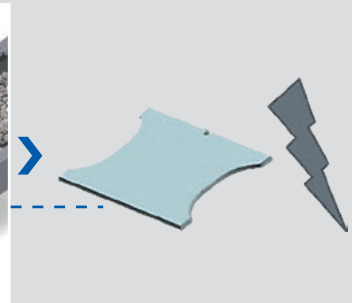
If unbreakable material enters the crushing process ...



... the active overload system causes the CSS to open twice as fast as on the predecessor model.



Optionally even up to 40 times as fast.



As a final safety feature, a mechanical pressure plate prevents damage to the machine.



# Highlights of the new MOBICAT MC 110i EVO2 jaw crusher

## 1 New overload system

Enhanced protection against damage with reduced downtime: The new overload system ensures consistently high machine availability.

## 2 Process optimized crusher unit

The MC 110i EVO2 impresses by its improved feeding. The high crushing jaw protects the machine, while a flattened transition into the crushing chamber allows easy material feeding.

## 3 Independent prescreen

To increase the machine's overall throughput and protect the often following KLEEMANN MOBICONE cone crusher in the second crushing stage, an independently vibrating prescreen effectively separates fines before they can enter the crushing process.

## 4 Continuous Feed System (CFS)

The CFS automatically controls the feed depending on the crusher's capacity, so ensuring optimal machine utilization and productivity.



# MOBICAT MC 110i EVO2



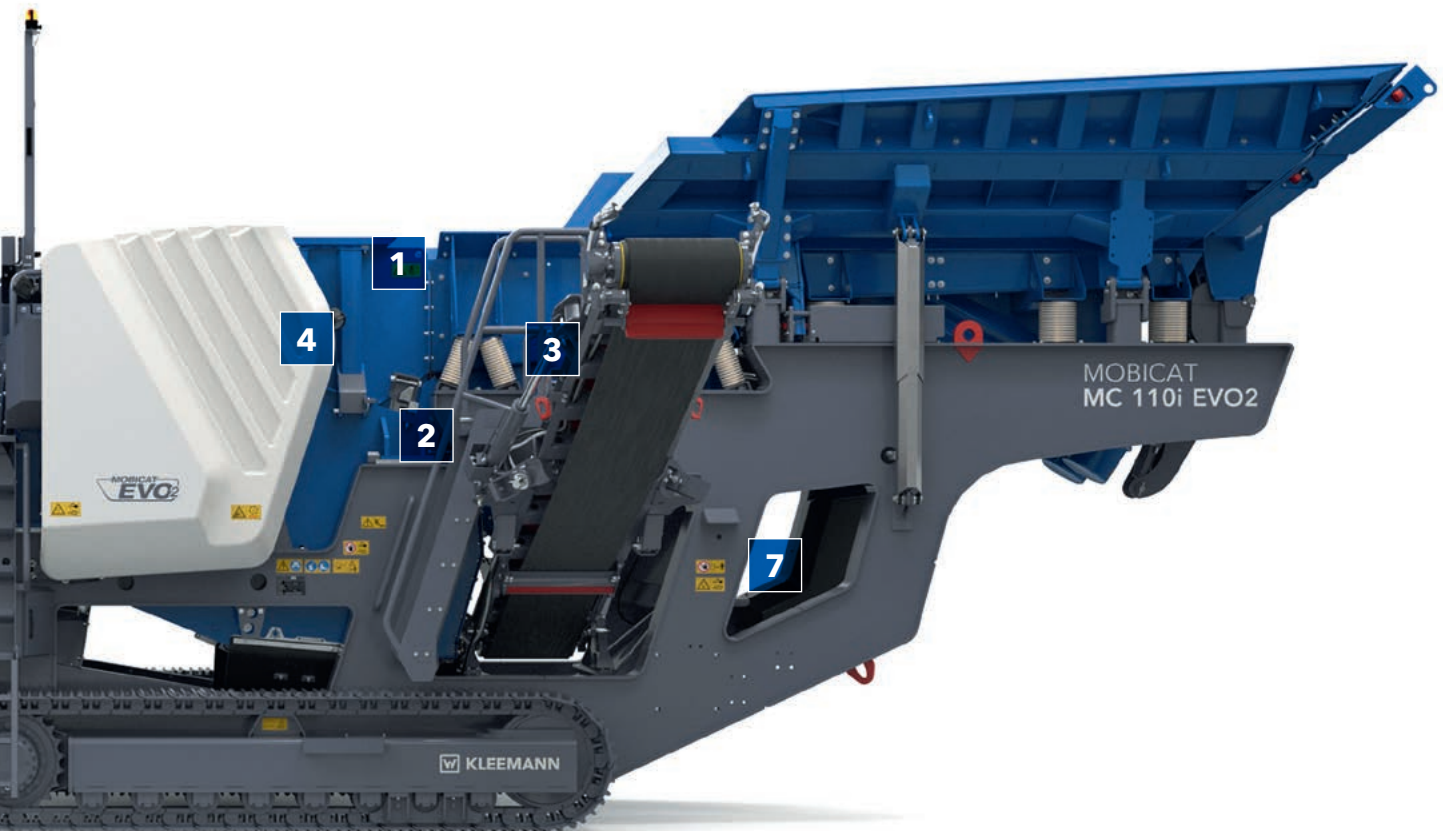


### 5 SPECTIVE operating concept

Digitalization adding value: The new generation of the operating concept, with its new features, makes work safer and more efficient.

### 6 Improved drive concept

The diesel direct drive concept is characterized by its fuel economy and lower operating cost.



### 7 Optimized accessibility

For quick, safe and convenient maintenance, KLEEMANN has further simplified the access to all relevant points.

### 8 Efficiency-enhancing technologies

A range of measures boost efficiency, including the power-dependent fan. It improves cooling performance, running only when needed, and cutting fuel consumption.





KLEEMANN equipment spread produces five top-quality end-products with West Virginia DOT certification:

# Quality pays



Philippi | West Virginia





ACE Aggregates has put a new KLEEMANN equipment spread to work in a quarry that had been unused for decades. The precise 'engineered in Germany' crushing technology will enable the company to produce five certified end-products simultaneously. All five products comply with the specifications of the West Virginia Department of Transportation (DOT), while three even meet the stringent US-wide requirements of the American Association of State Highway and Transportation Officials (AASHTO). The quality of the aggregates was officially certified following detailed analysis of the screening lines. The certifications enable ACE Aggregates to achieve a considerably higher selling price.



Linked operation, high quality: The KLEEMANN equipment spread in West Virginia is producing five DOT-certified aggregates simultaneously. Three of them can be sold throughout the USA.



# Layout of the KLEEMANN equipment spread

+ End-product:  
≤ 3/16 in crusher run  
Limestone sand

+ End-product:  
#8 Stone AASHTO/  
West Virginia DOT

A mixture of 3/8 in  
clean grain size

+ End-product:  
1.5 in crusher run  
West Virginia DOT

+ End-product:  
AASHTO #467  
Clean stone  
sizes 0.5-2.5 in

+ Feed material:  
Blasted limestone  
Feed size up to 24 in

First crushing run | Jaw crusher

**MC 110 Zi EVO**

Coarse screening plant

**MS 15 Z**





End-product:  
#57 Stone AASHTO/  
West Virginia DOT

A mixture of mainly  
1-3/8 in stone



End-product:  
3 in clean stone  
AASHTO #1

Second crushing run | Cone crusher

**MCO 9i EVO**

Classifying screen

**MS 953i EVO**

Extracting six end-products in total, five of which are certified, with just one application: The KLEEMANN equipment spread improves quality, boosting profitability for the operator.



# PERFECT COLLABORATION



Teamwork: Advised by Thomas Jordan, Technical Sales Manager KLEEMANN for the WIRTGEN GROUP in the USA, and supported by John Dillon, Outside Sales at Leslie Equipment, Alex E. Wolfe is well set for the future. Wolfe is the owner of Ace Aggregates.



**The four plant units  
work together superbly, and use  
only half the amount of fuel.**

**Alex E. Wolfe, Owner**  
Ace Aggregates





## HIGH QUALITY

### Successful start to cooperation with the WIRTGEN GROUP

Ace Aggregates acquired an unused limestone quarry in West Virginia, and had recently reopened it. Owner Alex E. Wolfe visited Conexpo-Con/Agg 2020 in Las Vegas searching for new technology and, above all, a new service partner. Wolfe had not been happy with his previous crushing equipment supplier.

That all changed when he discovered the winning combination of KLEEMANN, WIRTGEN GROUP and John Deere dealer, Leslie Equipment: "The good first impression has been fully confirmed. The four linked units work together superbly. And they're really economical, using just half the amount of fuel of our previous system, while delivering the same output. WIRTGEN GROUP Technical Sales Manager Thomas Jordan kept his promise: We really do get five DOT-certified products from the equipment spread. We're looking forward to a bright future working with Leslie Equipment too."

### Linked operation enhances user satisfaction and improves productivity

The decision to go with the KLEEMANN equipment spread was based on intensive dialog. Owner Alex E. Wolfe naturally wanted to leave nothing to chance when it came to extracting high-quality limestone end-products from his quarry.

Alongside the crushing and screening technology itself, the user-friendliness of the units is also key, as ACE Aggregates Superintendent Justin Colebank reports: "As well as clear and simple user control, we benefit particularly from the ability to link the various units together. If one unit is overloaded or has a problem, all the other units switch off automatically. That's a big advantage compared to how it used to be, when we had to clear overflowing material from all the units."

Performance is geared to the lowest-powered unit, so as not to overload any particular machine. The linked system improves productivity by providing optimal, continuous material flow through the entire equipment spread.



# The future is online.

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