A WIRTGEN GROUP COMPANY

WIRTGEN

Cold Recyclers and Stabilizers for Maximum Mixing Performance and Quality

# WR SERIES

## WR 200 X | WR 240 X | WR 250 X

# THREE MACHINES – THREE WORLD CLASS PERFORMERS

The WR series machines are ideal for a variety of application scenarios from cold recycling (structural road rehabilitation) to the stabilization of a wide range of construction materials in processes such as soil stabilization or consolidation in road construction.

The WR 200 X boasts compact dimensions and low machine weight that guarantee maximum flexibility when transporting it from place to place.

The WR 240 X strikes a perfect balance between machine performance and weight that assures high daily productivity.

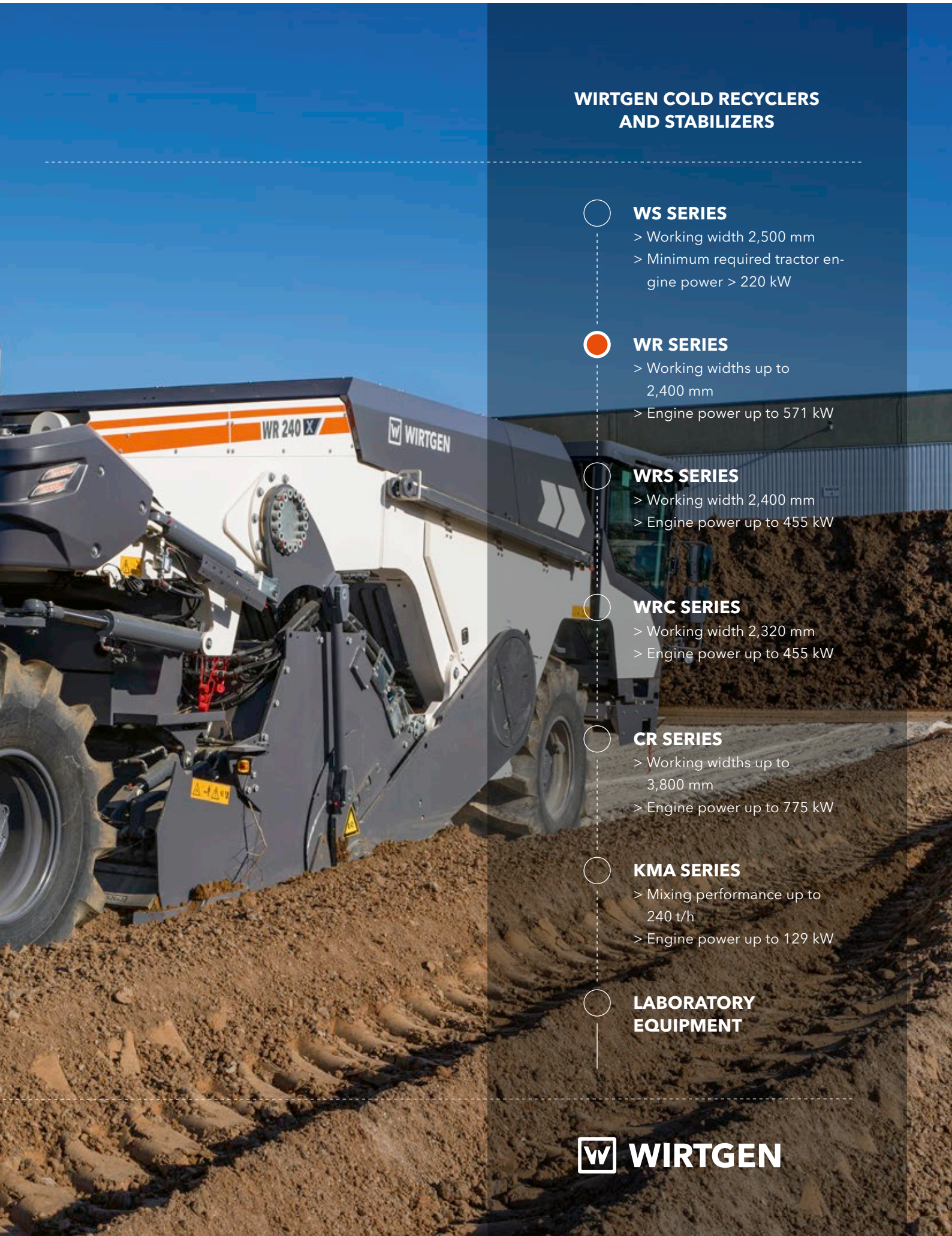
The WR 250 X is the most powerful machine of the WR series and provides the highest productivity and power reserves in every situation.

## LEADING EDGE

Premium edge with innovative technology

The intuitive human-machine interface (HMI) of the X-Tier models provides comprehensive assistance to increase the in-situ mixing quality of the construction material being produced and to boost machine productivity.

The digital components MIX ASSIST and WIRTGEN GROUP COPILOT enable a significant efficiency boost, which in turn leads to considerably lower operating costs per square meter.




## WIRTGEN COLD RECYCLERS AND STABILIZERS

### WS SERIES
> Working width 2,500 mm
> Minimum required tractor engine power > 220 kW

### WR SERIES
> Working widths up to 2,400 mm
> Engine power up to 571 kW

### WRS SERIES
> Working width 2,400 mm
> Engine power up to 455 kW

### WRC SERIES
> Working width 2,320 mm
> Engine power up to 455 kW

### CR SERIES
> Working widths up to 3,800 mm
> Engine power up to 775 kW

### KMA SERIES
> Mixing performance up to 240 t/h
> Engine power up to 129 kW

### LABORATORY EQUIPMENT

WIRTGEN

# OVERVIEW OF HIGHLIGHTS

## World Leaders in Performance, Quality, and Efficiency

### 01 Maximum Comfort and Safety for Fatigue-Free Operating

> Cabin with ROPS / FOPS standards for maximum operator safety
> Hydraulic, laterally shiftable operator's cabin with a 90°-rotatable operator's seat
> Ergonomically designed workspace with logically placed control elements on each of the armrest consoles
> Views from up to five cameras displayed on a HD touchscreen camera monitor with split-screen display and zoom function
> Standard reverse assistant
> Convenient stepladder with "Welcome and Going Home Light"
> Features for reducing the everyday workload on the construction site

### 02 Intuitive HMI – Human-Machine Interface – for Fast Learning and Improved Safety

> Large, intuitively operable main HD touchscreen display for optimal process monitoring
> **WIRTGEN GROUP COPILOT** – smart machine operator assistant and digital instructor
> Practical operator support functions

### 03 Simple Maneuvering for Higher Productivity Under All Conditions Encountered on Construction Sites

> Four different steering modes for easy maneuvering
> Minimum turning circle of only 3,150 mm
> Alternative, sensitive and agile steering with fingertip control on the left armrest console
> **AutoTrac™** steering assistant for absolute precision on the construction site and fatigue-free working
> **AUTOMATIC REVERSE** function for rapid reversal of travel direction

### 04 Maximum Productivity and Mixing Performance for High Economic Efficiency

> Power belt drive for maximum power transmission to the mixing rotor
> Four-way pendulum with lifting-column concept for optimal all-terrain mobility and ground clearance
> Powerful all-wheel drive for maximum traction
> Numerous performance-enhancing assistance functions

### 05 Precise Metering Systems for Water and Binding Agents for Best Mixing Results

> Smart injection systems
> **VARIO** injection bars with adjustable nozzle cross-section for consistent injection width
> Injection bars with automatic self-cleaning during the work process
> Manual cleaning function

## 06 Best Mixing Results for Highest-Quality Construction Materials

> **MIX ASSIST** for predefined, customizable, and efficient workflows – at the press of a button
> Nine or twelve different rotor speeds to adapt to different primary materials
> **ACTIVE SPEED CONTROL** for constant machine advance speed
> Status of the **VARIO** injection nozzles visualized on the operator's display for adding water and bitumen
> Adjustable pressure for the rotor housing rear door – assisted by **ACTIVE REAR DOOR FLOAT**
> Variable mixing chamber – automatic adjustment of the mixing chamber volume depending on the working depth

## 07 Unparalleled Cutting Technology for Maximum Service Life

> The universal **DURAFORCE** milling and mixing rotor for all applications
> Extremely hard-wearing quick-change toolholder system **HT22** in various versions
> Exchangeable rotor end ring segments
> **Go-To-Tool-Change** control panel for efficient and convenient rotor inspection and maintenance

## 08 WPT Stabilizing for Seamless Project Documentation

> Automatic mix performance documentation for an accurate project accounting
> Comprehensive construction site reports for documented mixing quality
> Simple and precise construction site accounting

## 09 Outstanding Reliability for Maximum Machine Utilization Rates

> Self-explanatory diagnostics technology
> Continuous function monitoring
> Robust and reliable CAN bus
> Time-saving service and maintenance concept

## 10 Minimal Operating Costs and Active Reduction of $CO_2e$ Emissions

> Improved **DURAFORCE** mixing rotor design
> Assistance systems such as **MIX ASSIST**, **ACTIVE REAR DOOR FLOAT**, **AutoTrac™** etc. for higher efficiency
> Maximum performance in the low speed range thanks to smart engine speed management
> Automatic stop function for diesel engine

# WIDE RANGE OF APPLICATIONS

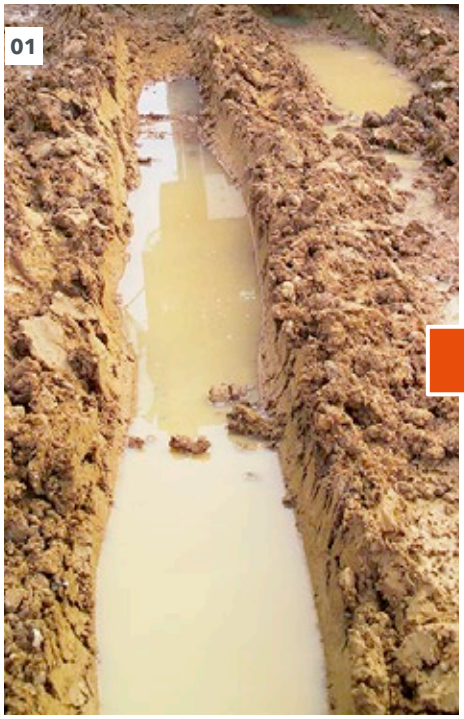
**Stabilizing Subgrades**
The finely tiered WIRTGEN WR series offers the right solution for every stabilization and cold recycling task. As one example, soil stabilization outperforms soil replacement thanks to fewer material trucking movements, shorter construction times, conserved resources, and lower $CO_2e$ emissions.

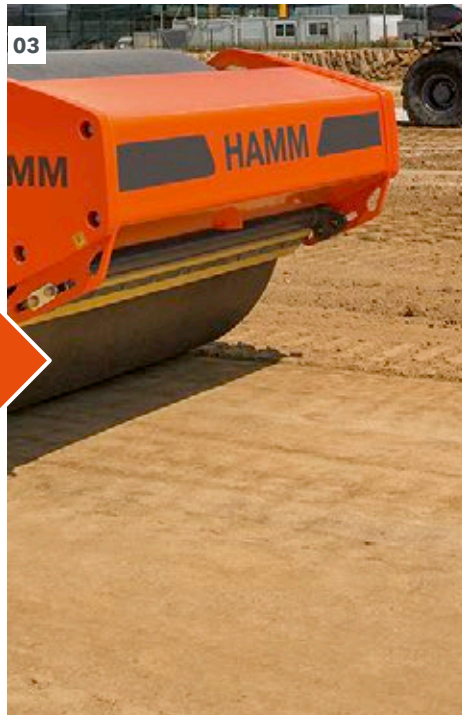
When working as a stabilizer, the WR series machine uses its powerful milling and mixing rotor to mix pre-spread binding agents such as lime or cement into the existing, insufficiently stable subgrade material at working depths of up to 560 mm and transforms it in-situ into a high-quality construction material.

The resulting homogeneous mixture of soil and binding agent provides excellent compressive and shear strength, long-term resistance to water and frost, and volume stability. Other typical applications, with or without the addition of binding agents or aggregates, include the construction of paths, roads, highways, routes, parking lots, sports grounds, business parks, industrial plants, airfields, dams, backfilling, and landfills.

**PERFORMANCE SPECTRUM IN THE STABILIZATION OF SLIGHTLY TO EXTREMELY COHESIVE SOILS**

| | WR 200 X | WR 240 X | WR 250 X |
|---|---|---|---|
| Full performance range | 500 – 8,000 m²/day | 1,000 – 10,000 m²/day | 2,000 – 15,000 m²/day |
| Ideal performance range | 1,000 – 5,000 m²/day | 4,000 – 8,000 m²/day | 6,000 – 12,000 m²/day |






**01–03** Stabilization transforms sub-bases with insufficient bearing capacity into soil that is suitable for paving and compaction..

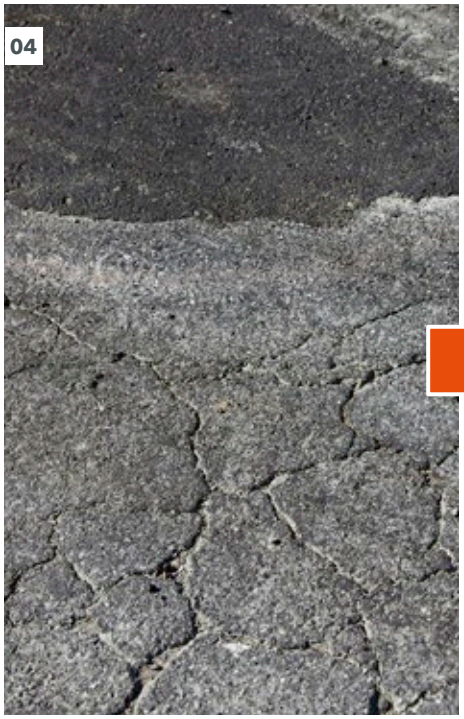
**Cold Recycling for Structural Road Rehabilitation**
Over time, the steady increase in car and truck traffic, the aging of the surface layer, and delayed maintenance lead to structural damage to the individual layers of roads and highways. This increasingly reduces their load-bearing capacity. When used in cold recycling, the WR series remedies these deficits quickly, cost-effectively, and in a resource-friendly manner. This is because the WR series is equipped with a powerful milling and mixing rotor as well as state-of-the-art injection systems. The WR series machines use the milling and mixing rotor to granulate bound and unbound layers, add precisely measured doses of binding agents and water by injection, and produce a homogeneous mix – all in a single pass.

The mix produced in situ, which is available as a new base course after compaction, is known for its very high load-bearing capacity and outstanding durability.

Cement, lime, water, bitumen emulsion, and foamed bitumen can all be used as binding agents. The thickness of the base layers varies according to the mix being produced and the intended load class. New base layers produced by cold recycling are generally paved over with an asphalt surface layer for completion.

**PERFORMANCE SPECTRUM OF COLD RECYCLING IN STRUCTURAL ROAD REHABILITATION**

| | WR 200 X | WR 240 X | WR 250 X |
|---|---|---|---|
| Ideal performance range | Up to 800 m²/h | Up to 1,000 m²/h | Up to 1,200 m²/h |
| Recyclable asphalt thickness | 10–15 cm | 15–20 cm | 20–25 cm |



**04–06** In cold recycling, damaged asphalt layers are granulated, mixed with binding agents, compacted, and repaved.

# WIDE RANGE OF APPLICATIONS

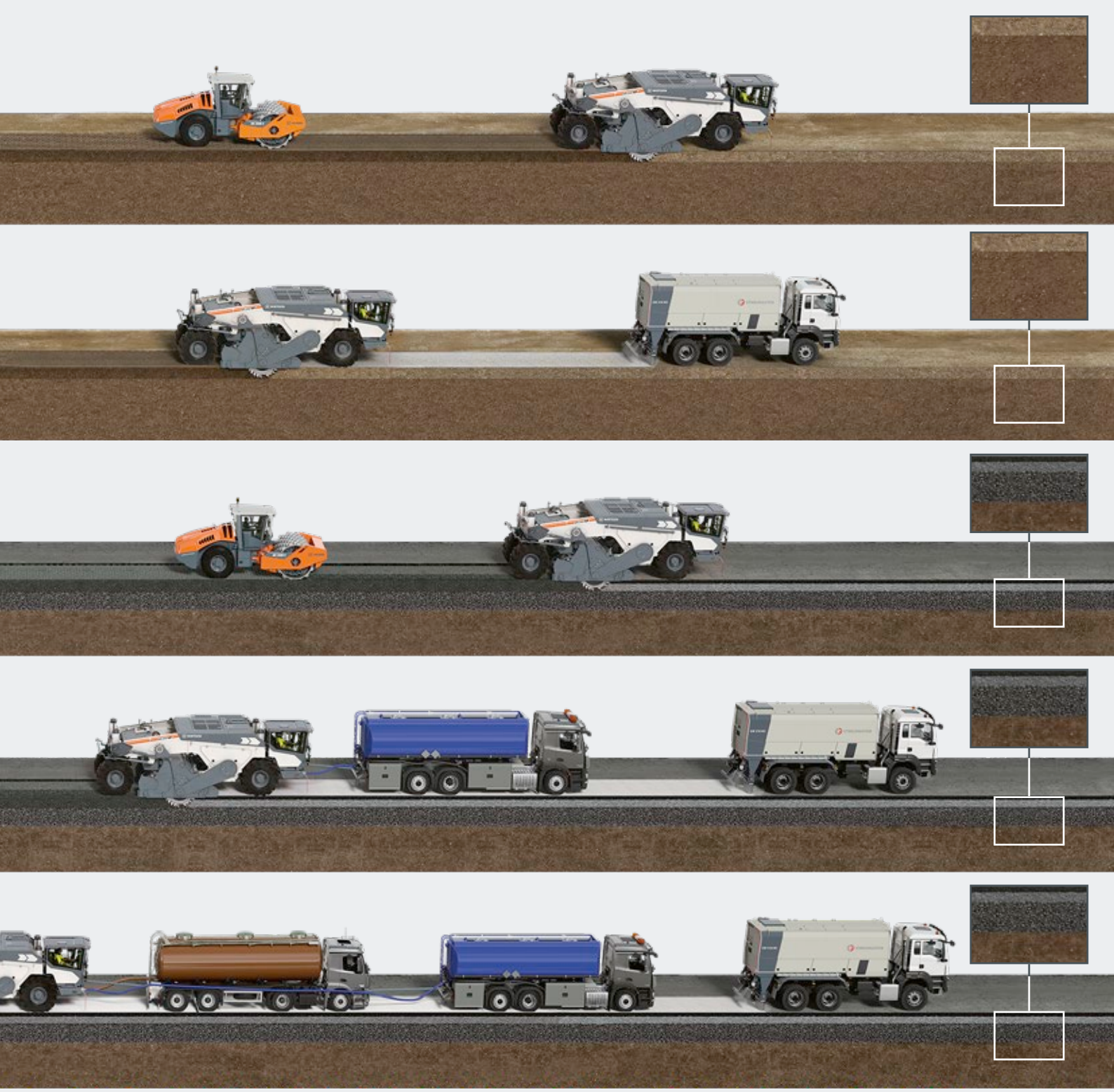
**Homogenization**

**Stabilization, e.g. of Soils, with Lime/Cement or Mixed Binding Agents**

**Pulverisation / Granulation and Homogenization**

**Cold Recycling with Cement**

**Cold Recycling with Lime / Cement and Bitumen Emulsion or Foamed Bitumen**



# MAXIMUM COMFORT AND SAFETY

## For Fatigue-Free Operating

**Cabin with ROPS / FOPS Standards for Maximum Operator Safety**

The spacious operator's cabin complies with all globally recognized safety standards for ROPS / FOPS and provides maximum protection for the machine operator. The WR series models also feature a safety belt as a restraint system for the operator.

**Hydraulic, Laterally Shiftable Operator's Cabin with a 90°-Rotatable Operator's Seat**

The spacious operator's cabin can be hydraulically moved beyond the edge of the machine on the right and the operator's seat can be rotated by 90° to optimize the view of the entire working edge on the right side. The operator can configure the workspace ergonomically – the use of the measuring rod, the exterior mirror and/or the digital camera system

**Take a Seat and Enjoy the Comfort**

Spacious state-of-the-art operator's cabin

ensures a clear view of the working edge and thus a precise overlap.

**Ergonomically Designed Workspace with Logically Placed Control Elements on each of the Armrest Consoles**

Room to move, a comfortable interior, and automatic interior temperature regulation are key features of the spacious, soundproofed cabin of the WR series machines. Comfortable, vibration-damped operator's seat, an individually adjustable steering column, Bluetooth radio, hands-free function, cellphone holder, USB sockets, windshield wipers, and logically arranged, back-lit controls integrated in both adjustable armrest consoles are just a few of the characteristic features.

The easy to reach, application-oriented controls integrated in the right armrest console allow intuitive operation of the machine. Essential machine functions such as the selection of the steering mode, regulation of the advance rate, reverse control, speed control, rotor raising/lowering, and several "favorites" buttons have been logically combined in the multifunctional joystick for maximum ease of use.

Important controls are integrated in the left armrest console with an ergonomically designed handrest. These include, for example, the machine height adjustment and fingertip steering – the ergonomically designed joystick for precise but agile steering control as an alternative to the steering wheel. Another operator-friendly detail is the highly convenient, automatic straight-ahead reset of the front wheels at the press of a button.

**01** The spacious operator's cabin provides a highly ergonomic and comfortable environment.

**02** The individually adjustable comfort seat enables the operator to easily find the most comfortable working position.

**03** The multifunctional joystick on the right-hand armrest console fits perfectly into the palm of the operator's hand.

**04** The left armrest console controls include machine height adjustment and the fingertip steering.

## Everything Under Control

Logically positioned control elements

# MAXIMUM COMFORT AND SAFETY

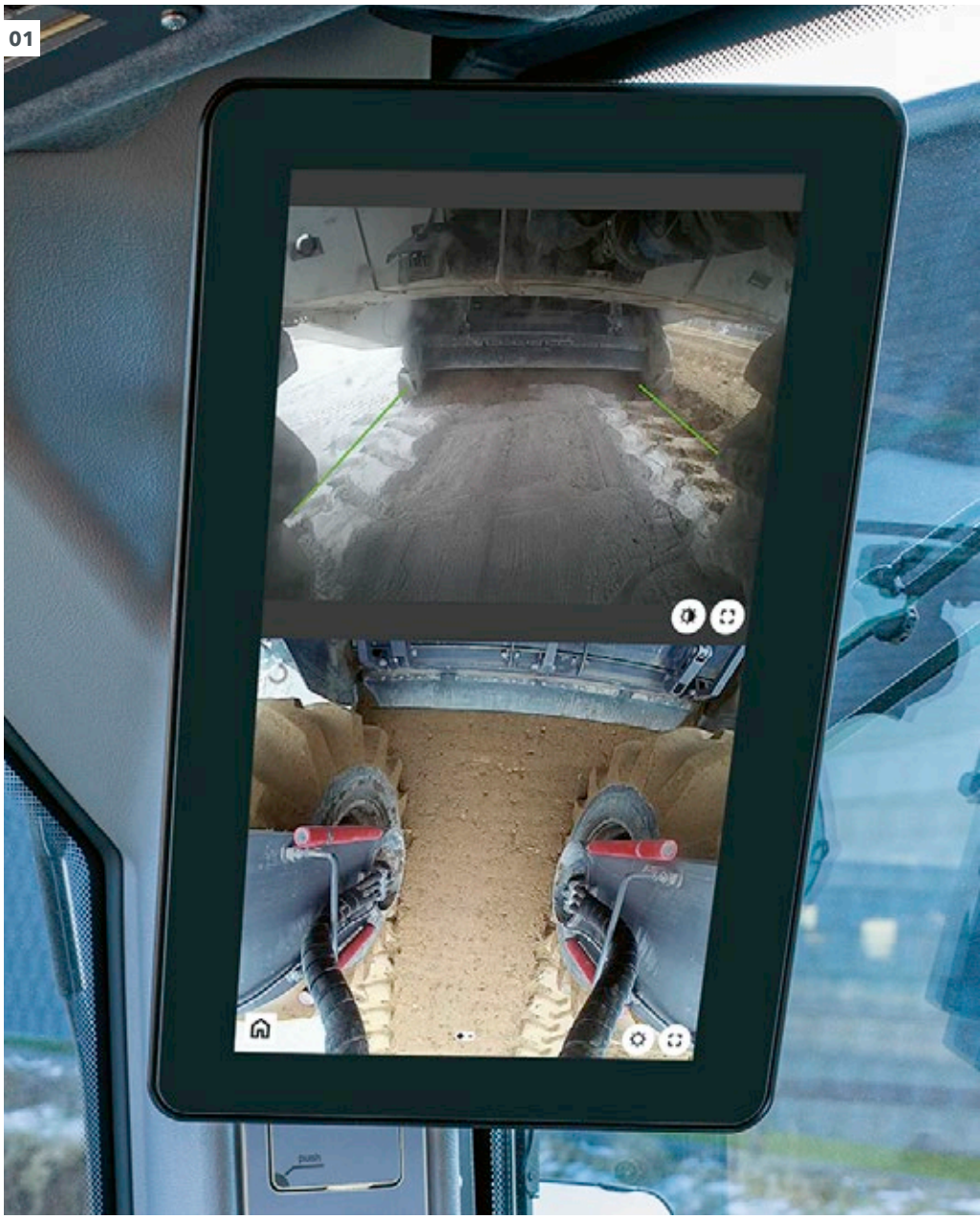
## For Fatigue-Free Operating

**Views From up to Five Cameras Displayed on a HD Touchscreen Camera Monitor with Split-Screen Display and Zoom Function**

The standard equipment of the machines includes a rear-view camera at the rear of the machine. The view is shown on the main control screen. At the customer's request, four additional high-resolution HD cameras can be attached to the mirrors on the left and right and in front of and behind the rotor housing. The views from these cameras are then displayed on the ruggedized, intuitively operable 12.8" color touchscreen camera monitor on the right-hand pillar of the operator's cabin.

When multiple cameras are in use, the views from up to five can be displayed simultaneously on a logically arranged split screen that enables the operator to focus on the most important working areas. The **MIX ASSIST** automatically alters the hierarchy of the views displayed on the split screen in response to the working steps initiated by the operator.

In addition, bright lines superimposed on the "Rotor housing front door" view indicate the zero edge to the left and right of the rotor. The operator can adapt this as required. Thanks to the optimized night vision and quick brightness adjustment of the digital cameras' zoom function, even the smallest details can be immediately recognized, for example, by using the camera image "Rotor housing rear door" for direct assessment of the mixing quality.




**01** Up to five cameras including a reverse assistant provide a perfect overview.

**02** Cabin retracted – for transport or passing by obstacles.

**03** Cabin extended – best visibility to, for example, look past a towed tanker vehicle.

**04** The push bar can be pulled out with a minimum of effort.

**05** A foldaway stepladder provides easy access to the operator's cabin.

**Standard Reverse Assistant**
The reverse assistant helps the machine operator by providing guidelines when operating the machine in reverse. The reverse assistant guidelines clearly indicate the driving path to the operator when reversing, depending on the steering angle and steering mode. The display is activated automatically when reversing.

**Convenient Stepladder with "Welcome-And-Going-Home Light"**
The machine environment can be illuminated by LED lights in the access area and around the rotor housing: When approaching the machine by pressing a button at the access point, or automatically upon leaving through the door contact.

**Features for Reducing the Everyday Workload on the Construction Site**
The WR series machines offer numerous functions that make work easier and speed it up. These include the optional push bar holder at the front of the machine, directly below the operator's cabin, next to the hitch point. Whenever required, the push bar can be pulled out and hitched up. In addition, the operator can choose from variously sized storage compartments at the rear of the machine: a small storage compartment is provided as standard equipment, while a large storage compartment above the rotor housing rear door and a further compartment for up to eight WIRTGEN toolboxes are available as optional extras. All storage compartments can be securely locked.

# INTUITIVE HMI – HUMAN-MACHINE INTERFACE

For Fast Learning and Improved Safety

**Intuitive Operating Concept**
Clear and logically structured main display screen

**Customizable User Profiles**
Saved personal settings

**Large, Intuitively Operable Main HD Touchscreen Display for Optimal Process Monitoring**

The control and display elements on the main display screen and in both armrest consoles are clearly laid and logically arranged to meet the needs of each application. They make it possible to quickly and intuitively control machine functions. For example, the rocker switch for the rotor housing rear door is yellow and its counterpart for the rotor housing front door is blue – this color coding corresponds precisely to the colors on the machine display screen and the left armrest console.

The large, 12.8" main HD color touchscreen display provides a comprehensive overview of all relevant process parameters and settings and the ability to apply or change them with the aid of a turn-and-push control and hard keys at the edge of the screen.

After starting up the machine, the first screen to appear on the main display is the home screen with the personal user profile and the choice of language, allowing access to tutorials (introduction/training videos), the guide, or other submenus.

Users can create their own user profiles and save their personal settings. This also includes the programming of "favorites" buttons and custom display-configuration presets.

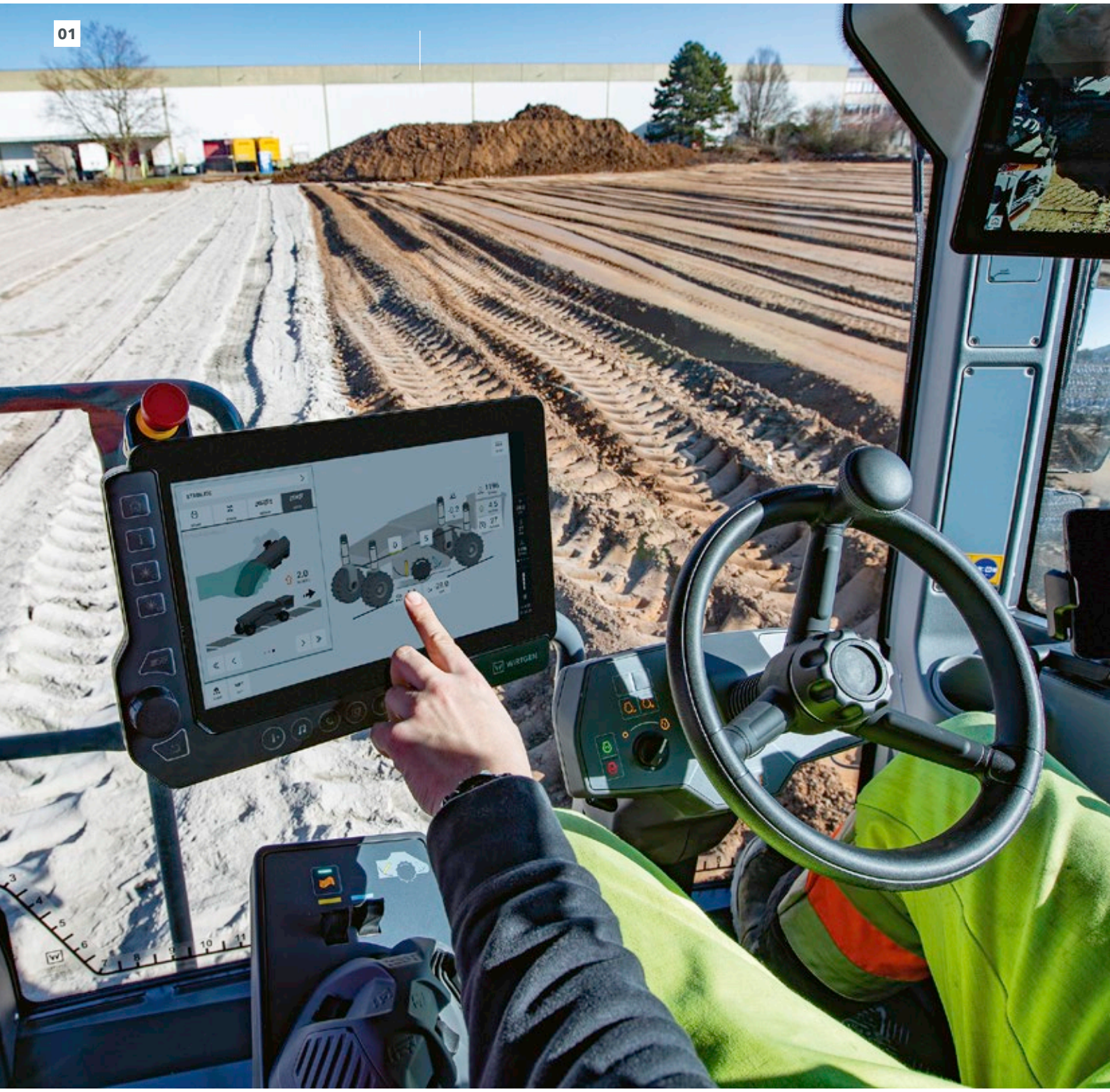
Here, it is also possible to create application-oriented profiles with a variety of relevant process parameters such as screen views, nominal values, material density, dosing quantities, etc. This enables operators to switch between different applications – for instance, soil stabilization and cold recycling of base layers – with a minimum of configuration time and effort.

**01** The color-coordination of buttons and displays for specific machine functions promotes intuitive operation.

**02** After starting the machine, the home screen with the user profile is displayed to initiate the subsequent operator steps.

# INTUITIVE HMI – HUMAN-MACHINE INTERFACE

## For Fast Learning and Improved Safety



**WIRTGEN GROUP COPILOT – Smart Machine Operator Assistant and Digital Instructor**

The **WIRTGEN GROUP COPILOT** helps machine operators to leverage the full potential of the WR series machines and translate this into highest mixing quality, machine productivity, and efficiency. The **WIRTGEN GROUP COPILOT** consists of three components:

**> Tutorials**

Learning as if in your own classroom! Training videos with audio instruction in multiple languages explain important machine functions to the operator via the speakers installed as standard in the operator's cabin. These include, for example, maintenance tasks or guides to the achievement of more effective machine utilization.

**> Guide**

When starting the machine, the app asks what task or application the operator wants to learn more about when working with the machine – e.g. working with water, loading etc.

Instruction in machine operation, such as driving exercises and steering modes, is subdivided into small, interactive steps – supported by application-oriented, easy-to-understand animations. Guide overlays can be called up at any time, even during the work in progress.

**> i-Functions**

The i-functions offer help with, and details about, specific functions and buttons. Pressing an i-button and then pressing a membrane key or switch displays a short description of the previously activated function on the main control panel.

In addition to English, Spanish, French, Italian, Portuguese, and German, other languages such as Turkish, Japanese, Thai, or Chinese are also available. In addition, users can choose either the metric or imperial measurement systems, regardless of the selected language.

Maintaining its clear customer focus, WIRTGEN will be enabling an expansion of functions related to the **WIRTGEN GROUP COPILOT**, further tutorials, animations, and tools with future software updates. If required, please feel free to contact one of our sales and service partners.

**Practical Operator Support Functions**

Thanks to practical auxiliary functions, such as a dosing calculator, it is possible to determine the potential range with the currently available binder. This provides a simple overview of the consumption of resources with current working procedures and enables optimum timing of logistics-related interruptions.

**01** The Guide provides practical information on selected functions.

**02** Tutorials (training videos) prepare users for optimal machine operation.

**03** The dosing calculator indicates, for example, the potential range with the available binder or water.

# SIMPLE MANEUVERING

## For Higher Productivity Under All Conditions Encountered on Construction Sites

**Four Different Steering Modes for Easy Maneuvering**
The machine operator can choose any of four different steering modes: straight-ahead, crab steering, coordinate, or manual steering. Each of the four steering modes offers the fastest way to reach, in its specific area of application, the desired result. The operator can easily switch between steering modes using the multifunctional joystick, and the currently selected steering mode is always clearly displayed.

**Minimum Turning Circle of Only 3,150 mm**
In coordinate mode, the WR series machines boast a minimum turning circle of only 4,500 mm. The oversteering function further steers the rear wheels. As a result, the machine can achieve an extremely small turning circle of only 3,150 mm, which is even tighter than that of many passenger cars.

**Alternative, Sensitive and Agile Steering with Fingertip Control on the Left Armrest Console**
For operators, smart fingertip steering – or thumb steering – on the left armrest console is a particularly ergonomic and user-friendly alternative to steering with the steering wheel. This adaptive, proportional steering mode also enables extremely precise but nevertheless agile steering. Located next to the fingertip steering, there is a push button that, when pressed,

01

02

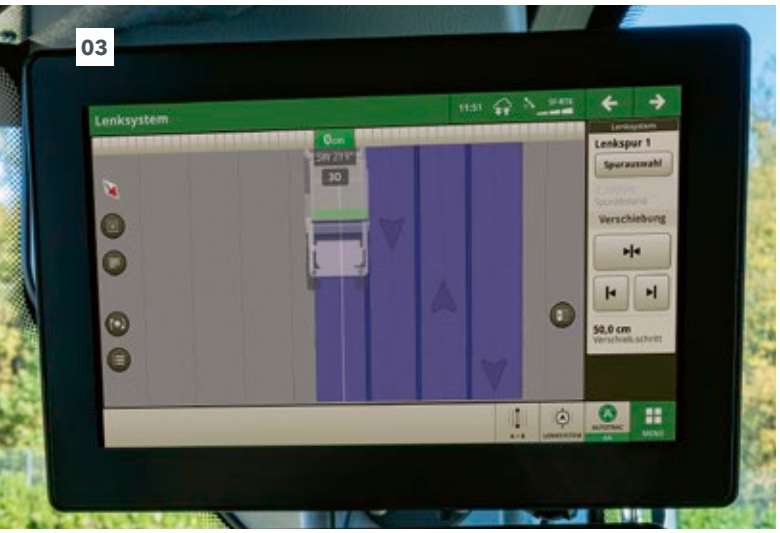
automatically realigns the front wheels back to straight-ahead after steering maneuvers.

**AutoTrac™ Steering Assistant for Absolute Precision on the Construction Site and Fatigue-Free Working**

The GNSS-based steering system controls the machine within centimeter-level accuracy (+/- 2.5 cm) using the SF-RTK correction signal, based on a previously created reference path and a defined desired overlap. The system precisely steers the machine and maintains an ideal overlap of the paths. This significantly increases productivity and simultaneously reduces operating costs.

**AUTOMATIC REVERSE Function for Rapid Reversal of Travel Direction**

With the **AUTOMATIC REVERSE** function, the machine reverses its direction of travel at the press of a button and uses the preset values from **ACTIVE SPEED CONTROL**. This makes maneuvering on the construction site easier, makes working procedures run more smoothly, and saves valuable time.



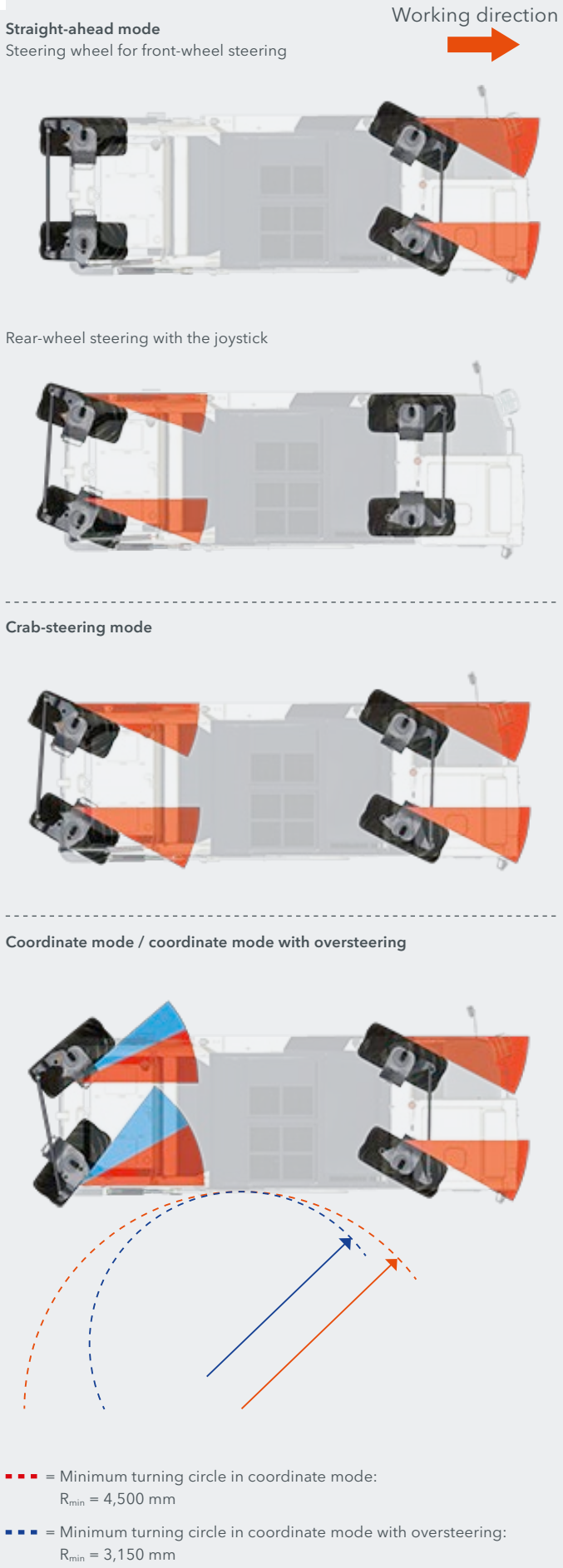

**01** Fingertip steering on the left armrest console enables extremely ergonomic and precise steering.

**02** The steering mode can be very easily set on the multi-functional joystick on the right armrest console.

**03** **AutoTrac**: The system precisely steers the machine and maintains an ideal overlap of the paths.

**04** Different steering modes for particularly easy handling.

**04**



# MAXIMUM PRODUCTIVITY AND MIXING PERFORMANCE

## For High Economic Efficiency

**Power Belt Drive for Maximum Power Transmission to the Mixing Rotor**

Thanks to the large wrap angle of the V-belt pulleys, the heavy-duty power belt drive transmits the engine power to the rotor gearbox with minimal power loss, thus ensuring high efficiency. A positive side effect of the intelligently designed drive concept is its low fuel consumption and easy maintenance.

The power belt drive simultaneously functions as a damping element between the diesel engine and the milling and mixing rotor. This reduces wear, vibration, backlash, etc. In addition, the V-belt pulleys can be swapped with each other to adapt the rotor speed to the respective application or the required mixing quality.

**Maximum Efficiency**
Direct Mechanical Drive

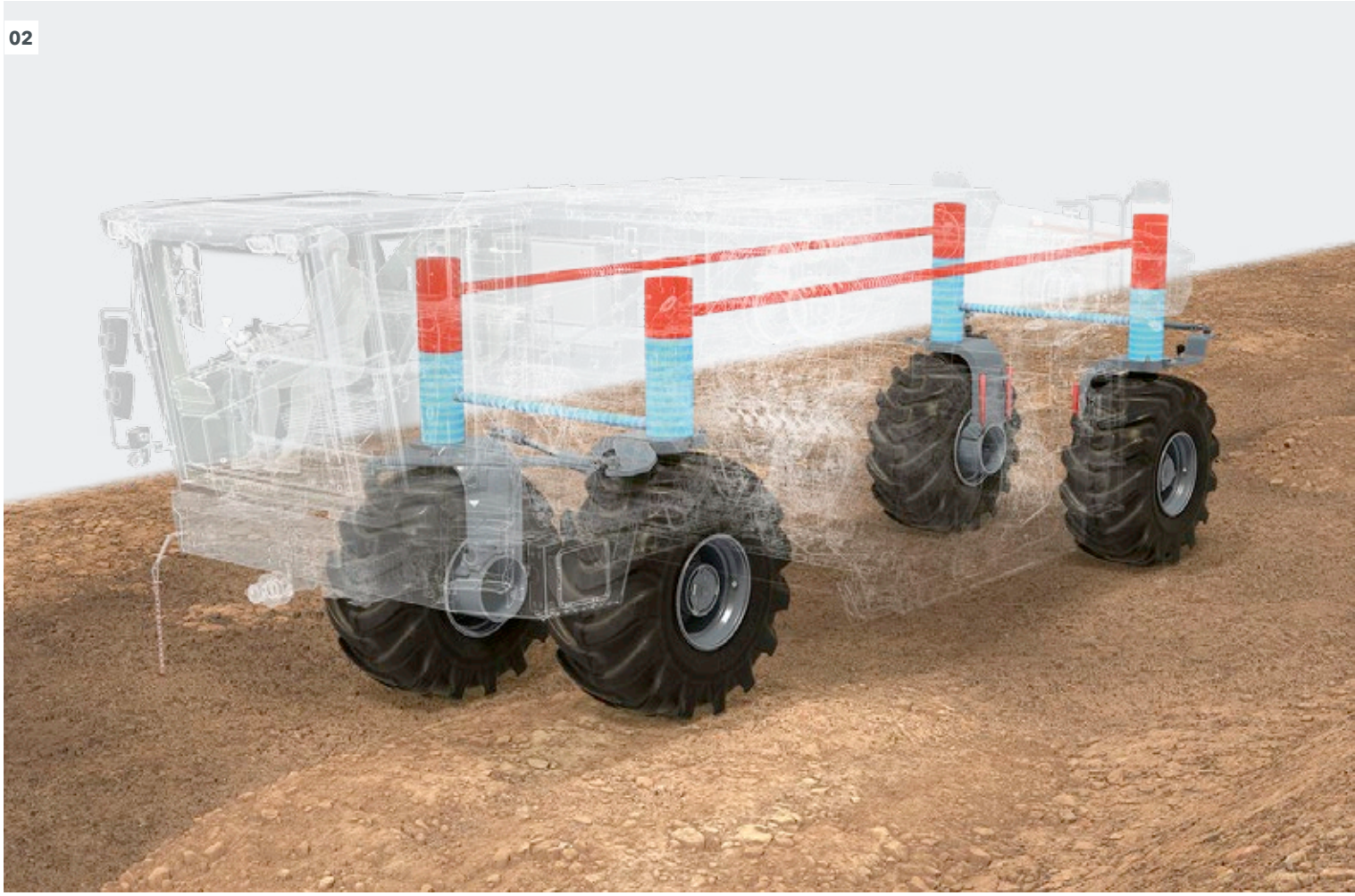
**Four-Way Pendulum with Lifting-Column Concept for Optimal All-Terrain Mobility and Ground Clearance**

The WR series machines can comfortably handle even particularly uneven terrain. The field-proven, lifting-column concept with four-way pendulum system quickly and dynamically compensates for any unevenness of the ground and guarantees outstanding all-terrain mobility.

Especially in deep, marshy ground, where sufficient ground clearance is essential, the four-way pendulum ensures that all four wheels remain constantly in contact with the ground and that the machine continuously advances.

**01** The intelligently designed drive concept ensures low fuel consumption and easy maintenance.

**02** The machine easily compensates for uneven terrain.




## Precision Results

Four-way pedulum system

# MAXIMUM PRODUCTIVITY AND MIXING PERFORMANCE

## For High Economic Efficiency

**Powerful All-Wheel Drive for Maximum Traction**
The key word when it comes to maximum feed performance is traction – and not only on slippery ground. And traction is something the WR series machines have more than enough of: The fully controlled all-wheel drive ensures permanent maximum traction for each of its four independently, hydrostatically driven wheels. The flow divider of the WR series X-Tier models reduces performance losses.

As a result of this, it also enables lower fuel consumption and higher efficiency. The WR series machines are also equipped with a field-proven load-limitation regulator. This controls the machine advance rate according to the current load. As the load increases, the load-limitation regulator reduces the speed or accelerates to a preset value (e.g. from **ACTIVE SPEED CONTROL**) when the load becomes less.

**Fast Processes**
Efficient MIX ASSIST

**Ideal Traction**
All-wheel drive

**Numerous Performance-Enhancing Assistance Functions**
A whole range of assistance functions not only reduce the operator's workload, but also increase the machine's productivity, efficiency, and mixing quality.

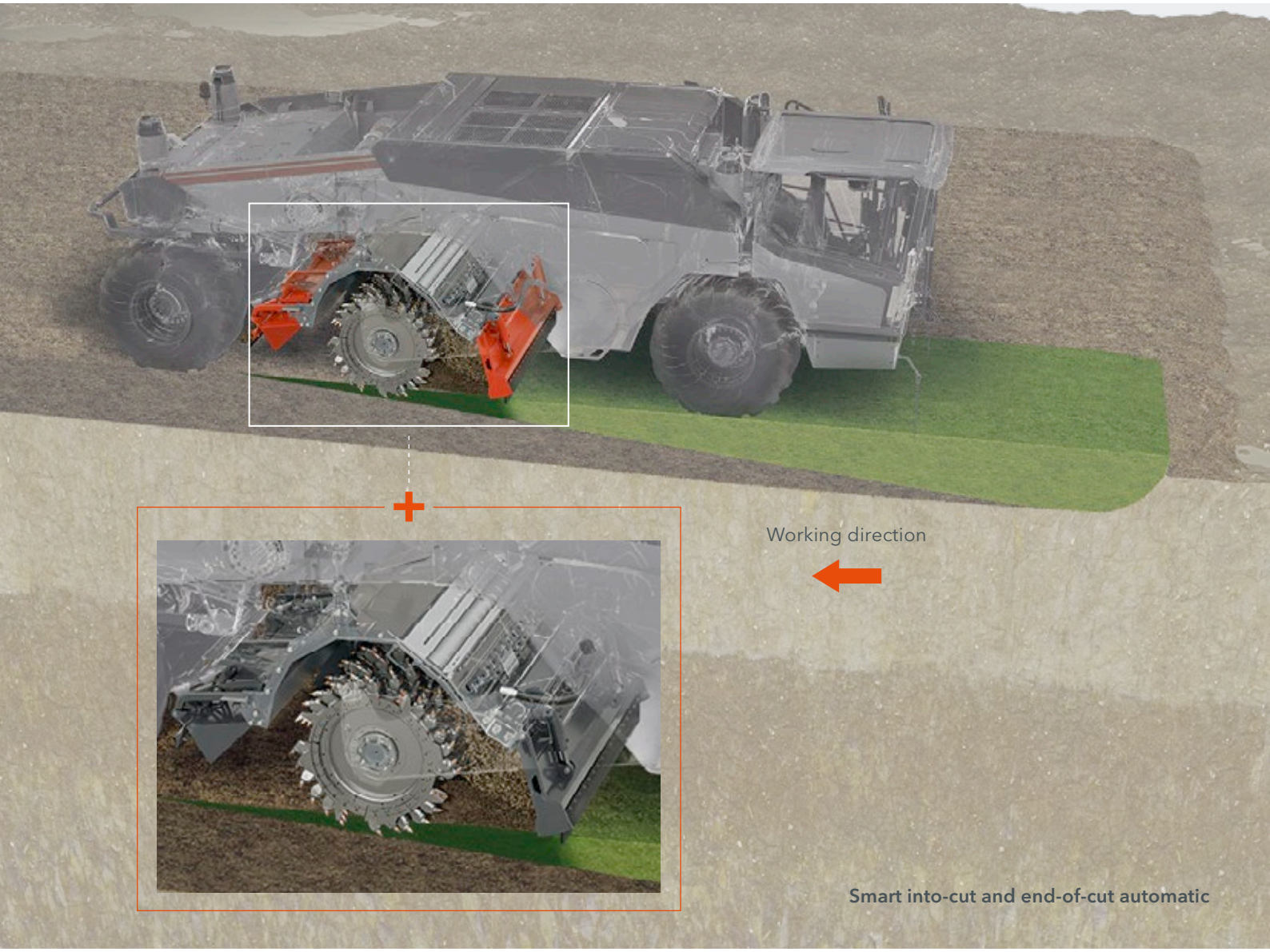
An example is **MIX ASSIST**, which enables individual configuration of a variety of automation functions that can then be activated at the press of a button. The operator can freely combine numerous process steps to create an automated procedure for use in specific situations. As a result, working procedures can be executed identically and to a consistent quality. This reduces the operator's workload enormously while improving machine productivity and significantly reducing emissions.

Another example is the **AUTOMATIC REVERSE** function: This reverses the machine's direction of travel at the press of a button, using the preset values from **ACTIVE SPEED CONTROL**.

This makes maneuvering on the construction site easier, makes working procedures run more smoothly, and saves valuable time.

The operator activates the automatic smart positioning and end-of-cut processes on the multifunctional joystick and the machine takes care of everything else. The use of automatic end-of-cut, for example, closes the cut created by the rotor at the end of each path.

Not only the functions mentioned above, but also many others can be linked using **MIX ASSIST**. As a result, work processes are optimized semiautomatically and productivity is increased.




**Smart into-cut and end-of-cut automatic**

# PRECISE METERING SYSTEMS FOR WATER AND BINDING AGENTS

## For Best Mixing Results

**Smart Injection Systems**

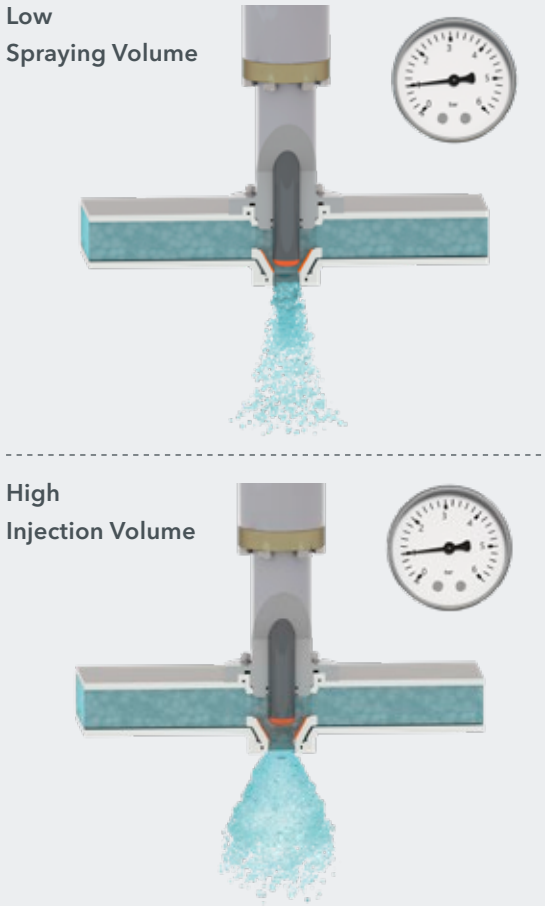
For the achievement of high-quality mixing results, merely entering the required parameters is not enough. These must also be kept constant as the work progresses. The WR series has all it takes to meet these requirements: Input is convenient and easy with only a few controls on the left armrest console and on-screen. Clearly and logically structured menus enable the operator to quickly access individual pages. Thanks to large, easy-to-understand display indicators, the operator is always optimally informed about the current parameters during the work process. If specific values require correction, these can be adjusted quickly and with minimum effort.

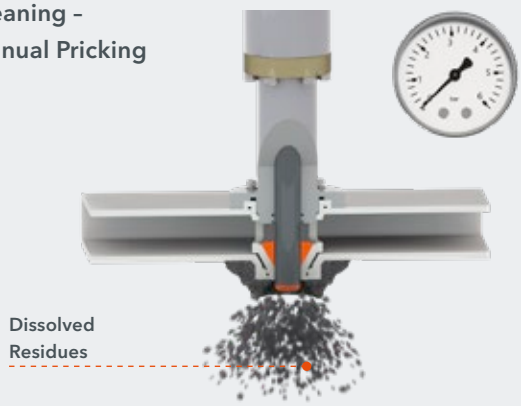
Microprocessor-controlled flow meters regulate the flow rate of the pumps for the addition of water, bitumen, or bitumen emulsion. The respective quantity addition is based on the selected parameters such as working width, depth, material density, and machine feed rate. Depending on the overlap, injection nozzles can be switched on or off to prevent overdosing during addition.

**VARIO Injection Bars with Adjustable Nozzle Cross-Section for Consistent Injection Width**

The nozzles of the **VARIO** injection bars for foamed bitumen, bitumen emulsion, and water feature an adjustable nozzle cross-section. This enables the injection width – and the injection pressure – to be kept constant, independently of the volume. This ensures an ideal and even distribution in the milling and mixing unit across the defined injection width, and thus assures the homogeneity of the mix.

**Constant Injection Pressure Independently of the Amount of Water Added**




Functional principle: Variable cross-section of nozzles on injection bar for water or bitumen emulsion.

**Injection Bars with Automatic Self-Cleaning During the Work Process**

Individual injection nozzles are regularly opened at short intervals as the work progresses. This flushes out any residues in and around the nozzles.

**Manual Cleaning Function**

The injection nozzles can also be cleaned manually when work is interrupted or finished and the rotor is stopped. To do this, the piston rod is pushed through the injection nozzle outlet to remove any residues.

**Constant Pressure Independently of the Injection Volume**

Low Injection Quantity

High Injection Quantity

Foamed bitumen is produced by the controlled injection of compressed air and water into hot bitumen.

**Uninterrupted Working**
Automatic self-cleaning function

**Efficient – and Available Around the World**
Foamed bitumen

# BEST MIXING RESULTS

## For Highest-Quality Construction Materials

**MIX ASSIST for Predefined, Customizable, and Efficient Workflows – at the Press of a Button**

Thanks to **MIX ASSIST**, various automation functions can be individually configured and called up at the press of a button. Numerous work steps can be freely combined by the operator in various automated workflows to meet the needs of specific applications. This means that a process chain can be automatically executed with a freely assignable "favorites" button. Functions can be executed in parallel but also sequentially, one after the other – as required.

By combining in **MIX ASSIST** a variety of functions such as rotor speed, machine advance speed (via **ACTIVE SPEED CONTROL**), **ACTIVE REAR DOOR FLOAT**, **AUTOMATIC REVERSE**, rotor housing door settings, injection system, and numerous other parameters, a consistently high-quality mixing result can be ensured.

**Nine or Twelve Different Rotor Speeds to Adapt to Different Primary Materials**

Through the right arm console in the cabin and by repositioning the pulleys, it is possible to set nine (WR 200 X, WR 240 X) or twelve (thanks to the two-stage switchable rotor gearbox in the WR 250 X) different rotor speeds.

**ACTIVE SPEED CONTROL for Constant Machine Advance Speed**

The cruise control function **ACTIVE SPEED CONTROL** enables quick, targeted acceleration and regulation of defined feed values in working or transport mode, depending on the direction of travel. Separate speed values for forward and reverse travel can be specified for both modes. Once the operator has set the ideal speed for the application, the machine immediately retrieves this value when the **ACTIVE SPEED CONTROL** function is activated. The speed value can be quickly adjusted via the scroll-wheel on the multifunctional joystick.

Conclusion: The **MIX ASSIST**, in combination with **ACTIVE SPEED CONTROL**, optimally selected rotor speed, and many other features, achieves significant operator relief, increased machine productivity, and high, consistent mixing quality. At the same time, fuel consumption, pick consumption, noise emissions, and $CO_2e$ emissions are all significantly reduced.

**01** The milling and mixing rotor assures high mixing quality on every job.

**02** Four freely assignable favorite buttons (*) on the multifunction joystick of the right arm console allow for ergonomic access to important functions.

# BEST MIXING RESULTS

## For Highest-Quality Construction Materials

**Status of the VARIO Injection Nozzles Visualized on the Operator's Display for Adding Water and Bitumen**
If the machine is equipped with the optional five-camera system, the operator will be able to see the areas in which injection is taking place on the main control panel. The actual injection nozzle status (open/closed/automatic) is displayed next to this visualization in the live camera view. In the case of overlapping, the bright lines superimposed on the camera view give the operator a good estimate of which nozzles will need to be activated or deactivated during the next parallel pass. The material already milled is easily recognizable, as it will be damp and loose. These guidelines thus show up to where the injection nozzles must be deactivated to avoid overdosing.

**01** A camera image on the main display clearly shows which injection nozzles need to be activated or deactivated.

**02** The ideal pressure of the rotor housing rear door – optimized by **ACTIVE REAR DOOR FLOAT** – ensures high quality mixing results.

**03** The crusher bar on the front rotor housing door reliably breaks up slabs.

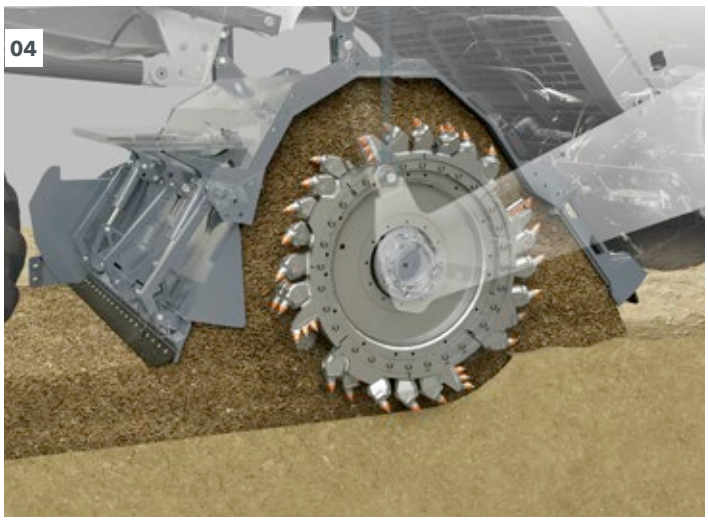
## Adjustable Pressure for the Rotor Housing Rear Door – Assisted by ACTIVE REAR DOOR FLOAT

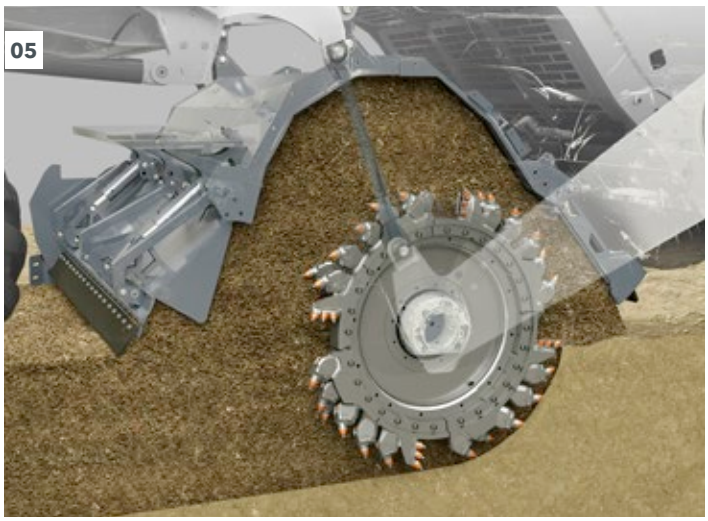
The combination of a variable mixing chamber and adjustable pressure of the rotor housing rear door leads to consistently high, homogeneous mixing quality. The productivity of the machine is further increased by **ACTIVE REAR DOOR FLOAT** – this function makes it easier to start advancing in the cut to get the material flow going. This reduces working time, fuel consumption, and wear and tear.

The rotor housing front door seals off the milling and mixing unit at the front. At the same time, it protects against flying stones and improves controlled rolling of binding agents. The integrated, extremely wear-resistant crusher bar breaks up slabs from asphalt packages and thus ensures high-quality mixing results.

## Variable Mixing Chamber – Automatic Adjustment of the Mixing Chamber Volume Depending on the Working Depth

The mixing chamber volume is adjusted by automatically raising and lowering the rotor according to the current working depth and the respective material quantity: The variable mixing chamber increases with the working depth. The adjusted mixing chamber volume enables loosening of the existing material, homogeneous mixing, as well as a high material throughput, resulting in maximum machine productivity at every working depth.




**04 – 05** The WR series machines have a proven, variable mixing chamber for optimum mixing results.

# UNPARALLELED CUTTING TECHNOLOGY

## For Maximum Service Life

**The Universal DURAFORCE Milling and Mixing Rotor for All Applications**

Cutting technology is our core competence: The extremely wear-resistant WIRTGEN **DURAFORCE** milling and mixing rotor not only transforms difficult soils into high-quality construction materials. It granulates various bound and unbound base layers and impresses with high performance, long service life, and optimal quality regarding the mixing result. The engine power and the mixing performance of the various machine types are ideally matched to one another and achieve the highest possible productivity and mixing quality at varying working widths and depths.

Efficiency was the key focus in the development of the X-Tier WR series – also for rotor design. The optimized design of the spiral ensures even higher productivity and mixing quality while simultaneously reducing fuel consumption, $CO_2$e emissions, and wear.

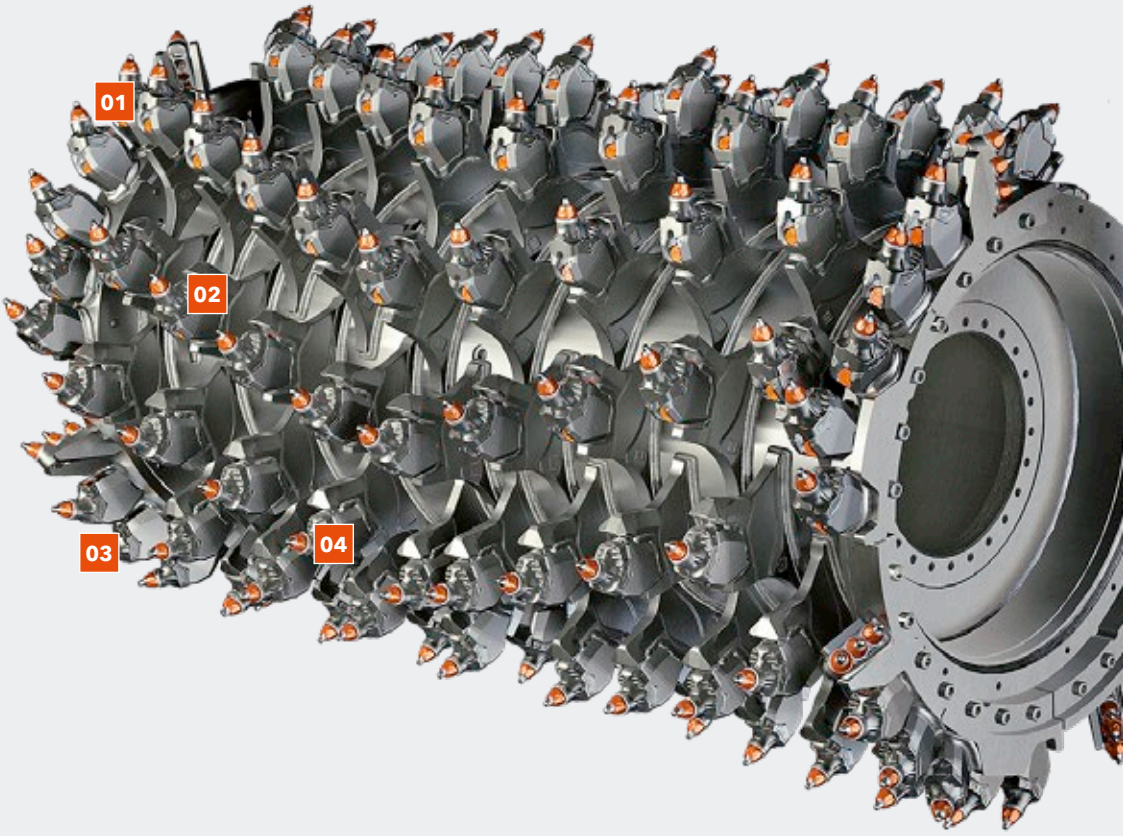
## Highlights of the DURAFORCE Milling and Mixing Rotor

**01 High Service Life**
> Hard-wearing Generation Z cutting tools for demanding soil stabilization and cold recycling applications
> Heavy-duty **HT22**-quick-change toolholder system for minimal downtimes

**02 Universal Milling and Mixing Rotor**
High-productivity milling and mixing rotor for all applications

**03 Powerful Mixing Performance**
Intelligently designed geometry of the holder strut paired with the large diameter of the milling and mixing rotor ensure optimal, homogeneous mixing

**04 High Performance and Perfect Mixing Results**
Tool spacing and the tool pattern are precisely matched to the machine's performance (from the tool to the holder strut)



The robust design of the rotor promotes balanced, shock-free rotational behavior and thus protects the drive components. Tools on high bases arranged in an ideal pattern up to the edges guarantee homogeneous mixing of the construction materials at all working depths.

Each model of the WR series requires only one milling and mixing rotor to complete any job – regardless of the material to be processed (soil, bound or unbound base layers).

For instance, the tools on the rotors of both the WR 200 X and the WR 240 X are arranged with a tool spacing of 20 mm. The tool arrangement is thus ideally tailored to the performance of the particular machine.

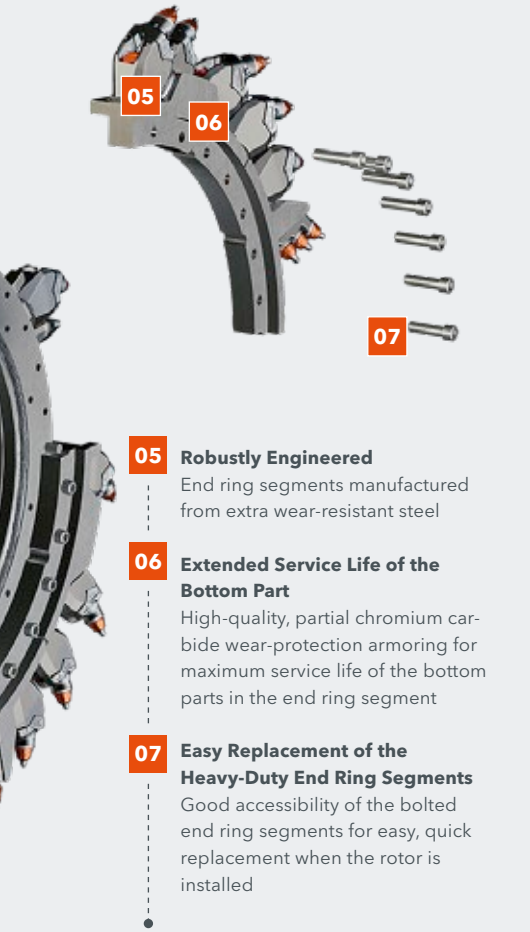
The rotor of the WR 250 X has a tool spacing of 30 x 2 mm – two tools per rotor revolution are positioned at a tool spacing of 30 mm each. With a larger number of tools, the rotor is perfectly matched to the high engine-power output and, in turn, the tendency towards higher machine advance rates.

The combination of high engine-power output and a particularly robust rotor guarantees the best and finest mixing quality even at higher machine advance rates. Thanks to the HT22 interface, all rotors can be equipped with a wide range of different tools to meet the specific needs of each construction site. The choice of the right tools simultaneously improves productivity and optimizes operating costs.

**01** Highlights of the **DURAFORCE** milling and mixing rotor.

**02** Quick and easy tool changes with the pneumatic tool extractor.

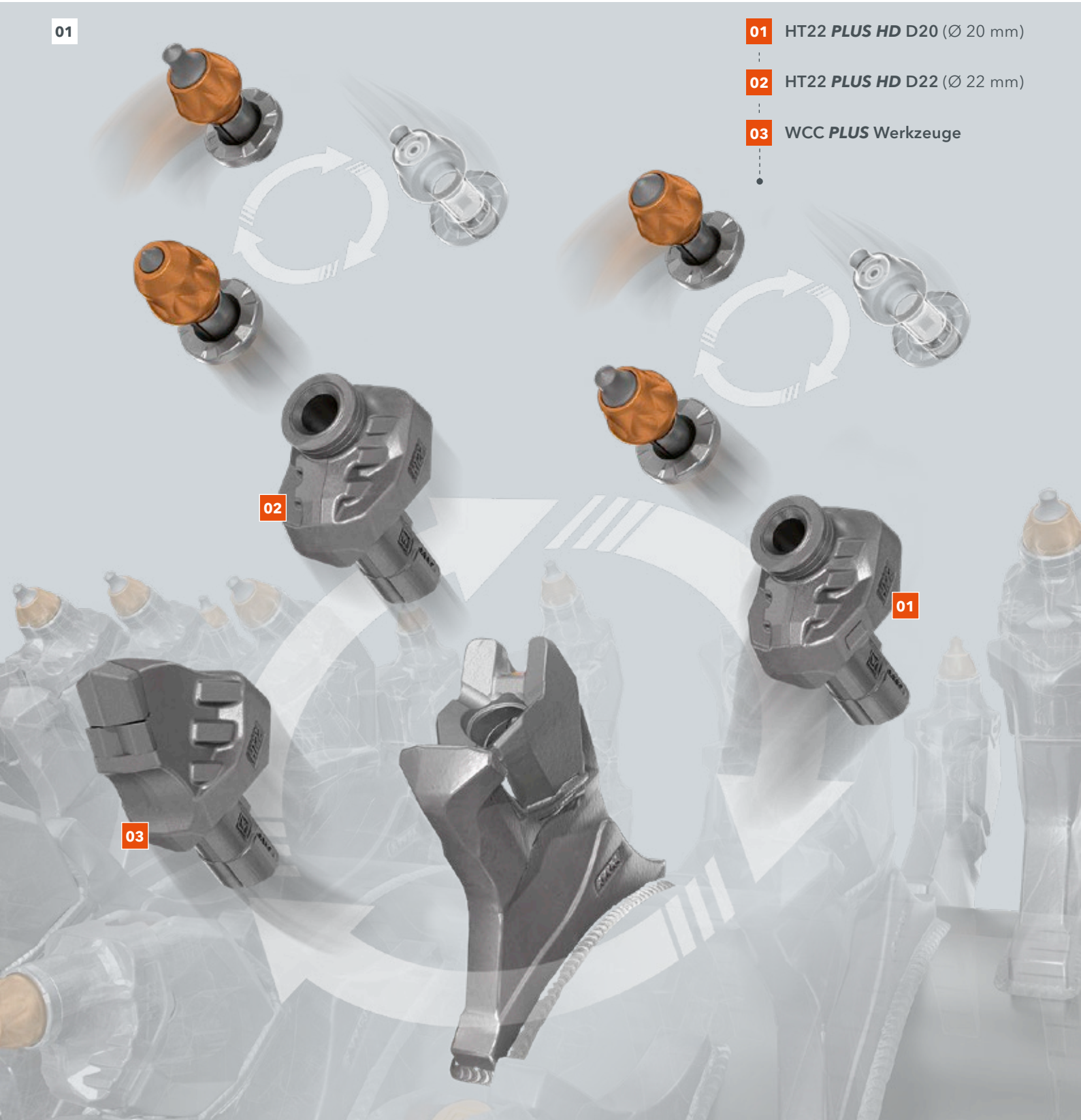
01




02

# UNPARALLELED CUTTING TECHNOLOGY

## For Maximum Service Life



## Less Wear for Higher Utilization Rates
Quick-change toolholder system **HT22**

## Quick and Easy Rotor Access
**Go-To-Tool-Change** control panel

**Extremely Hard-Wearing Quick-Change Toolholder System HT22 in Various Versions**
The hard-wearing quick-change toolholder system **HT22** enables the use of a variety of different toolholders. Depending on the application and the material in place, this enables further optimization of operating costs.

The **HT22** ***PLUS*** toolholders impress with greater wear volume in the shoulder and front sections, thereby ensuring a longer service life and providing better protection of the **HT22** toolholder base.

The innovative centering embossing on toolholders's contact surface for the wear plate of the **GENERATION Z²** round shank cutting tools results in maximum toolholder service life from the very beginning.

Due to their tool geometry and construction materials, **WCC** ***PLUS*** tools are perfect for mixing cohesive soils containing large rocks or boulders. They also feature extremely wear and shock resistant carbide cutting edges.

**Exchangeable Rotor End Ring Segments**
The bolted end ring segments made of highly wear-resistant steel are characterized by easy accessibility and allow for quick replacement when the rotor is installed.

**Go-To-Tool-Change Control Panel for Efficient and Convenient Rotor Inspection and Maintenance**
The separate **Go-To-Tool-Change** control panel at the rear of the machine enables quick and convenient inspection of the rotor and picks: at the press of a button, the height-adjustment function raises the machine, the rotor housing rear door opens and the rotor is lowered a little, enabling easy access to the rotor. The control panel also offers an engine start-stop function.

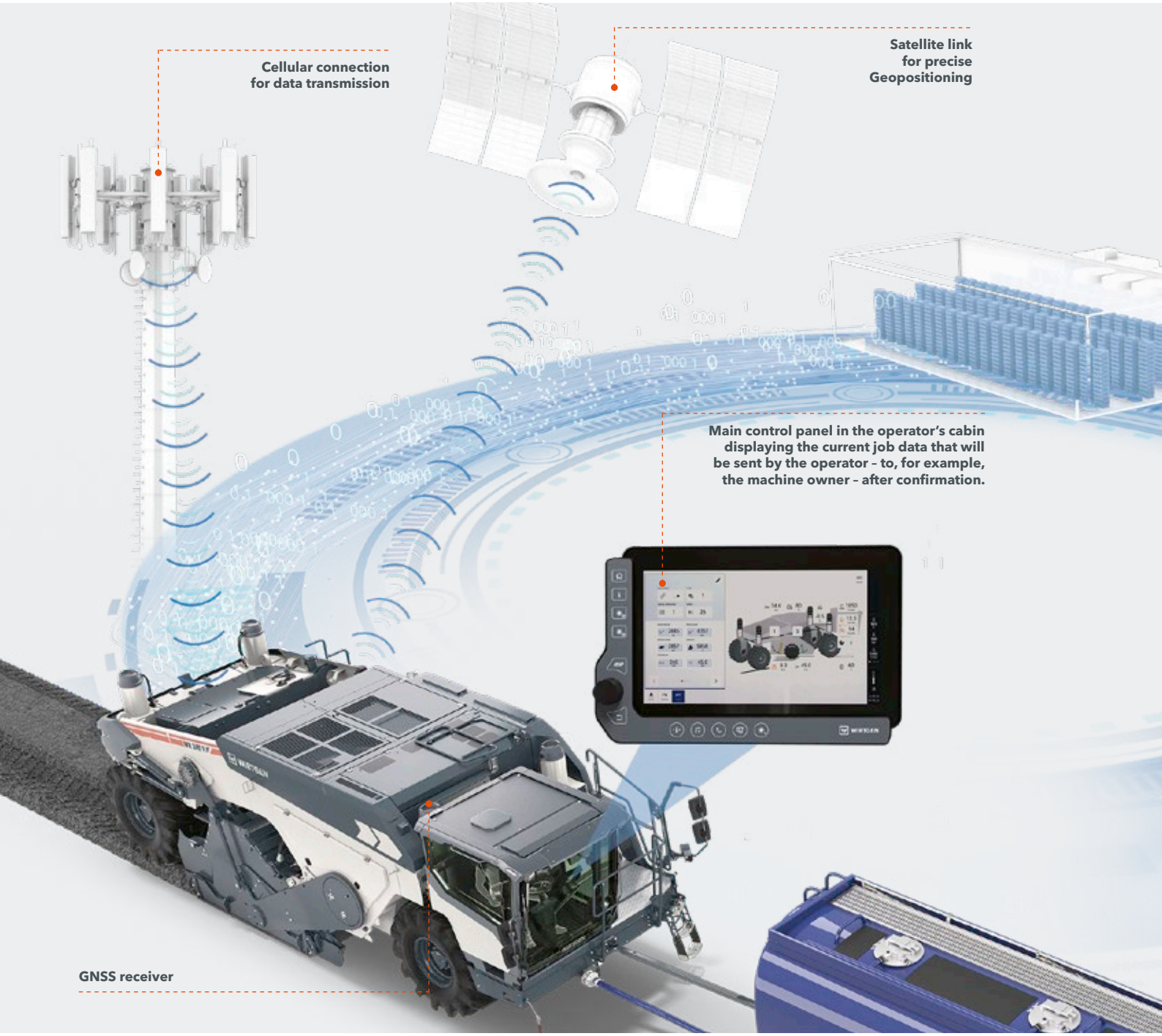
If required, the positioning of the rotor and rotor housing door and the setting for the machine height can be individually configured from the main control panel in the operator's cabin.

**01** Milling and mixing rotor with quick-change toolholder system **HT22**.

**02** Easy rotor inspection with the **Go-To-Tool-Change** control panel.

# WPT STABILIZING

## For Seamless Project Documentation




**Automatic Mixing Performance Tracker**
Precise WPT

**Analysis of Saving Potentials**
Accounted resource consumption

**01** Using satellite-based positioning and precise machine sensors, WPT accurately determines the area and volume performance as well as the additives applied.

**Automatic Mix Performance Documentation for an Accurate Project Accounting**

WIRTGEN GROUP Performance Tracker Stabilizing is a satellite-based monitoring and tracking system for precise documentation of construction sites. It records all site-specific parameters and documents them in a detailed field report. After completion of the work (e.g. the end of the working day), the machine operator presses the send button to transmit the data via the Telematic Control Unit (TCU) of the mobile communication interface. From there, the data are distributed to the designated recipients – e.g. in the form of a report by e-mail.

The GNSS receiver with the licensed SF-RTK correction signal enables accuracy in the range of +/- 2.5 cm from path to path, and this with a very quick pull-in time. This enables the documentation of extremely accurately positioned machine information immediately after the day's work begins, i.e. as soon as the machine is started.

**Comprehensive Construction Site Reports for Documented Mixing Quality**

In addition to high-precision GNSS machine-positioning data, the report contains a variety of parameters such as the working width and depth, the distance and area covered, the addition of water and binding agents, and consumption figures for resources such as diesel fuel and tools. In addition, the respective working depth as well as the water and binder addition are displayed with precise positioning in a separate layer PDF.

The results enable a precise analysis of performance on the construction site, the quality of the results delivered, and the process efficiency. This in turn enables detailed accounting of all processes on the construction site and the identification of future savings potential.

**Simple and Precise Construction Site Accounting**

The prompt, simple calculation of the area processed required for the correct invoicing of the work performed saves further costs – e.g. as incurred by the employment of an external surveyor.

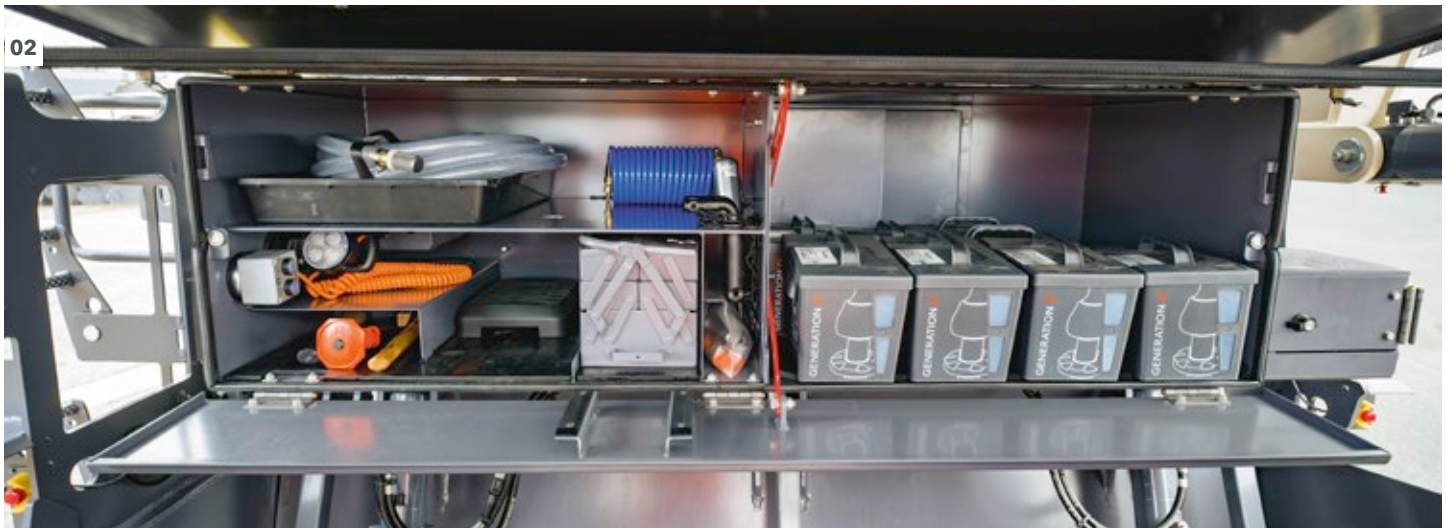
Machine and WPT data are just as easily transmitted to the John Deere Operations Center for efficient real-time monitoring of construction sites.

# OUTSTANDING RELIABILITY

## For Maximum Machine Utilization Rates

**Always Well Informed**
Simple diagnostics concept

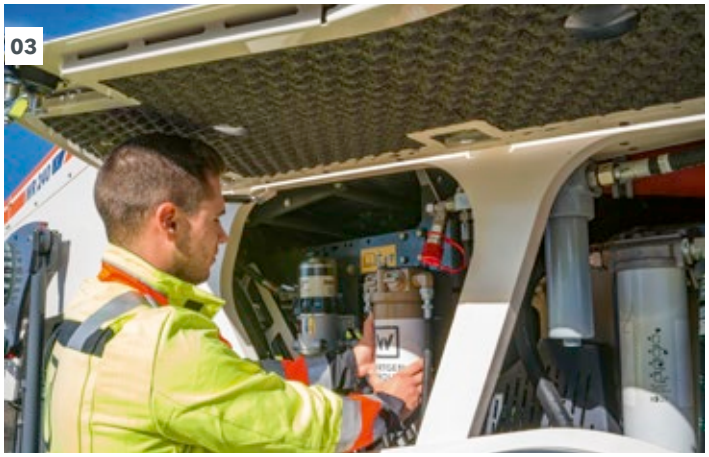
**Minimal Lost Time**
Quickly and easily accessible maintenance points




**01** Easy diagnostic and parameter settings via the main control panel.

**02** The optional large rear storage compartment is specially tailored to meet the needs of cold recycling and stabilization applications.

**03** User-friendly access to the components makes machine maintenance quick and easy.




**Self-Explanatory Diagnostics Technology**
The diagnostic concept guides the operator easily and intuitively through the diagnosis, parameter-setting, or error-analysis processes with clearly laid out, visually unambiguous diagnostics and setup screens. Through the combination of setup and diagnostics, operators can switch easily between diagnostics and parameter-setting. Any potential malfunction is clearly displayed to the operator, including a fault description, on the main display in the cabin. Comprehensive assistance in text form then enables the operator to begin correcting the fault.

**Continuous Monitoring of Functions**
The machine's automatic self-diagnostics system autonomously monitors valves, sensors, and control components. Numerous clearly visualized screens quickly provide precise information about the machine's momentary operational status. This also helps ensure maximum machine utilization rates.

**Robust and Reliable CAN Bus**
Separate CAN-bus systems ensure greater machine reliability. In addition, all important control elements feature dual-channel signal transmission to the CAN bus systems to ensure the reliability of fault analyses and diagnostics. Any faults or malfunctions are immediately displayed on the main control panel in the operator's cabin.

**Time-Saving Service and Maintenance Concepts**
Extended servicing intervals and the smart maintenance concept significantly reduce maintenance effort. The few service points on the machine are clearly positioned and easily accessible either from the ground or from access ladders.

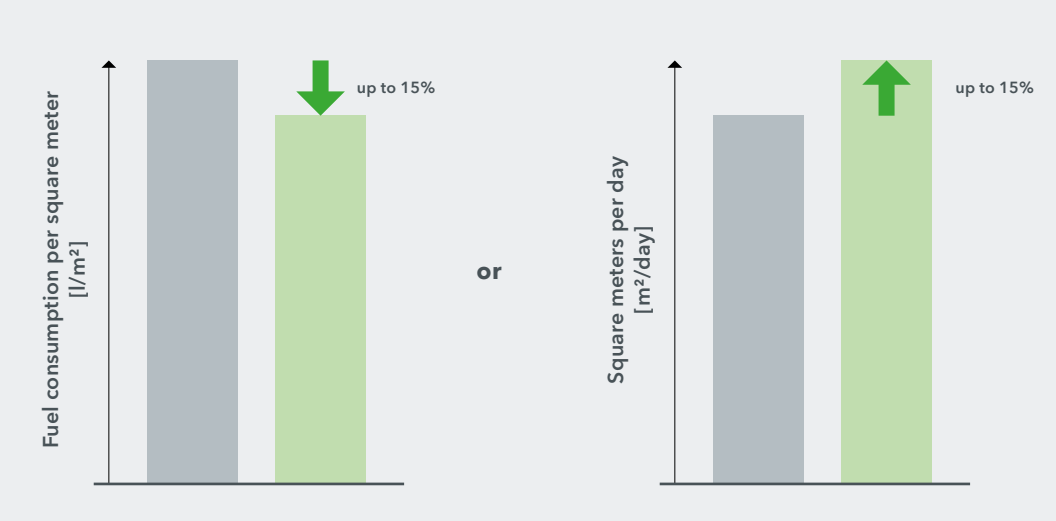
The extra-large storage compartment at the rear of the machine is designed to meet the needs of all applications and enables safe and secure stowage of tools – tools such as the rotor turning device and the portable spotlight can remain permanently connected.

# MINIMAL OPERATING COSTS AND ACTIVE $CO_2e$ REDUCTION

The X-Tier models of the WR series impress with optimized functions and components. These enable the achievement of an increase in operational efficiency of up to 15%. This is primarily due to modifications to the milling and mixing rotor, the innovative flow divider, engine speed management, **ACTIVE REAR DOOR FLOAT**, and **MIX ASSIST**.

A closer look at the increased efficiency with regard to a specific project reveals two different perspectives:

1. With the same daily output, it comes to faster project realization and simultaneously to lower fuel consumption per day or square meter.
2. With same machine operation time, it comes to higher productivity, and therefore to a higher square meter performance per day.

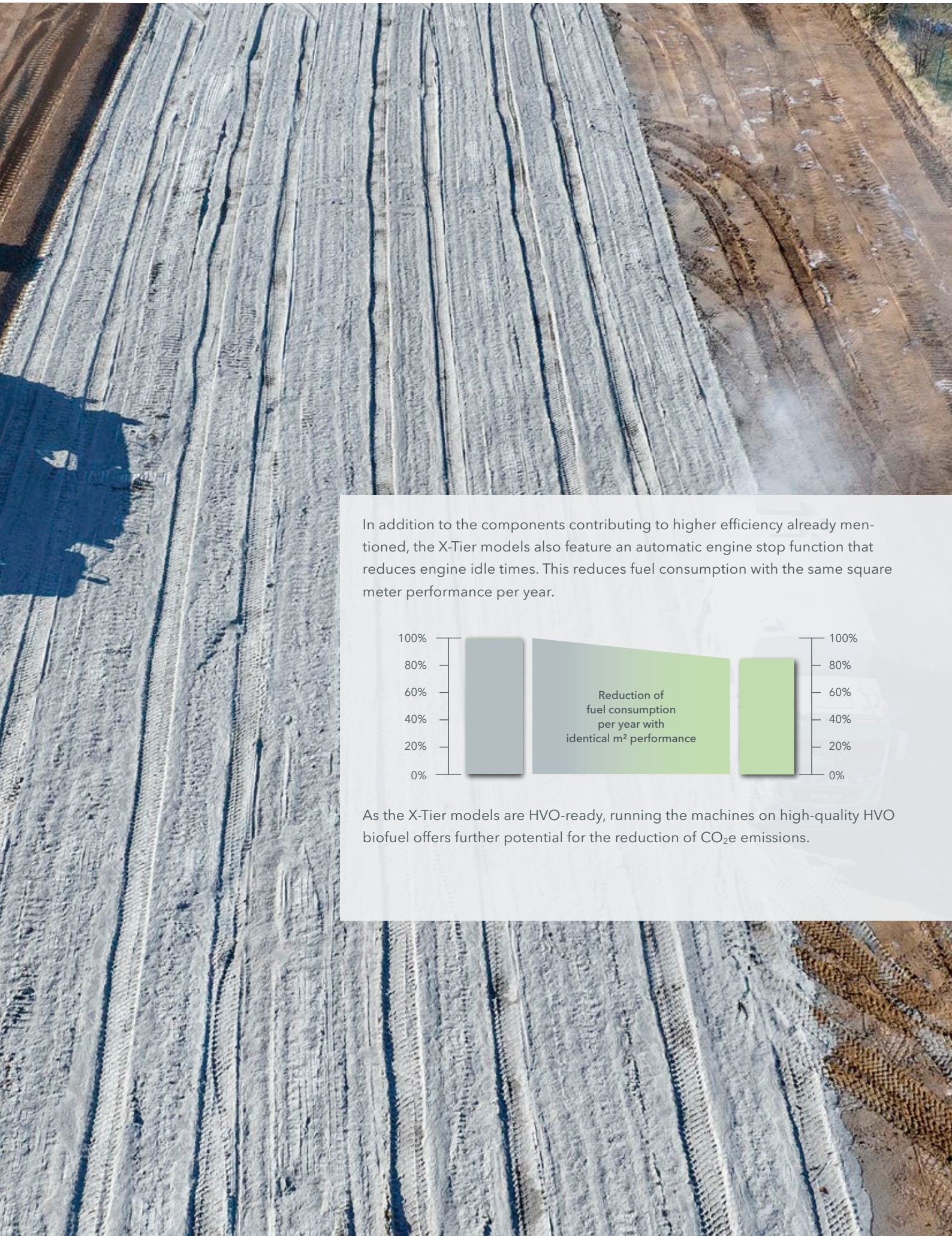



Both cases enable the compensation of logistics and construction related delays – and this with lower fuel consumption per square meter.

The use of the optional **AutoTrac™** steering system makes it possible to further increase efficiency and fuel economy.

## Focus on Operating Costs

Significant Fuel Savings



In addition to the components contributing to higher efficiency already mentioned, the X-Tier models also feature an automatic engine stop function that reduces engine idle times. This reduces fuel consumption with the same square meter performance per year.




As the X-Tier models are HVO-ready, running the machines on high-quality HVO biofuel offers further potential for the reduction of $CO_2e$ emissions.

The WR series machines are ideal for a variety of application scenarios from cold recycling (structural road rehabilitation) to the stabilization of a wide range of construction materials in processes such as soil stabilization or consolidation in road construction.
The WR 200 X boasts compact dimensions and low machine weight that guarantee maximum flexibility when transporting it from place to place.

The WR 240 X strikes a perfect balance between machine performance and weight to assure high daily productivity.
The WR 250 X is the most powerful machine of the WR series and provides the highest productivity and power reserves in every situation.

| TECHNICAL DATA | WR 200 X | |
|---|---|---|
| Exhaust emission standard | EU Stage 3a / US EPA Tier 3 | EU Stage 5 / US EPA Tier 4f |
| **Milling and mixing rotor** | | |
| Working width | 2,000 mm (optional working width: 2,400 mm) | |
| Working depth [1] | 0 – 500 mm | |
| Cutting diameter | 1,480 mm | |
| **Engine** | | |
| Engine manufacturer | Mercedes Benz / Deutz | Mercedes Benz / Deutz |
| Type | OM 460 LA | OM 470 LA / TCD 10.7 |
| Number of cylinders | 6 | |
| Power output | at 2,000 rpm:<br>305 kW / 409 HP / 415 PS | at 1,900 rpm:<br>316 kW / 421 HP / 430 PS |
| Maximum power output | at 1,800 rpm:<br>315 kW / 422 HP / 428 PS | at 1,600 rpm:<br>320 kW / 429 HP / 435 PS |
| Displacement | 12.8 l | 10.7 l |
| Fuel consumption, full load \| jobsite mix | 80 l/h \| 39 l/h | 75 l/h \| 35 l/h |
| Sound power level according to EN 500-3: engine \| operator's platform | ≤107 dB(A) \| ≥71 dB(A) | ≤106 dB(A) \| ≥73 dB(A) |
| **Electrical system** | | |
| Power supply | 24 V | |
| **Tank Capacities** | | |
| Fuel | 830 l | |
| AdBlue® / DEF [2] | – | 80 l |
| Hydraulic oil | 200 l | |
| Water | 380 l | |
| Additional water tank | – | |
| **Driving data** | | |
| Working speed in milling and travel gear | 0 – 210 m/min (12.6 km/h) | |
| Max. transverse tilt | 8° | |
| Ground clearance | approx. 400 mm | |
| **Tires** | | |
| Tire size, front / rear | 620/75 R26 | |
| **Transport dimensions** | | |
| Dimensions for truck/trailer transport (L x W x H) | 9,200 x 2,550 x 3,000 mm<br>(optional working width 2,400 mm: 9,200 x 2,990 x 3,000 mm) | |

[1] The maximum working depth may deviate from the value indicated due to tolerances and wear
[2] AdBlue® is a registered trademark of the German Association of the Automotive Industry (VDA)

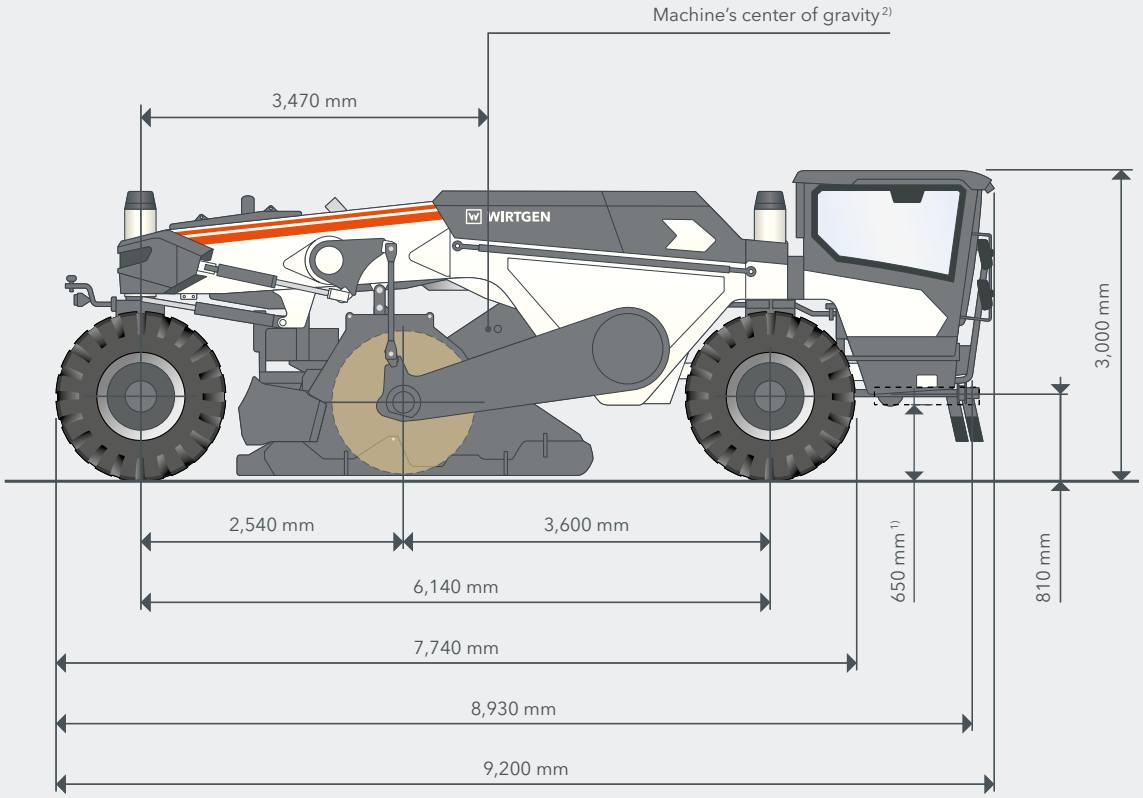
| | WR 240 X | | WR 250 X | |
|---|---|---|---|---|
| | EU Stage 3a / US EPA Tier 3 | EU Stage 5 / US EPA Tier 4f / CN NR Stage 4 | No EU regulation / US EPA Tier 2 | EU Stage 5 / US EPA Tier 4f |
| | 2,400 mm | | 2,400 mm | |
| | 0 – 510 mm | | 0 – 560 mm | |
| | 1,480 mm | | 1,480 mm | |
| | Cummins | | Caterpillar | |
| | QSX 15 | X-15 | C18 ATAAC | |
| | 6 | | 6 | |
| | at 2,100 rpm: 447 kW / 600 HP / 608 PS | | at 2,100 rpm: 571 kW / 766 HP / 777 PS | at 1,950 rpm: 563 kW / 755 hp / 766 PS |
| | at 1,900 rpm: 455 kW / 610 HP / 619 PS | | at 1,800 rpm: 571 kW / 766 HP / 777 PS | at 1,700 rpm: 563 kW / 755 HP / 766 PS |
| | 15.0 l | 14.9 l | 18.1 l | 18.1 l |
| | 120 l/h \| 60 l/h | 115 l/h \| 55 l/h | 142 l/h \| 70 l/h | 147 l/h \| 72 l/h |
| | ≤110 dB(A) \| ≥77 dB(A) | ≤109 dB(A) \| ≥73 dB(A) | ≤110 dB(A) \| ≥74 dB(A) | ≤112 dB(A) \| ≥79 dB(A) |
| | 24 V | | | |
| | 1,500 l | 1,380 l | 1,500 l | |
| | – | 100 l | – | |
| | 320 l | | | |
| | 500 l | | | |
| | 950 l | | | |
| | 0 – 210 m/min (12.6 km/h) | | | |
| | 8° | | | |
| | approx. 400 mm | | | |
| | 28L-26 | | | |
| | 9,270 x 3,000 x 3,000 mm | | | |

| TECHNICAL DATA | WR 200 X | |
|---|---|---|
| Exhaust emission standard | EU Stage 3a / US EPA Tier 3 | EU Stage 5 / US EPA Tier 4f |
| **Base machine weight** | | |
| Unladen weight of machine with standard equipment and without operating agents | 23,500 kg | 23,800 kg |
| Operating weight, CE [1] | 24,200 kg | 24,500 kg |
| Maximum operating weight (full tanks, full range of equipment) | 27,500 kg | 27,900 kg |
| **Weight of filling media** | | |
| Water | 380 kg | |
| Additional water tank | – | |
| Fuel (0.83 kg/l) | 690 kg | |
| AdBlue® / DEF [2] | – | 80 kg |
| **Additional weight** | | |
| **Machine operator and tools** | | |
| > Machine operator | 75 kg | |
| > 5 pick buckets | 125 kg | |
| **Optional milling and mixing units** | | |
| > Milling and mixing unit FB2400 | 1,450 kg | |
| > Reinforced rotor housing FB2400 | – | |
| **Optional milling and mixing rotors** | | |
| > **DURAFORCE** milling and mixing rotor FB2000 **HT22 *PLUS*** LA20 with 120 WCC tools and 24 picks D22 | 100 kg | |
| > **DURAFORCE** milling and mixing rotor FB2400 **HT22 *PLUS*** LA25 with 128 WCC tools and 24 picks D22 | 100 kg | |
| > **DURAFORCE** milling and mixing rotor FB2400 **HT22 *PLUS*** LA20 with 139 WCC tools and 24 picks D22 | – | |
| > **DURAFORCE** milling and mixing rotor FB2400 **HT22 *PLUS*** LA30x2 with 184 WCC tools and 24 picks D22 | – | |
| **Alternative to standard injection system** | | |
| **> Single injection system:** injection system with VARIO injection bars for water (800 l/min) or bitumen emulsion (800 l/min) | 490 kg | |
| **> Double injection system:** injection system with VARIO injection bars for water (800 l/min) and bitumen emulsion (800 l/min) | – | |
| **> Double injection system:** injection system with VARIO injection bars for water and bitumen emulsion (800 l/min) or foamed bitumen (500 kg/min) | – | |
| **> Single injection system:** injection system with injection bar for water (1,800 l/min) | 420 kg | |
| **Additional equipment** | | |
| > Rear storage compartment, large | 80 kg | |
| > Additional water tank (empty) | – | |

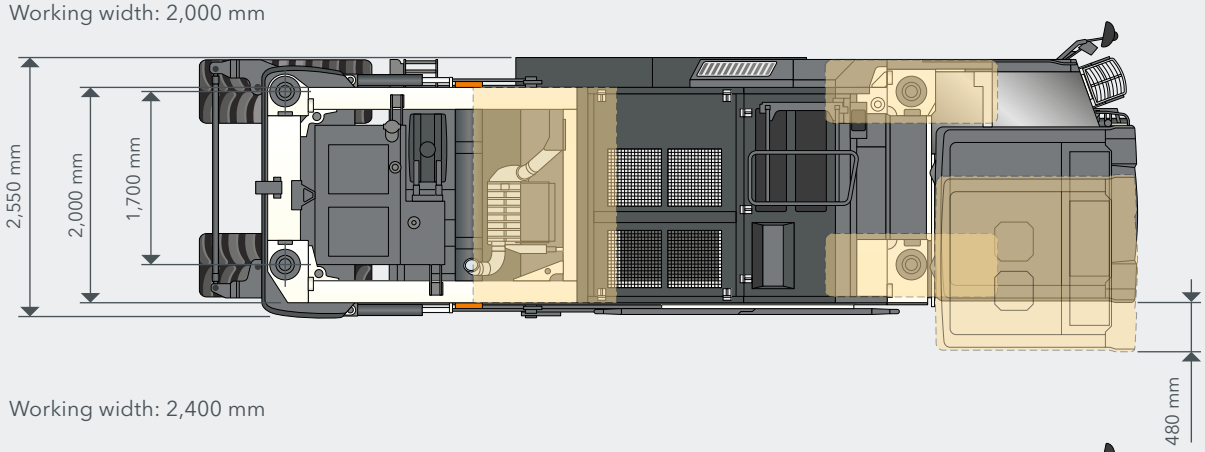
[1] Machine weight, plus half the weight of all operating agents, tools, machine operator; no additional options
[2] AdBlue® is a registered trademark of the German Association of the Automotive Industry (VDA)

| | WR 240 X | | WR 250 X | |
|---|---|---|---|---|
| | EU Stage 3a / US EPA Tier 3 | EU Stage 5 / US EPA Tier 4f / CN NR Stage 4 | No EU regulation / US EPA Tier 2 | EU Stage 5 / US EPA Tier 4f |
| | | | | |
| | 29,000 kg | 29,600 kg | 30,750 kg | 31,050 kg |
| | 30,000 kg | 30,600 kg | 31,700 kg | 32,000 kg |
| | 34,900 kg | 35,500 kg | 36,500 kg | 36,800 kg |
| | | | | |
| | 500 kg | | | |
| | 950 kg | | | |
| | 1,245 kg | 1,145 kg | 1,245 kg | |
| | – | 100 kg | – | |
| | | | | |
| | 75 kg | | | |
| | 125 kg | | | |
| | | | | |
| | – | | | |
| | – | | 230 kg | |
| | | | | |
| | – | | | |
| | – | | | |
| | 115 kg | | – | |
| | – | | 150 kg | |
| | | | | |
| | 420 kg | | | |
| | 770 kg | | | |
| | 1,520 kg | | | |
| | 410 kg | | | |
| | | | | |
| | 80 kg | | | |
| | 420 kg | | | |

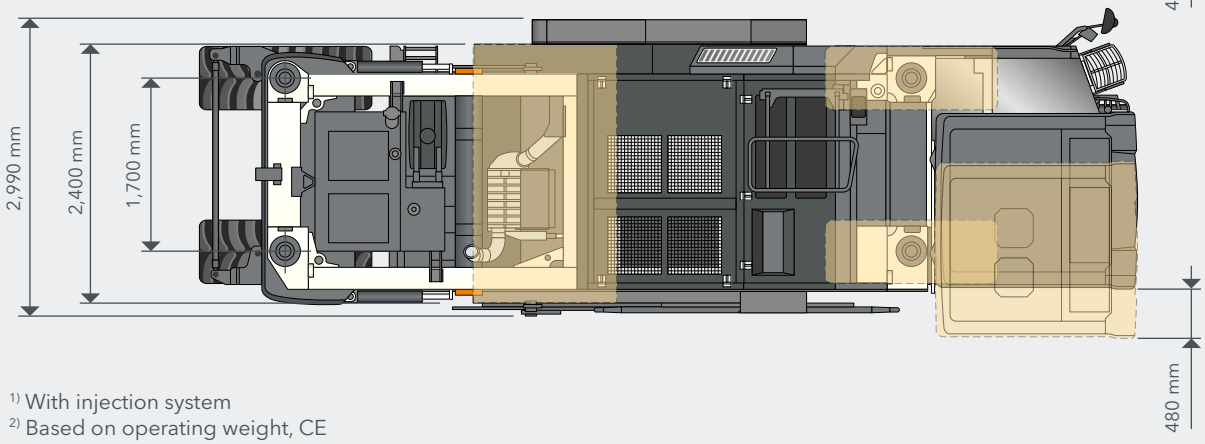
## SIDE VIEW / TOP VIEW WR 200 X




Working width: 2,000 mm

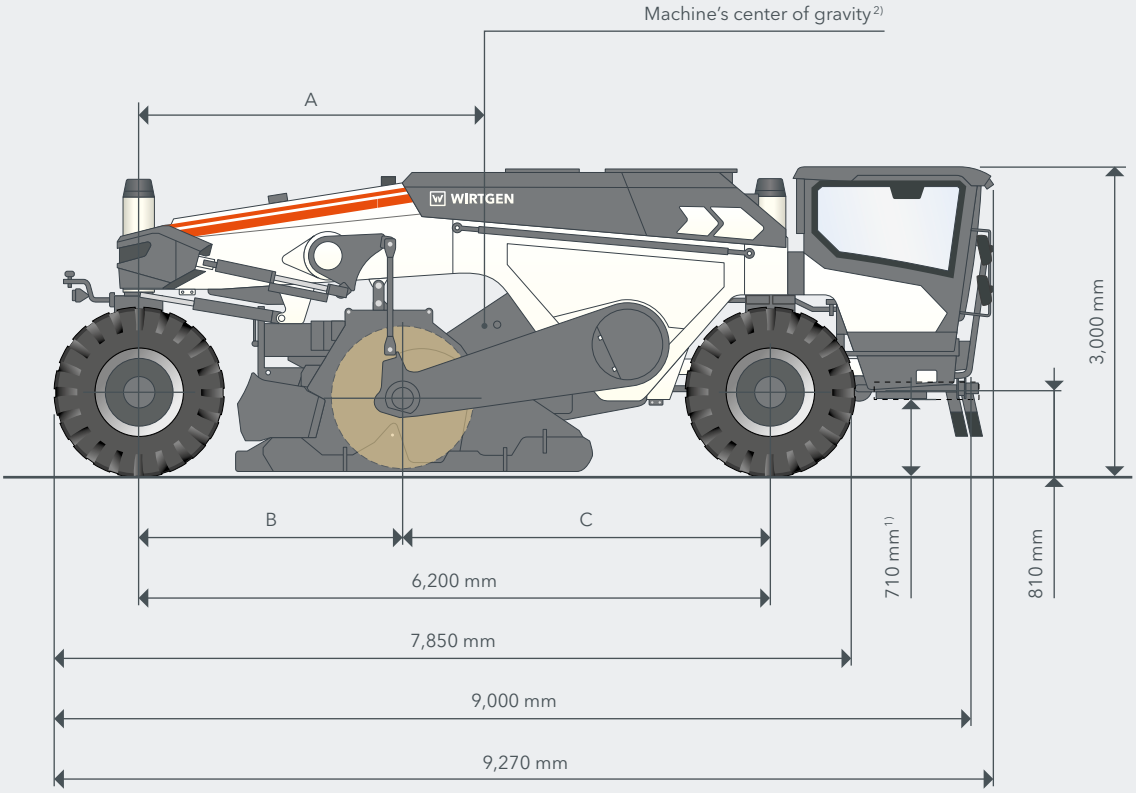


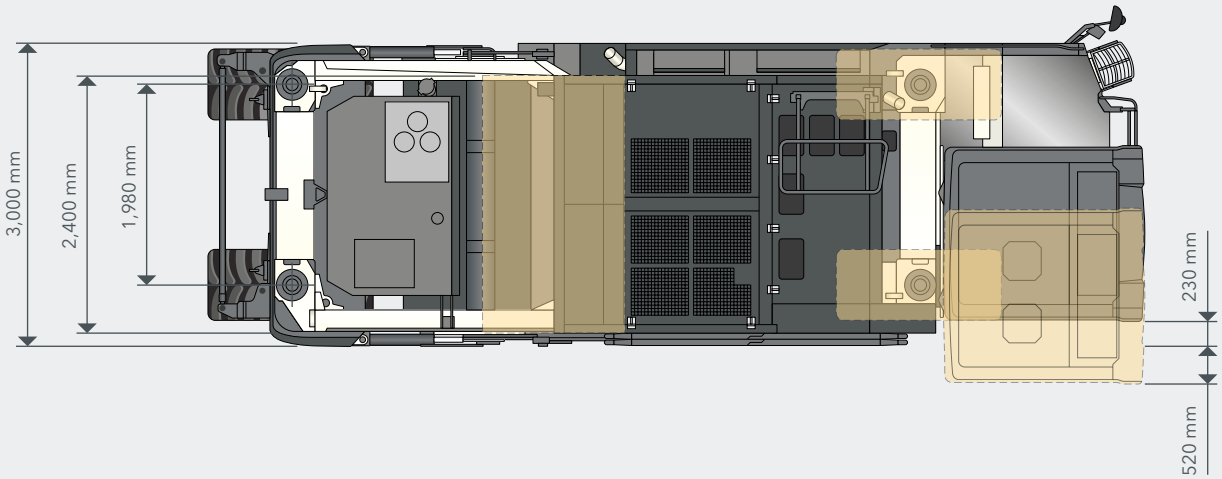

Working width: 2,400 mm




1) With injection system
2) Based on operating weight, CE

## SIDE VIEW / TOP VIEW WR 240 X AND WR 250 X

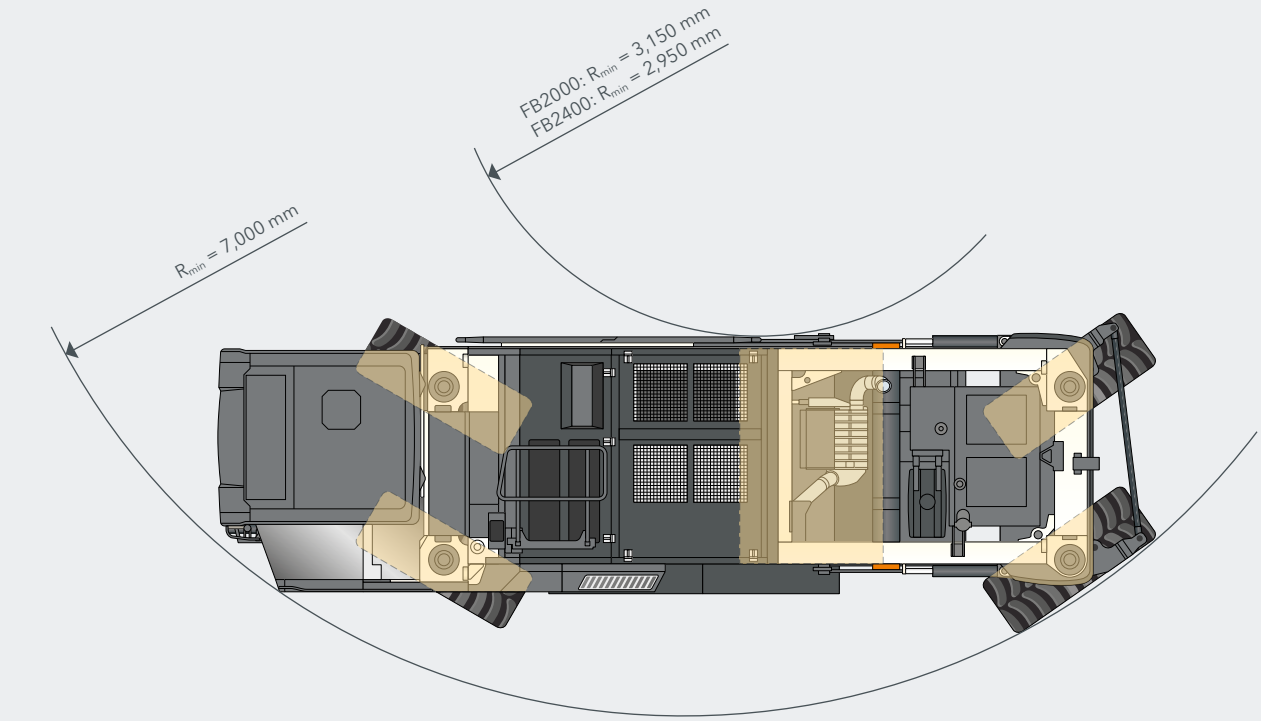


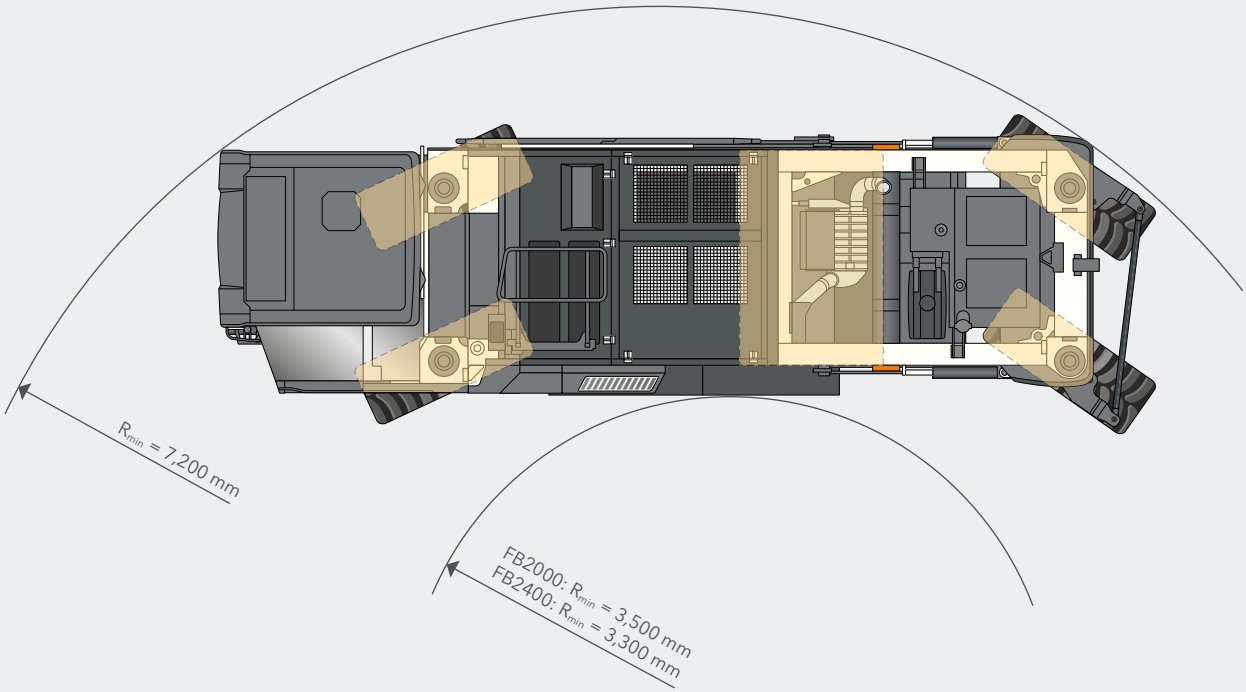




| | A | B | C |
|---|---|---|---|
| **WR 240 X** | 3,550 mm | 2,600 mm | 3,600 mm |
| **WR 250 X** | 3,500 mm | 2,550 mm | 3,650 mm |

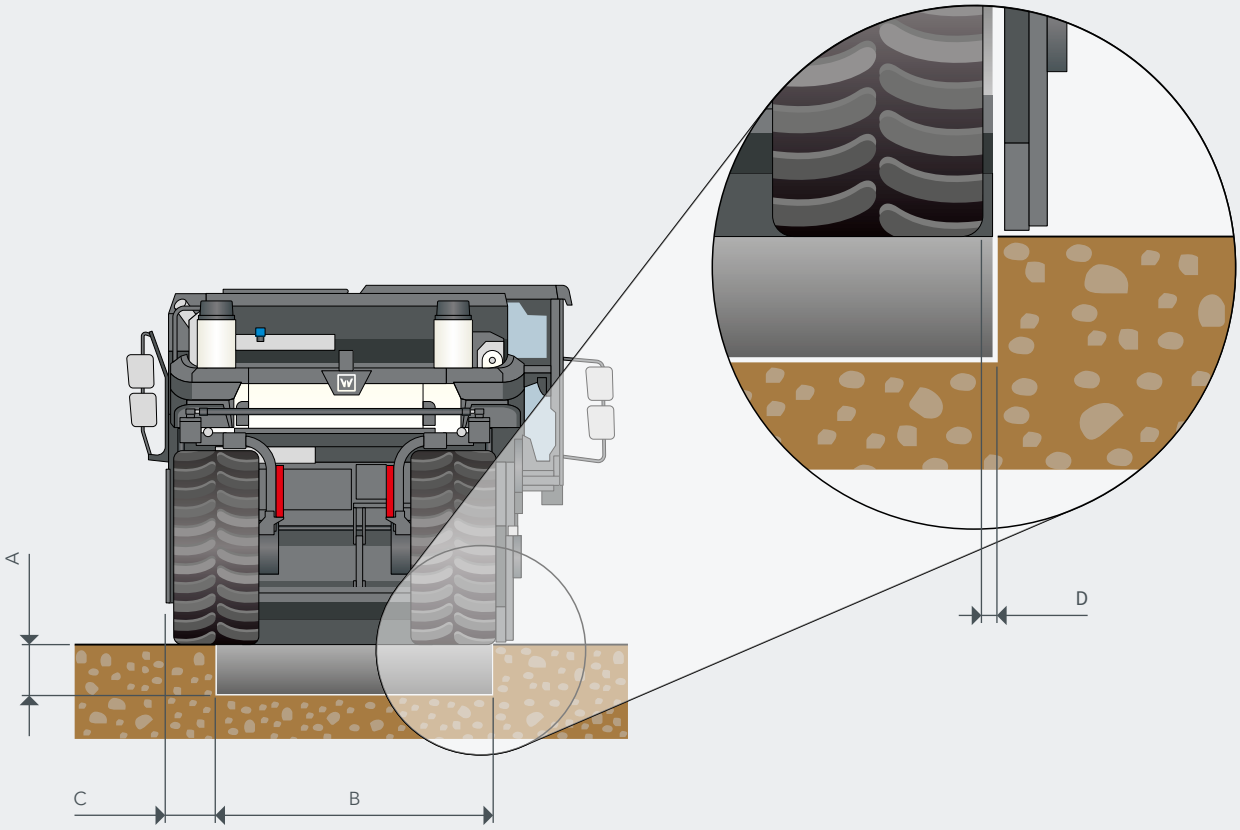
1) With injection system
2) Based on operating weight, CE

## TURNING CIRCLE WR 200 X, WR 240 X AND WR 250 X



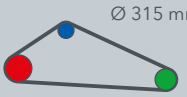
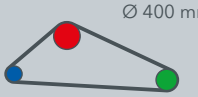



## REAR VIEW WR 200 X, WR 240 X AND WR 250 X




| | A | B | C | D |
|---|---|---|---|---|
| **WR 200 X (FB2000)** | 500 mm | 2,000 mm | 370 mm | ~-25 mm |
| **WR 200 X (FB2400)** | 500 mm | 2,400 mm | 405 mm | ~175 mm |
| **WR 240 X** | 510 mm | 2,400 mm | 420 mm | ~40 mm |
| **WR 250 X** | 560 mm | 2,400 mm | 420 mm | ~40 mm |

## ROTOR SPEED WR 200 X, WR 240 X*)

| | Engine speed | Ø 315 mm<br>Ø 355 mm Ø 400 mm |  Ø 315 mm<br>Ø 400 mm Ø 355 mm | Ø 355 mm<br>Ø 400 mm Ø 315 mm |
|---|---|---|---|---|
| WR 200 X | | 108 rpm | 137 rpm | 154 rpm |
| | | 117 rpm | 149 rpm | 168 rpm |
| | | 127 rpm | 161 rpm | 181 rpm |
| | Engine speed |  Ø 400 mm<br>Ø 315 mm Ø 355 mm | Ø 315 mm<br>Ø 400 mm Ø 355 mm | Ø 355 mm<br>Ø 400 mm Ø 315 mm |
| WR 240 X | | 108 rpm | 137 rpm | 154 rpm |
| | | 120 rpm | 153 rpm | 172 rpm |
| | | 133 rpm | 169 rpm | 190 rpm |

*) The rotor speed depends on the selected diesel engine speed

## ROTOR SPEED WR 250 X*)

| | Gear shift for rotor gearbox | Engine speed | Ø 315 mm<br>Ø 355 mm / Ø 400 mm | Ø 315 mm<br>Ø 400 mm / Ø 355 mm |
|---|---|---|---|---|
| WR 250 X | I II | | 87 rpm | 111 rpm |
| | | | 97 rpm | 124 rpm |
| | | | 108 rpm | 137 rpm |
| | I II | | 129 rpm | 164 rpm |
| | | | 145 rpm | 184 rpm |
| | | | 160 rpm | 203 rpm |

*) The rotor speed depends on the selected diesel engine speed

| STANDARD EQUIPMENT | WR 200 X | | WR 240 X | | WR 250 X | |
|---|---|---|---|---|---|---|
| | EU Stage 3a / US EPA Tier 3 | EU Stage 5 / US EPA Tier 4f | EU Stage 3a / US EPA Tier 3 | EU Stage 5 / US EPA Tier 4f / CN NR Stage 4 | No EU Regulation / US Epa Tier 2 | EU Stage 5 / US EPA Tier 4f |
| **Basic Machine** | | | | | | |
| > Base machine with engine | ■ | ■ | ■ | ■ | ■ | ■ |
| > Engine cooling system with temperature-controlled fan speed | ■ | ■ | ■ | ■ | ■ | ■ |
| > Engine load limitation regulator enables the machine to be operated at the power limit | ■ | ■ | ■ | ■ | ■ | ■ |
| > Maximum utilization of engine power in the low engine speed range - thanks to smart engine speed management | ■ | ■ | ■ | ■ | ■ | ■ |
| > Automatic stop feature of the diesel engine | ■ | ■ | ■ | ■ | ■ | ■ |
| > Lockable engine cover with built-in sound insulation package | ■ | ■ | ■ | ■ | ■ | ■ |
| > Air compressor system, max. 8 bar | ■ | ■ | ■ | ■ | ■ | ■ |
| > Maximum power transmission to the milling / mixing rotor via power belt drive with automatic V-belt tensioner | ■ | ■ | ■ | ■ | ■ | ■ |
| > Up to nine different rotor speeds – combination of three engine speeds and three changeable V-belt pulley arrangements | ■ | ■ | ■ | ■ | – | – |
| > Up to twelve different rotor speeds – combination of 3 engine speeds and 2 changeable V-belt pulley arrangements and a rotor transmission that can be switched to two stages | – | – | – | – | ■ | ■ |
| > Universal **DURAFORCE** milling and mixing rotor with highly wear-resistant **HT22** quick-change toolholder system | ■ | ■ | ■ | ■ | ■ | ■ |
| > Bolted, easily replaceable edge ring segments made of highly wear-resistant steel | ■ | ■ | ■ | ■ | ■ | ■ |
| > Power-controlled lowering speed of the milling / mixing rotor in positioning mode | ■ | ■ | ■ | ■ | ■ | ■ |
| > Stepless working depth adjustment by lowering or raising the complete rotor | ■ | ■ | ■ | ■ | ■ | ■ |
| > Variable mixing chamber adjustment depending on the working depth: larger mixing chamber for large working depths, smaller mixing chamber for small working depths | ■ | ■ | ■ | ■ | ■ | ■ |
| > Adjustable contact pressure of the rear rotor housing flap – supported by **ACTIVE REAR DOOR FLOAT** to optimize the material flow | ■ | ■ | ■ | ■ | ■ | ■ |
| > Synchronous rotation or counter-rotating mode possible, depending on working direction | ■ | ■ | ■ | ■ | ■ | ■ |
| > Hydraulically adjustable front rotor housing flap with crusher bar | ■ | ■ | ■ | ■ | ■ | ■ |
| > Basic machine with integrated water tank and free view of the right rotor housing edge | ■ | ■ | ■ | ■ | ■ | ■ |
| > For working right up to the edges, the right wheels are within the milling/ mixing width | ■ | ■ | ■ | ■ | ■ | ■ |
| **Milling and Mixing Unit** | | | | | | |
| > Standard rotor housing FB2000 | □ | □ | – | – | – | – |
| > Standard rotor housing FB2400 | – | – | ■ | ■ | □ | □ |
| **Milling and Mixing Rotor** | | | | | | |
| > **DURAFORCE** milling and mixing rotor FB2000 **HT22 *PLUS*** LA20 D22 with 144 picks | □ | □ | – | – | – | – |
| > **DURAFORCE** milling and mixing rotor FB2400 **HT22 *PLUS*** LA20 D22 with 163 picks | – | – | □ | □ | – | – |
| > **DURAFORCE** milling and mixing rotor FB2400 **HT22 *PLUS*** LA30x2 D22 with 208 picks | – | – | – | – | □ | □ |
| **Machine Control and Leveling System** | | | | | | |
| > Intuitive, large HD touch main display for optimum process monitoring and display of all machine operating states | ■ | ■ | ■ | ■ | ■ | ■ |
| > **WIRTGEN GROUP COPILOT** ttttt smart operator support and digital machine instructor | ■ | ■ | ■ | ■ | ■ | ■ |
| > **MIX ASSIST** for pre-defined, individualized and efficient work processes | ■ | ■ | ■ | ■ | ■ | ■ |
| > Speed control function **ACTIVE SPEED CONTROL** holds the machine feed values defined by the machine operator | ■ | ■ | ■ | ■ | ■ | ■ |
| > **AUTOMATIC REVERSE** function for faster change in travel direction | ■ | ■ | ■ | ■ | ■ | ■ |

| STANDARD EQUIPMENT | WR 200 X | | WR 240 X | | WR 250 X | |
|---|---|---|---|---|---|---|
| | EU Stage 3a / US EPA Tier 3 | EU Stage 5 / US EPA Tier 4f | EU Stage 3a / US EPA Tier 3 | EU Stage 5 / US EPA Tier 4f / CN NR Stage 4 | No EU Regulation / US Epa Tier 2 | EU Stage 5 / US EPA Tier 4f |
| **Machine Control and Leveling System** | | | | | | |
| > Automatic function for positioning and end of cut process | ■ | ■ | ■ | ■ | ■ | ■ |
| > Self-explanatory diagnostic technology with continuous function monitoring | ■ | ■ | ■ | ■ | ■ | ■ |
| > Separate CAN bus systems for increased machine reliability | ■ | ■ | ■ | ■ | ■ | ■ |
| > Transverse tilt display | □ | □ | □ | □ | □ | □ |
| **Operator´s Platform** | | | | | | |
| > Roll-over protection system (ROPS and FOPS) integrated in the cab frame | ■ | ■ | ■ | ■ | ■ | ■ |
| > Safety seat belt as support system for the operator | ■ | ■ | ■ | ■ | ■ | ■ |
| > Comfortable, high-quality operator's cabin with flexible mountings, roof hatch and vent window on the right for ventilation | ■ | ■ | ■ | ■ | ■ | ■ |
| > Recirculating and fresh air filters can be changed without tools | ■ | ■ | ■ | ■ | ■ | ■ |
| > Ergonomic, air-cushioned operator's seat | ■ | ■ | ■ | ■ | ■ | ■ |
| > User-friendly working environment with intuitively laid out controls on the respective arm consoles | ■ | ■ | ■ | ■ | ■ | ■ |
| > Automatic air conditioner, heater and radio | ■ | ■ | ■ | ■ | ■ | ■ |
| > LED working lights integrated in the operator's cabin roof | ■ | ■ | ■ | ■ | ■ | ■ |
| > Steering operation either by steering wheel or equivalent finger-tip steering in the left arm console | ■ | ■ | ■ | ■ | ■ | ■ |
| > Large windows with an excellent view of the re-spective work area and built-in windshield wipers | ■ | ■ | ■ | ■ | ■ | ■ |
| > Mirrors on right and left in the front area of the machine | ■ | ■ | ■ | ■ | ■ | ■ |
| > In order to provide an ideal view over the zero edge, the operator's cabin can be shifted over the right-hand side of the machine | ■ | ■ | ■ | ■ | ■ | ■ |
| > Reverse assist with graphic auxiliary lines in the camera image | ■ | ■ | ■ | ■ | ■ | ■ |
| > 90° revolving operator's seat | ■ | ■ | ■ | ■ | ■ | ■ |
| > Folding ladder to access the operator's platform | — | — | ■ | ■ | ■ | ■ |
| > Various shelves and storage compartments as well as 12 V and USB type A/C sockets | ■ | ■ | ■ | ■ | ■ | ■ |
| > Rear view camera with graphic reverse assistant | □ | □ | □ | □ | □ | □ |
| **Track Unit and Height Adjustment** | | | | | | |
| > Four different steering modes for easy maneuvering with a minimum turning radius | ■ | ■ | ■ | ■ | ■ | ■ |
| > Powerful all-wheel drive for maximum traction | ■ | ■ | ■ | ■ | ■ | ■ |
| > 4-way oscillation with lifting column concept for optimum cross-country mobility and ground clearance | ■ | ■ | ■ | ■ | ■ | ■ |
| **Miscellaneous** | | | | | | |
| > European type certification, EuroTest mark and CE conformity | ■ | ■ | ■ | ■ | ■ | ■ |
| > Comprehensive LED lighting for the working area and the surroundings | ■ | ■ | ■ | ■ | ■ | ■ |
| > Extensive safety package with 3 EMERGENCY STOP switches | ■ | ■ | ■ | ■ | ■ | ■ |
| > "Welcome-and-Go-Home-Light" with LED lighting in the ladder area | ■ | ■ | ■ | ■ | ■ | ■ |
| > Comprehensive tool kit in lockable storage compartment | ■ | ■ | ■ | ■ | ■ | ■ |
| > Standard painting in RAL 9001 (cream) | □ | □ | □ | □ | □ | □ |
| > John Deere Operations Center: Digital solutions for optimizing processes, machines, and services | □ | □ | □ | □ | □ | □ |
| > Storage compartment at the rear of the machine for tool | □ | □ | □ | □ | □ | □ |

■ = Standard equipment
□ = Standard equipment, can be replaced with optional equipment if desired
□ = Optional equipment

| OPTIONAL EQUIPMENT | WR 200 X | | WR 240 X | | WR 250 X | |
|---|---|---|---|---|---|---|
| | EU Stage 3a / US EPA Tier 3 | EU Stage 5 / US EPA Tier 4f | EU Stage 3a / US EPA Tier 3 | EU Stage 5 / US EPA Tier 4f / CN NR Stage 4 | No EU Regulation / US Epa Tier 2 | EU Stage 5 / US EPA Tier 4f |
| **Milling and Mixing Unit** | | | | | | |
| > Standard rotor housing FB2400 | ☐ | ☐ | – | – | – | – |
| > Reinforced rotor housing FB2400 | – | – | – | – | ☐ | ☐ |
| **Milling and Mixing Rotor** | | | | | | |
| > **DURAFORCE** milling and mixing rotor FB2000 **HT22 *PLUS*** LA20 with 120 WCC tools and 24 round-shank picks D22 | ☐ | ☐ | – | – | – | – |
| > **DURAFORCE** Milling and mixing rotor FB2400 **HT22 *PLUS*** LA25 D22 with 152 round-shank picks | ☐ | ☐ | – | – | – | – |
| > **DURAFORCE** milling and mixing rotor FB2400 **HT22 *PLUS*** LA25 with 128 WCC tools and 24 round-shank picks D22 | ☐ | ☐ | – | – | – | – |
| > **DURAFORCE** milling and mixing rotor FB2400 **HT22 *PLUS*** LA20 with 139 WCC tools and 24 round-shank picks D22 | – | – | ☐ | ☐ | – | – |
| > **DURAFORCE** milling and mixing rotor FB2400 **HT22 *PLUS*** LA30x2 with 184 WCC tools and 24 round-shank picks D22 | – | – | – | – | ☐ | ☐ |
| **Injection System / Addition of Binders** | | | | | | |
| > Single spraying system with VARIO spraying bars for water or bitumen emulsion (800 l/min) | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| > Single spraying system for water (1,800 l/min) | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| > Dual spraying system with VARIO spraying bars for water (800 l/min) and bitumen emulsion (800 l/min) | – | – | ☐ | ☐ | ☐ | ☐ |
| > Dual spraying system with VARIO spraying bars for water and bitumen emulsion (800 l/min) or foamed bitumen (500 kg/min) | – | – | ☐ | ☐ | ☐ | ☐ |
| > A filter unit for VARIO spraying system for water or bitumen emulsion (800 l/min) | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| > Two filter units for dual VARIO spraying system for water and bitumen emulsion (800 l/min) | – | – | ☐ | ☐ | ☐ | ☐ |
| > One Filter unit for spaying unit for water (1,800 l/min) | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| > Hose connection for spraying systems, optional for tanker or Camlock | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Machine Control and Leveling System** | | | | | | |
| > Cross-slope sensor | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Operator´s Platform** | | | | | | |
| > Rear view camera with graphic reverse assistant, four additional cameras, and an extra 12-inch HD touch color display | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

| OPTIONAL EQUIPMENT | WR 200 X | | WR 240 X | | WR 250 X | |
|---|---|---|---|---|---|---|
| | EU Stage 3a / US EPA Tier 3 | EU Stage 5 / US EPA Tier 4f | EU Stage 3a / US EPA Tier 3 | EU Stage 5 / US EPA Tier 4f / CN NR Stage 4 | No EU Regulation / US Epa Tier 2 | EU Stage 5 / US EPA Tier 4f |
| **Miscellaneous** | | | | | | |
| > Painting in one special color (RAL) | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| > Painting in two special colors (RAL) | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| > Version without JDLINK | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| > Pre-fitting for WPT Stabilizing and AutoTrac™ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| > Large storage compartment at the rear of the machine for tool and up to 20 toolboxes | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| > USB interface for retrieving the job data | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| > WPT (WIRTGEN GROUP Performance Tracker) Stabilizing | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| > WPT (WIRTGEN GROUP Performance Tracker) Stabilizing and AutoTrac™ (satellite-enabled steering system) | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| > AutoTrac™ satellite-based steering system | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| > High-pressure water cleaner at 150 bars and 15 l/min | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| > Additional water tank with a capacity of 950 liters | – | – | ☐ | ☐ | ☐ | ☐ |
| > Battery-operated hydraulic unit | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| > Milling drum rotation device | ☐ | ☐ | ☐ | ☐ | ■ | ■ |
| > Pneumatic hammer with pick ejector and driver mount | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| > Hydraulic round-shank pick ejector | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| > Additional side storage compartment for 8 toolboxes | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| > "Go to tool change" control unit for rotor tool exchange | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| > Diesel tank filling pump with 7.50 m suction hose | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| > Wiggins fast-fill system for diesel refuelling | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| > Suction hose for hot bitumen 3", 4000 LG – connections optionally in tank truck or Camlock type | – | – | ☐ | ☐ | ☐ | ☐ |
| > Suction hose for water or emulsion 3", 5000 LG – connections optionally in tank truck or Camlock type | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| > Push bar (additional) | – | – | ☐ | ☐ | ☐ | ☐ |
| > Connection pipe of the intake manifolds for dual spraying system – connections optionally in tank truck or Camlock type | – | – | ☐ | ☐ | ☐ | ☐ |
| > Support arm for holding the push bar and feed lines whilst changing tankers | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| > Storage compartment for push bar | – | – | ☐ | ☐ | ☐ | ☐ |
| > Additional bitumen filter with cleaning housing | – | – | ☐ | ☐ | ☐ | ☐ |
| > Suction hose for water 3", 20000 LG – connections optionally in tank truck or Camlock type | – | – | ☐ | ☐ | ☐ | ☐ |
| > Central lubrication system | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

■ = Standard equipment
▢ = Standard equipment, can be replaced with optional equipment if desired
☐ = Optional equipment

WIRTGEN

**WIRTGEN GmbH**

Reinhard-Wirtgen-Str. 2
53578 Windhagen
Germany

T: +49-2645-131-0
F: +49-2645-131-392
M: info@wirtgen.com

**www.wirtgen.de**

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