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Technical specification

# Recycler WR 2500 SK



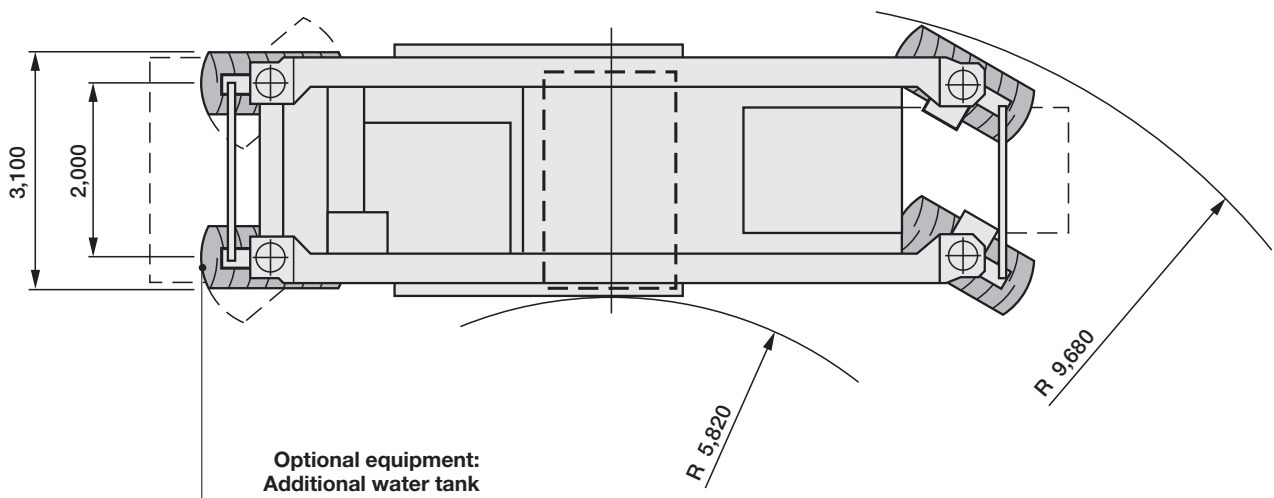
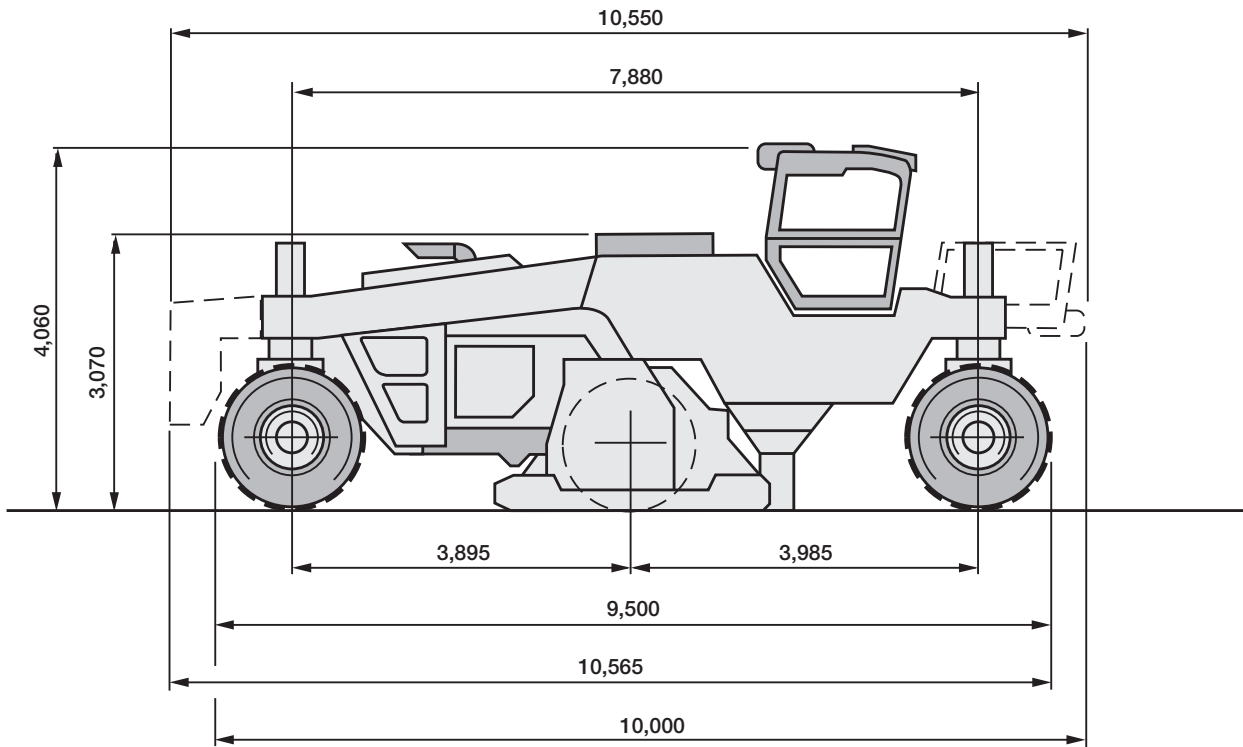
	<b>Recycler WR 2500 SK</b>	
<b>Working width max.</b>	2,438 mm	
<b>Working depth*<sup>1</sup></b>	0 – 500 mm	
<b>Milling and mixing rotor</b>		
Tool spacing	30 mm	
Number of tools	224	
Drum diameter with tools	1,480 mm	
<b>Engine</b>		
Manufacturer	Deutz AG	
Type	TCD 2015 V08	
Cooling	Water	
Number of cylinders	8	
Output	500 kW / 670 HP / 680 PS	
Engine speed	2,100 min <sup>-1</sup>	
Displacement	15,874 cm <sup>3</sup>	
Fuel consumption, full load	142 l/h	
Fuel consumption, 2/3 load	95 l/h	
<b>Speeds/Gradeability</b>		
1 <sup>st</sup> advance speed	0 – 15 m/min	
2 <sup>nd</sup> advance speed	0 – 40 m/min	
3 <sup>rd</sup> advance speed	0 – 80 m/min	
4 <sup>th</sup> advance speed	0 – 200 m/min	
Theoretical gradeability, max.	57 %	
Transversal inclination, max.	8°	
Ground clearance	370 mm	
<b>Weights*<sup>2</sup></b>		
Front axle load, full tanks	19,100 daN (kg)	
Rear axle load, full tanks	18,500 daN (kg)	
Own weight	35,600 daN (kg)	
Operating weight, CE * <sup>3</sup>	36,500 daN (kg)	
Operating weight, full tanks	37,600 daN (kg)	
<b>Tyres</b>		
Type of tyres	Diagonal	
Tyre size, front/rear	28 L 26	
<b>Tank capacities</b>		
Fuel tank	1,500 l	
Hydraulic fluid tank	270 l	
Water tank	950 l	
Material silo	4 m <sup>3</sup>	
<b>Electrical system</b>	24 V	
<b>Shipping dimensions</b>		
Dimensions of machine (L x W x H)	10,000 x 3,200 x 3,200 mm	

\*<sup>1</sup> = The maximum working depth may deviate from the value indicated, due to tolerances and wear.

\*<sup>2</sup> = All weights refer to basic machine including operator's cabin, but without any other additional equipment.

\*<sup>3</sup> = Weight of machine with half-full water tank, half-full fuel tank, driver (75 kg) and tools.

Dimensions in mm



## Basic design

Recycler and stabilizer with mechanically driven milling and mixing rotor and two working directions.

## Integrated spreading device

The recycler WR 2500 SK is equipped with an integrated material silo.

Lime or cement is spread by a cellular wheel sluice with forced evacuation directly in front of the milling and mixing rotor, where it is blended with the soil to be stabilized in an enclosed chamber. This permits precise metering of the spreading quantity (5–40 kg/m<sup>2</sup>), while virtually excluding the risk of drifts. The full spreading width can be reduced at intervals of 250 mm from the left and right to a minimum width of 500 mm at the centre of the machine.

## Chassis

Rigid welded construction with mounts for the individual units and attachments.

The water tank is integrated into the chassis.

All components are easily accessible for maintenance and servicing.

## Soundproofing

Noise levels are reduced by the standard soundproofing which also protects both the operating personnel and the environment against any nuisance due to noise.

## Operator's platform

The operator's platform with seat and control console is located at the centre of the machine.

The steering wheel can be tilted and adjusted in height.

The ergonomic sitting position, low machine design and clear overview allow an easy operation of the machine.

The modern control and operating elements are located within easy reach and within the operator's field of vision.

The entire platform can be shifted to either side.

In addition, the seat console (driver's seat and control consoles) can be infinitely turned by 90° to ensure an optimum overview of the construction site at all times.

## Operator's cabin

The recycler can be equipped with a fully enclosed operator's cabin as an equipment option.

It provides optimum protection against inclement weather and can, upon request, be supplied with an air-conditioning system.

Heated front and rear screens are a standard feature.

The cabin is equipped with a lockable stowing compartment and an additional seat.

The entire cabin can be shifted to the right beyond the edge of the machine.

## Machine control CGC (Cockpit Graphic Centre)

All machine functions are controlled or regulated by means of microcontrollers.

All control modules are accommodated in an easily accessible control cabinet.

The operator has immediate access to data, such as operating hours, oil pressure, engine temperature, engine speed, hydraulic fluid temperature, filling level of the diesel tank, wheel position or travel speed, via the display of the CGC at the operator's platform.

If necessary, the integrated Wirtgen information and diagnosis system generates visual and audible alarms.

The data and messages, e.g. contamination of hydraulic fluid filter or air filter, are indicated on the display of the CGC at the operator's platform.

All inputs for the calibration of the recycler are made via the CGC. The job data can be indicated on the CGC display or printed by means of an optional printer.

## Power unit

The machine is driven by a modern, powerful V 8 engine.

The engine complies with the stringent requirements of the exhaust emission standards stipulated by the US Environmental Protection Agency (EPA, Tier III) and the EU

(Stage IIIa). It is equipped with a fully electronic engine management system and offers maximum torque stability even at extreme engine loads, thus preventing breaks in operation. An extremely large cooler surface effectively cools the engine and other components, thus allowing the safe operation of the machine even at high outside temperatures.

The cooling system is additionally equipped with a fan controller.

The fan speed is reduced at low ambient temperatures or low loads, thus reducing the noise emission levels and fuel

consumption. All servicing work on the engine can be carried out from the ground.

#### **Power control**

The machine is equipped with an automatic power control which governs the advance speed in accordance with the engine load.

The power control can be deactivated to allow manual adjustment of the advance speed.

#### **Milling and mixing rotor drive**

The milling and mixing rotor is driven mechanically by the diesel engine via a mechanical clutch and power belts acting on the drum gearbox.

The power belts are tensioned automatically by means of a hydraulic cylinder.

Four possible speeds of the milling and mixing rotor ensure optimum working results.

#### **Milling and mixing rotor**

The milling and mixing rotor operates in up-milling or down-milling direction, depending upon the direction of travel.

Quick-change toolholders type HT11, which accommodate the point-attack cutting tools, are welded onto the drum body.

Special, individually replaceable edge segments are additionally mounted onto the outer edges of the drum.

Hydraulically adjustable scraper blades in front of and behind the drum ensure good mixing results.

The pre-set angle of the crusher bar and/or the scraper blade is indicated on the CGC display.

#### **Cutting tool replacement**

The hydraulically swivelling scraper blade provides good access to the milling and mixing rotor for the replacement of tools. The quick-change toolholder system minimizes the time required for maintenance work.

Turning of the milling and mixing rotor for the replacement of tools is facilitated considerably by means of a hydraulically operated drum turning device (equipment option).

#### **Milling depth control**

The machine is set in transport or working position by

means of the four lifting columns. The working depth is adjusted by lowering the milling and mixing rotor.

The current working depth is indicated on the CGC display at the operator's platform.

The machine operator can pre-select as to whether the front or the rear lifting columns act as a full floating axle or leveling axle.

#### **Drive unit**

The wheels of the recycler WR 2500 SK are connected to the chassis by means of hydraulically height-adjustable cylindrical columns.

The standard heavy-duty tyres are equipped with side guards and reinforced studs.

#### **Travel drive**

Each wheel is driven by its own hydraulic motor.

Each hydraulic motor is fed by a hydraulic variable displacement pump.

The four travel speeds can be infinitely varied from zero to maximum working speed in milling and travel gear.

A permanent differential lock ensures uniform traction.

The advance speed is regulated at the operator's platform.

#### **Brake system**

Braking is achieved by the self-locking hydrostatic transmission.

In addition, the wheels can be locked from the operator's platform by means of a multiple-disk parking brake.

#### **Steering**

The WR 2500 SK has a finger-light hydraulic four-wheel steering system which can be adapted to the selected working direction, i.e. either the front or the rear wheels act as steering axle.

By means of a selector switch, the operator can choose between three different steering modes ("normal", "crab steering" and "coordinated steering").

In normal mode, the front wheels are steered via the steering wheel, while sensors automatically maintain the rear wheels in straight-ahead position.

They can, however, also be operated independently of the front wheels via a joystick.

### **Hydraulic system**

Independent hydraulic systems for travel drive, setting functions and cooling system.

The hydraulic pumps are driven by the diesel engine via a splitter gearbox

### **Electrical system**

24 V electrical system with starter, three-phase alternator and two 12 V batteries, as well as complete working lights, including two freely positionable lamps with magnetic pedestals.

### **Cold recycling system:**

#### **Injection system for water or binding agents with one injection bar**

The injection system consists of a microprocessor-controlled metering unit, an eccentric pump and an injection bar with 16 nozzles and feeding device.

The pump delivers the liquid agent (e.g. water or bitumen emulsion) from a tanker truck to the injection bar.

The eccentric worm pump has a maximum delivery rate of 800 l/min.

A flow meter monitors the delivered quantities and transfers the data to the microprocessor control, which in turn regulates the addition of binding agent or water in accordance with the pre-selected parameters.

An automatic shut-off device enables the individual nozzles to be opened and closed by means of hydraulic cylinders, thus allowing the addition of binding agents to be effectively adapted to the working width.

The nozzles are cleaned automatically.

#### **Second pump**

A second pump can be integrated to facilitate the simultaneous addition of water and bitumen emulsion into the mixing chamber via one injection bar.

The addition is also governed by means of a microprocessor-controlled metering unit.

#### **Second injection bar**

An additional injection bar can be integrated for the purpose of adding a water-cement slurry from a preceding slurry mixer with integrated pump.

#### **Injection system with second pump and second injection bar**

This specification uses separate pumps and separate injection bars to feed two different agents into the mixing chamber.

Alternatively, one pump can deliver water or bitumen emulsion, while the second injection bar is connected to a preceding slurry mixer.

#### **Injection system for foamed bitumen**

The injection system for foamed bitumen comprises a pump and an injection bar for foamed bitumen.

Foaming takes place in special expansion chambers in the injection bar.

The hot bitumen is delivered by an electrically heated gear pump and subsequently filtered.

A flow meter registers the delivered quantity of bitumen.

The addition of water and air, which are necessary for the foaming process, is governed in accordance with the bitumen quantity.

All hot-bitumen hoses in the machine are insulated and heated. The temperature is continuously measured and maintained at the pre-set value by means of a control system.

The water for the foaming process is taken from the integrated water tank of the machine.

The system is equipped with a test nozzle to check the quality of the foam.

A second injection system is provided for the addition of water to achieve the optimum moisture content of the mixture.

It consists of an eccentric pump and an injection bar for water.

The water is delivered from a preceding water tanker.

Alternatively, a cement-water slurry can be injected from a preceding slurry mixer.

#### **Filling**

Water and diesel fuel are filled via large filling ports.

#### **Safety during transport**

The machine can be securely lashed onto a low-bed trailer or loaded by crane with the aid of lashing lugs.

Equipment	Recycler WR 2500 SK
<b>Frame/Operator's platform</b>	
Driver's seat with control consoles, can be infinitely turned by 90°	○
Operator's cabin	○
Heating system	○
Air-conditioning system	●
Special painting	●
<b>Machine control and levelling system</b>	
Machine control by means of microcontrollers	○
CGC (Cockpit Graphic Centre)	○
Printer for job data	●
Ultrasonic sensor for height adjustment	●
Slope control sensor for slope adjustment	●
<b>Milling drum assembly</b>	
Quick-change toolholder system HT11 with 20 mm shaft diameter	○
Quick-change toolholder system HT11 with 22 mm shaft diameter	●
Crusher bar	●
Pneumatic knock-out tool	●
Hydraulic drum turning device (for cutting tool replacement)	●
<b>Cold recycling system</b>	
Injection system with 1 pump and 1 injection bar	●
Injection system with 1 pump and 2 injection bars	●
Injection system with 2 pumps and 1 injection bar	●
Injection system with 2 pumps and 2 injection bars	●
Injection system for foamed bitumen and water (i.e. 2 pumps and 2 injection bars)	●
Injection bar and accessories (without pump, for use with WM 1000)	●
Hot-bitumen hose for connection to bitumen tanker, various lengths	●
Additional water tank for the production of foamed bitumen, 1,600 l	●
Additional metering unit for 1,800 l/min water	●
<b>Miscellaneous</b>	
Soundproofing	○
Cyclonic air filter	○
Working lights (detachable)	○
Warning lights	○
Horn, reversing horn and exterior rear view mirrors	○
Towing device	○
4-wheel steering	○
Loading and lashing lugs	○
Comprehensive tool kit	○
CE label	○
Safety certificate by the Employer's Liability Insurance Association	○
Comprehensive safety package with emergency stop buttons	○
Compressed air system	○
Exhaust air filter system for dust-free filling of the spreading silo	●
High-pressure water wash down	●
Operation of the cold recycler with organic hydraulic fluid	●

○ Standard ● Option