

Perfect texture and protection of concrete surfaces.

### **Texture curing machine**

TCM 95 | TCM 95i | TCM 180 | TCM 180i



# At a glance: outstanding features of the texture curing machine



WISH TO LEARN MORE?

See our product animations.





#### Highlights in operation

- > High level of operator comfort on the operator's platform
- > Standardized operating concept in line with the current SP model ranges
- > Ergonomically designed controls for intuitive operation
- > State-of-the-art, clearly structured main control panel
- > Separate control consoles for longitudinal texturing features, transverse texturing features, service and diagnostic features, and telescoping feature
- > All adjustment features offer electrohydraulic control
- > Automatic adjustment of all components for central crown applications

#### Highlights in driving and levelling

- > High-precision traction drive featuring proportional control
- > Two different speed ranges
- > Wheel-mounted or track-mounted design
- > High precision and manoeuvrability
- > High-precision height adjustment featuring proportional control
- > Scanning by means of stringline or slab tracer (reference surface)
- > Optional scanning of the concrete surface by means of an ultrasonic sensor in 3D applications
- > Turning on the spot at the mere push of a button

#### Highlights in concrete curing

- > Functional film unwinder
- > Mounting rail for burlap or artificial turf
- > Effective lateral broom-cleaning unit
- > Optimized transverse broom finish and spraying feature
- > Selection feature for longitudinal or transverse broom finish
- > Selection feature for longitudinal or transverse spraying
- > Diagonal broom finish and spraying feature
- > Meander spraying feature
- > Minor modification requirements when switching applications
- > Spray heads with three spray nozzles each for reliable longitudinal spraying

#### Highlights in performance and productivity

- > Engine models complying with EU Stage 3a/US Tier 3 or the stringent EU Stage 4/US Tier 4f emission standards
- > Fuel-efficient ECO mode and temperature-controlled fan speed (EU Stage 4/US Tier 4f only)
- > Engine with optional diesel particulate filter (EU Stage 4/US Tier 4f only)
- > Numerous automated features
- > Lightweight working platform of high-quality aluminium
- > Hot-water heating system for easy cleaning of the spraying system
- > Quick maintenance
- > Separate supports
- > Compact transport dimensions
- > Minimum modification requirements

# Highlights in operation





### ADDITIONAL CONTROL CONSOLES

### ELECTROHYDRAULIC ADJUSTMENT FEATURES

STATE-OF-THE-ART MAIN CONTROL PANEL

STANDARDIZED OPERATING CONCEPT

#### HIGH LEVEL OF OPERATOR COMFORT ON THE OPERATOR'S PLATFORM

Optional features such as canopy, stand-up seat or hoisting crane for the curing compound tanks enhance work efficiency.

#### **ERGONOMIC DESIGN AND EASE OF OPERATION**

Ease of operation and ergonomically designed controls improve operator performance and therefore increase the machine's overall productivity.

#### AUTOMATIC ADJUSTMENT OF CENTRAL CROWN

When altering the central crown, the components involved are adjusted automatically, allowing the operation to continue quickly and precisely without requiring additional operator intervention.

#### ADDITIONAL CONTROL CONSOLES

The process is optimized by separate, individually positionable control consoles for controlling the longitudinal or transverse texturing features and for hydraulic telescoping of the machine frame. The control console for service and diagnostic features enables specific diagnostic procedures to be performed.

#### **ELECTROHYDRAULIC ADJUSTMENT FEATURES**

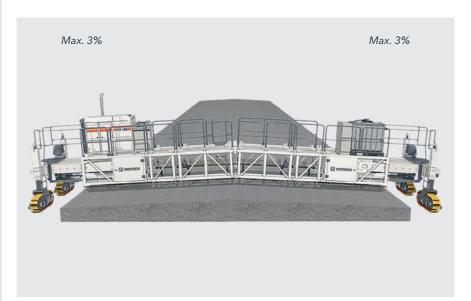
All adjustment features offer electrohydraulic control and can be operated quickly and easily via the different control consoles.

#### STATE-OF-THE-ART MAIN CONTROL PANEL

The main control panel with state-of-the-art control system and central PCB is positioned next to the engine station and features language-independent labelling and controls arranged in line with functional groups.

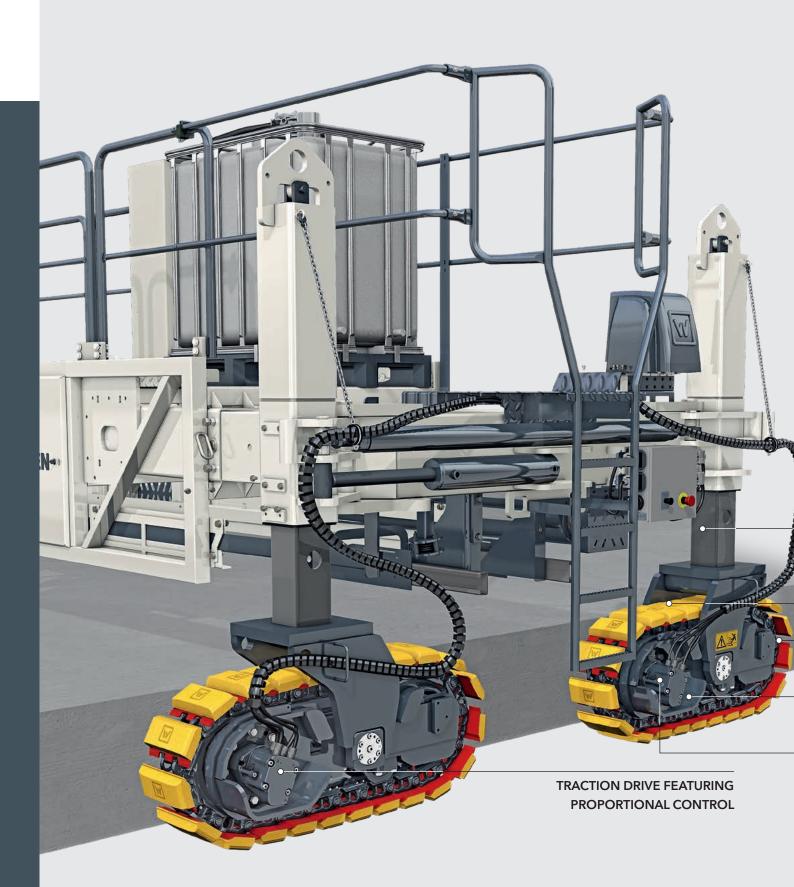
#### STANDARDIZED OPERATING CONCEPT

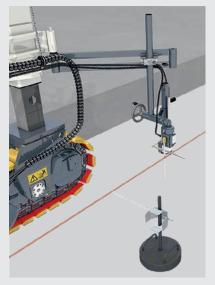
The standardized operating concept in line with the current SP model ranges offers additional synergistic effects.



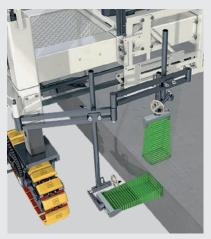
Fully automatic adjustment of the machine to the pavement's cross-section.

# Highlights in driving and levelling





RELIABLE SCANNING METHODS



SCANNING VIA ULTRASONIC SENSORS

HEIGHT ADJUSTMENT FEATURING PROPORTIONAL CONTROL

PRECISION AND MANOEUVRABILITY

WHEEL-MOUNTED OR TRACK-MOUNTED DESIGN

**ROTATING FEATURE** 

**TWO SPEED RANGES** 

#### **RELIABLE SCANNING METHODS**

Transducers on the stringline or slab tracers on the previously paved concrete slab are tried-and-tested levelling methods.

#### **SCANNING VIA ULTRASONIC SENSORS**

Stringless concrete paving using, for example, 3D control allows the previously paved concrete slab to be scanned by ultrasonic sensors during the curing process.

#### HEIGHT ADJUSTMENT FEATURING PROPORTIONAL CONTROL

Height adjustment featuring proportional control guarantees full compliance with the specified machine height.

#### PRECISION AND MANOEUVRABILITY

The innovative skid steering system ensures highest steering precision in operation, whilst the patented transport steering system ensures optimum manoeuvrability during transport.

#### WHEEL-MOUNTED OR TRACK-MOUNTED DESIGN

The texture curing machine can be supplied in either wheel-mounted or track-mounted design in accordance with customer requirements.

#### **ROTATING FEATURE**

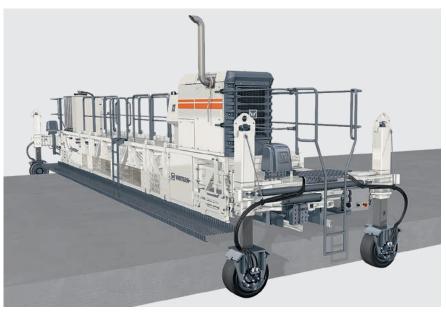
The rotating feature allows the machine to be turned on the spot at the mere push of a button.

#### **TWO SPEED RANGES**

State-of-the-art drive gearboxes and drive motors enable different advance speeds in operating and transport mode.

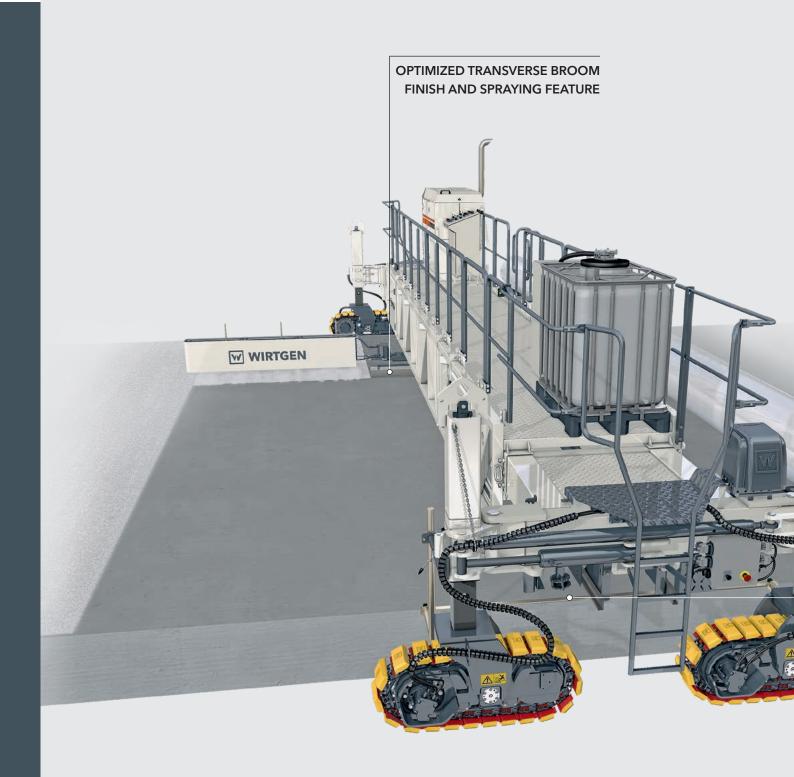
#### TRACTION DRIVE FEATURING PROPORTIONAL CONTROL

The machine's traction drive featuring proportional control guarantees continuously adjustable, highly precise operating and transport speeds.



The TCM 95/TCM 95i is fitted with four wheels, the TCM 180/TCM 180i with four track units.

# Highlights in concrete curing





MOUNTING RAIL FOR BURLAP OR ARTIFICIAL TURF

#### OPTIMIZED TRANSVERSE BROOM FINISH AND SPRAYING FEATURE

The transverse carriage guide has been improved to achieve more accurate broom finish and spraying results.

#### MOUNTING RAIL FOR BURLAP OR ARTIFICIAL TURF

A mounting rail for burlap or artificial turf permits the creation of a surface texture offering excellent skid resistance.

#### FILM UNWINDER

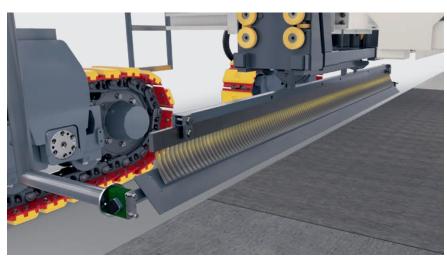
A mounting fixture for unwinding a full-width film enables the freshly paved concrete surface to be protected against damage caused by heavy rain.

#### LATERAL BROOM-CLEANING UNIT

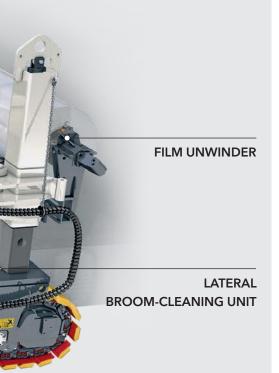
During the change in direction, the broom-cleaning unit removes the slurry sticking to the broom when applying a transverse broom finish. The inclination of the broom can be adjusted to requirements prior to being placed on the concrete surface.



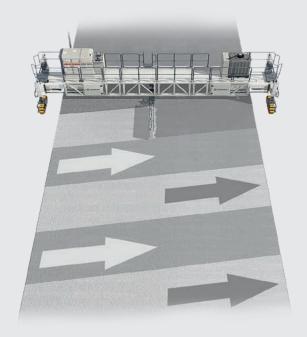
Film unwinder for effective protection of the concrete in case of rain.



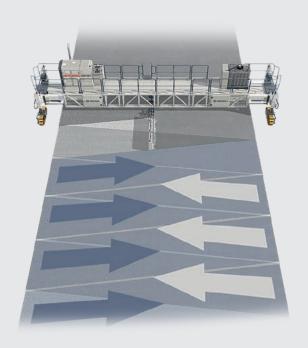
The broom-cleaning unit removes slurry sticking to the broom.



## Highlights in concrete curing



DIAGONAL BROOM FINISH AND SPRAYING FEATURE



MEANDER SPRAYING FEATURE



#### DIAGONAL BROOM FINISH AND SPRAYING FEATURE

The texture curing machine is capable of applying a diagonal broom finish and spraying diagonally across the concrete slab in a single operation.

#### MEANDER SPRAYING FEATURE

The texture curing machine is capable of spraying across the full width of the concrete slab evenly in transverse direction during continuous forward travel. The meander spraying feature additionally permits exposed aggregate concrete construction which is used quite frequently in Europe.

### MINOR MODIFICATION REQUIREMENTS WHEN SWITCHING APPLICATIONS

When switching between the different spraying and broom finish features, modification is completed quickly by well-trained staff.

#### SPRAY HEAD WITH THREE SPRAY NOZZLES

All spray heads are fitted with three separate spray nozzles each in order to minimize breaks in operation during longitudinal spraying in case of a nozzle failure.

#### SELECTION FEATURE FOR LONGITUDINAL OR TRANSVERSE SPRAYING

The texture curing machine is capable of spraying in longitudinal or transverse direction of the concrete slab in accordance with site requirements. Both modes of operation include spraying of the lateral concrete edges.

### SELECTION FEATURE FOR LONGITUDINAL OR TRANSVERSE BROOM FINISH

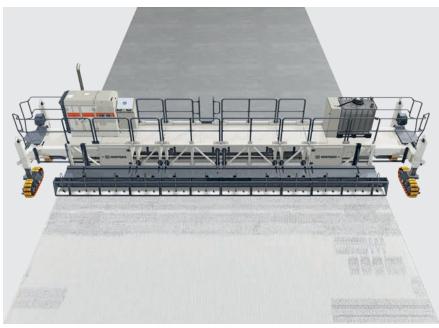
The texture curing machine is capable of applying a broom finish in longitudinal or transverse direction of the concrete slab in accordance with site requirements.

MINOR MODIFICATION REQUIREMENTS WHEN SWITCHING APPLICATIONS

SPRAY HEAD WITH THREE SPRAY NOZZLES

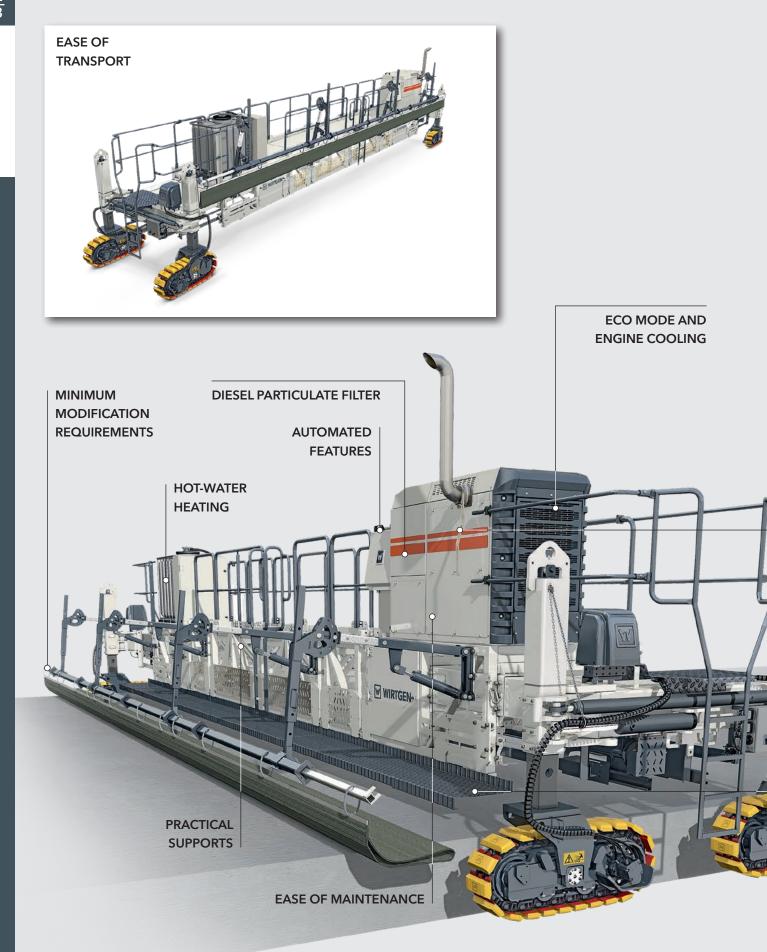
SELECTION FEATURE FOR LONGITUDINAL OR TRANSVERSE SPRAYING

SELECTION FEATURE FOR LONGITUDINAL OR TRANSVERSE BROOM FINISH



Applying a broom finish and spraying in longitudinal direction broadens the range of options to produce different surface textures.

## Highlights in performance and productivity



#### **EASE OF TRANSPORT**

All components required for operation can be adjusted so as to be within the maximum permissible transport dimensions.

#### MINIMUM MODIFICATION REQUIREMENTS

Modification is completed quickly and easily even if the texture curing machine is fitted with the full range of equipment. All components of the broom finish and spraying equipment for both longitudinal and transverse texturing applications need not be removed from the machine but are simply folded in as needed.

#### **AUTOMATED FEATURES**

The machine control system relieves the operator of a part of his workload by automatically controlling, for example, traction drive, steering and height adjustment, as well as the broom finish and spraying operation.

#### DIESEL PARTICULATE FILTER (TCM 95i/TCM 180i)

The optional diesel particulate filter ensures compliance with even stricter exhaust emission requirements.

#### HOT-WATER HEATING

The integrated heating system produces hot water which is stored in a 90-litre tank. The wax-based curing compound adhering to the pipelines can then be removed and the spray system cleaned economically with water heated to up to 60°C by simply pressing a button and turning two ball valves.

#### ECO MODE AND ENGINE COOLING (TCM 95i/TCM 180i)

The effective ECO mode engine control system teams up with the temperature-controlled fan speed to ensure quiet, fuel-efficient operation.

#### **TWO ENGINE MODELS**

The diesel engine installed in the TCM 95/TCM 180 complies with exhaust emission standards EU Stage 3a/US Tier 3; the diesel engine installed in the TCM 95i/TCM 180i complies with the strict requirements of the currently highest exhaust emission standards EU Stage 4/US Tier 4f.

#### EASE OF MAINTENANCE

Ready access to all maintenance and monitoring points minimizes maintenance requirements.

#### ALUMINIUM WORKING PLATFORM

The working platform of high-quality aluminium impresses with low weight and good slip resistance. The platform is available in wide or narrow design.

#### PRACTICAL SUPPORTS

Two separate supports facilitate modification of the machine on site.



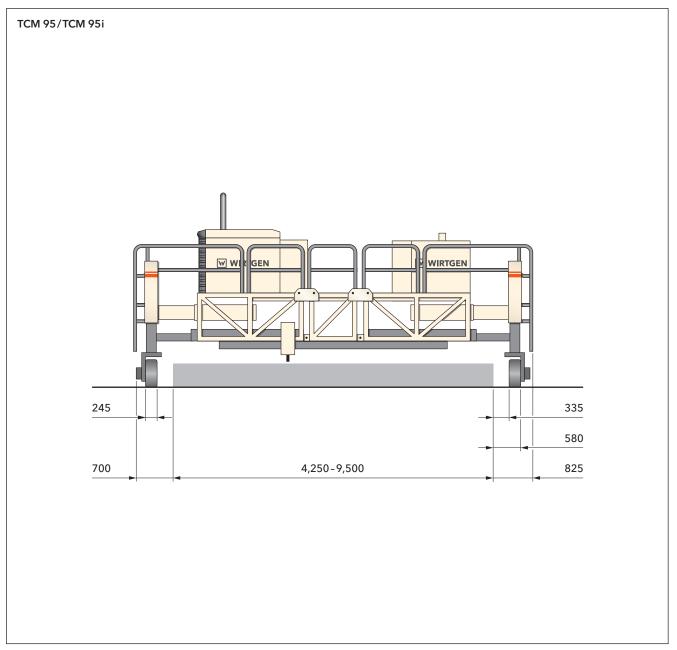
## **Technical specification**

	TCM 95	TCM 180	TCM 95i	TCM 180i			
Working width max.	9,500 mm	18,000 mm	9,500 mm	18,000 mm			
Working height	0 to 500 mm						
Engine							
Engine manufacturer	De	Deutz Deutz					
Туре	D 201	1 L04 i	TCD 2.9 L4				
Cooling	Air	/oil	Water				
Number of cylinders	4	1		4			
Rated power at 2,300 rpm	41 kW/55	HP/56 PS	55.4 kW/74.	3 HP/75.3 PS			
Displacement	3,620	) cm³	2,92	5 cm <sup>3</sup>			
Fuel consumption, full load	12.5	5 l/h	15.7	l/h			
Fuel consumption, <sup>2</sup> / <sub>3</sub> load	8.3	l/h	10.5	10.5 l/h			
Exhaust emission standards	EU Stage 3a/US Tier 3 EU Stage 4/US Tier 4f			/US Tier 4f			
Electrical system							
Voltage supply		24	1 V				
Filling capacities							
Fuel		13	80				
Hydraulic oil		12	20				
Curing compound		80	00				
Spraying system							
Spraying pump max.	23 l/min						
Filling pump max.	114 l/min						
Driving performance							
Travel gear	0 to 45 m/min	0 to 33 m/min	0 to 45 m/min	0 to 33 m/min			

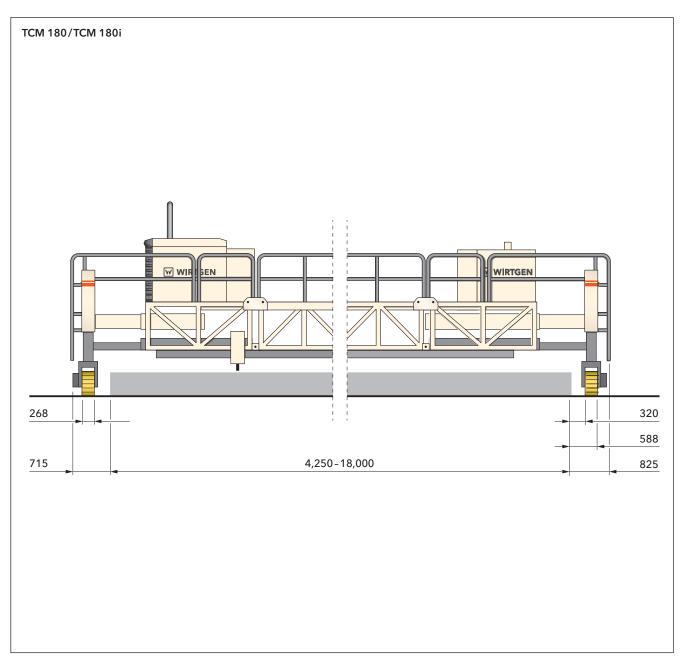
	TCM 95	TCM 180	TCM 95i	TCM 180i		
Tyres						
Type of tyres	Solid rubber	+	Solid rubber	-		
Tyre size	23/10.1 R 12	-	23/10.1 R 12	-		
Number of wheels	4	÷	4	-		
Track units						
Dimensions (L x W x H)	-	1,340 x 268 x 560 mm	-	1,340 x 268 x 560 mm		
Number of track units	-	4	-	4		
Height adjustment						
Height adjustment (hydraulic)	620 mm					
Transport dimensions						
Min. machine dimensions (L x W x H)	6,150 x 2,500 x 2,700 mm	6,650 x 2,500 x 2,700 mm	6,150 x 2,500 x 2,700 mm	6,650 x 2,500 x 2,700 mm		
Max. machine dimensions (L x W x H)	10,150 x 2,500 x 2,950 mm	18,650 x 2,500 x 2,950 mm	10,150 x 2,500 x 2,950 mm	18,650 x 2,500 x 2,950 mm		
Machine weights						
Operating weight, CE*	7,800 kg to 11,600 kg	9,100 kg to 18,400 kg	7,800 kg to 11,600 kg	9,100 kg to 18,400 kg		

<sup>\* =</sup> Weight of machine, half weight of all operating materials, on-board tools, machine operator (75 kg), no optional equipment features

## **Dimensions**

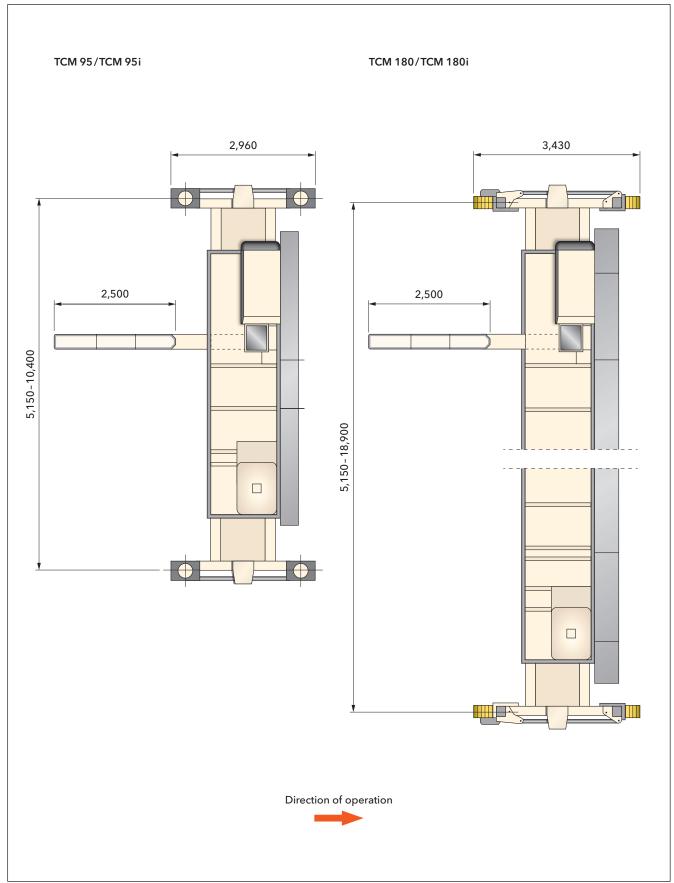


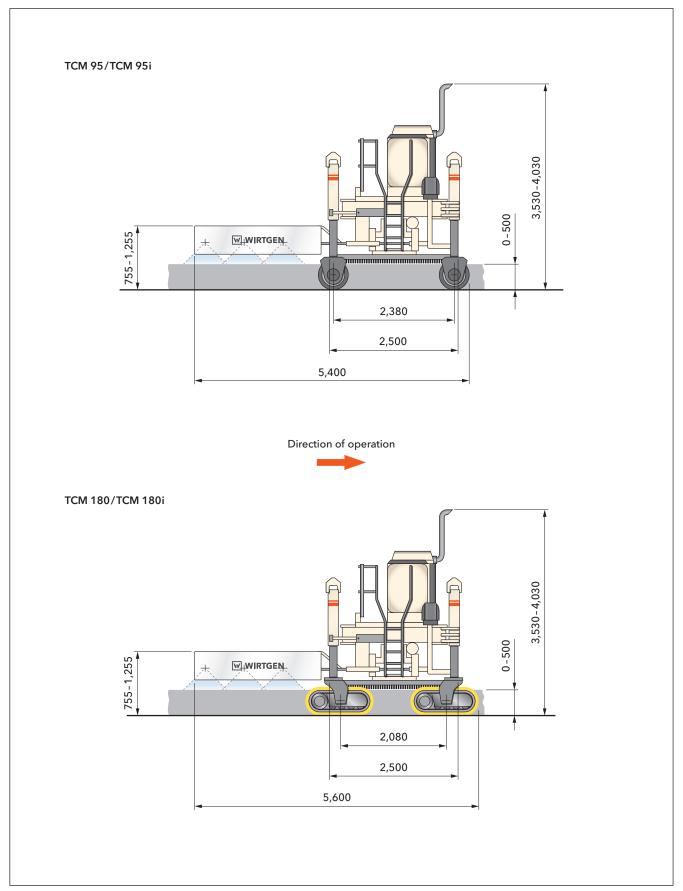
Dimensions in mm



Dimensions in mm

### **Dimensions**





## Standard equipment features

	TCM 95	TCM 180	TCM 95i	TCM 180i
Basic machine				
Engine station complying with emission standards EU Stage 3a/US Tier 3		•	-	-
Engine station complying with emission standards EU Stage 4/US Tier 4f including exhaust after-treatment by means of diesel oxidation catalyst (DOC)	-	-		
Fuel tank, 130 l	•	•	•	•
Hydraulic oil tank, 120 l	•	•	•	•
Electrical system (24 V)	•	•	•	•
Separate hydraulic oil cooler	•	•	•	•
Pressure-and-flow-controlled hydraulic pump in the open circuit for traction drive, agitator drive and spraying and broom unit drives	•	•	•	•
Pressure-controlled pump, open circuit, for all cylinder functions	•	•	•	•
Main frame and height adjustment				
Heavy-duty framework design for working widths from 4.00 m to 6.00 m by telescoping the frame by 1.00 m each, left and right	•	•	•	•
Working widths of up to 9.50 m are possible using extension elements	•	-	•	-
Working widths of up to 18.00 m are possible using extension elements	_	•	_	•
Chassis and chassis linkage				
Side parts left and right for connecting 4 wheels, including transport steering feature (longitudinal or transverse transport possible)	•	-	•	-
Side parts left and right for connecting 4 track units, including transport steering feature (longitudinal or transverse transport possible)	-	•		•
Four hydraulically driven wheels, diameter 0.58 m, width 0.23 m, gear ratio 1:40	•	-	•	-
Four track units fitted with triple-grouser steel track pads	-		-	
Working speed: 0 to 22 m/min; Transport speed: 0 to 45 m/min		-		-
Working speed: 0 to 15 m/min; Transport speed: 0 to 33 m/min	-	•	-	•

<sup>■ =</sup> Standard equipment
□ = Standard equipment, replaceable with optional equipment

<sup>=</sup> Optional equipment

	TCM 95	TCM 180	TCM 95i	TCM 180i
Machine control, levelling and steering				
Machine control via central control panel with manual or automatic mode	•		•	
Four hydraulic levelling cylinders with a stroke of 0.62 m	•	•	•	-
Equipment for transverse/longitudinal texturing				
Transverse drive and carriage for broom and spraying unit				
Transverse broom, plastic, 2.50 m long				
Transverse spraying unit, 2.50 m long, with tank and pump				
Miscellaneous				
Pre-fitting for installing the WITOS FleetView control unit	•	•	•	-
WITOS FleetView - professional telematics solution to optimize machine use and servicing				
Standard painting in RAL 9001 (cream)				
Lighting system including 4 halogen working lights, 24 V				

 <sup>■ =</sup> Standard equipment
 □ = Standard equipment, replaceable with optional equipment
 □ = Optional equipment

## Optional equipment features

	TCM 95	TCM 180	TCM 95i	TCM 180i
Basic machine				
Engine station complying with emission standards EU Stage 4/US Tier 4f including exhaust after-treatment by means of diesel oxidation catalyst (DOC) and diesel particulate filter (DPF)	-	-		
Main frame and height adjustment				
Frame extension element, 2.00 m				
Frame extension element, 1.00 m				
Two hydraulic cylinders for crown profile adjustment of the main frame				
Automatic crown profile adjustment				
Handrail - extension element for front and rear, 2.00 m				
Handrail and ladder - extension element, 2.00 m				
Handrail - extension element for front and rear, 1.00 m				
Handrail and ladder - extension element, 1.00 m				
Two supports for machine modification on site				
Dual hydraulic telescoping device for the main frame, left and right				
Chassis and chassis linkage				
Four track units with polyurethane track pads	_		_	
Machine control, levelling and steering				
Levelling unit for automatic operation of the machine				
Two slab tracers				
Four slab tracers				
Two ultrasonic sensors including mounting brackets				
Four ultrasonic sensors including mounting brackets				
Six ultrasonic sensors including mounting brackets				
Equipment for transverse / longitudinal texturing				
Transverse broom, flat wire, 3.00 m long			_	_
Transverse spraying unit, 3.00 m, with tank and pump			_	_
Pre-fitting for longitudinal spraying with tank and pump				
Control panel for longitudinal texturing, longitudinal spraying and film unwinder				
Pre-fitting for attaching artificial turf/burlap for working width 4.00 m to 6.00 m				
Extension element for artificial turf/burlap mounting rail, 2.00 m				
Extension element for artificial turf/burlap mounting rail, 1.00 m				
Device for winding or unwinding a protective film on the front of the machine				
Pre-fitting for mounting a longitudinal broom				
Extension element for longitudinal broom mount, 2.00 m				
= Standard aguinment				

= Standard equipment

= Standard equipment, replaceable with optional equipment

= Optional equipment

	TCM 95	TCM 180	TCM 95i	TCM 180i
Equipment for transverse / longitudinal texturing				
Extension element for longitudinal broom mount, 1.00 m				
Longitudinal spraying unit for working width 4.00 to 6.00 m behind the machine				
Extension for longitudinal spraying unit, 2.00 m				
Extension for longitudinal spraying unit, 1.00 m				
Extended machine functionality for automatic diagonal broom finish and diagonal spraying				
Extended machine functionality for automatic meander spraying				
Additional options for broom finish and spraying features				
Agitator in the curing compound tank				
Hydraulically driven filling pump for curing compound tank				
Water heating system for cleaning the spraying system				
Broom scraper and inclination unit for the transverse broom				
Mounting bracket for holding up to two additional curing compound tanks (800 l or 1,000 l)				
Mounting bracket for holding one additional curing compound tank, 800 l				
Operator's platform				
Weather umbrella for operator's platform				
Weather canopy for operator's platform				
Operator's platform including stand-up seat				
Rigid working platform, walkway width 0.50 m, basic width 4.00 m to 6.00 m				
Working platform extension element, 2.00 m, matching walkway width 0.50 m				
Working platform extension element, 1.00 m, matching walkway width 0.50 m				
Hydraulically folding working platform, walkway width 1.20 m, basic width 4.00 m to 6.00 m				
Working platform extension element, 2.00 m, matching walkway width 1.20 m				
Working platform extension element, 1.00 m, matching walkway width 1.20 m				
Miscellaneous				
Painting in one special colour (RAL)				
Painting in two special colours (RAL)				
Painting in maximum two special colours with the lower part of the machine painted in special colour (RAL)				
High-performance lighting system including 4 LED working lights, 24 V				
Separate generator 22 kVA/400 V/230 V				
Hydraulically driven crane system				
Machine commissioning (day rate)				
Export packing				



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