HMK 600 MG
MOTOR GRADER

HIDROMEK®

For product video

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Hidromek proudly presents the HMK 600MG with high strength and performance.

HMK 600MG is manufactured with the experience and of assurance of Hydromek which reaches nearly 42 years in order to provide maximum performance in the most demanding operating conditions.

All components used on HMK 600MG have been carefully designed and selected as heavy duty type.

HMK 600MG Motor Grader aims for providing performance, durability, comfort and safety. Designed by determining operator requirements, the hexagonal cab provides unmatched field of vision.

Engine That Meets The Demanding Requirements

The high performance Mercedes Benz OM936 environmentally-friendly diesel engine complies with the EU Stage V emissions regulations. This direct-injection, turbocharged, intercooled engine provides maximum efficiency and fuel economy even at lower revolutions while generating power at a range from 160 kW to 180 kW thanks to its high torque and variable horsepower. In addition to this, possible tire skidding and abrasions are minimized by generating optimum power in low gears.

Variable horsepower increases the performance of the machine by about 12-15%.

Thus, the HMK 600MG offers excellent performance in all conditions and in all terrains, both heavy and soft.

Electro-hydraulic System

All blade and attachment movements are controlled by an advanced electro-hydraulic control system in the HMK 600MG. At the centre of this closed-loop system is a 10-segment, solenoid-controlled, main control valve with load sense feature, supplied by a variable-flow piston pump. One of the important features of this valve is that the blade and the attachments may be moved in a compatible and predictable way.

All movements of blades and attachments are provided through electronically controlled joysticks integrated into the operator's seat.

The hydraulically driven fan automatically adjusts the speed of rotation depending on the temperature of the refrigerants in the radiator pack. Thus, unnecessary engine power consumption is prevented, contributing to fuel economy and reducing noise emission.

High Strength Main Chassis

The HMK 600MG motor grader has the optimum turning radius and thus high manoeuvrability thanks to its high front wheel tilting and articulation angles. Articulation joint between the front and the rear chassis is supported with a tapered roller bearing and is sealed against contamination. Articulation joint may be secured mechanically with a safety pin to ensure safety during maintenance and repair work and while the machine is transported.

Front frame made of high-quality steel, rear frame with a box section and suspension beam with box section are ideal for heavy-duty work with their high durability.

Blade System

In order to reduce wear, circular gear is produced from mono-block forged steel and the teeth are hardened by induction hardening.

Hydraulic accumulators and flotation systems, standard in the blade lifting and shifting system, absorb shock loads and protect the blade against buried objects that can not be seen. Optimum blade angle rolls the cut material over the blade to avoid unnecessary power consumption. These features provide comfort and convenience for the operator during ploughing of snow, while reducing fuel consumption.

The kinematic design of the blade tray allows the blade to be positioned 90 degrees to the right or left for various applications such as slope cutting, trench digging and levelling.

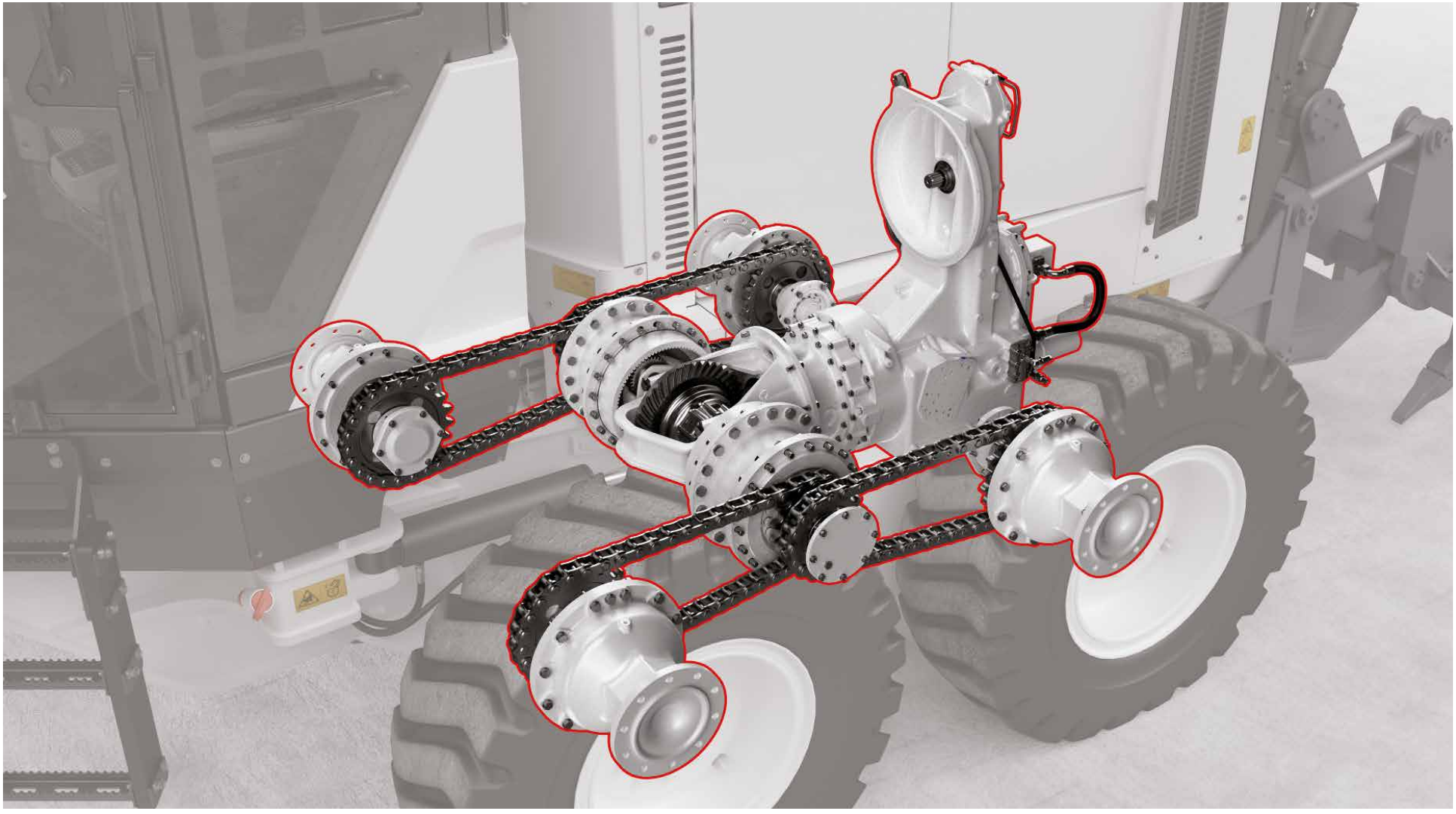
The reinforced blade tray is equipped with Teflon wear plates.

End blades and cutting edges are designed and manufactured to provide maximum service life and increase productivity.

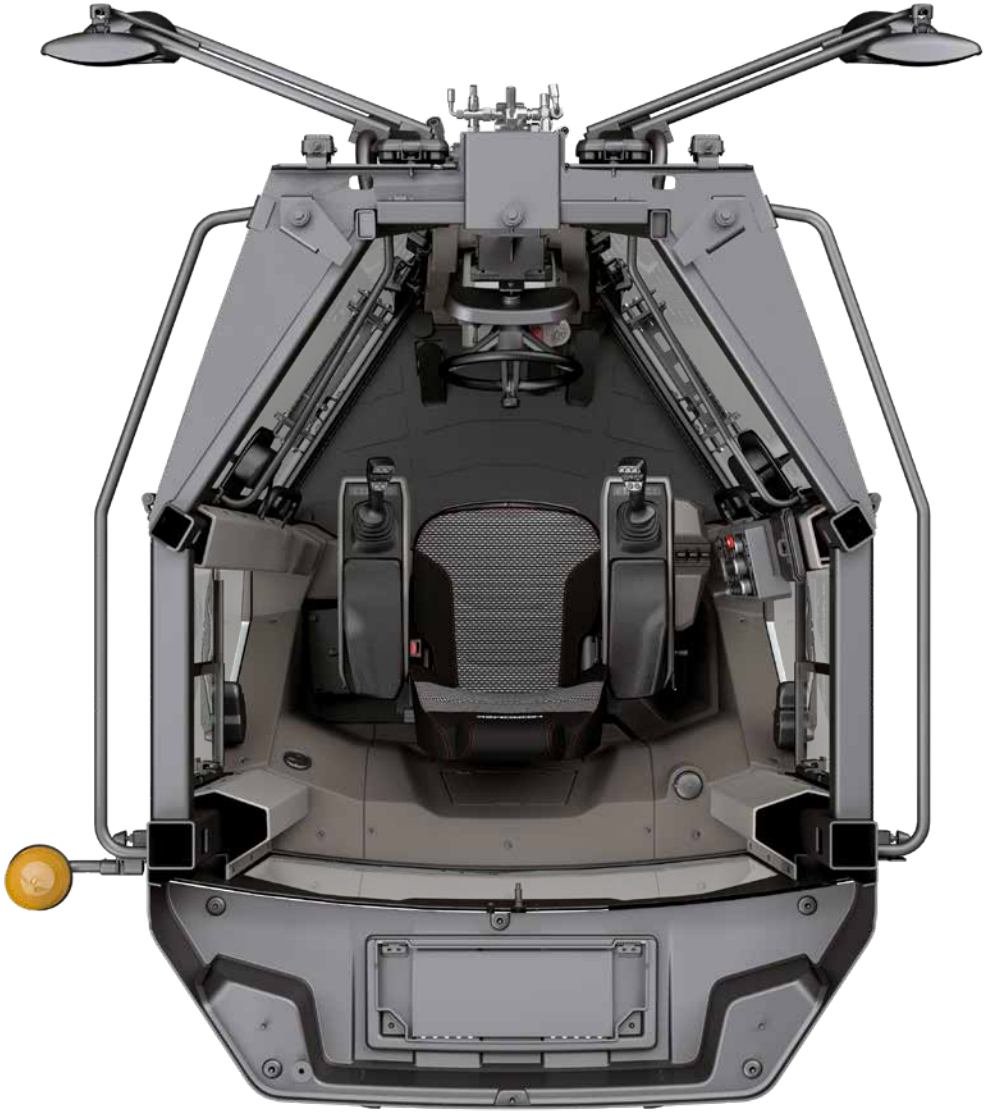
Transmission

This direct-drive, power shift transmission developed for the HMK 600MG offers 8 forward and 8 reverse gears, and has a planetary gear construction. This transmission improves efficiency and performance by providing high traction even at maximum travel and operating speeds thanks to its excellent compatibility with the diesel engine.

Thanks to its unique advanced control algorithm and electronically controlled gear shift feature, smooth direction and gear shift are achieved without requiring the use of an inching pedal even under load.



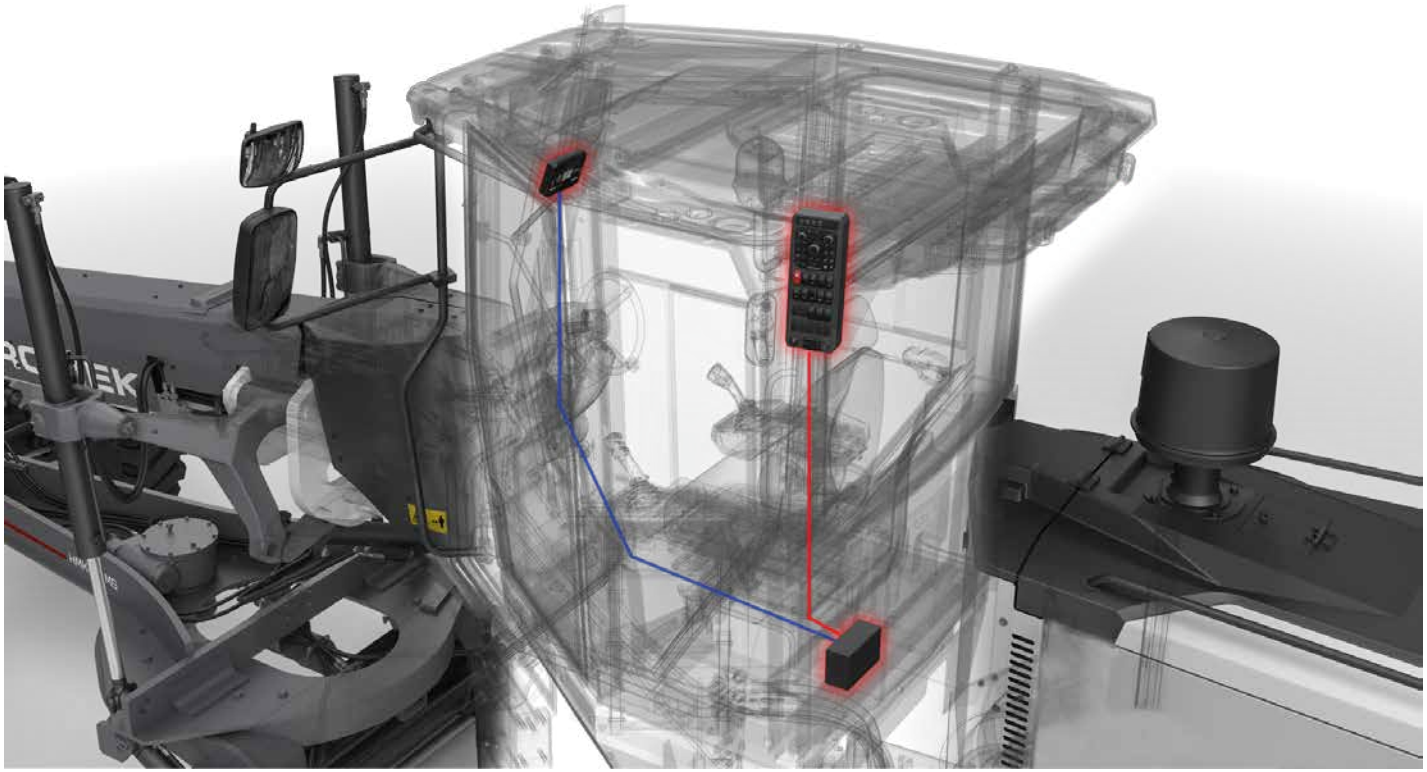
SPACIOUS AND COMFORTABLE CAB...



The HMK 600MG, with unrivalled comfort in the industry, which has brought the Red Dot and German Design design awards to Hidromek, has the following equipment to offer the operator an excellent working environment.

- Panoramic cab, with a wide field of vision thanks to its hexagonal construction and perfectly insulated against noise provides the operator with excellent perimeter vision and safe driving together with its rear view camera display and wide rear view mirrors.
- The operator cab with a secure ROPS / FOPS structure easily meets the noise and vibration levels stipulated by European Union Standards.
- The stairs and handles, which are designed to provide constant three-point contact to the machine, allow easy and safe access to the operator's cab.
- The touch panel A/C control system and AM/FM radio with dual speakers and USB and AUX inputs on the side panel provide a comfortable driving environment.
- A 12V power output is available to connect external devices.
- The steering column may be adjusted at the desired angle.
- The heated operator seat with air suspension may be adjusted in all directions for the most convenient seating position and additionally in a wide range according to the weight of the operator.
- While the operator has the full command of the machine with the digital LCD screen, he may also access all system information easily.
- LED lighting contributes to the operation and efficiency increase without straining the eyes operator at night shifts.
- Large storage compartments safely protects the operator's personal items.

Opera Control System



Hidromek Opera is an interface that facilitates communication between the operator and the machine. Operator may easily switch between menus in Opera, and check the status of the machine, and change the settings.

All information on HMK 600MG and machine warnings may be accessed with the front display.

The information and warnings on the instrument panel are always easy to see and control.

Steering System

Operator may choose between steering or joystick control during operation (gears 1-5), while at high travel speeds (gears 6-8), it is possible to drive comfortably and safely using the steering wheel only. Thanks to the priority valve in the system, travel control is switched to the steering wheel when the steering wheel is touched while the joystick is engaged, regardless of the gear used.

The movement direction of the joysticks controlling the steering and the turning angle of the machine are directly compatible.

Safety

The safety equipment listed below protects both the machine and the operator against potential hazards and provides operational safety.

- The ROPS / FOPS certified operator cab protects the operator from overturning hazards and from falling objects.
- In case of an unintentional stopping of the engine or a malfunction of the steering hydraulic system, the emergency steering may be operated until the machine is taken to a safe location by being driven by an electric motor pump powered directly from the battery.
- Battery disconnecting switch located at a position easily accessible from the ground level, outside of the machine, disables the machine's electrical system by being easily turned off in case of an emergency while the operator is not inside the cab.
- Blade shifting feature and the activated hydraulic accumulators prevent the blade from being damaged by hitting obstacles that cannot be seen, especially under snow, while ploughing snow.
- Rear view camera contributes to the safety of the operator and the environment while working at reverse gear.
- The safety belt ensures that the operator may sit safely in his seat in the cab.
- With the joystick lock, unintentional movement of the attachments is prevented.

Some other safety equipment in the machine are as follows;

- Parking brake
- Steps and handles
- Heated mirrors and laminated and heated cab windows and door windows
- High intensity LED lighting
- Reverse gear lighting and reverse gear alarm

STEERING WITH ADJUSTABLE ANGLE

Thanks to the ergonomic steering with adjustable angle, the user may control the machine and work efficiently for a long period of time without compromising comfort.

HEXAGONAL CAB DESIGN

Hexagonal cab design with ROPS/FOPS features provides operator comfort, a wide field of vision and safety.

COMFORTABLE WORKING ENVIRONMENT

Designed by considering all kinds of climatic conditions in mind, the HMK 600MG offers operator comfort and an air conditioning system inside the cab.

VENTILATION GRILLES

Ventilation grilles are installed in the appropriate areas inside the cab to ensure that the operator may work more comfortably. Thus, the condensation on the windows is reduced to a minimum while the operator is provided with a comfortable working environment.

OPERA CONTROL PANEL

The Opera interface is positioned so that the operator may easily access it in order to facilitate communication between the operator and the machine.

CAB FRONT DISPLAY SCREEN

Front instrument panel located under the rear view mirror provides easy reading of the critical system information and the coloured warning lights.

WINDOW HEATER

Heaters are used on the windscreen, the door windows and the rear window in order to keep the field of vision of the operator at maximum level in cold climates.

REAR VIEW CAMERA

Improves field of vision of the operator during reverse manoeuvres.

POWER MIRRORS

Operator may adjust the mirrors at any angle desired using the switch on the side console without leaving the cab.

HANDLES

These are specially designed to provide safety for the operator while getting in and out of the machine.

LED LIGHTING

The powerful LED headlamps on the cab offers the user a comfortable night work.

LED REAR WARNING LIGHTS

Rear warning lights may be used in horizontal and vertical positions depending on the conditions while driving.

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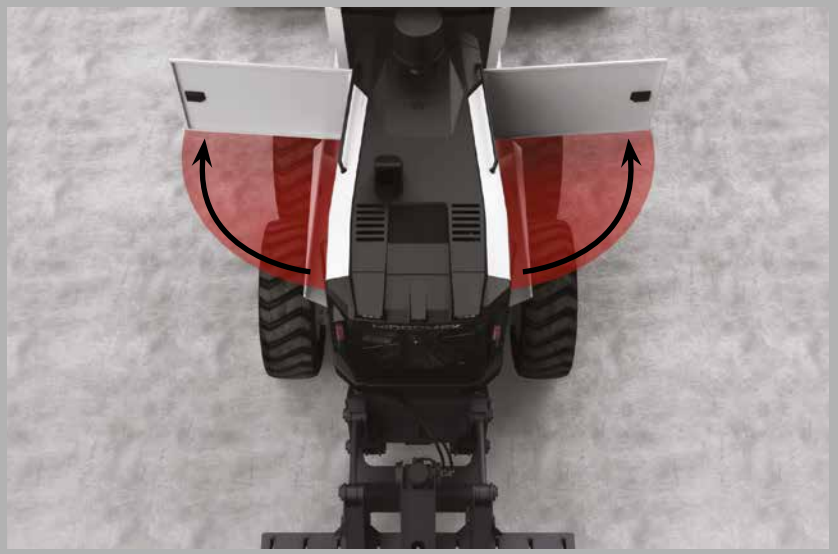
EASE OF MAINTENANCE AND SERVICE

- Radiator cleaning may be performed without downtime thanks to the fan that can be operated at reverse direction.
- Maintenance intervals may be checked and changed from the monitor panel.
- With the optional Smartlink remote monitoring system, the status of vital functions of the machine shall always be under control.
- Engine side covers with wide angle provide ease of maintenance on the engine from the ground level.
- For ease of lubrication, all grease fittings are installed in easily accessible positions.
- Maintenance of the batteries located just below the engine compartment may be easily performed from the ground level.
- The air compressor provided as standard allows for the use of small pneumatic tools as well as for general machine cleaning and applying air pressure on the wheels at the field.
- The fuel cap is located on the side of the engine compartment and at ground level; thus refuelling is facilitated.



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ATTACHMENTS

Blade

Equipped with a tilt cylinder, the blade has excellent material rolling performance in different applications, from levelling to spreading, from pushing material to digging, and to snow and ice ploughing applications.

Cutting edge and end blades are designed for maximum service life.

The precise control system allows perfect and careful adjustment of the position of the blade from inside the cab, especially during operations on slopes. This system provides high efficiency especially in levelling work. The blade may be adjusted to cut with an angle of 90 degrees to the right or left.

Rear Ripper (Optional)

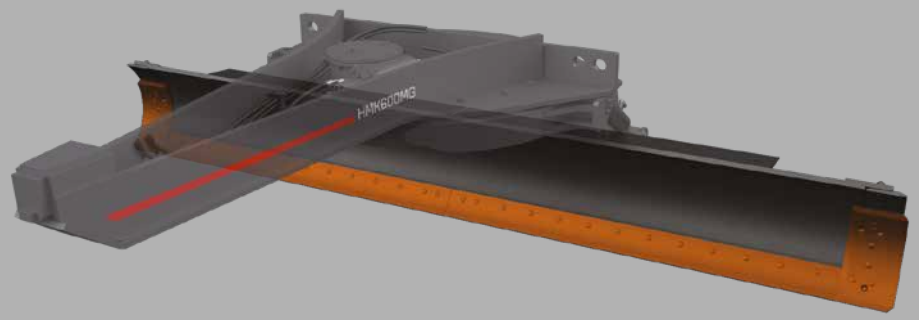
There are three claws on the rear ripper as standard, and the number of claws may optionally be increased to five.

Rake (Optional)

The rake positioned between the front axle and the blade has 11 claws.

Other Optional Equipment

- Push Plate
- Snow ploughing attachment
- Front dozer blade



HMK 500 MG TECHNICAL SPECIFICATIONS

ENGINE

Model	Mercedes-Benz OM 936 LA
Type	D935.915 EU: Stage V
Number of cylinders	6 In-line
Piston Bore and Stroke	106 mm x 136 mm
Engine Displacement	7700 cc
Performance (ISO 9249)	
Net Power	214 HP - 242 HP (160 - 180 kW) @2200 rpm (VHP)
Max. Torque	1000 Nm @ (1200 - 1600 rpm)

TRANSMISSION

Direct drive powershift (planetary gear, electro-hydraulic drive) 8 forward and 8 reverse gears.

BRAKE SYSTEM

Service brake	Multi-disc brake operated with air, oil cooled on four rear wheels
Parking brake	Multi disc connected with spring and disconnected with air on the transmission output shaft

TANDEM

Chain Drive System	
Depth	510 mm
Width	180 mm
Thickness of Side Walls	
Interior Wall	22 mm
Exterior Wall	22 mm
Drive Chain Pitch	51 mm
Wheelbase	1565 mm

PERFORMANCE

Travel speed (for standard 14,00-24 wheel)	
Forward	
1st Gear	4 km/h
2nd Gear	5,4 km/h
3rd Gear	8,2 km/h
4th Gear	11,2 km/h
5th Gear	16 km/h
6th Gear	21,6 km/h
7th Gear	32,9 km/h
8th Gear	45,2 km/h
Back	
1st Gear	3,7 km/h
2nd Gear	5,0 km/h
3rd Gear	7,6 km/h
4th Gear	10,5 km/h
5th Gear	15 km/h
6th Gear	20,3 km/h
7th Gear	30,9 km/h
8th Gear	42,2 km/h

WHEELS

Wheel	14.00 - 24.00 - 16 PR

HYDRAULIC SYSTEM

Type	Closed loop and load sensing system
Hydraulic pump	With variable displacement piston
Capacity	187 L/min.
Operating system pressure	172 bar

FILLING CAPACITIES

Radiator	40 L
Fuel Tank	273 L
Engine Crankcase	29,5 L
Transmission	38 L
Rear Axle Body	30 L
Hydraulic Tank	80 L
Tandem Body (for each side)	85 L
Circular Disk Body	7 L
Ad Blue	25 L

CHASSIS

Front Chassis	Steel box cross-section
Width x Height	280 mm x 324 mm
Rear Chassis	Integrated to rear axle chassis
Front Axle	
Type	Reverse Elliot type, electro-hydraulic side tilt
Oscillation	30 Degrees
Wheel Side Tilt (Total)	40 Degrees
Ground Clearance	595 mm
Blade Tray	
Height x Thickness	200 mm x 32 mm
Circular Gear	
Type	Internal gear
External Diameter	1420 mm
Rotation Angle	360 Degrees
Circular Turn Control	Hydraulic
Circular Guide Plates	6

BLADE

Type	Electro-hydraulically controlled blade resistant against wear and supported with steel box profile
Length x Height x Thickness	3710 mm x 720 mm x 22 mm
Number of cutting edges on the blade	2
Length x Height x Thickness	1829 mm x 152 mm x 19 mm
Max. Lifting from the Ground	495 mm
Max. Dipping to the ground	660 mm
Max. Shifting Length	
Left	1970 mm
Right	2000 mm
Slope Cutting Angle (to both sides)	90 Degrees
Blade Angle	
Blade Tilting Angle	46 Degrees
Cutting Angle	43° - 92°

STEERING SYSTEM

Type	Joystick and steering controlled
Steering Angle (left and right)	47 Degrees
Pump	Gear type
Capacity	55 L/min.
System Pressure	172 bar
Articulation angle (left and right)	29 Degrees
Minimum turning radius (on the outer edges of front wheels)	6900 mm

FRONT AXLE

Oscillation	15° Left or Rigth (Total 30°)
Wheel lean	15° Left or Rigth (Total 30°)
Ground Clearance	600 mm

OPERATING WEIGHT (ISO 7134)

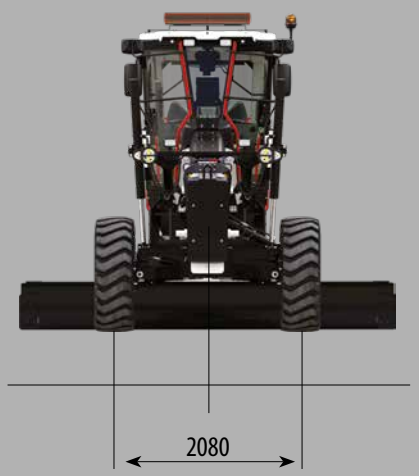
18.250 kg

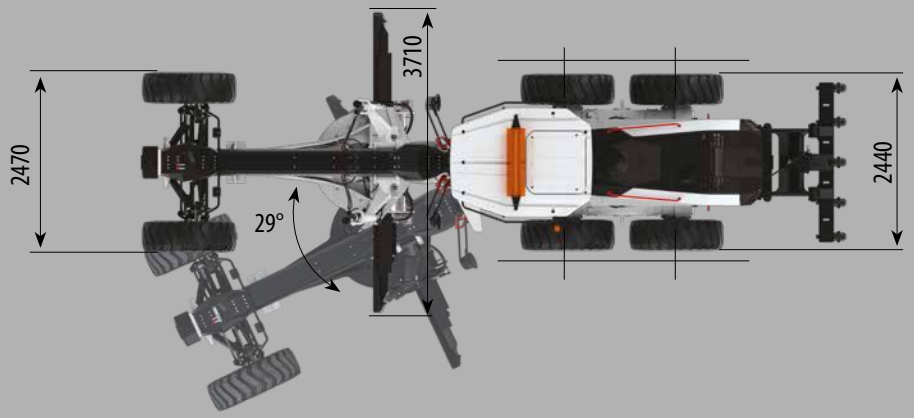
Equipment such as 14,00-24-16 PR tire, rear ripper, front holding plate, transmission protected, operator, A/C, ROPS/FOPS cab, 1/2 full fuel tank, lighting, mirror, etc.

HMK 600MG DIMENSIONS

Measured (I)

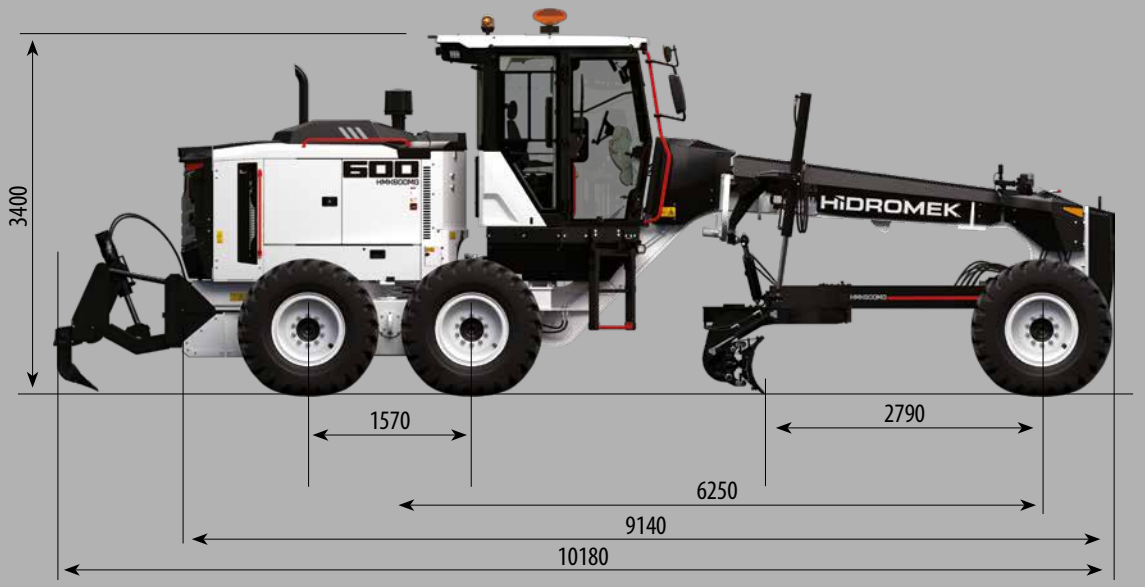
Unit: mm





Measured (II)

Unit: mm



STANDARD EQUIPMENT

ELECTRICAL SYSTEM
Alternator, 150 amperes
Reverse gear warning
Battery 24 Volt-150 Ah 1150 CCA
Starter, 24 Volt-5 Kw
Power horn
2 headlamps
14 work lamps
Rear combination lights
Electrical system 24 V
DRIVETRAIN
Engine; Mercedes-Benz 0M926 AB Phase IIIA
Exhaust
Tandem system, with chain drive
Electro-hydraulically controlled direct-drive, power shift transmission, with 8 forward and 8 reverse gears
Differential lock
Variable engine power
Air compressor
Air dryer
WORK ENVIRONMENT
Electronic accelerator
Adjustable steering console
Adjustable steering and attachment joystick controls integrated to the seat
Warning lamps and buzzer
Main beam indicator
Signal indicator
Park brake indicator
Air filter warning lamp
Engine temperature warning lamp
Periodical engine oil replacement warning
Engine oil pressure warning
Alternator warning lamp
Air pressure buzzer
Park brake warning
Engine temperature warning
Coolant temperature indicator, air pressure indicator, fuel indicator, Hydraulic controls (blade lifting, blade tilting, circular shifting cylinder, blade shifting cylinder, circular gear rotation, front wheel tilting and articulation)
Operating hours
Shifting cylinder lock
Power steering
Adjustable operator's seat with air suspension and heating
Safety belt

STANDARD EQUIPMENT

Air conditioning
Blade
Rear view camera
Heater and demister
Power controlled rear view mirror adjustable from inside the cab
Center work lamps
Rear work lamps
Fuel water filter
Pre-filter
Mat

OTHER EQUIPMENT

Operator's manual and spare parts catalogue
Articulated chassis with safety lock
Fuel tank, 275 L
Rear drawbar
6 pieces of replaceable bronze wear plates
Blade tray shifting cradle with 5 positions
Blade, 3710 mm x 610 mm x 19 mm
Antifreeze, LLC
Toolbox
TIRE
Tire: 14,00-24-16 PR

OPTIONAL EQUIPMENT

Ripper with 3 or 5 claws
Front dozer blade, 2700 mm width
BLADES
4310mmx610mmx22mm
11-Teeth rake
Front ballast
Front snow ploughing attachment with 3 axes

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NOT ONLY WITH OUR MACHINES, BUT ALSO WITH THE SERVICES WE PROVIDE, WE ARE DIFFERENT!

Expert Service

Our personnel who are experts in their subjects provide the opportunity of the highest quality and the fastest service with their high-end equipments.

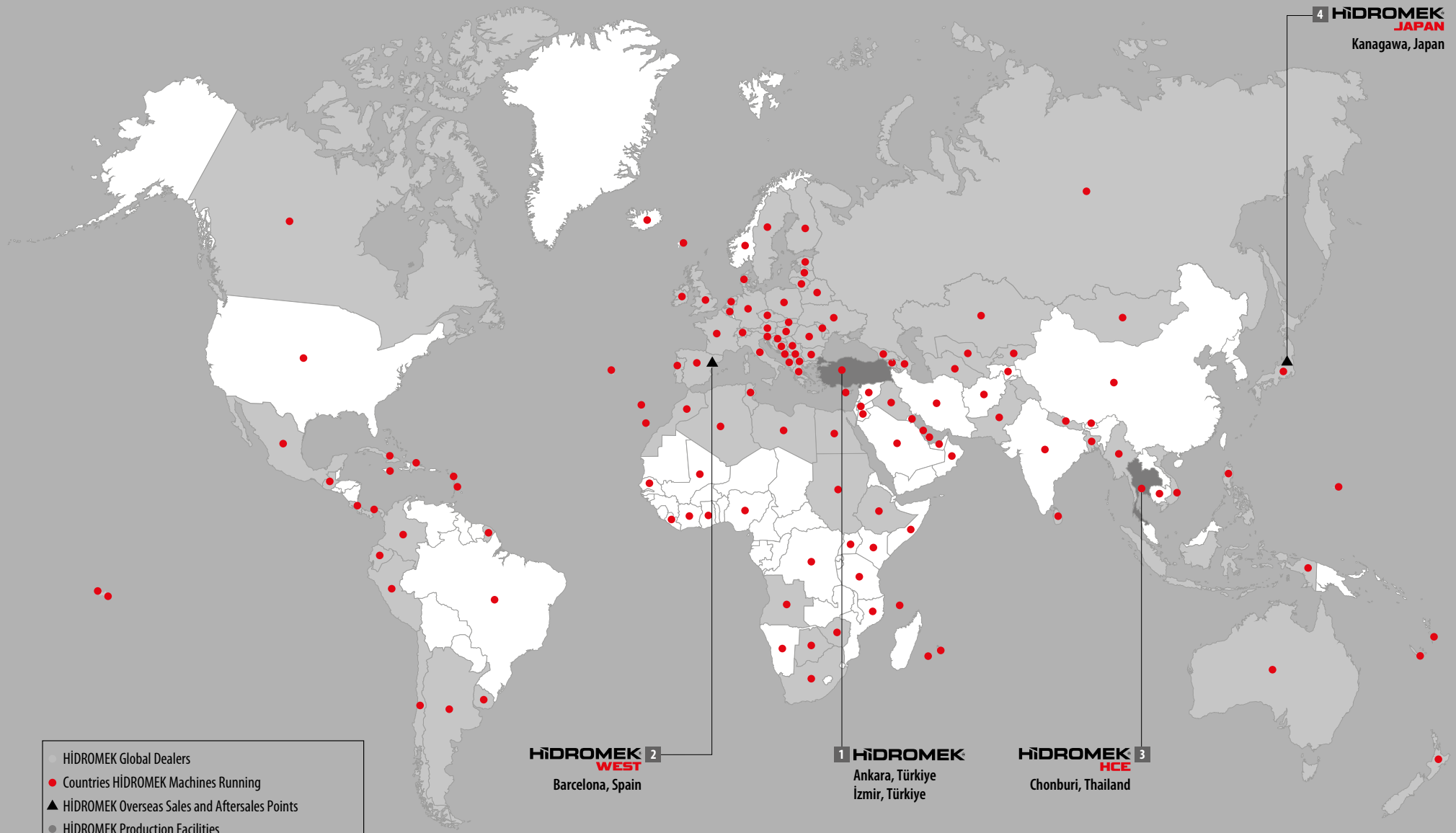
Global Service Network

Hidromek that has global service network offers sale and service even in the various points of the world with hundreds of sale and service points abroad.

High Customer Satisfaction

A customer-oriented approach is adopted in all our operations in order to satisfy our customer at the highest level, add value their works and gain loyalty of them.

HİDROMEK AROUND THE WORLD



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