

# HMK 640WL

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WHEEL LOADER



**HIDROMEK®**



HIDROMEK

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## HMK 640WL

HMK 640WL, designed with over 40 years of experience in the earth moving machinery sector, exactly meets customers' requirements such as better performance, versatile operation, operator comfort and safety.

The HMK 640WL wheel loader offers productivity and high efficiency in applications such as stone quarry business, gravel work, mining and concrete plant work. This heavy-duty loader offers high breakout forces and excellent control capability.

# POWERFUL ENGINE, EXTRAORDINARY PERFORMANCE!



## POWERFUL ENGINE

HMK 640WL is equipped with an EU Phase 4 (Tier4F) compliant, 6-cylinder MTU Mercedes Benz OM470 diesel engine with common rail injection. This eco-friendly engine with turbocharger, intercooler and electronic control uses the SCR system and Adblue support for exhaust gas aftertreatment as well as the EGR system with cooler to meet the required emission values.

Thanks to the high torque produced at lower revolutions, it provides maximum efficiency and maximum fuel economy.

## LOW OPERATING COSTS

The low-speed diesel engine provides maximum production levels and fuel economy thanks to its excellent compatibility with the powertrain system, without sacrificing power and productivity. Thus, the operating costs per unit production are minimized. The manual differential lock increases the traction, reduces tire wear and thus positively contributes to the operating costs.

With the transmission mode function, engine generates as much power as required during the travel of the machine, thus provides fuel economy.

## TRANSMISSION

Thanks to the modulating valve in the transmission of HMK 640WL, shifting of gears is performed very smoothly and rapidly.

The high-capacity transmission with torque converter and 5 forward and 3 reverse speeds that is specially developed for HMK 640WL offers a travel mode. For example, when you want to travel only, you may select LOW mode so that the gear is shifted up at lower speeds and thus fuel economy is provided. In the MEDIUM mode, the speed is slightly increased and the cycle time is reduced in V-type loading operations. Finally, in HIGH mode, gears are shifted up at higher speeds, and maximum performance and fuel efficiency are provided while moving uphill or on loading operations at ramps.

With the transmission disconnection feature provided in the system, when you push the brake pedal while you take under the load, the power transmitted to the transmission is directed to the hydraulic system, and as a result the hydraulic power and thus the breakout force are increased. This increase is proportional to the rate at which the brake pedal is depressed.

With the automatic kick-down function, the machine shifts down a gear by pressing a button only it takes under a load, and thus machine's traction force is increased and the cycle time is shortened. Thus, production is increased.

## AXLES

The heavy-duty axles offered as standard offer high-strength and a long service life.

The loss of power that may occur in the front axle is prevented and the service life of the tires are extended with the differential lock feature on the fixed front axle. Thanks to the  $\pm 13^\circ$  oscillation motion of the rear axle, the machine grips on uneven surfaces and ensures perfect balance and traction.



# WIDE AND COMFORTABLE...



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

- Panoramic cab with wide field of vision and excellent insulation against noise
- Rear view camera screen and heated rear view mirrors to provide the operator and excellent view of the surroundings and driving safety
- Operator cab with safe ROPS/FOPS structures, which easily meet the sound and vibration levels prescribed by European Union Standards,
- Ergonomic steps and handles, which allow easy and safe access to the operator cab by providing 3 points of contact,
- Fully automatic A/C system that provides a comfortable driving environment
- Dual-speaker AM/FM radio with USB input for long and enjoyable working hours
- 12V power output to connect external devices
- Steering column that is adjustable at desired angle and height
- Heated operator seat with air suspension that is adjustable to any desired position and according to the operator weight
- Large, touch-sensitive, digital LCD display, where the operator has full control over machine information and on the indicators
- LED lighting that allow the operator to work efficiently at night without straining his eyes
- Large storage compartment for operator's personal items inside the cab
- Smooth travel system, MSS
- OPERA control system that brings many kinds of information and functions required during the operation of machine together
- Front Display, where the operator may easily access the instant information on machine



## Opera Control System

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Hidromek Opera is an interface that facilitates interaction 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.

Operator concentrates better on the loading task thanks to the Automatic Arm Raising and Lowering button and Automatic Bucket Positioning and Floating button on the Opera console.

The operator may access all information on the HMK 640WL machine and the warnings about the machine via the display on the front panel and the touch screen on the side panel. The information display placed on the front panel and side console does not obstruct operator's field of view while loading; and the information and warnings are always easy to see and control.





# LOADER KINEMATICS

The HMK 640 WL contributes to productivity by shortening the cycle time with its highest unloading height in its class and its optimum approach distance.

The Z-bar connection with double hydraulic cylinders improves excavation performance, breaking force, field of vision, and the front arm and chassis resistance significantly, thus provides a more balanced loading operation.

With the automatic boom control and the automatic bucket control functions, lifting arm and/or bucket may be adjusted automatically at the desired level, thus operator is allowed to focus only on the travel function during loading operation. These features ensure fast loading, contribute to increase of production and reduce production costs per unit.

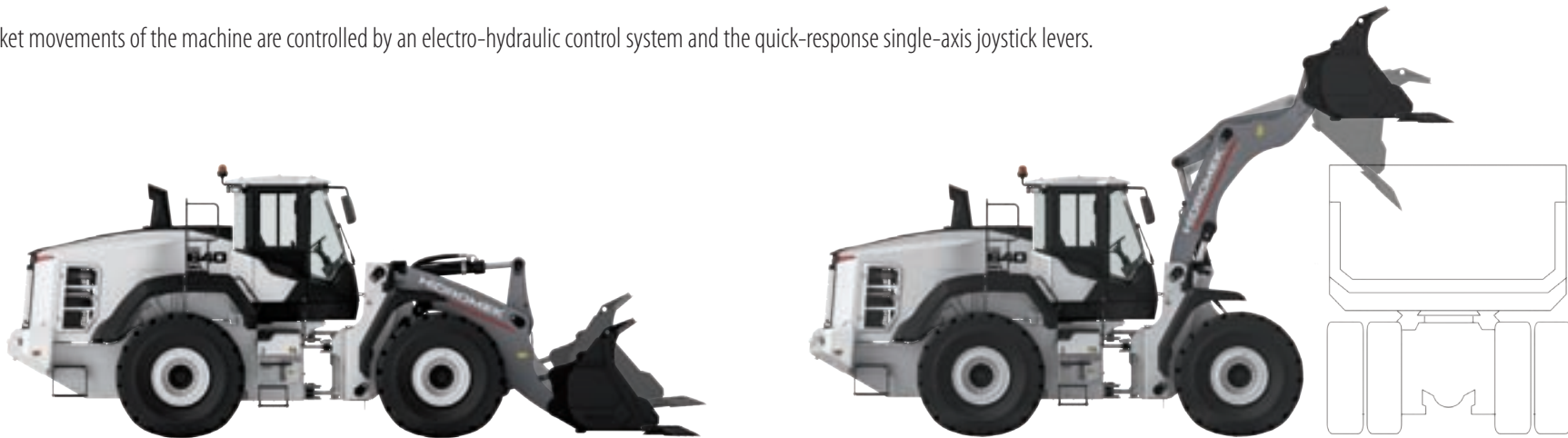


# HYDRAULICS/CONTROLS

A hydraulic system with closed loop load sensing feature and variable displacement piston pumps to operate the system are used. In this system, hydraulic flow and pressure loss are avoided only for the oil pressure as required by the work done, and these losses are reduced fuel consumption. The vibration-free travel system, MSS, minimizes vibration on the boom during travel when the bucket is loaded, thus prevents falling of material and increases productivity.

Cooling fan is operated by a closed circuit hydraulic system. As a result, the power consumed by the fan from the diesel engine is directly transferred to the work. Thus, fuel consumption is reduced while production is increased.

The bucket movements of the machine are controlled by an electro-hydraulic control system and the quick-response single-axis joystick levers.



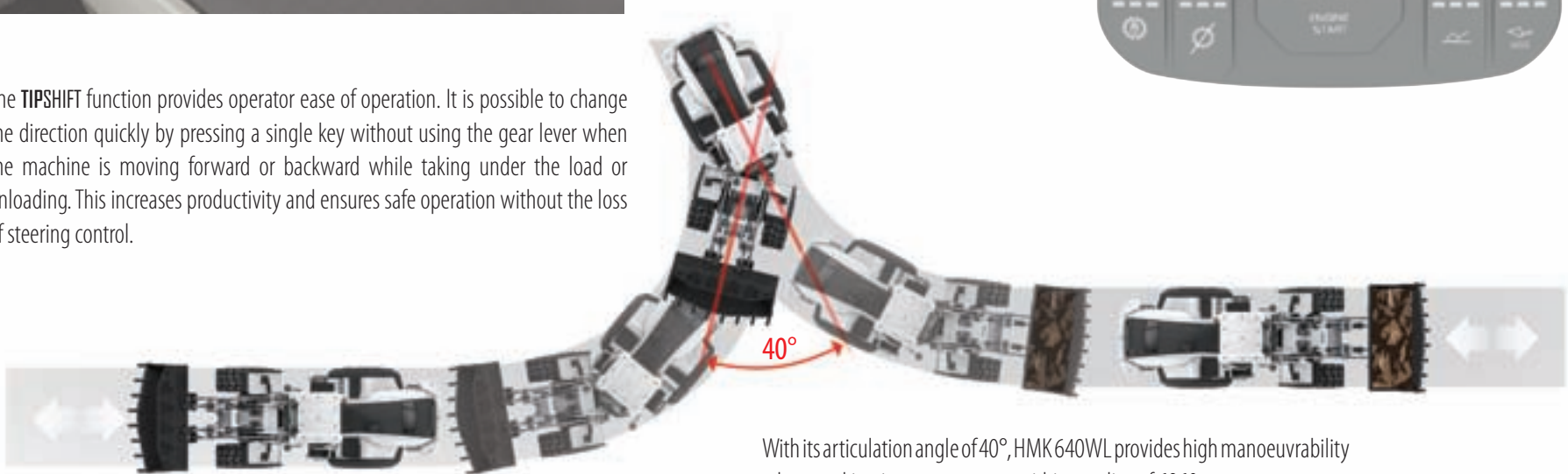
## TIPSHIFT (FNR) (Forward-Reverse Direction Control)



The **TIPSHIFT** function provides operator ease of operation. It is possible to change the direction quickly by pressing a single key without using the gear lever when the machine is moving forward or backward while taking under the load or unloading. This increases productivity and ensures safe operation without the loss of steering control.

## MODE selection

Transmission mode selection system contributes to productivity and efficiency especially in V-type loading cycles and long travels.



With its articulation angle of 40°, HMK 640WL provides high manoeuvrability when working in narrow spaces within a radius of 6960 mm.



# SAFETY

The following safety equipment protects the machine and operator against potential hazards at the highest level and provides complete operational safety.

- ROPS / FOPS certified operator cab, which protects the operator from overturning hazards and from falling objects.
- Electrically powered emergency steering to ensure that the machine can be taken to a safe location in case of a diesel engine failure or a malfunction in the steering hydraulic system.
- Battery disconnecting switch which disables the electrical system in case of an emergency and is easily accessible from the ground level.
- Rear view camera
- Safety belt for the driver's seat
- Control lever lock that prevent unintentional operation of attachments
- Reverse gear lighting and reverse gear alarm

Some other safety equipment are as follows;

- Parking brake
- Ergonomic steps and handles
- Heated mirrors
- High intensity LED lighting lamps



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## DURABILITY RELIABILITY

Sintered brake discs have longer life due to their heat and vibration resistance properties. The main frame is made of high strength steel and it is tested for resistance to heavy loads, shocks and vibrations that the loader is subjected. Non-vibration travel system (MSS) offered as standard protects the front boom from vibrations and shock loads during travel with load. The bucket blade and end blades are designed for demanding working conditions and are manufactured from high strength steel.





## STEERING WITH ADJUSTABLE ANGLE

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



## LOADER CONTROLS

The basic moves used while working in the loading position are gathered together in the side console for the convenience of the operator. The kickdown switch provides ease of use to shift down.



## HEATED SEAT

To keep the comfort of the operator at maximum level even in cold climatic conditions, a heated seat system is used.





## VERSATILE HOLDER

The holder on the side console, designed by considering the operating environment of the operator, provides multi-purpose usage.



## STORAGE COMPARTMENT, FRIDGE

Compartments with different size and shapes, located at 2 different points behind the seat in the cab, provide ideal storage and reservation compartments. There is also a fridge inside the cab.



## CONTROL PANEL

Control panel is ergonomically designed to ensure that the operator may control the machine as easy as possible.





## LED WORKING LAMPS

The LED working lamps on the cab provide wide viewing angle for the operator while working at night.



## VENTILATION GRILLES

Thanks to ergonomically placed ventilation grilles in the cab, the operator is provided with a comfortable working environment, and the condensation on the windows is minimized.

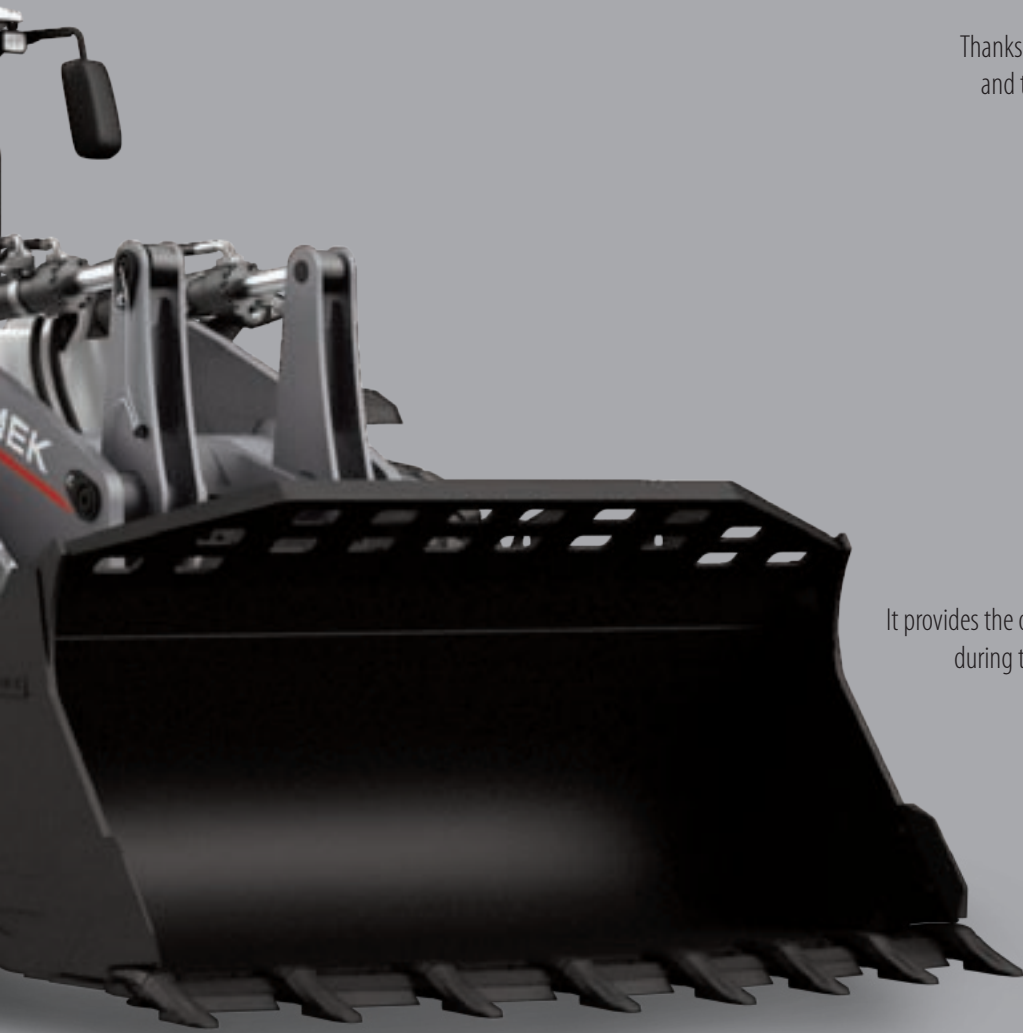


## REINFORCED CAB CONSTRUCTION

The cab of HMK 640WL has been carefully designed so that the operator may work in a comfortable environment even under the most severe conditions. It is ROPS/FOPS certified against overturning hazards and falling of material on the cab for the safety of the operator.







## OSCILLATION

Thanks to the  $\pm 13^\circ$  oscillating motion, perfect balance and traction are obtained in the demanding working conditions.



## REAR VIEW CAMERA

It provides the operator a wide field of vision during the operation of the machine.



## HEATED POWER MIRRORS

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





## EASE OF MAINTENANCE AND SERVICE

The HMK 640WL loader is equipped with the following features for ease of maintenance and service;

- Radiator cleaning may be easily performed whenever required thanks to the aerodynamic cooling fan which may be reversed automatically or manually, if desired. Thus, the maintenance interval is extended.
- The service points on the machine are easily accessible from the ground level, fuelling up and battery maintenance operations may be performed easily.
- The cab may be manually tilted to 35° with a jack and the bonnet may be tilted to 65° with the aid of an electric actuator, thus access to the engine assembly is made easier. This feature also facilitates the maintenance operations.
- Operator is allowed to monitor the oil and fluid replacement periods from the side panel and to change these periods, if desired.
- The fuse/relay panel is easily accessible from inside of the cab.



## ENGINE HOOD

The engine bonnet designed as a single piece may be tilted to 65 degrees with the help of an electric actuator. This provides ease of service and maintenance.



## TILTING OF THE CAB

Designed to keep maintenance and repair times to a minimum, the cab tilting system allows the cab to be tilted to the side at an angle of 35 degrees.



## REVERSIBLE FAN SYSTEM

Thanks to the reverse rotation feature of the cooling fan, radiator cleaning may be performed manually or automatically at specified time intervals.



## ENGINE

Brand, Model	MTU MERCEDES-BENZ 6R1100
Type	OM 470LA Stage IV Diesel Engine
Number of Cylinders	6 In-line
Bore x Stroke	125 x 145 mm
Volume	10.700 cc
Max. Power	324 HP (242 kW) @1800 rpm
Max. Torque	1600 Nm @1300 rpm
<ul style="list-style-type: none"> <li>• Water-cooled, turbocharged diesel engine with high power and torque output</li> <li>• Complies with the Stage IV emission control regulations of European Union.</li> </ul>	

## HYDRAULIC SYSTEM

Hydraulic system with closed loop variable displacement piston pump	
Flow rate (Pump 1)	190 L/min. @1900 rpm
Pressure (Pump 1)	250 bar
Flow rate (Pump 2)	190 L/min. @1900 rpm
Pressure (Pump 2)	210 bar
Flow rate (Pump 3)	85 L/min. @1900 rpm
Pressure (Pump 3)	250 bar

## TRANSMISSION

<ul style="list-style-type: none"> <li>• Heavy duty type Autoshift transmission</li> <li>• 5 forward and 3 reverse gears</li> <li>• Torque converter with a stall ratio of 2,194:1</li> <li>• 4-wheel drive</li> <li>• Transmission oil cooler</li> <li>• Safety mechanism that prevents starting at gear for operational safety</li> <li>• Electronic parking brake</li> </ul>	
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## TRAVEL SPEEDS

@ 1900 rpm engine speed		
1st Gear	6,8	km/h
2nd Gear	11,7	km/h
3rd Gear	18,3	km/h
4th Gear	25,4	km/h
5th Gear	37,8	km/h

## AXLES

<ul style="list-style-type: none"> <li>• Heavy duty type axles</li> <li>• Planetary type external reduction</li> <li>• <math>\pm 13</math> degrees oscillating at rear axle</li> <li>• Differential lock at the front axle</li> </ul>	
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## FILLING CAPACITIES

Cooling system	50 L
Fuel tank	400 L
Total engine oil	35 L
Transmission oil (replacement)	32 L
Total transmission oil required (system)	50 L
Rear axle	42 L
Front axle	61 L
Hydraulic oil (replacement)	135 L
Total hydraulic oil required (system)	200 L
Diesel Engine Fluid (Adblue®)	40 L

## TIRES

Front / Rear Tires	26,5R25-L3
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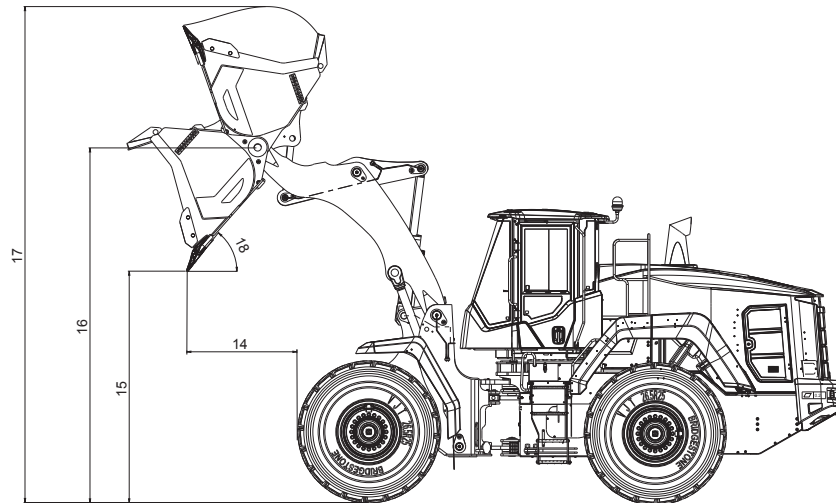
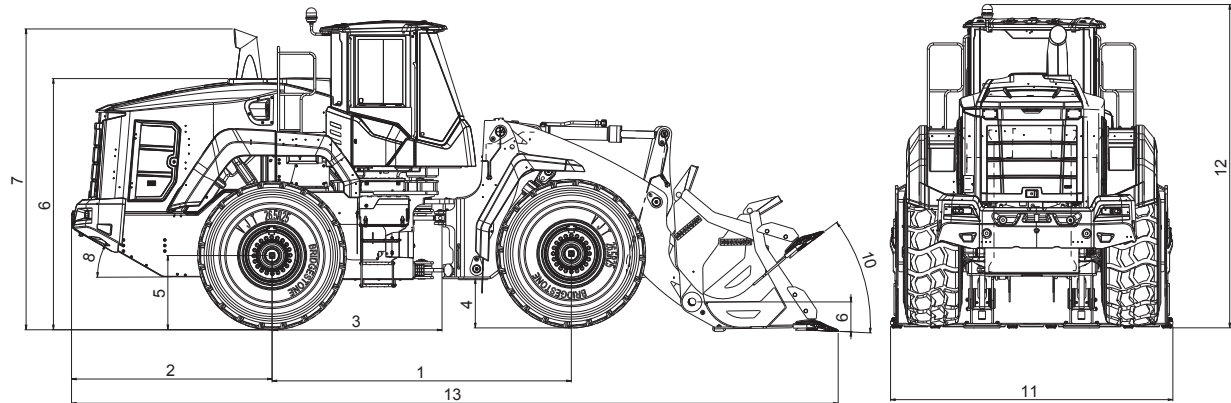
## OPERATING WEIGHT

Operating Weight (with standard equipment)	26.300 kg
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# HMK 640 WL

## GENERAL CHARACTERISTICS

1	Wheelbase (mm)	3500
2	Rear axle - edge of counterweight distance (mm)	2325
3	Rear axle - hitch distance (mm)	1750
4	Ground clearance with 26,5R25 L3 (mm)	520
5	Height to centerline of axle (mm)	820
6	Hood height (mm)	2880
7	Exhaust pipe height (mm)	3460
8	Departure angle (°)	30
9	Pin height @ carry (mm)	350
10	Rack back angle (°)	44
11	Width of bucket (mm)	3300
12	ROPS height (mm)	3530
13	Total length (mm)	8950
14	Dump distance with 26,5R25 L3 (mm)	1330
15	Dump height (mm)	2920
16	Pin height @ dump (mm)	4360
17	Overall operating height (mm)	6000
18	Dump angle (°)	46



## LOADER PERFORMANCE

Bucket Capacity	4,2 m <sup>3</sup>
Max. Breakout Force	19975 kgf
Static Tipover Load	19269 kgf
Static Tipover Load (with articulation)	17015 kgf

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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.



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