

# **HMK460MG**

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## **MOTOR GRADER**



**HIDROMEK®**



**HIDROMEK**

**MG460**

# YOUR RELIABLE PARTNER!

Hidromek proudly introduces the Hidromek Motor Grader Models MG460 of which durability and performance are well proven in wide range of markets.

Built to handle almost any job—precision finishing, scarifying, bank-cutting, ditch working.

The clean and powerful turbo-charged diesel engine has been adopted for the MG460, ensuring reliable work under the toughest conditions.

Dual independent braking systems mean that the MG460 Motor Graders can be brought to an immediate stop at any time, while the cab is designed with full attention to operators' needs.





## Engine to Meet Tough Needs

Direct-injection, turbo-charged Mitsubishi 6D24-T engine offers superior output and high torque levels. This powerful engine, known for its low fuel consumption, low emission, and reliability, packs a powerful 116 kW(155 HP) to 138Kw(185 HP) / 2000 rpm variable horse power output, ensuring that the MG460 always give outstanding performance under any conditions, from light to heavy duty work.

Variable horse power (VHP) provides an overall 11% increase in machine performance. MG460's engines also feature easy starting, and outstanding durability.

## Hydraulics

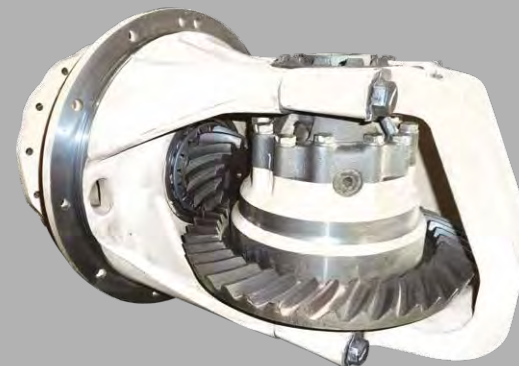
MG460 hydraulic system adopts a large capacity variable displacement pump with a close center load sensing system. The hydraulic system provides high implement speed with multi-function.

A large capacity return line filter and magnetic suction strainer ensure the hydraulic oil cleanliness is at a Premium.

The hydraulic system incorporates lock valves on the blade lift, blade tilt wheel lean, rear ripper and scarifier as an option.

## Differential Lock / Unlock

The differential lock/unlock features, optional on MG460, improving performance during turning or when operating on rough underfoot conditions. The easy-to-operate lock/unlock switch is located on the front console.



## Direct Power Shift (DPS) Transmission

The direct drive planetary gear transmission, which was developed especially for the MG460, is designed to match the high performance 6D24-T diesel engine for optimum efficiency. This transmission eliminates momentum loss by enabling immediate engagement of any of the MG460's 8 forward or reverse gears without using the clutch.

By this perfect combination with the engine and DPS transmission, MG460 provides maximum travel and working speeds with optimum drawbar pull.



# MG460 Offers Maximum Productivity and Durability

## Moldboard (Blade)

Equipped as optional with a tip cylinder, the blade has excellent rolling performance, which allows a variety of operations, ranging from levelling sand to mixing, dozing and digging everything or snow and ice removal.

Cutting edges and endbits are available to maintain maximum service life.

## In-Seat Bank-Cut Operations

The adoption of in-seat bank-cut system makes it possible to control the position of the blade from the cab. This ensures a wider range of applications from fine finishing through bank cutting. The machine can be set to cut 90 degrees left or right.



## Frame Structure (High Strength Main Frame)

The computer simulations and actual field tests were used to develop the MG460's high strength main frame. The design eliminates stress points for increased durability and long life.

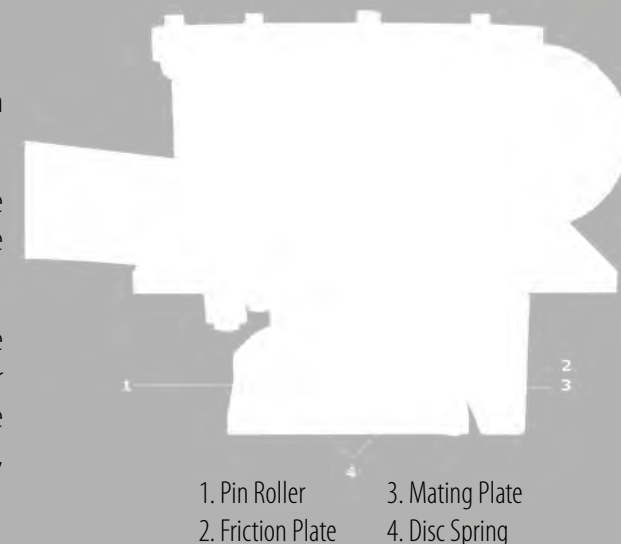
The MG460's feature strong durable main frame developed using the latest design and materials' technology and proven using computer simulation tests.

## Blade-Slip Clutch

The MG460 feature an optional blade-slip clutch, an alternative clutch protection system to the conventional shear-pin mechanism.

The MG460's clutch may slip when an abnormally strong external force is exerted on the blade, to give full protection against destructive overloading.

The main advantages of the blade-slip clutch over the shear-pin type mechanism include the elimination of replacement parts, such as shear pin, and the time and expense needed for maintenance. Please note that the blade rotating torque can be set for optimum performance, contributing to greater working efficiency.



# OPERATOR COMFORT



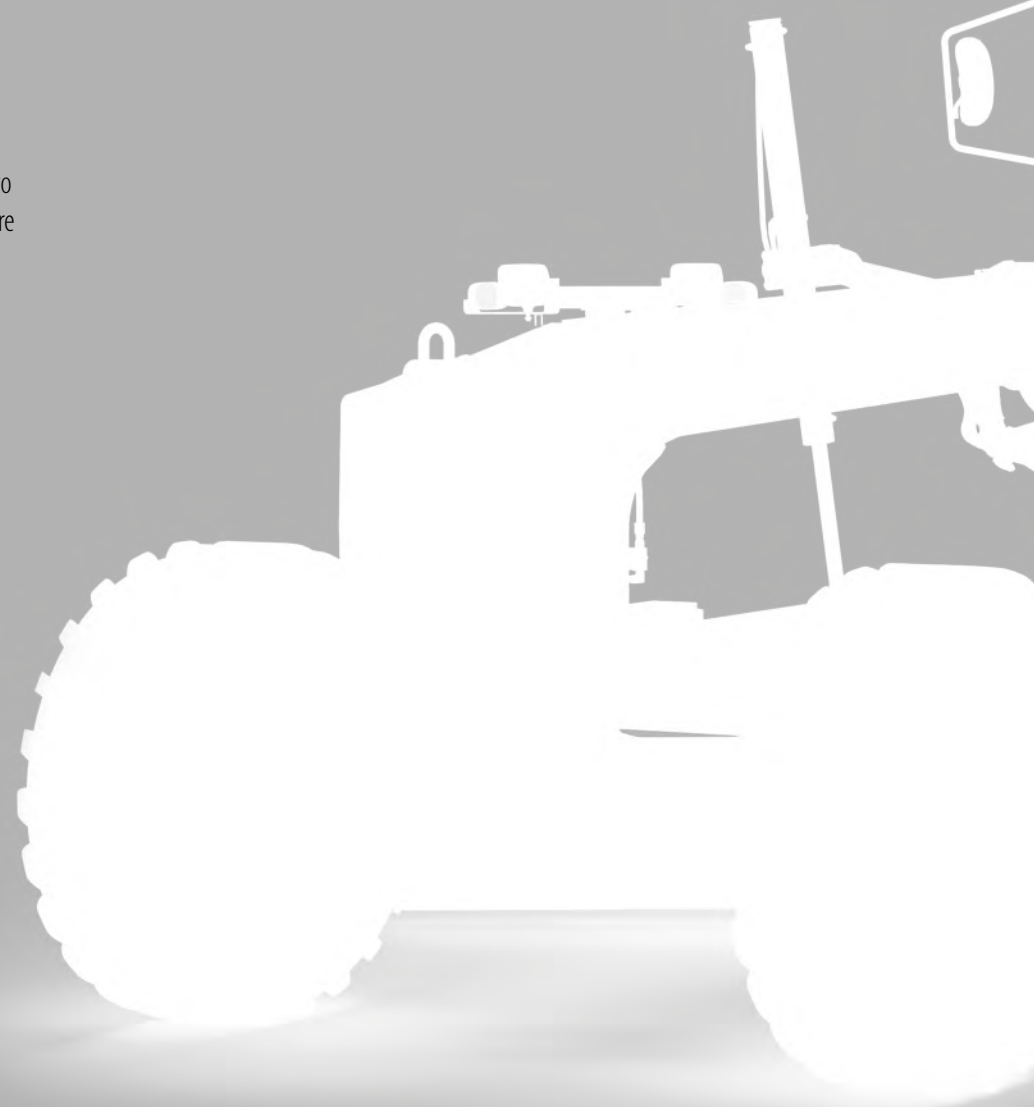
## Wide Visibility

MG460 series motor graders optional operator cab has been designed to offer a wide range of visibility to the operator for a better, safer and more comfortable operation.



## Adjustable Operator Seat

ROPS and FOPS certificated cab offers a safe and comfortable working environment to the operators. The deluxe suspension seat offers wide ranging adjustments which allows the operator to choose the best sitting position.



## Hydraulic Operating Levers

MG460 motor grader is available to fit with "Industry Standard" soft touch, short stroke levers which are direct coupled by control cable to the hydraulic control valves. The system provides precise implement control with minimum stress to the operator.



## Transmission Shift Lever

The transmission shift lever allows operator to select the optimal combination of machine speed and drawbar pull from among eight forward and eight reverse speeds, improving operating efficiency in a variety of operations. The transmission lever requires little effort to adjust, ensuring superb operating smoothness.





HIDROMEK

MG460



# SERVICE AND MAINTENANCE

Designed for easy operation, the locking engine compartment side cover incorporates a one-touch gas damper. In addition to opening easily, the cover is large enough to provide easy access to all engine components and facilitate oil, battery fluid level and other daily checks. Filters also located to be changed easily.

The fuel cap is located to the side of the engine compartment so that it can be refilled easily from the ground level.

The fuse box is positioned to the right of the operator's seat for easy access.

The service hour meter is located on the left side of the steering console so that it can be checked from the ground level without entering the cab.

Air supply system is a standard equipment for MG460, which can be used as an air source to inflate tires by using an optional tire charge hose.

Quick, straightforward inspections also allow operators to monitor vehicle status closely, so that MG460 maintenance is almost always preventive.



A close-up photograph of a construction worker. The worker is wearing a blue and white plaid shirt and a bright orange safety vest with reflective yellow-green stripes. They are holding a white hard hat with the brand name 'HIDROMEK' printed in black on the front. The worker's hands are wearing blue and white work gloves. The background is a blurred construction site with metal scaffolding and a yellow piece of machinery.

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# SAFETY FIRST!

The engine can only be started when the transmission lever is in the neutral position.

A warning buzzer sounds to alert the operator if the transmission shift lever is operated while the parking brake remains engaged.

If air pressure is insufficient to power the service brakes, an alarm buzzer sounds until pressure is recharged.

In case of engine overheating, an alarm buzzer sounds to indicate. If this warning is ignored, the engine will eventually shut off itself.

Emergency steering system is an optional feature for MG460.

## ROPS/FOPS Cab

ROPS/FOPS Cab provides low sound and low vibration. Noise levels are below industry standards due to the acoustic design of the cabin. All round work site vision from the operator platform is unrestricted with blade (moldboard) and rear implement (ripper) vision being exceptional due to the large one piece front and rear windscreens. All windows are tinted as standard.

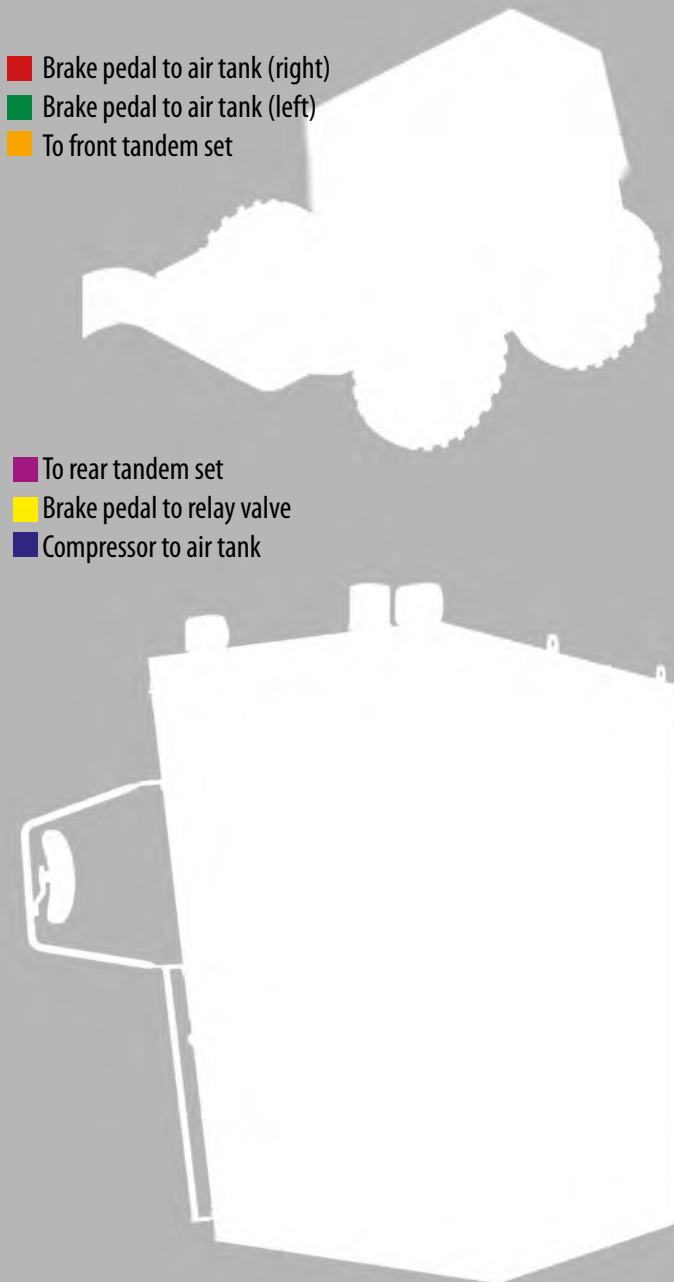
To minimize the amount of noise and vibration that reaches to operator, the cabin and engine compartment are fully separated. Also, the engine compartment uses double-layer soundproofing on the cabin side and the cabin is rubber-mounted.

## Fail-Safe Braking System

Two completely independent air-actuated oil-cooled disc brake systems provide on demand positive braking with only a light touch of the pedal which ensure that braking is instantaneous, noiseless and, most important, fail-safe. Duplicate back-up air circuits give operators complete control even in the case of a system malfunction.

- Brake pedal to air tank (right)
- Brake pedal to air tank (left)
- To front tandem set

- To rear tandem set
- Brake pedal to relay valve
- Compressor to air tank





# ATTACHMENTS

## Moldboard (Blade)

Equipped as optional with a tip cylinder, the blade has excellent rolling performance, which allows a variety of operations, ranging from levelling sand to mixing, dozing and digging everything or snow and ice removal. Cutting edges and endbits are available to maintain maximum service life.

## In-Seat Bank-Cut Operations

The adoption of in-seat bank-cut system makes it possible to control the position of the blade from the cab. This ensures a wider range of applications from fine finishing through bank cutting. The machine can be set to cut 90 degrees left or right.

## Midmounted Scarifier

Midmounted scarifier oriented between front axle and blade.  
Scarifier includes 9 teeth.

## Front Mounted Attachments

Push plate/counterweight, front blade are available to attach on machine as optional.

## Rear Ripper

Rear ripper includes 3 shanks and also 5 shanks are available.



## ENGINE

<b>Model</b>	Mitsubishi 6D24-T
<b>Type</b>	4 cycle, Turbo-charged, Direct-injection, water cooled, diesel engine
<b>No. of cylinder - bore x stroke</b>	In-line 6 cylinders - 130 mm x 150 mm
<b>Piston displacement</b>	11.946 cc
<b>Emission Level</b>	Compatible with USA EPA Tier 1 and European
<b>Performance (EC regulation 97/68/EC)</b>	
in 1-3 Forward & 1-8 Reverse	
Rated net horsepower	155 HP (116 kW) @ 2000 rpm
Rated gross horsepower	173 HP (129 kW) @ 2000 rpm
in 4-8 Forward	
Rated net horsepower	185 HP (138 kW) @ 2000 rpm
Rated gross horsepower	202 HP (151 kW) @ 2000 rpm
Max. torque	925 Nm
<b>Lubrication system</b>	
Type	Forced lubrication by gear pump
Filter	Full-flow
Oil Cooler	Water cooled
<b>Cooling system</b>	Forced circulation by centrifugal water pump, blow type fan
<b>Air-cleaner</b>	Dry cyclone type with dust evacuator, double elements
<b>Air-compressor</b>	
Type	Air cooled
Displacement	284 cm <sup>3</sup> /rev.
<b>Starting method</b>	
Type	Electric starting motor
Starting motor	24 volt - 5.5 kW
Alternator	24 volt - 50 amp
Battery	24 volt (12 volt x 2) - 150 Ah

## POWER TRAIN

<b>Transmission</b>	Power-shift (Planetary gear, Hydraulically actuated) with 8 speeds
<b>Final Drive</b>	Double reduction by spiral bevel and planetary gear with operator controlled hydraulically lock/unlock differential
<b>Brake</b>	
Service brake	Air actuated, multi disc, oil cooled on all 4 rear wheels
Parking brake	Spring engaged, air disengaged, multi disc, oil cooled on T/M output shaft

## PERFORMANCE

<b>Travel speeds (with standard 14.00-24 tires)</b>	
Forward	
1st	3,5 km/h
2nd	4,7 km/h
3rd	7,2 km/h
4th	9,9 km/h
5th	14,1 km/h
6th	19,0 km/h
7th	28,9 km/h
8th	39,7 km/h
Reverse	
1st	3.3 km/h
2nd	4.4 km/h
3rd	6.7 km/h
4th	9.2 km/h
5th	13.2 km/h
6th	17.8 km/h
7th	27.1 km/h
8th	37.2 km/h
<b>Max. drawbar pull</b>	83082 N (8472 kg)

## HYDRAULIC SYSTEM

<b>Circuit</b>	Closed-center, load sensing system
<b>Oil Pump</b>	Variable-displacement piston pump
<b>Capacity</b>	174 L/min
<b>System pressure</b>	172 bar
<b>Oil Motor</b>	
Type	Trochoid motor
Capacity	76 L/min
Output horse power	19.8 kW
Control valve	8 sections, closed-center control
Safety pressure	206 bar

## SERVICE CAPACITY

Radiator	50 L
Fuel tank	275 L
Engine crankcase	29 L
Transmission	38 L
Rear axle case	30 L
Hydraulic tank	58 L
Tandem drive case (each side)	85 L
Circle reverse gear case	3.5 L

## FRAME

<b>Main frame</b>	Fabricated steel box section
<b>Section (width x height)</b>	280 mm x 324 mm
<b>Rear frame</b>	Fabricated steel, integral with rear axle case
<b>Rear axle</b>	Full floating
<b>Front axle</b>	
Type	Reversed elliot type, hydraulic leaning
Oscillation (Total)	30 Degrees
Wheel lean (Total)	40 Degrees
Ground clearance	570 mm
<b>Drawbar</b>	
Type	Fabricated solid steel bars, A-shaped.
Section (height x thickness)	200 mm x 32 mm
<b>Circle</b>	
Type	Internal gear
Outside diameter	1420 mm
Turning angle	360 Degrees
Circle rotation control	Hydraulic
Circle guide shoes	6

## TANDEM DRIVE

<b>Roller chain drive</b>	
Depth	510 mm
Width	180 mm
<b>Sidewall thickness</b>	
Inner wall	22 mm
Outer wall	22 mm
<b>Drive chain pitch</b>	51 mm
<b>Center distance</b>	1565 mm

## MOLDBOARD (BLADE)

<b>Type</b>	Wear-resistant steel, with box section reinforcement with hydraulic side shift and hydraulic blade tip
Length x Height x Thickness	3.710 mm x 610 mm x 19 mm
<b>Number of cutting edges</b>	
Length x Height x Thickness	2 – 1829 mm x 152 mm x 15.9 mm

## BLADE RANGE

<b>Max. lift above ground</b>	500 mm
<b>Max. drop below ground</b>	685 mm
<b>Max. shoulder reach</b>	
Left	1865 mm
Right	1965 mm
<b>Max. bank cutting angle</b>	90 Degrees
<b>Blade pitch angle</b>	
Blade tilt	46 Degrees
Angle of cut	39° to 85°

## STEERING SYSTEM

<b>Type</b>	Full hydraulic front wheel steering with hand metering unit.
<b>Steering angle</b>	47 Degrees
Pump	Gear type
Capacity	51 L/min
System pressure	172 bar
<b>Frame articulation angle (both left and right)</b>	29 Degrees
<b>Minimum turn radius (outside front tires)</b>	6.9 m

## OPERATING WEIGHT (ISO7134)

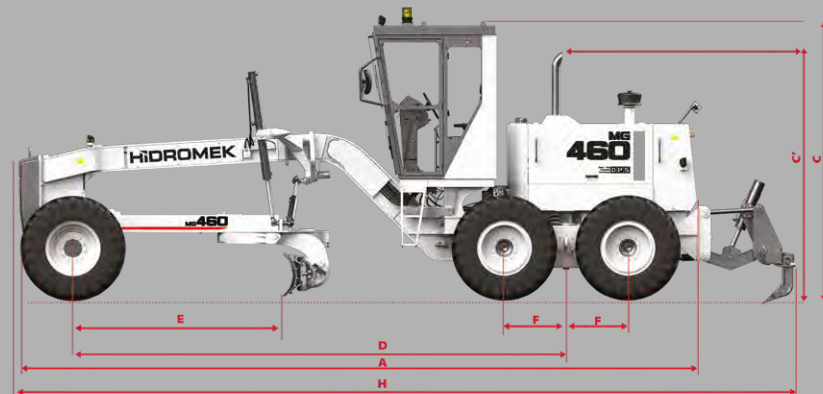
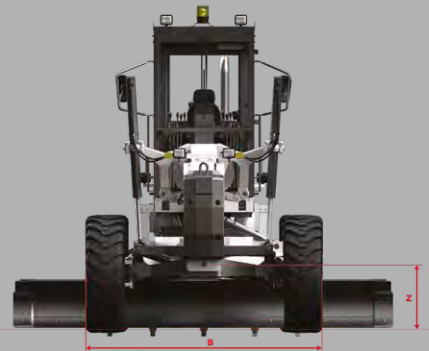
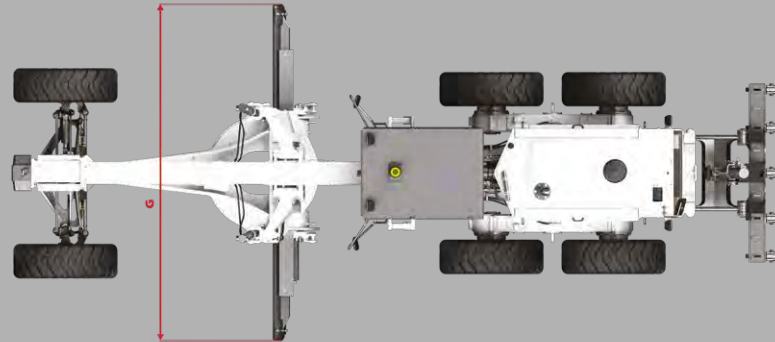
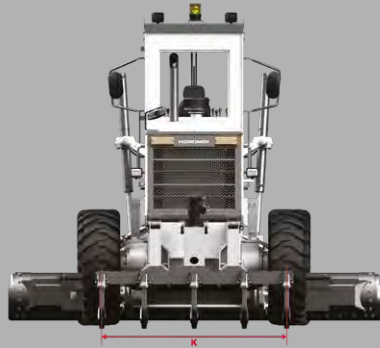
17.700 kg  
 With 14.00-24-12PR tires (op), rear mounted ripper, front push block. T/M belly guard, operator, Air-Con., ROPS/FOBS Cab., 1/2 tank diesel and lighting/mirrors etc. for road registration.

## WHEELS

Tire	14.00-24-12PR (G-2)TUBE/TUBELESS
Rim	8.00TG x 24
Inflation Pressure	37 psi

DIMENSIONS (approximate)

MODEL		MG460	MG460 CAB
A: Total Length	mm	8580	8580
B: Total Width	mm	2440	2440
C: Total Height	mm	-	3480
C': Total Height	mm	3090	-
D: Wheel Base	mm	6250	6250
E: Blade Base	mm	2790	2790
F: Rear Axle Center	mm	782.5	782.5
G: Blade Length	mm	3710	3710
H: Total Length (Front Counter Weight- Rear Ripper)	mm	9895	9895
K: Tire Center Lines	mm	2000	2000



WARNING: HIDROMEK reserves the right to change the values given in this catalogue and designs indicated without prior notification.



## STANDART EQUIPMENTS

### ELECTRICAL

Alternator, 50 Ampere  
Back up alarm buzzer  
Battery 24 Volt – 150 Ah  
Motor starting, 24 Volt-5.5 Kw  
Electric horn  
2 Head lights  
Rear combination lamps  
Electrical System, 24 V

### POWER TRAIN

Air cleaner; dry cyclone type with dust evacuator, dual element  
Service brakes; air actuated, multi disc, oil cooled on all four rear wheels  
Parking brakes; spring engaged, air disengaged, multi disc, oil cooled on transmission output shaft  
Engine; Mitsubishi 6D24-TUN water cooled, 4-cycle, in line 6 cylinder, direct injection, diesel engine, with turbo charger  
Engine muffler  
Tandem drive, roller chain drive  
Transmission, power shift with 8 speeds for both forward and reverse  
Priming pump  
Differential lock/unlock  
Variable Horse Power

### OPERATOR ENVIRONMENT

Accelerator  
Adjustable control console  
Indicator lights and buzzer  
High beam indicator  
Turn signal indicator  
Parking brake indicator  
Air filter warning lamp  
Engine overheat warning lamp  
Engine oil filter warning lamp  
Engine oil pressure warning lamp  
Alternator not charging warning lamp  
Air pressure alarm buzzer  
Parking brake alarm buzzer  
Engine overheat alarm buzzer  
Water temperature gauge, Air pressure gauge, Fuel gauge  
Hydraulic controls (blade lift, blade tip, center shift, side shift, circle drive, front wheel lean and articulation)  
Electric hour meter  
Center shift un-lock switch  
Key switch  
Handle throttle accelerator lever  
Power steering, hydraulic  
Adjustable, operator's suspension seat  
Seat belt

Steering wheel

Operator guard

### OTHER EQUIPMENTS

Parts catalog  
Circle drive shear pin  
Frame, articulated with safety lock  
Reversible side edges and overlay end-bits for moldboard  
Fuel tank, 273 L  
Rear drawbar with pin  
Drawbar, 6 shoes with replaceable bronze wear strips  
Cross bar, 5 position  
Moldboard, 3710 mm x 610 mm x 19 mm  
Vandalism protection; fuel tank, engine compartment doors  
Antifreeze, LLC (Long Life Coolant)

Tool kit

### TIRES & RIMS

Tire: 14.00-24-12 PR  
Rim: 8.00 TG x 24

## MG460 OPTIONAL EQUIPMENTS

### Cabs / Canopies;

Canvas Canopy - Steel Canopy - ROPS Canopy - Steel Cab - ROPS Cab - ROPS/FOPS Cab

Air conditioner

Blade slip clutch

Rear under view mirror

Air dryer

Heater with defroster

Vandalism protection; cap locks for hydraulic tank, radiator access cover

Front Dozer Blade, 2700 mm width

Moldboard (L x H x T)

Rear ripper, 3 shanks and 5 shanks are available

### Blades

3710 mm x 610 mm x 22 mm

4010 mm x 610 mm x 19 mm

4010 mm x 610 mm x 22 mm

4310 mm x 610 mm x 22 mm

Scarifier, mid mounted, V type, 11 teeth

Front counter weight

Rear counter weight

Room mirror, inside cab

Mid-mounted working lamp

Rear working lamps

Fuel water separator

Pre-cleaner

Floor mat

# 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.



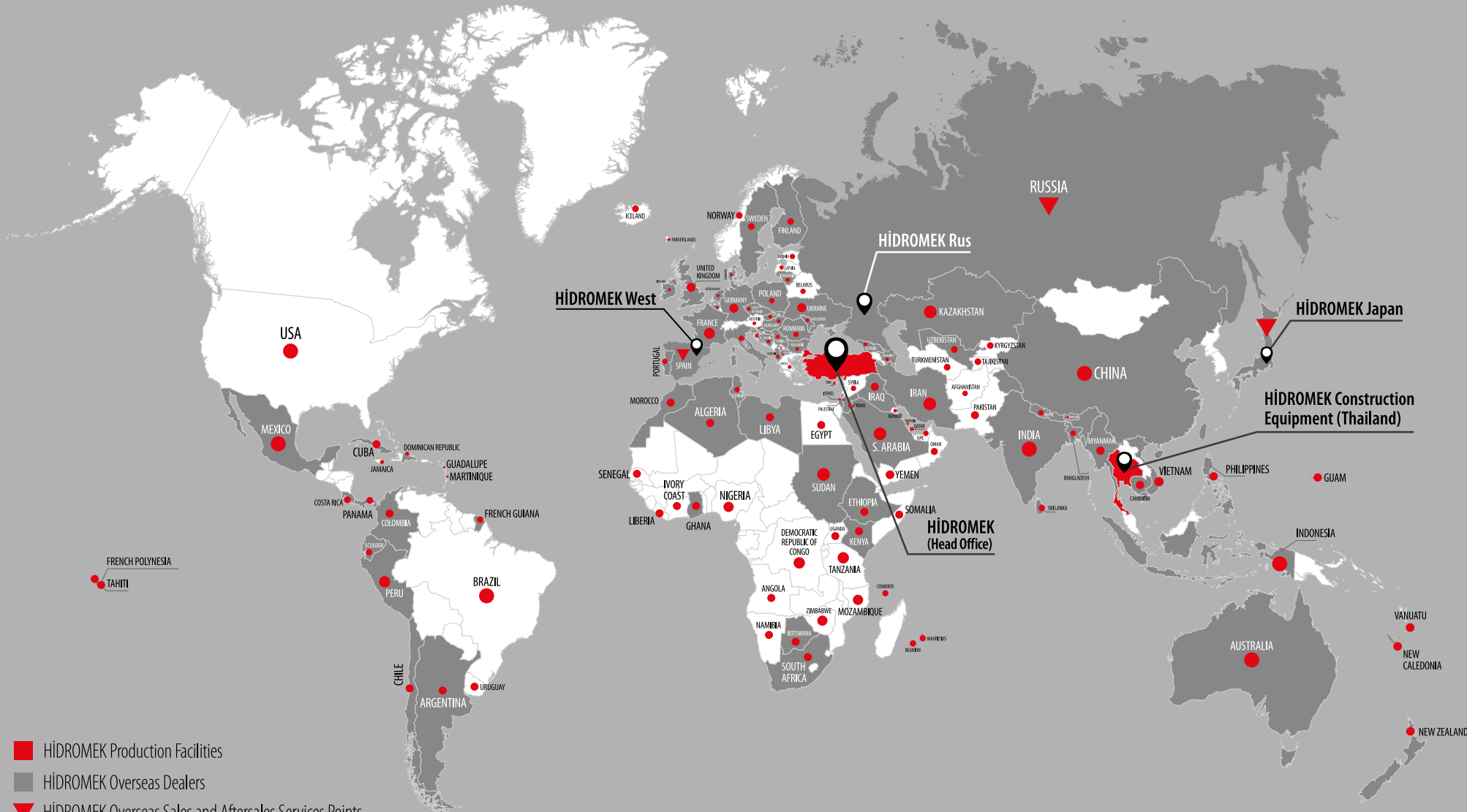
## Global Service Network

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.



- HIDROMEK Production Facilities
- HIDROMEK Overseas Dealers
- ▼ HIDROMEK Overseas Sales and Aftersales Services Points
- Countries HIDROMEK Machines Running

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**WARNING**  
HIDROMEK has the right to modify the specifications and design of the model indicated on this brochure without prior notice.