

AMPHIBIOUS SOFT TERRAIN BACKHOE

MA200G

APPLICATION & ATTACHMENT

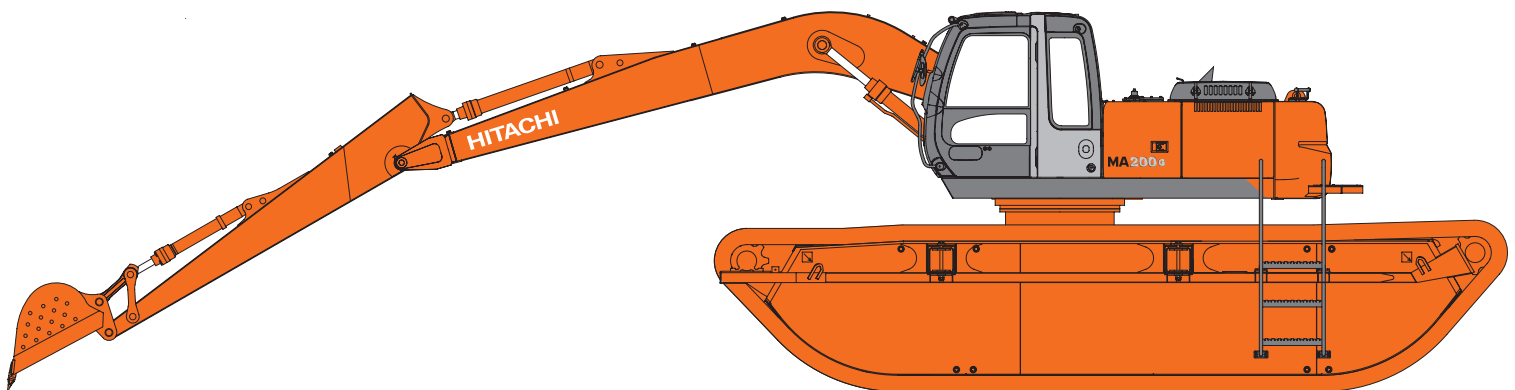
Amazing Mobility on Soft
Terrains and Swamps with the
Special Undercarriage

Model Code : MA200-G

Engine Rated Power : 108 kW (147 HP)

Operating Weight : 21 400 kg

Backhoe Bucket : SAE, PCSA Heaped: 0.46 - 0.69 m³
CECE Heaped: 0.4 - 0.6 m³



SPECIFICATIONS

ENGINE

Model.....	Isuzu AA-6BG1T
Type.....	4-cycle water-cooled, direct injection
Aspiration.....	Turbocharged, intercooled
No. of cylinders.....	6
Rated power	
ISO 9424, net	H/P mode : 108 kW (147 HP) at 2 100 min ⁻¹ (rpm) P mode : 101 kW (137 HP) at 1 900 min ⁻¹ (rpm)
SAE J1349, net	H/P mode : 108 kW (147 HP) at 2 100 min ⁻¹ (rpm) P mode : 101 kW (137 HP) at 1 900 min ⁻¹ (rpm)
Maximum torque.....	550 Nm (56 kgf m) at 1 600 min ⁻¹ (rpm)
Piston displacement....	6.494 L
Bore and stroke	105 mm x 125 mm
Batteries.....	2 x 12 V / 97 Ah
Governor.....	Mechanical speed control with stepping motor

HYDRAULIC SYSTEM

- Work mode selector
Digging mode / Attachment mode
 - Engine speed sensing system
- | | |
|---------------------|--|
| Main pumps..... | 2 variable displacement axial piston pumps |
| Maximum oil flow... | 2 x 194 L/min |
| Pilot pump..... | 1 gear pump |
| Maximum oil flow... | 32 L/min |

Hydraulic Motors

Travel	2 variable displacement axial piston motors
Swing.....	1 axial piston motor

Relief Valve Settings

Implement circuit.....	34.3 MPa (350 kgf/cm ²)
Swing circuit.....	19.9 MPa (200 kgf/cm ²)
Travel circuit.....	26.0 MPa (265 kgf/cm ²)
Pilot circuit	3.9 MPa (40 kgf/cm ²)
Power boost	36.3 MPa (370 kgf/cm ²)

Hydraulic Cylinders

High-strength piston rods and tubes. Cylinder cushion mechanisms provided in boom and arm cylinders to absorb shock at stroke ends.

Dimensions

	Quantity	Bore	Rod diameter
Boom	2	120 mm	85 mm
Arm	1	115 mm	80 mm
Bucket	1	95 mm	85 mm

Hydraulic Filters

Hydraulic circuits use high-quality hydraulic filters. A suction filter is incorporated in the suction line, and full-flow filters in the return line and swing / travel motor drain lines.

CONTROLS

Pilot controls. Hitachi's original shockless valve.

Implement levers	2
Travel levers with pedals.....	2

UPPERSTRUCTURE

Revolving Frame

Welded sturdy box construction, using heavy-gauge steel plates for ruggedness. D-section frame for resistance to deformation.

Swing Device

Axial piston motor with planetary reduction gear is bathed in oil. Swing circle is single-row, shear-type ball bearing with induction-hardened internal gear. Internal gear and pinion gear are immersed in lubricant. Swing parking brake is spring-set/hydraulic-released disc type.
Swing speed 13.3 min⁻¹ (rpm)

Operator's Cab

Independent roomy cab, 1 005 mm wide by 1 675 mm high, conforming to ISO* Standards. Reinforced glass windows on 4 sides for visibility. Openable front windows (upper and lower). Adjustable reclining seat with armrests; movable with or without control levers.
* International Standardization Organization

UNDERCARRIAGE

The special undercarriage, fitted with square hollow steel shoes and floating seal rollers, gives exceptional mobility on wetland and swamps. It boosts buoyancy and ruggedness too. The machine can be easily knocked down for quick transport to the next job site, as the upperstructure is bolted to the undercarriage through the support beam, and hydraulic piping employs quick couplers.

Numbers of Shoes and Float Capacity on Each Side

Box type shoes	55 : 49 (without wiper) + 6 (with wiper)
Float capacity.....	29.0 m ³

Travel Device

Each track driven by axial piston motor through spur wheel double reduction gear for counterrotation of the tracks. Parking brake is spring-set/hydraulic-released disc type. Travel shockless relief valve built in travel motor absorbs shocks when stopping travel.
Travel speeds..... 0 to 4.0 km/h

Maximum traction force.... 183 kN (18 700 kgf)

Gradeability..... 58 % (30 degree) continuous

WEIGHTS AND GROUND PRESSURE

MA200-g:

Equipped with 6.50 m boom, 3.42 m arm and 0.46 m³ bucket (SAE, PCSA heaped).

Shoe type	Shoe width	Operating weight	Ground pressure
Box type steel	1 620 mm	21 400 kg	11.4 kPa (0.12 kgf/cm ²)

SERVICE REFILL CAPACITIES

Fuel tank	360.0 L
Engine coolant	23.0 L
Engine oil	25.0 L
Swing device	6.2 L
Travel device (each side)	18.0 L
Hydraulic system.....	200.0 L
Hydraulic oil tank.....	135.0 L

BACKHOE ATTACHMENTS

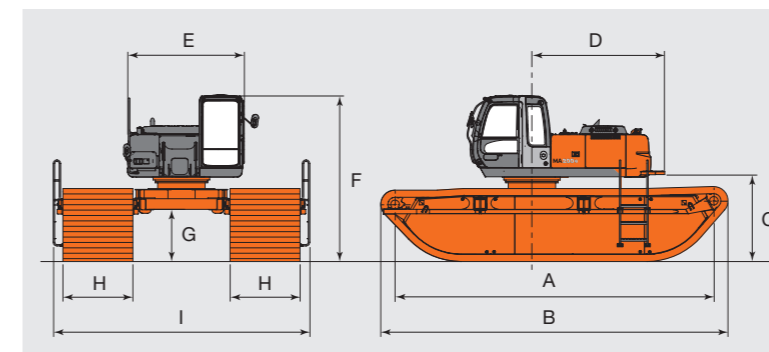
Boom and arms are of welded, box-section design. 6.50 m boom, 3.42 m arm is available. Bucket is of welded steel structure. Side clearance adjust mechanism provided on the bucket joint bracket.

Buckets

Capacity		Width	No. of teeth	Weight
SAE, PCSA heaped	CECE heaped	Without side cutters		
0.46 m ³	0.4 m ³	872 mm	4	250 kg
0.69 m ³	0.6 m ³	946 mm	-	250 kg

SPECIFICATIONS

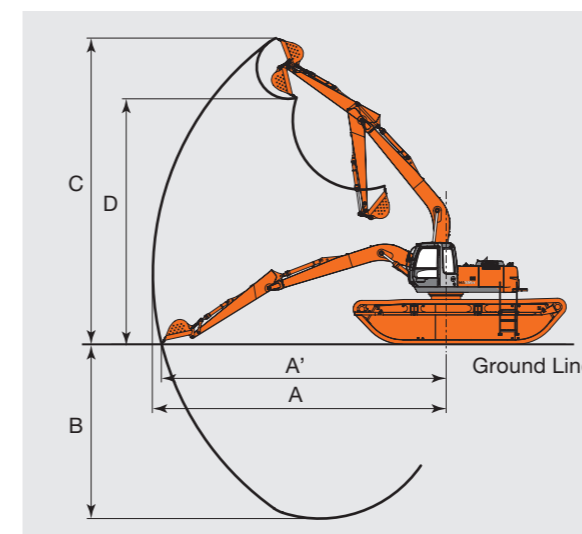
DIMENSIONS



Unit: mm

Model	MA200-g
A Distance between tumblers	7 380
B Undercarriage length	8 030
C Counterweight clearance	1 940
D Rear-end swing radius	3 070
E Overall width of upperstructure	2 710
F Overall height of cab	3 830
G Min. ground clearance	1 210
H Shoe width	1 620
I Undercarriage width	5 940

WORKING RANGES



Unit: mm

Model	MA200-g
A Max. digging reach	11 050
A' Max. digging reach (on ground)	10 700
B Max. digging depth	6 570
C Max. cutting height	11 530
D Max. dumping height	9 250

Notes

- The MA200-g is not a ship. It is not fitted with equipment for cruising or working on water.
- The MA200-g is designed for working on soft ground. Working or traveling on hard and rough ground is prohibited.
- Avoid operating with machine floating on water.
Never attempt to work with the machine floating on water. Failure to do so may result in overturning of the machine.

TRANSPORTATION

Unit: mm

	Qty.	Weight (kg)	Remark
① UPPERSTRUCTURE Width : 2 710	1	7 020	Inc. boom cylinder
② UNDERCARRIAGE Width : 2 650	2	5 650 x 2	1 unit each side
③ SUPPORT BEAM Width : 250	2	380 x 2	1 unit each side
④ BOOM Width : 820	1	1 280	
⑤ ARM Width : 400	1	590	
⑥ BUCKET Width : 870	1	250	
OTHERS	-	125	Steps, Mirrors etc

EQUIPMENT

STANDARD EQUIPMENT

Standard equipment may vary by country, so please consult your Hitachi dealer for details.

ENGINE

- H/P mode control
- E mode control
- 50 A alternator
- Cartridge-type engine oil filter
- Cartridge-type fuel filter
- Air cleaner double filters
- Radiator and oil cooler with dust protective net
- Radiator reserve tank
- Fan guard
- Isolation-mounted engine
- Auto-idle system
- Auto acceleration system

HYDRAULIC SYSTEM

- Work mode selector
- Engine speed sensing system
- E-P control system
- Power boost
- Auto power lift
- Quick warm-up system for pilot circuit
- Shockless valve in pilot circuit
- Boom-arm anti-drift valve
- Control valve with main relief valve
- Extra port for control valve
- Suction filter
- Full-flow filter
- Pilot filter

CAB

- CRES (Center pillar Reinforced Structure) cab
- OPG top guard fitted level 1 (ISO) compliant cab.
- All-weather sound-suppressed steel cab
- Tinted (bronze color) glass windows
- 4 fluid-filled elastic mounts
- Openable front windows-upper, and lower and left side windows
- Intermittent windshield retractable wipers
- Front window washer
- Adjustable reclining seat with adjustable armrests
- Footrest
- Electric double horn
- AM - FM radio with digital clock
- Auto-idle / acceleration selector
- Seat belt
- Drink holder
- Cigar lighter
- Ashtray
- Storage box
- Glove compartment
- Floor mat
- Heater
- Pilot control shut-off lever
- Engine stop knob
- Auto control air conditioner

MONITOR SYSTEM

- Meters:
Hourmeter and trip-meter, engine coolant temperature gauge and fuel gauge.
- Warning lamps:
Alternator charge, engine oil pressure, engine overheat, air filter restriction and minimum fuel level.
- Pilot lamps:
Engine preheat, work light, auto-idle, auto-acceleration, digging mode and attachment mode
- Alarm buzzers:
Engine oil pressure and engine overheat

LIGHTS

- 2 working lights

UPPERSTRUCTURE

- Undercover
- 650 kg counterweight
- Fuel level float
- Hydraulic oil level gauge
- Tool box
- Utility space
- Rear view mirror (right & left side)
- Swing parking brake
- Electric fuel refilling pump with auto-stop

UNDERCARRIAGE

- Travel parking brake
- Bolt-on sprocket
- 1 620 mm box type shoe

FRONT ATTACHMENTS

- HN bushing
- Reinforced resin thrust plate
- Flanged pin
- Casted bucket link A
- Centralized lubrication system
- Dirt seal on all bucket pins
- 3.42 m arm
- 0.46 m³ (SAE, PCSA heaped) bucket

MISCELLANEOUS

- Standard tool kit
- Lockable machine covers
- Lockable fuel refilling cap
- Skid-resistant tapes, plates and handrails

OPTIONAL EQUIPMENT

Optional equipment may vary by country, so please consult your Hitachi dealer for details.

- Suspension seat
- Additional pump
- Transparent roof
- Pre-cleaner
- Fuel double filters
- Tropical cover
- Rear light
- Front glass lower guard
- Front glass upper guard

These specifications are subject to change without notice.

Illustrations and photos show the standard models, and may or may not include optional equipment, accessories, and all standard equipment with some differences in color and features.

Before use, read and understand the Operator's Manual for proper operation.

