

EX-6 series

HITACHI

Reliable solutions

EX1200



HYDRAULIC EXCAVATOR

Model Code : EX1200-6

Engine Gross Power : 567 kW (760 HP)

Operating Weight	: Backhoe	: 111 000 kg
	: BE-front	: 112 000 kg
	: Loading Shovel	: 114 000 kg

Backhoe Bucket	: SAE,PCSA Heaped	: 5.2 - 6.7 m ³
	: CECE Heaped	: 4.6 - 5.9 m ³

Loading Shovel Bucket	: Heaped	: 5.9 - 6.5 m ³
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Relentless Improvements in Performance.

The Launch of the New Productive EX1200

From light to heavy excavation, engine output and hydraulic power are well matched to yield large-scale production using less fuel. The robust undercarriage and strengthened front offer impressive durability and reliability. Several safety measures and environmental factors have been taken into consideration for mining, quarry and civil-engineering applications.



Note: Photos shown in this brochure may include options or custom-designed devices, such as pre-cleaners and specialised front with piping.

Impressive Productivity

The new hydraulic system and enhanced fundamental performance boost productivity and fuel economy.

Advanced Hydraulic Technologies

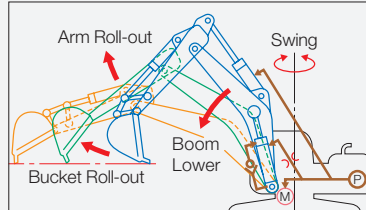
Boom Recirculation System

Pressurized oil is efficiently recirculated in the boom circuit, assisted by the boom self-weight when the boom lowers. This design delivers more pressurized oil to the arm from the pump to increase arm lowering speed in combined operation of the boom and arm.



Combined Operation of Boom and Arm NEW

In combined operation of swing + boom lower + arm roll-out, or in leveling (boom lower + arm roll-out), arm roll-out speed can be significantly increased. A variable throttle, provided in the arm circuit, adjusts the oil flow in combined operation with arm roll-out.



Boom- and Swing-Priority Modes NEW

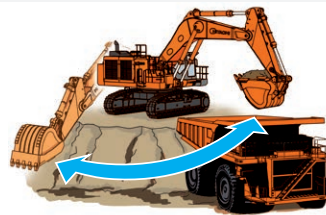
Three work modes can be selected by setting the switch to the three positions below.

- Position 1: Boom-priority mode**
- Position 2: Normal mode**
- Position 3: Swing-priority mode**



Boom-Priority Mode

When swing angle is small in a cycle of digging, swinging and dumping, boom raise speed increases to reduce a cycle time.



Swing-Priority Mode

When swing angle is large in a cycle of digging, swinging and dumping, swing speed increases to reduce a cycle time.



Boom Mode Selector

The two boom modes, comfort and powerful modes, can be selected according to job needs, extending the service life of the machine. When the boom mode selector is On, the comfort mode is selected for efficient excavation, while the selector is Off, the powerful mode for productive excavation.



Improved Performance

Increased Boom Lifting Force

The boom lifting force is increased to easily lift large rocks on quarries and mines.

Boom lifting force: Approximately 8% increase
(vs. conventional model with BE front; arm positioned vertically and bucket resting on ground)

Improved Mobility

Mobility is improved to achieve sharper steering with more traction force.

Traction force: Approximately 14% increase
(vs. conventional model)

Increased Digging Force

Digging force is increased for powerful excavation on quarries and mines, using the BE or standard front.

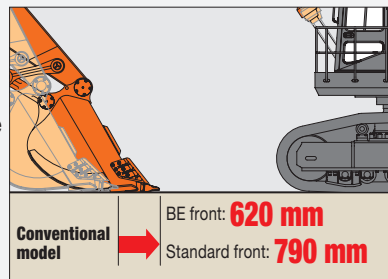
Improved Swing Performance

Swing performance, even on a gradient, is improved for efficient trenching for piping laying, and for wall excavation using the bucket side.

Swing torque: Approximately 8% increase
(vs. conventional model)

Excavation Closer to Machine

The front linkage is redesigned to allow the front to excavate closer to the machine for more efficient operation with dump trucks.



High Durability Means Long-Lasting Product Value

Strengthened undercarriage for higher durability even in heavy-duty applications

Strengthened Undercarriage

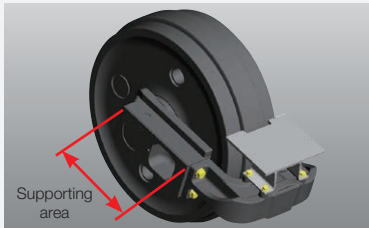
Enlarged Track Links

Track links are enlarged to increase strength for higher durability and reliability especially on rugged ground.



Strengthened Idler Pedestal

The front-idler-supporting portion of the idler pedestal extends by about 1.9 times, as compared to the conventional model, to increase durability and service life.



Durable Idler Brackets

Thickened durable plates of idler brackets increase reliability of the idlers.

Enlarged Upper/Lower Rollers, Sprockets and Idlers

Tracks are strengthened for higher mobility by increasing roller width and diameter, sprocket tooth width, and idler width.

Rugged Travel Devices

Here are in-shoe motors. These compact motors are protected from damage with obstacles to increase durability and reduce downtime.



Strengthened Access Steps NEW

Newly designed access steps increase strength, allowing easy improved accessibility to cab and reduced damage by rocks.



Notes : This photo includes custom-designed components, including reinforcing plates for side track frame.

Sophisticated Designs

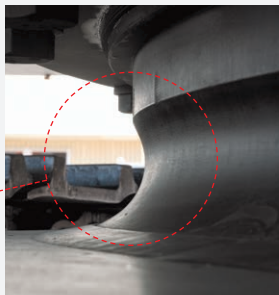
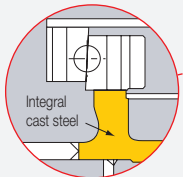
Rearranged Hydraulic Hoses to Enhance Durability NEW

Hydraulic hoses, between the boom and base machine, are rearranged in the downward setup, instead of the conventional upward setup, to avoid their deflection and extend service life.



Center Track Frame

The center track frame of integral cast steel structure can avoid stress concentration and increase reliability.

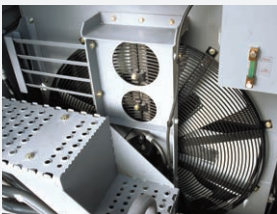


Durable Swing Bearing

The number of balls, in the swing bearing that sustain the upperstructure, is increased to boost the load-carrying capacity by approximately 6% (vs. conventional model). This improvement allows for smoother swing even in heavy-duty operation.

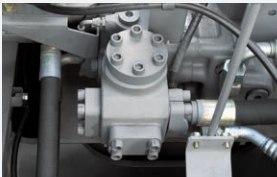
Separate Oil Cooler

The oil cooler is separated from the radiator to effectively cool down hydraulic oil. This helps extend the service life of hydraulics.



Delivery Filters NEW

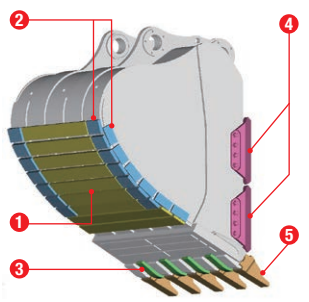
Delivery filters, newly added to the delivery side of hydraulic pumps, effectively protect hydraulic lines from accidents.



Rock Buckets 5.2 m³ / 5.8 m³

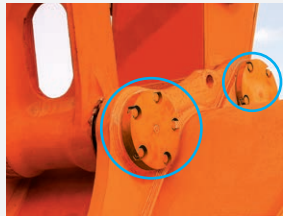
Rock buckets are specifically strengthened to resist wear and impact.

- (1) Dual wear plates
- (2) Reinforced bucket corners
- (3) Cutting edge shrouds
- (4) Dual side shrouds
- (5) Large bucket teeth for rock excavation



Reliable Grease-Filled Floating Pins

Two grease-filled floating pins, at the arm top and at A linkage, increase the sealing ability, extend pin life, and reduce repair costs. Wear plates are provided on both sides of a boss at the arm top.

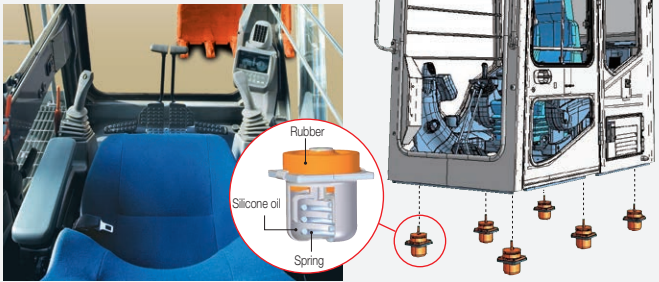


Enhanced Operator Comfort

Alongside excellent visibility, the spacious cab is ergonomically designed to improve operator comfort and reduce fatigue.

EX1200's Cab to Reduce Operator Fatigue, Using Fluid-Filled Elastic Mounts NEW

The new large-sized cab is exclusively developed for the EX1200 providing additional space, greater comfort and improved visibility. The new fluid-filled elastic mounts greatly reduce shocks and noise for better comfort reducing operator fatigue.



Notes : This photo includes optional air-suspension seat and switches.

Excellent Visibility

The glass windows are enlarged for excellent visibility, especially right-forward visibility during travel and excavation.



Ample Foot Space

Foot space is extended forward, and pedals are reshaped for improved foot control.



Short-Stroke Levers NEW

Fingertip-control short-stroke levers allows for long, continuous operation, with the help of armrests.

Control lever effort: Approximately 30% decrease
(vs. conventional model)

Comfort-Designed Operator Seat NEW

The operator seat is ergonomically designed for long-hour operation. The seatback is widened to hold the operator securely, and the headrest is reshaped for comfort.



Pressurized Cab

The cab is pressurized to keep out dust and debris.

Overhead LED Light NEW

An overhead LED light, with longer service life than light bulb, lights up the cab and allows operators to log on a night shift.



Miscellaneous Accessories



Multi-Function, Multi-Language Monitor NEW

A large multi-function, multi-language LCD monitor is well positioned for easy reading.



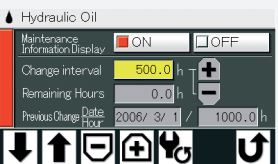
Rear view Camera NEW

The large color LCD monitor, teamed up with a rear view camera atop the counterweight, offers unobstructed rearward view. This enhances safety when the machine swings and moves rearward.



Scheduled Maintenance NEW

Replacement intervals of engine oil, hydraulic oil, filters can be preset on the monitor. The monitor alerts the operator of the scheduled replacement when necessary.



Environmentally-conscious design with improved safety

Safety-first design, and environmental awareness with the clean engine

Safety-First Design

Rugged Cab with Integrated Headguard

The rugged cab is integrated with the OPG* top guard level II (ISO) guard to protect the operator from falling objects. The cab front guard is an option.

*Operator Protective Guard



Pilot Control Shut-Off Lever NEW

The shut-off lever for pilot control helps to prevent unintentional movements.



Angle-Adjustable Headlights

Cab headlights can be angle-adjusted for maximised lighting of the jobsite.



Step Light for Night Work

The step light turns On for one minute after key-off. This feature is convenient in night-shift work.

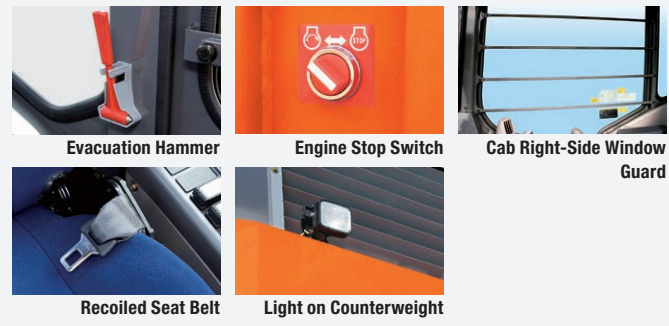


Safer Access to the Cab with Wide Sidewalks and Large Handrails NEW

Wide sidewalks with large handrails are provided at key locations for safer, easier servicing and inspection. The sidewalk next to the cab is widened for easy door opening and cab accessibility. Large handrails conform to European safety standards.



A Series of Safety Devices



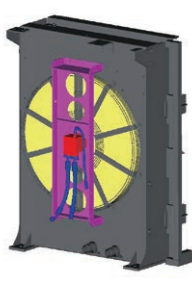
Environmentally-Conscious Design

Engine for Lower Emissions NEW

The engine, complying with the emission regulations EPA (U.S.) Tier 2, is mounted to reduce emissions containing NOx and PM (Particulate Matter).

Variable-Speed Fan

The large 1 120 mm-diameter variable-speed electro-hydraulic fan is provided for cooling of the oil cooler. Fan speed is optimally controlled according to job conditions, including atmospheric temperature, for effective cooling and noise suppression.



Aluminum Radiator, Oil Cooler and Air Conditioner Condenser NEW

The aluminum radiator, oil cooler and air conditioner condenser are corrosion-resistant and recyclable.

Marking of Recyclables

All recyclable resin parts are marked for the convenience of recycling.

Reducing the Burden to the Environment

Lead-free components, including wire harness covering, oil cooler and control unit, are utilized. No asbestos is used.

Simplified Maintenance

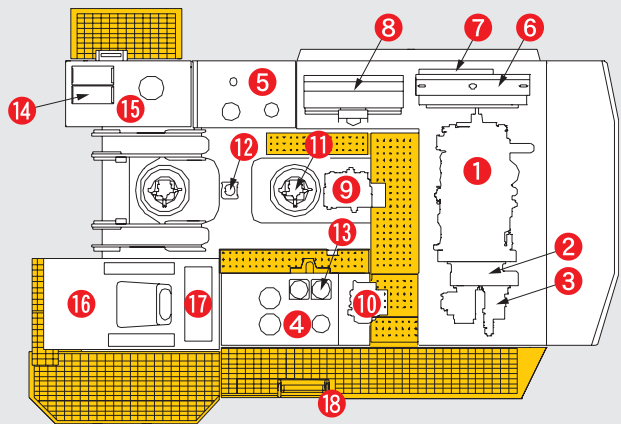
Focusing on simple servicing, inspection and cleaning



Functional Layout of Devices and Utility Space

Devices and walkways are laid out for efficient servicing and inspection. The central walkway facilitates the servicing and maintenance of the engine.

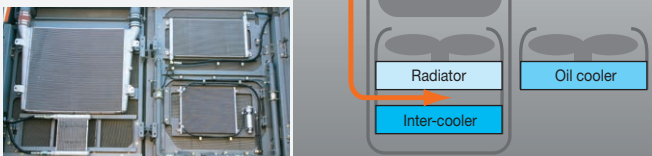
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|----------------------|------------------------|---------------------------------|
| 1 Engine | 8 Oil Cooler | 15 Batteries and Lubricator Box |
| 2 Pump Drive Unit | 9 Main Control Valve | 16 Operator Cab |
| 3 Hydraulic Pump x 3 | 10 Swing Control Valve | 17 Air Conditioning Unit |
| 4 Hydraulic Oil Tank | 11 Swing Device x 2 | 18 Slide Ladder (Optional) |
| 5 Fuel Tank | 12 Center Joint | |
| 6 Engine Radiator | 13 Filters | |
| 7 Engine Air Cooler | 14 Batteries | |



Simplified Cleaning Around Engine

Parallel Arrangement of Radiator and Oil Cooler

The radiator and oil cooler are arranged side by side to increase cooling efficiency. This drastically reduces cleaning time and effort.



Simplified Cleaning around Oil Cooler **NEW**

The air conditioner condenser is openable and easily accessible with cleaning of the oil cooler positioned behind this access area.



Simplified Maintenance

Auto Dust Ejector (Air Cleaner)

The auto dust ejector automatically ejects airborne dust and particles to keep filter elements clean and extend their replacement intervals.



Extended Filter Replacement Intervals **NEW**

Replacement intervals of hydraulic oil filters are extended from 500 hours to 1000 hours, thus reducing running costs.

Auto Lubrication System

The auto lubrication system is provided standard at the front attachment to simplify daily maintenance, except for the bucket pin and swing circle.



SC Painting

The machine cover is coated with SC paint that can wash dirt away with water.

The SC paint has the hydrophilic property, and can keep the machine cover clean by self-cleaning.



Electric Grease Gun

An electric grease gun (pail can type) is provided standard with a hose reel for convenient lubrication of the swing circle and bucket pin.



Easily Replaceable Air Conditioner Filter

An air conditioner filter is located in the side of the cab door behind the operator seat for easy cleaning and replacing.



Conveniently Located Switchboard

The switchboard is located in the cab at its rear for the convenience of inspection.

Note: This switchboard lid is opened.



Optional Slide Ladder **NEW**

The slide ladder is optionally available on the left side of the machine for easy access to the cab and working platform.



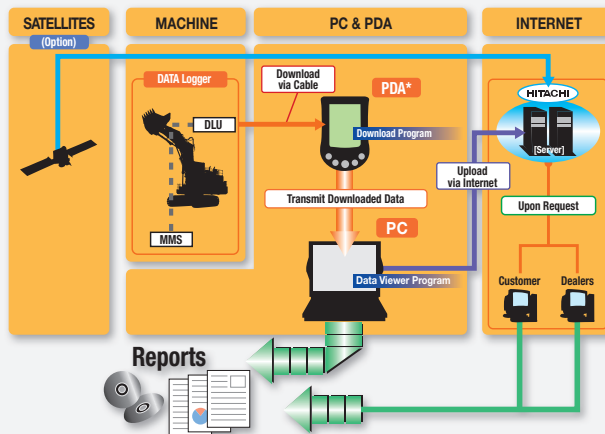
Wide-Open Inspection Doors

Inspection doors open wide for easy maintenance.



MIC Mining

The Hitachi MIC mining system comprises the DLU (Data Logging Unit) that logs daily operating conditions and warnings, including operating data on the engine and hydraulics. The log can be downloaded by PC or PDA*.



* Personal Digital Assistant

SPECIFICATIONS

ENGINE

Model	Cummins QSK23-C
Type	Water-cooled, 4-cycle, 6-cylinder in line, turbo-charged direct injection chamber-type diesel engine.
Emission Certification	U.S.EPA Tier2
Rated power	
SAE J1995, gross.....	567 kW (760 HP) at 1 800 min ⁻¹ (rpm)
Net	552 kW (740 HP) at 1 800 min ⁻¹ (rpm)
Piston displacement	23.15 L
Fuel tank capacity.....	1 470 L

HYDRAULIC SYSTEM

Main pumps	3 variable-displacement, swash plate type axial piston pumps
Maximum oil flow	3 x 520 L/min
Pressure setting	31.9 MPa (325 kgf/cm ²)

UPPERSTRUCTURE

Swing speed	5.2 min ⁻¹ (rpm)
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UNDERCARRIAGE

Travel speeds	High : 0 to 3.5 km/h
	Low : 0 to 2.4 km/h
Maximum traction force	707 kN (72 100 kgf)
Gradeability	70 % (35 degree) max.

WEIGHTS AND GROUND PRESSURE

Backhoe

EX1200-6: Equipped with 9.0 m boom, 3.6 m arm, and 5.2 m³ (SAE, PCSA heaped) bucket

Shoe type	Shoe width	Operating weight	Ground pressure
Double grousers	700 mm	111 000 kg	142 kPa (1.45 kgf/cm ²)
	900 mm	113 000 kg	112 kPa (1.14 kgf/cm ²)

EX1200-6 BE-front: Equipped with 7.55 m BE-boom, 3.4 m BE-arm, and 6.7 m³ (SAE, PCSA heaped) bucket

Shoe type	Shoe width	Operating weight	Ground pressure
Double grousers	700 mm	112 000 kg	143 kPa (1.46 kgf/cm ²)
	900 mm	114 000 kg	113 kPa (1.15 kgf/cm ²)

Loading Shovel

Equipped with 6.5 m³ (heaped) bottom dump bucket

Shoe type	Shoe width	Operating weight	Ground pressure
Double grousers	700 mm	114 000 kg	146 kPa (1.49 kgf/cm ²)

BACKHOE ATTACHMENTS

Bucket

Capacity		Width		No. of teeth	Weight	Type	Materials density	
SAE, PCSA heaped	CECE heaped	Without shroud	With shroud				7.55 m BE-boom 3.4 m BE-arm	9.0 m boom 3.6 m arm
5.2 m ³	4.6 m ³	1 940 mm	2 120 mm	5	4 910 kg	☉	—	1 800 kg/m ³ or less
5.2 m ³	4.6 m ³	1 900 mm	2 000 mm	5	5 930 kg	●	—	1 800 kg/m ³ or less
5.8 m ³	5.1 m ³	2 120 mm	2 220 mm	5	6 930 kg	●	1 800 kg/m ³ or less	—
6.7 m ³	5.9 m ³	2 300 mm	2 400 mm	5	6 650 kg	☉	1 800 kg/m ³ or less	—

●: Rock bucket ☉: General purpose bucket —: Not applicable

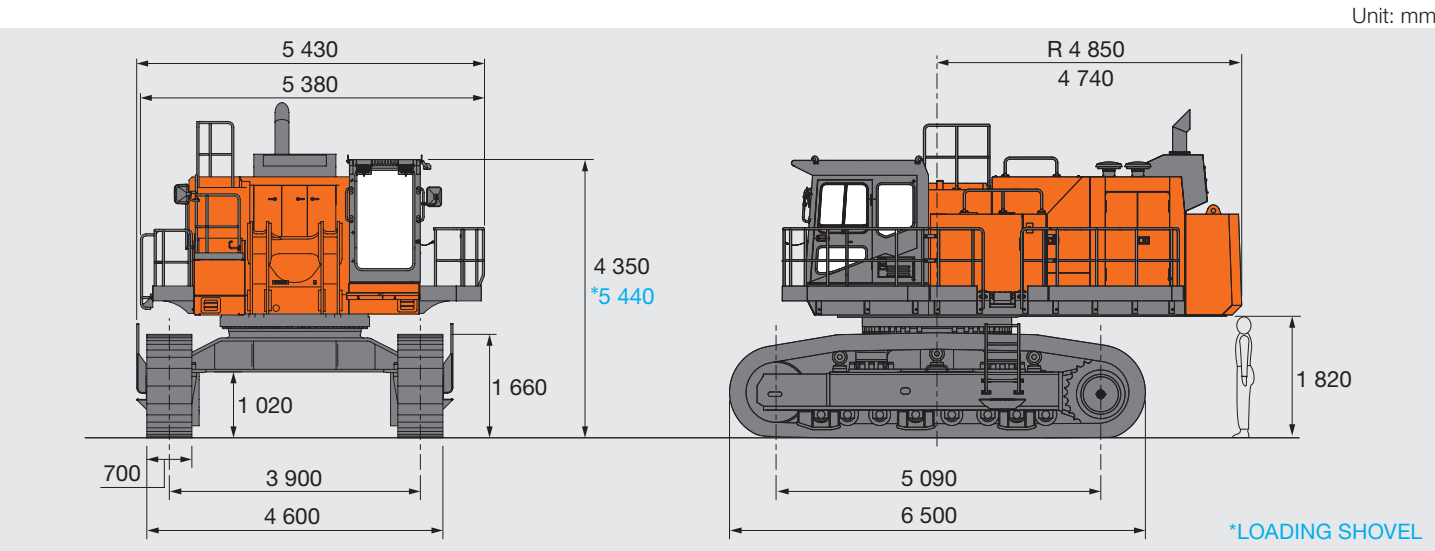
LOADING SHOVEL ATTACHMENTS

Bucket

Capacity (heaped)	Width	No.of teeth	Weight	Type	Materials density
5.9 m ³	2 510 mm	6	10 000 kg	●	1 800 kg/m ³ or less
6.5 m ³	2 700 mm	6	9 390 kg	☉	1 800 kg/m ³ or less

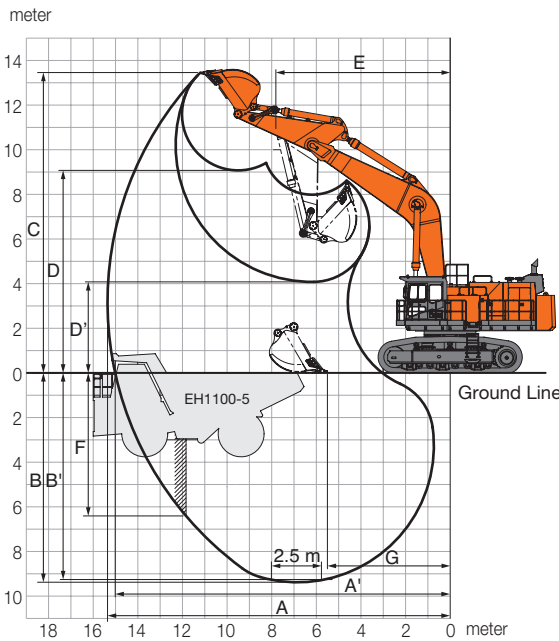
● Bottom dump type rock bucket
☉ Bottom dump type general purpose bucket

DIMENSIONS



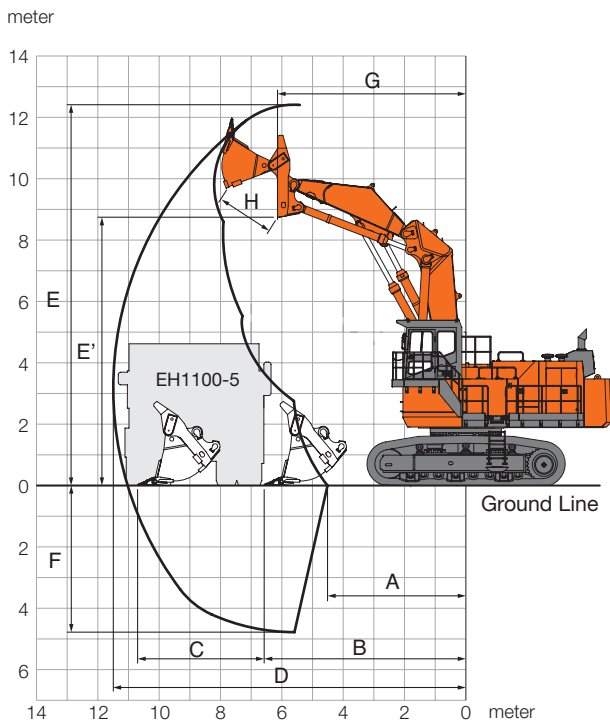
WORKING RANGES

Backhoe



Boom length		7.55 m BE	9.0 m
Arm length		3.4 m BE	3.6 m
A	Max. digging reach	13 750 mm	15 350 mm
A'	Max. digging reach (on ground)	13 360 mm	15 010 mm
B	Max. digging depth	8 050 mm	9 380 mm
B'	Max. digging depth (2.5m level)	7 920 mm	9 260 mm
C	Max. cutting height	12 410 mm	13 460 mm
D	Max. dumping height	8 050 mm	9 080 mm
D'	Min. dumping height	3 330 mm	4 160 mm
E	Min. swing radius	6 770 mm	7 740 mm
F	Max. vertical wall	5 180 mm	6 450 mm
G	Min. level crowding distance	4 130 mm	5 790 mm
Bucket digging force	ISO	569 kN (58 000 kgf)	482 kN (49 200 kgf)
	SAE:PCSA	512 kN (52 200 kgf)	440 kN (44 900 kgf)
Arm crowd force	ISO	438 kN (44 700 kgf)	430 kN (43 900 kgf)
	SAE:PCSA	425 kN (43 400 kgf)	422 kN (43 000 kgf)

Loading Shovel



Bucket capacity (heaped)		6.5 m ³
A	Min. digging distance	4 510 mm
B	Min. level crowding distance	6 580 mm
C	Level crowding distance	4 370 mm
D	Max. digging reach	11 500 mm
E	Max. cutting height	12 410 mm
E'	Max. dumping height	8 750 mm
F	Max. digging depth	4 780 mm
G	Working radius at max. dumping height	6 140 mm
H	Max. bucket opening width	1 880 mm
Arm crowding force on ground		585 kN (59 700 kgf)
Bucket digging force		709 kN (72 300 kgf)

STANDARD EQUIPMENT

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

ENGINE

- Auto-idle system
- Cartridge-type engine oil filter
- Cartridge-type fuel filter
- Dry-type air filter with clean dust cup
- E mode control
- Fan guard
- H/P mode control
- Isolation-mounted engine
- Overheat prevention device
- P mode control
- Radiator, air cooler and oil cooler with dust protective net
- Radiator reserve tank
- Water filter
- 75 A alternator

HYDRAULIC SYSTEM

- Boom mode selector system
- Control valve with main relief valve
- Engine speed sensing system
- E-P control system
- Forced-lubrication and forced cooling pump drive system
- FPS (Fuel-saving Pump System)
- Full-flow filter
- Heavy lifting system
- Line filter (Delivery filter)
- OHS (Optimum Hydraulic System)
- Pilot filter
- Pump drain filter
- Swing/boom priority mode system
- Suction filter

CAB

- Adjustable armrests
- Adjustable reclining seat
- All-weather sound-suppressed steel integrated cab
- Ashtray
- Auto-air conditioner with defroster
- Auto-idle switch
- Auto-tuning AM-FM radio
- Cigarette lighter
- Digital clock
- Electrical horn
- Engine control dial
- Evacuation hammer
- Floor mat
- Footrest
- Glove compartment
- Hot and cool box
- Intermittent wiper interlocked with front windshield washer
- Laminated glass windshield
- LED room lamp
- OPG top guard level II (ISO)
- Parcel pocket
- Pilot control shut-off lever
- Reinforced/tinted (green color) glass side and rear windows
- Seat belt

MONITOR SYSTEMS

- Meters:
 - Auto-idle
 - Engine coolant temperature gauge
 - Fuel gauge
 - Hour meter
 - Indicator
 - Lubrication mode indicator
- Warning indicators:
 - Air-filter restriction
 - Alternator
 - Auto-lubrication
 - Engine oil level
 - Engine oil pressure
 - Engine stop
 - Engine warning
 - Fuel level
 - Hydraulic oil level
 - Over heat
 - Preheat
 - Pump transmission oil pressure
 - Radiator water level

DATA LOGGING SYSTEM

- DLU (Data-logging unit) continuously records performance of the engine and the hydraulic system. The record can be down-loaded by PC.

LIGHTS

- 1 step light
- 2 cab lights
- 2 counterweight lights
- 2 working lights

UPPERSTRUCTURE

- Centralized lubrication system for swing bearing
- Control valves with main relief valves and port relief valves
- Electric grease gun with hose reel
- Rear view camera
- Slow return orifices and make up valves for cylinder circuits
- Undercover
- 17 500 kg counterweight

UNDERCARRIAGE

- Hydraulic (grease) track adjuster with shock absorbing recoils spring
- Track and idler guards
- Travel motor cover
- Spring-set/hydraulic-released disc type parking brake
- 700 mm shoe

MISCELLANEOUS

- Auto-lubrication system for front-attachment (except bucket arm joint part)
- Elevated cab (for Loading Shovel)
- ISO conforming stairs and handrails
- Slip resistance tapes
- Wide side walk
- 12 V power terminal board

OPTIONAL EQUIPMENT

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

- Air-suspension seat
- Cold weather package*
- Communication system**
 - GPRS communication system
 - Satellite data transmitting system
- Electric fuel refilling pump device
- Fuel refilling piping
- Front window scatter-preventing film
- Full track guard
- Heater seat
- High cab kit (for Backhoe)
- Highland application*
- Large sized air cleaner
- Pre-cleaner
- Standard tool kit

- Slide ladder
- Sun visor
- Theft deterrent system
- Travel motion alarm device
- 2 high brightness working lights
- 900 mm shoe

*: Engineered on request

**: The availability of the system depends on licensing regulations in each country. Please contact Hitachi dealer for more information.

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.