

SK500HD_{LC} *Super X*

STANDARD EQUIPMENT

ENGINE
Engine, HINO P11C-UP, diesel engine with turbocharger and intercooler
Automatic engine deceleration
Auto Idle Stop (AIS)
Removable clean-out screen for radiator
Automatic engine shut-down for low engine oil pressure
Engine oil pan drain valve
Double element air cleaner
Pre-air cleaner
CONTROL
Working mode selector (H-mode and S-mode)
Power Boost
SWING SYSTEM & TRAVEL SYSTEM
Swing rebound prevention system
Straight propel system
Two-speed travel with automatic shift down
Sealed & lubricated track links
Grease-type track adjusters
Automatic swing brake
HYDRAULIC
Arm regeneration system
Aluminum hydraulic oil cooler
MIRRORS & LIGHTS
Two rearview mirrors
Four front working lights
Swing flashers
CAB & CONTROL
Two control levers, pilot-operated
Tow eyes
Horn, electric
Integrated left-right slide-type control box
Cab, all-weather sound suppressed type
Cab light (interior)
Coat hook
Luggage tray
Large cup holder
Detachable two-piece floor mat
Double slide seat
7-way adjustable suspension seat
Retractable seatbelt
Headrest
Handrails
Intermittent windshield wiper with double-spray washer
Skylight
Tinted safety glass
Pull-up type front window and removable lower front window
Automatic air conditioner
Emergency escape hammer

OPTIONAL EQUIPMENT

Radio, AM/FM Stereo with speakers
Wide range of buckets
Various optional arms
Wide range of shoes
Front-guard protective structures
Piping kit for additional attachment
Note: Standard and optional equipment may vary. Consult your KOBELCO dealer for specifics.

Note: This catalog may contain attachments and optional equipment that are not available in your area. And it may contain photographs of machines with specifications that differ from those of machines sold in your areas. Please consult your nearest KOBELCO distributor for those items you require. Due to our policy of continuous product improvements all designs and specifications are subject to change without advance notice. Copyright by **KOBELCO CONSTRUCTION MACHINERY CO., LTD.** No part of this catalog may be reproduced in any manner without notice.

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KOBELCO

SK500HDL-8

ACERA Hydraulic Excavators
GEOSPEC

Super X

SK500HD_{LC}

Bucket Capacity:
2.1 - 3.4 m³ ISO heaped
Engine Power:
344 HP (257 kW)/1,850 min⁻¹
(ISO 14396)
Operating Weight:
51,900 kg

Announcing ACERA GEOSPEC and the Concept of Beautiful Performance.

The Power Wave of Change

When we set out to design our new hydraulic excavators, we kept our eyes on the big picture. Of course we wanted machines with greater digging capacity. But they also had to be fuel-efficient and economical, while imposing less of a burden on the local and global environments. Applying our advanced technologies, we developed KOBELCO's new ACERA GEOSPEC series, an entirely new kind of excavator that beautifully balances all the demands of today's construction industry. Lean and efficient with capacity to spare, these sleek powerhouses bring a whole new style to the worksite while setting new standards for environmental responsibility.

- Sturdy Construction & Built-in Durability ▶
- Efficient Performance ▶
- Easy Maintenance ▶
- Comfort and Safety ▶



NEXT-3E
Pursuing the "Three E's"

The Perfection of Next-Generation, Network Performance

Enhancement

Greater Performance Capacity

- New hydraulic circuitry minimizes pressure loss
- High-efficiency, electronically controlled Common Rail Fuel Injection Engine
- Powerful travel and arm/bucket digging force
 - Sturdy Construction
- GEOSCAN Remote Monitoring System

Economy

Improved Cost Efficiency

- Advanced power plant that reduces fuel consumption
- Easy maintenance that reduces upkeep costs
- High structural durability and reliability that retain machine value longer

Environment

Features That Go Easy on the Earth

- Meets the latest exhaust emission standards
 - Auto Idle Stop as standard equipment
- Noise reduction measures (with improvement of the sound quality) minimize noise and vibration



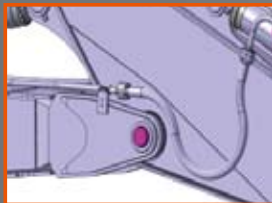
The "GEO" in GEOSPEC expresses our deep respect for our planet, and for the solid ground where excavators are in their element. This is accompanied by SPEC, which refers to the performance specifications needed to get the job done efficiently as we carry on the tradition of the urban-friendly ACERA series.

Sturdy Construction & Built-in Durability

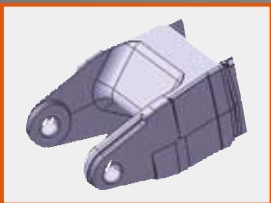
Stable Attachment Strength

Forged and cast components are used throughout. The arm tip's cross-sectional coefficient is 15 % higher than previous models, giving the arm the same strength as the 3-faced reinforced arm that was offered only as an option before. The strength of the boom foot has also been increased by 18 %.

Reinforced arm foot pin



Integrated cast steel boom top



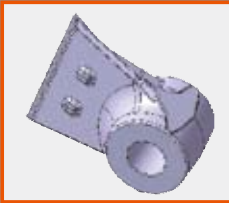
Reinforced boom



Reinforced boom cylinder foot



Cast steel boom foot boss



Reinforced boom cylinder foot



Pre-air Cleaner

The pre-air cleaner prolongs a replacement cycle of main air cleaner.

Larger size bucket up-to 3.5 m³



Forged steel arm foot boss



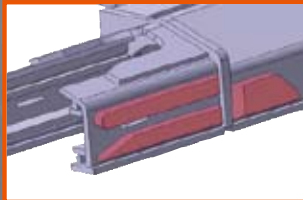
Reinforced arm with rock guard



Reinforced idler



Reinforced idler frame



Track Guides Installed in Four Places

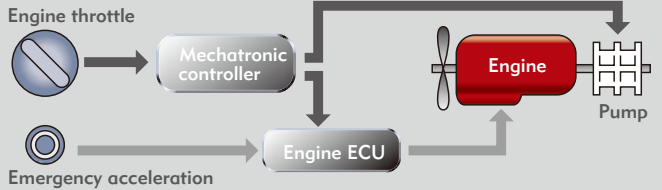


Stronger casing for travel motor

Emergency Acceleration (Dial) Permits Continued Operation in the Unlikely Event of Malfunction



If unexpected trouble is experienced with the ITCS mechatronic control system, the machine can still be operated using the emergency acceleration system. Digging modes are also automatically relayed to an emergency system so that digging can continue temporarily until a service person arrives to repair the primary system.



Newly designed MCU



New MCU Conventional MCU



- Vertical alignment and sealed cover gives better protection from water and dust
- Integration in base plate boosts assembly quality
- Reliable fixture to base plate

Countermeasures Against Electrical System Failure



All elements of the electrical system, including controller, have been designed for enhanced reliability.

Efficient Performance


Amazing Productivity with 18 % Saving in Fuel Consumption and Top-Class Cost Performance

	Fuel Consumption*
18%	improvement in fuel efficiency when performing more work volume (S-Mode)
	Work Volume*
18%	increase in work volume using the same amount of fuel. (H-Mode)



“Top-Class” Powerful Digging

Max. arm crowding force:	249kN (2.4m ME arm)	
Max. arm crowding force with power boost:	272kN (2.4m ME arm)	
Max. bucket digging force:	282kN (3.4m ³ bucket)	
Max. bucket digging force with power boost:	308kN (3.4m ³ bucket)	

Powerful Travel

Travel torque: increased by	4%	
Drawbar pulling force:	417kN	

Greater Swing Power, Shorter Cycle Times


Swing torque: increased by	8.8%	
Swing speed:	7.8min⁻¹	

Significant Extension of Continuous Working Hours

The combination of large-capacity fuel tank and excellent efficiency delivers an impressive 22 % increase in continuous operation hours.**

Fuel tank:	22%	
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Light Lever Operation



It takes 10% less effort to move the control levers, so that operators can work longer hours with less fatigue.

10%Less

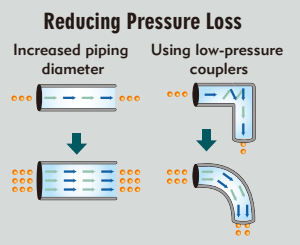
*The value shows results from actual measurements taken by KOBELCO when compared with previous KOBELCO models.
**The value shows results from actual measurements taken by KOBELCO for continuous operation in S Mode, compared with previous models.
Results vary depending on the method of operation and load conditions.



NEXT-3E Technology

New Hydraulic System

Rigorous inspections for pressure loss are performed on all components of the hydraulic piping, from the spool of the control valve to the connectors. This regimen, combined with the use of a new, high-efficiency pump, cuts energy loss to a minimum.



NEXT-3E Technology

Next-Generation Electronic Engine Control

The high-pressure, common-rail fuel-injection engine features adjustable control to maximize fuel efficiency and provide powerful medium/low-speed engine. The result is a highly fuel-efficient engine



NEXT-3E Technology

Total Tuning Through Advanced ITCS Control

The next-generation engine control is governed by a new version of ITCS, which responds quickly to sudden changes in hydraulic load to ensure that the engine runs as efficiently as possible with a minimum of wasted output.

ITCS ITCS (Intelligent Total Control System) is an advanced, computerized system that provides comprehensive control of all machine functions.

Simple Select: Two Digging Modes

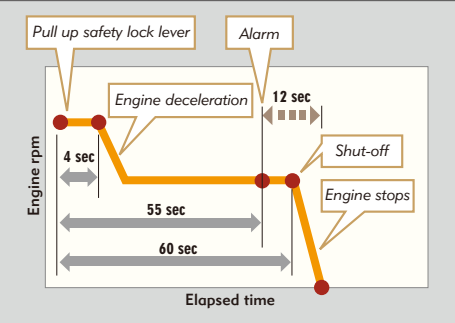
H Mode	For heavy duty when a higher performance level is required.
S Mode	For normal operations with lower fuel consumption.

Optional N&B (crusher and breaker)

The operator selects the desired mode from inside the cab, and the selector valve automatically configures the machine accordingly.



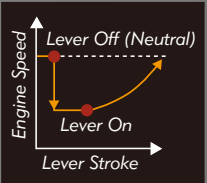
Auto Idle Stop Provided as Standard Equipment



This function saves fuel and cuts emissions by shutting down the engine automatically when the safety lock lever is pulled up. It also stops the hourmeter, which helps to retain the machine's asset value.

Automatic Acceleration/Deceleration Function Reduces Engine Speed

Engine speed is automatically reduced when the control lever is placed in neutral, effectively saving fuel and reducing noise and exhaust emissions. The engine proportionally comes to desire speed when the lever is moved out of neutral.



Easy Maintenance

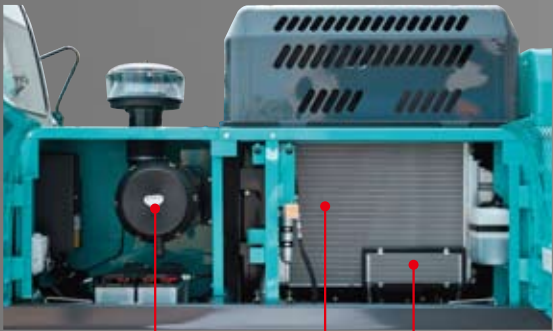
Comfortable "On the Ground" Maintenance

The machine layout was designed with easy inspection and maintenance in mind

Access Through the Left Side Cover

Parallel Cooling Units Are Easy to Clean

Large-capacity radiator and oil cooler are aligned side by side, with intercooler positioned in front. This more effective layout gives outstanding cooling results.



Air cleaner Intercooler Fuel cooler

Quick Oil Drain Valves for Quick Maintenance



Quick drain valve



Fuel drain valve

A quick drain valve, which requires no tools, is provided as standard equipment.

To facilitate fuel tank cleaning, the fuel drain valve was made larger and fitted with a flange on the bottom.

More Efficient Maintenance



Detachable two-piece floor mat with handles for easy removal.



Easy-access fuse box.



Air conditioner filter can be easily removed.



Hour meter can be checked while standing on the ground.



Large-capacity tool box.

Pre-air Cleaner

The pre-air cleaner prolongs a replacement cycle of main air cleaner.



Access Through the Right Side Cover

The fuel filter with built-in water separator functions in two ways by removing large contaminants and separating out water.



Engine oil filter Two large fuel filters (built-in water separator)

Highly Durable Super-fine Filter

The high-capacity hydraulic oil filter incorporates glass fiber with superior cleaning power and durability. With a replacement cycle of 1,000 hours and a construction that allows replacement of the filter element only, it's both highly effective and highly economical.



Super-fine filter

Double-Element Air Cleaner as Standard



The large-capacity element features a double-filter structure that keeps the engine running clean even in dusty environments.

Air cleaner (double element)

High-Grade Fuel Filter with Superior Filtration Performance



The high-performance, large capacity filter is designed specially for the common-rail fuel-injection engine.

Monitor Display with Essential Information for Accurate Maintenance Checks



- Displays only the maintenance information that's needed, when it's needed.
- Self-diagnostic function that provides early-warning detection and display of electrical system malfunctions.
- Record previous breakdowns, including irregular and transient malfunctions.

Choice of 16 Languages for Monitor Display



With messages including those requiring urgent action displayed in the local language, users in all parts of the world can work with greater peace of mind.

Comfort and Safety

Spacious, Comfortable Cab

Designed for safety, the cab meets ISO standards, and also offers a spacious interior and plenty of foot room, with levers and other controls ideally positioned for easy operation.

- A long wiper covers a wide area for a broad view in bad weather.
- Back mirrors provide a safe view of the rear.
- Reinforced green glass windows meet European standards.

Wide-Access Cab Ensures Smooth Entry and Exit



The left control box lifts up with the safety lock lever to add 10° to the cab entry angle for easy entrance and exit.



Plenty of Foot Room

The rigid cab construction and liquid-filled viscous cab mounts minimize cab vibration. In addition, the use of new lower rollers on the crawlers cuts travel vibration in half compared with previous models.

In-Cab Noise is Reduced by 3dB Compared with Previous Models.

Newly Designed Information Display Prioritizes Visual Recognition



The analog gauge provides information that's easy to read regardless of the operating environment. The information display screen has been enlarged, and a visor is attached to further enhance visibility.

Suspension Seat

Comfortable, double-sliding suspension seat, fitted as standard, creates a higher grade working environment and reduces fatigue.



Creating a Comfortable Operating Environment



Seat can be reclined to horizontal position



Double slide seat



Powerful automatic air conditioner



Spacious luggage tray



One-touch lock release simplifies opening and closing the front window



Large cup holder



• New interior design and materials create an elegant feel

Low Noise Level and Mild Sound Quality

The electronically controlled common-rail engine has a unique fuel injection system that runs quietly.

Meets EMC (Electromagnetic Compatibility) Standards in Europe.

Measures have been taken to ensure that the GEOSPEC machines do not cause electro-magnetic interference.

Bracket for Attaching a Head Guard Provided as Standard Equipment

A bracket is provided as standard equipment that allows the optional head guard to be simply bolted on.

Automatic Engine Shut-Down for Low Engine Oil pressure

Safety Features That Take Various Scenarios into Consideration



Firewall separates the pump compartment from the engine



Hammer for emergency exit



Ashtray



Electric source



Swing flasher

- Thermal guard prevents contact with hot components during engine inspections
- Hand rails meet European standards
- Retractable seatbelt requires no manual adjustment

Remote Monitoring for Peace of Mind



GEOSCAN is the remote monitoring system for Acera Geospec series excavators. When a hydraulic excavator is fitted with this system, data on the machine's operation, such as operating hours, location, fuel consumption, and maintenance status can be obtained remotely.

Direct Access to Operational Status

Location Data

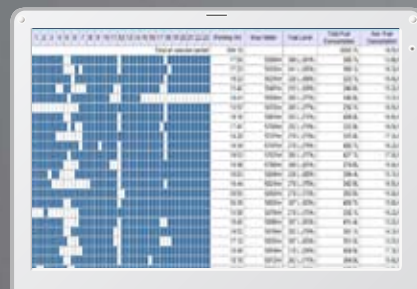
Accurate location data can be obtained even from sites where communications are difficult.



Latest location

Fuel Consumption Data

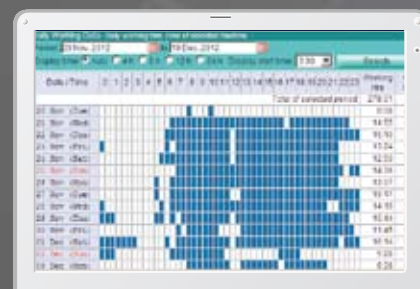
Data on fuel consumption and idling times can be used to indicate improvements in fuel consumption.



Fuel consumption

Operating Hours

A comparison of operating times of machines at multiple locations shows which locations are busier and more profitable. Operating hours on site can be accurately recorded, for running time calculations needed for rental machines, etc.



Daily report

Graph of Work Content

The graph shows how working hours are divided among different operating categories, including digging, idling, traveling and optional operations (N&B).



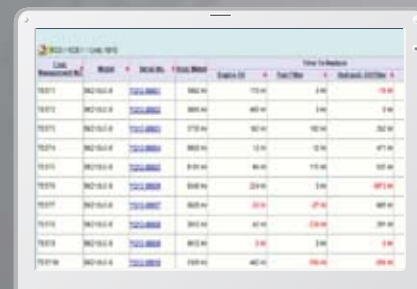
Work status

Maintenance Data and Warning Alerts

Machine Maintenance Data

Provides maintenance status of separate machines operating at multiple sites.

Maintenance data is also relayed to KOBELCO service personnel, for more efficient planning of periodic servicing.



Maintenance

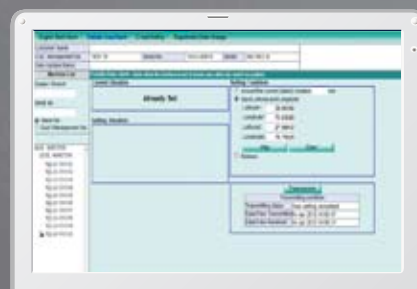
Security System

Engine Start Alarm

The system can be set an alarm if the machine is operated outside designated time.

Area Alarm

It can be set an alarm if the machine is moved out of its designated area to another location.



Alarm for outside of reset area

Engine

Model	HINO P11C-UP
Type	Direct injection, water-cooled, 4-cycle diesel engine with turbocharger, intercooler
No. of cylinders	6
Bore and stroke	122 mm x 150 mm
Displacement	10.520 L
Rated power output	344 HP (257 kW)/1,850 min ⁻¹ (ISO 14396)
Max. torque	1,400 N·m/1,400 min ⁻¹ (ISO 14396)

Hydraulic System

Pump	
Type	Two variable displacement pumps + one gear pump
Max. discharge flow	2 x 370 L/min, 1 x 30 L/min
Relief valve setting	
Boom, arm and bucket	31.4 MPa {320 kgf/cm ² }
Power Boost	34.3 MPa {350 kgf/cm ² }
Travel circuit	34.3 MPa {350 kgf/cm ² }
Swing circuit	25.0 MPa {255 kgf/cm ² }
Control circuit	5.0 MPa {50 kgf/cm ² }
Pilot control pump	Gear type
Main control valve	6-spool
Oil cooler	Air cooled type

Swing System

Swing motors	2 x axial piston motors
Brake	hydraulic; locking automatically when the swing control lever is in neutral position
Parking brake	Oil disc brake, hydraulic operated automatically
Swing speed	7.8 min ⁻¹ {rpm}
Tail swing radius	3,670 mm
Min. front swing radius	4,760 mm

Attachments

Backhoe bucket and combination

Use			Backhoe bucket	
			Normal digging	Mass excavating
Bucket capacity	ISO heaped	m ³	2.1	3.4
Struck		m ³	1.5	2.5
Opening width	With side cutter	mm	1,750	1,990
	Without side cutter	mm	1,630	1,870
No. of teeth			5	6
Bucket weight		kg	1,560	2,190
Combination	6.3 m ME boom and 2.4 m ME arm		×	○
	7.0 m standard boom and 3.0 m short arm		○	×

○ Recommend × Not recommended

Travel System

Travel motors	2 x axial-piston, two-step motors
Travel brakes	Hydraulic brake per motor
Parking brakes	Oil disc brake per motor
Travel shoes	50 each side
Travel speed	5.4/3.4 km/h
Drawbar pulling force	417 kN (ISO 7464)
Gradeability	70 % {35°}

Cab & Control

Cab

All-weather, sound-suppressed steel cab mounted on the silicon-sealed Viscous mounts and equipped with a heavy, insulated floor mat.

Control

Two hand levers and two foot pedals for travel
Two hand levers for excavating and swing
Electric rotary-type engine throttle

Boom, Arm & Bucket

Boom cylinders	170 mm x 1,590 mm
Arm cylinder	190 mm x 1,970 mm
Bucket cylinder	170 mm x 1,429 mm

Refilling Capacities & Lubrications

Fuel tank	650 L
Cooling system	41 L
Engine oil	42.5 L
Travel reduction gear	2 x 15 L
Swing reduction gear	2 x 7 L
Hydraulic oil tank	300 L tank oil level 555 L hydraulic system



Working Ranges

Boom	ME 6.3 m	Standard 7.0 m
Arm	ME 2.4 m	Short 3.0 m
a- Max. digging reach	10.88	11.77
b- Max. digging reach at ground level	10.63	11.54
c- Max. digging depth	6.48	7.36
d- Max. digging height	10.92	11.16
e- Max. dumping clearance	6.92	7.72
f- Min. dumping clearance	3.11	3.22
g- Max. vertical wall digging depth	5.58	6.68
h- Min. swing radius	4.76	5.27
i- Horizontal digging stroke at ground level	3.59	5.21
j- Digging depth for 2.4 m (8') flat bottom	6.31	7.21
Bucket capacity ISO heaped m³	3.4	2.1

Digging Force (ISO 6015)

Unit: kN (tf)

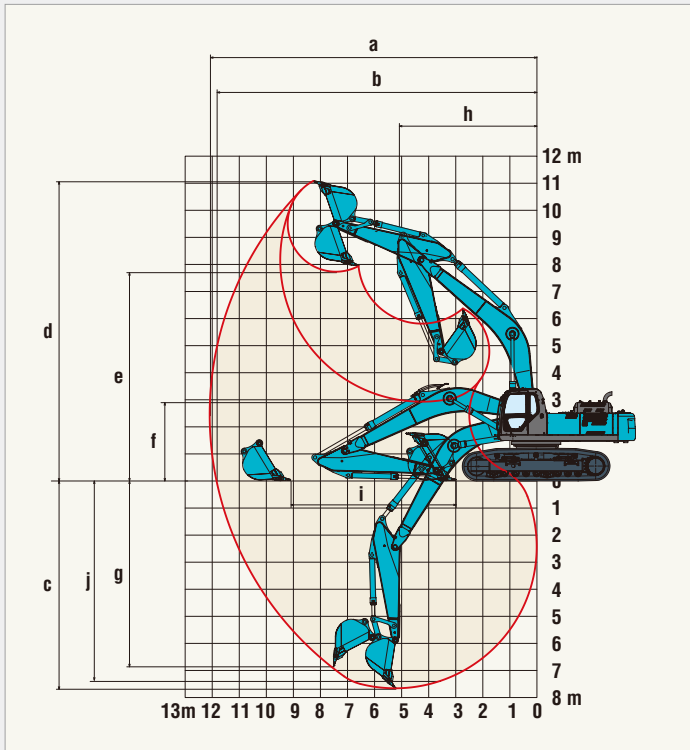
Arm length	ME 2.4 m	Short 3.0 m
Bucket digging force	282 (28.7) 308 (31.4)*	266 (27.1) 291 (29.7)*
Arm crowding force	249 (25.4) 272 (27.7)*	223 (22.8) 244 (24.9)*

*Power Boost engaged.



Dimensions

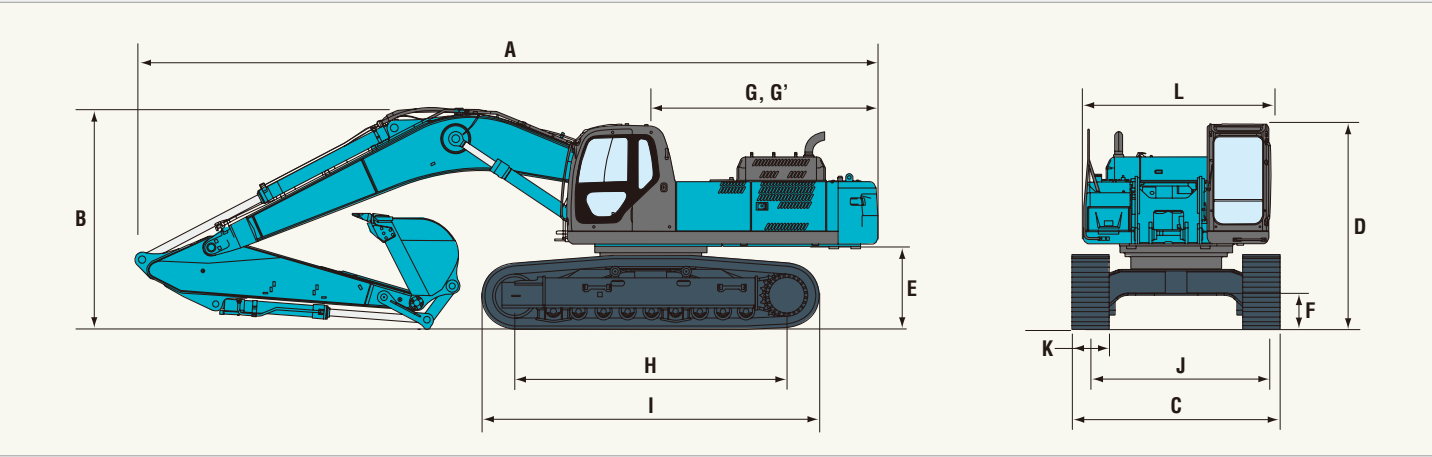
Arm length	ME 2.4 m	Short 3.0 m
A Overall length	11,620	12,080
B Overall height (to top of boom)	4,250	3,800
C Overall width of crawler	3,350	
D Overall height (to top of cab)	3,310	
E Ground clearance of rear end*	1,340	
F Ground clearance*	510	



Short Arm

	Unit: mm
G Tail swing radius	3,670
G' Distance from center of swing to rear end	3,670
H Tumbler distance	4,400
I Overall length of crawler	5,450
J Track gauge	2,750
K Shoe width	600
L Overall width of upperstructure	3,000

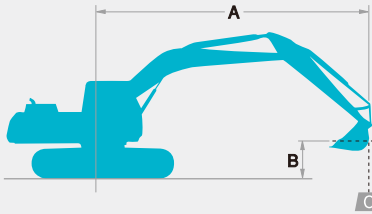
* Without including height of shoe lug.



Operating Weight & Ground Pressure

In standard trim, with 6.3 m ME boom, 2.4 m ME arm, and 3.4 m³ ISO heaped bucket.

Shaped	Triple grouser shoes (even height))
Shoe width	mm 600
Overall width of crawler	mm 3,350
Ground pressure	kPa (kgf/cm²) 87 (0.89)
Operating weight	kg 51,900



























Rating over front



Rating over side or 360 degrees

A - Reach from swing centerline to bucket hook
B - Bucket hook height above/below ground
C - Lifting capacities in kilograms
• Max. discharge pressure: 34.3 MPa (350 kg/cm²)

SK500HDL		Arm: 2.4 m, Bucket: 3.4 m³ ISO heaped 2,190 kg Shoe: 600 mm												
B	A	3.0 m		4.5 m		6.0 m		7.5 m		9.0 m		At Max. Reach		Radius
														
9.0 m	kg											*7,020	*7,020	6.67 m
7.5 m	kg							*9,720	*9,720			*6,340	*6,340	7.92 m
6.0 m	kg							*9,980	*9,980			*6,090	*6,090	8.74 m
4.5 m	kg					*12,590	*12,590	*10,850	10,720	*9,520	7,700	*6,120	*6,120	9.24 m
3.0 m	kg			*20,470	*20,470	*14,750	14,590	*11,970	10,240	*10,440	7,500	*6,370	*6,370	9.47 m
1.5 m	kg			*23,670	21,220	*16,620	13,760	*13,030	9,790	*10,930	7,300	*6,880	6,720	9.46 m
G.L.	kg			*24,830	20,570	*17,720	13,250	*13,710	9,490	*11,110	7,170	*7,750	6,940	9.20 m
-1.5 m	kg	*21,570	*21,570	*24,360	20,500	*17,820	13,080	*13,700	9,380			*9,200	7,620	8.67 m
-3.0 m	kg	*31,430	*31,430	*22,390	20,810	*16,640	13,220	*12,390	9,550			*11,440	9,040	7.82 m
-4.5 m	kg	*24,830	*24,830	*18,230	*18,230	*13,150	*13,150					*11,260	*11,260	6.51 m

SK500HDL		Arm: 3.0 m, Bucket: 2.1 m³ ISO heaped 1,560 kg Shoe: 600 mm												
B	A	3.0 m		4.5 m		6.0 m		7.5 m		9.0 m		At Max. Reach		Radius
														
9.0 m	kg											*9,010	*9,010	7.79 m
7.5 m	kg											*8,600	7,390	8.88 m
6.0 m	kg							*9,440	*9,440	*8,940	7,090	*8,510	6,230	9.61 m
4.5 m	kg					*12,480	*12,480	*10,530	9,390	*9,460	6,850	*8,680	5,550	10.06 m
3.0 m	kg			*21,140	19,140	*14,790	12,470	*11,800	8,840	*10,150	6,560	9,050	5,180	10.28 m
1.5 m	kg			*17,600	*17,600	*16,720	11,650	*12,970	8,360	*10,820	6,280	8,910	5,050	10.27 m
G.L.	kg			*19,670	17,300	*17,860	11,160	*13,780	8,030	10,780	6,080	9,140	5,150	10.03 m
-1.5 m	kg	*13,720	*13,720	*24,690	17,260	*18,120	10,980	*14,060	7,870	10,690	6,010	9,810	5,530	9.55 m
-3.0 m	kg	*22,130	*22,130	*23,230	17,480	*17,460	11,040	*13,580	7,910			*10,940	6,340	8.79 m
-4.5 m	kg	*27,780	*27,780	*20,430	17,960	*15,540	11,340	*11,690	8,200			*11,300	7,990	7.65 m
-6.0 m	kg			*15,210	*15,210							*11,110	*11,110	5.93 m

Notes:

- Do not attempt to lift or hold any load that is greater than these lift capacities at their specified lift point radius and heights. Weight of all accessories must be deducted from the above lift capacities.
- Lift capacities are based on machine standing on level, firm, and uniform ground. User must make allowance for job conditions such as soft or uneven ground, out of level conditions, side loads, sudden stopping of loads, hazardous conditions, experience of personnel, etc.
- Bucket lift hook defined as lift point.
- The above lifting capacities are in compliance with ISO 10567. They do not exceed 87% of hydraulic lifting capacity or 75% of tipping load. Lifting capacities marked with an asterisk (*) are limited by hydraulic capacity rather than tipping load.
- Operator should be fully acquainted with the Operator's and Maintenance Instructions before operating this machine. Rules for safe operation of equipment should be adhered to at all times.
- Lift capacities apply to only machine as originally manufactured and normally equipped by KOBELCO CONSTRUCTION MACHINERY CO., LTD.
- The above figures indicate machine capacity, but in practice the machine should not be used for lifting loads.