KOBELCO

Hydraulic Excavators

SK 500 LC

- Bucket Capacity: 1.9 m³ ISO heaped
- Engine Power: **000 HP/1,850 rpm** (IS014396)
- Operating Weight:48,300 kg 50,300 kg

SIFINI

DRIVEN TO PASSION



STANDARD EQUIPMENT

FNGINE

- Engine, HINO P11C, Diesel engine with turbocharger and intercooler
- Automatic engine deceleration
- Batteries (2 12V 60Ah)
- Starting motor (24V 6 kW), 60 amp alternator
- Removable clean-out screen for radiator
- Automatic engine shut-down for low engine oil pressure
- Engine oil pan drain cock
- Double element air cleaner

CONTROL

- Working mode selector (H-mode and S-mode)
- Power Boost
- Heavy lift

SWING SYSTEM & TRAVEL SYSTEM

- Swing rebound prevention system
- Straight propel system
- Swing priority system
- Two-speed travel with automatic shift down
- Sealed & lubricated track links
- Grease-type track adjusters
- Automatic swing brake
- Four track guides for each crawler

HYDRAULIC

- Arm regeneration system
- Auto warm up system
- Aluminum hydraulic oil cooler
- Tropical cooling package

MIRRORS & LIGHTS

- Two rearview mirrors
- Three front working lights
- Swing flashers

CAB & CONTROL

- Two control levers, pilot-operated
- Tow eyes
- Horn, electric
- Integrated left-right slide-type control box
- Cab light (interior)
- Luggage tray
- Large cup holder
- Detachable two-piece floor mat
- Adjustable suspension seat
- Retractable seatbelt
- Headrest
- Handrails
- Heater and defroster
- Intermittent windshield wiper with double-spray washer
- Skylight
- Tinted safety glass
- Pull-type front window and removable lower front window
- Easy-to-read multi-display monitor
- Automatic air conditioner
- Emergency escape hammer
- Travel alarm
- Radio, AM/FM Stereo with speaker
- Refueling pump

OPTIONAL EQUIPMENT

- Wide range of buckets
- Various optional arms
- Wide range of shoes
- Front-guard protective structures (May interfere with bucket action)
- Two cab working lights
- Additional track guide
- Additional hydraulic circuit
- Head guard

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.

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Inquiries To:			

The Power Wave of Change







Pursuing the "Three E's"
The Perfection of Next-Generation,
Network Performance

Enhancement

Greater Performance Capacity

- Hydraulic circuitry minimizes pressure loss
- High-efficiency, electronically controlled Common Rail Fuel Injection Engine
- •Powerful travel and arm/bucket digging force

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

•Noise reduction measures (with improvement of the sound quality) minimize noise and vibration

Efficient Performance!

Amazing Productivity with a 18 % Increase in Work Volume and "Top-Class" Cost-Performance



Work Volume

increase in work volume using n the same amount of fuel. (H-Mode)



Fuel Consumption*

decrease in fuel consumption even when performing more work volume. (S-Mode)

"Top-Class" Powerful Digging

Max. arm crowding force:

203 kN {20.7 tf}

Max. arm crowding force with power boost:

222 kN {22.7 tf}

Max. bucket digging force: 267 kN {27.2 tf}

Max. bucket digging force 292 kN {29.8 tf}

Powerful Travel

Drawbar pulling force:

417 kN {40.8 tf}

Greater Swing Power, Shorter Cycle Times

Swing torque:

174.3 kN·m {128.557lbf·ft}

Swing speed:

7.8 min-1

Significant Extension of Continuous Working Hours

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

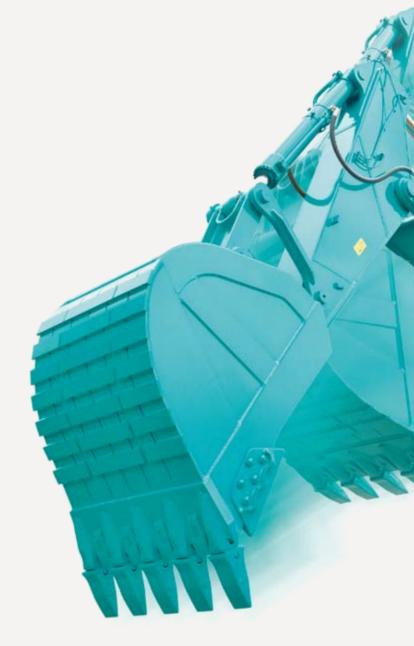


Fuel tank: 650L

Light Lever Operation

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





3E Technology New Hydraulic System



Rigorous inspections pressure loss are performed on all components of the hydraulic piping, from the first 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.

^{*}The value shows results from actual measurements taken by KOBELCO.

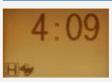


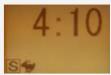
3E Technology **Total Tuning Through Advanced ITCS Control**

The engine control is governed by 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.

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

Simple Select: Two Digging Modes







For heavy duty when a higher performance level is required.



For normal operations with lower fuel consumption.

N&B (crusher and breaker)

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

Attachment Mode Selector Switch

There's a choice of three different attachment functions, to accommodate bucket, crusher or breaker, and the desired attachment mode can be selected with a switch, which automatically configures the selector valve. All attachment modes can be used in either S-mode or H-mode.



Seamless, Smooth Combined **Operations**

The SK machines have inherited the various systems that make inching and combined operations easy and accurate, with further refinements that make a good thing even better. Leveling and other combined operations can be carried out with graceful ease.

- Electronic Active Control System
- Arm regeneration system
- Boom lowering system
- Variable swing priority system
- Swing rebound prevention system

The Value and Quality of Sturdy Construction!

Stable Attachment Strength

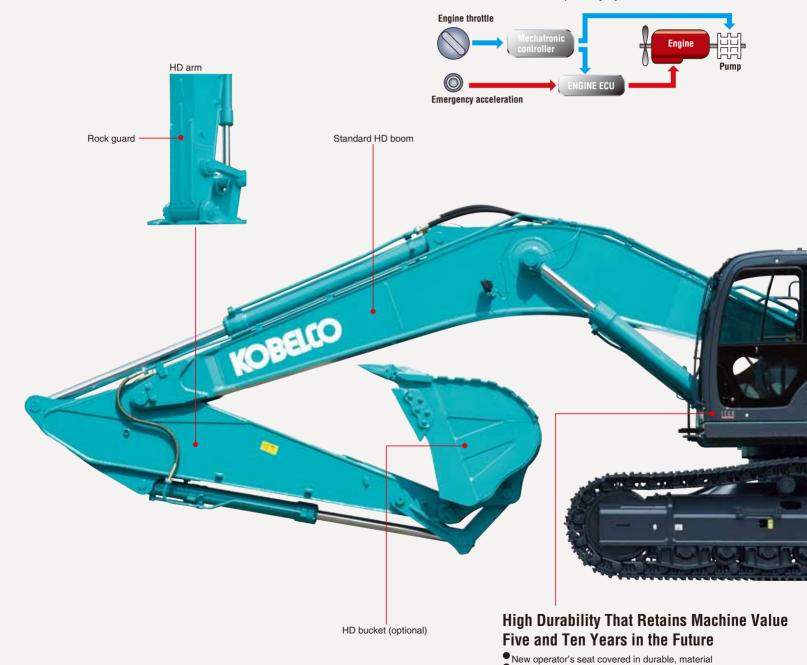
Forged and cast steel components are used throughout. The standard arm and boom also meet specifications that were classified as "reinforced" on previous KOBELCO models to ensure reliable strength.

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

High-quality urethane paint
 Easily repaired bolted hand rails



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.





New MCU

Conventional

Newly designed Micro Computer Unit

- Vertical alignment and sealedcover gives better protection from water and dust
- Reliable fixture to base plate

Countermeasures Against Electrical System Failure

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

Ventilation Openings for tropical temperatures SK500 to

Heavy Duty Upper Carbody and Side Frames

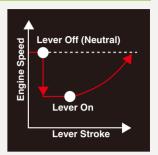
The structure of the lower portion of t he upper frame has been reassessed and the undercover area has been minimized for further strength.



Designed for the Environment and the Future!

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 quickly returns to full speed when the lever is moved out of neutral. The proportional Deceleration recovery speed smoothly.



Low Noise Level and Mild Sound Quality

The electronically controlled common-rail engine has a unique fuel injection system that runs quietly. Also, the hydraulic pumps have been redesigned to produce a more pleasant sound during pressure relief. In short, the SK series meets all requirements cited in latest standards.

Meets EMC (Electromagnetic Compatibility) Standards in Europe.

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

"On the Ground" Maintenance!

Comfortable "On the Ground" Maintenance

All of the components that require regular maintenance are laid out for easy access, with the control valves located on a single right-hand panel that opens and closes at a touch. Behind that, in the pump compartment, there is remote access to such components as the engine oil filter and fuel filter (with built-in water separator). On the left side are the intercooler, air cleaner, radiator coolant, etc. Daily maintenance can be carried out easily without the need to climb up onto the machine.

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)

Quick Oil Drain Valves for Quick Maintenance

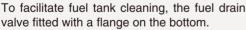
A quick drain valve, which requires no tools, is provided as standard equipment.



Quick drain valve

Fuel drain valve

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





Pump drain

More Efficient Maintenance Inside the Cab



 Detachable two-piece floor mat with handles for easy removal A floor drain is located under the mat.



 Easy-access fuse box differentiated fuses, easy to locate malfunctions.



can be easily removed without tools for cleaning.



 Hour meter can be checked while standing on the ground.



Large-capacity tool box can hold up to three pails.



 Special crawler frame design is easily cleaned of mud

Access through the left side cover

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



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 earlywarning 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.

充电不良	Lichtmaschine defekt	CHARGE ERROR	CHARGE ERROR
Chinese	German	English	English (US)
ERREUR DE CHARGE	PENGISIAN BATT.	==	ERRORE DI CARICA
French	Indonesian	ISO	Italian
゙ チャージ	KESALAHAN CAS	📑 🖣 ချာချင်မဝင်ပါ	ERRO DE CARGA
Japanese	Malay	Myanmar(Brumese)	Portuguese
ERROR EN CARGA	= + தவறாக திணித்தல்	<u>-</u> ี ไฟไ⊔่ชาร์จ	∰Sạc Điện Bị Lỗi
Spanish	Tamil	Thai	Vietnamese

Designed from the Operator's Point of View

Wide Field of View Liberates the Operator

The front field of view easily clears ISO standards, while the peripheral view reduces blind spots to a minimum.



- •A long wiper covers a wide area for a broad view in bad weather.
- •Back mirrors provide a safe view of the rear.
- Tempered glass windows.

Wide-Access Cab Ensures Smooth Entry and Exit

The left control box and safety lock lever together rise through 54° to give wider cab access and easier entry and exit.



Plenty of Foot Room

Front-to-back room in the cab is a comfortable 750 mm. Big travel pedal for operator comfort.

Low Vibration for Fatigue-Free Operation

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.





Creating a Comfortable Operating Environment



Seat can be reclined to almost horizontal position

Newly Designed Information Display Prioritizes Visual Recognition

The analog gauge provides information that's easy to read regardless of the operating environment. Big screen to display information with an attached visor to further enhance visibility.



● Double slide and suspen- ● Powerful automatic air ● Spacious luggage tray



● One-touch lock release ● Large cup holder simplifies opening and closing the front window



conditioner

Interior

gant feel

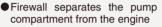
design materials create an ele-



Imagining Possible Scenarios and Preparing in Advance

Safety Features That Take Various Scenarios into Consideration







Hammer for emergency exit



Swing flashers/rear working lights

- Thermal guard prevents contact with hot components during engine
- Retractable seatbelt requires no manual adjustment

Other Features



Two cab working lights (Optional)



Adjustable suspension seat

Specifications



Engine

Model	HINO P11C	
Туре	Direct injection, water-cooled, 4-cycle diese engine with turbocharger, intercooler	
No. of cylinders:	6	
Bore and stroke:	122 mm × 150 mm	
Displacement:	10.520 L	
Rated power output:	000 HP/1,850 rpm (ISO14396)	
Max. torque:	1,400 N·m/1,400 min ⁻¹ {rpm} (ISO14396)	
	1,359 N•m/1,400 min ⁻¹ {rpm} (ISO9249)	



Hydraulic System

Pump	
Type:	Two variable displacement pumps + 1 gear pump
Max. discharge flow:	2 × 370 L/min, 1 × 30 L/min
Relief valve setting	
Boom, arm and bucket:	31.4 MPa {320 kgf/cm²}
Power Boost:	34.3 MPa {350 kgf/cm²}
Travel circuit:	34.3 MPa {350 kgf/cm²}
Swing circuit:	25.0 MPa {255 kgf/cm²}
Control circuit:	5.0 MPa {50 kgf/cm²}
Pilot control pump:	Gear type
Main control valves:	6-spool
Oil cooler:	Air cooled type



Swing System

Swing motors:	2 × axial-piston motors
Brake:	Hydraulic; locking automatically when the swing control lever is in the neutral position
Parking brake:	Hydraulic disc brake
Swing speed:	7.8 min ⁻¹ {rpm}
Tail swing radius:	3,670 mm
Min. front swing radius:	5,140 mm



Travel System

Travel motors:	2 × 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 {40.8 tf} (ISO 7464)
Gradeability:	70 % {35°}
Ground clearance:	510 mm



Cab & Control

Cah

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

Contro

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 × 1,590 mm
Arm cylinder:	190 mm × 1,970 mm
Bucket cylinder:	160 mm × 1,410 mm



Refilling Capacities & Lubrications

Fuel tank:	650 L
Cooling system:	41 L
Engine oil:	50 L
Travel reduction gear:	2 × 15 L
Swing reduction gear:	2 × 7 L
Hydraulic oil tank:	555 L tank oil level 300 L hydraulic system



Attachments

Backhoe bucket and arm combination

Use		Backhoe bucket			
		Heavy digging		ME	
Ducket conceity	ISO heaped m ³	1.9	2.1	3.4	
Bucket capacity	Struck m³	1.4	1.5	2.5	
Opening width	With side cutter mm	1,590	1,660	1,990	
Opening with	Without side cutter mm	1,510	1,580	1,870	
No. of teeth		4	5	6	
Bucket weight	kg	2,150	2,270	2,190	
	2.4 m super short arm	_	_	0	
Combination	3.0 m short arm	×	0	×	
	3.45 m standard arm	0	×	×	

[○] Recommended × Not recommended





Working Ranges

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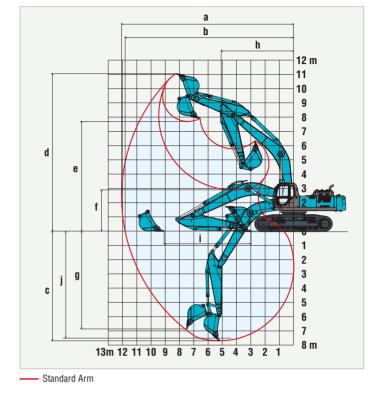
Boom	6.0 m	7.0 m	
Arm Range	ME 2.4 m	Short 3.0 m	Standard 3.45 m
a-Max. digging reach	10.88	11.77	12.07
b-Max. digging reach at ground level	10.63	11.54	11.84
c-Max. digging depth	6.48	7.36	7.81
d-Max. digging height	10.49	11.16	10.93
e-Max. dumping clearance	6.91	7.72	7.58
f- Min. dumping clearance	3.11	3.22	2.77
g-Max. vertical wall digging depth	4.00	6.68	7.12
h-Min. swing radius	4.75	5.27	5.14
I- Horizontal digging stroke at ground level	3.59	5.21	6.10
j- Digging depth for 2.4 m (8') flat bottom	6.31	7.21	7.67
Bucket capacity SAE heaped m ³	3.4	2.1	1.9

Digging Force (ISO 6015)

Unit: kN (tf)

Arm length	ME	Short	Standard
	2.4 m	3.0 m	3.45 m
Bucket digging force	279 {28.0}	266 {27.1}	267 {27.2}
	305 {31.1}*	291 {29.7}*	292 {29.8}*
Arm crowding force	247 {25.2}	223 {22.8}	203 {20.7}
	270 {27.5}*	244 {24.9}*	222 {22.7}*

^{*}Power Boost engaged.



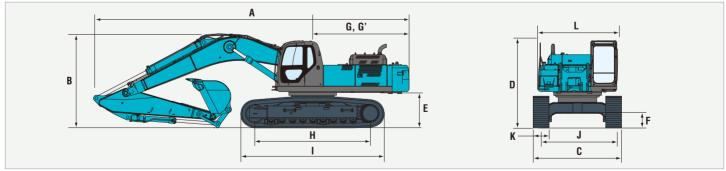


Dimensions

	Boom	6.0 m	7.0 m						
A	rm length	ME 2.4 m	Short 3.0 m	Standard 3.45 m					
Α	Overall length	11,620	12,080	12,030					
В	Overall height (to top of boom)	4,260	3,800	3,570					
C	Overall width (600 mm shoes)	3,350/3,550/3,650							
D	Overall height (to top of cab)	3,310							
Ε	Ground clearance of rear end*	1,340							

		Unit: mm
F	Ground clearance*	510
G	Tail swing radius	3,670
G'	Distance from center of swing to rear end	3,670
Н	Tumbler distance	4,400
ı	Overall length of crawler	5,450
J	Track gauge	2,750
K	Shoe width	600/800/900
L	Overall width of upperstructure	3,000

 $^{^{\}star}$ Without including height of shoe lug.

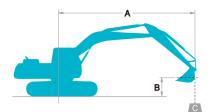


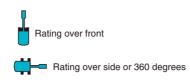
Operating Weight & Ground Pressure

In standard trim, with standard boom, 3.45 m arm, and 1.9 m³ ISO heaped bucket

Shaped		Triple grouser shoes (even height)									
Shoe width	mm	600	800	900							
Overall width	mm	3,350	3,550	3,650							
Ground pressure	kPa (kgf/cm²)	83 {0.84}	64 {0.65}	58 {0.59}							
Operating weight	kg	48,300	49,800	50,300							

Lifting Capacities





- 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 kgf/cm²)

SK500LC		ME Arm: 2	.4 m, Bucket	: 3.4 m³ SAE	3.4 m³ SAE heaped 2,190 kg Shoe: 900 mm HEAVY LIFT										
	A	3.0) m	4.5 m		6.0 m		7.5 m		9.0 m		At Max. Reach			
В					—				—			1	—	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	9,670	*9,520	6,860	*6,120	*6,120	9.24 m	
3.0 m	kg			*20,470	*20,470	*14,750	13,210	*11,970	9,190	*10,440	6,670	*6,370	6,050	9.47 m	
1.5 m	kg			*23,670	19,140	*16,620	12,380	*13,030	8,750	*10,930	6,460	*6,880	5,930	9.46 m	
G.L.	kg			*24,830	18,490	*17,720	11,870	*13,710	8,440	*11,110	6,330	*7,750	6,130	9.20 m	
-1.5 m	kg	*21,570	*21,570	*24,360	18,420	*17,820	11,690	*13,700	8,340			*9,200	6,740	8.67 m	
-3.0 m	kg	*31,430	*31,430	*22,390	18,730	*16,640	11,830	*12,390	8,510			*11,440	8,050	7.82 m	
-4.5 m	kg	*24,830	*24,830	*18,230	*18,230	*13,150	12,380					*11,260	11,040	6.51 m	

SK500LC		Short Arm:	: 3.0 m, Buck	cet: 2.1 m³ Sa	AE heaped 2	2,270 kg Sho	e: 900 mm	HEAVY LIFT							
	A	3.0	3.0 m		4.5 m		6.0 m		7.5 m		D m	At Max. Reach			
В			—		—	-							-	Radius	
9.0 m	kg											*8,440	*8,440	7.79 m	
7.5 m	kg											*8,110	7,400	8.88 m	
6.0 m	kg							*8,880	*8,880	*8,370	7,100	*8,020	6,190	9.61 m	
4.5 m	kg					*11,920	*11,920	*9,970	9,520	*8,890	6,860	*8,200	5,490	10.06 m	
3.0 m	kg			*20,500	19,800	*14,200	12,780	*11,230	8,960	*9,580	6,560	*8,640	5,110	10.28 m	
1.5 m	kg			*17,060	*17,600	*16,100	11,930	*12,380	8,470	*10,240	6,280	8,930	4,980	10.27 m	
G.L.	kg			*19,150	17,910	*17,240	11,440	*13,190	8,130	*10,710	6,080	9,170	5,090	10.03 m	
-1.5 m	kg	*13,220	*13,220	*24,020	17,870	*17,500	11,250	*13,460	7,970	*10,760	6,000	9,880	5,490	9.55 m	
-3.0 m	kg	*21,620	*21,620	*22,570	18,110	*16,840	11,320	*12,980	8,010			*10,360	6,340	8.79 m	
-4.5 m	kg	*27,070	*27,070	*19,780	18,610	*14,940	11,630	*11,110	8,310			*10,720	8,100	7.65 m	
-6.0 m	kg			*14,600	*14,600							*10,530	*10,530	5.93 m	

SK500LC	SK500LC Standard Arm: 3.45 m, Bucket: 1.9 m³ SAE heaped 2,150 kg Shoe: 900 mm HEAVY LIFT																	
	A	1.	5 m	3.0) m	4.5	i m	6.0	m	7.5	5 m	9.0	m	10.	5 m	At Max	. Reach	
В								Radius										
7.5 m	kg											*7,650	7,370			*6,880	*6,880	9.16 m
6.0 m	kg											*7,880	7,240			*6,890	5,980	9.87 m
4.5 m	kg									*9,430	*9,430	*8,460	6,970			*7,110	5,310	10.31 m
3.0 m	kg					*19,140	*19,140	*13,480	13,030	*10,760	9,100	*9,220	6,640	*7,770	4,950	*7,570	4,940	10.52 m
1.5 m	kg					*22,680	18,750	*15,580	12,120	*12,020	8,570	*9,970	6,330	*8,430	4,790	*8,300	4,790	10.51 m
G.L.	kg			*8,380	*8,380	*22,420	18,010	*16,950	11,530	*12,960	8,180	*10,550	6,090			8,810	4,870	10.28 m
-1.5 m	kg	*10,380	*10,380	*14,340	*14,340	*24,290	17,830	*17,480	11,260	*13,410	7,960	*10,770	5,970			9,420	5,220	9.81 m
-3.0 m	kg	*16,120	*16,120	*21,160	*21,160	*23,230	17,970	*17,120	11,250	*13,190	7,940	*10,320	6,010			*10,210	5,960	9.07 m
-4.5 m	kg			*29,440	*29,440	*20,900	18,380	*15,650	11,480	*11,890	8,140					*10,810	7,450	7.98 m
-6.0 m	kg					*16,550	*16,550	*12,180	12,040							*11,230	11,070	6.35 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.
- 3. Bucket lift hook defined as lift point.

- 4. 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.

