

## SK210HD<sub>LC</sub>

### STANDARD EQUIPMENT

#### ENGINE

Engine, HINO J05E, Diesel engine with turbocharger and intercooler  
Automatic engine deceleration  
Auto Idle Stop (AIS)  
Batteries (2 x 12V - 96Ah)  
Starting motor (24V - 5 kW), 50 amp alternator  
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

#### CAB & CONTROL

Two control levers, pilot-operated  
Tow eyes  
Horn, electric  
Integrated left-right slide-type control box  
Cab, all-weather sound suppressed type  
Ashtray  
Cigarette lighter  
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  
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

### OPTIONAL EQUIPMENT

Wide range of buckets  
Various optional arms  
Wide range of shoes  
Additional hydraulic circuit

*Note: Standard and optional equipment may vary. Consult your KOBELCO dealer for specifics.*

# KOBELCO

Hydraulic Excavators

# SK210HD<sub>LC</sub>

Bucket Capacity:

**0.8 m<sup>3</sup> ISO heaped**

Engine Power:

**118 kW {160 PS}/2,000 min<sup>-1</sup>{rpm}**

Operating Weight:

**21,400 kg**

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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Inquiries To:

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 SK210DHLC, 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

### 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

# 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 %.

## Enhanced Upper Carbody Strength

The structure of the lower portion of the upper frame has been reassessed and the undercover area has been minimized. Also, the side deck's cross-sectional strength has been boosted by 50 %.

## Durability That Retains Machine Value Five and Ten Years in the Future

- New operator's seat covered in durable material
- High-quality urethane paint
- Easily repaired bolted hand rails

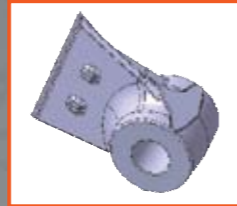
Pre-air cleaner



Reinforced boom support section



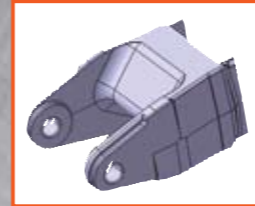
Cast steel boom foot boss



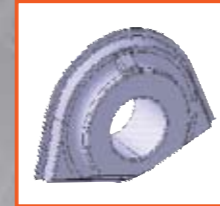
Reinforced boom side panels



Integrated cast steel boom top



Forged steel arm foot boss



## Track Guides Installed in Three Places

Track guides installed in three places improve travel stability and help prevent the crawlers from coming off the rollers.



Stronger casing for travel motor



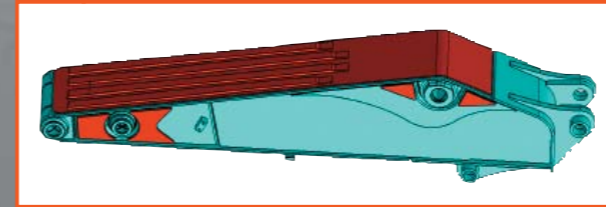
Reinforced X chassis



Integrated design makes idler cover tougher



Durable cast steel shoe

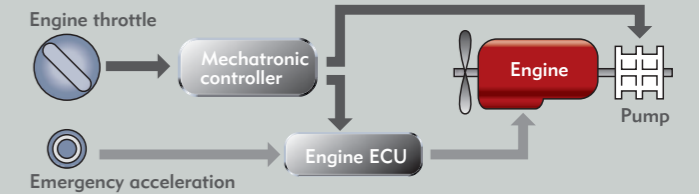


Reinforced arm

## 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 20% Saving in Fuel Consumption and Top-Class Cost Performance

	<b>Fuel Consumption*</b> <b>20%</b> improvement in fuel efficiency when performing more work volume (S-Mode)
	<b>Work Volume*</b> <b>8%</b> increase in work volume using the same amount of fuel. (H-Mode)



## "Top-Class" Powerful Digging

Max. arm crowding force:	<b>102kN</b> {10.4tf}	
Max. arm crowding force with power boost:	<b>112kN</b> {11.4tf}	
Max. bucket digging force:	<b>143kN</b> {14.6tf}	
Max. bucket digging force with power boost:	<b>157kN</b> {16.0tf}	

## Powerful Travel

Travel torque: increased by	<b>16%</b>	
Drawbar pulling force:	<b>229kN</b> {23.3tf}	

## Greater Swing Power, Shorter Cycle Times

Swing torque: increased by	<b>10%</b>	
Swing speed:	<b>11%</b> faster (12.5 min <sup>-1</sup> )	

## Significant Extension of Continuous Working Hours

The combination of a large-capacity fuel tank and excellent fuel efficiency delivers an impressive 30% increase in continuous operation hours. One tank of fuel keeps the machine operating under high-load conditions for more than 20 hours.\*\*

Fuel tank:	<b>30%</b>	
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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 torque. 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

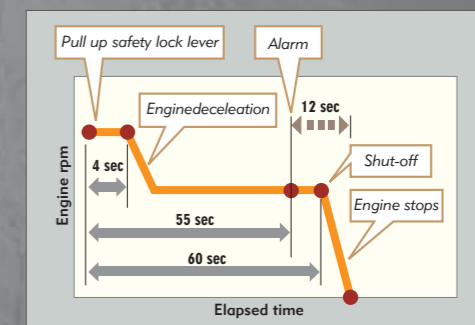
<b>H</b> Mode	For heavy duty when a higher performance level is required.
<b>S</b> Mode	For normal operations with lower fuel consumption.

## 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.



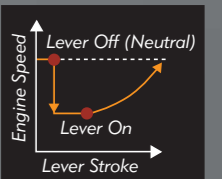
## Auto Idle Stop Provided as Standard Equipment



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 quickly returns to full speed when the lever is moved out of neutral.



# Easy Maintenance

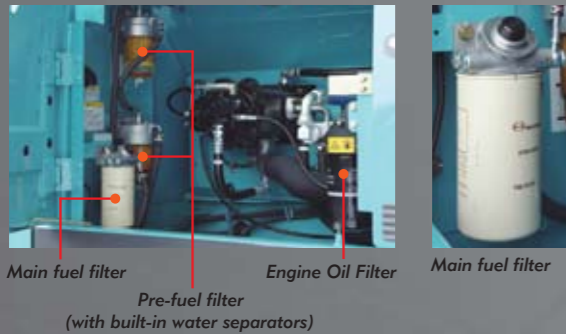
## Comfortable "On the Ground" Maintenance



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

## Access Through the Right Side Cover ▶▶▶▶▶▶▶▶

A new fuel filter has been installed in a convenient, readily accessible location. It now has two pre-fuel filters (with built-in water separators), and a high-efficiency main fuel filter.



Main fuel filter      Pre-fuel filter (with built-in water separators)      Engine Oil Filter      Main fuel filter

## Quick Oil Drain Valves for Quick Maintenance



Quick drain valve

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



Fuel drain valve

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

## More Efficient Maintenance Inside the Cab



Drain Detachable  
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.



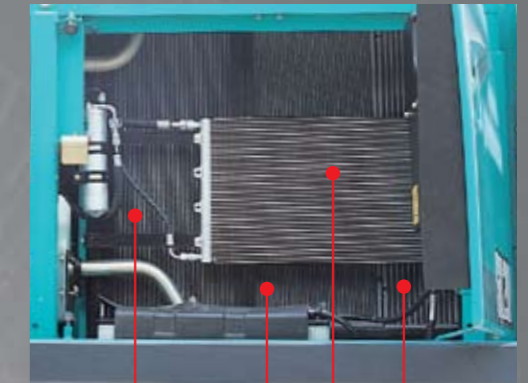
## Pre-air Cleaner

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



## ◀◀◀◀◀◀ Access Through the Left Side Cover

Parallel Cooling Units Are Easy to Clean



Oil cooler      Radiator      Intercooler  
Air conditioner condenser

## 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.



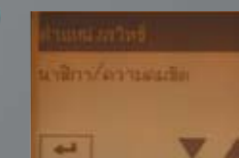
Air cleaner (double element)

## 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 suspension seat that reduces operator fatigue fitted as standard.



## Creating a Comfortable Operating Environment



Seat can be reclined to horizontal position



Double slide seat



Powerful automatic air conditioner



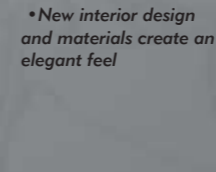
Spacious luggage tray



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.

## Safety Features That Take Various Scenarios into Consideration



Firewall separates the pump compartment from the engine



Hammer for emergency exit

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



## Engine

Model	HINO J05E
Type:	Direct injection, water-cooled, 4-cycle diesel engine with turbocharger, intercooler
No. of cylinders:	4
Bore and stroke:	112 mm × 130 mm
Displacement:	5.123 L
Rated power output:	118 kW/2,000 min <sup>-1</sup> (ISO14396:2002) 114 kW/2,000 min <sup>-1</sup> (ISO9249:2007)
Max. torque:	592 N·m/1,600 min <sup>-1</sup> (ISO14396:2002) 572 N·m/1,600 min <sup>-1</sup> (ISO9249:2007)



## Hydraulic System

Pump	
Type:	Two variable displacement pumps + 1 gear pump
Max. discharge flow:	2 × 220 L/min, 1 × 20 L/min
Relief valve setting	
Boom, arm and bucket:	34.3 MPa (350 kgf/cm <sup>2</sup> )
Power Boost:	37.8 MPa (385 kgf/cm <sup>2</sup> )
Travel circuit:	34.3 MPa (350 kgf/cm <sup>2</sup> )
Swing circuit:	29.0 MPa (296 kgf/cm <sup>2</sup> )
Control circuit:	5.0 MPa (50 kgf/cm <sup>2</sup> )
Pilot control pump:	Gear type
Main control valves:	8-spool
Oil cooler:	Air cooled type



## Swing System

Swing motor:	Axial-piston motor
Brake:	Hydraulic; locking automatically when the swing control lever is in the neutral position
Parking brake:	Hydraulic disc brake
Swing speed:	12.5 min <sup>-1</sup> {rpm}
Tail swing radius:	2,860 mm
Min. front swing radius:	3,540 mm



## Attachments

Backhoe bucket and combination

Use	Backhoe bucket	
Bucket capacity	ISO heaped	m <sup>3</sup>
Bucket width		mm
Bucket weight		kg
Combinations	2.40 m arm	○
	2.94 m arm	○

○ Recommend



## Travel System

Travel motors:	2 × axial-piston, two-step motors
Travel brakes:	Hydraulic disc brake
Parking brakes:	Oil disc brake per motor
Travel shoes:	49 each side
Travel speed:	6.0/3.6 km/h
Drawbar pulling force:	229 kN (23.3 tf) (ISO 7464)
Gradeability:	70 % (35°)
Ground clearance:	450 mm



## 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:	120 mm × 1,355 mm
Arm cylinder:	135 mm × 1,558 mm
Bucket cylinder:	120 mm × 1,080 mm



## Refilling Capacities & Lubrications

Fuel tank:	370 L
Cooling system:	22 L
Engine oil:	22 L
Travel reduction gear:	2 × 5.3 L
Swing reduction gear:	3.0 L
Hydraulic oil tank:	146 L tank oil level 230 L hydraulic system



## Working Ranges

Range	Arm	5.65 m	
		Short 2.4 m	Standard 2.94 m
a - Max. digging reach		9.42	9.9
b - Max. digging reach at ground level		9.24	9.73
c - Max. digging depth		6.16	6.7
d - Max. digging height		9.51	9.72
e - Max. dumping clearance		6.68	6.91
f - Min. dumping clearance		2.98	2.43
g - Max. vertical wall digging depth		5.57	6.1
h - Min. swing radius		3.56	3.54
i - Horizontal digging stroke at ground level		4.08	5.27
j - Digging depth for 2.4 m (8') flat bottom		5.95	6.52
Bucket capacity ISO heaped m <sup>3</sup>		0.8	0.8

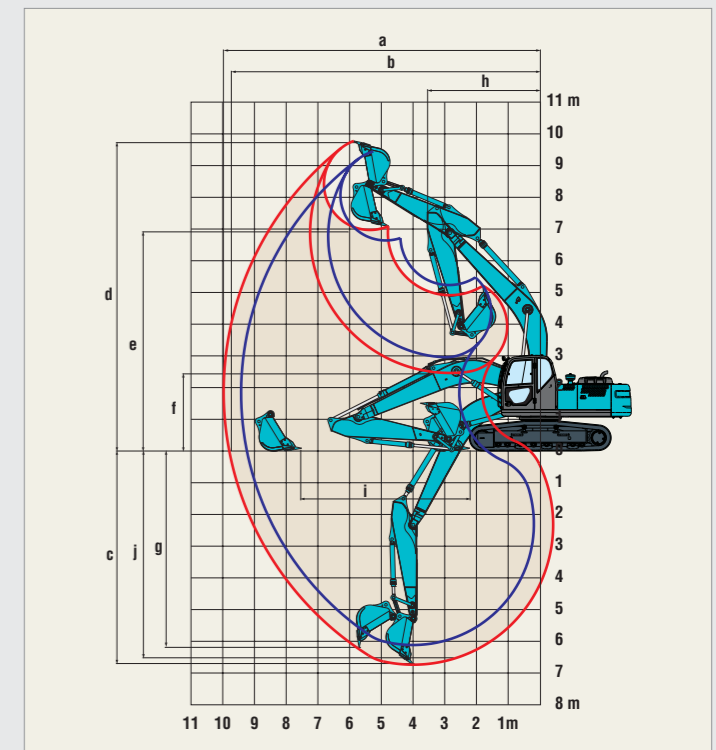
Digging Force (ISO 6015)		Unit: kN (tf)	
Arm length	Short 2.4 m	Standard 2.94 m	
Bucket digging force	143 (14.6) 157 (16.0)*	143 (14.6) 157 (16.0)*	
Arm crowding force	121 (12.3) 133 (13.6)*	102 (10.4) 112 (11.4)*	

\*Power Boost engaged.



## Dimensions

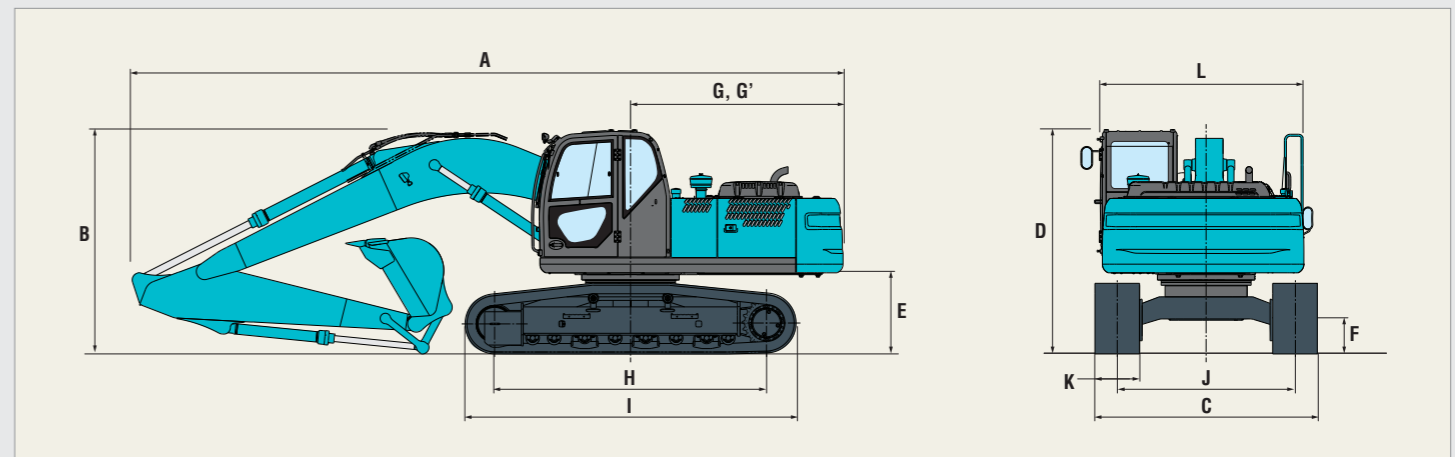
Arm length	Short 2.4 m	Standard 2.94 m
A Overall length	9,640	9,560
B Overall height (to top of boom)	3,160	2,980
C Overall width	2,990	2,990
D Overall height (to top of cab)	3,030	3,030
E Ground clearance of rear end*	1,060	1,060
F Ground clearance*	430	430
G Tail swing radius	2,860	2,860



— Short Arm  
— Standard Arm

Unit: mm		
G'	Distance from center of swing to rear end	2,860
H	Tumbler distance	3,660
I	Overall length of crawler	4,450
J	Track gauge	2,390
K	Shoe width	600
L	Overall width of upperstructure	2,710

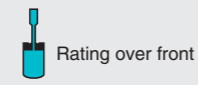
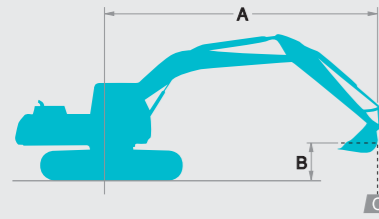
\* Without including height of shoe lug.



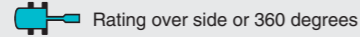
## Operating Weight & Ground Pressure

In standard trim, with standard boom, 2.94 m arm, and 0.93 m<sup>3</sup> ISO heaped bucket

Shaped		Triple grouser shoes (even height)	
Shoe width	mm	600	
Overall width	mm	2,990	
Ground pressure	kPa (kgf/cm <sup>2</sup> )	45 (0.46)	
Operating weight	kg	21,400	



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: 37.8 MPa (385 kg/cm<sup>2</sup>)

SK210HDLC		Standard Arm: 2.94 m, Bucket: 0.9 m <sup>3</sup> ISO heaped 870 kg Shoe: 600 mm Counterweight: 4,480 kg (HEAVY LIFT)												
B	A	1.5 m		3.0 m		4.5 m		6.0 m		7.5 m		At Max. Reach		Radius
		Rating over front	Rating over side or 360 degrees	Rating over front	Rating over side or 360 degrees	Rating over front	Rating over side or 360 degrees	Rating over front	Rating over side or 360 degrees	Rating over front	Rating over side or 360 degrees	Rating over front	Rating over side or 360 degrees	
7.5 m	kg							*3,840	*3,840			*2,940	*2,940	6.32 m
6.0 m	kg							*4,960	4,880			*2,760	*2,760	7.41 m
4.5 m	kg							*5,520	4,660	*4,800	3,080	*2,770	2,650	8.08 m
3.0 m	kg			*13,220	*13,220	*8,270	7,000	*6,400	4,360	4,710	2,940	*2,910	2,350	8.43 m
1.5 m	kg			*7,080	*7,080	*10,070	6,370	6,600	4,050	4,540	2,790	*3,200	2,230	8.50 m
G.L.	kg			*8,350	*8,350	10,380	6,000	6,350	3,830	4,410	2,670	*3,730	2,260	8.29 m
-1.5 m	kg	*7,540	*7,540	*11,960	11,860	10,230	5,870	6,240	3,730	4,360	2,630	4,110	2,480	7.90 m
-3.0 m	kg	*11,510	*11,510	*14,660	12,070	*10,180	5,920	6,260	3,750			4,990	3,020	6.95 m
-4.5 m	kg			*11,240	*11,240	*7,990	6,150					*6,070	4,420	5.57 m

### Notes:

1. 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.
2. 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.

5. 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.
6. Lift capacities apply to only machine as originally manufactured and normally equipped by KOBELCO CONSTRUCTION MACHINERY CO., LTD.
7. The above figures indicate machine capacity, but in practice the machine should not be used for lifting loads.