

KOBELCO

SK220-10

SK220



We Save You Fuel
Achieving a Low-Carbon Society

Power Meets Efficiency

Higher fuel
efficiency
means
"Efficiency"

Increase in
productivity
means
"Power"

To urban centers and mines around the world.

Kobelco's all-out innovation brings you durable earth-friendly construction machinery suitable for any task and sites all over the planet with greater fuel economy we deliver higher efficiency to any project.

Kobelco SK220 machines are also more durable than ever, able to withstand the rigors of the toughest job sites. It all adds up to new levels of value that are a step ahead of the times. While focusing on the global environment of the future, Kobelco offers next-generation productivity to meet the need for lower life cycle costs and exceed the expectations of customers globally.



SK220



Evolution Continues, with Improved Fuel Efficiency.

Higher fuel efficiency means "Efficiency"

The new arm interflow system more efficiently controls hydraulic fluid flow, and significant reduction of in-line resistance and pressure loss boosts fuel efficiency. The electronic-control common-rail engine features high-pressure fuel injection and multiple injection with improved precision.



In Pursuit of Improved Fuel Efficiency

ECO-mode: engineered for economy

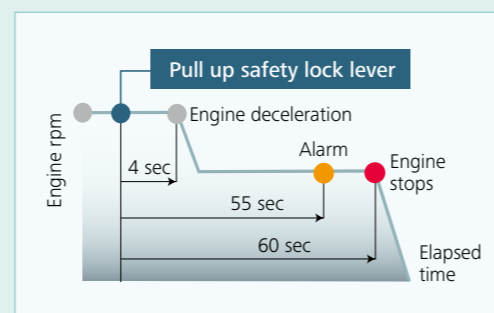
Kobelco's ECO-mode maximizes the operating efficiency of the engine and other components to achieve much greater fuel efficiency. Just press a button to choose the operation mode best suited to the task at hand and the working conditions.

■ Optimal operation with three modes

H H-mode Maximum power for maximum productivity on your toughest jobs

S S-mode Ideal balance of productivity and fuel efficiency for a range of urban engineering projects

E ECO-mode Minimum fuel consumption for utility projects and other work that demands precision



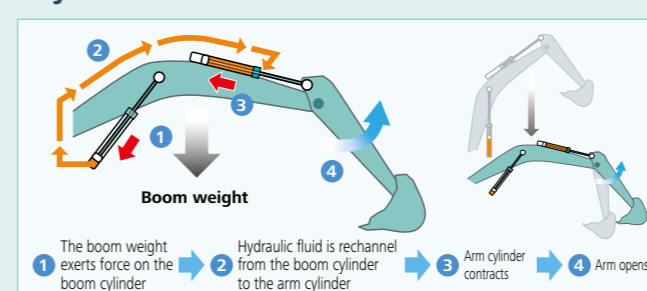
AIS (Auto Idle Stop)

If the boarding/disembarking lever is left up, the engine will stop automatically. This eliminates wasteful idling during standby, saving fuel and reducing CO₂ emissions as well.

Hydraulic System: Revolutionary Technology Saves Fuel

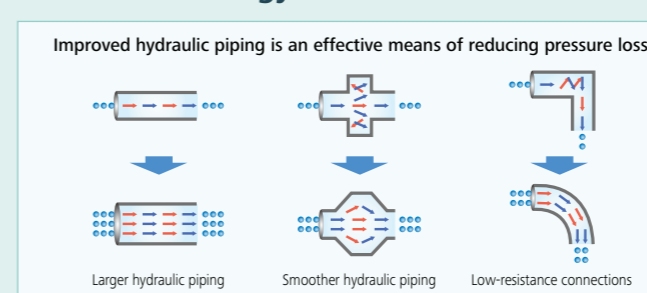
Arm Interflow System **NEW**

When lowering the boom, this system uses the downward force generated by the boom's weight to push fluid to the arm. This greatly reduces the need to apply power from outside the system.



Hydraulic Circuit Reduces Energy Loss

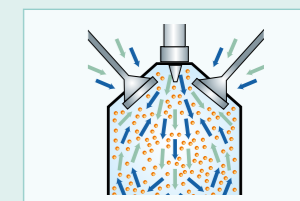
We have made every effort to enhance fuel efficiency by minimizing hydraulic pressure resistance, improving the hydraulic line layout to control friction resistance loss and minimizing valve resistance.



Pursuing Maximum Fuel Efficiency

Common Rail System

High-pressure injection atomizes the fuel, and more precise injection improves combustion efficiency. This also contributes to better fuel economy.



More Power and Higher Efficiency.

The highly efficient hydraulic system minimizes fuel consumption while maximizing power. With nimble movement and superior digging power, this excavator promises to improve your job productivity.

Improved Fuel Efficiency Contributes to High Performance

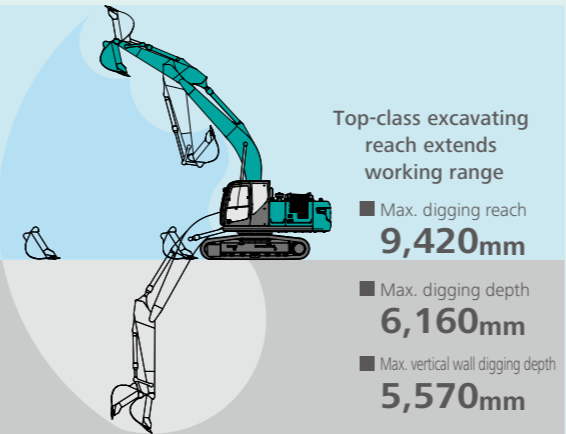
Superior Digging Performance

Powerful digging force delivers outstanding performance.

■ Max. Bucket Digging Force	■ Max. Arm Crowding Force
Normal: 143kN	Normal: 121kN
With power boost: 157kN	With power boost: 133kN

*Values are for short arm (2.40m)

Get More Done Faster with Superior Operability



*Values are for short arm (2.40m)

Piping for Breaker



Piping for Breaker is fitted as standard.

A Light Touch on the Lever NEW Means Smoother, Less Tiring Work



It takes 38% less effort to work the operation lever, which reduces fatigue over long working hours or continued operations.

Top Class Traveling Force

Powerful traveling force and drawbar pulling force deliver plenty of speed when climbing slopes or negotiating bad roads, and the agility to change direction swiftly and smoothly.

■ Drawbar Pulling Force: **227kN**



Operator-friendly Features Include Controls that Are Easy to See, Easy to Use



Multi-Display in Color

Brilliant colors and graphic displays are easy to recognize on the LCD multi-display in the console. The display shows fuel consumption, maintenance intervals, and more.

- 1 Analog gauge provides an intuitive reading of fuel level and engine water temperature
- 2 Green indicator light shows low fuel consumption during operation
- 3 Fuel consumption/Switch indicator for rear camera images
- 4 Digging mode switch
- 5 Monitor display switch

One-Touch Attachment Mode Switch

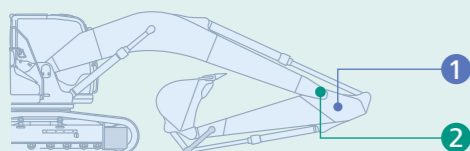
A simple touch of a button, switches the hydraulic circuit and flow amount to match attachment changes. Icons help the operator to confirm the proper configuration at a glance.



Increased Power, with Enhanced Durability to Maintain the Machine's Value

Increase in
productivity
means
"Power"

Structural design increases strength,
while eliminating hydraulic problems.
Enhanced durability takes
productivity to a new level.



Built to Operate in Tough Working Environments

The attachment has been reinforced to handle a higher work volume, with greater power and excellent durability that can withstand demanding work conditions.

1 Reinforcement of the Arm Foot

Thick base plate was been installed.



2 Foot Boss Shape

The arm foot boss shape has been modified and improved to distribute stress, delivering strength for tasks like digging next to a wall.



Improved Filtration System Reliability

Clean, contaminant-free fuel and hydraulic fluid are essential to stable performance. The improved filtration systems reduce the risk of mechanical trouble and enhance longevity and durability.

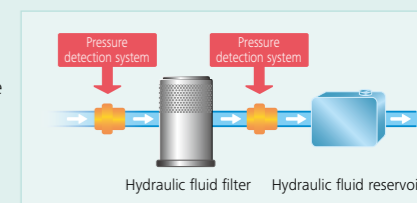
Hydraulic Fluid Filter

Recognized as the best in the industry, our super-fine filter separates out even the smallest particles. New cover prevents contamination when changing filters.



Hydraulic Fluid Filter Clog Detector

Hydraulic tank pressure sensor monitors the pressure difference between the return line and tank inside pressure to determine the degree of clogging. If the difference exceeds a predetermined level, a warning appears on the multi-display, so any contamination can be trapped by the filter and replaced before it reaches the hydraulic fluid in the tank.



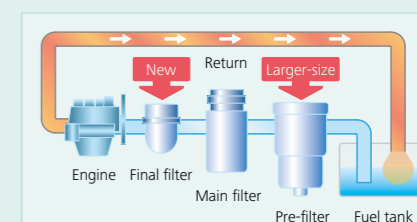
Metal Mesh Cover Air Cleaner

Metal mesh cover ensures strength and durability.



Fuel Filter

The pre-filter with built-in water-separator has 1.6 times more filter area compared to the previous models and with a new final stage maintenance free fuel filter to maximize filtering performance.



Comfortable Cab Is Now Safer than Ever.

A work environment that is quieter and more comfortable. A cab that puts the operator first is key to improved safety.



Comfort

Super-Airtight Cab



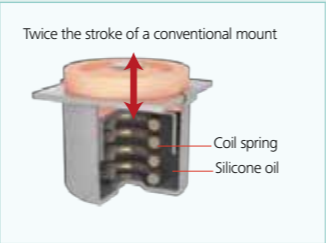
The high level of air-tightness keeps dust out of the cab.

Quiet Inside

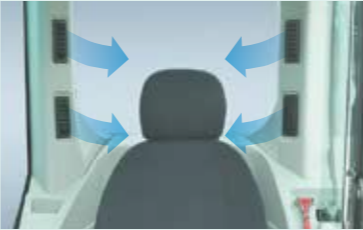
The high level of air-tightness ensures a quiet, comfortable cabin interior.

Low Vibration

Coil springs absorb small vibrations, and high suspension mounts filled with silicone oil reduce heavy vibration. The long stroke achieved by this system provides excellent protection from vibration.



Air Conditioner Louvers behind the Seat



The large air-conditioner has louvers on the back pillars that blow from behind and to the right and left of the operator's seat. They can be adjusted to put a direct flow of cool/warm air on the operator, which means a more comfortable operating environment.

More Comfortable Seat Means Higher Productivity



Seat recliner can be pushed back flat



Double slides allow adjustment for optimum comfort

Large Cab Is Easy to Get in and Out of

The expanded cab provides plenty of room for a large door, more headroom and smoother entry and exit.



Interior Equipment Adds to Comfort and Convenience



24V outlet



Spacious storage tray



Large cup holder

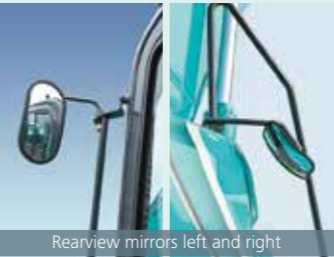
Safety

ROPS Cab

ROPS (Roll-Over-Protective Structure)-compliant cab clears ISO standards (ISO-12117-2: 2008) and ensures greater safety for the operator should the machine tip over.



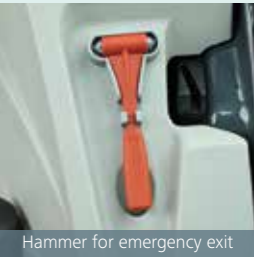
Expanded Field of View for Greater Safety



Rearview mirrors left and right



Rear view



Hammer for emergency exit

Greater safety assured by rearview mirrors on left and right.

Rear view shows the area directly behind the cab.



Rear view camera (option)



A rear view camera is installed as option to simplify checking for safety behind the machine. The picture appears on the color monitor.

Broad View Liberates the Operator

The front window features one large piece of glass without a center pillar on the right side for a wide, unobstructed view.

Ecavator Remote Monitoring System



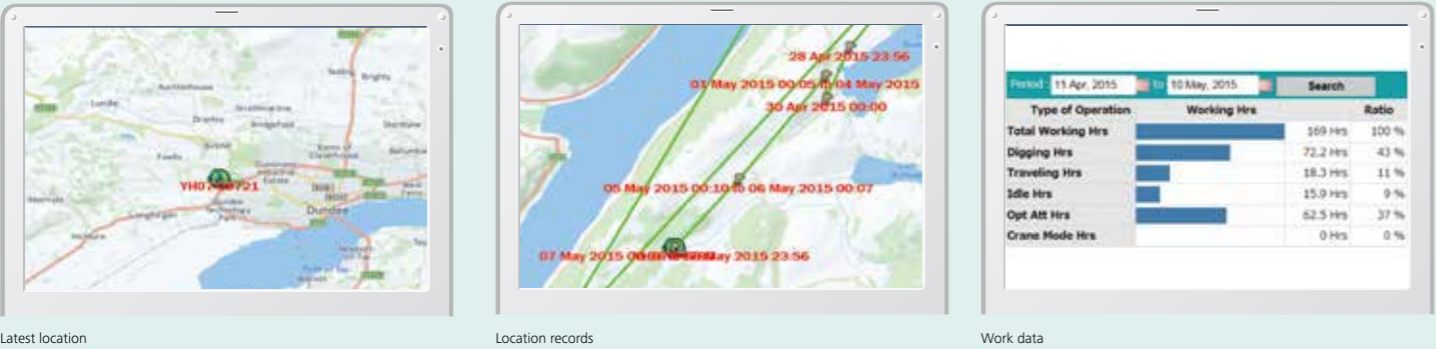
Remote Monitoring for Peace of Mind

Ecavator Remote Monitoring System uses satellite communication and internet to relay data, and therefore can be deployed in areas where other forms of communication are difficult. 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

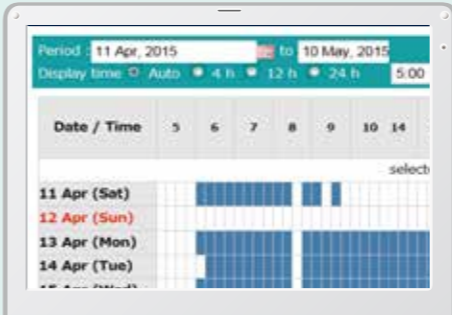
Location Data

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



Operating Hours

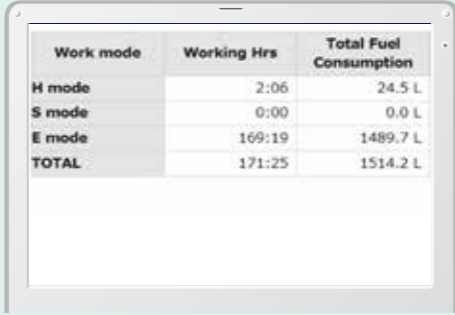
- A comparison of operating times of machines at multiple locations shows which locations are busier and more profitable.
- Operating hours on site can be accurately recorded, for running time calculations needed for rental machines, etc.



Daily report

Fuel Consumption Data

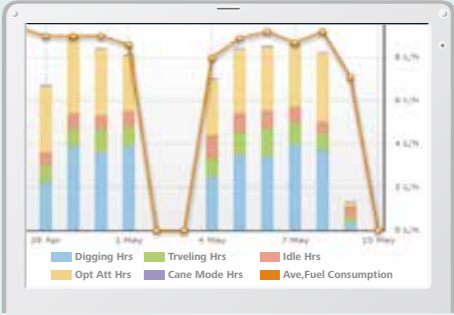
- Data on fuel consumption and idling times can be used to indicate improvements in fuel consumption.



Fuel consumption

Graph of Work Content

- The graph shows how working hours are divided among different operating categories, including digging, idling, traveling and optional operations.



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.

Model	Serial No.	Hour Meter	Engine Oil
SK135SRLC-3/SK140SRL	YH07-09721	734 Hr	434
SK135SRLC-3/SK140SRL	YH07-09789	73 Hr	429
SK210LC-9	YQ13-10454	960 Hr	58
SK210LC-9	YQ13-10481	549 Hr	498
SK75SR-	YT08-30174		

Maintenance

Warning Alerts

- This system warns an alert if an anomaly is sensed, preventing damage that could result in machine downtime.

Alarm Information Can Be Received through E-mail

- Alarm information or maintenance notice can be received through E-mail, using a computer or cell phone.



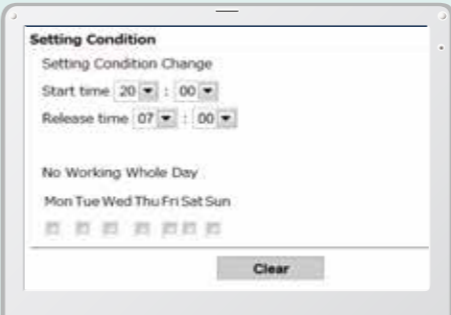
Daily/Monthly Reports

- Operational data downloaded onto a computer helps in formulating daily and monthly reports.

Security System

Engine Start Alarm

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



Engine start alarm outside prescribed work 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

Efficient Maintenance Keeps the Machine in Peak Operating Condition.



MAINTENANCE				
	INTERVAL	REMAINING	EXCHANGE	
	TIME	DAY	DAY	
ENGINE OIL	500	495	--/--	--/--
FUEL FILTER	500	495	--/--	--/--
HYD. FILTER	1000	995	--/--	--/--
HYD. OIL	5000	4995	--/--	--/--

Machine Information Display Function

- Displays only the maintenance information that's needed, when it's needed
- Self-diagnostic function provides early-warning detection and display of electrical system malfunctions
- Service-diagnostic function makes it easier to check the status of the machine
- Record function of previous breakdowns including irregular and transient malfunction

Examples of displaying maintenance information

Easy, On-the-Spot Maintenance

There is ample space in the engine compartment for a mechanic to do maintenance work inside. The distance between steps is lower so entry and exit is easier. And the mechanic can work in comfort, without contortions or unnatural body positions. Finally, the engine hood is lighter and easier to raise and lower.



Generous space for maintenance work



Steps



Hand rail

More Efficient Maintenance Inside the Cab



Air conditioner filters

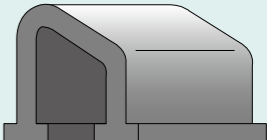
Internal and external air conditioner filters can be easily removed without tools for cleaning.

Easy Cleaning



Crawler frame

Special crawler frame design for easy mud removal cleaning



Detachable two-piece floor mat

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



Floor mat with raised edges

Floor mat's raised edges help keep the cab floor free of mud, simplify cleaning.

Maintenance Work, Daily Checks, Etc., Can Be Done from Ground Level

The layout allows for easy access from the ground for many daily checks and regular maintenance tasks.



Double-element air cleaner



Fuel filter with built-in water-separator



Fuel filter



Right side



Left side

- 1 Fuel filter
- 2 Fuel filter with built-in water-separator
- 3 Engine oil filter

Simple layout for easy access to radiator and cooling system elements

Long-life hydraulic oil:
5,000 hours

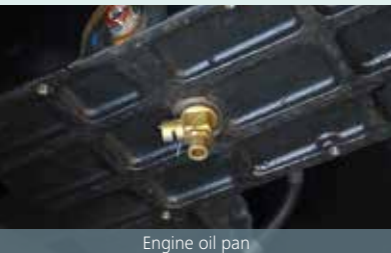
Long-Interval Maintenance

Long-life hydraulic oil reduces cost and labor.

Replacement cycle:
1,000 hours

Highly Durable Premium-fine Filter

The high-capacity hydraulic oil filter incorporates glass fiber with superior cleaning power and durability.



Engine oil pan

Engine oil pan equipped with drain valve.

Engine

Model	HINO J05ETG	
Type	Four-stroke liquid-cooled direct injection diesel turbo charged with intercooler	
No. of cylinders	4	
Bore and stroke	112 mm x 130 mm	
Displacement	5.123 L	
Rated power output	114 kW/2,000 min ⁻¹ (ISO 9249: with fan)	
	118 kW/2,000 min ⁻¹ (ISO 14396: without fan)	
Max. torque	569 N•m/1,600 min ⁻¹ (ISO 9249: with fan)	
	592 N•m/1,600 min ⁻¹ (ISO 14396: without fan)	

Hydraulic System

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

Swing System

Swing motor	One fixed displacement piston pump
Brake	Hydraulic; locking automatically when the swing control lever is in neutral position
Parking brake	Wet multiple plate
Swing speed	13.3 min ⁻¹ {rpm}

Attachments

Backhoe bucket and combination

Type		Backhoe bucket		
Bucket capacity	ISO heaped	m ³	0.80	0.93
	ISO Struck	m ³	0.59	0.67
Opening width	With side cutter	mm	1,160	1,390
	Without side cutter	mm	1,140	1,230
No. of teeth			5	5
Bucket weight		kg	780	870
Combination	2.40m short arm		○	◎
	2.94m standard arm		◎	○

◎ Standard ○ General operation

Travel System

Travel motors	2 x axial-piston, two-step motors
Travel brakes	Hydraulic
Parking brakes	Wet multiple plate
Travel shoes	46 each side
Travel speed	6.0/3.6 km/h
Drawbar pulling force	227 kN (ISO 7464)
Gradeability	70 % {35°}

Cab & Control

Cab
All-weather, sound-suppressed steel cab mounted on the high suspension mounts filled with silicone oil 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 x 1,355 mm
Arm cylinder	135 mm x 1,558 mm
Bucket cylinder	120 mm x 1,080 mm

Refilling Capacities & Lubrications

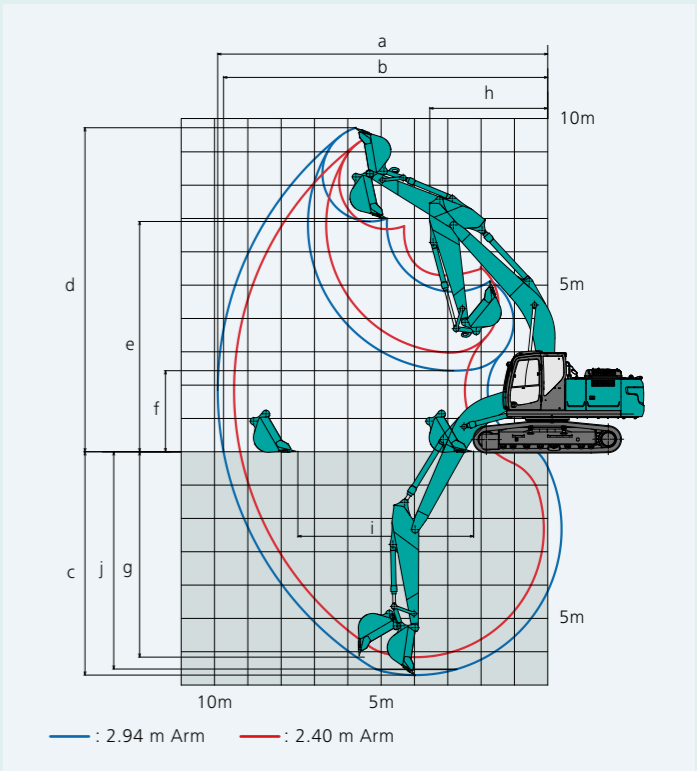
Fuel tank	320 L
Cooling system	18 L
Engine oil	20.5 L
Travel reduction gear	2 X 5 L
Swing reduction gear	3 L
Hydraulic oil tank	140 L tank oil level
	244 L hydraulic system

Working Ranges

Unit: m		
Boom	5.65 m	
Range	2.94 m	2.40 m
a- Max. digging reach	9.9	9.42
b- Max. digging reach at ground level	9.73	9.24
c- Max. digging depth	6.7	6.16
d- Max. digging height	9.72	9.51
e- Max. dumping clearance	6.91	6.68
f- Min. dumping clearance	2.43	2.98
g- Max. vertical wall digging depth	6.1	5.57
h- Min. swing radius	3.55	3.56
i- Horizontal digging stroke at ground level	5.27	4.08
j- Digging depth for 2.4 m (8') flat bottom	6.52	5.95
Bucket capacity ISO heaped m ³	0.80	0.93

Unit: kN		
Arm length	2.94 m	2.40 m
Bucket digging force	143	143
	157*	157*
Arm crowding force	102	121
	112*	133*

*Power Boost engaged.

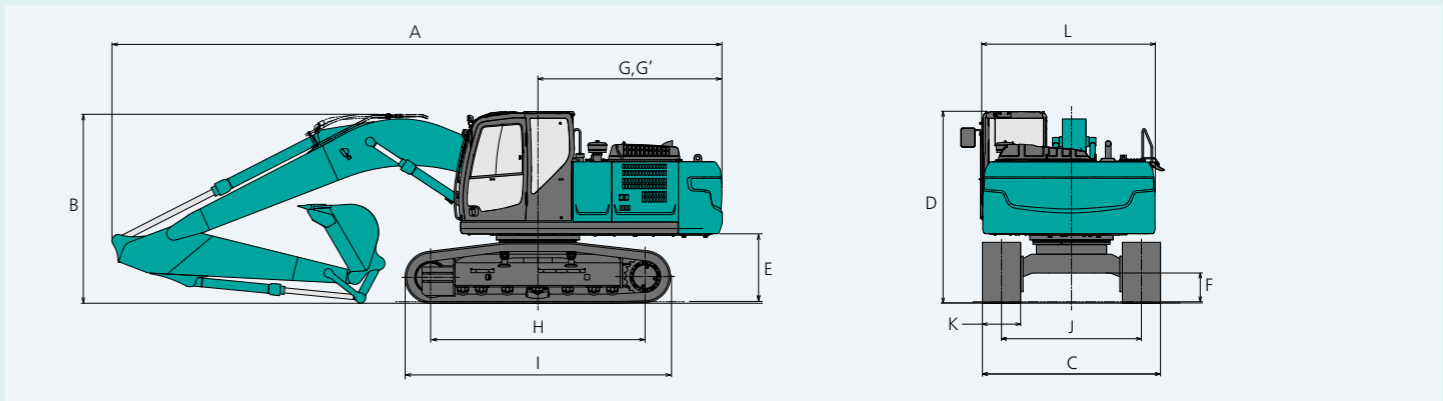


Dimensions

Arm length	2.94 m	2.40 m
A Overall length	9,600	9,680
B Overall height (to top of boom)	2,980	3,220
C Overall width	2,800	
D Overall height (to top of cab)	3,020	
E Ground clearance of rear end*	1,070	
F Ground clearance*	435	

Unit: mm		
G Tail swing radius		2,910
G' Distance from center of swing to rear end		2,900
H Tumbler distance		3,370
I Overall length of crawler		4,180
J Track gauge		2,200
K Shoe width		600
L Overall width of upperstructure		2,710

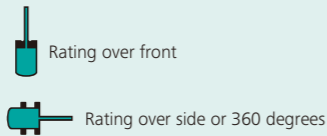
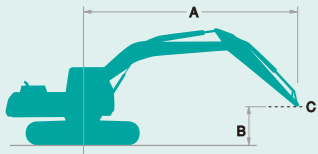
*Without including height of shoe lug



Operating Weight & Ground Pressure













In standard trim, with standard boom, 2.40 m arm, and 0.93 m³ ISO heaped bucket

Shaped		Triple grouser shoes (even height)	
Shoe width	mm	600	800
Overall width of crawler	mm	2,800	3,000
Ground pressure	kPa	47	36
Operating weight	kg	20,800	21,300



A: Reach from swing centerline to arm top
B: Arm top height above/below ground
C: Lift point
Bucket: Without bucket
Relief valve setting: 34.3MPa (350kgf/cm²)

SK220		Boom: 5.65 m Arm: 2.4 m Bucket: without Shoe: 600 mm (Power Booster)										
B \ A		3.0 m		4.5 m		6.0 m		7.5 m		At Max. Reach		Radius
7.5 m	kg									*5730	4,960	5.59 m
6.0 m	kg					*5,820	4,430			*5210	3,540	6.80 m
4.5 m	kg			*7,440	6,660	*6,220	4,260	4,570	2,940	4,540	2,920	7.52 m
3.0 m	kg			*9,080	6,050	6,320	4,010	4,480	2,860	4,120	2,630	7.89 m
1.5 m	kg			9,420	5,580	6,060	3,770	4,360	2,750	3,990	2,520	7.97 m
G.L.	kg			9,180	5,380	5,900	3,630	4,290	2,690	4,100	2,580	7.75 m
-1.5 m	kg	10,410	10,310	9,160	5,370	5,860	3,600			4,540	2,840	7.22 m
-3.0 m	kg	*11,750	10,550	*8,830	5,500	5,990	3,710			5,630	3,510	6.28 m
-4.5 m	kg			*5,510	*5,510					*5,050	*5,050	4.71 m

SK220		Boom: 5.65 m Arm: 2.94 m Bucket: without Shoe: 600 mm (Power Boost)												
A \ B		1.5 m		3.0 m		4.5 m		6.0 m		7.5 m		At Max. Reach		Radius
														
7.5 m	kg							*4,810	4,510			*3,850	*3,850	6.26 m
6.0 m	kg							*5,260	4,500			*3560	3,110	7.36 m
4.5 m	kg							*5,740	4,310	4,600	2,970	*3,480	2,610	8.03 m
3.0 m	kg					*8,370	6,180	6,360	4,030	4,480	2,850	*3,550	2,360	8.38 m
1.5 m	kg					9,490	5,630	6,060	3,770	4,330	2,720	3,610	2,260	8.45 m
G.L.	kg			*5,750	*5,750	9,140	5,330	5,860	3,580	4,230	2,620	3,690	2,300	8.25 m
-1.5 m	kg	*6,080	*6,080	*10,050	10,030	9,050	5,260	5,770	3,510	4,200	2,600	4,030	2,500	7.75 m
-3.0 m	kg	*10,650	*10,650	*13,030	10,250	9,140	5,330	5,830	3,560			4,810	2,990	6.89 m
-4.5 m	kg			*9,600	*9,600	*7,030	5,590					*5,280	4,260	5.49 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.
 - Arm top defined as lift point.
- The above lift capacities are in compliance with ISO 10567. They do not exceed 87% of hydraulic lift capacity or 75% of tipping load. Lift 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.

STANDARD EQUIPMENT

- ENGINE
 - Engine, HINO J05ETG, diesel engine with turbocharger and intercooler
 - Automatic engine deceleration
 - Auto Idle Stop (AIS)
 - Batteries (2 x 12V - 104Ah)
 - Starting motor (24V - 5 kW), 1.2kW alternator
 - Automatic engine shut-down for low engine oil pressure
 - Engine oil pan drain cock
 - Double element air cleaner
 - Pre-air cleanerCONTROL
 - Working mode selector (H-mode, S-mode and ECO-mode)
 - Power BoostSWING SYSTEM & TRAVEL SYSTEM
 - Straight propel system
 - Two-speed travel with automatic shift down
 - Sealed & lubricated track links
 - Grease-type track adjusters
 - 600mm triple grouser shoe
 - Automatic swing brakeHYDRAULIC
 - Arm regeneration system
 - Auto warm up system
 - Aluminum hydraulic oil cooler
 - Hydraulic fluid filter clog detector
 - 2 Way piping (Nibbler & Breaker)
- MIRRORS & LIGHTS
 - Two rear view mirrors
 - Three front working lights
 - (one for boom, one for right storage box and one for cab)CAB & CONTROL
 - Two control levers, pilot-operated
 - Horn, electric
 - Rops cab, all weather sound suppressed type
 - Cab light (interior)
 - Luggage tray
 - Large cup holder
 - Detachable two-piece floor mat
 - Headrest
 - Handrails
 - Intermittent windshield wiper with double-spray washer
 - Tinted safety glass
 - Pull-up type front window and removable lower front window
 - Easy-to-read multi-display color monitor
 - Automatic air conditioner
 - Emergency escape hammer
 - Excavator Remote Monitoring System
 - 7-way adjustable suspension seat
 - 24V outlet

OPTIONAL EQUIPMENT

- Additional track guide
 - Travel alarm
 - Breaker piping
 - Refilling pump
 - Rear view camera
- Rotary yellow beacon
 - Cab guard
 - 0.80m³ bucket
 - 0.93m³ bucket

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. Specialist equipment is needed to use this machine in demolition work. Before using it please contact your KOBELCO dealer.

Due to our policy of continuous product improvements all designs and specifications are subject to change without advance notice.

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