

KOBELCO

SK135SR

Offset Boom Specification



We Save You Fuel
Achieving a Low-Carbon Society

Power Meets Efficiency

With iNDR for even quieter operation.

SK135SR

Offset Boom Specification





"KOBELCO has made the short rear swing excavator the standard for mid-sized machines. And with ongoing development in innovations such as the iNDr noise reduction system that both shuts out dust and cuts noise, KOBELCO is boosting value and leading the industry with construction machinery ideally suited to the urban environment.

The new SK135SR-5 OFFSET retains the compact shape and iNDr system advantages that KOBELCO has pioneered, but it has been fitted with a new and larger engine assembly for improved environmental protection. Low fuel consumption is balanced against work performance, and machine durability has been advanced.

The new worldwide-model SK135SR-5 OFFSET. Working for the planet."



Low Noise and Easy Maintenance Mean Greater A New Design Approach Leads to a Revolutionary

By reviewing the iNDr configuration, Kobelco achieved both great visibility and a compelling design even though the engine compartment has been enlarged to meet Stage IV standards, maintaining the value of iNDr.

iNDr absorbs sound energy to minimize noise by making a path of air, which cools down engine, as one engine cooling ducts. The new model is equipped with a selective catalytic reduction (SCR) unit, which required a new design with two offset ducts on top. This allows ample space to absorb engine noise, making these new excavators as quiet as conventional models.



The Results Are Exceptional. The Big Merits:

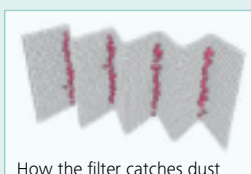
“Ultimate Low Noise” is achieved by minimizing sound leakage during operation

Kobelco’s “Ultimate Low Noise” system exceeds all noise standards. Noise from the engine and cooling fan is absorbed by the duct, reducing machine’s noise signature to the lowest in the industry. Perfect for urban utility renewal projects.

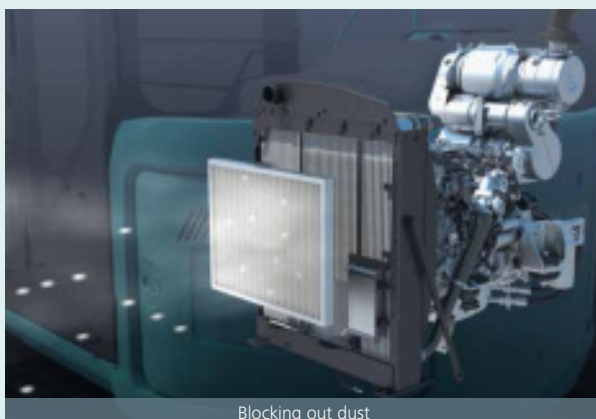


Eliminating dust maintains cooling system performance

The high-density 60-mesh filter* blocks out dust in the intake air. This prevents clogging of the cooling system and the air cleaner, which maintains peak performance. The waveform filter allows air through the tops of the waves while collecting dust at the bottom, ensuring a smooth airflow.



* “60-mesh” means that there are 60 holes formed by horizontal and vertical wires in every square inch of filter.



Easy filter maintenance system simplifies cleaning

Daily inspection consists of a visual check of the iNDr filter only. If it looks dirty, it can be removed and washed without special tools.



Value Than Ever Double Offset Duct Structure



Wide, clear view to the rear

Even with the larger engine compartment, the design minimizes hood height, ensuring an excellent direct view to the rear. In addition, the operator can monitor conditions behind the machine with clear, wide-angle images from the rear-view camera, which comes as standard equipment.

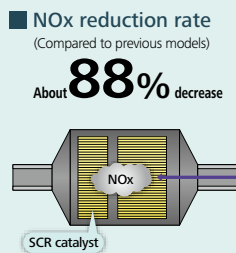


NOx emissions cut:

New, Environmentally Friendly Engine

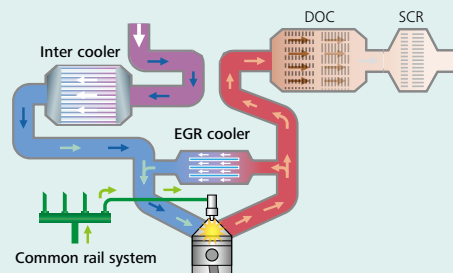
New Stage IV compliance engine **NEW**

The new type of Stage IV compliant engine is fitted with a diesel oxidation catalyst (DOC) and an SCR device to control emissions without using a diesel particulate filter (DPF). It has a large-capacity Urea tank, extending intervals between fill-ups.



A newly developed engine raises the bar for construction machinery

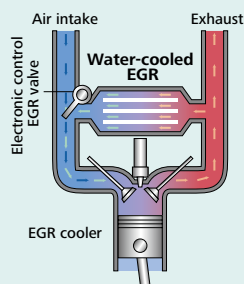
The latest Kobelco SK135SR uses an ISUZU engine that is renowned for environmental performance, and has been tuned specifically for use in Kobelco machines. This new, environmentally friendly engine changes conventional wisdom on balancing powerful performance with eco-friendliness. Eliminating the DPF makes maintenance faster and easier than ever.



At high temperatures, nitrogen and oxygen combine to produce nitrous oxides (NOx). Reducing the amount of oxygen and lowering the combustion temperature results in much less NOx.

EGR cooler

While ensuring sufficient oxygen for combustion, cooled emission gases are mixed with the intake air and recirculated into the engine. This reduces oxygen content and lowers combustion temperature.

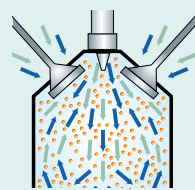


PM emissions cut:

Particulate matter (PM) is mostly soot resulting from incomplete combustion; Improved combustion efficiency reduces PM emissions. filter further reduces PM emissions.

Common rail system

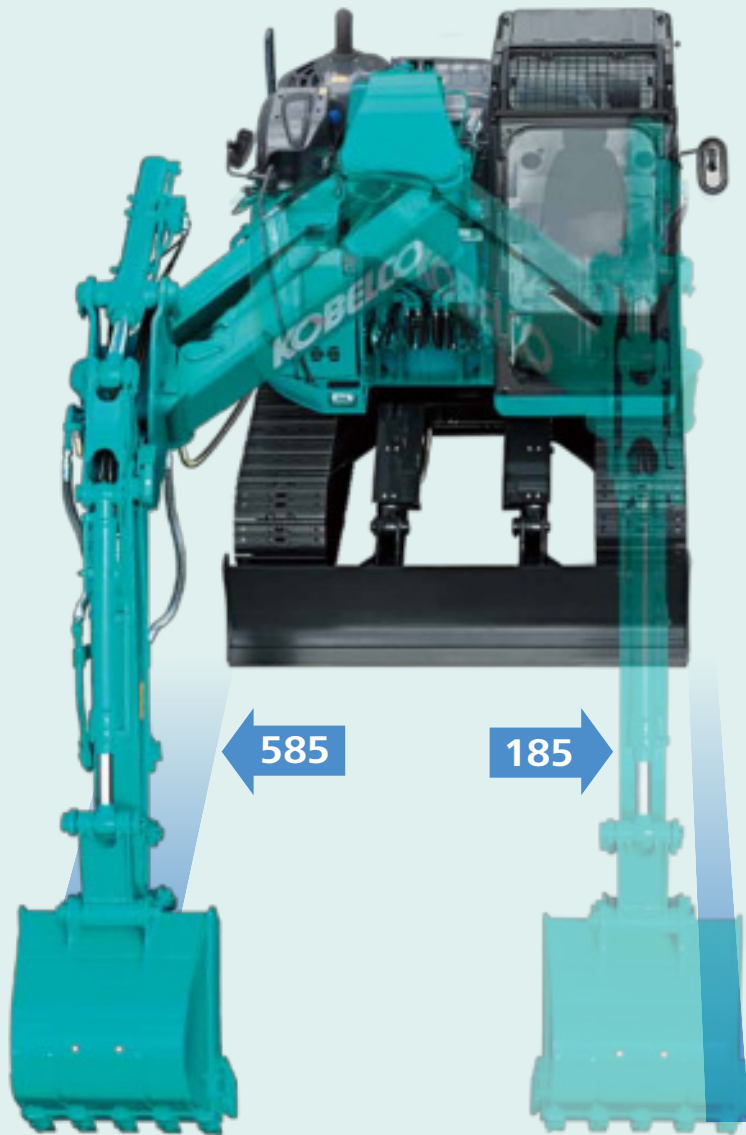
High-pressure injection atomizes the fuel, and more precise injection improves combustion efficiency. This also contributes to better fuel economy.



Common rail system

Unbeatable Cost Performance

Greater Work Capacity:
Exceeding Expectations in Productivity



Ideal for Urban Work Sites Provides a Broad Working Range, Even in Close Quarters

Standard equipment includes an offset boom, and a dozer blade makes swift work of excavation next to walls or of side ditches, as well as refilling.

585mm

■ Digging width at outer edge of right crawler

185mm

■ Digging width at outer edge of left crawler

Offset boom with hydraulic lines inside the cylinders to prevent damage

The press-constructed boom is both lightweight and slim for smooth operation. The large offset makes it easy to dig right next to walls.

Strong, straight dozer blade means efficient dozing

The dent-resistant, box-type dozer blade is fitted to a dozer arm with superior structural strength. The optional bolt-on dozer edge can be easily mounted as needed.

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



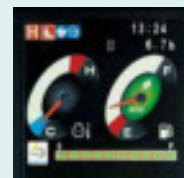
Multi-Display in color

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 Urea level gauge
- 4 Fuel consumption/Switch indicator for rear camera images
- 5 Digging mode switch
- 6 Monitor display switch

One-touch attachment mode switch

A simple flick of a switch converts the hydraulic circuit and flow amount to match attachment changes. Icons help the operator to confirm the proper configuration at a glance.



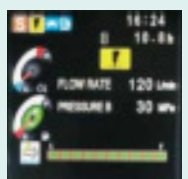
PM accumulation display (left)/ Urea level gauge (right)



Fuel consumption



Maintenance



Breaker mode

3,350mm

■ Min. working width

Compact working radius is ideal for road work in close quarters

The operator gets the best of both worlds: a roomy cab fitted on a compact upper body. Rear overhang when rotating is just 245mm, with a maximum overhang of only 605mm at the forward left cab corner. With such a small working radius, the machine is perfect for continuous digging, swinging, and loading operations in tight spaces.

Smooth rotation cuts cycle times during swinging operation

Thanks to powerful swing torque and fast swing speed, digging, swinging, and loading—continuous operation makes any task faster.



4,920mm

■ Max. digging depth

8,150mm

■ Max. digging height

7,570mm

■ Max. digging reach

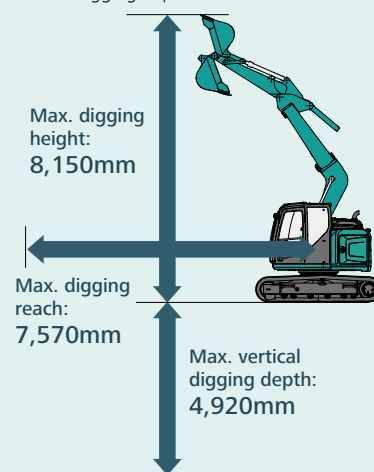
Operation range with an emphasis on depth

Maximum digging depth: 4,920mm (with no offset)

Excavates deep enough, even with offset boom.

Excellent working ranges

Greater working ranges with class-topping vertical digging depth.



87.5kN {8.92tf}

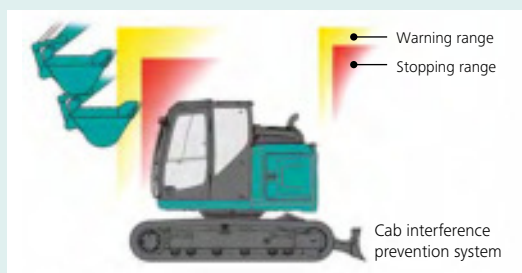
■ Max. Bucket Digging Force

62.1kN {6.33tf}

■ Max. Arm Crowding Force

Smooth automatic stop, cab interference protection system

The automatic stop system prevents the bucket from coming in contact with the cab. Its wide deceleration range keeps the bucket from making a sudden stop.



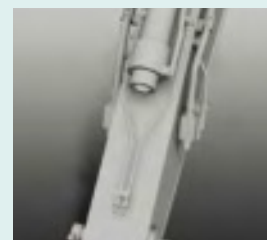
Work space control device keeps the machine from coming in contact with walls, beams, or underground items

Depth, height, and left offset spaces can be controlled. This keeps the machine and attachments out of harm's way, and boosts efficiency of continuous operations such as ditch digging. The system can also be used to measure depth.



Easy hydraulic piping for quick hitch

A quick hitch hydraulic line, which speeds up attachment changes, is available as standard.



Energy-efficient System

ECO-mode: engineered for economy

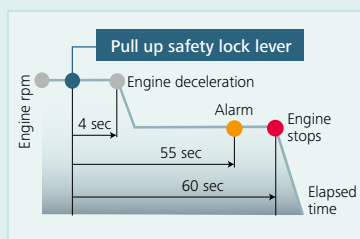
Kobelco's ECO-mode maximizes the operating efficiency of the engine and other components to achieve much greater fuel efficiency. Just press a button to choose the operation mode best suited to the task at hand and the working conditions.

■ Optimal operation with three modes

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

S H-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 engineered to reduce energy loss

Kobelco's proprietary hydraulic systems offer hydraulic line positioning that reduces friction resistance and valves designed for higher efficiency, minimizing energy loss throughout the system.

Always and forever. Yesterday, today, and tomorrow. We're obsessed with fuel efficiency

Over the past 8 years, KOBELCO has achieved an average fuel consumption reduction of 21% across its fleet. We vow to lead the industry in improving fuel efficiency.

■ Compared to SK135SRLC-2 (2008)

E ECO-mode (SK135SR-5) . . . About **21%** improvement

Cab Design That Puts the Operator First

Wide and open, the cab's interior overflows with features that streamline operation



Comfort

Big roomy cab

The cube design makes the most of straight lines, so the cab interior is 4% more spacious than before. Operating space literally spreads out before the operator. And the 50Pa airtightness keeps dust outside.

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

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



Wide-open field of view

On the right side, the large single window has no center pillar, and the whole cab is designed for a wide field of view, giving the operator a direct view ahead and to the left and right. Mirror makes it easy for the operator to make sure things are safe all around.



Wide doors and ample head clearance mean smooth entry and exit

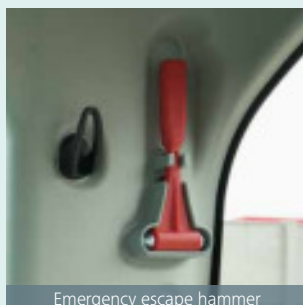
The control box and safety lock lever tilt up at a larger angle, and the door handle height is positioned for easy cab entry and exit.



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.



Emergency escape hammer



Mounting brackets for vandalism guards are standard equipment (contact your KOBELCO dealer to fit vandalism).

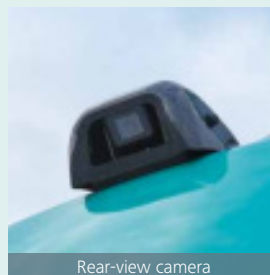
Expanded field of view for greater safety



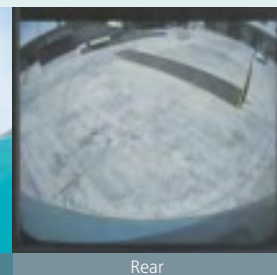
Left and right rear-view mirrors/Right bottom clearance mirror



Rear view from cab

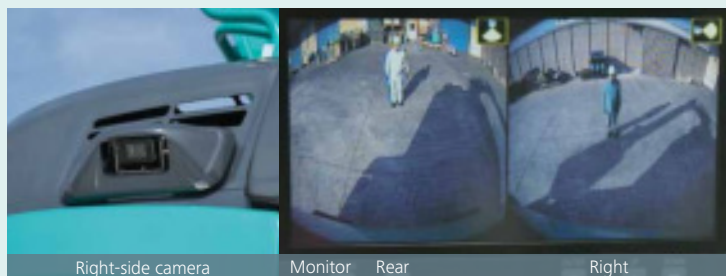


Rear-view camera



Rear

Option right side camera NEW



Right-side camera

Monitor

Rear

Right

GEOSCAN

GEOSCAN is a satellite-based system for receiving machine information. Manage your machines anywhere in the world using the Internet. Location, workload and diagnostic data aid business operations.

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.

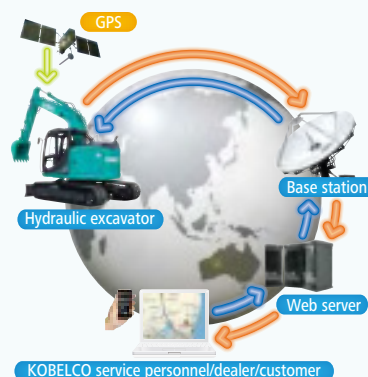
Fuel Consumption Data

Data on fuel consumption and idling times can be used to indicate improvements in 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 (N&B).

Note: Remote monitoring system is not applicable in some area due to country regulation of the communication lines or availability of infrastructure.



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.

Security System

Engine Start Alarm

Sends a notification if the engine is started outside of pre-defined hours.

Area Alarm

Sends a notification if the machine leaves a pre-defined area.

Proper Maintenance Ensures Peak Efficiency

Kobelco machines are designed for quick, simple inspection and maintenance.

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



Maintenance information display

Easy, on-the-spot maintenance NEW



Urea tank

Urea filler cap is placed on the step for easy access.



Engine maintenance

Setting up maintenance area one step down allows easy access to the engine.



Handhold

The handrail is placed on the boom side. In addition, the distance between the current handrails was increased to allow easier access to the maintenance port on the upper arm.

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.



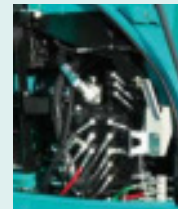
Engine oil filter



Hydraulic pump



iNDR filter/radiator reservoir tank/air cleaner



Control valve/water separator



Fast maintenance requires only a few procedures



Washer fluid tank is located under the cab floor mat.



Engine oil quick-drain valve can be turned without special tool.



Fuel tank features bottom flange and large drain valve.

Quality That Keeps on Shining. Valuable Assets Take Your Business to the Next Level

Structural strength and proven reliability mean these machines can deal with heavy work loads and perform in rigorous site environments. From the lifecycle viewpoint, these machines maintain their value throughout their service lives.

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.

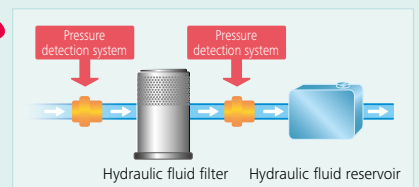
Hydraulic fluid filter NEW

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



Hydraulic fluid filter clog detector NEW

Pressure sensors at the inlet and outlet of the hydraulic fluid filter monitor differences in pressure to determine the degree of clogging. If the difference in pressure exceeds a predetermined level, a warning appears on the multi-display, so any contamination can be removed from the filter before it reaches the hydraulic fluid reservoir.



Large NEW fuel filter

The large fuel filter with built-in water separator maximizes filtering performance.



Double-element air cleaner

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

Long-life hydraulic oil:
5,000
hours

Long-interval maintenance

Long-life hydraulic oil reduces cost and labor.

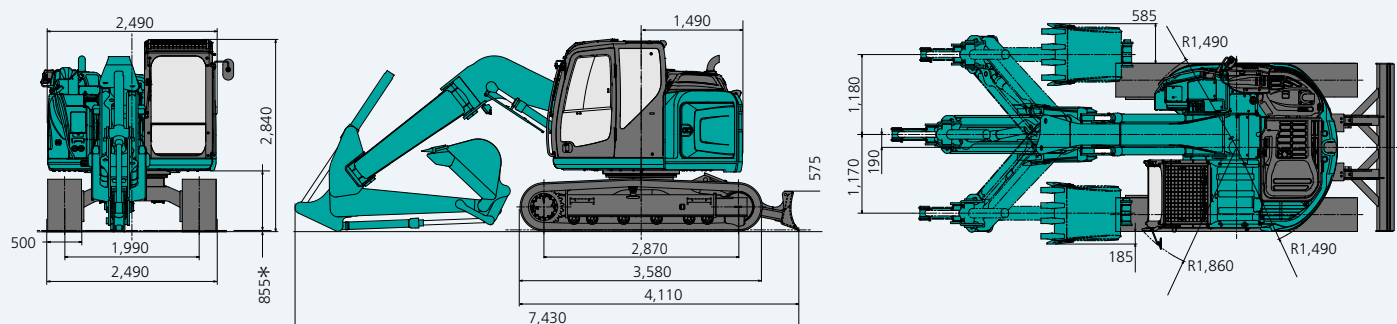
Replacement cycle:
1,000
hours

Highly durable premium-fine filter

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

Dimensions

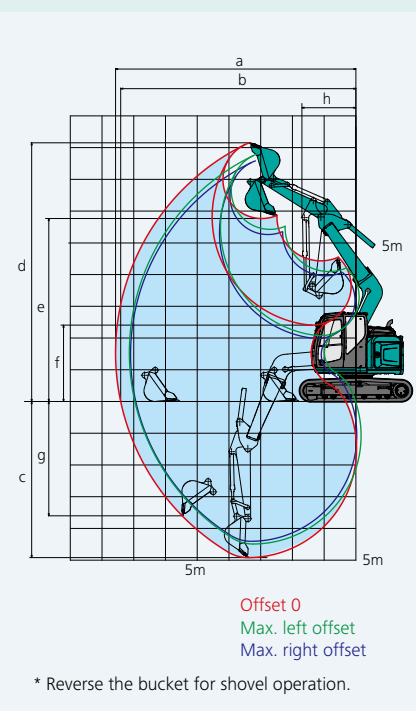
Unit: mm



* Without including height of shoe lug.

Unit: m

Boom	Offset Boom Specification					
Arm	Standard: 2.20 m			Long: 2.50 m		
Offset	Max. Left	Center	Max. Right	Max. Left	Center	Max. Right
a- Max. digging reach	7.15	7.57	7.14	7.41	7.83	7.40
b- Max. digging reach at ground level	6.98	7.41	6.97	7.25	7.68	7.23
c- Max. digging depth	4.52	4.92	4.50	4.82	5.22	4.80
d- Max. digging height	7.81	8.15	7.80	7.97	8.31	7.96
e- Max. dumping clearance	5.42	5.77	5.41	5.59	5.93	5.57
f- Min. dumping clearance	2.07	2.41	2.05	1.78	2.12	1.77
g- Max. vertical wall digging depth	3.25	3.60	3.23	3.54	3.90	3.53
h- Min. swing radius	1.80	1.70	2.05	1.90	1.79	2.11
Bucket capacity ISO heaped m ³	0.45			0.38		

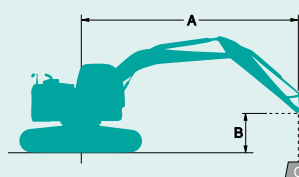


Operating Weight & Ground Pressure

Standard Configuration

Shaped		Triple grouser shoes (even height)		
Shoe width	mm	500	600	700
Overall width of crawler	mm	2,490	2,590	2,690
Ground pressure	kPa {kgf/cm²}	46 {0.47}	39 {0.40}	34 {0.34}
Operating weight	kg	14,500	14,800	15,000
Ground pressure with dozer	kPa {kgf/cm²}	48 {0.49}	41 {0.42}	35 {0.36}
Operating weight with dozer	kg	15,300	15,500	15,700

Lifting Capacity













Rating over front



Rating over side or 360 degrees

A: Reach from swing centerline to arm top
B: Arm top height above/below ground
C: Lifting capacities in Kilograms
Bucket: Without bucket
Relief valve setting: 34.3 MPa {350 kgf/cm²}

SK135SR Offset Boom		Arm: 2.20m Bucket: Without Counterweight: 3,140kg Shoe: 500mm Dozer: Blade Up										
<div><div>A</div><div>B</div></div>		1.5 m		3.0 m		4.5 m		6.0 m		At Max. Reach		Radius
												
6.0m	kg									*2,630	*2,630	4.41m
4.5m	kg			*4,160	*4,160	*3,660	3,540			*2,520	2,410	5.58m
3.0m	kg			*6,010	*6,010	*4,260	3,260	2,970	2,030	*2,630	1,930	6.17m
1.5m	kg			*8,040	5,170	4,430	2,920	2,830	1,900	2,590	1,730	6.34m
G.L.	kg			*8,000	4,790	4,170	2,680	2,720	1,790	2,620	1,730	6.14m
-1.5m	kg	*6,130	*6,130	*7,730	4,780	4,080	2,610			3,020	1,980	5.53m
-3.0m	kg			*5,980	4,980					*4,170	2,880	4.31m

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 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.

SPECIFICATIONS

Performance			
Bucket Capacity	ISO heaped	m ³	0.45
	Struck	m ³	0.35
Swing Speed	min ⁻¹ {rpm}		11.0 {11.0}
Travel Speed	km/h		5.6/3.4
Gradeability	% {degree}		70% {35°}
Bucket Digging Force	kN {tf}		87.5 {8.92}
Arm Crowding Force	kN {tf}		62.1 {6.33}
Drawbar Pulling Force	kN		138 (ISO 7464)
Weight			
Operating Weight (without dozer)	kg		15,300
Ground Pressure	kPa {kgf/cm ² }		46 {0.47}
Shoe Width	mm		500
Engine			
Model	ISUZU 4JJ1XDRA		
Type	Direct injection, water-cooled, 4-cycle diesel engine with turbocharger, intercooler		
Rated Power Output	78.5 kW/2,000 min ⁻¹ (ISO14396:without fan) 73.9 kW/2,000 min ⁻¹ (ISO9249:with fan)		
Max. Torque	375 N·m/1,600 min ⁻¹ (ISO14396:without fan) 357 N·m/1,600 min ⁻¹ (ISO9249:with fan)		
Fuel Tank	L		190

Blade			
Width x Height	mm		2,490 x 575
Working Range (Height/Depth)	mm		490/535
Side Digging Mechanism			
Type	Boom swing		
Offset Volume	To the left	mm	1,170
	To the right	mm	1,180
Hydraulic System			
Pump	Two variable displacement pumps + one gear pump		
Max. Discharge flow	2 x 130 L/min, 1 x 20 L/min Extra gear pump 1 x 50L/min		
Max. Discharge Pressure	34.3 MPa {350 kgf/cm ² }		
Swing Motor	Axial piston motor		
Travel Motors	2 x axial piston, two-step motor		
Hydraulic Oil Tank	L		79.3 tank oil level 273 hydraulic system

STANDARD EQUIPMENT

ENGINE

- Engine, ISUZU, 4JJ1XDRA Diesel engine with turbocharger and intercooler, Stage 4 certified
- Automatic engine deceleration
- Auto idle Stop (AIS)
- Batteries (2 x 12V - 80 Ah)
- Starting motor (24 V - 4kW), 50 amp alternator
- Automatic engine shut-down for low engine oil pressure
- Engine oil pan drain cock
- Double element air cleaner

CONTROL

- Working mode selector (H-mode, S-mode and ECO-mode)
- Breaker piping (proportional hand controlled)
- Quick Hitch piping

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

MIRRORS,CAMERA & LIGHTS

- Three rear view mirrors, rearview camera
- Three front working lights (2 for boom, one for right strage box)

CAB & CONTROL

- Two control levers, pilot-operated
- Tow eyes
- Horn, electric
- Integrated left-right slide-type control box
- Cab light (interior)
- Coat hook
- Luggage tray
- Large cup holder
- Detachable two-piece floor mat
- Headrest
- Handrails
- 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
- Suspension seat
- Radio, AM/FM stereo with speakers
- Boom & Arm safety valve
- Geoscan
- Travel alarm
- Lower under cover

OPTIONAL EQUIPMENT

- Various optional arms
- Wide range of shoes
- Additional track guide
- Multi control valve
- Front-guard protective structure (may interfere with bucket action)
- Extra piping (proportional hand controlled) (Applicable for Offset boom)

- Add-on counterweight (+580kg)
- Two cab lights
- Air suspension seat
- Rain visor (may interfere with bucket action)
- Dozer blade (for 500mm,600mm and 700mm shoe)

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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