

KOBELCO

ACERA GEOSPEC SK135SR-3

ACERA Hydraulic Excavators
GEOSPEC

SK135SR

Offset Boom Specification

- Bucket Capacity :
0.38, 0.50 m³ ISO heaped
- Engine Power:
74 kW/1,850 min⁻¹ (ISO 14396)
- Operating Weight: with Dozer
15,100 kg



We Save You Fuel
Achieving a Low-Carbon Society

ENDLESS EVOLUTION

Kobelco's SR Series, with an ultra-short rear swing, are amazingly versatile machines.

And the SK135SR Offset Boom Specification adds a dozer blade and offset boom.

It's earned a reputation in the industry as the go-to machine for roadwork, thanks to exclusive Kobelco functions and capabilities. No wonder we call it the ultimate urban machine.

Take Kobelco's proprietary iNDR, for example. It delivers incredibly quiet operation.

And AIS cuts fuel consumption and exhaust emissions to the bare minimum.

So the new Kobelco SK135SR Offset Boom Specification machine clears today's stricter environmental standards without compromising profitability.

To offer true value, construction machinery has to meet the needs of the times, quickly and effectively. And that means continually searching for the most fuel-efficient technologies, and delivering value you can't find anywhere else.

No one does that better than Kobelco.

SK135SR
Offset Boom Specification



Fuel Consumption
(ECO mode, compared with S mode on previous models)

About
21% reduction

The new ECO mode reduces fuel consumption by up to 21%.

PM Reduction
(Compared with previous models)

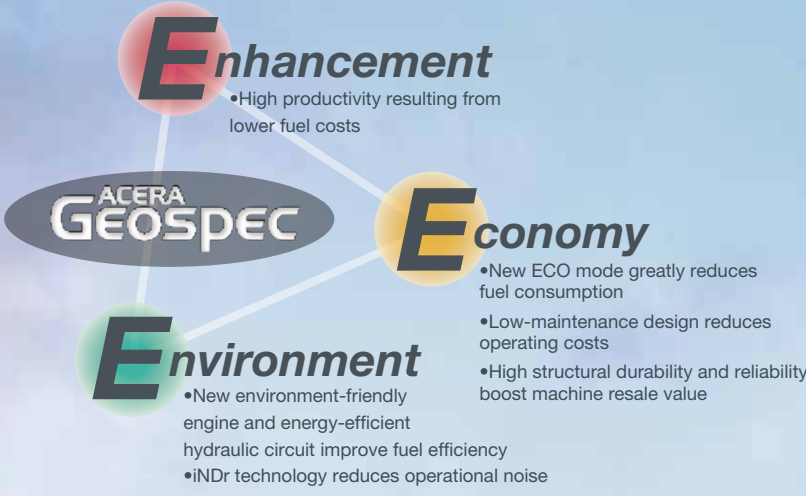
About
92% reduction

New engine reduces PM emissions by about 92%, and NOx emissions by about 18%.

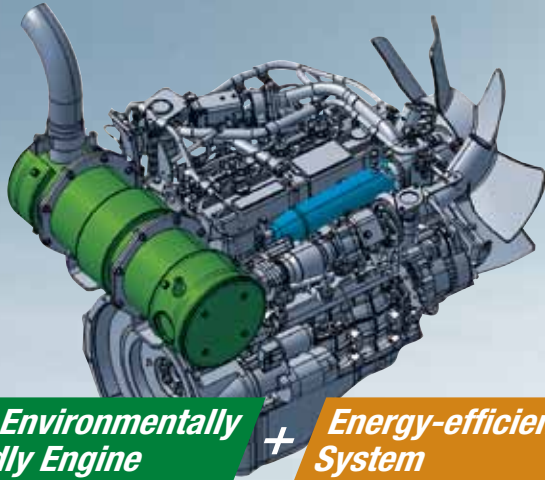
Work Rate per Unit of Fuel
(ECO mode, compared with S mode on previous models)

About
19% increase

More work with less fuel.
About 10% improvement in H mode,
About 19% improvement in S mode.



Reducing fuel consumption: Earth-friendly performance



New Environmentally Friendly Engine

+ Energy-efficient System

= Reducing fuel consumption & Earth-friendly performance

Kobelco engineers are constantly seeking to improve fuel efficiency. To that end, they've combined new engine technology that reduces exhaust emissions with Kobelco's proprietary energy-efficient system. The result is a machine that opens new frontiers in environmentally responsible operation, combining higher fuel efficiency with improved environmental performance.

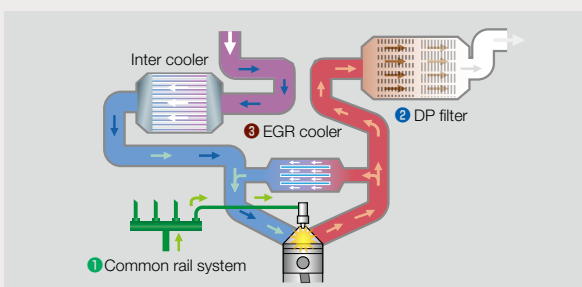


New, Environmentally Friendly Engine

NEW

A newly developed engine raises the bar for construction machinery

The latest Kobelco construction machinery uses a Mitsubishi engine that is renowned for high fuel efficiency and 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.



PM emissions cut:

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

1 Common rail system

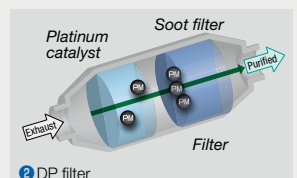
High-pressure injection atomizes the fuel, and more precise injection improves combustion efficiency. This also contributes to better fuel economy.



1 Common rail system

2 DP filter

Carbon builds up as soot in the diesel particulate filter and is burned off at high temperatures. At low engine speeds the exhaust temperature is too low, and the common rail multiple injection system raises the temperature sufficiently to burn off the soot.



2 DP filter

• Normally, recirculation occurs automatically. Under certain circumstances, however, it must be done manually using a switch.



Fuel Consumption

(ECO mode, compared with S mode on previous models)

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The new ECO mode reduces fuel consumption by up to 21%.

PM Reduction

(Compared with previous models)

About

92% reduction

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Energy-efficient System

NEW

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.

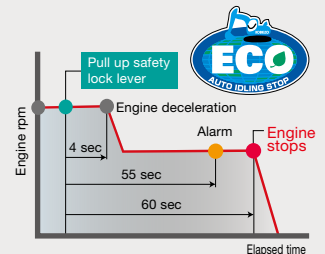


Fuel Savings in Each Mode (SK135SR) (Compared with previous models)

- H H-mode** About **8%** reduction
For heavy duty when a higher performance level is required
- S S-mode** About **16%** reduction
For normal operations with lower fuel consumption
- E ECO-mode** About **21%** reduction
Puts priority on low fuel consumption and economical performance

Auto Idle Stop (AIS) reduces unnecessary fuel consumption

If the safety lock lever is engaged, AIS will stop the engine. This eliminates wasteful idling when no work is going on, and of course, cuts overall CO₂ emissions.



•Automatic Acceleration/Deceleration Function Reduces Engine Speed

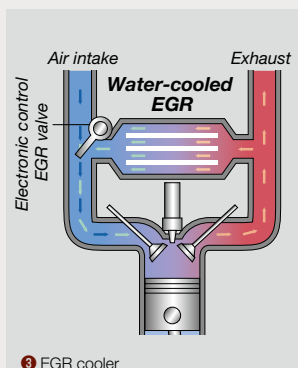
Engine speed is automatically reduced when the control lever is placed in neutral, effectively saving fuel and reducing noise and exhaust emissions. The engine quickly returns to full speed when the lever is moved out of neutral.

NOx emissions cut:

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.

3 EGR cooler

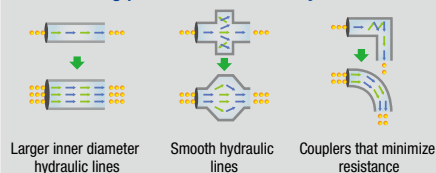
While ensuring sufficient oxygen for combustion, cooled emission gases are mixed with the intake air and recirculated into the engine. This reduces oxygen content and lowers combustion temperature.



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.

Minimizing pressure loss in the hydraulic lines



Added Capabilities Smooth out Any Road Project



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

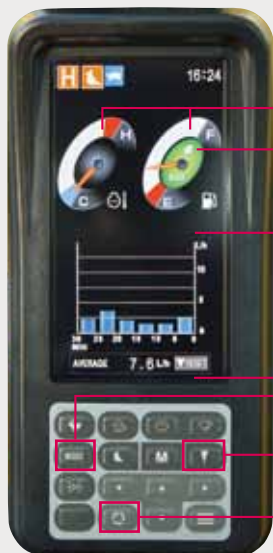
Digging width at outer edge of left crawler

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.



Multi-Display Color Monitor for Easy Checking **NEW**

An LCD multi-display color monitor is fitted as standard. Operations data as well as the full range of machine-status data can be checked easily.

Analog gauge provides an intuitive reading of fuel level and engine water temperature

Green indicator light shows low fuel consumption during operation

Fuel consumption/Switch indicator for rear camera images

Digging mode switch

Breaker switch

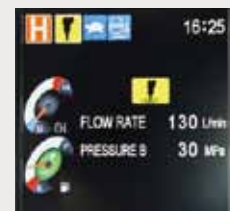
Monitor display switch

MAINTENANCE			
	ACTUAL	REMAINING	EXCHANGE
	TIME	TIME	DATE
ENGINE OIL	500	497	--/--
FUEL FILTER	500	497	--/--
HYD. FILTER	1000	997	--/--
HYD. OIL	5000	4987	--/--

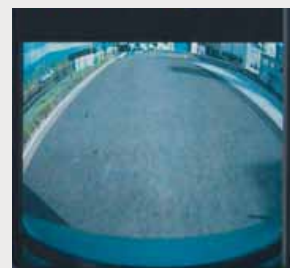
Maintenance information



Fuel consumption



Breaker



Rearview camera

3,340mm

■ 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. excavation depth

8,150mm

■ Max. excavation height

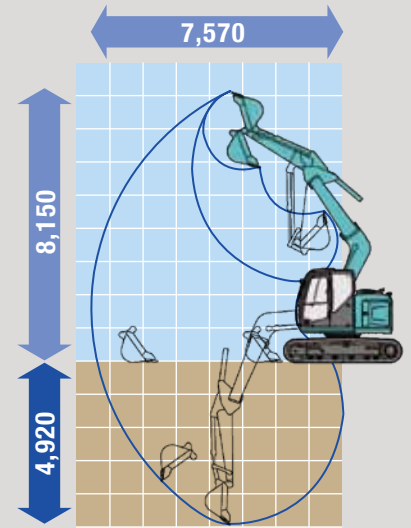
7,570mm

■ Max. excavation diameter

Operation range with an emphasis on depth Maximum excavation depth: 4,920mm

(with no offset)

Excavates deep enough, even with offset boom.



Productivity

Work Rate per Unit of Fuel

(ECO mode, compared with S mode on previous models)

About

19% increase

More work with less fuel.

About 10% improvement in H mode,
About 19% improvement in S mode.

Superior work efficiency minimizes fuel consumption

Max. Bucket Digging Force

87.5kN {8.92tf}

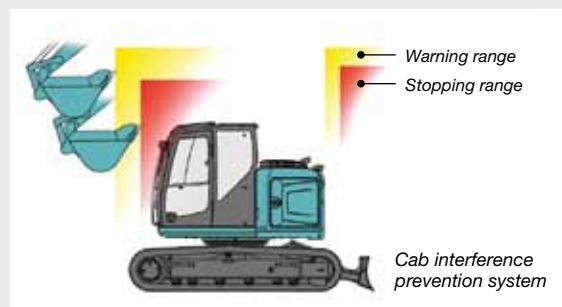
Max. Arm Crowding Force

62.1 kN {6.33tf}



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.



Rearview camera and **NEW** cab monitor let the operator confirm safe rearward operating space



The rearview camera comes as standard equipment. It helps confirm safe operating space to the rear, and conforms to ISO safety standards. The rearward view is shown on the color multi-display monitor in the cab.

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.



Working range control system

Cab Design That Puts the Operator First



ROPS Cab with Level 2 FOPS Guard provides a safe work environment for the operator. The machine is designed with a big cab space, openness, and a range of easy-to-operate features.

Comfort

Extra roominess for ease of entry and exit Big roomy cab has a large, wide-opening door

The cube design makes the most of straight lines, so the cab interior is 4% more spacious than before. The work space literally spreads out before the operator. The wide-opening door also makes for smooth entry and exit.

Seamless feeling leads to smooth operation

The electronic active control system and many other operation systems enable minute control and accurate, easy multi-tasking. And the light lever action reduces operator fatigue.

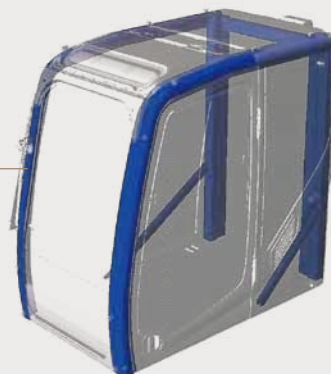


- Everything is right at hand for the operator. And the 50Pa airtightness keeps dust outside.
- Concealed wipers stay out of sight until needed.
- The large single window has no center pillar, and the whole cab is designed for a wide field of view, giving the operator a direct view ahead and to the left and right
- The operator can always confirm safe clearance with rearview mirrors left and right, and a third mounted low on the right-hand side.

Safety

Safe cab meets ROPS standards

Four strengthened pillars help the protective cab meet roll-over-protective structure (ROPS) standards. In the unlikely event of a rollover, this structure protects the cab's interior. Further, cab structural strength is equivalent to Level 1 falling object protective structure (FOPS), and conforms to Japan's Ordinance on Industrial Safety and Health head guard standards as well.



Roll-Over Protective Structure (ROPS; ISO12117-2)

Safety features that anticipate all kinds of danger

- Firewall separates the pump compartment from the engine
- Thermal guard prevents contact with hot components during engine inspection
- Hammer for emergency exit
- Seatbelt augments operator safety
- Optional yellow warning flasher



Firewall



Hammer



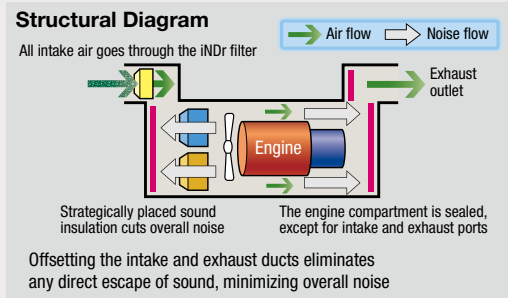
Seatbelt

iNDR—Kobelco's Proprietary Noise and Dust Reduction Technology

The results are exceptional.

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

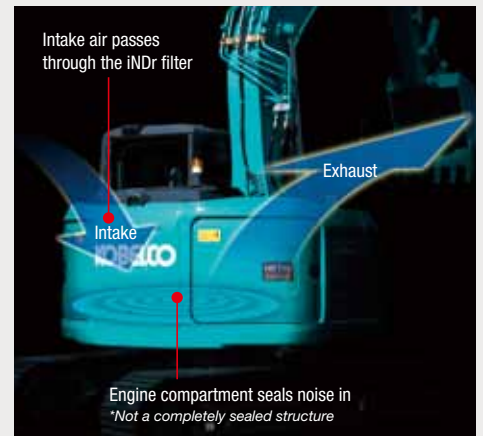
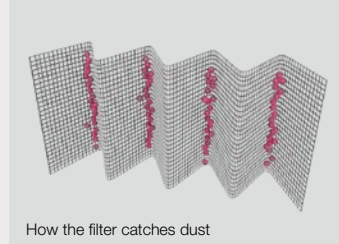
Noise from the engine and cooling fan is absorbed by the duct, so the machine far surpasses legal requirements. Kobelco calls this system, which exceeds all noise standards, “Ultimate Low Noise,” and it reduces noise to 75dB(A) at just 1.5m from the machine.



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.



GEOSCAN

Excavator Remote Monitoring System

Remote Monitoring for Peace of Mind

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

Direct access to operational status

Location data

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



Latest location



Location records

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).

Maintenance data and warning alerts

Machine maintenance data

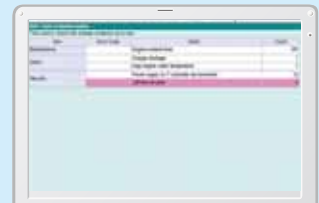
- Provides maintenance status of separate machines operating at multiple sites.
- Maintenance data is also relayed to KOBELCO service personnel, for more efficient planning of periodic servicing.



Alarm

Warning alerts

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



Alarm

• Status check possible from cell phones

- Data can be obtained by email through the Internet, 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 to sound an alarm if the machine is operated outside the designated time.

Area alarm

- It can also trigger an alarm if the machine is moved out of its designated area to another location.

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, KOBELCO maintain their value throughout their service lives.

Attachments and main body engineered for superior strength

The arm and boom attachment parts that take the most punishment are made of forged steel. Elements beneath the upper frame, the side deck, and so on, are also engineered for superior strength.

500-hour lubrication cycle for attachments

Attachment pins feature self-lubricating bushings, and bucket pins are protected by bushings known for superior anti-friction properties. The lubrication cycle is 250 hours for bucket-related areas, and 500 hours for other areas.



Durable quality looks 5-to-10 years into the future

High-quality urethane paints keep the body looking good year after year. Fold-up handrails on the cab are easy to repair, and the seat upholstery in the cab delivers superior durability.



Superior dust-collection capabilities, plus fuel filter and water separators to keep water out

High-grade filters offer higher capabilities. Dust and other impurities in the fuel are extracted, and a water separator is installed to keep the fuel line free of moisture.



High-capacity double-element air cleaners

These air cleaners are not only large, they are also very durable, and help maintain peak engine performance in dusty environments.



Maintenance

Proper Maintenance Ensures Peak Efficiency

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



Maintenance information display

Monitor display with essential information for accurate maintenance checks

- **Display only the maintenance information** you need, when you need it.
- **Self-diagnostic function** provides early-warning detection and display of electrical system malfunctions.
- **Service diagnosis function** makes it easy to check the machine's condition.
- **Record function keeps track of previous breakdowns** including irregular and transient malfunctions



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

Convenient "On the Ground" maintenance procedures



Fuel filter



Hydraulic pump

Fast maintenance requires only a few procedures



Hour meter can be checked while standing on the ground.



Washer fluid tank is located under the cab floor mat.



Engine quick-drain valve can be turned without tools.



Control valve/water separator

Easy cleaning saves time



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



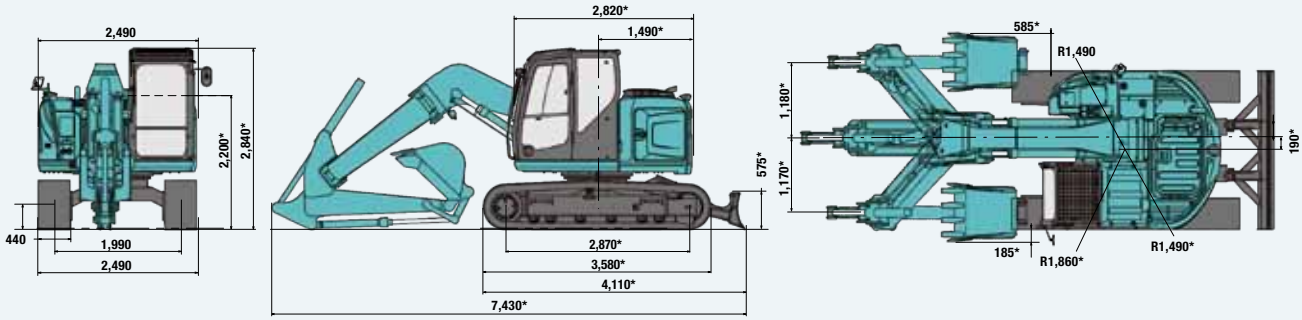
Special crawler frame design makes it easy to clean off mud.



Fuel tank features bottom flange and large drain valve.

Specifications

Dimensions



Unit: m

Boom	Offset Boom Specification					
	Standard: 2.20 m			Long: 2.50 m		
Arm	Max. Left	Center	Max. Right	Max. Left	Center	Max. Right
Offset						
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	1.44	1.72	1.43	1.51	1.77	1.50
Bucket capacity ISO heaped m ³	0.5			0.38		

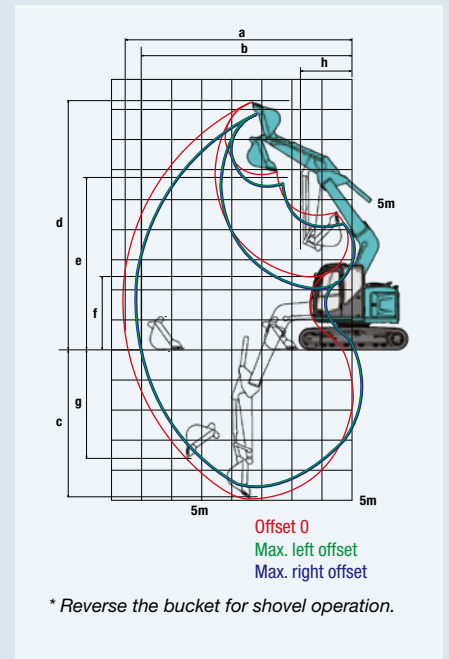
Operating Weight & Ground Pressure

Standard Configuration

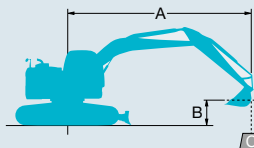
Shaped		Triple grouser shoes (even height)		
		500	600	700
Shoe width	mm	500	600	700
Overall width of crawler	mm	2,490	2,590	2,690
Ground pressure	kPa {kgf/cm ² }	46 {0.47}	39 {0.40}	34 {0.34}
Operating weight	kg	14,400	14,600	14,800

Optional Configuration

Ground pressure with dozer	kPa {kgf/cm ² }	48 {0.49}	41 {0.42}	35 {0.36}
Operating weight with dozer	kg	15,100	15,400	15,600



Lifting Capacity



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

• Relief valve setting: 29.4 MPa (300 kgf/cm²)

SK135SR		Offset Boom Arm: 2.2 m Bucket: 0.45 m ³ ISO heaped 390 kg Shoe: 500 mm Counterweight: 3.4 t with Dozer										
A	B	1.5 m		3.0 m		4.5 m		6.0 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	
6.0 m	kg									*2,020	*2,020	4.42 m
4.5 m	kg					*3,180	*3,180			*1,990	*1,990	5.58 m
3.0 m	kg			*5,270	*5,270	*3,800	3,060	2,750	1,810	*2,160	1,710	6.17 m
1.5 m	kg			*7,410	4,970	4,190	2,680	2,590	1,660	2,350	1,500	6.34 m
G.L.	kg	*3,900	*3,900	7,820	4,450	3,880	2,400	2,450	1,530	2,360	1,480	6.15 m
-1.5 m	kg	*5,920	*5,920	*7,640	4,370	3,760	2,300			2,720	1,690	5.53 m
-3.0 m	kg	*8,920	*8,920	*6,140	4,540					4,120	2,540	4.31 m

Notes:

- Do not attempt to lift or hold any load that is greater than these lift capacities at their specified lift point radius and heights. Weight of all accessories must be deducted from the above lift capacities.
- Lift capacities are based on machine standing on level, firm, and uniform ground. User must make allowance for job conditions such as soft or uneven ground, out of level conditions, side loads, sudden stopping of loads, hazardous conditions, experience of personnel, etc.
- Bucket lift hook defined as lift point.

- The above lifting capacities are in compliance with SAE J1506. 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 {kgf}	87.5
Arm Crowding Force	kN {kgf}	62.1
Drawbar Pulling Force	kN {kgf}	138 {14,900} (ISO 7464)
Weight		
Operating Weight (without dozer)	kg	14,400
Ground Pressure	kPa {kgf/cm ² }	46 {0.47}
Shoe Width	mm	500
Engine		
Model	MITSUBISHI D04EG-TAA	
Type	Direct injection, water cooled, 4-cycle, 4cylinder diesel engine with turbocharger, intercooler	
Rated Power Output	74 kW/2,000 min ⁻¹ (ISO14396)	
	69.2 kW/2,000 min ⁻¹ (ISO9249)	
Max. Torque	375 N-m/1,600 min ⁻¹ (ISO14396)	
	359 N-m/1,600 min ⁻¹ (ISO9249)	
Fuel Tank	L	200
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 + 2 gear pump	
Max. Discharge Pressure	MPa {kgf/cm ² }	34.3 {350}
Swing Motor	Axial piston motor	
Travel Motors	2 x axial piston, two-step motor	
Hydraulic Oil Tank	L	126.7: System (85.2: Tank level)

STANDARD EQUIPMENT

ENGINE

- Engine, MITSUBISHI D04EG-TAA74kW, Diesel engine with turbocharger and intercooler
- Automatic engine deceleration
- Auto Idle Stop (AIS)
- Batteries (2 x 12V - 80Ah)
- Starter motor (24V - 5 kW), 50 amp alternator
- Automatic engine low idle for low engine oil pressure
- Engine oil pan drain valve
- Double element air cleaner

CONTROL

- Working mode selector (H-mode, S-mode and Eco-mode)

SWING SYSTEM & TRAVEL SYSTEM

- Swing rebound prevention system
- Straight propel system
- Sealed & lubricated track links
- Grease-type track adjusters
- Automatic swing brake

MIRRORS & LIGHTS

- Three rearview mirrors
- Three front working lights

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
- 7-way adjustable suspension seat
- Retractable seatbelt
- Headrest
- Handrails
- Heater and defroster
- Intermittent windshield wiper with double-spray washer
- Tinted safety glass
- Pull-type front window and removable lower front window
- Easy-to-read multi-display monitor
- Automatic air conditioner
- Emergency escape hammer
- Radio, AM/FM stereo with speakers
- Travel alarm
- Gear pump
- Level indicator
- Multi display color monitor
- Rearview camera
- Boom safety valve
- Arm safety valve
- Geoscan

OPTIONAL EQUIPMENT

- Dozer blade ■ Various optional arms ■ Wide range of shoes ■ Wide range of buckets
- Front-guard protective structures (May interfere with bucket action) ■ Additional hydraulic circuit ■ Add-on counterweight (+580 kg) ■ Cab light
- Control pattern changer 2-way, 4-way

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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