

**SK135SR**  
SK135SR-3**SK135SR<sup>LC</sup>**  
SK135SR<sup>LC</sup>-3**KOBELCO**ACERA GEOSPEC SK135SR-3 / SK135SR<sup>LC</sup>-3**STANDARD EQUIPMENT****ENGINE**

- Engine, MITSUBISHI D04EG-TAA  
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 shut-down 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
- Greased track adjusters
- Automatic swing brake

**MIRRORS & LIGHTS**

- Three rearview mirrors
- Two 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
- Heightlizer for control box
- Gear pump
- Level indicator

**OPTIONAL EQUIPMENT**

- Dozer blade
- Wide range of buckets
- Various optional arms
- Wide range of shoes
- Boom safety valve
- Arm safety valve
- Front-guard protective structures May interfere with bucket action
- Additional hydraulic circuit
- Add-on counterweight
- Cab light
- Control pattern changer 2 way, 4way
- FOPS Level II guard

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

Note: This catalog may contain attachments and optional equipment that are not available in your area. And it may contain photographs of machines with specifications that differ from those of machines sold in your areas. Please consult your nearest KOBELCO distributor for those items you require. Due to our policy of continuous product improvements all designs and specifications are subject to change without advance notice. Copyright by **KOBELCO CONSTRUCTION MACHINERY CO., LTD.** No part of this catalog may be reproduced in any manner without notice.

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ACERA Hydraulic Excavators  
**GEOSPEC**

**SK135SR**  
**SK135SR<sup>LC</sup>**

- Bucket Capacity :  
0.45-0.50 m<sup>3</sup> ISO heaped
- Engine Power:  
74 kW/2,000min<sup>-1</sup> (ISO 14396)
- Operating Weight:  
■ 13,600 kg - SK135SR  
13,800 kg - SK135SR<sup>LC</sup>

**We Save You Fuel**  
Achieving a Low-Carbon Society

# ENDLESS EVOLUTION



Kobelco gave the world its first heavy machinery shovel with an ultra-short rear swing. The SK135SR/SK135SR LC is versatile in every sense of the word, encapsulating all the technology Kobelco has developed and refined for greater friendliness to people and the urban environment. It sets a new standard for urban construction sites. 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/SK135SR LC 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.

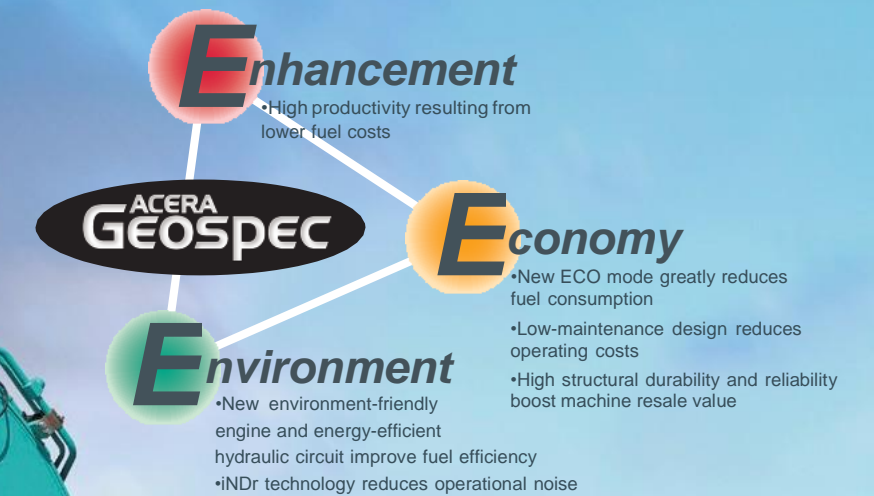
**Fuel Consumption**  
(ECO mode, compared with S mode on previous models)  
About  
**21% reduction**  
The new ECO mode reduces fuel consumption by up to 21%.

**PM Reduction**  
(Compared with previous models)  
About  
**92% reduction**  
New engine reduces PM emissions by about 92%, and NOx emissions by about 18%.

**Working Volume per Fuel Unit**  
(ECO mode, compared with S mode on previous models)  
About  
**19% increase**  
Do more work with less fuel – About 10% more with H mode, 19% more with S mode.

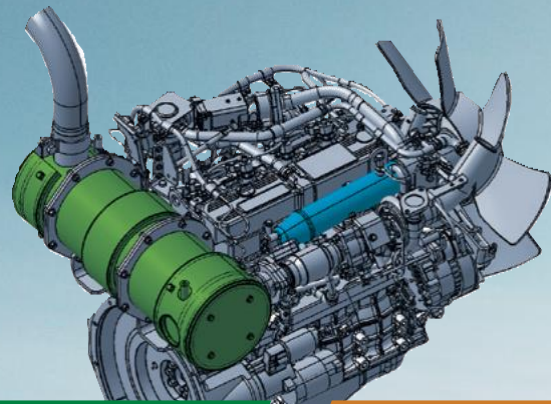


**SK135SR**  
**SK135SR<sub>LC</sub>**



• The machine in the photo includes optional equipment.

# 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.



**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%.

## Energy-efficient System ECO-mode: engineered for economy

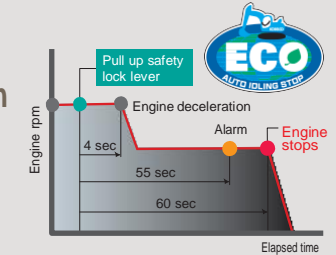
Kobelco's ECO-mode maximizes the operating efficiency of the engine and other components to achieve much greater fuel efficiency. Just flip a switch to choose the operation mode best suited to the task at hand and the working conditions.

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

- H-mode** About **8% reduction**  
For heavy duty when a higher performance level is required
- S-mode** About **16% reduction**  
For normal operations with lower fuel consumption
- ECO-mode** About **21% reduction**  
Puts priority on low fuel consumption and economic 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 CO<sub>2</sub> emissions.

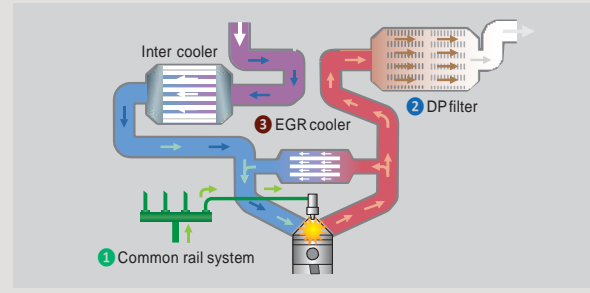


**Automatic Acceleration/Deceleration Function Reduces Engine Speed**  
Engine speed is automatically reduced when the control lever is placed in neutral, effectively saving fuel and reducing noise and exhaust emissions. The engine quickly returns to full speed when the lever is moved out of neutral.

## New, Environmentally Friendly Engine

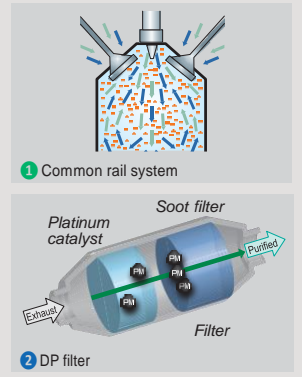
### A newly developed engine raises the bar for construction machinery

The latest Kobelco construction machinery uses a Mitsubishi engine 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.



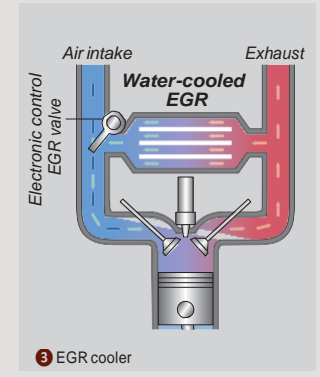
**PM emissions cut:** Particulate matter (PM) is mostly soot resulting from incomplete combustion. Improved combustion efficiency reduces PM emissions. DP filter further reduces PM emissions.

- 1 Common rail system**  
High-pressure injection atomizes the fuel, and more precise injection improves combustion efficiency. This also contributes to better fuel economy.
- 2 DP filter**  
Carbon builds up as soot in the diesel particulate filter and is burned off at high temperature. 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.



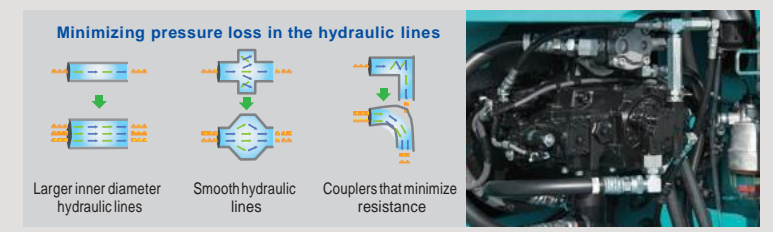
**NOx emissions cut:** At high temperatures, nitrogen and oxygen combine to produce nitrous oxides (NOx). Reducing the amount of oxygen and lowering the combustion temperature results in much less NOx.

- 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.



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

## Performance

# Unbeatable Cost Performance

Greater Work Capacity:  
Exceeding Expectations in 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.



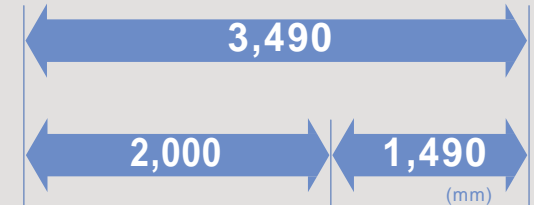
Max. Bucket Digging Force  
**90.1 kN** {9.19tf}

Max. Arm Crowding Force  
**64.4 kN** {6.56tf}

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

### Minimal rear turning radius improves efficiency

The tail of the upper body extends very little past the back end of the crawlers, so the operator can concentrate on the job at hand. This also reduces the risk of collision damage.



### Easy workability in less than 3.5m of space

The compact design allows continuous 180° dig, swing, and load operations within a working space of just 3.5m.

### Seamless feeling, smooth combined operations

The machines have inherited the various systems that make inching and combined operations easy and accurate. Leveling and other combined operations can be carried out with graceful ease.

### Smooth rotation operation cuts cycle times

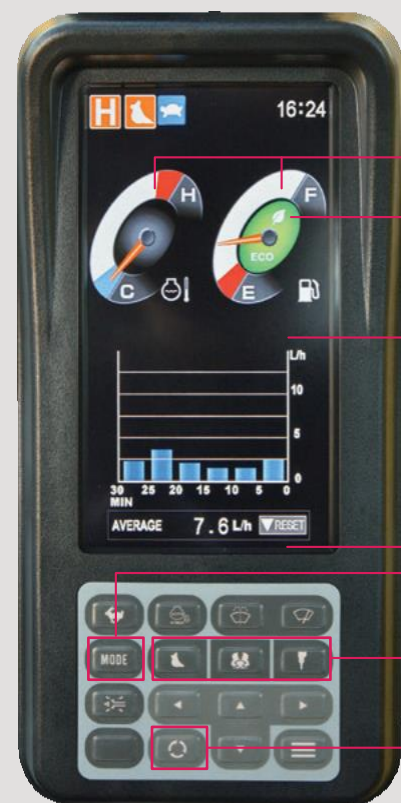
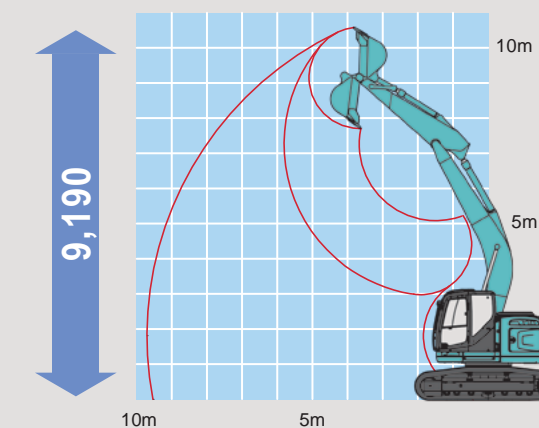
11.0-minute<sup>-1</sup> speedy cycle times.  
Dig, swing, load operations—continuous operation makes any task faster.

### Strong driving torque produces powerful travel capabilities

The tough undercarriage handles slopes and rough roads with ease while ensuring smooth changes in direction.

### Long reach broadens working area

Maximum digging depth: 9,190mm



### Multi-Display Color Monitor for Easy Checking

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

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

### One-tough attachment mode switch

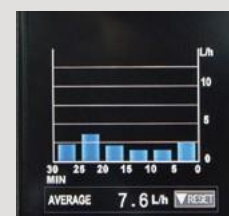
A simple flip of a switch converts the hydraulic circuit and flow amount to match attachment changes. Icons help the operator to confirm the proper configuration at a glance.



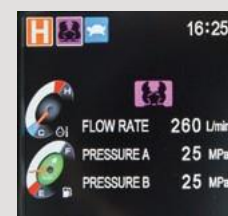
Monitor display switch

MAINTENANCE			
	INTERVAL	REMAINING TIME	EXCHANGE DAY
ENGINE OIL	500	497	---
FUEL FILTER	500	497	---
HYD. FILTER	1000	997	---
HYD. OIL	5000	4997	---

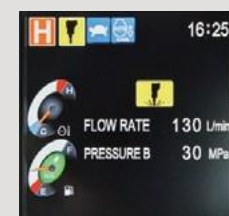
Maintenance information



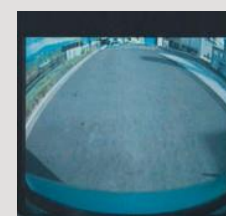
Fuel consumption



Nibbler



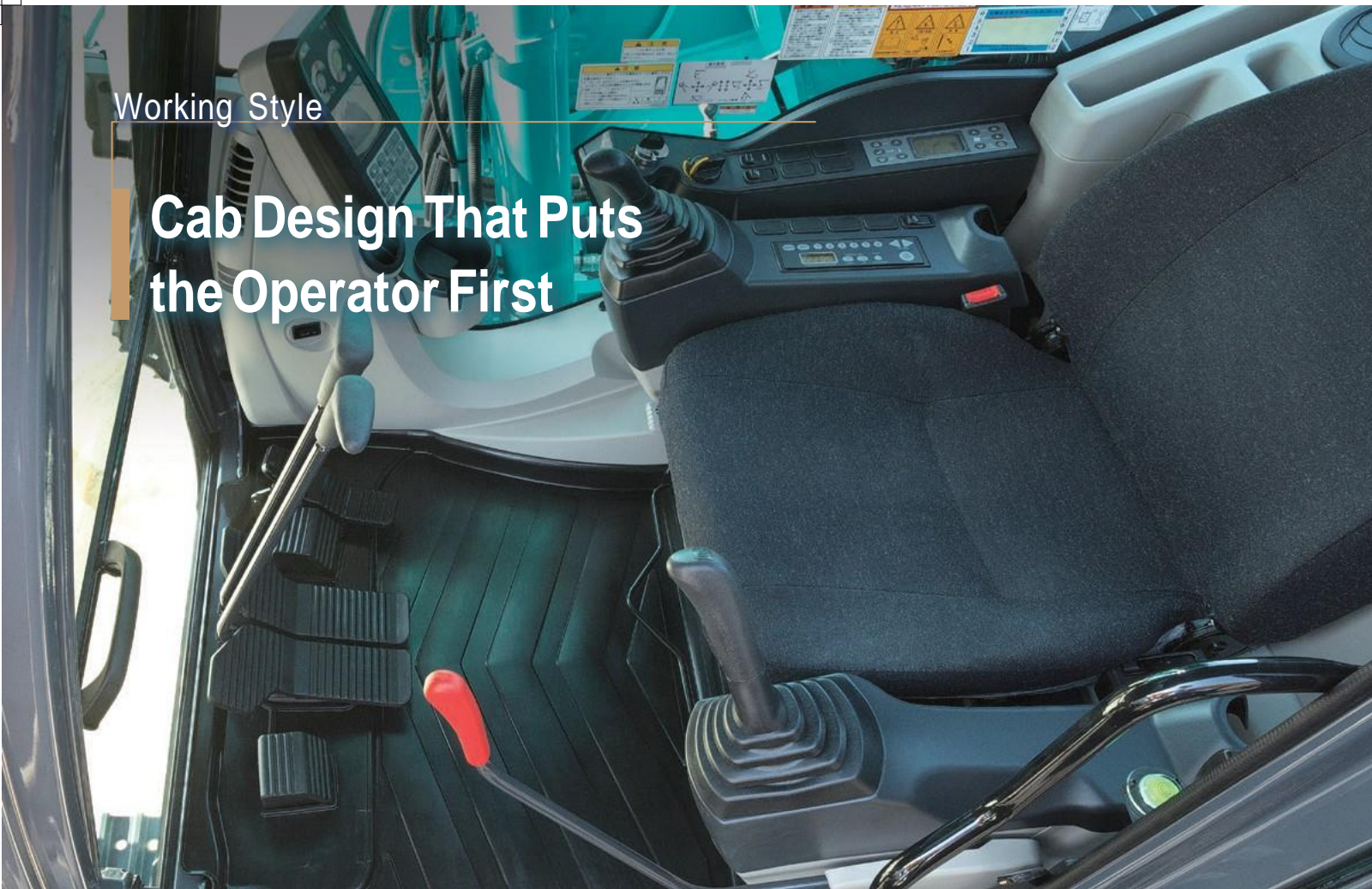
Breaker



Rearview monitoring

Working Style

# Cab Design That Puts the Operator First



Filled with New Equipment Even More Safety Features

## Safety

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

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.



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 the Ordinance on Industrial Safety and Health head guard standards as well.



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

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.



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. Mirrors in three positions make it easy for the operator to make sure things are safe all around.



•Rearview mirrors on left and right, and third mirror at lower right optimize visibility and safety.

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.

Equipment designed for comfort and convenience

The cab interior offers a host of operator comforts. The seat guarantees comfort whether on the job or at rest, and everything is ergonomically planned and laid out for smooth, stress-free operation.



The double slide seat can be adjusted to the comfort of any operator.



Large cup holder



Powerful automatic air conditioner

Safety features that anticipate all kinds of danger



Firewall



Hammer



Seatbelt



Boom holding valve



Large handrail

## Technology

# iNDR—Kobelco's Proprietary Noise and Dust Reduction Technology

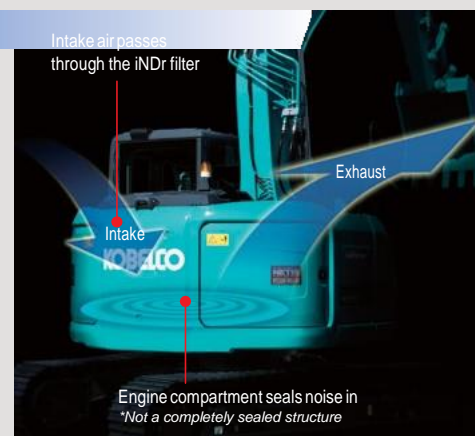
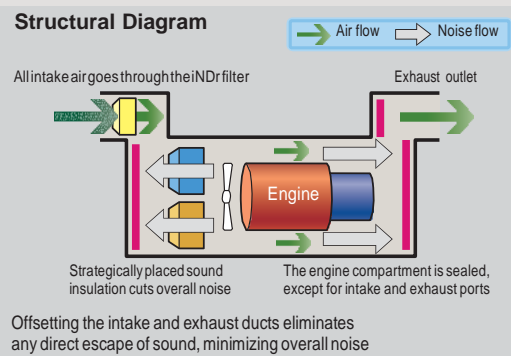
To help operators work effectively even in close quarters, Kobelco pursued the ultimate in quiet operation. We also aimed for new levels in reliability and serviceability.



### A new design approach leads to a revolutionary single-duct structure

#### iNDR engine cooling system draws on Kobelco's proprietary technology

The engine and the cooling components are positioned in a single duct connecting the air intake to the exhaust outlet. This proprietary structure delivers a range of benefits such as reducing noise to the surrounding environment, maintaining machine performance, simplifying maintenance, and more.



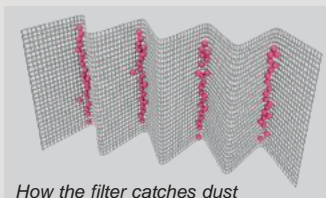
### The results are exceptional. The big merits:

#### "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, "Ultimate Low Noise," and it reduces noise to 65.8dB 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.

#### 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.



# 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

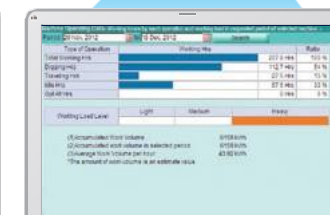
•Accurate realtime location data can be obtained even from sites where communications are difficult.



#### 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.

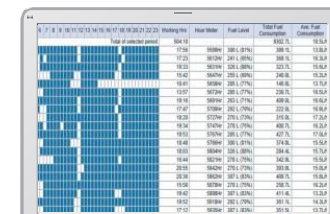


#### Fuel consumption data

•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

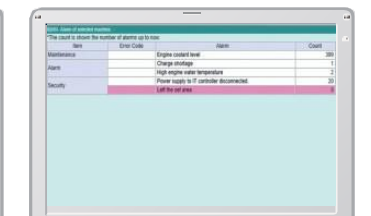
#### Machine maintenance data

•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.

#### Warning alerts

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



#### Status check possible from cell phones

•Data can be obtained by e-mail 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.



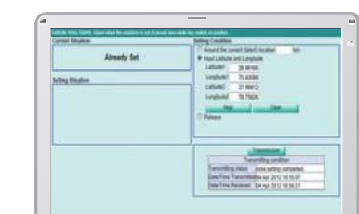
#### Security system

##### Engine start alarm

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

##### Area alarm

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



## Quality

# 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.



## Maintenance

# Proper Maintenance Ensures Peak Efficiency

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



MAINTENANCE			
	INTERVAL	REMAINING TIME	EXCHANGE DAY
ENGINE OIL	500	497	---/---/---
FUEL FILTER	500	497	---/---/---
HYD. FILTER	1000	997	---/---/---
HYD. OIL	5000	4997	---/---/---

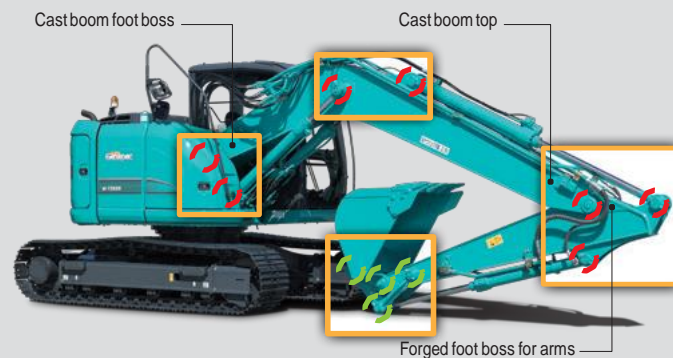
Monitor display with essential information for accurate maintenance checks

- 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

Maintenance information display

### 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.



- Super-fine filter replacement cycle: 1,000 hours
- Long-life hydraulic oil: 5,000 hours
- Lubrication cycle: 500 hours (Bucket)
- Lubrication cycle: 250 hours (All other areas)

### 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 separator 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.



### Convenient "On the Ground" maintenance procedures



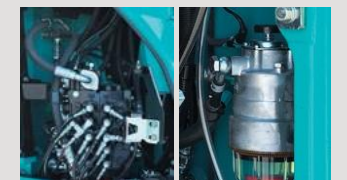
Fuel filter



Hydraulic pump



iNDR filter/radiator reservoir tank/air cleaner



Control valve/water separator

### 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.

### 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

## Engine

Model	MITSUBISHI D04EG-TAA
Type	Water-cooled, 4 cycle 4 cylinder direct injection type diesel engine with intercooler turbo-charger
No. of cylinders	4
Bore and stroke	94 mm x 120 mm
Displacement	3,331 mL
Rated power output	74 kW/2,000 min <sup>-1</sup> (ISO 14396) 69.2 kW/2,000 min <sup>-1</sup> (ISO 9249)
Max. torque	Net 375 N·m/1,600 min <sup>-1</sup> (ISO 14396: Without Fan) 359 N·m/1,600 min <sup>-1</sup> (ISO 9249)

## Hydraulic System

Pump	
Type	Tandem variable displacement piston pumps
Max. flow at rated engine speed	2 x 130 L/min, 1 x 20 L/min
Relief valve setting	
Boom, arm and bucket	37.8 MPa (390 kgf/cm <sup>2</sup> )
Travel circuit	34.3 MPa (350 kgf/cm <sup>2</sup> )
Swing circuit	28.0 MPa (285 kgf/cm <sup>2</sup> )
Pilot control circuit	5.0 MPa (50 kgf/cm <sup>2</sup> )
Pilot control pump	Gear type
Main control valve	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
Swing brake	Hydraulicbrake
Swing speed	11.0 min <sup>-1</sup> (rpm)
Tail swing radius	1,490 mm
Min. front swing radius	2,000 mm

## Attachments

Backhoe bucket and arm combination

Use	Backhoe bucket			
	Normal digging			
Bucket capacity	ISO heaped m <sup>3</sup>	0.38	0.45	0.50
	Struck m <sup>3</sup>	0.28	0.35	0.38
Opening width	With side cutter mm	800	910	1,000
	Without side cutter mm	700	820	900
No. of bucket teeth		4	4	5
Bucket weight	kg	320	360	390
Combinations	2.38 m Standard arm	○	○	○
	2.84 m Long arm	○	△	-

○ Standard ○ Recommended △ Loading only

## Operating Weight & Ground Pressure

In standard trim, with standard boom, 2.38 m arm, and 0.5 m<sup>3</sup> ISO heaped bucket

[ ] = Long Crawler

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/cm <sup>2</sup> )	4.3(0.44)[41 (0.42)]	36(0.37)[35(0.36)]	32(0.33)[31(0.31)]
Operating weight	kg	13,600 [13,800]	13,900 [14,100]	14,100 [14,300]
Dozer (optional)	Weight	14,400 [15,000] kg	14,700 [15,300] kg	14,900 [15,500] kg
	Ground pressure	45 [47] kPa	38 [40] kPa	33 [35] kPa

## Travel System

[ ] = Long Crawler

Travel motors	2 x axial-piston, two-step motors
Travel brakes	Hydraulic brake per motor
Parking brakes	Oil discbrake per motor
Travel shoes	44[46] each side
Travel speed	5.6/3.4 km/h
Draw bar pull	138 kN (14,100 kgf) (ISO7464)
Gradeability	70% (35 deg)
(Gradeability is limited by engine lubrication requirements.)	

## 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	100 mm x 1,092 mm
Arm cylinder	115 mm x 1,120 mm
Bucket cylinder	95 mm x 903 mm

## Refilling Capacities & Lubrications

Fuel tank	200 L
Cooling system	13 L
Engine oil	11.5 L
Travel reduction gear	2 x 2.1 L
Swing reduction gear	1.65 L
Hydraulic oil tank	85.2 L tank oil level 126.7 L hydraulic system

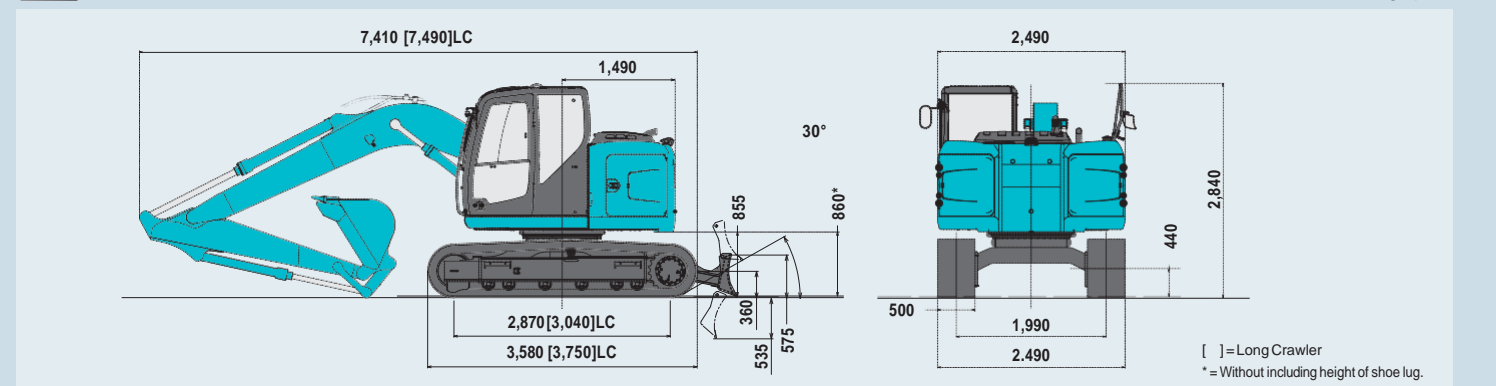
## Working Ranges

Range	Boom		4.68 m	
	Arm		Standard 2.38 m	Long 2.84 m
a- Max. digging reach			8.34	8.78
b- Max. digging reach at ground level			8.19	8.64
c- Max. digging depth			5.52	5.98
d- Max. digging height			9.19	9.56
e- Max. dumping clearance			6.74	7.11
f- Min. dumping clearance			2.58	2.22
g- Max. vertical wall digging depth			4.89	5.44
h- Min. swing radius			2.00	2.40
i- Horizontal digging stroke at ground level			4.21	4.70
j- Digging depth for 2.4 m (8') flat bottom			5.29	5.79
Bucket capacity ISO heaped m <sup>3</sup>			0.50	0.36

Digging Force (ISO 6015) Unit: kN (tf)

Arm length	Standard 2.38 m
Bucket digging force	90.1 (9,190)
Arm crowding force	64.4 (6,570)

## Dimensions



## Lifting Capacity

A	SK135SR Standard Arm: 2.38 m Bucket: 0.5 m <sup>3</sup> ISO heaped 390 kg Shoe: 500 mm						SK135SR Long Arm: 2.84 m Bucket: 0.38 m <sup>3</sup> ISO heaped 320 kg Shoe: 500 mm				SK135SR <sub>LC</sub> Standard Arm: 2.38 m Bucket: 0.5 m <sup>3</sup> ISO heaped 390 kg Shoe: 500 mm			
	1.5 m	3.0 m	4.5 m	6.0 m	At max. reach	Radius	1.5 m	3.0 m	4.5 m	6.0 m	7.5 m	At max. reach	Radius	
7.5 m														
6.0 m														
4.5 m														
3.0 m														
1.5 m														
G.L.														
-1.5 m														
-3.0 m														
-4.5 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 SAE J10567. 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.