STANDARD EQUIPMENT

- **ENGINE**
  - Inlet manifold, planet-driven
  - Vane type
  - Direct injection type
equipped with a variable geometry type turbocharger
- **Automatic engine shut-down for low oil pressure**
- **Engine oil pan drain cock**
- **Double element air cleaner**

CONTROL

- **Working mode selector (H-mode and S-mode)**
- **Power Boost**

SWING SYSTEM & TRAVEL SYSTEM

- **Swing rebound prevention system**
- **Straight propel system**
- **Two-speed travel with automatic shift down**
- **Sealed & lubricated track links**
- **Grease-type track adjusters**
- **Automatic swing brake**

MIRRORS & LIGHTS

- **Four rearview mirrors**
- **Two front working lights**

CAB & CONTROL

- **Two control levers, pilot-operated**
- **Two control levers**
- **Tow eyes**
- **Horn, electric**
- **Integrated left-right slide-type control box**
- **Ashtray**
- **Cigarette lighter**
- **Cab light (interior)**
- **Coat hook**
- **Luggage tray**
- **Large cup holder**
- **Detachable two-piece floor mat**
- **7-way adjustable suspension seat**
- **Retractable seat belt**
- **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 (optional for NZ)**
- **Regulator for control box**
- **Gear pump (optional for NZ)**
- **Level indicator (optional for NZ)**

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

OPTIONAL EQUIPMENT

- **Dozer Blade**
- **Wide range of buckets**
- **Wide range of attachments**
- **Wide range of shoes**
- **Manual safety valve**

Note: This catalog may contain attachments and optional equipment that are not available in your area. It may contain photographs of machines with specifications that differ from those of the actual machine you purchase. Please consult your KOBE LCO dealer for a full listing of options available. KOBE LCO reserves the right to make changes without notice.
New Performance Capabilities with a Small Rear Swing

The rounded form says it all: an excavator built with a tiny rear swing for maximum maneuverability. But KOBELCO has taken this concept one step further by seeing just how much digging performance can be packed into a machine. It’s not the compact design that matters so much as the performance and functions that are actually used on site. And that’s just where the new SR Series really shines, thanks to our NEXT-3E concept. So much so, in fact, that the SK235SR and other members of the series bear the same Acera Geospec name as our line of full-size excavators. Thanks to key iNDr technology, we’ve realized a whole new level of quiet operation, backed by a next-generation power plant that pushes performance to extraordinary new heights. Nine years after developing groundbreaking machines with tiny rear swings, KOBELCO continues to forge ahead as the leader in the field.
KOBELECO has developed the revolutionary Integrated Noise and Dust Reduction Cooling System, with the engine compartment placed inside a single duct that connects the air intake to the exhaust outlet.

The intake and exhaust are offset, with the holes and joints in the sections corresponding to the duct wall completely covered to reduce noise at the intake and exhaust apertures. This design, plus the generous use of insulation material inside the duct, minimizes engine noise.

Also, INDr filter in the intake aperture prevents dust from penetrating, which not only ensures a quieter, cleaner engine, but also supports the performance of the cooling unit and enhances ease of maintenance.

Amazingly Quiet!
Effective Dust Protection!
Remarkable Ease of Maintenance!

The ACERIA GEOSPEC SR series has broken through to a new frontier in quiet operation, with a noise level a full 5 dB below the Japanese government’s requirements for ultra-low-noise machinery. In fact, compared with previous KOBELECO models, we have achieved a 10 dB reduction on the right-side surface of the machine, a difference that is clearly audible.

Far Surpassing Legal Requirements

“Ultimate”-Low Noise Level of 95dB(A)

INDr Filter Improves Operational Reliability

The stainless-steel filter is extremely effective against dust, with a 60-mesh wave-type screen that removes tiny dust particles from the intake air. This not only helps to keep the cooling unit and air cleaner running in top form, but also maintains ideal heat balance.

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

Cooling Unit Requires No Regular Cleaning

Because the INDr filter removes dust from the intake air, no dust gets into block the cooling components, so that no regular cleaning is necessary. The filter can be removed easily without tools and is installed in parallel with the intercooler, radiator, and oil cooler for easy access.
The GEOSPEC Difference:
More Work with Less Fuel!

Amazing Productivity with a 8-15% Decrease in Fuel Consumption and "Top-Class" Cost Performance

<table>
<thead>
<tr>
<th>Fuel Consumption and Work Volume (New S-mode)</th>
<th>Vs Previous SK235SR in H-mode</th>
<th>Vs Previous SK235SR in S-mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuel Consumption (L/h)</td>
<td>15% decrease</td>
<td>8% decrease</td>
</tr>
<tr>
<td>Work volume per liters of fuel (m³/L)</td>
<td>24% increase</td>
<td>10% increase</td>
</tr>
</tbody>
</table>

"Top-Class" Powerful Digging

Max. arm crowding force: 102 kN (10.4 tf)
With power boost: 112 kN (11.4 tf)
Max. bucket digging force: 143 kN (14.6 tf)
With power boost: 157 kN (16.0 tf)

Powerful Travel

Travel torque: increased by 6 %
Drawbar pulling force: 243 kN (24.8 tf)

Greater Swing Power, Shorter Cycle Times

Swing torque: 79.0 kN
Swing Speed: 11.8 m/min

Significant Extension of Continuous Working Hours

The combination of a large-capacity fuel tank and excellent fuel efficiency delivers an impressive max. 34% increase in continuous operation hours.¹

Light Lever Operation

Lighter levers mean less operator fatigue over long hours of operation. 10% Less

¹ The value shows results from actual measurements taken by KOBELCO continuous operation in S Mode, compared with previous model, SK235SR-IES. Results will vary depending on operating method and load conditions.

A Low, Solid Center of Gravity

Despite their new, heavy-duty attachments, these machines are more stable than their predecessors, resulting in wider working ranges and a digging height equal to or greater than full-sized machines (SK200-8).

Max. digging height: 11,210 mm
Max. digging reach: 9,850 mm

NEXT-3E Technology

New Hydraulic System

The high-pressure, common-rail fuel-injection engine features a cooled EGR (Exhaust Gas Recirculation) device that lowers the air intake temperature to keep the oxygen concentration down. The multiple injection system features adjustable control to maximize fuel efficiency and provide powerful medium/low-speed torque. The result is a highly fuel-efficient engine that greatly reduces emissions of PM (Particulate Matter) and NOx into the atmosphere.

Rigorous inspections for pressure loss are performed on all components of the hydraulic piping, from the spool of control valve to the connectors. This regimen, combine with the use of a new, high-efficiency pump, cuts energy loss to a minimum.

NEXT-3E Technology

Next-Generation Electronic Engine Control

The next-generation engine control is governed by a new version of ITCS, which responds quickly to sudden changes in hydraulic load to ensure that the engine runs as efficiently as possible with a minimum of wasted output.

ITCS (Intelligent Total Control System) is an advanced, computerized system that provides comprehensive control of all machine functions.

Simple Select: Two Digging Modes

For heavy duty when a higher performance level is required.
Optional NAB (crusher and breaker)
For normal operations with lower fuel consumption.

Seamless, Smooth Combined Operations

The GEOSPEC machines have inherited the various systems that make inching and combined operations easy and accurate, with further refinements that make a good thing even better. Leveling and other combined operations can be carried out gracefully easy.

Electronic active control system
Arm regeneration system
Boom lowering regeneration system
Variable swing priority system
Swing rebound prevention system
The GEOSPEC Difference:
Rugged Durability That Ensures Long-Term Machine Value!

**Integrated cast steel boom top**
**Forged steel arm foot boss**
**HD arm**
**HD boom (with cast steel boom foot boss)**
**Easily repaired bolted handrails**
**High-quality urethane paint**

Durability That Retains Machine Value Five and Ten Years in the Future
- Improved heat resistance in the swing motor, cylinders and other hydraulic components
- New operator’s seat covered by durable material

**HD Attachment as Standard**
Every part of the attachment features cast or forged components, with a standard reinforced arm and boom that used to be a heavy-duty option on previous models.

**Highly Reliable ITC S**
The manufactured quality of the ITC S controller has been further upgraded, with special measures taken to protect against water and dust. Improvements have also been made in the specs of the pressure sensors, as well as anti-noise performance.

The GEOSPEC Difference:
Designed to Operate Effectively in Close Quarters!

**Watch the Job in Front, Not the Counterbalance**
The tail of the upper body extends very little past the back end of the crawlers so that the operator can concentrate on the job at hand instead of worrying about the position of the counter-weight. This not only improves operating efficiency but reduces costs associated with collision damage.

**Requires Less Than 4m of Working Space**
The compact design allows the machine to perform continuous 180° dig, swing and load operations within a working space of just 4.0 m.

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

- Min. front swing radius: 1,930 mm
- Tail swing radius: 1,730 mm
- Tail overhang: 235 mm
- Working radius: 3,660 mm

Meets Standard Values Set by Emissions Regulations
The engine used in the GEOSPEC machines represents the crystallization of various cutting-edge technologies that minimize the emission of PM (Particulate Matter), NOx, black smoke, and other emissions, thus meeting all internationally recognized environmental regulations, including US EPA Tier III, NRM (Europe) Stage IIIA, and Act on Regulation, etc. of Emissions from Non-road Special Motor Vehicles (Japan).

Auto Idle Stop Provided as Standard Equipment
This function saves fuel and cuts emissions by shutting down the engine automatically when the machine is on stand by. It also stops the hourmeter, which helps to retain the machine’s asset value.

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

Mild Operating Sound
The INDr cooling system also helps to keep the machine quiet, even at close quarters. Even the hydraulic relief valves have been designed specifically to reduce irritating noise during operation.

Meets EMC (Electromagnetic Compatibility) Standards in Europe.
Electrical shielding ensures that the machines clear all European standards and neither cause or are affected by electromagnetic interference.
**Comfortable “On the Ground” Maintenance**

All of the components that require regular maintenance are laid out for easy access, with the control valves located on a single right-hand panel that opens and closes at a touch. Behind that, in the pump compartment, there is remote access to such components as the engine oil filter and fuel filter (with built-in water separator). On the left side are the INDr filter, air cleaner, radiator coolant, etc. Daily maintenance can be carried out easily without the need to climb up onto the machine.

- Easy access to cooling units (Left side)
- Easy access to pump & filters (Right side)

**Fast Maintenance**

- Engine quickdrain valve can be turned without tools.
- Fuel tank equipped with bottom flange and large drain valve.
- Hour meter can be checked while standing on the ground.
- Starter easily replaced from the pump side.
- Engine oil filter

**Easy Cleaning**

- Detachable two-piece floor mat with handles for easy removal. A floor drain located under floor mat.
- Special crawler frame designed is easily cleaned of mud.
- Ceiling guard opens and closes to simplify skylight cleaning.

**New-design fuel filter catches 95% of dust and impurities**

The large-capacity fuel filter is designed specifically for common rail engines. With an increased filtering performance, this high-grade filter catches 95% of all dust particles and other impurities in the fuel.

- Easy access to main control valves
- Easy to main control valve

**GEOSCAN**

GEOSCAN allows you to use the Internet to manage information from your office for machines operating in all areas. This provides a wide range of support for your business operations.

- Direct Access to Operational Status
  - Location Data
  - Operating Hours
  - Fuel Consumption Data
  - Graph of Work Content
  - Graph of Machine Duty Cycles

- Maintenance Data and Warning Alerts
  - Machine Maintenance Data
  - Security System
  - Engine Start Alarm
  - Area Alarm

**INDr Means Easy Maintenance**

**INDr Filter Blocks Out Dust**

Outside air goes directly form the intake duct through the INDr filter for dust removal. The filter features a 60-mesh screen, which means it has sixty holes per inch both vertically and horizontally, with a wide front surface area accordion structure that resists clogging.

**Visual Checking and Easy Cleaning**

When checking and cleaning the cooling system, one must deal with several different components like the radiator, oil cooler and intercooler, which all must be handled in different ways. But with the INDr filter, there’s just one filter in one place. If it looks dirty during start-up inspection, it can be cleaned easily and quickly.

**Long-Interval Maintenance**

Super-fine filter

High performance, super-fine filter has a 1,000 hour replacement cycle.

**Double-Element Air Cleaner**

The high-performance air cleaner has twice the capacity and service life of previous air cleaners and is installed behind the INDr filter for even more effective cleaning performance.

**Choice of 16 Languages for Monitoring Display**

With messages including those requiring urgent action displayed in the local language, users in all parts of the world can work with greater peace of mind.

**Maintenance**

- Displays only the maintenance information that’s needed, when it’s needed.
- Self-diagnostic function that provides early-warning detection and display of electrical system malfunctions.
- Record function of previous breakdowns including irregular and transient malfunction.

**Super-Fine Filter**

- Long-life hydraulic oil reduces cost and labor.

**GEOSCAN**

The GEOSCAN Difference:

Fast, Accurate and Low-Cost Maintenance!
The GEOSPEC Difference:
A Working Environment That Helps the Operator Concentrate on the Job at Hand!

New Large Cab

The new ‘Big Cab’ provides a roomy operating space with plenty of legroom, and the door opens wide for easy entry and exit. As well as giving a wide, open view to the front, the cab has increased window areas on both sides and to the rear, for improved visibility in all directions.

Wide-Access Cab Ensures Smooth Entry and Exit

Easy entry and exit assured with wider cab entry and safety lock lever integrated with mounting for control levers.

Excellent Visibility

The wide open view to the front combines with minimized blind spots around the machine for greater onsite safety. Pillar-free right-hand window further improves visibility.

In-Cab Noise is Reduced by 4 dB

Compared with Previous Models

Always Easy to Read! New Information Display

Large analog gauges with large numbers and letters and glare-reducing visors are always easy to read regardless of working conditions.

Comfortable Operating Environment

- Double slide seat
- Powerful automatic air conditioner
- Two-speaker FM/AM radio with station select
- One-touch lock release simplifies opening and closing front window
- Large cup holder
- Spacious luggage tray

Safety Features That Take Various Scenarios into Consideration

Level indicator that shows degree of machine tilt (optional for NZ)
Hammer for emergency exit

ROPS Cab

The newly developed, 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.

Better Visibility Than Ever Before

The wide, open view in front combines with minimized blind spots around the machine for greater onsite safety, with two handrail mirrors, a cab mirror, and a rear mirror on the counterweight providing better visibility than ever before.

- Level 2 FOPS Guard (ISO 10262)
- Available as option
- To fit vandalism guards, please contact your KOMELCO dealer

- Cab mirror
- Two handrail mirrors
- Rear mirror on the counterweight

Travel alarm (optional for NZ)
Specifications

### Engine

**Model:** HINO J05E

**Type:** Direct injection, water-cooled, 4-cycle diesel engine with turbocharger, intercooler (Complies with EU (NRM) Stage IIIA, US EPA Tier III, and act on regulation, etc. of emissions from non-road special motor vehicles (Japan))

- No. of cylinders: 4
- Bore and stroke: 112 mm x 130 mm
- Displacement: 5,123 L
- Rated power output: 113 kW /2,000 min⁻¹ (ISO 14396: 2002)*
- Max. torque: 592 N.m /1,600 min⁻¹ (rpm) (ISO 14396: 2002)*

### Hydraulic System

**Pump**

- Type: Two variable displacement pumps + 1 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/cm²)
  - Power boost: 37.7 MPa (385 kgf/cm²)
  - Swing circuit: 28.5 MPa (291 kgf/cm²)
  - Control circuit: 30.0 MPa (310 kgf/cm²)
  - Pilot control pump: Gear type
- Main control valves: 8-spool
- Oil cooler: Air cooled type

### Swing System

- Swing motor: Axial piston motor
- Brake: Hydraulic; locking automatically when the swing control lever is in the neutral position
- Parking brake: Hydraulic brake
- Swing speed: 11.8 min⁻¹ (rpm)
- Tail swing radius: 1,730 mm
- Min. front swing radius: 1,390 mm

### Travel System

- Travel motors: 2 x axial-piston, two-step motors
- Travel brakes: Hydraulic brake per motor
- Travel shoes: 47 each side (SK233SSR)
- Travel speed: 5.5 - 3.4 km/h
- Drawbar pulling force: 243 kN (2,480 kgf (ISO 7484))
- Gradeability: 70% (35°)

### Cab & Control

**Cab**

- All-weather, sound-suppressed steel cab mounted on the silicon-sealed viscous mounts and equipped with a heavy, insulated floor mat.
- 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: 125 mm x 1,330 mm
- Arm cylinder: 135 mm x 1,580 mm
- Bucket cylinders: 120 mm x 1,080 mm

### Refilling Capacities & Lubrications

- Fuel tank: 330 L
- Cooling system: 22 L
- Engine oil: 20.3 L
- Travel reduction gear: 2 x 4.5 L
- Swing reduction gear: 7.0 L
- Hydraulic oil tank: 114 L tank oil level
- 230 L hydraulic system

### Attachments

#### Backhoe bucket and arm combination

<table>
<thead>
<tr>
<th>Use</th>
<th>Backhoe bucket</th>
<th>Side gin type</th>
<th>Slope finishing bucket</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bucket capacity</td>
<td>ISO heaped</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ISO heaped</td>
<td>0.91</td>
<td>0.7</td>
<td>0.9</td>
</tr>
<tr>
<td>Struck</td>
<td>0.99</td>
<td>0.52</td>
<td>0.9</td>
</tr>
<tr>
<td>Opening width</td>
<td>870</td>
<td>1,080</td>
<td>1,160</td>
</tr>
<tr>
<td>With side cutter</td>
<td>870</td>
<td>1,080</td>
<td>1,160</td>
</tr>
<tr>
<td>Without side cutter</td>
<td>770</td>
<td>980</td>
<td>1,060</td>
</tr>
<tr>
<td>No. of bucket teeth</td>
<td>3</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Bucket weight</td>
<td>520</td>
<td>630</td>
<td>630</td>
</tr>
<tr>
<td>Comb.</td>
<td>2.4 m arm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.54 m arm</td>
<td>c</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.33 m arm</td>
<td>c</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

○ Std. □ Recommended ○ Loading only × Not recommended

---

[2]
Powerful, Agile and Quiet.

New Performance Capabilities with a Small Rear Swing

The rounded form says it all: an excavator built with a tiny rear swing for maximum maneuverability. But KOBELCO has taken this concept one step further by seeing just how much digging performance can be packed into a machine. It's not the compact design that matters so much on the performance and functions that are actually used on site. And that's just where the new SR Series really shines. Starting with our NEXT-30 concept, so much so, in fact, that KOBELCO has taken this concept one step further by

* Pow er Boost engaged.

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

** SK235SR LC**

- A O verall length SK235SR
- B ucket digging force
- C - M ax. digging reach
- D - Arm crowding force
- E - M ax. digging height
- F - M ax. digging depth
- G - M ax. vertical wall
- H - Tum bler distance SK235SR
- I O verall length of SK235SR
- J - J uction between the arm and bucket

** SK235SR**

- A - Reach from swing centerline to bucket hook
- B - Bucket hook height above/below ground
- C - * Without exceeding height of sallow flag

Notes:

- 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.

Dimensions

- A - Standard Arm: 2.94 m Bucket: 0.8 m³ ISO heaped 630 kg Shoe: 800 mm

Operating Weight & Ground Pressure

- Standard configuration, 1.5 mᶾ or 2.0 mᶾ or 2.5 mᶾ standard bucket

Lifting Capacities

- A - Lifting capacities in kilograms
- B - Bucket hook height above/below ground
- C - M aximum load on swing centerline
- D - M aximum lift
- E - M aximum lift angle
- F - M aximum horizontal lift angle
- G - M aximum lift height
- H - M aximum horizontal lift height
- I - M aximum horizontal lift height
- J - M aximum lift height
- K - M aximum horizontal lift height
- L - M aximum lift height
- M - M aximum horizontal lift height
- N - M aximum lift height
- O - M aximum horizontal lift height
- P - M aximum lift height
- Q - M aximum horizontal lift height
- R - M aximum lift height
- S - M aximum horizontal lift height
- T - M aximum lift height
- U - M aximum horizontal lift height
- V - M aximum lift height
- W - M aximum horizontal lift height
- X - M aximum lift height
- Y - M aximum horizontal lift height
- Z - M aximum lift height

Notes:

STANDARD EQUIPMENT

ENGINE
- Hino J05E, turbocharged and intercooled diesel engine
- Automatic engine speed control
- Auto idle stop
- Oil cooler
- Coolant water heater
- Oil temperature gauge
- Coolant temperature gauge
- Coolant pressure gauge
- Oil pressure gauge
- Engine oil level indicator
- Engine oil pan drain cock
- Double element air cleaner

CONTROL
- Working mode selector (H-mode and S-mode)
- Power Boost

SWING SYSTEM & TRAVEL SYSTEM
- Swing rebound prevention system
- Straight propel system
- Two-speed travel system
- Sealed & lubricated track links
- Grease-type track adjusters
- Automatic swing brake

MIRRORS & LIGHTS
- Four rearview mirrors
- Two front working lights

CAB & CONTROL
- Two control levers, pilot-operated
- Tow eyes
- Horn, electric
- Integrated left-right slide-type control box
- Ashtray
- Cigarette lighter
- 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
- Manual front window and removable lower front window
- Easy-read multi-display monitor
- Easy-read multi-display monitor
- Emergency escape hammer
- Strobe lights (with or without speakers)
- Travel alarm (optional for NZ)
- Radiator for control box
- Opening panel (optional for NZ)
- Front panel (optional for NZ)

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

OPTIONAL EQUIPMENT

- Dozer Blade
- Wide range of buckets
- Wide range of excavator attachments
- Extra safety valve
- Anti-safety valve
- Front guarded protective structures (may interfere with bucket action)
- Additional hydraulic circuit
- Additional hydraulic circuit
- Canopy light (change (2-way, 4-way)

Note: This catalog may contain attachments and equipment that are not available in your area. It may contain photographs of machines with specifications that differ from those of models sold in your area. Please consult your KOBE LCO dealer for information on the models you require. Due to our policy of continual product improvements, all designs and specifications are subject to change without advance notice. Copyright © KOBELCO CONSTRUCTION MACHINERY CO., LTD. The right to reproduction of all or part of this catalog may be reproduced in any manner without notice.