

STANDARD EQUIPMENT

ENGINE

- Engine, HINO P11C, Diesel engine with turbocharger and intercooler
- Automatic engine deceleration
- Auto Idle Stop (AIS)
- Batteries (2 x 12V - 60Ah)
- Starting motor (24V - 6 kW), 60 amp alternator
- Removable clean-out screen for radiator
- Automatic engine shut-down for low engine 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

HYDRAULIC

- Arm regeneration system
- Auto warm up system
- Aluminum hydraulic oil cooler

MIRRORS & LIGHTS

- Two rearview mirrors
- Three front working lights
- Swing flashers

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
- 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

OPTIONAL EQUIPMENT

- Wide range of buckets
- Various optional arms
- Wide range of shoes
- Front-guard protective structures (May interfere with bucket action)

- Additional track guide
- Additional hydraulic circuit
- Rain visor
- Multi-control valve

■ Heavy-Duty Application for Quarry

- Full undercover to reinforce main carriage
A 6 mm steel undercover covers the entire bottom surface of the upper frame, protecting the engine, pumps and other components from rock fragments, boulders, iron bar, and other debris.
- Lower undercover
A 9 mm steel cover protects the lower frame from rocks, steel bar, and other materials that could damage hydraulic piping and other components.
- Heavy-duty track shoes for rock crushing
Heavy-duty track shoes are thicker and the lugs are higher to provide even more protection against breakage and loss.
- More track guides
Four durable track guides are fitted on each side to prevent wheel dislocation and protect the rollers. Attached with bolts, they are easy to install and remove.

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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Inquiries To:

Hydraulic Excavators

ACERA
GEOSPEC

Super X

SK460
SK480LC

- Bucket Capacity:
1.35 – 3.4 m³ ISO heaped
- Engine Power:
257kW (350 PS)/1,850 min⁻¹{rpm}
(ISO14396)
- Operating Weight (800 mm shoe):
47,800 kg – SK460
48,800 kg – SK480LC

SK480LC

Announcing ACERA GEOSPEC and the Concept of Beautiful Performance.

The Power Wave of Change

When we set out to design our new hydraulic excavators, we kept our eyes on the big picture.

Of course we wanted machines with greater digging capacity.

But they also had to be fuel-efficient and economical, while imposing less of a burden on the local and global environments.

Applying our advanced technologies, we developed KOBELCO's new ACERA GEOSPEC series,

an entirely new kind of excavator that beautifully balances all the demands of today's construction industry.

Lean and efficient with capacity to spare, these sleek powerhouses bring a whole new style to the worksite while setting new standards for environmental responsibility.



Pursuing the "Three E's"

The Perfection of Next-Generation, Network Performance

Enhancement

Greater Performance Capacity

- New hydraulic circuitry minimizes pressure loss
- High-efficiency, electronically controlled Common Rail Fuel Injection Engine
- Powerful travel and arm/bucket digging force

Economy

Improved Cost Efficiency

- Advanced power plant that reduces fuel consumption
- Easy maintenance that reduces upkeep costs
- High structural durability and reliability that retain machine value longer

Environment

Features That Go Easy on the Earth

- Auto Idle Stop as standard equipment
- Noise reduction measures (with improvement of the sound quality) minimize noise and vibration

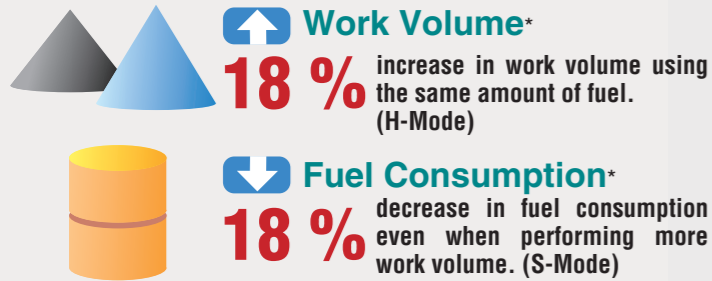
ACERA
GEOSPEC ACERA GEOSPEC

The "GEO" in GEOSPEC expresses our deep respect for our planet, and for the solid ground where excavators are in their element. This is accompanied by SPEC, which refers to the performance specifications needed to get the job done efficiently as we carry on the tradition of the urban-friendly ACERA series.

Photos in this catalog are the optional specs with 0.93 m³ bucket, 800 mm shoes, arm rock guard, and pre-air cleaner.

The GEOSPEC Difference: Efficient Performance!

Amazing Productivity with a 18 % Increase in Work Volume and "Top-Class" Cost-Performance



"Top-Class" Powerful Digging

Max. arm crowding force: **203 kN** {20.7 tf}

Max. arm crowding force with power boost: **222 kN** {22.7 tf}

Max. bucket digging force: **267 kN** {27.2 tf} ↑

Max. bucket digging force with power boost: **292 kN** {29.8 tf} ↑

Powerful Travel

Travel torque: increased by **4 %**

Drawbar pulling force: **417 kN** {42.5 tf} ↑

Greater Swing Power, Shorter Cycle Times

Swing torque: increased by **8.8 %** ↑

Swing speed: **7.8 min⁻¹** ↑

Significant Extension of Continuous Working Hours

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

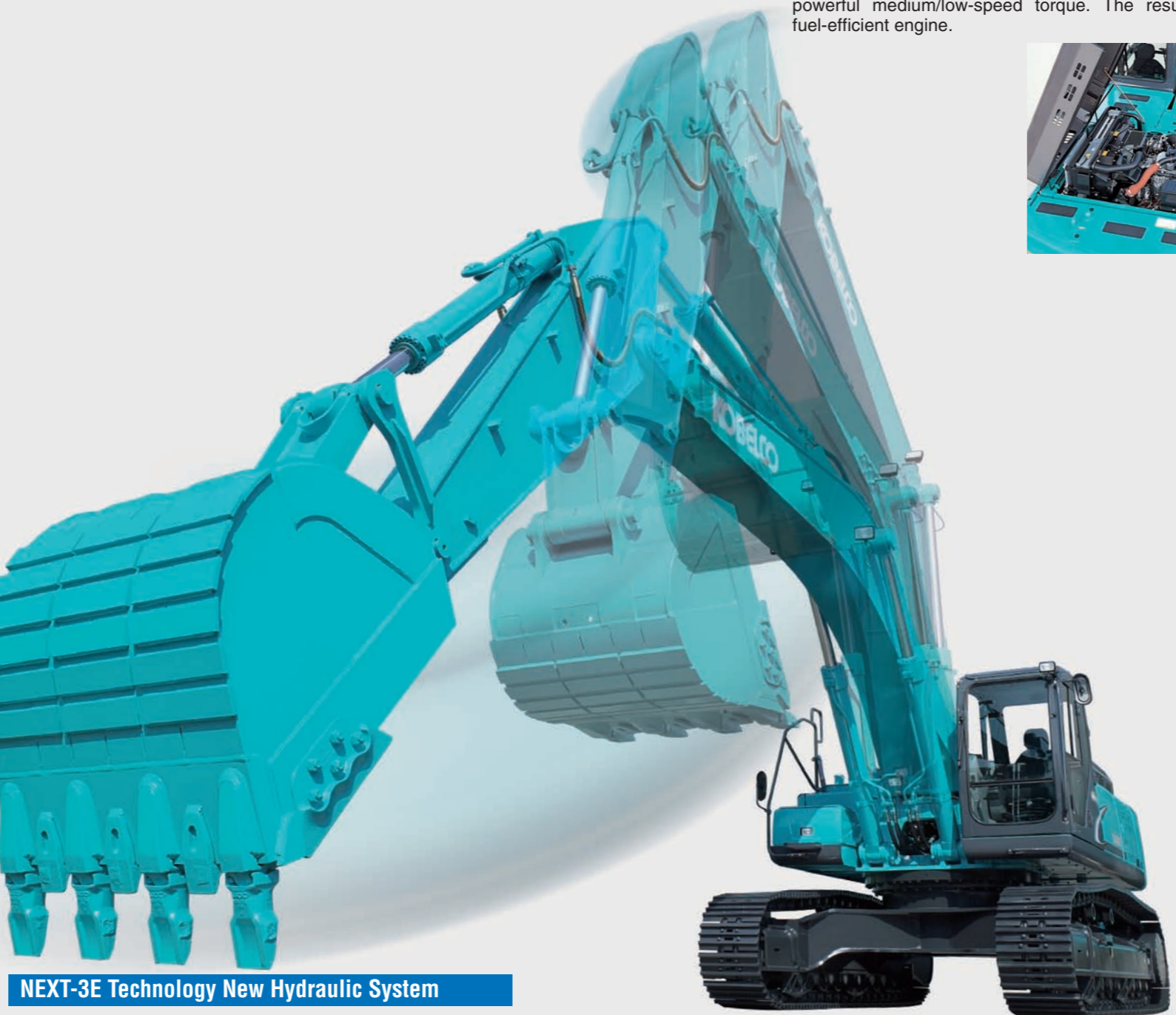
Fuel tank: **650L**

34 % ↑

Light Lever Operation

It takes 10% less effort to move the control levers, so that operators can work longer hours with less fatigue.

10 % Less

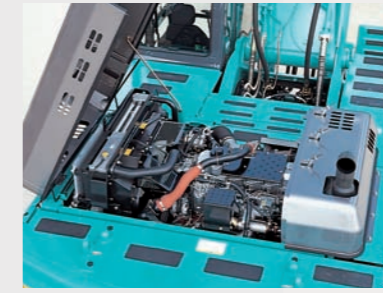


NEXT-3E Technology New Hydraulic System

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

NEXT-3E Technology Next-Generation Electronic Engine Control

The high-pressure, common-rail fuel-injection engine features adjustable control to maximize fuel efficiency and provide powerful medium/low-speed torque. The result is a highly fuel-efficient engine.

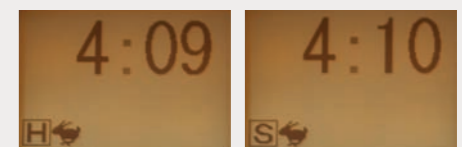


NEXT-3E Technology Total Tuning Through Advanced ITCS Control

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



- H** For heavy duty when a higher performance level is required.
- S** For normal operations with lower fuel consumption.

Optional N&B (crusher and breaker)
The operator selects the desired mode from inside the cab, and the selector valve automatically configures the machine accordingly.

Optional Attachment Mode Selector Switch
There's a choice of three different hydraulic circuits, to accommodate bucket, crusher or breaker, and the desired attachment mode can be selected with a switch, which automatically configures the selector valve. All attachment modes can be used in either S-mode or H-mode.



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 with graceful ease.

- Electronic Active Control System
- Arm regeneration system
- Boom lowering system
- Variable swing priority system
- Swing rebound prevention system

*The value shows results from actual measurements taken by KOBELCO when compared with previous KOBELCO models.
**The value shows results from actual measurements taken by KOBELCO for continuous operation in S Mode, compared with previous models. Results vary depending on the method of operation and load conditions.

The GEOSPEC Difference:

The Value and Quality of Sturdy Construction!

Stable Attachment Strength

Forged and cast components are used throughout. The standard arm and boom also meet specifications that were classified as "reinforced" on previous KOBELCO models to ensure reliable strength.



Pre-air Cleaner (optional)

The optional pre-air cleaner prolongs a replacement cycle of main air cleaner.

HD boom

KOBELCO

HD arm

HD bucket (optional)

Enhanced Upper Carbody Strength

The structure of the lower portion of the upper frame has been reassessed and the undercover area has been minimized for further strength.



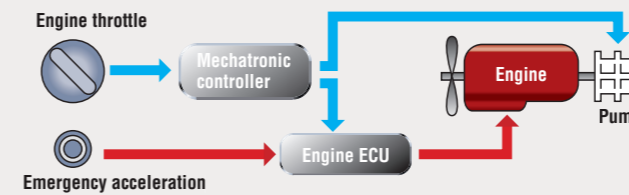
Durability That Retains Machine Value Five and Ten Years in the Future

- New operator's seat covered in durable, material
- High-quality urethane paint
- Easily repaired bolted hand rails

Emergency Acceleration (Dial) Permits Continued Operation in the Unlikely Event of Malfunction



If unexpected trouble is experienced with the ITCS mechatronic control system, the machine can still be operated using the emergency acceleration system. Digging modes are also automatically relayed to an emergency system so that digging can continue temporarily until a service person arrives to repair the primary system.



New MCU Conventional MCU

Newly designed MCU

- Vertical alignment and sealed cover gives better protection from water and dust
- Integration in base plate boosts assembly quality
- Reliable fixture to base plate

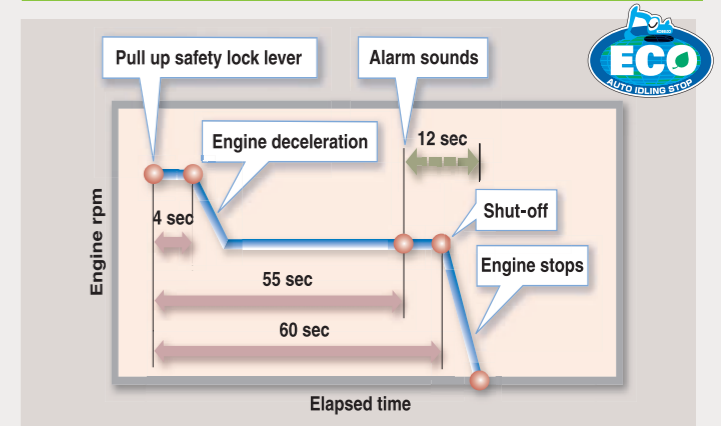
Countermeasures Against Electrical System Failure

All elements of the electrical system, including controller, have been designed for enhanced reliability.

The GEOSPEC Difference:

Designed for the Environment and the Future!

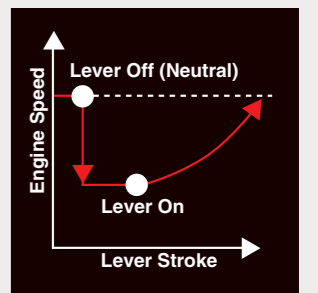
Auto Idle Stop Provided as Standard Equipment



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.



Low Noise Level and Mild Sound Quality

The electronically controlled common-rail engine has a unique fuel injection system that runs quietly. Also, the hydraulic pumps have been redesigned to produce a more pleasant sound during pressure relief. In short, the GEOSPEC series meets all requirements cited in latest EU stage II.

Meets EMC (Electromagnetic Compatibility) Standards in Europe.

Measures have been taken to ensure that the GEOSPEC machines do not cause electro-magnetic interference.

The GEOSPEC Difference:

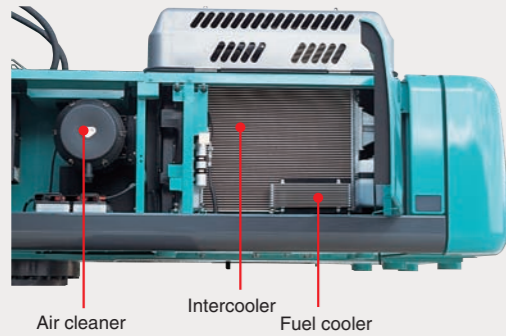
“On the Ground” Maintenance!

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 intercooler, air cleaner, radiator coolant, etc. Daily maintenance can be carried out easily without the need to climb onto the machine.

Access through the right side cover

Radiator and oil cooler are aligned side by side, with intercooler positioned in front. This more effective layout gives outstanding cooling results.



Air cleaner Intercooler Fuel cooler

Quick Oil Drain Valves for Quick Maintenance



Quick drain valve



Fuel drain valve

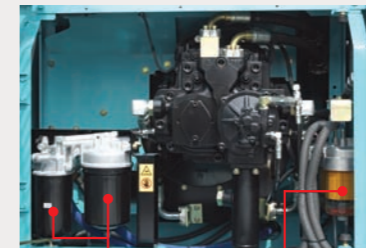
More Efficient Maintenance Inside the Cab



- Detachable two-piece floor mat with handles for easy removal. A floor drain is located under the mat.
- Easy-access fuse box. More finely differentiated fuses make it easier to locate malfunctions.
- Air conditioner filter can be easily removed without tools for cleaning.
- Hour meter can be checked while standing on the ground.
- Large-capacity tool box can hold up to three pails.
- Special crawler frame design is easily cleaned of mud.

Access through the left side cover

The fuel filter with built-in water separator functions in two ways by removing large contaminants and separating out water.



Engine oil filter Two large fuel filters (built-in water separator)

Highly Durable Super-fine Filter



● Super-fine filter

The high-capacity hydraulic oil filter incorporates glass fiber with superior cleaning power and durability. With a replacement cycle of 1,000 hours and a construction that allows replacement of the filter element only, it's both highly effective and highly economical.

Double-Element Air Cleaner as Standard



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

Air cleaner (double element)

High-Grade Fuel Filter with Superior Filtration Performance

NEW!



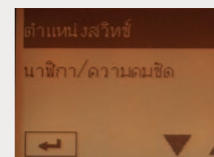
The high-performance, large capacity filter is designed specially for the common-rail fuel-injection engine.

Monitor Display with Essential Information for Accurate Maintenance Checks



- 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 previous breakdowns, including irregular and transient malfunctions.

Choice of 16 Languages for Monitor 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.

充電不良	Lichtmaschine defekt	CHARGE ERROR	CHARGE ERROR
Chinese	German	English	English (US)
ERREUR DE CHARGE	PENGISIAN BATT. RUSAK		ERRORE DI CARICA
French	Indonesian	ISO	Italian
チャージ	KESALAHAN CAS	ဓာတ်ပုံမဝင်	ERRO DE CARGA
Japanese	Malay	Myanmar(Burmese)	Portuguese
ERROR EN CARGA	தவறாக சார்ஜிங்	၂၈၂၅၂၅၂၅	Sạc Điện Bị Lỗi
Spanish	Tamil	Thai	Vietnamese

The GEOSPEC Difference:

Designed from the Operator's Point of View



Newly Designed Information Display Prioritizes Visual Recognition

The analog gauge provides information that's easy to read regardless of the operating environment. The information display screen has been enlarged, and a visor is attached to further enhance visibility.

Wide Field of View Liberates the Operator

The front field of view easily clears ISO standards, while the peripheral view reduces blind spots to a minimum.



- A long wiper covers a wide area for a broad view in bad weather.
- Back mirrors provide a safe view of the rear.
- Reinforced green glass windows meet European standards.

Wide-Access Cab Ensures Smooth Entry and Exit

The left control box lifts up with the safety lock lever to add 10° to the cab entry angle for easy entrance and exit.

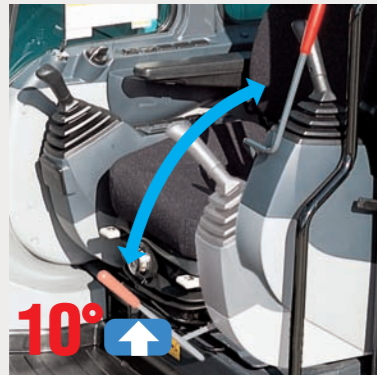


Photo includes optional pedals for N&B and rotation.

Plenty of Foot Room

With a total width of 1,005 mm, the cab has 35 mm more front-to-back foot room than previous models. The travel pedal is larger for greater operator comfort.

Reduced Vibration for Fatigue-Free Operation

The rigid cab construction and liquid-filled viscous cab mounts minimize cab vibration. In addition, the use of new lower rollers on the crawlers cuts travel vibration in half compared with previous models.

In-Cab Noise is Reduced by 4dB Compared with Previous Models.

Creating a Comfortable Operating Environment



● Seat can be reclined to horizontal position



- Double slide and suspension seat
- Powerful automatic air conditioner
- Spacious luggage tray



- One-touch lock release simplifies opening and closing the front window
- Large cup holder
- New interior design and materials create an elegant feel



The GEOSPEC Difference:

Imagining Possible Scenarios and Preparing in Advance

Bracket for Attaching a Head Guard Provided as Standard Equipment



A bracket is provided as standard equipment that allows the optional head guard to be simply bolted on.

Safety Features That Take Various Scenarios into Consideration



- Firewall separates the pump compartment from the engine



- Hammer for emergency exit



- Swing flashers/rear working lights

- Thermal guard prevents contact with hot components during engine inspections
- Hand rails meet European standards
- Retractable seatbelt requires no manual adjustment



Engine

Model	HINO P11C
Type	Direct injection, water-cooled, 4-cycle diesel engine with turbocharger, intercooler
No. of cylinders:	6
Bore and stroke:	122 mm X 150 mm
Displacement:	10.520 L
Rated power output:	257 kW (350 PS)/1,850 min ⁻¹ (rpm) (ISO14396:2002) 243 kW (333 PS)/1,850 min ⁻¹ (rpm) (ISO9249:2007)*
Max. torque:	1,400 N·m/1,400 min ⁻¹ (rpm) (ISO14396:2002) 1,359 N·m/1,400 min ⁻¹ (rpm) (ISO9249:2007)*

*Previous indication

Hydraulic System

Pump	
Type:	Two variable displacement pumps + 1 gear pump
Max. discharge flow:	2 X 370 L/min, 1 X 30 L/min
Relief valve setting	
Boom, arm and bucket:	31.4 MPa {320 kgf/cm ² }
Power Boost:	34.3 MPa {350 kgf/cm ² }
Travel circuit:	34.3 MPa {350 kgf/cm ² }
Swing circuit:	25.0 MPa {255 kgf/cm ² }
Control circuit:	5.0 MPa {50 kgf/cm ² }
Pilot control pump:	Gear type
Main control valves:	6-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 disc brake
Swing speed:	7.8 min ⁻¹ (rpm)
Tail swing radius:	3,670 mm
Min. front swing radius:	5,140 mm

Attachments

Backhoe bucket and arm combination

Use		Backhoe bucket							
		Normal digging		Wide		Heavy digging		Mass excavating	
Bucket capacity	ISO heaped m ³	1.35	1.6	1.9	2.1	2.4	1.9	2.1	3.4
	Struck m ³	1.0	1.15	1.4	1.5	1.7	1.4	1.5	2.5
Opening width	With side cutter mm	1,225	1,375	1,670	1,750	1,980	1,590	1,660	1,990
	Without side cutter mm	1,100	1,250	1,550	1,630	1,860	1,510	1,580	1,870
No. of bucket teeth		4	4	5	5	5	4	5	6
Bucket weight	kg	1,250	1,330	1,510	1,560	1,690	2,150	2,270	2,190
Combinations	2.4 m ME arm *	—	—	—	—	—	—	—	⊙*
	3.0 m short arm	○	○	○	⊙	△	○	○	—
	3.45 m STD arm	○	⊙	⊙	△	—	⊙	△	—
	4.9 m long arm	⊙	△	△	—	—	—	—	—

⊙ Recommended ○ Loading only △ Not recommended *ME arm specs should be used for light-digging.

Travel System

Travel motors:	2 X axial-piston, two-step motors
Travel brakes:	Hydraulic brake per motor
Parking brakes:	Oil disc brake per motor
Travel shoes:	47 each side (SK460) 50 each side (SK480LC)
Travel speed:	5.4/3.4 km/h
Drawbar pulling force:	417 kN {42.5 tf} (ISO 7464)
Gradeability:	70 % {35°}
Ground clearance:	510 mm

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:	170 mm X 1,590 mm
Arm cylinder:	190 mm X 1,970 mm
Bucket cylinder:	160 mm X 1,410 mm

Refilling Capacities & Lubrications

Fuel tank:	650 L
Cooling system:	41 L
Engine oil:	50 L
Travel reduction gear:	2 X 15 L
Swing reduction gear:	2 X 7 L
Hydraulic oil tank:	555 L tank oil level 300 L hydraulic system

Working Ranges

Range	Boom	Arm			
		6.3 m	7.0 m	7.0 m	
		ME 2.4 m	Short 3.0 m	Standard 3.45 m	Long 4.9 m
a - Max. digging reach		10.88	11.77	12.07	13.48
b - Max. digging reach at ground level		10.63	11.54	11.84	13.28
c - Max. digging depth		6.48	7.36	7.81	9.26
d - Max. digging height		10.49	11.16	10.93	11.70
e - Max. dumping clearance		6.91	7.72	7.58	8.29
f - Min. dumping clearance		3.11	3.22	2.77	1.32
g - Max. vertical wall digging depth		4.00	6.68	7.12	8.41
h - Min. swing radius		4.75	5.27	5.14	5.30
i - Horizontal digging stroke at ground level		3.59	5.21	6.1	8.28
j - Digging depth for 2.4 m (8') flat bottom		6.31	7.21	7.67	9.15
Bucket capacity ISO heaped m ³		3.4	2.1	1.9	1.35

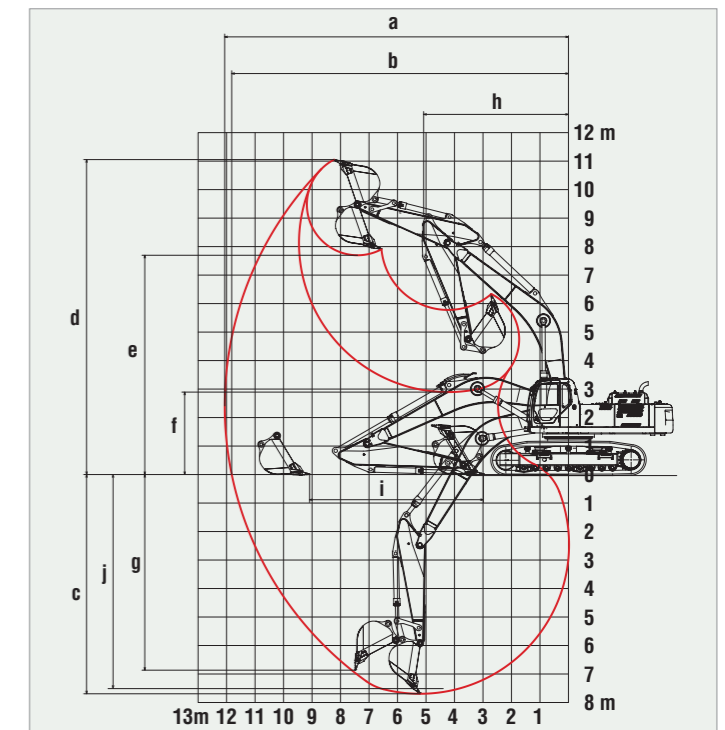
Unit: m

Digging Force (ISO 6015)		Unit: kN (tf)			
Arm length		ME 2.4 m	Short 3.0 m	Standard 3.45 m	Long 4.9 m
Bucket digging force		279 (28.0) 305 (31.1)*	266 (27.1) 291 (29.7)*	267 (27.2) 292 (29.8)*	263 (26.8) 288 (29.4)*
Arm crowding force		247 (25.2) 270 (27.5)*	223 (22.8) 244 (24.9)*	203 (20.7) 222 (22.7)*	157 (16.0) 172 (17.6)*

*Power Boost engaged.

Dimensions

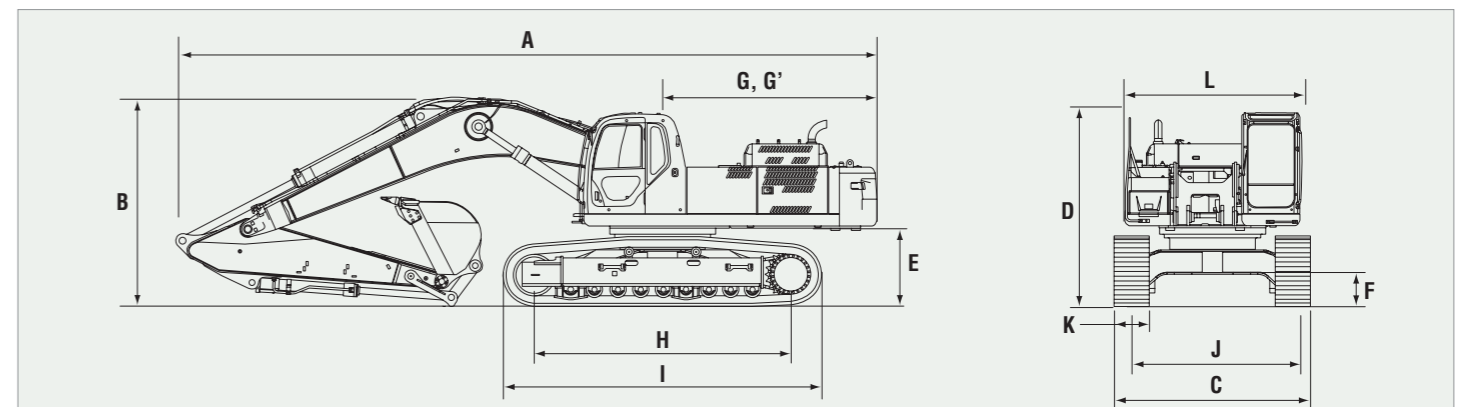
Arm length	ME 2.4 m	Short 3.0 m	Standard 3.45 m	Long 4.9 m
A Overall length	11,620	12,080	12,030	12,090
B Overall height (to top of boom)	4,260	3,800	3,570	4,410
C Overall width	SK460	3,550 (with 800 mm shoes)		
	SK480LC	3,550 (with 800 mm shoes)		
D Overall height (to top of cab)	3,310	3,310	3,310	3,310
E Ground clearance of rear end*	1,340	1,340	1,340	1,340
F Ground clearance*	510	510	510	510



— Standard Arm

		Unit: mm			
G Tail swing radius		3,670	3,670	3,670	3,670
G' Distance from center of swing to rear end		3,670	3,670	3,670	3,670
H Tumbler distance	SK460	4,060	4,060	4,060	4,060
	SK480LC	4,400	4,400	4,400	4,400
I Overall length of crawler	SK460	5,110	5,110	5,110	5,110
	SK480LC	5,450	5,450	5,450	5,450
J Track gauge		2,750	2,750	2,750	2,750
K Shoe width		600/800/900			
L Overall width of upperstructure		3,000	3,000	3,000	3,000

* Without including height of shoe lug.



Operating Weight & Ground Pressure

In standard trim, with standard boom, 3.45 m arm, and 1.9 m³ ISO heaped bucket

Shaped	Shoe width	mm	Triple grouser shoes (even height)		
			600	800	900
Overall width	SK460	3,350	3,550	3,650	
	SK480LC	3,350	3,550	3,650	
Ground pressure	SK460	86 (0.87)	66 (0.67)	59 (0.61)	
	SK480LC	81 (0.83)	63 (0.64)	56 (0.58)	
Operating weight	SK460	46,400	47,800	48,300	
	SK480LC	47,300	48,800	49,400	

