

Hydraulic Excavators

ACERA

GEOSPEC

SK235SR

SK235SR^{LC}

- Bucket Capacity:
 0.51- 0.93 m³ ISO heaped
- Engine Power:
 118 kW {160 PS}/2,000 min⁻¹ {rpm}
 (ISO14396)
- Operating Weight:
 24,300 kg – SK235SR
 24,900 kg – SK235SRLC



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.

KOBELCO CONSTRUCTION MACHINERY CO., LTD.

17-1, Higashigotanda 2-chome, Shinagawa-ku, Tokyo 141-8626 JAPAN
Tel: +81 (0) 3-5789-2146 Fax: +81 (0) 3-5789-2135
www.kobelco-kenki.co.jp/english_index.html

Inquiries To:

Complies with the latest exhaust emission regulations



US
EPA Tier III



EU (NRMM)
Stage IIIA



Japanese
Regulations



Engine

Model	HINO J05E
Type:	Direct injection, water-cooled, 4-cycle diesel engine with turbocharger, intercooler (Complies with EU (NRMM) 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 × 130 mm
Displacement:	5.123 L
Rated power output:	118 kW /2,000 min ⁻¹ (ISO14396: 2002)* 114 kW /2,000 min ⁻¹ (ISO9249: 2007)
Max. torque:	592 N·m/1,600 min ⁻¹ {rpm} (ISO14396: 2002)* 572 N·m/1,600 min ⁻¹ {rpm} (ISO9249: 2007)



Hydraulic System

Pump	
Type:	Two variable displacement pumps + 1 gear pump
Max. discharge flow:	2 × 220 L/min, 1 × 20 L/min
Relief valve setting	
Boom, arm and bucket:	34.3 MPa {350 kgf/cm ² }
Power boost:	37.7 MPa {385 kgf/cm ² }
Travel circuit:	34.3 MPa {350 kgf/cm ² }
Swing circuit:	28.5 MPa {291 kgf/cm ² }
Control circuit:	5.0 MPa {50 kgf/cm ² }
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:	1,930 mm



Attachments

Backhoe bucket and arm combination

Use		Backhoe bucket					Slope finishing bucket
		Normal digging				Side pin type	
Bucket capacity	ISO heaped m³	0.51	0.7	0.8	0.93	0.8	—
	Struck m³	0.39	0.52	0.59	0.67	0.59	—
Opening width	With side cutter mm	870	1,080	1,160	1,330	1,160	—
	Without side cutter mm	770	980	1,060	1,230	1,060	2,200 × 1,100
No. of bucket teeth		3	5	5	5	5	—
Bucket weight kg		520	630	630	710	660	—
Combinations	2.4 m arm	○	○	○	⊙	○	△
	2.94 m arm	○	○	⊙	△	○	△
	3.33 m arm	○	△	×	×	×	△



Travel System

Travel motors:	2 × axial-piston, two-step motors
Travel brakes:	Hydraulic brake per motor
Parking brakes:	Oil disc brake per motor
Travel shoes:	47 each side (SK235SR) 51 each side (SK235SR _{LC})
Travel speed:	5.5 / 3.4 km/h
Drawbar pulling force:	243 kN {24,800 kgf} (ISO 7464)
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.	
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:	125 mm × 1,320 mm
Arm cylinder:	135 mm × 1,588 mm
Bucket cylinders:	120 mm × 1,080 mm



Refilling Capacities & Lubrications

Fuel tank:	330 L
Cooling system:	22 L
Engine oil:	20.5 L
Travel reduction gear:	2 × 4.5 L
Swing reduction gear:	7.0 L
Hydraulic oil tank:	114 L tank oil level 230 L hydraulic system



Working Ranges

		Unit: m		
		Boom		
		Arm		
Range		Short 2.4 m	Standard 2.94 m	Long 3.33 m
a - Max. digging reach		9.37	9.85	10.24
b - Max. digging reach at ground level		9.18	9.68	10.07
c - Max. digging depth		6.11	6.65	7.04
d - Max. digging height		10.82	11.21	11.55
e - Max. dumping clearance		7.94	8.33	8.67
f - Min. dumping clearance		3.79	3.14	2.87
g - Max. vertical wall digging depth		5.52	6.05	6.66
h - Min. swing radius		2.18	1.93	2.37
i - Horizontal digging stroke at ground level		4.08	5.27	5.66
j - Digging depth for 2.4 m (8') flat bottom		5.91	6.47	6.88
Bucket capacity ISO heaped m³		0.93	0.8	0.57

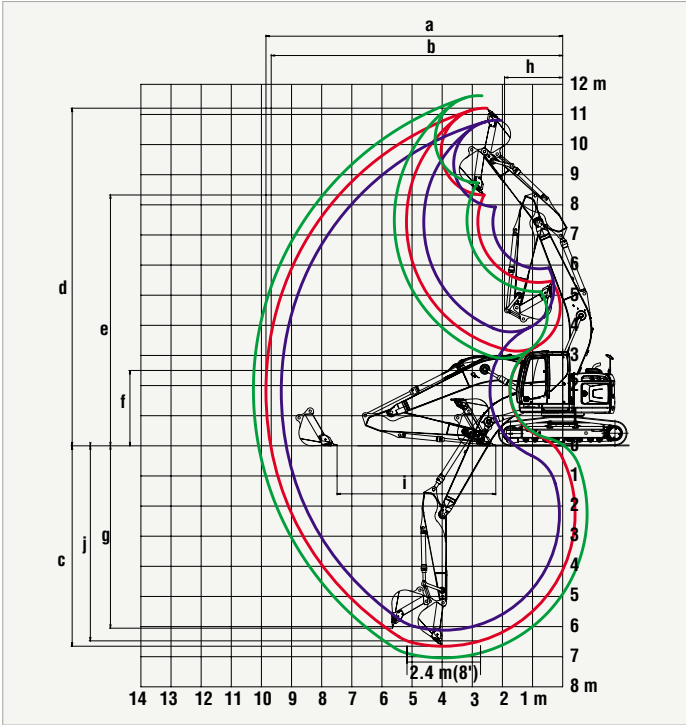
		Unit: kN (kgf)		
Arm length		Short 2.4 m	Standard 2.94 m	Long 3.33 m
Bucket digging force		143 {14,600} 157 {16,000}*	143 {14,600} 157 {16,000}*	143 {14,600} 157 {16,000}*
Arm crowding force		121 {12,300} 133 {13,600}*	102 {10,400} 112 {11,400}*	95.6 {9,750} 105.3 {10,700}*

*Power Boost engaged.



Dimensions

Arm length		Short 2.4 m	Standard 2.94 m	Long 3.33 m
A Overall length	SK235SR	8,880	8,790	8,850
	SK235SR _{LC}	9,070	8,980	9,040
B Overall height (to top of boom)		3,150	3,150	3,410
C Overall width of crawler	SK235SR	2,990		
	SK235SR _{LC}	3,190		
D Overall height (to top of cab)		3,150		
E Ground clearance of rear end*		1,050		
F Ground clearance*		455		

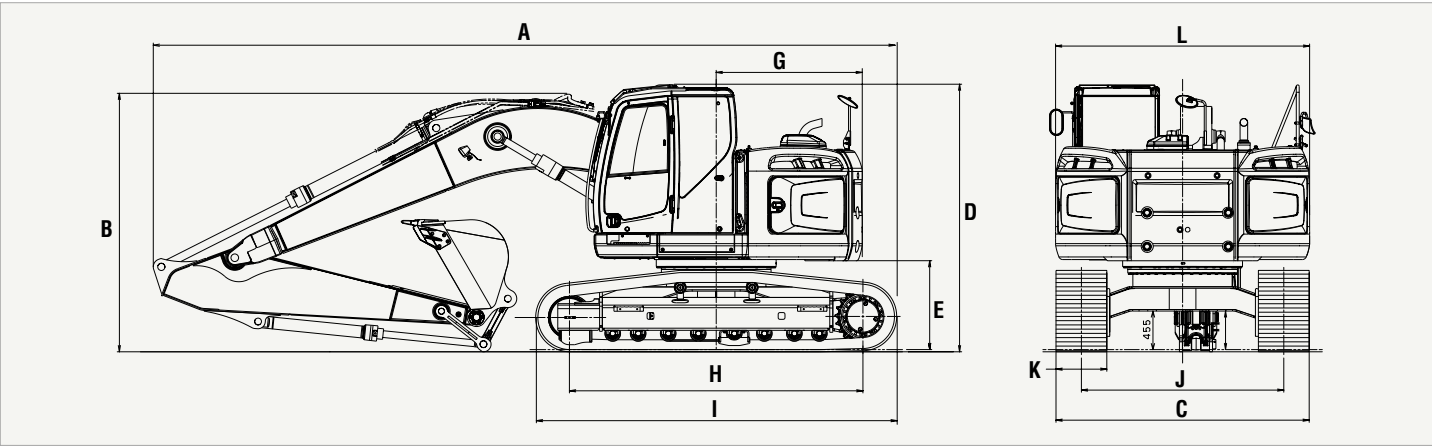


Unit: mm

— Short Arm
— Standard Arm
— Long Arm

G Tail swing radius	SK235SR	1,730
H Tumbler distance	SK235SR _{LC}	3,470
I Overall length of crawler	SK235SR	3,850
	SK235SR _{LC}	4,260
J Track gauge	SK235SR	4,640
	SK235SR _{LC}	2,390
K Shoe width	SK235SR	2,590
L Overall width of upperstructure	SK235SR _{LC}	600/700/800
		3,000

* Without including height of shoe lug.



Operating Weight & Ground Pressure

In standard trim, with standard boom, 2.94 m arm, and 0.8 m³ ISO heaped bucket

[] = Long Crawler

Shaped		Triple grouser shoes (even height)		
Shoe width		600	700	800
Overall width of crawler		2,990 [3,190]	3,090 [3,290]	3,190 [3,390]
Ground pressure		53 [0.54] [49 [0.50]]	46 [0.47] [43 [0.44]]	41 [0.42] [38 [0.38]]
Operating weight		24,300 [24,900]	24,500 [25,200]	24,800 [25,400]
Dozer (optional)	Weight	Plus 1,600 kg [-]	- [-]	- [-]
	Ground pressure	Plus 3.5 kPa [-]	- [-]	- [-]

Lifting Capacities

SK235SR

SK235SR-2

SK235SR_{LC}

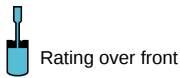
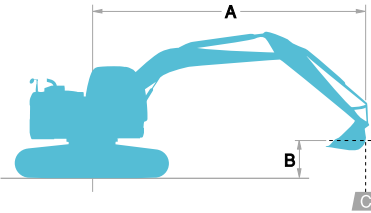
SK235SRLC-2

SK235SR

SK235SR-2

SK235SR_{LC}

SK235SRLC-2



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

- Max. discharge pressure: 34.3 MPa (350 kgf/cm²)

SK235SR		Standard Arm: 2.94 m Bucket: 0.8 m³ ISO heaped 630 kg Shoe: 600 mm												
A \ B		1.5 m		3.0 m		4.5 m		6.0 m		7.5 m		Max. reach		Radius
														
9.0 m	kg											*3,360	*3,360	4.46 m
7.5 m	kg					*4,910	*4,910	*3,520	*3,520			*2,830	*2,830	6.27 m
6.0 m	kg					*5,400	*5,400	*4,970	4,650			*2,660	*2,660	7.36 m
4.5 m	kg			*7,500	*7,500	*6,440	*6,440	*5,380	4,440	*4,340	2,940	*2,670	2,560	8.03 m
3.0 m	kg			*12,230	*12,230	*7,810	6,620	*5,980	4,130	4,530	2,800	*2,800	2,260	8.38 m
1.5 m	kg			*7,170	*7,170	*8,960	5,970	6,270	3,820	4,360	2,640	*3,080	2,130	8.45 m
G. L.	kg			*7,960	*7,960	*9,320	5,590	6,020	3,600	4,230	2,520	*3,570	2,150	8.25 m
-1.5 m	kg	*6,890	*6,890	*11,140	10,920	*8,830	5,450	5,900	3,490	4,180	2,470	3,970	2,350	7.76 m
-3.0 m	kg	*10,510	*10,510	*10,270	*10,270	*7,520	5,490	*5,500	3,510			*4,370	2,850	6.91 m
-4.5 m	kg			*6,740	*6,740	*5,090	*5,090					*3,800	*3,800	5.54 m

SK235SR		Standard Arm: 2.94 m Bucket: 0.8 m³ ISO heaped 630 kg Shoe: 800 mm												
A		1.5 m		3.0 m		4.5 m		6.0 m		7.5 m		Max. reach		Radius
														
B														
9.0 m	kg											*3,360	*3,360	4.46 m
7.5 m	kg					*4,910	*4,910	*3,520	*3,520			*2,830	*2,830	6.27 m
6.0 m	kg					*5,400	*5,400	*4,970	4,760			*2,660	*2,660	7.36 m
4.5 m	kg			*7,500	*7,500	*6,440	*6,440	*5,380	4,540	*4,340	3,020	*2,670	2,630	8.03 m
3.0 m	kg			*12,230	*12,230	*7,810	6,770	*5,980	4,240	4,650	2,880	*2,800	2,330	8.38 m
1.5 m	kg			*7,170	*7,170	*8,960	6,130	6,430	3,930	4,480	2,720	*3,080	2,200	8.45 m
G. L.	kg			*7,960	*7,960	*9,320	5,740	6,180	3,700	4,350	2,600	*3,570	2,230	8.25 m
-1.5 m	kg	*6,890	*6,890	*11,140	*11,140	*8,830	5,600	6,060	3,590	4,300	2,550	4,080	2,430	7.76 m
-3.0 m	kg	*10,510	*10,510	*10,270	*10,270	*7,520	5,640	*5,500	3,610			*4,370	2,940	6.91 m
-4.5 m	kg			*6,740	*6,740	*5,090	*5,090					*3,800	*3,800	5.54 m

SK235SRLC		Standard Arm: 2.94 m Bucket: 0.8 m³ ISO heaped 630 kg Shoe: 600 mm												
B	A	1.5 m		3.0 m		4.5 m		6.0 m		7.5 m		Max. reach		Radius
														
9.0 m	kg											*3,360	*3,360	4.46 m
7.5 m	kg					*4,910	*4,910	*3,520	*3,520			*2,830	*2,830	6.27 m
6.0 m	kg					*5,400	*5,400	*4,970	*4,970			*2,660	*2,660	7.36 m
4.5 m	kg			*7,500	*7,500	*6,440	*6,440	*5,380	5,040	*4,340	3,380	*2,670	*2,670	8.03 m
3.0 m	kg			*12,230	*12,230	*7,810	7,580	*5,980	4,730	*4,970	3,230	*2,800	2,630	8.38 m
1.5 m	kg			*7,170	*7,170	*8,960	6,920	*6,520	4,420	*5,180	3,070	*3,080	2,500	8.45 m
G. L.	kg			*7,960	*7,960	*9,320	6,520	*6,740	4,190	5,150	2,950	*3,570	2,530	8.25 m
-1.5 m	kg	*6,890	*6,890	*11,140	*11,140	*8,830	6,380	*6,470	4,070	*4,800	2,900	*4,460	2,760	7.76 m
-3.0 m	kg	*10,510	*10,510	*10,270	*10,270	*7,520	6,420	*5,500	4,090			*4,370	3,330	6.91 m
-4.5 m	kg			*6,740	*6,740	*5,090	*5,090					*3,800	*3,800	5.54 m

SK235SRLC		Standard Arm: 2.94 m Bucket: 0.8 m³ ISO heaped 630 kg Shoe: 800 mm												
A B		1.5 m		3.0 m		4.5 m		6.0 m		7.5 m		Max. reach		Radius
														
9.0 m	kg											*3,360	*3,360	4.46 m
7.5 m	kg					*4,910	*4,910	*3,520	*3,520			*2,830	*2,830	6.27 m
6.0 m	kg					*5,400	*5,400	*4,970	*4,970			*2,660	*2,660	7.36 m
4.5 m	kg			*7,500	*7,500	*6,440	*6,440	*5,380	5,170	*4,340	3,470	*2,670	*2,670	8.03 m
3.0 m	kg			*12,230	*12,230	*7,810	7,770	*5,980	4,860	*4,970	3,330	*2,800	2,710	8.38 m
1.5 m	kg			*7,170	*7,170	*8,960	7,100	*6,520	4,540	*5,180	3,170	*3,080	2,580	8.45 m
G. L.	kg			*7,960	*7,960	*9,320	6,710	*6,740	4,310	5,190	3,050	*3,570	2,610	8.25 m
-1.5 m	kg	*6,890	*6,890	*11,140	*11,140	*8,830	6,560	*6,470	4,200	*4,800	3,000	*4,460	2,850	7.76 m
-3.0 m	kg	*10,510	*10,510	*10,270	*10,270	*7,520	6,600	*5,500	4,220			*4,370	3,430	6.91 m
-4.5 m	kg			*6,740	*6,740	*5,090	*5,090					*3,800	*3,800	5.54 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 ISO 10567. They do not exceed 87% of hydraulic lifting capacity or 75% of tipping load. Lifting capacities marked with an asterisk (*) are limited by hydraulic capacity rather than tipping load.
- Operator should be fully acquainted with the Operator's and Maintenance Instructions before operating this machine. Rules for safe operation of equipment should be adhered to at all times.
- Lift capacities apply to only machine as originally manufactured and normally equipped by KOBELCO CONSTRUCTION MACHINERY CO., LTD.

STANDARD EQUIPMENT

ENGINE

- Engine, HINO J05E, Diesel engine with turbocharger and intercooler
- Automatic engine deceleration
- Auto Idle Stop (AIS)
- Batteries (2 x 12V - 92Ah)
- Starting motor (24V - 5 kW), 50 amp alternator
- Automatic engine shut-down for low engine oil pressure
- Engine oil pan drain cock
- Double element air cleaner

CONTROL

- Working mode selector (H-mode 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
- ow 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
- 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)
- Heightlizer for control box
- Gear pump (optional for NZ)
- Level indicator (optional for NZ)

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, 4 way)

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