

**KOBELCO**

Hydraulic Excavators **MARK V**

## **SK 200 · SK 200LC**

Bucket Capacity: 0.51-1.24 m<sup>3</sup> (0.67-1.62 cuyd) SAE heaped

Engine Power: 140 HP (104 kW) SAE NET at 2,200 rpm

Operating Weight: 19,500 kg (43,000 lb)-SK 200-V / 20,000 kg (40,100 lb)-SK 200 LC-V

## **SK 220 · SK 220LC**

Bucket Capacity: 0.81-1.40m<sup>3</sup> (1.06-1.83 cuyd) SAE heaped

Engine Power: 163 HP (122 kW ) SAE NET at 2,100 rpm

Operating Weight: 23,900 kg (52,700 lb)-SK 220-V / 24,500 kg (54,000 lb)-SK 220 LC-V



**KOBE STEEL, LTD.**





## WORKING RANGES

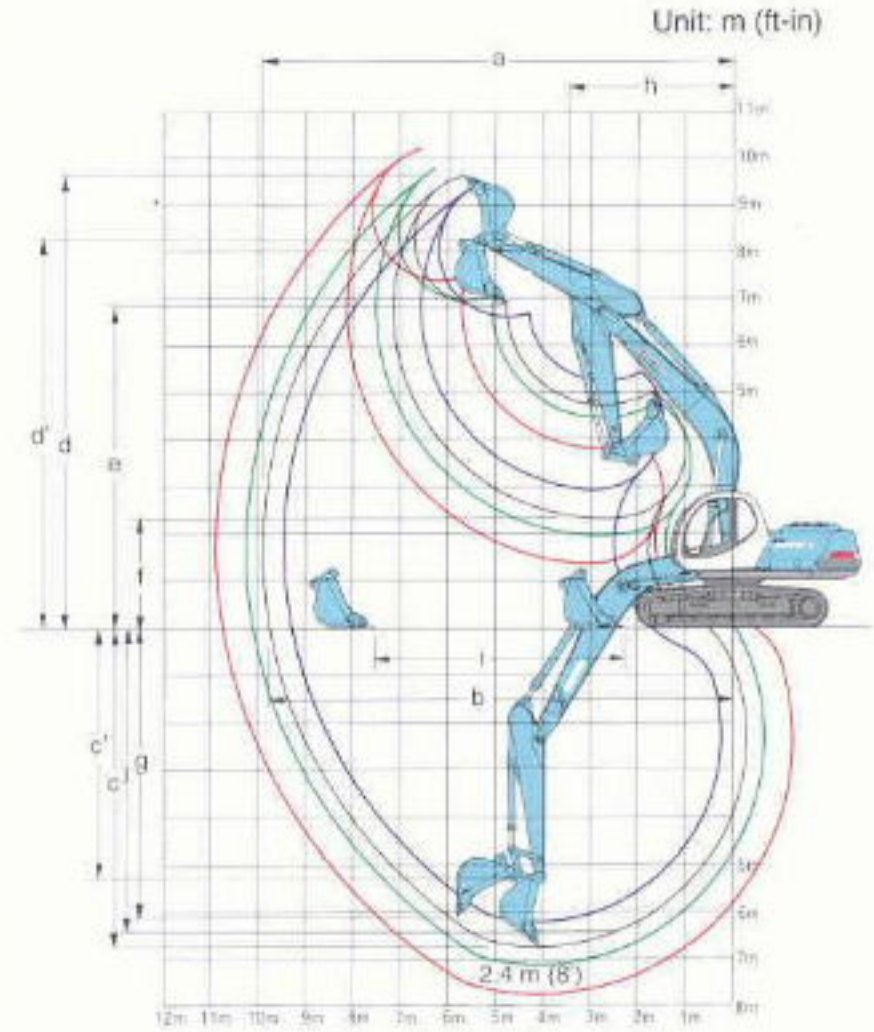
Range	Arm	2.4m (7' 10")	2.94m (9' 8")	3.3m (10' 10")	2.94+1.52m (9' 8"+5')
a - Max. digging reach		9.42(30-11)	9.90(32-6)	10.22(33-6)	11.31(37-1)
b - Max. digging reach at ground level		9.25 (30-4)	9.75 (32-0)	10.07 (33-0)	11.18 (36-8)
c - Max. digging depth		6.19(20-1)	6.70(22-0)	7.09(23-3)	8.25(27-1)
c' - Max. depth of bucket hinge pin		4.74 (15-7)	5.25 (17-3)	5.64 (18-6)	6.8 (22-4)
d - Max. digging height		9.40(30-10)	9.66(31-8)	9.77(32-1)	10.35(33-11)
d' - Max. height of bucket hinge pin		8.01 (26-3)	8.28 (24-11)	8.4 (27-7)	8.97 (29-5)
e - Max. dumping clearance		6.56(21-6)	6.83(22-5)	6.95(22-10)	7.52(24-8)
f - Min. dumping clearance		2.87(9-5)	2.36(7-9)	1.97(6-6)	0.81(2-8)
g - Max. vertical wall digging depth		5.55 (18-3)	6.08 (19-11)	6.46 (21-2)	7.60 (24-11)
h - Min. swing radius		3.46(11-4)	3.46(11-4)	3.47(11-5)	3.47(11-5)
i - Horizontal digging stroke at ground level		4.05 (13-3)	5.23 (17-2)	5.89 (19-4)	7.64 (25-1)
j - Digging depth for 2.4 m (8') flat bottom		5.98 (19-7)	6.53 (21-5)	6.92 (22-8)	8.12 (26-8)
Bucket capacity SAE heaped	m <sup>3</sup> (cu yd)	0.93 (0.93)	0.81 (1.06)	0.69 (0.9)	0.51 (0.67)

### Digging Force

Unit: kg (lb)

Arm length	2.4m	2.94m	3.3m	2.94+1.52m
Bucket digging force	12,800* (28,200)	12,800* (28,200)	11,800 (26,000)	11,800 (26,000)
Arm crowding force	12,300* (27,100)	10,400* (22,900)	8,800 (19,400)	7,100 (15,700)

\*Power Boost engaged.



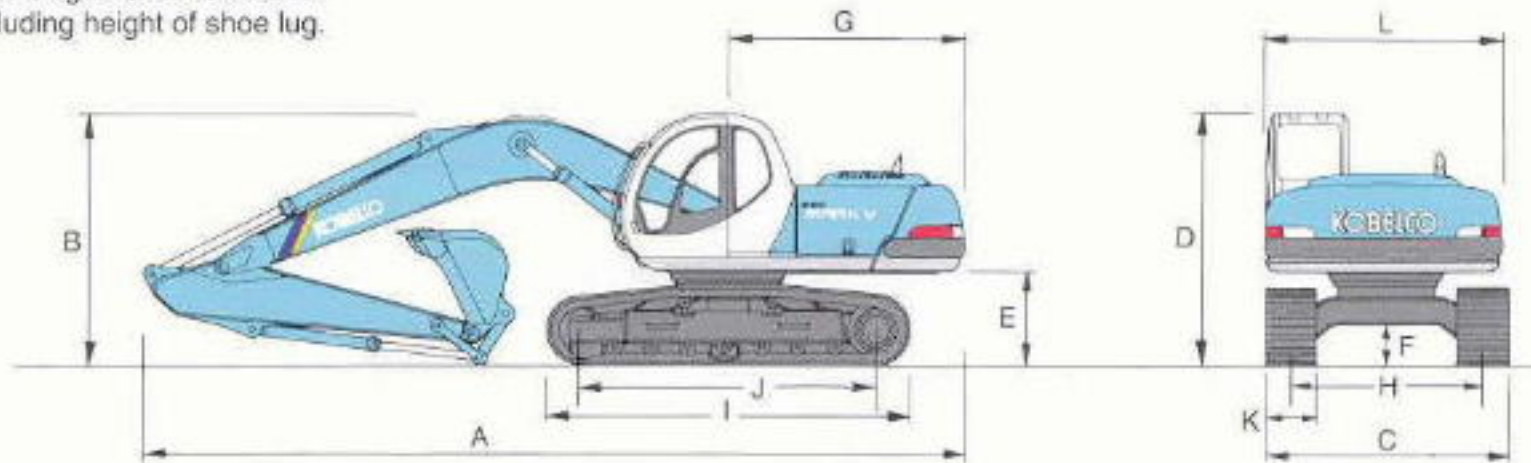
## DIMENSIONS

Arm length	2.4m (7' 10")	2.94m (9' 8")	3.3m (10' 10")
A Overall length	9,470(31-1)	9,380(30-9)	9,390(30-10)
B Overall height (to top of boom)	2,995(9-10)	2,840(9-4)	2,835(9-4)
C Overall width	2,800(9-2) 2,990(9-10)*	2,900(9-6) 3,090(10-2)*	3,000(9-10) 3,190(10-6)*
D Overall height (to top of cab)	2,900(9-6)	2,900(9-6)	2,900(9-6)
E Ground clearance of rear end**	1,055(3-6)	1,055(3-6)	1,055(3-6)

\* Asterisk shows figures for SK200LC.

\*\* Without including height of shoe lug.

	2.4m (7' 10")	2.94m (9' 8")	3.3m (10' 10")
F Ground clearance**	465(18.3")	465(18.3")	465(18.3")
G Tail swing radius	2,700(8-10)	2,700(8-10)	2,700(8-10)
H Track gauge	2,200(7-3) 2,390(7-10)*	2,200(7-3) 2,390(7-10)*	2,200(7-3) 2,390(7-10)*
I Overall length of crawler	4,170(13-8) 4,450(14-7)*	4,170(13-8) 4,450(14-7)*	4,170(13-8) 4,450(14-7)*
J Tumbler distance	3,370(11-1) 3,650(12-0)*	3,370(11-1) 3,650(12-0)*	3,370(11-1) 3,650(12-0)*
K Shoe width	600(23.6")	700(27.6")	800(31.5")
L Overall width of superstructure	2,715(8-11)	2,715(8-11)	2,715(8-11)



## OPERATING WEIGHT AND GROUND PRESSURE

In standard trim, with standard boom, 2.94m (9' 8") arm, and 0.81 m<sup>3</sup> (1.06 cu yd) SAE heaped bucket

Shape		Triple grouser shoe (even height)			Flat shoe	Triangular shoe	
Shoe width	mm (in)	600 (23.6)	700 (27.6)	800 (31.5)	600 (23.6)	900 (35.4)	
Overall width	mm (ft-in)	SK200	2,800 (9 - 2)	2,900 (9 - 6)	3,000 (9 - 10)	2,800 (9 - 2)	3,100 (10 - 2)
		SK200LC	2,990 (9 - 10)	3,090 (10 - 2)	3,190 (10 - 6)	2,990 (9 - 10)	3,290 (10 - 10)
Ground Pressure	kg/cm <sup>2</sup> (psi)	SK200	0.43 (6.11)	0.38 (5.40)	0.33 (4.70)	0.44 (6.26)	0.30 (4.27)
		SK200LC	0.41(5.83)	0.36 (5.12)	0.32 (4.55)	0.42 (5.97)	0.29 (4.12)
Operating weight	kg (lb)	SK200	19,000 (41,900)	19,300 (42,500)	19,500 (43,000)	19,300 (42,500)	19,700 (43,400)
		SK200LC	19,500 (43,000)	19,800 (43,700)	20,000 (44,100)	19,900 (43,900)	20,200 (44,500)



# SK 200 · SK 200LC



## ENGINE

<b>Model:</b>	Mitsubishi 6D31-T
<b>Type:</b>	Direct injection, water-cooled, 4-cycle diesel engine with turbocharger
<b>No. of cylinders:</b>	6
<b>Bore and stroke:</b>	110 mm (4.3") x 105 mm (4.13")
<b>Displacement:</b>	4,948 cc (302 cu in)
<b>Rated power output:</b>	138 HP (103 kW) SAE NET at 2,200 rpm (SAE J 1349) 140 PS (103 kW) DIN NET at 2,200 rpm (DIN 6270)



## HYDRAULIC SYSTEM

<b>Pump:</b>	Two axial-piston, variable displacement pumps
<b>Max. discharge flow:</b>	2 x 179 liters/min (2 x 47.3 US gal/min)
<b>Max. discharge pressure:</b>	
<b>Boom, arm and bucket:</b>	350 kg/cm <sup>2</sup> (4,980 psi)
<b>Power Boost:</b>	380 kg/cm <sup>2</sup> (5,400 psi)
<b>Propel circuit:</b>	365 kg/cm <sup>2</sup> (5,190 psi)
<b>Swing circuit:</b>	285 kg/cm <sup>2</sup> (4,050 psi)
<b>Control circuit :</b>	50 kg/cm <sup>2</sup> (710 psi)
<b>Pilot control pump:</b>	Gear type
<b>Control valves:</b>	6-spool
<b>Oil cooler:</b>	Finned tube, forced ventilation



## CAB

All-weather, sound-suppressed steel cab, mounted on five silicon-sealed viscous mounts and fitted with an insulated floor mat. Large, tinted safety-glass windows, with pull-type upper front window and removable lower front window. Seven-way adjustable dual-slide seat with wrist-action levers, electric throttle lever, fail-safe lever-lock, and multi-display monitor positioned near eye level. Five-vent, pressurized air conditioner that brings outside air into cab. Intermittent windshield wiper with two-jet washer, light-action cab door, skylight, ashtray, cigarette lighter, cab light (interior), coat hook, and utility box.



## ATTACHMENTS



## TRAVEL SYSTEM

<b>Drive motors:</b>	Independent, axial-piston, two-step motor for each side
<b>Brakes:</b>	Independent, disk parking brake for each side
<b>Track shoes:</b>	46 each side (SK200) 49 each side (SK200LC)
<b>Travel speed:</b>	1.0 to 7.0 km/h (0.6 to 4.3 mph)
<b>Drawbar pulling force:</b>	16,300 kg (35,900 lb)
<b>Gradeability:</b>	35° (70 %)
<b>Ground clearance:</b>	465 mm (18.3")



## SWING SYSTEM

<b>Brake:</b>	Hydraulic, locking automatically when the swing control lever is in the neutral position
<b>Parking brake:</b>	Hydraulic disk brake
<b>Swing speed:</b>	11.0/4.0 rpm
<b>Tail swing radius:</b>	2,700 mm (8'-10")
<b>Min. front swing radius:</b>	3,460 mm (11'-4")



## BOOM, ARM AND BUCKET

<b>Boom cylinders:</b>	120 mm (4.7") x 1,210 mm (4')
<b>Arm cylinder:</b>	135 mm (5.3") x 1,490 mm (4' 11")
<b>Bucket cylinder:</b>	115 mm (4.5") x 1,040 mm (3' 5")



## REFILLING CAPACITIES AND LUBRICATION

<b>Fuel tank:</b>	315 liters (83.2 US gal)
<b>Cooling system:</b>	27 liters (7.1 US gal)
<b>Engine oil:</b>	22 liters (5.8 US gal)
<b>Track drives:</b>	2 x 5.3 liters (2 x 1.4 US gal)
<b>Swing drives:</b>	7.5 liters (2.0 US gal)
<b>Hydraulic oil:</b>	
<b>Tank (oil level)</b>	142 liters (37.5 US gal)
<b>Hydraulic system</b>	225 liters (59.4 US gal)

Uses	Backhoe bucket								Slope finishing bucket	Topsoil removal bucket	Clamshell bucket	Ripper bucket	Ripper	
	Normal digging				Loading		Heavy digging							Slope facing
Bucket capacity (SAE heaped)	m <sup>3</sup> cu yd	0.51 0.67	0.69 0.90	0.81 1.06	0.93 1.22	1.05 1.37	1.24 1.62	0.80 1.05	0.82 1.07	- -	- -	0.50 0.65	- -	
Bucket capacity (CECE heaped)	m <sup>3</sup> cu yd	0.45 0.59	0.6 0.78	0.7 0.92	0.8 1.05	0.9 1.18	1.1 1.44	0.7 0.92	0.63 0.82	0.75 0.98	0.5 0.65	0.45 0.59	- -	
Bucket capacity (struck)	m <sup>3</sup> cu yd	0.39 0.51	0.51 0.67	0.59 0.77	0.67 0.88	0.75 0.98	0.96 1.25	0.59 0.77	0.44 0.58	- -	- -	0.4 0.52	- -	
Opening width or X-section	With side cutters	mm in	840 33.1	1,060 41.7	1,160 45.7	1,280 50.4	1,410 55.5	- -	1,100 43.3	- -	- -	- -	- -	
	Without side cutters	mm in	730 28.7	950 37.4	1,050 41.3	1,170 46.1	1,300 51.2	1,550 61.0	1,070 42.1	2,200 × 1,100 88.6 × 43.3	1,305 51.4	940 × 1,720 37.0 × 67.7	950 37.4	- -
No. of bucket teeth		3	5	5	5	6	6	5	2	-	2/3	3	1	
Combinations	2.4m (7'10") arm		○	○	○	○	△	△	○	△	△	○	○	○
	2.94m (9' 8") arm		○	○	○	△	×	×	○	△	△	○	○	○
	3.3m (10'10") arm		○	○	△	×	×	×	×	△	△	×	×	×
	2.94 + 1.5m (9' 8" + 4'11")		○	×	×	×	×	×	×	×	△	×	×	×

○ Recommended △ Light material × Not recommended