



SUMITOMO SC 500

Basic Machine



Upper Machinery

UPPER FRAME: All-welded, precision machined unit.

TURNABLE BEARING WITH INTEGRAL RING GEAR:

Outer race is bolted to upper frame, inner race with internal ring gear is bolted to lower frame. Swing pinion meshes with internal, integral ring gear. A machined surface is provided for mounting turntable bearing.

CONTROL SYSTEM: Remote controlled hydraulic servo for main hoist, aux. hoist, boom hoist and travel. Mechanical linkage type for swing. Working speed can be precisely controlled by lever stroke.

PUMP CONTROL SYSTEM: System reducing pump displacement enables both minute operation and saving energy.

HYDRAULIC SYSTEM: System combining variable displacement axial pumps and fixed displacement gear pumps provides both independent and combined operations of all functions.

Main hoist/aux. hoist/boom hoist – Axial piston motor with counter-balance valve.

Swing motor – Axial piston motor.

Travel motor – Axial piston motors with brake valves. Spring-applied/hydraulic-released multiple disc brakes are fitted.

Hydraulic oil reservoir – 160 liter capacity.

LOAD HOIST ASSEMBLY: Front (main) and rear (aux.) operating drums.

Each driven by the bi-directional, axial piston motor through reduction gear powering the rope drum in either direction for hoisting or lowering load. 3rd drum equipped as optional extra.

Clutches – Power hydraulic actuated, internal expanding, self adjusting 2-shoe type.

Brakes – External contracting band type operated by foot pedal with locking latch. For crane mode, automatic brake (spring applied, hydraulically released) is applied when control lever in neutral position. For bucket mode, free-fall is available when control lever in neutral position.

Locks – Electrically operated drum lock pawl.

BOOM HOIST ASSEMBLY: Driven by the bi-directional, axial piston motor through reduction gear powering the rope drum in either direction for hoisting or lowering boom.

Brake – Spring applied, hydraulically released multiple disc type.

Lock – Electrically operated drum lock pawl.

SWING: Driven by axial piston motor, through reduction gear.

Brake – Brake is applied by spring and released by hydraulic cylinder.

Lock – Mechanically operated pin connection frame lock.

Speed – 3.0min⁻¹ (3.0rpm)

OPERATOR'S CAB: Full vision compartment with safety glass panels, the completely independent cab is insulated against noise and vibration.

COUNTERWEIGHT: Removable, 4 blocks mounted on rear of upper frame by bolts.

POWER UNIT:

Make & Model	HINO HO8CT
Type	Water-cooled, 4-cycle diesel engine
No. of cylinders	8
Bore & Stroke	108mm × 118mm
Displacement	6,485 cc
Rated output	110.3kW/2,100min ⁻¹ (150ps/2,100rpm)
Max. torque	510N·m/1,600min ⁻¹ (52kgf·m/1,600rpm)
Fuel tank	290 liters

Lower Machinery

LOWER FRAME: All welded robust rolled steel, box construction.

SIDE FRAMES: All welded robust rolled steel. Connected to lower frame by links and pins.

ROLLERS: Heat treated, mounted on bushings with floating seals requiring no further lubrication.

Bottom – 9 pcs. per side frame.

Top – 3 pcs. per side frame.

DRIVE SPROCKETS: Heat treated, involute splined to drive shaft mounted on antifriction bearings.

IDLERS: Heat treated, mounted on bushings with floating seals requiring no further lubrication.

TRACKS: Heat treated, self cleaning, two lug type, multiple hinged shoes, 59 pcs. per side frame.

Shoe width – 780 mm

Tractor type link shoe (58 pcs. per side frame) is available as option.

TRACK TENSION ADJUSTER: Adjusted by hydraulic cylinders at the idler blocks. Tension can be automatically released when abnormal load occurred on tracks.

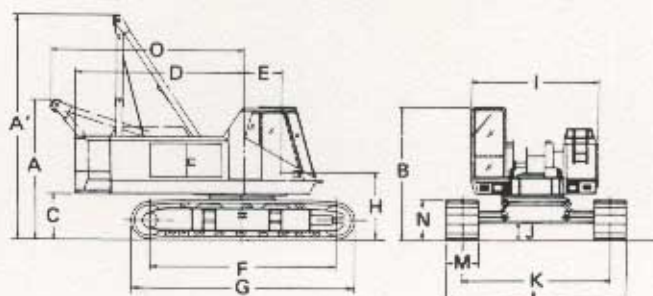
TRAVEL AND STEER: Axial piston motor with reduction gear is located at inner drive end of each crawler side frame. Each track is driven simultaneously or individually for straight-line travel, or pivot turn, or the tracks can be counter-rotated for spin turns.

Brake – Spring applied, hydraulically released multiple disc brakes applied automatically when control lever in neutral position.

Speed – Two speed range
2.0/1.2 km/h Pump control "OFF" (ordinary)
0.4/0.2 km/h Pump control "ON"

General Dimensions

A	: Height over low gantry unit	3.290m
A'	: Height over high gantry unit	5.465m
B	: Height of cab	3.100m
C	: Counterweight ground clearance	1.095m
D	: Radius of rear end	3.900m
E	: Center of rotation to boom foot pin	0.950m
F	: Center to center distance of tumbler	4.840m
G	: Overall length of crawler	5.725m
H	: Height from ground to boom foot pin	1.650m
I	: Overall width of house	3.090m
J	: Ground clearance	0.410m
K	: Center to center distance of crawler	
	extended	3.590m
	retracted	2.540m
L	: Overall width of crawler	
	extended	4.350m
	retracted	3.300m
M	: Shoe width	0.780m
N	: Height of shoe	0.985m
O	: Tail swing radius at low gantry	4.780m



We are constantly improving our products and therefore reserve the right to change designs and specifications without notice.

SUMITOMO (S.H.I.) CONSTRUCTION MACHINERY CO., LTD.

K & T Bldg. 1-28-44, Shinkawa, Chuo-ku, Tokyo 104, Japan

Phone: (03) 3297-8833 Fax: (03) 3297-9849



SUMITOMO
SC 500

Crane 50 metric tons



CRANE BOOMS: Lattice construction; round tubular main chords, alloy hi-ten steel, with bracing of round steel tubing.

Boom connections	In-line pin connections.
Basic boom	Two-piece, 12.2m basic length; 6.1m base and 6.1m top section; 1.2m deep and 1.27m wide at connections.
Boom point machinery	Five head sheaves mounted on antifriction bearings.
Boom extensions	Available in 3.05m, 6.1m and 9.15m lengths with pendants. Maximum boom length 51.85m.
Jib	Two-piece; 6.1m basic length with 3.05m long base and top sections, 0.5m deep and 0.61m wide at connections.
Jib extensions	Available in 3.05m jib extensions. Maximum jib length 15.25m.
Boom plus jib length	42.70m + 15.25m

HOOK BLOCK:

50 t, four sheaves	Standard
15 t, one sheave	Optional extra
5t, no sheave	Standard for jib

GANTRY: Retractable high gantry.

LINE SPEED:

Drums	Root dia.	Type	Line speed (Hoisting, Lowering)		Cable dia.
			Pump control "OFF" (Ordinary)	Pump control "ON"	
Main hoist (Front)	400mm	Parallel grooved	High 80 m/min Low 40 m/min	High 15 m/min Low 7.5 m/min	20mm
Aux. hoist (Rear)	400mm	Parallel grooved	High 80 m/min Low 40 m/min	High 15 m/min Low 7.5 m/min	20mm
3rd drum (option)	320mm	Parallel grooved	65 m/min	12 m/min	16mm
Boom hoist	280mm	Parallel grooved	64 m/min	12 m/min	14mm

Notes:

1. Above line speed is based on first layer.
2. Above line speed varies with load.

HOIST REEVING:

No. of parts of line	Main hoist									Aux. hoist
	9	8	7	6	5	4	3	2	1	1
Max. load (t)	50.0	44.8	39.2	33.6	28.0	22.4	16.8	11.2	5.6	5.0

WORKING WEIGHT AND GROUND PRESSURE:

Shoe width	Weight	Pressure
780 mm	51.3 t	83.7 kPa (0.85kgf/cm ²)

With basic boom and counterweight. "A" + "B" + "C" + "D"

Weight without counterweight and front attachment: approx. 32.5t

COUNTERWEIGHT: "A" (6,100 kg) + "B" (2,600 kg) + "C" (2,600 kg) + "D" (4,600 kg) Total 15,900 kg

SAFETY DEVICE: Hook over hoist limiting device, boom over hoist limiting device, boom angle indicator, boom back stop, drum pawl lock for main, aux. and boom hoist drum safety valve in hydraulic circuit, swing alarm, load moment limiter (optional extra).

GRADEABILITY: 40% (22°)
with basic boom and counterweight

We are constantly improving our products and therefore reserve the right to change designs and specifications without notice.

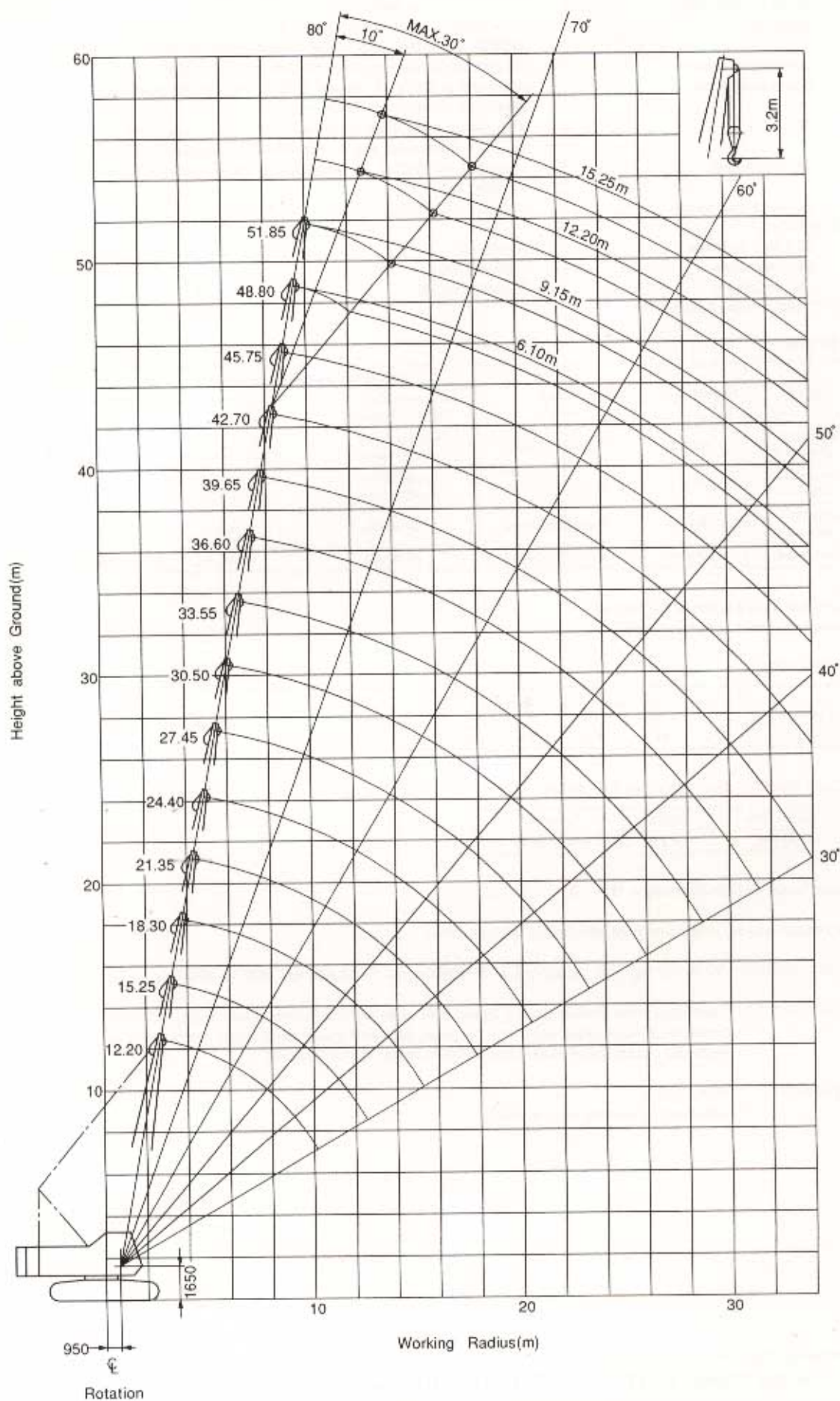
SUMITOMO (S.H.I.) CONSTRUCTION MACHINERY CO., LTD.

K & T Bldg. 1-28-44, Shinkawa, Chuo-ku, Tokyo 104, Japan



Crane 50 metric tons

SC500 CRANE WORKING RANGES





SUMITOMO

SC 500

SC500 CRANE CAPACITIES (WITH CRANE BOOM):

(in metric tons)

Working radius (m)	Boom length (m)													
	12.20	15.25	18.30	21.35	24.40	27.45	30.50	33.50	36.60	39.65	42.70	45.75	48.80	51.85
3.7	50.0	45.4/3.9												
4.0	46.6	44.5												
4.5	38.0	37.9	37.8											
5.0	31.8	31.7	31.6	31.5										
5.5	27.5	27.4	27.3	27.2	27.1									
6.0	23.7	23.6	23.5	23.4	23.3	23.2	20.0/6.6							
7.0	19.0	18.9	18.8	18.7	18.6	18.5	18.4	17.7/7.1	16.0/7.6					
8.0	16.1	16.0	15.9	15.8	15.7	15.6	15.5	15.4	15.3	14.4/8.2				
9.0	13.7	13.6	13.5	13.4	13.3	13.2	13.1	13.0	13.0	12.9	12.8	11.9/9.2		
10.0	11.9	11.8	11.7	11.6	11.5	11.4	11.3	11.2	11.1	11.0	11.0	10.9	10.3	
12.0	9.8/11.6	9.4	9.3	9.2	9.1	9.0	9.0	8.9	8.8	8.7	8.6	8.5	8.4	7.6
14.0		7.7	7.6	7.5	7.4	7.3	7.2	7.1	7.0	7.0	6.9	6.8	6.7	6.4
16.0		7.4/14.3	6.5	6.4	6.3	6.2	6.1	6.0	5.9	5.8	5.7	5.6	5.5	5.4
18.0			6.0/16.9	5.4	5.3	5.2	5.1	5.0	5.0	4.9	4.8	4.7	4.6	4.5
20.0				4.9/19.6	4.7	4.6	4.5	4.4	4.3	4.2	4.1	4.0	3.9	3.8
22.0					4.1	4.0	3.9	3.8	3.7	3.6	3.5	3.4	3.3	3.2
24.0					4.0/22.2	3.5	3.4	3.3	3.2	3.1	3.0	3.0	2.9	2.8
26.0						3.3/24.9	3.0	2.9	2.8	2.7	2.6	2.5	2.4	2.3
28.0							2.7/27.5	2.6	2.5	2.4	2.3	2.2	2.1	2.0
30.0								2.2	2.1	2.1	2.0	1.9	1.8	1.7
32.0									1.9	1.8	1.7	1.6	1.5	1.4
34.0									1.8/32.8	1.5	1.4	1.3	1.3	1.2

Notes:

- Capacities shown are in metric tons and are based on 75% of minimum tipping loads – over the side – with machine standing level on firm supporting surface under ideal job conditions. Deductions from the lifting crane capacities must be made for weight of hook block.

Kind of hook block	50 t	15 t	5 t
Weight of hook block (t)	0.75 t	0.30 t	0.12 t

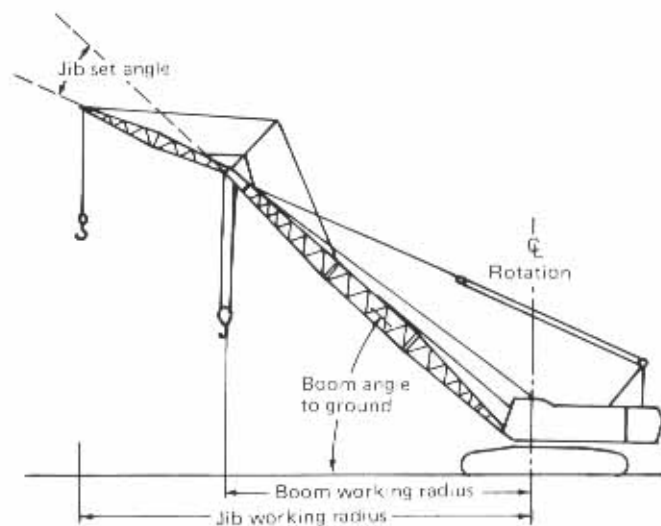
- When operating of the main boom peak sheaves with jib on boom the following deductions in machine lifting capacities must be made.

Jib length (m)	6.10	9.15	12.20	15.25
Weight to be deducted (t)	0.75	0.90	1.05	1.20

SC500 JIB CAPACITIES:

(in metric tons)

Jib length (m)	Jib set angle	Max. jib Capacities
6.10	10°	5.0
	30°	5.0
9.15	10°	5.0
	30°	5.0
12.20	10°	4.1
	30°	4.1
15.25	10°	3.3
	30°	3.3



Notes:

- The jib capacities are equal to the crane lifting capacities of the main boom on which the jib is fixed except that they are restricted by the maximum jib capacities shown left.
- Jib working radius does not exceed the working radius of the main boom which fits the jib.
- Deductions from the jib capacities must be made for weight of jib hook block (0.12 t).
- Available boom length to attach the jib is from 21.35 m to 42.70 m. The maximum jib length is 15.25 m.
- The jib set angle to boom must not exceed 30°.