



SUMITOMO

SC 1000HD**Basic Machine**

Upper Machinery

UPPER FRAME: All-welded, precision machined unit with integral machinery side housings.

TURNABLE BEARING WITH INTEGRAL SWING 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: Main/aux. drums—Speed-O-Matic power hydraulic system that includes a gear pump to provide a constant flow of oil, an accumulator to maintain operating pressure and variable pressure control valves to regulate this pressure to all the clutches. Boom hoist/travel—Remote controlled hydraulic servo. Swing—Direct controlled hydraulic valve. Working speed can be privisely controlled by lever stroke.

HYDRAULIC SYSTEM: System combining variable displacement axial piston pumps and fixed displacement gear pumps providing oil flow to each function and drum control enable both independent and combined operations.

LOAD HOIST ASSEMBLY: Front and rear operating drums driven by spur gear in oil bath.

Drums — One piece, mounted on involute splined shaft. Dual type lagging is available for double lined bucket work (option).

Clutches — Speed-O-Matic power hydraulic actuated, internal expanding, self-adjusting 2-shoe type.

Brakes — External contracting band. Automatic brake mode (option for main drum only; automatically applied when control lever in neutral position) or free fall mode (mechanically foot pedal operated with locking latch) can be selected by switch.

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

Brake — Spring applied, hydraulically released multiple disc brake installed in motor, automatically applied when motor stops.

Lock — Mechanically operated drum lock pawl.

SWING: Driven by 2 sets of bi-directional axial piston motor through planetary reduction gear.

Brake — Hydralulically applied multiple disc brake.

Lock — Mechanically operated pin connection house lock.

Speed — 2.4 rpm (High), 1.3 rpm (Low)

OPERATOR'S CAB: Full-vision compartment with safety glass panels, separated from upper machinery.

COUNTERWEIGHT: Mounted on rear of upper frame by bolts. 3 pcs. 30,000 kg.

POWER UNIT:

Make & Model	Mitsubishi 8DC9CT
Type	Water-cooled, 4-cycle diesel engine
No. of cylinders	8
Bore & Stroke	135 x 140mm
Displacement	16,031 cc
Rated output	360 PS/2,200 rpm
Maximum torque	138 kg·m/1,400 rpm
Fuel tank	495 liters
Power take-off	Torque converter

Torque converter with brake clutch (option) — Multiple disc brake installed in torque converter enables load lowering at uniform speed (0 ~ 48 m/min.). Load lowering speed can be selected suitably on each job requirement, by adjuster located at operator's cab. Recommended for foundation job.

Lower Machinery

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

SIDE FRAMES: All welded robust rolled steel. Connected to lower frame by axle shim packs, removable for transportation.

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

Bottom — 10 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 one lug, multiple hinged shoes; 54 pcs. per side frame.

Shoe width — 965mm (standard)

1,118mm (option)

TRAVEL AND STEER: Axial piston motor with spur gear reduction 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.

Brakes — Spring applied, hydraulically released multiple disc brake installed in motor.

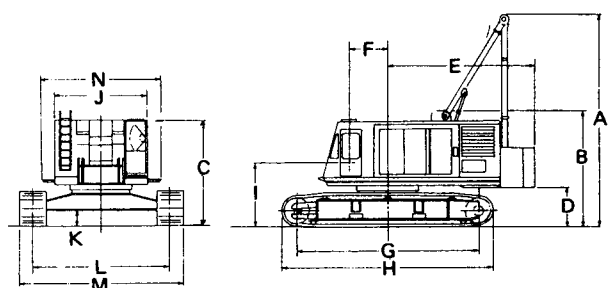
Speed — 1.5 km/h (High), 1.0 km/h (Low)

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

JACK-UP DEVICE (option): Hydraulic jack-up cylinders enable speedy removal of side frames for transportation.

General Dimensions

A: Height of high gantry	7.700 m
B: Height of low gantry (for transporting)	4.070 m
C: Height of cab	3.750 m
D: Counterweight ground clearance	1.355 m
E: Radius of rear end	5.500 m
F: Center of rotation to boom foot pin	1.400 m
G: Center to center distance of tumbler	6.690 m
H: Overall length of crawler	7.770 m
I: Height from ground to boom foot pin	2.230 m
J: Overall width of cab	3.400 m
K: Ground clearance	0.565 m
L: Center to center distance of crawler	5.100 m
M: Overall width of crawler	
(with 965mm shoe)	6.065 m
(with 1118mm shoe)	6.219 m
N: Overall width of upper with catwalk	4.400 m

**Change of name****The current LS-468HD name has been changed to SC 1000HD.**

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.

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Printed in Japan



SUMITOMO

SC 1000HD**Crane 100 metric tons**

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

Boom connections	Pin connections.
Basic boom	Two-piece, 18.3 m basic length; 7.62 m base and 10.67 m top section; 1.85 m deep and 1.85 m wide at connections.
Boom point machinery	Four head sheaves mounted on anti-friction bearings. Two guide sheaves.
Boom extensions	Available in 3.05 m, 6.1 m and 9.15 m lengths with pendants. Max. boom length 73.2 m.
Jib	Two-piece; 12.2 m basic length with 6.1 m base and 6.1 m top sections, available in 6:1 m jib extension. Max. jib length 24.4 m.
Boom plus jib length with counterweight "AB"	57.95 m + 12.2 m ~ 24.4 m 64.05 m + 12.2 m ~ 18.3 m
with counterweight "A"	54.90 m + 12.2 m ~ 24.4 m 57.95 m + 12.2 m ~ 18.3 m

HOOK BLOCK:

100 t, four sheaves	Standard.
40 t, one sheave	Option.
13 t, no sheave	Option. (standard for jib)

GANTRY: Retractable high gantry. Extended or retracted by hydraulic cylinders.

BOOM HOIST ASSEMBLY: 16 — part boom hoist reeving.

Boom hoist line speed (raising/lowering)	@40 m/min.
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LINE PULL AND LINE SPEED:

Drums	Root dia.	Type	Line pull (continuous)	Line speed	Standard cable dia.
Rear (main)	570 mm	Smooth	31,500 kg	@40 m/min.	32 mm
Front (aux.)	570 mm	Smooth	30,600 kg	@40 m/min.	32 mm

- Notes:** 1. Available line pull is not based on wire rope strength.
2. Allowable max. casual line pull: 43,000 kg at 25 m/min.
3. Available line pull and speed show at first layer.
4. Grooved drum is also available.
5. Drums for various rope diameter are available. Please consult.
6. Max. line speed: 65 m/min.

HOIST REEVING:

No. of parts line	Main hoist								Aux. hoist
	8	7	6	5	4	3	2	1	1
Max. load (t)	100.0	99.2	85.9	72.3	58.4	44.3	29.8	15.1	13.0

WORKING WEIGHT AND GROUND PRESSURE:

Shoe width	Weight	Pressure
965 mm	109 t	0.80 kg/cm ²
1118 mm	111 t	0.70 kg/cm ²

With basic boom, 100 t hook block and counterweight "AB".

COUNTER WEIGHT: "A" . . . 20,000 kg, "B" . . . 5,000 kg + 5,000 kg
Total . . . 30,000 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, load moment limiter (option), automatic brake for main hoist (standard) and aux. hoist (option).

GRADEABILITY: 30% (17°).

POWER LOAD LOWERING CLUTCH:

On rear drum	Standard.
On front drum	Option.

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SUMITOMO

SC 1000HD

Crane 100 metric tons

(CTWT "A"):

(in metric tons)

Working radius (m)	Boom length (m)																
	18.30	21.35	24.40	27.45	30.50	33.55	36.60	39.65	42.70	45.75	48.80	51.85	54.90	57.95	61.00	64.05	67.10
5.0	100.0																
5.5	85.7																
6.0	75.8	75.6	75.5														
7.0	56.2	56.0	55.9	55.7	55.5												
8.0	46.0	45.8	45.7	45.5	45.3	45.2	45.0										
9.0	35.0	34.8	34.7	34.5	34.3	34.2	34.0	33.8	33.7								
10.0	33.2	33.0	32.9	32.7	32.5	32.4	32.2	32.0	31.9	31.7	31.5						
12.0	25.8	25.6	25.5	25.3	25.1	25.0	24.8	24.6	24.5	24.3	24.1	24.0	23.7	21.7			
14.0	21.0	20.8	20.7	20.5	20.3	20.2	20.0	19.8	19.7	19.5	19.3	19.2	19.0	18.8	18.5	17.2	16.4
16.0	17.5	17.3	17.2	17.0	16.8	16.7	16.5	16.3	16.2	16.0	15.8	15.7	15.5	15.3	15.2	15.0	14.8
18.0		14.9	14.8	14.6	14.4	14.3	14.1	13.9	13.8	13.6	13.4	13.3	13.1	12.9	12.8	12.6	12.4
20.0		12.9	12.8	12.6	12.4	12.3	12.1	11.9	11.8	11.6	11.4	11.3	11.1	10.9	10.8	10.6	10.4
22.0			11.3	11.1	10.9	10.8	10.6	10.4	10.3	10.1	9.9	9.8	9.6	9.4	9.3	9.1	8.9
24.0				9.8	9.6	9.5	9.3	9.1	9.0	8.8	8.6	8.5	8.3	8.1	8.0	7.8	7.6
26.0					8.5	8.4	8.2	8.0	7.9	7.7	7.5	7.4	7.2	7.0	6.9	6.7	6.5
28.0					7.6	7.5	7.3	7.1	7.0	6.8	6.6	6.5	6.3	6.1	6.0	5.8	5.6
30.0						6.8	6.6	6.4	6.3	6.1	5.9	5.8	5.6	5.4	5.3	5.1	4.9
32.0							6.0	5.8	5.7	5.5	5.3	5.2	5.0	4.8	4.7	4.5	4.3
34.0								5.2	5.1	4.9	4.7	4.6	4.4	4.2	4.1	3.9	3.6
36.0								4.6	4.5	4.3	4.1	4.0	3.8	3.6	3.5	3.2	3.0
38.0									4.1	3.9	3.7	3.6	3.4	3.2	3.0	2.8	2.5
40.0										3.5	3.3	3.2	3.0	2.7	2.6	2.3	2.1
42.0											3.0	2.9	2.6	2.4	2.2	2.1	1.7
44.0												2.7	2.5	2.3	2.0	1.9	1.6
46.0													2.1	1.8	1.6		

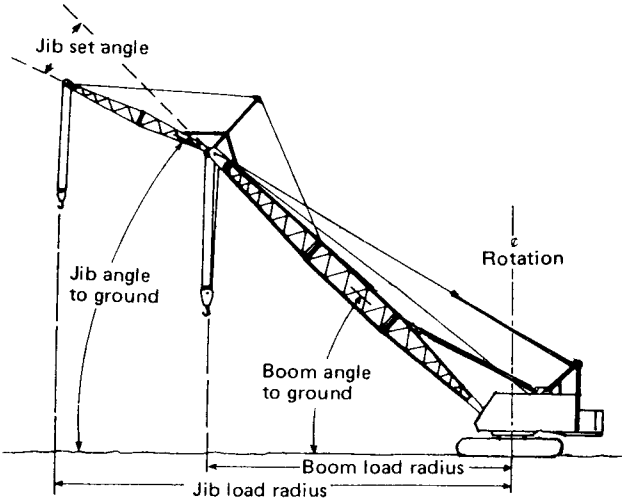
LS-468HD JIB CAPACITIES:

(in metric tons)

Jib length (m)	Jib set angle	
	10°	30°
12.20	13.0	8.0
18.30	10.0	6.0
24.40	6.0	4.5

Notes:

- 1. 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 above.
- 2. The jib angle to boom must not exceed 30° when lifting.
- 3. Min. boom length of jib setting is 39.65 m.





LS-468HD CRANE CAPACITIES (CTWT "AB"):

(in metric tons)

Working radius (m)	Boom length (m)																		
	18.30	21.35	24.40	27.45	30.50	33.55	36.60	39.65	42.70	45.75	48.80	51.85	54.90	57.95	61.00	64.05	67.10	70.15	73.20
5.0	100.0																		
5.5	100.0																		
6.0	89.2	82.2	75.1																
7.0	68.6	68.4	68.3	64.4	57.7														
8.0	56.1	55.9	55.8	55.6	55.4	50.0	45.6												
9.0	47.1	46.9	46.8	46.6	46.4	46.3	44.5	40.0	36.6										
10.0	40.6	40.4	40.3	40.1	39.9	39.8	39.6	39.0	35.8	32.6	30.0								
12.0	31.6	31.4	31.3	31.1	30.9	30.8	30.6	30.4	30.3	29.8	28.3	25.8	23.7	21.7					
14.0	25.8	25.6	25.5	25.3	25.1	25.0	24.8	24.6	24.5	24.3	24.1	24.0	22.8	20.6	18.5	17.2	16.4	15.0	
16.0	21.6	21.4	21.3	21.1	20.9	20.8	20.6	20.4	20.3	20.1	19.9	19.8	19.6	19.5	17.6	16.2	15.3	14.0	12.0
18.0		18.5	18.4	18.2	18.0	17.9	17.7	17.5	17.4	17.2	17.0	16.9	16.7	16.5	16.4	15.2	14.2	13.0	11.3
20.0		16.1	16.0	15.8	15.6	15.5	15.3	15.2	15.1	14.9	14.7	14.6	14.4	14.2	14.1	13.9	13.1	12.0	10.6
22.0			14.1	13.9	13.7	13.6	13.4	13.2	13.1	12.9	12.7	12.6	12.4	12.2	12.1	11.9	11.7	11.0	9.9
24.0				12.4	12.2	12.1	11.9	11.7	11.6	11.4	11.2	11.1	10.9	10.7	10.6	10.4	10.2	10.0	9.2
26.0					11.0	10.9	10.7	10.5	10.4	10.2	10.0	9.9	9.7	9.5	9.4	9.2	9.0	8.8	8.5
28.0					9.8	9.7	9.5	9.3	9.2	9.0	8.8	8.7	8.5	8.3	8.2	8.0	7.8	7.7	7.6
30.0						8.8	8.6	8.4	8.3	8.1	7.9	7.8	7.6	7.4	7.3	7.1	6.9	6.8	6.6
32.0							7.9	7.7	7.6	7.4	7.2	7.1	6.9	6.7	6.6	6.4	6.2	6.1	5.9
34.0								7.0	6.9	6.7	6.5	6.4	6.2	6.0	5.9	5.7	5.5	5.4	5.2
36.0								6.3	6.2	6.0	5.8	5.7	5.5	5.3	5.2	5.0	4.8	4.7	4.5
38.0									5.7	5.5	5.3	5.2	5.0	4.8	4.7	4.5	4.3	4.2	4.0
40.0										5.1	4.9	4.8	4.6	4.4	4.3	4.1	3.9	3.8	3.5
42.0											4.4	4.3	4.1	3.9	3.8	3.6	3.4	3.3	2.9
44.0											4.0	3.9	3.6	3.4	3.3	3.1	2.9	2.8	2.5
46.0												3.6	3.4	3.2	3.1	2.9	2.7	2.4	2.1
48.0													3.1	2.9	2.8	2.6	2.3	2.0	1.8
50.0														2.6	2.5	2.2	1.9	1.7	1.5
52.0														2.3	2.1	1.8	1.6	1.4	1.2
54.0															1.7	1.5	1.3	1.2	
56.0															1.5	1.3			

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	100 t	40 t	13 t
Weight of hook block (t)	1.4	1.0	0.5

- Mid point cable should be used when operate with 64.05m or longer boom length.
- When operating of the main boom peak sheave with jib on boom, following deductions in above crane lifting capacities must be made.

Jib length (m)	12.20	18.30	24.40
Weight to be deducted (t)	2.9	3.9	5.0