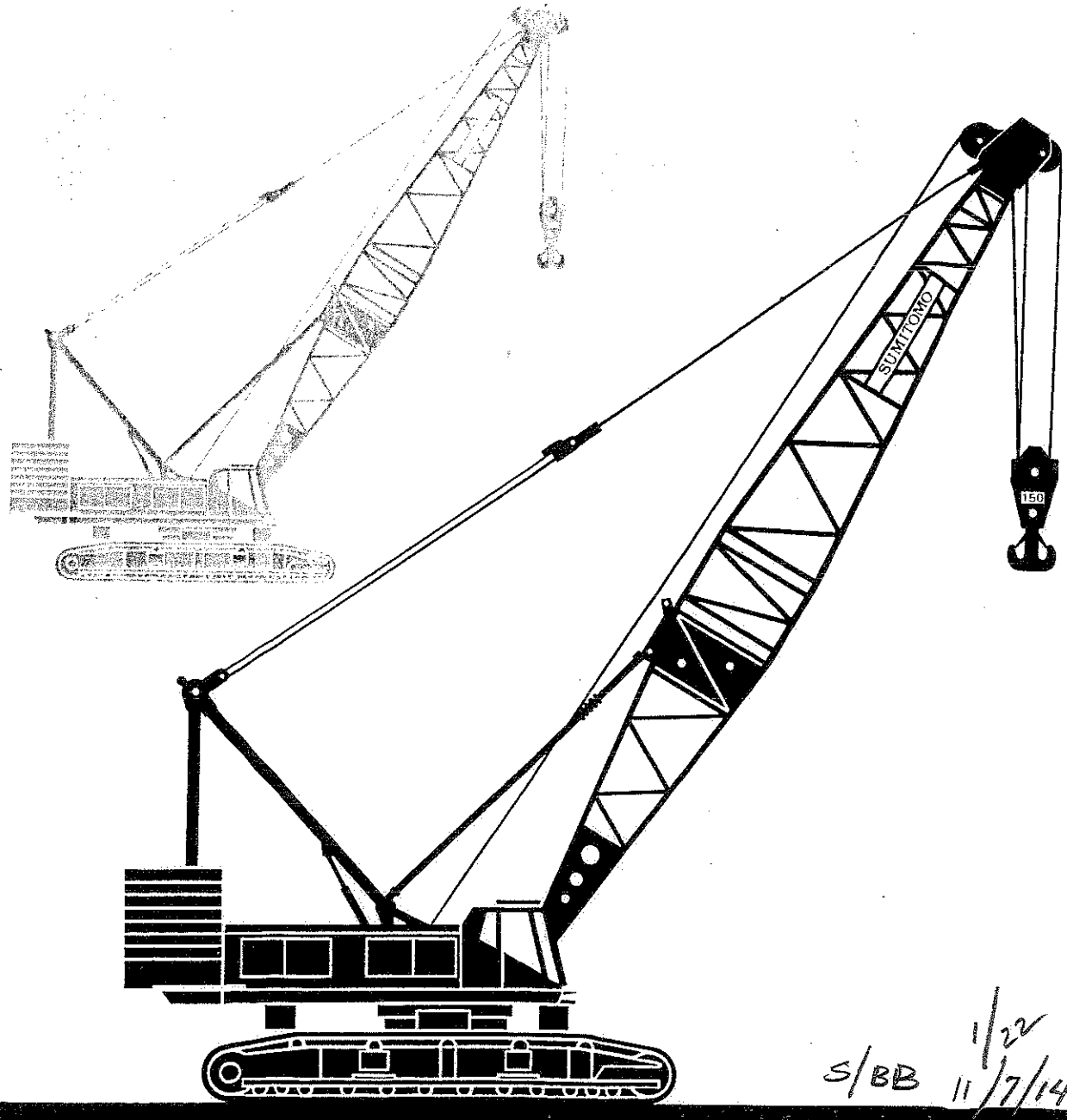
SUMITOMO

LS-248RH-5

150-M ton Hydraulic Crawler Crane



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Highest lifting performance, best work-efficiency.

SUMITOMO
New 150 Tonner Hydraulic Crawler Crane LS-248RH-5

To answer all of demands and requirements throughout the world, SUMITOMO now offers new 150 tonner hydraulic crawler cranes, LS-248RH-5.

LS-248RH-5 has been developed as one of "RH-5" series hydraulic crawler cranes under SUMITOMO's quite new design concept through owned experiences and accumulated technique in the past. Thus, LS-248RH-5 makes and correspondingly offers following six superior points to other competitors: (a) highest lifting performance (b) smooth and precise mining operations with pump control system (c) best work-efficiency with 4-rope line speed control (d) best fuel economy with powerful turbo-charged diesel engine etc.

Believe SUMITOMO, nothing comes close to LS-248RH-5. And you can [illegible] in dollar and

Specifications

SUMITOMO

LS-248RH-5

Basic Machine

Upper Machinery

UPPER REVOLVING FRAME: All-welded, precision machined, box type construction. A machined surface provided for mounting turntable bearing.

TURNTABLE BEARING WITH INTERNAL SWING GEAR: Single shear ball/retainer ring type; inner race of turntable bearing with integral, internal swing (ring) gear connected to retainer by retainer ring. The retainer bolted to carbody deck. Outer race of turntable bearing bolted to upper revolving frame. Inner race of turntable bearing and retainer can be quickly connected and disconnected by retainer ring be extended/retracted by hydraulic cylinder.

CONTROL SYSTEM: System contains one quadruplicate and one triplicate tandem valves which direct oil to various machine function and are actuated by remote controlled hydraulic servo for main hoist, auxiliary hoist, boom hoist and travel motions, and by mechanical linkage for swing motion through control levers. Working speeds can be precisely controlled by lever stroke in cooperation with engine rpm and pump controls.

Pump control system – Manually controlled by ON-OFF switching of push button attached on a control lever; system allows minute operation and energy saving by means of reducing pump displacement.

HYDRAULIC SYSTEM: System provided with two variable displacement axial piston pumps and one fixed displacement triplicate tandem gear pump for both independent and combined operations of all functions. Gear pump also used for system valves and cylinders' control.

Main/aux. crane hoist motors – Axial piston type with countervalance valve; two-speed type motors are optionally applied when Mitsubishi 6D22TC engine as an optional extra is used.

Boom hoist motor – Axial piston type with counterbalance valve and spring-applied/hydraulically released multiple wet-disc type automatic brake.

Swing motor – Two-axial piston type with spring-applied/hydraulically released multiple wet-disc type munually controlled brake.

Travel motors – Axial piston type with brake valve and spring-applied/hydraulically released multiple wet-disc type automatic brake.

Hydraulic oil reservoir – 300 liters capacity.

LOAD HOIST ASSEMBLY: Front and rear main operating drums driven by independent hydraulic motor of bi-directional, axial piston motor through planetary and spur gear reduction units powering the rope drum in either direction for hoisting and lowering load. Each of drum sized in same dimension.

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Clutches — Power hydraulic actuated, internal expanding, self-adjusting 2-shoe type; provided with no clutch levers as clutches automatically engaged and disengaged when operating main/auxiliary hoist control levers and/or switching brake mode change toggle.

Brakes — External contracting band type; free fall brake mode operated by foot pedal with hydraulic booster and automatic brake mode spring-applied, power hydraulically released are available on both front/rear main operating drums as standard. Two brake modes can be selected by switch.

Drums — One piece, parallel grooved type with locking ratchet wheel cast integral; mounted on drum shaft through anti-friction bearings.

Drum locks — Electrically operated pawl.

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

Brake — Spring-applied, power hydraulically released multiple wet-disc type automatic brake.

Drum — One piece, parallel grooved type with locking rachet wheel cast integral; involute-splined to drum shaft.

Drum lock — Electrically operated pawl.

SWING: Driven by two units of bi-directional, axial piston hydraulic motors through a spur-and-planetary gear reduction unit powering swing pinion. Swing pinion meshes with internal teeth of swing (ring) gear of turntable bearing inner race.

Brakes — Manually controlled; spring-applied, power hydraulically released; provided on each of hydraulic motor.

Lock — Mechanically operated drop pin.

Speed — 1.98rpm (High), 1.21rpm (Low).

GANTRY: A-frame type; raised and lowered by power hydraulic cylinders. Gantry equipped with bail frame with sheaves for 16-part boom hoist rope reeving.

OPERATOR'S CAB: Full-vision, cushion rubber mounted, well-ventilated, full compartment, roomy operator's cab with safety glass panels.

Instrument panel — Contains engine monitoring lamps; located at left of operator's seat.

Operator's seat — Full adjustable reclining type.

MACHINERY CAB: Equipped with hinged doors on both sides for machinery access and inspection.

CATWALKS: Hitched in place along both sides of machinery cab.

UPPER MACHINERY JACK-UP DEVICE: Optional extra; this device contains four hydraulically operated outrigger beams and jacks for self-dismounting upper machinery from carbody quickly in cooperation with retainer ring type turntable bearing.

WIRE REEVING WINCH: Optional extra; available for crane hoist cable handling ease.

COUNTERWEIGHTS: 55.8 ton in total, removable, mounted on rear of upper revolving frame by bolts.

ELECTRICAL SYSTEM: 24-volt negative ground system; provided with two maintenance free 12-volt batteries.

POWER UNIT:

Standard:

Make & Model	Mitsubishi 6D22T
Type	Water-cooled, 4-cycle, direct injection, turbo-charged diesel
No. of cylinders	Six (6)
Bore & Stroke	130 x 140mm
Displacement	11,149cc
Rated output	250ps/2,200rpm
Max. torque	105 kg-m/1,200rpm
Fuel tank	450 liters

Optional extra:

Make & Model	Mitsubishi 6D22TC
Type	Water-cooled, 4-cycle, direct injection, turbo-charged diesel with inter-cooler
No. of cylinders	Six (6)
Bore & Stroke	130 x 140mm
Displacement	11,149cc
Rated output	300ps/2,200rpm
Max. torque	117 kg-m/1,200rpm
Fuel tank	450 liters

Lower Machinery

CARBODY FRAME: All-welded, precision machined, box type construction. A machined surface provided for mounting turntable bearing.

CARBODY JACK-UP DEVICE: Optional extra; this device contains four hydraulic jack cylinders attached on carbody frame for disassembling/assembling ease of crawler side frames.

CRAWLER SIDE FRAMES: All-welded, precision machined; positioned on carbody frame cross axles by dowels and held in place with two patented, adjustable wedgepacks per side frame.

Retract cylinders — Optional extra; available for extending/retracting, or assisting in removing, side frames.

TRACK DRIVE SPROCKETS: Cast steel, heat treated; one per side frame. Track drive sprocket assembly involute-splined to shaft, mounted on anti-friction bearing, sealed for lifetime lubrication. Each track drive sprocket is powered by a hydraulic motor through planetary and 3-stage spur gear reduction drive units.

TRACK IDLER WHEELS: Cast steel, heat treated; one per side frame. Mounted on two bronze bushings, sealed for lifetime lubrication.

TRACK ROLLERS: Twelve double flange, heat treated rollers per side frame; each mounted on two bronze bushings, sealed for lifetime lubrication.

TRACK CARRIER ROLLERS: Three double flange, heat treated rollers per side frame; each mounted on two bronze bushings, sealed for lifetime lubrication.

TRACKS: 1,120mm wide, heat treated, self-cleaning, multiple hinged track shoes joined by full floating pins; 63 shoes per side frame.

Track adjustment — Idler wheels automatically adjusted while operation by means of hydraulic cylinder provided at each idler wheel block. Hydraulic power to the cylinder supplied from operational hydraulic pump of superstructure.

TRAVEL AND STEERING: Hydrostatic drive; A bi-directional, axial piston hydraulic motor bolted to a speed reducer at inner drive end of each crawler side frame.

Travel/steering power transmitted from the hydraulic motors through gear reduction unit into track drive sprocket.

Steering is provided through the travel hydraulic motors which can be powered simultaneously or individually for straight-line travel (forward or reverse), pivot or differential turns. Also, the tracks can be counter rotated for spin turns.

Brake — Spring-applied, hydraulically released multiple wet-disc type automatic brake; located within hydraulic motor. Brakes automatically set when travel levers are in neutral or when engine is shut down.

Travel speed — 1.0km/hr. (High), 0.5km/hr. (Low).

Gradeability — 30% permissible based on basic machine without front-end attachment.

TWO STEEL BLOCKS: Optional extra; required when boom or boom plus fly jib length is 85.40m or longer, and/or when mounting 30.50m through 45.75m tower jib on tower boom from 50.325m through 56.425m for self-erection. This blocks to be placed under track idler wheels each of crawler mounting.

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DO NOT HAVE THESE BLOCKS

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Crane 150 metric tons

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

Boom connections	In-line pin connections at 2m deep and 2m wide.
Basic boom	Three-piece, 18.30m basic length; 7.625m bottom section, one 1.525m extension and 9.15m tapered crane top section.
Hydraulically operated boom foot pins	Optional extra; available for assembling/disassembling ease of boom bottom section.
Boom head machinery	Four head sheaves and two hanger sheaves mounted on anti-friction bearings.
Heavy-duty type boom extensions	Optional extra; available in 3.05m, 6.10m and 9.15m lengths with pendants.
Light-duty type boom extensions	Optional extra; available in 3.05m, 6.10m and 9.15m lengths with pendants.
Maximum boom length	82.35m

FLY JIB: Optional extra; lattice construction, round tubular main chords, alloy, hi-ten steel, with bracing of round steel tubing having in-line pin connections at 0.76m deep and 0.914m wide, and jib head machinery with single sheave mounted on anti-friction bearings. This attachment can be mounted on an optional 9.15m tapered top section, and is available for light load lifting operation with less than 15ton with 2-part hoist line.

Basic fly jib	Two-piece, 12.20m basic length; 6.10m bottom and top sections.
Fly jib extensions	Available in 6.10m length with pendants.
Maximum fly jib length	30.50m.
Boom plus fly jib length	Max. 73.20m + 30.50m

AUXILIARY SHORT JIB: Optional extra; all-welded construction having single sheave head machinery. This attachment is pinned to an optional 9.15m tapered top section, and is available for 13.5ton lift as maximum with single part hoist line.

HOOK BLOCKS:

150t, five sheaves plus one in-lined hanger sheave	Standard.
100t, five sheaves	Available from a 150ton hook block by dismounting an in-lined hanger sheave.
60t, two sheaves	Optional extra.
25t, single sheave	Standard for fly jib.
13.5t, ball hook	Standard for auxiliary short jib.

BRIDLE: All-welded construction; provided with sheave machinery for 16-part boom hoist rope reeving between the bridle and A-frame gantry bail.

BOOM LIVE MAST: Optional extra; required when boom length is 61.00m or longer. All-welded box type construction; mounted in front of upper revolving frame. Mast attaches the bridle with sheaves as a standard equipment for 16-part boom hoist rope reeving. Hydraulically operated boom live mast foot pins are available as an optional extra for assembling/disassembling ease of the boom live mast.

LINE SPEEDS: (with standard power unit and main/aux. crane motors):

Drums	Root dia.	Type	Line speeds (Hoisting, Lowering)		Cable
			Pump control with "OFF"	Pump control with "ON"	
Front (main crane hoist)	532mm	Parallel grooved	@60m/min (high) @30m/min (low)	@15m/min (high) @7.5m/min (low)	28mm
Rear (aux. crane hoist)	532mm	Parallel grooved	@60m/min (high) @30m/min (low)	@15m/min (high) @7.5m/min (low)	28mm
Boom hoist	426mm	Parallel grooved	@40m/min	@10m/min	22.4mm

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LINE SPEEDS (with optional power unit and two-speed type main/aux. crane hoist motors):

Drums	Root dia.	Type	Line speeds (Hoisting, lowering)				Cable dia.
			Pump control with "OFF"		Pump control with "ON"		
			Motor cont. w/high speed	Motor cont. w/low speed	Motor cont. w/high speed	Motor cont. w/low speed	
Front (main crane hoist)	532mm	Parallel grooved	@90m/min (high) @45m/min (low)	@69m/min (high) @35m/min (low)	@23m/min (high) @11m/min (low)	@17m/min (high) @ 9m/min (low)	28mm
Rear (aux. crane hoist)	532mm	Parallel grooved	@90m/min (high) @45m/min (low)	@69m/min (high) @35m/min (low)	@23m/min (high) @11m/min (low)	@17m/min (high) @ 9m/min (low)	28mm
Boom hoist	426mm	Parallel grooved	@40m/min		@10m/min		22.4mm

Notes:
1. No high/low control provided on boom hoist drum winch.
2. Hoisting line speed varies under load and operating conditions.

HOIST REEVING:

	Main hoist											Aux. hoist
No. of part line	12	11	10	9	8	7	6	5	4	3	2	1
Max. load (ton)	150.0	138.5	127.0	115.5	103.0	90.5	78.0	65.5	53.0	40.0	27.0	13.5

SAFETY DEVICES: Hook over-hoist limiting device with automatic hydraulic motor locking and warning buzzer, boom over-hoist limiting device with automatic hydraulic motor locking and warning buzzer, boom backstops, boom angle indicator, drum pawl locks for front, rear and boom hoist drums, swing lock, swing warning device with buzzer and lamp, swing brake lamp, and signal horn. Over-load indication light and fly jib/auxiliary short jib hook over-hoist limiting device with automatic hydraulic motor locking and warning buzzer are available as optional extra.

LOAD MOMENT LIMITER: Optional extra; computerlized automatic over-load preventing device consiting of load detector attached at the end of boom hoist cable, boom angle detector, amplifier with computerlized load calculation device and digital type meter that indicates present lifting load/marginal lifting load/rated load, boom angle/working radius, and load ratio between rated and present lifting loads. This device also provides three warning lamps for overloading, hook overhoisting and boom overhoisting/overlowering. This device functions that if lifting load is in excess of 90% of the rated load, a pre-warning is given with lamp, or if it is 100%, a warning is given with lamp and buzzer and load hoisting/boom lowering motions automatically stopped with automatic hydraulic motor locking. The machine, however, can be operated for lowering the load and hoisting the boom as safety side operation.

CABLES:

For front drum . . . . . Tough Nuflex rope, 28mm dia./360m length, breaking load 71.2ton.

For rear drum . . . . . Optional extra; Tough Nuflex rope, 28mm dia./310m length, breaking load 71.2ton.

For boom hoist drum . . . . . Tough Super rope, 22.4mm dia./310m length, breaking load 42.5ton.

BRIDON CABLES

WORKING WEIGHT: With 18.30m basic boom, 55.8t counterweight, 1,120mm wide track shoes and 150 hook block: Approx. 157.5ton.

GROUND PRESSURE:

0.84kg/cm^2 with 1,120mm track shoes and 157.5ton working weight mentioned above.

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LS-248RH-5 LIFTING CRANE CAPACITIES:

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
5.0	150.0															
6.0	140.0	128.1	116.8													
7.0	123.6	121.7	111.5	102.5	94.4											
8.0	99.2	98.9	98.8	96.2	90.7	83.8	77.8									
9.0	83.7	83.5	84.0	83.8	82.8	78.9	75.2	69.6	64.0							
10.0	72.1	71.9	71.8	71.7	71.6	71.5	69.3	66.5	62.3	57.8	52.3					
12.0	55.9	55.5	55.4	55.6	55.4	55.3	55.1	54.9	53.3	52.4	49.7	46.9	43.5	40.0		
14.0	45.3	44.9	45.0	44.9	44.9	44.8	44.8	44.4	44.5	44.4	44.3	41.8	40.3	38.1	37.0	36.2
16.0	38.2	37.8	37.7	37.7	37.7	37.6	37.5	37.4	37.0	36.9	36.8	36.7	35.8	35.7	35.6	35.2
18.0		32.4	32.4	32.4	32.1	32.1	32.0	31.9	31.8	31.5	31.3	31.2	31.1	30.7	31.3	31.2
20.0		28.2	28.3	28.3	28.0	28.1	28.0	27.7	27.6	27.5	27.2	27.1	27.0	26.7	27.1	27.0
22.0			25.0	25.1	24.9	24.7	24.7	24.4	24.3	24.2	24.0	23.9	23.6	23.3	23.7	23.6
24.0				22.4	22.1	22.0	22.0	21.8	21.7	21.5	21.2	21.1	21.0	20.7	20.9	20.9
26.0					19.9	19.9	19.9	19.7	19.4	19.3	19.1	18.9	18.8	18.5	18.7	18.6
28.0					18.1	17.9	17.9	17.6	17.5	17.5	17.2	17.1	17.0	16.6	16.9	16.7
30.0						16.4	16.4	16.1	16.0	15.8	15.6	15.5	15.3	15.0	15.2	15.0
32.0							14.9	14.8	14.7	14.5	14.3	14.1	14.0	13.7	13.8	13.6
34.0								13.6	13.4	13.3	13.0	12.9	12.7	12.4	12.5	12.3
36.0								12.5	12.4	12.2	12.0	11.8	11.7	11.4	11.5	11.4
38.0									11.5	11.3	11.0	10.9	10.7	10.5	10.5	10.3
40.0										10.5	10.2	10.0	9.9	9.6	9.6	9.4
42.0											9.4	9.4	9.2	8.9	8.9	8.7
44.0												8.6	8.5	8.2	8.2	8.0
46.0												8.0	7.8	7.6	7.5	7.3
48.0													7.3	7.0	6.9	6.8
50.0														6.5	6.5	6.3
52.0															6.0	5.8
54.0															5.5	5.3
56.0																4.9
58.0																
60.0																
62.0																

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(in metric tons)

67.10	70.15	73.20	76.25	79.30	82.35	Working radius (m)
						5.0
						6.0
						7.0
						8.0
						9.0
						10.0
						12.0
33.5	30.3					14.0
32.7	29.6	27.1	25.0	22.8	20.3	16.0
31.1	28.8	26.4	24.4	22.1	19.7	18.0
26.7	26.6	25.9	23.8	21.6	19.2	20.0
23.3	23.2	23.0	22.4	21.0	18.6	22.0
20.6	20.5	20.3	20.0	19.9	18.0	24.0
18.4	18.1	18.0	17.7	17.6	16.9	26.0
16.4	16.3	16.1	15.8	15.7	15.5	28.0
14.8	14.5	14.5	14.2	14.1	13.8	30.0
13.4	13.2	13.1	12.8	12.7	12.4	32.0
12.0	11.9	11.9	11.6	11.4	11.2	34.0
11.0	10.9	10.8	10.4	10.3	10.0	36.0
10.1	9.9	9.7	9.4	9.4	9.1	38.0
9.2	9.2	8.9	8.6	8.5	8.2	40.0
8.4	8.3	8.1	7.9	7.7	7.5	42.0
7.8	7.6	7.4	7.1	7.0	6.7	44.0
7.1	6.9	6.8	6.6	6.5	6.2	46.0
6.6	6.5	6.2	6.0	5.8	5.6	48.0
6.0	5.9	5.7	5.4	5.3	5.0	50.0
5.5	5.4	5.2	4.9	4.8	4.5	52.0
5.0	4.9	4.7	4.4	4.3	4.1	54.0
4.6	4.5	4.3	4.1	4.0	3.7	56.0
4.2	4.2	4.0	3.7	3.6	3.3	58.0
	3.8	3.6	3.3	3.4	2.9	60.0
	3.4	3.3	3.0	2.8	2.5	62.0

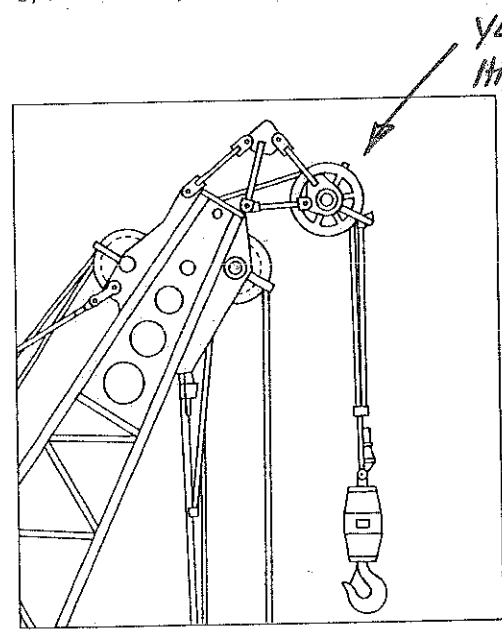
(ZCP00198B)

Notes — Lifting crane capacities

1. Capacities included in this chart are the maximum allowable, and are based on machine standing level on firm supporting surface under ideal job conditions.
2. Capacities are in metric tons, and are not more than 75% of minimum tipping loads unless marked with a shaded color (▒▒). Shaded color indicates capacities are based on factors other than those which would cause a tipping condition.
3. Capacities for boom length from 30.50m through 82.35m on this chart are determined in condition of no two hanger sheaves be attached on a 9.15m tapered crane top section head machinery. If lifting operation with the two hanger sheaves, the reduction of a 0.3ton must be made from the capacities referred above. In case that lifting operation without the two hanger sheaves, the lifting capacities of over 100ton on this chart are determined a 100ton as maximum.
4. Capacities are under crawler extended condition with 5,620 mm.
5. Capacities are based on freely suspended loads and make no allowance for such factors as the effect of wind, sudden stopping of loads, supporting surface conditions, and operating speeds. Operator must reduce load ratings to take such conditions into account. Deduction from rated capacities must be made for weight of jib, hook block, weighted ball/hook, sling, spreader bar, or other suspended gear.
   SUMITOMO's hook block weight is as follows:
   150t . . . 2.6t 100t . . . 2.2t 60t . . . 1.4t
   25t . . . . 1.1t 13.5t . . . 0.5t
6. All capacities are rated for 360° swing.
7. Least stable rated condition is over the side.
8. Boom live mast is required when boom length is 61.00m or longer.
9. Counterweight must be 55.8ton for all capacities on this chart.
10. Attachment must be erected and lowered over the ends of the crawler mounting. When boom and jib combination length is more than 85.40m, two steel blocks be placed under track idler wheels each of the crawler are required for lifting off ground the attachment without any outside assistance.
11. Main boom length must not exceed 82.35m.
    Maximum fly jib length permitted—30.50m.
    Maximum boom and fly jib combination length permitted—73.20m boom plus 30.50m fly jib.
12. Determining lifting crane capacities with fly jib or auxiliary short jib mounted on boom:
    When handling load off main boom head sheaves, the following reductions in rated lifting crane capacities must be made to compensate for fly jib weight including 25 hook block, or for auxiliary short jib including 13.5t hook block:
    12.20m fly jib—2,900kg
    18.30m fly jib—3,900kg
    24.40m fly jib—5,000kg
    30.50m fly jib—6,300kg
    Auxiliary short jib—800kg
13. Boom combination shall be in accordance with manufacturer's standard described in "Boom Combination Diagram". In configuration of boom combination, it is required to just position heavy-duty boom extensions or 1.525m boom extension on to the 7.625m bottom section. It is also required to position any of heavy-duty boom extensions between 7.625m bottom section and a 1.525m boom extension, and to position 9.15m light-duty boom extension(s) between 9.15m tapered top section and a 1.525m boom extension.
14. Capacities apply only to the machine as originally manufactured and normally equipped by Sumitomo (S.H.I.) Construction Machinery Co., Ltd.

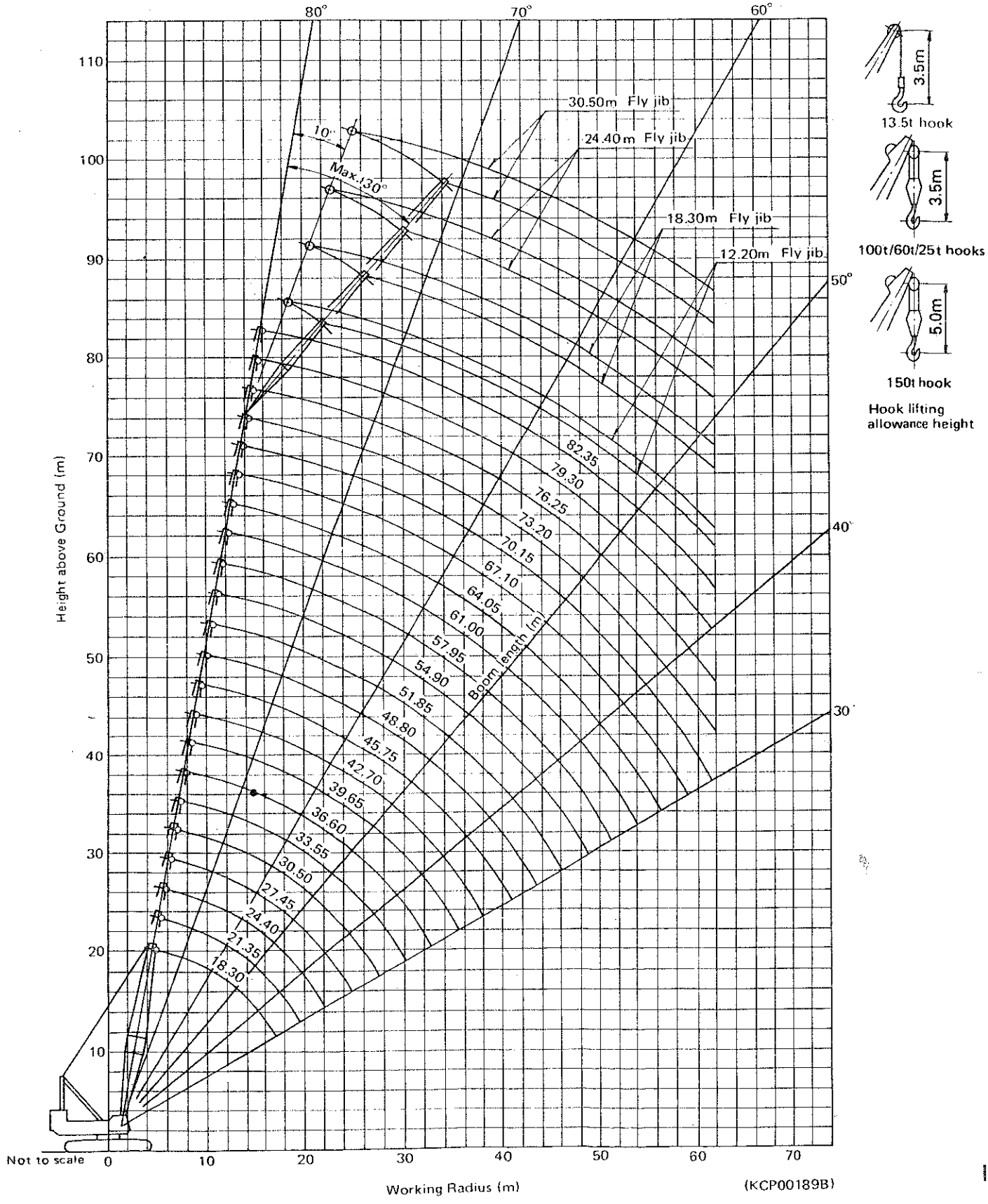
LS-248RH-5 AUXILIARY SHORT JIB CAPCITIES: Max. 13.5ton

Note: Jib capacities is equal to the figures made by the deduction of a 800kg from the lifting crane capacities unless restricted by the maximum jib capacity shown above.



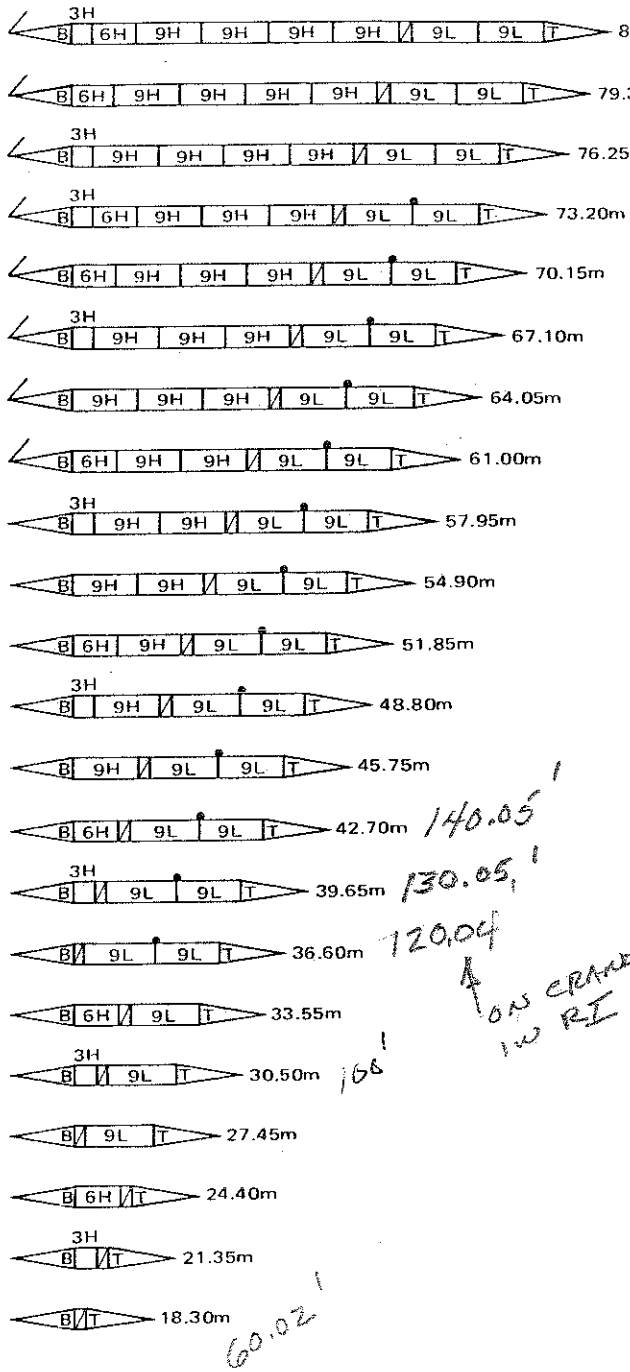
Auxiliary short jib (Option)

Crane Working Ranges



Boom Combination Diagram

Boom combination with tapered top section



Note:
The meaning of figures and symbols shown here are as follows:

- 9H : 9.15m heavy-duty type boom extension
- 9L : 9.15m light-duty type boom extension
- 6H : 6.10m heavy-duty type boom extension
- 3H : 3.05m heavy-duty type boom extension
- H L : 1.525m boom extension
- T : 9.15m tapered top section
- B : 7.625m bottom section
- B : Boom live mast; required when boom length is 61.00m or larger.
- • : Boom guyline cables installing position; the boom guyline cables are required for fly jib attachment which can be mounted on boom from 36.60m up to 73.20m.

Fly Jib Capacities

Boom length (m)	36.60							
Fly jib length (m)	12.20		18.30		24.40		30.50	
Fly jib offset angle (°) / Working radius (m)	10	30	10	30	10	30	10	30
12.0	15.0							
14.0	15.0							
16.0	15.0	12.5	11.5					
18.0	15.0	12.5	11.5		7.7			
20.0	15.0	12.5	11.5	7.7	7.7		3.8	
22.0	15.0	12.5	11.5	7.7	7.7		3.8	
24.0	15.0	12.5	11.5	7.7	7.7	5.8	3.8	
26.0	15.0	12.5	11.5	7.7	7.7	5.8	3.8	
28.0	15.0	12.3	11.5	7.7	7.7	5.8	3.8	2.9
30.0	15.0	12.0	11.3	7.7	7.7	5.8	3.8	2.9
32.0	13.9	11.5	11.1	7.7	7.2	5.8	3.8	2.9

(ECP00089A-1/13)

Boom length (m)	39.65							
Fly jib length (m)	12.20		18.30		24.40		30.50	
Fly jib offset angle (°) / Working radius (m)	10	30	10	30	10	30	10	30
12.0	15.0/13.0							
14.0	15.0							
16.0	15.0	12.5	11.5					
18.0	15.0	12.5	11.5		7.7			
20.0	15.0	12.5	11.5	7.7	7.7		3.8	
22.0	15.0	12.5	11.5	7.7	7.7		3.8	
24.0	15.0	12.5	11.5	7.7	7.7	5.8	3.8	
26.0	15.0	12.5	11.5	7.7	7.7	5.8	3.8	
28.0	15.0	12.5	11.5	7.7	7.7	5.8	3.8	2.9
30.0	15.0	12.4	11.5	7.7	7.7	5.8	3.8	2.9
32.0	13.8	12.0	11.5	7.7	7.4	5.8	3.8	2.9
34.0	12.7	11.5	11.3	7.7	7.2	5.8	3.8	2.9
36.0	11.7	11.3	11.1	7.7	6.9	5.8	3.8	2.9

(ECP00089A-2/13)

Boom length (m)	42.70							
Fly jib length (m)	12.20		18.30		24.40		30.50	
Fly jib offset angle (°) / Working radius (m)	10	30	10	30	10	30	10	30
14.0	15.0							
16.0	15.0	12.5/17.0	11.5					
18.0	15.0	12.5	11.5		7.7/19.0			
20.0	15.0	12.5	11.5		7.7			
22.0	15.0	12.5	11.5	7.7/21.0	7.7		3.8/21.0	
24.0	15.0	12.5	11.5	7.7	7.7		3.8	
26.0	15.0	12.5	11.5	7.7	7.7	5.8/25.0	3.8	
28.0	15.0	12.5	11.5	7.7	7.7	5.8	3.8	2.9
30.0	14.9	12.5	11.5	7.7	7.7	5.8	3.8	2.9
32.0	13.6	12.3	11.5	7.7	7.6	5.8	3.8	2.9
34.0	12.5	12.0	11.3	7.7	7.4	5.8	3.8	2.9
36.0	11.5	11.3	11.1	7.7	7.2	5.8	3.8	2.9
38.0	10.8	10.6	10.5	7.7	7.0	5.8	3.8	2.9

(ECP00089A-3/13)

Boom length (m)	45.75							
Fly jib length (m)	12.20		18.30		24.40		30.50	
Fly jib offset angle (°) / Working radius (m)	10	30	10	30	10	30	10	30
14.0	15.0							
16.0	15.0							
18.0	15.0	12.5	11.5					
20.0	15.0	12.5	11.5		7.7			
22.0	15.0	12.5	11.5	7.7	7.7		3.8	
24.0	15.0	12.5	11.5	7.7	7.7		3.8	
26.0	15.0	12.5	11.5	7.7	7.7	5.8	3.8	
28.0	15.0	12.5	11.5	7.7	7.7	5.8	3.8	
30.0	14.6	12.5	11.5	7.7	7.7	5.8	3.8	2.9
32.0	13.4	12.4	11.5	7.7	7.6	5.8	3.8	2.9
34.0	12.3	12.1	11.5	7.7	7.4	5.8	3.8	2.9
36.0	11.3	11.3	11.2	7.7	7.2	5.8	3.8	2.9
38.0	10.5	10.5	10.4	7.7	7.0	5.8	3.8	2.9
40.0	9.8	9.8	9.8	7.7	6.8	5.5	3.8	2.9

(ECP00089A-4/13)

Boom length (m)	48.80							
Fly jib length (m)	12.20		18.30		24.40		30.50	
Fly jib offset angle (°) / Working radius (m)	10	30	10	30	10	30	10	30
14.0	15.0							
16.0	15.0							
18.0	15.0	12.5	11.5					
20.0	15.0	12.5	11.5		7.7			
22.0	15.0	12.5	11.5		7.7		3.8	
24.0	15.0	12.5	11.5	7.7	7.7		3.8	
26.0	15.0	12.5	11.5	7.7	7.7		3.8	
28.0	15.0	12.5	11.5	7.7	7.7	5.8	3.8	
30.0	14.5	12.5	11.5	7.7	7.7	5.8	3.8	2.9
32.0	13.2	12.3	11.5	7.7	7.7	5.8	3.8	2.9
34.0	12.2	12.0	11.5	7.7	7.4	5.8	3.8	2.9
36.0	11.2	11.2	11.2	7.7	7.2	5.8	3.8	2.9
38.0	10.3	10.3	10.3	7.7	7.0	5.8	3.8	2.9
40.0	9.5	9.5	9.5	7.7	6.8	5.8	3.8	2.9
42.0	8.8	8.8	8.8	7.7	6.6	5.8	3.8	2.9

(ECP00089A-5/13)

Boom length (m)	51.85							
Fly jib length (m)	12.20		18.30		24.40		30.50	
Fly jib offset angle (°) / Working radius (m)	10	30	10	30	10	30	10	30
16.0	15.0							
18.0	15.0		11.5					
20.0	15.0	12.5	11.5		7.7			
22.0	15.0	12.5	11.5		7.7		3.8	
24.0	15.0	12.5	11.5	7.7	7.7		3.8	
26.0	15.0	12.5	11.5	7.7	7.7		3.8	
28.0	15.0	12.5	11.5	7.7	7.7	5.8	3.8	
30.0	14.4	12.5	11.5	7.7	7.7	5.8	3.8	
32.0	13.1	12.2	11.5	7.7	7.7	5.8	3.8	2.9
34.0	11.9	11.5	11.5	7.7	7.4	5.8	3.8	2.9
36.0	11.0	10.6	11.0	7.7	7.2	5.8	3.8	2.9
38.0	10.1	10.1	10.1	7.7	7.0	5.8	3.8	2.9
40.0	9.3	9.3	9.3	7.7	6.8	5.8	3.8	2.9
42.0	8.7	8.7	8.7	7.7	6.6	5.8	3.8	2.9
44.0	8.0	8.0	8.0	7.7	6.4	5.6	3.8	2.9
46.0	7.5	7.5	7.5	7.2	6.3	5.4	3.7	2.9

(ECP00089A-6/13)

Boom length (m)	54.90							
Fly jib length (m)	12.20		18.30		24.40		30.50	
Fly jib offset angle (°) / Working radius (m)	10	30	10	30	10	30	10	30
16.0	15.0							
18.0	15.0		11.5					
20.0	15.0	12.5	11.5					
22.0	15.0	12.5	11.5		7.7		3.8	
24.0	15.0	12.5	11.5	7.7	7.7		3.8	
26.0	15.0	12.5	11.5	7.7	7.7		3.8	
28.0	15.0	12.5	11.5	7.7	7.7	5.8	3.8	
30.0	14.3	12.5	11.5	7.7	7.7	5.8	3.8	
32.0	13.0	12.5	11.5	7.7	7.7	5.8	3.8	2.9
34.0	11.8	11.8	11.5	7.7	7.7	5.8	3.8	2.9
36.0	10.9	10.9	10.9	7.7	7.6	5.8	3.8	2.9
38.0	10.0	10.0	10.0	7.7	7.4	5.8	3.8	2.9
40.0	9.2	9.2	9.2	7.7	7.2	5.8	3.8	2.9
42.0	8.5	8.5	8.5	7.7	7.1	5.8	3.8	2.9
44.0	7.9	7.9	7.9	7.7	7.0	5.6	3.8	2.9
46.0	7.2	7.2	7.2	7.1	6.7	5.5	3.8	2.9
48.0	6.7	6.7	6.7	6.7	6.3	5.4	3.7	2.9

(ECP00089A-7/13)

Boom length (m)	57.95							
Fly jib length (m)	12.20		18.30		24.40		30.50	
Fly jib offset angle (°) / Working radius (m)	10	30	10	30	10	30	10	30
16.0	15.0							
18.0	15.0							
20.0	15.0	12.5	11.5					
22.0	15.0	12.5	11.5		7.7			
24.0	15.0	12.5	11.5	7.7	7.7		3.8	
26.0	15.0	12.5	11.5	7.7	7.7		3.8	
28.0	15.0	12.5	11.5	7.7	7.7	5.8	3.8	
30.0	14.2	12.5	11.5	7.7	7.7	5.8	3.8	
32.0	12.9	12.5	11.5	7.7	7.7	5.8	3.8	2.9
34.0	11.7	11.7	11.5	7.7	7.7	5.8	3.8	2.9
36.0	10.8	10.8	10.8	7.7	7.6	5.8	3.8	2.9
38.0	9.9	9.9	9.9	7.7	7.4	5.8	3.8	2.9
40.0	9.1	9.1	9.1	7.7	7.2	5.8	3.8	2.9
42.0	8.4	8.4	8.4	7.7	7.1	5.7	3.8	2.9
44.0	7.8	7.8	7.8	7.6	7.0	5.6	3.8	2.9
46.0	7.1	7.1	7.1	7.1	6.7	5.5	3.8	2.9
48.0	6.5	6.5	6.5	6.5	6.3	5.3	3.7	2.9
50.0	6.1	6.1	6.1	6.1	5.9	5.0	3.5	2.9

(ECP00089A-8/13)

Boom length (m)	61.00							
Fly jib length (m)	12.20		18.30		24.40		30.50	
Fly jib offset angle (°) / Working radius (m)	10	30	10	30	10	30	10	30
18.0	15.0							
20.0	15.0	12.5	11.5					
22.0	15.0	12.5	11.5		7.7			
24.0	15.0	12.5	11.5		7.7		3.8	
26.0	15.0	12.5	11.5	7.7	7.7		3.8	
28.0	15.0	12.5	11.5	7.7	7.7		3.8	
30.0	14.1	12.5	11.5	7.7	7.7	5.8	3.8	
32.0	12.8	12.5	11.5	7.7	7.7	5.8	3.8	2.9
34.0	11.6	11.5	11.5	7.7	7.7	5.8	3.8	2.9
36.0	10.7	10.7	10.7	7.7	7.6	5.8	3.8	2.9
38.0	9.8	9.8	9.8	7.7	7.4	5.8	3.8	2.9
40.0	9.0	9.0	9.0	7.7	7.2	5.8	3.8	2.9
42.0	8.3	8.3	8.3	7.7	7.1	5.7	3.8	2.9
44.0	7.7	7.7	7.7	7.7	7.0	5.6	3.8	2.9
46.0	7.1	7.1	7.1	7.1	6.6	5.5	3.8	2.9
48.0	6.5	6.5	6.5	6.5	6.3	5.3	3.7	2.9
50.0	6.0	6.0	6.0	6.0	6.0	5.1	3.5	2.9
52.0	5.6	5.6	5.6	5.6	5.6	5.0	3.4	2.8
54.0	5.2	5.2	5.2	5.2	4.9	4.9	3.3	2.7

(ECP00089A-9/13)

Boom length (m)	64.05							
Fly jib length (m)	12.20		18.30		24.40		30.50	
Fly jib offset angle (°) / Working radius (m)	10	30	10	30	10	30	10	30
18.0	15.0							
20.0	15.0		11.5					
22.0	15.0	12.5	11.5		7.7			
24.0	15.0	12.5	11.5		7.7		3.8	
26.0	15.0	12.5	11.5	7.7	7.7		3.8	
28.0	15.0	12.5	11.5	7.7	7.7		3.8	
30.0	14.0	12.5	11.5	7.7	7.7	5.8	3.8	
32.0	12.7	12.5	11.5	7.7	7.7	5.8	3.8	
34.0	11.5	11.5	11.5	7.7	7.7	5.8	3.8	2.9
36.0	10.6	10.6	10.6	7.7	7.6	5.8	3.8	2.9
38.0	9.7	9.7	9.7	7.7	7.4	5.8	3.8	2.9
40.0	8.9	8.9	8.9	7.7	7.2	5.8	3.8	2.9
42.0	8.1	8.1	8.1	7.7	7.1	5.8	3.8	2.9
44.0	7.4	7.4	7.4	7.4	7.0	5.6	3.8	2.9
46.0	6.7	6.7	6.7	6.7	6.6	5.4	3.8	2.9
48.0	6.2	6.2	6.2	6.2	6.2	5.2	3.8	2.9
50.0	5.7	5.7	5.7	5.7	5.7	5.1	3.7	2.9
52.0	5.2	5.2	5.2	5.2	5.2	4.9	3.5	2.9
54.0	4.8	4.8	4.8	4.8	4.8	4.8	3.4	2.8
56.0	4.3	4.3	4.3	4.3	4.3	4.3	3.3	2.7

(ECP00089A-10/13)

Boom length (m)	67.10							
Fly jib length (m)	12.20		18.30		24.40		30.50	
Fly jib offset angle (°) / Working radius (m)	10	30	10	30	10	30	10	30
18.0	15.0							
20.0	15.0		11.5					
22.0	15.0	12.5	11.5					
24.0	15.0	12.5	11.5		7.7		3.8	
26.0	15.0	12.5	11.5	7.7	7.7		3.8	
28.0	15.0	12.5	11.5	7.7	7.7		3.8	
30.0	13.9	12.5	11.5	7.7	7.7	5.8	3.8	
32.0	12.6	12.5	11.5	7.7	7.7	5.8	3.8	
34.0	11.4	11.4	11.4	7.7	7.6	5.8	3.8	2.9
36.0	10.5	10.5	10.5	7.7	7.5	5.8	3.8	2.9
38.0	9.6	9.6	9.6	7.7	7.3	5.8	3.8	2.9
40.0	8.8	8.8	8.8	7.7	7.2	5.8	3.8	2.9
42.0	7.9	7.9	7.9	7.7	7.1	5.8	3.8	2.9
44.0	7.3	7.3	7.3	7.3	7.0	5.6	3.8	2.9
46.0	6.7	6.7	6.7	6.7	6.6	5.4	3.8	2.9
48.0	6.2	6.2	6.2	6.2	6.2	5.2	3.8	2.9
50.0	5.7	5.7	5.7	5.7	5.7	5.1	3.7	2.9
52.0	5.2	5.2	5.2	5.2	5.2	4.9	3.5	2.8
54.0	4.8	4.8	4.8	4.8	4.8	4.8	3.4	2.7
56.0	4.3	4.3	4.3	4.3	4.3	4.3	3.3	2.5
58.0	3.9	3.9	3.9	3.9	3.9	3.9	3.1	2.6

(ECP00089A-11/13)

Boom length (m)	70.15							
Fly jib length (m)	12.20		18.30		24.40		30.50	
Fly jib offset angle (°) / Working radius (m)	10	30	10	30	10	30	10	30
18.0	15.0							
20.0	15.0							
22.0	15.0	12.5	11.5					
24.0	15.0	12.5	11.5		7.7			
26.0	15.0	12.5	11.5	7.7	7.7		3.8	
28.0	15.0	12.5	11.5	7.7	7.7		3.8	
30.0	13.8	12.5	11.5	7.7	7.7		3.8	
32.0	12.5	12.5	11.5	7.7	7.7	5.8	3.8	
34.0	11.3	11.3	11.3	7.7	7.6	5.8	3.8	2.9
36.0	10.4	10.4	10.4	7.7	7.5	5.8	3.8	2.9
38.0	9.5	9.5	9.5	7.7	7.3	5.8	3.8	2.9
40.0	8.7	8.7	8.7	7.7	7.2	5.8	3.8	2.9
42.0	7.9	7.9	7.9	7.7	7.1	5.8	3.8	2.9
44.0	7.2	7.2	7.2	7.2	7.0	5.6	3.8	2.9
46.0	6.6	6.6	6.6	6.6	6.6	5.4	3.8	2.9
48.0	6.1	6.1	6.1	6.1	6.1	5.2	3.8	2.9
50.0	5.5	5.5	5.5	5.5	5.5	5.0	3.6	2.9
52.0	5.0	5.0	5.0	5.0	5.0	4.8	3.5	2.8
54.0	4.5	4.5	4.5	4.5	4.5	4.5	3.4	2.7
56.0	4.1	4.1	4.1	4.1	4.1	4.1	3.3	2.7
58.0	3.8	3.8	3.8	3.8	3.8	3.8	3.1	2.6
60.0	3.4	3.4	3.4	3.4	3.4	3.4	3.0	2.5
62.0	3.1	3.1	3.1	3.1	3.1	3.1	2.9	2.4

(ECP00089A-12/13)

Boom length (m)	73.20							
Fly jib length (m)	12.20		18.30		24.40		30.50	
Fly jib offset angle (°) / Working radius (m)	10	30	10	30	10	30	10	30
18.0	15.0							
20.0	15.0							
22.0	15.0	12.5	11.5					
24.0	15.0	12.5	11.5		7.7			
26.0	15.0	12.5	11.5		7.7		3.8	
28.0	15.0	12.5	11.5	7.7	7.7		3.8	
30.0	13.6	12.5	11.5	7.7	7.7		3.8	
32.0	12.2	12.2	11.5	7.7	7.7	5.8	3.8	
34.0	11.1	11.1	11.1	7.7	7.7	5.8	3.8	
36.0	10.1	10.1	10.1	7.7	7.5	5.8	3.8	2.9
38.0	9.1	9.1	9.1	7.7	7.4	5.8	3.8	2.9
40.0	8.3	8.3	8.3	7.7	7.2	5.8	3.8	2.9
42.0	7.6	7.6	7.6	7.5	7.1	5.8	3.8	2.9
44.0	6.9	6.9	6.9	6.9	6.9	5.6	3.8	2.9
46.0	6.3	6.3	6.3	6.3	6.3	5.4	3.8	2.9
48.0	5.8	5.8	5.8	5.8	5.8	5.1	3.8	2.9
50.0	5.2	5.2	5.2	5.2	5.2	4.9	3.6	2.9
52.0	4.7	4.7	4.7	4.7	4.7	4.7	3.5	2.8
54.0	4.2	4.2	4.2	4.2	4.2	4.2	3.4	2.7
56.0	3.8	3.8	3.8	3.8	3.8	3.8	3.3	2.7
58.0	3.5	3.5	3.5	3.5	3.5	3.5	3.1	2.6
60.0	3.1	3.1	3.1	3.1	3.1	3.1	3.0	2.5
62.0	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.4

(ECP00089A-13/13)

Notes — Fly jib capacities

1. Capacities included in this chart are the maximum allowable, and are based on machine standing level on firm supporting surface under ideal job conditions.
2. Capacities are in metric tons, and are based on 75% of minimum tipping loads unless marked with a shaded color (▭). Shaded color indicates capacities are based on factors other than those which would cause a tipping condition.
3. Capacities are under crawler extended condition with 5,620 mm.
4. Capacities are based on freely suspended loads and make no allowance for such factors as the effect of wind, sudden stopping of loads, supporting surface conditions, and operating speeds. Operator must reduce load ratings to take such conditions into account. Deduction from rated jib capacities must be made for weight of hook block, weighted ball/hook, sling, load weighing devices, or other suspended gear.
   SUMITOMO's hook block weight is as follows:
   25t . . . 1.1t 13.5t . . . 0.5t
5. All capacities are rated for 360° swing.
6. Least stable rated position is over the side.
7. Boom live mast must be installed when boom length is 61.00m or longer.
8. Counterweight must be 55.8ton for all capacities on this chart.
9. Attachment must be erected and lowered over the ends of the crawler mounting. When boom and jib combination length is more than 85.40m, two steel blocks be placed under track idler rollers each of the crawler are required for lifting off ground the attachment without any outside assistance.
10. Maximum fly jib length permitted is 30.50m, and maximum boom and fly jib combination length permitted is 73.20m boom plus 30.50m fly jib.
11. Capacities apply only to the machine as originally manufac-

Standard and Optional Equipments

	Standard equipments	Optional equipments
Upper Machinery	• Mitsubishi 6D22T diesel • Hydraulic system with two variable displacement axial piston pumps and one fixed displacement triplicate tandem gear pump • Control system with one each of quadruplicate and triplicate tandem valves and floor type levers • Main/auxiliary hoist drum winches with hydraulic motors, external contracting band type brakes w/automatic and free fall braking modes, and automatically engaged/disengaged clutches • Boom hoist drum winches with hydraulic motor and wet-disc type automatic brake • Swing mechanism with 2-hydraulic motor with wet-disc type brake and retaine ring type turntable bearing • A-frame type gantry with bail and hydraulic cylinders • Counterweights; 55.8ton • Machinery cab with hinged doors • 24-volt electrical system with two 12-volt batteries • Full-vision type operator's cab with reclining type seat and floor mat • Cigarette lighter • Ash tray • Interior cab light • Electric socket; 24V • Manual holder • Engine monitoring lamps • Fuel gauges; provided in cab gauge panel and fuel tank • Engine glow indication lamp • Engine tachometer • Thermometer • Hydraulic oil pressure gauge • Hydraulic oil temperature gauge • Level gauge • Foot/hand throttles • Wind wipers with blade; provided on front and roof wind glasses • Two headlights • Two back mirrors • Catwalks along both sides of machinery cab • Superstructure under-cover; provided at lower parts of cab and engine	• Mitsubishi 6D22TC diesel, and two-speed type main/aux. crane hoist motors instead of standard NO • Upper machinery jack-up device with 4-hydraulically operated beam and jack cylinder NO • Wire reeving winch NO • Anemometer; recommended for tower crane operation NO • Monitor television; recommended for tower crane operation NO • Radio NO • Cab heater YES • Air-conditioner YES • Drum rotation indicators YES • Drum mirrors NO • Fire extinguisher NO • Cab fan YES • Sunvisor NO • Sunshade NO • Radiophone NO • Microphone with loud-speaker NO • Bilge pump NO

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	Standard equipments	Optional equipments
Upper Machinery — continued —	• Slipless mats; provided on machinery cab upper-part • Spare parts and tools	
Undercarriage	• 5,620mm gauge by 8,966mm long crawler lower with removable/ retractable side frames • Hydrostatic crawler drive units with wet-disc type automatic brakes • 1,118mm wide track shoes • Automatic track tension adjusting device • Lifetime lubricated track components • Level gauge	• Carbody jack-up cylinders YES • Side frame retract cylinders NO • Two steel blocks; necessary when boom or boom plus jib length is 85.40m or longer, and/or when mounting 30.50m thru 45.75m tower jib on tower boom from 50.325m thru 56.425m for self-erection NO
Crane Attachment	• 18.30m basic crane boom; 7.625m bottom section, one 1.525m extension and 9.15m tapered crane top section • Boom bridle • 150ton hook block • Main crane hoist cable; 28mm dia./360m length • Boom hoist cable; 22.4mm dia./310m length	• Heavy-duty type boom extensions; available in 3.05, 6.10 and 9.15m with pendants 1 EA 1 EA 4 EA YES • Light-duty type boom extension; available in 3.05m, 6.10m and 9.15m with pendants NO NO 2 EA * Max. crane boom length is 82.35m. YES • 12.20m basic fly jib; 6.10m bottom and top sections with strut and guyline pendants YES • Fly jib extensions; available in 6.10m with pendants YES * Max. fly jib length is 30.50m, and max. boom and fly jib combination length permitted is 73.20m plus 30.50m. • 25ton hook block; necessary for fly jib operation YES • Cable; 28m dia./310m length as necessary for fly jib/auxiliary short jib operations NO • Auxiliary short jib YES • 13.5ton hook block; necessary for auxiliary short jib operation NO • Boom live mast; necessary when boom length is 61.00m or longer YES • 60ton hook block YES • Hydraulically operated boom foot pins instead of standard NO • Hydraulically operated boom live mast foot pins instead of standard NO • Boom skywalks; available for extension booms NO

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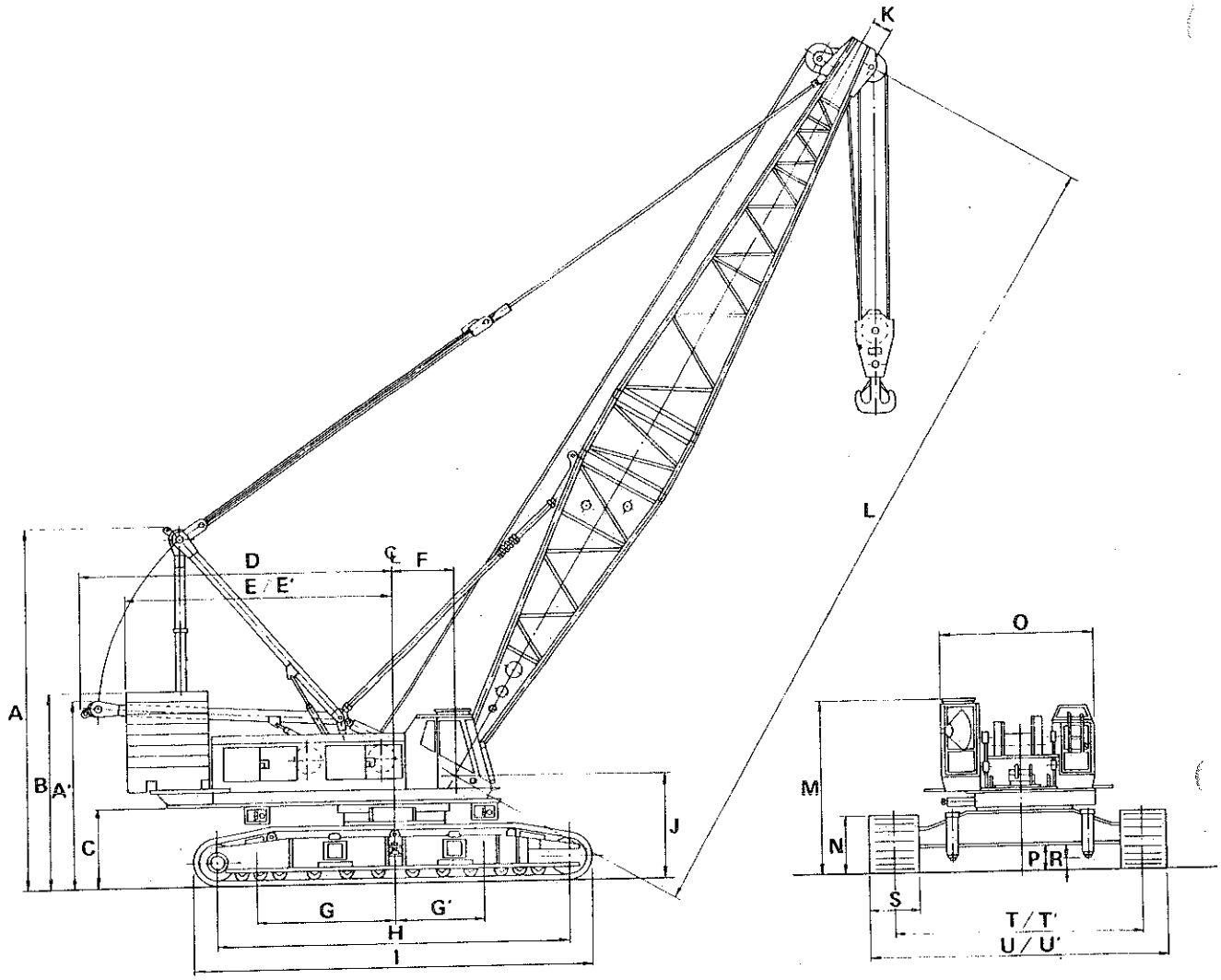
	Standard equipments	Optional equipments
Safety Devices	• Main/auxiliary drum locks • Boom hoist drum lock • Swing lock • Jib hook over-hoist limiting device with automatic hydraulic motor locking and warning buzzer • Boom over-hoist limiting device with automatic hydraulic motor locking and warning buzzer • Boom backstops • Boom angle indicator • Swing warning device with buzzer/ lamp • Swing brake lmap • Signal horn	• Automatic overload preventing device (crane) NO • Over-load indication light YES • Fly jib/auxiliary short jib hook over-hoist limiting device with automatic hydraulic motor locking and warning buzzer NO

General Dimensions



A:	Height of gantry unit at operating position	7.165m
A':	Height of gantry unit at lowered position	4.040m
B:	Height of counterweight upper surface	4.350m
C:	Ground clearance of superstructure	1.780m
D:	Center of rotation to gantry unit at lowered position	7.005m
E:	Center of rotation to counterweight rear end	5.940m
E':	Radius of counterweight rear end	6.000m
F:	Center of rotation to boom foot pin center	1.380m
G:	Center of roration to center of superstructure rear outrigger	3.100m
G':	Center of rotation to center of superstructure front outrigger	2.020m
H:	Center to center distance of tumbler	7,860m
I:	Overall length of crawlers	8.965m
J:	Height of boom foot pin center	2.330m
K:	Offset of 9.15m tapered crane top section sheave machinery	0.340m
L:	Length of standard basic boom w/9.15m tapered crane top section	18.300m
M:	Height of operator's cab	3.785m
N:	Height of crawler side frames	1.315m
O:	Width of machinery cab	3.400m
P:	Ground clearance of carbody frame	0.540m
R:	Ground clearance of lower jack-up cylinders	0.230m
S:	Width of track shoes	1.120m
T:	Gauge of crawler extended	5.620m
T':	Gauge of crawler retracted	4.780m
U:	Overall width of crawler extended	6.740m
U':	Overall width of crawler retracted	5.900m