

CCH 1500

IHI

Fully Hydraulic Crawler Crane

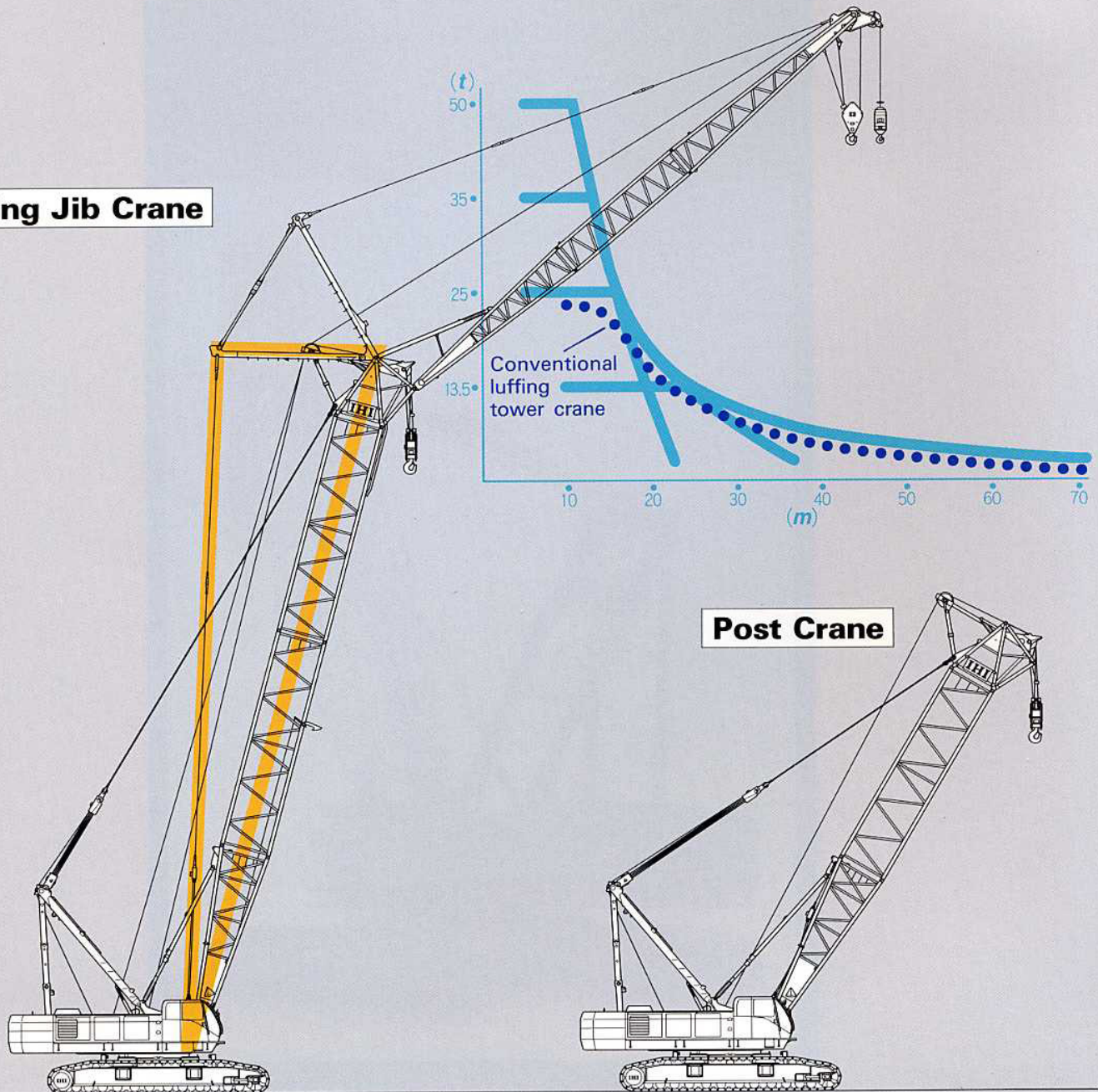
Lifting capacity 150 metric tons



IHI Construction Machinery Limited

Luffing Jib Crane evolved to equip "Auxiliary Jib"

Luffing Jib Crane



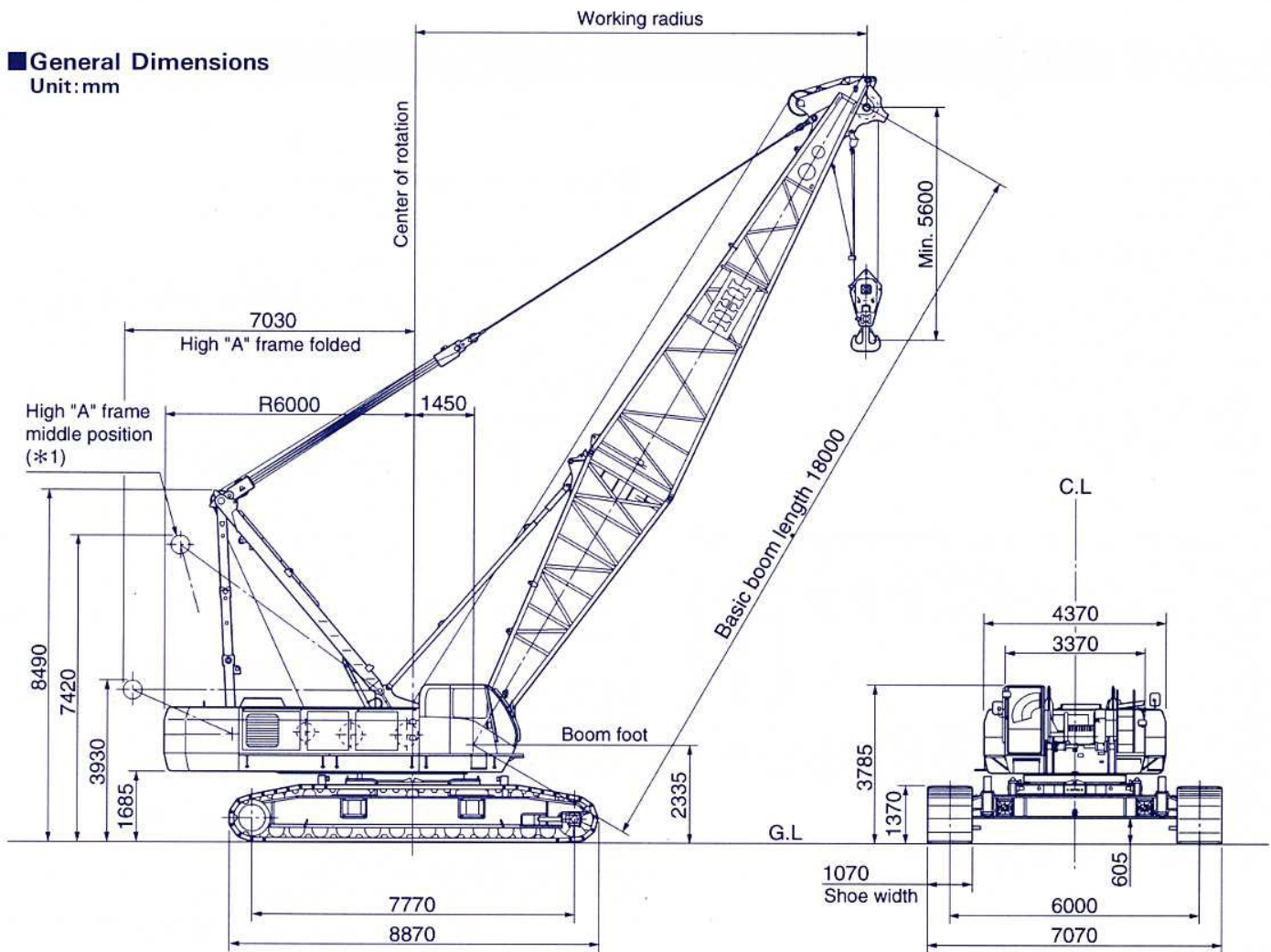
Selections are available from:

- 1) 50-ton lifting with Post
 - 2) 25-ton lifting with Luffing Jib
 - 3) 13.5-ton lifting with Auxiliary Jib
- Simultaneous lifting by Post and Auxiliary Jib is not permitted.

Middle Equalizer for Luffing Jib lifting is tentatively stowed on inner post when the Luffing Jib is dismantled.

General Dimensions

Unit: mm



Specifications

Performance	
Swing speed	1.7min ⁻¹ (1.7rpm) [Constant swing speed 0.6min ⁻¹ (0.6rpm)---optional]
Travel speed	※ 1.1 / 0.7km/h
Gradability	30% (16.7°)
Engine	
Make	HINO MOTOR
Model	K13C-TJ (with turbo) diesel engine
Type	4-cycle, water cooled, straight 6-cylinder, direct injection
Rated output	235kw/2000min ⁻¹ (320PS/2000rpm)
Total piston displacement	12.882 ℓ
Fuel tank capacity	450 ℓ
Battery	DC12V×150AH×2pcs.
Main hoist system (Front left axle, also used for hoisting tower jib)	
Hydraulic motor	Variable displacement axial piston type
Reduction gear	Two-stage planetary gear
Hoist drum	Single drum driven independently by hydraulic motor, lebus grooved drum
Clutch	Internal expanding band type
Brake	External contracting band type
Drum lock	Ratchet lock
Aux. hoist system (Rear left axle)	
Hydraulic motor	Variable displacement axial piston type
Reduction gear	Two-stage planetary gear
Hoist drum	Single drum driven independently by hydraulic motor, lebus grooved drum
Clutch	Internal expanding band type
Brake	External contracting band type
Drum lock	Ratchet lock
Boom hoist system (Rear right axle, also used for hoisting tower post)	
Hydraulic motor	Variable displacement axial piston type
Reduction gear	Three-stage planetary gear
Hoist drum	Dual drums driven independently by hydraulic motor, lebus grooved drum
Brake	Wet type multi-disk
Drum lock	Ratchet lock

※ The travel speed changes depending on the load.

Standard equipment

- **Instrument for crane**
 - Engine tachometer (Hour meter)
 - Hydraulic oil pressure gauge (for control circuit)
 - Fuel level gauge
 - Engine coolant thermo indicator (indicated bar graph in OK monitor)
- **Lighting for crane**
 - 2-Work light (24v×80w)
 - 1-Room light (24v×10w)
- **Safety devices**
 - Automatic stop for hook overwinding
 - Automatic stop for boom overwinding
 - 2nd boom stop device (non-resettable)
 - Telescopic boom limit stop
 - Swing lock
 - Main and auxiliary drum lock
 - Boom hoist drum lock
 - Safety valve for hydraulic circuit
 - Clutch engage pin on main and auxiliary winch
 - Counter balance valve
 - Control lever locking device
 - Traction lever lock
 - Automatic braking system
 - Engine start voice alarm
- **Other standard accessories**
 - Front windshield wipers (intermittent, w/washer)
 - Roof wipers (intermittent, w/washer)
 - Sunvisor
 - Sun shade
 - Storage pouch
 - Tool box
 - Reclining operator's seat
 - Floor mat
 - Steps for operator's cab
 - Radio
 - Cigarette lighter
 - Ash tray
- Large rear view mirrors (right/left)
- Signal horn
- Electric fuel filling pump
- Swing warning flasher & alarm
- Travel warning alarm
- High "A" frame erecting device
- Low-noise cab
- Bronze tinted glass
- Wire mesh boom workway (for inner boom)
- Foot rest
- Electric type engine throttle
- Foot pedal-type engine throttle
- Ultra low-speed control (w/selector switch for coupling with engine speed or independent)
- Hydraulic assist brake for main and aux. winch
- Winch mode selector for main and aux. winch
- Rope guide roller on outer boom
- Plug socket
- Loud speaker
- Dial-type winch speed adjustment device (main, aux. and boom)
- Pump power shift device
- Emergency engine stop switches
- Foot pin cylinder device
- Fulcrum plate for erecting attachment (also used as climbing step to operator's cabin)

Optional equipment

- Moment limiter(※2)
- Optional boom canthus setting device (included in moment limiter)
- Automatic stop system (activated when near the marginal angle or when load is 90%)
- Built-in type air conditioner
- Large-sized storage bin

(※1) High "A" frame middle position when mast is in use.

(※2) Optional depend on region

Specifications

Max. Lifting capacity×working radius		150metric tons×5.0m
Max. boom length		84m
Max. boom length (main + jib)		103m (72m boom + 31m jib)
Rope speed	Main drum hoist/lowering	* 110~55/55~28m/min
	Aux. drum hoist/lowering	* 110~55/55~28m/min
	Boom drum hoist/lowering	* 32~14m/min × 2
Part line	Hook block capacity×Part line	150ton × 12
	Hook block capacity×Part line	13.5ton × 1
	Boom drum hoist	18
Counterweight		64ton
Total operating weight (with 18m boom)		161 ton
Average ground bearing pressure		89kPa (0.91kgf/cm ²)

*The rope speed changes depending on the load.

Combination of Boom and Jib (●:Available combination)

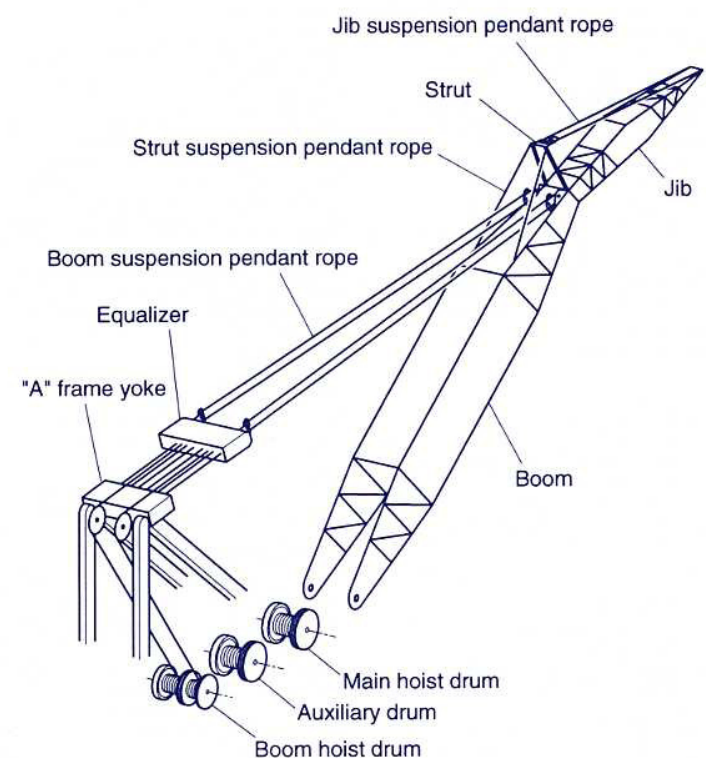
Jib length (m)	Boom length (m)										
	18	21	24	27	30	33	36	39	42	45	48
Auxiliary	●	●	●	●	●	●	●	●	●	●	●
13										●	●
19										●	●
25										●	●
31										●	●

Jib length (m)	Boom length (m)									
	54	57	60	63	66	69	72	75	78	81
Auxiliary	●	●	●	●	●	●	●	●	●	●
13										
19										
25										
31										

Wire Rope

Place of use	Rope diameter (mm)	Guaranteed strength(ton)	Rope type
Main drum	φ28	70.2	P·S(19) + 39 × P.7
Boom hoist	φ22	36.3	IWRC6 × WS(31)
Boom suspension	φ34	104.0	IWRC6 × P·WS(36)
Aux. drum	φ28	70.2	P·S(19) + 39 × P.7
Jib suspension	φ28	59.7	IWRC6 × Fi(29)
Jib strut suspension	φ31.5	74.9	IWRC6 × Fi(29)

Note: Wire rope length to be determined according to the boom length.



Crane boom composition

The following tables show standard combinations for each boom and jib length.

Boom standard combination

Combination	18	21	24	27	30	33	36	39	42	45	48	51
7.5m inner	1	1	1	1	1	1	1	1	1	1	1	1
3.0m insert	—	1	2	1	1	2	1	2	1	1	2	1
6.0m insert	—	—	—	1	—	—	1	1	2	1	1	2
9.0m insert	—	—	—	—	1	1	1	1	1	2	2	2
10.5m outer	1	1	1	1	1	1	1	1	1	1	1	1

Combination	54	57	60	63	66	69	72	75	78	81	84
7.5m inner	1	1	1	1	1	1	1	1	1	1	1
3.0m insert	1	2	1	1	2	1	1	2	1	1	2
6.0m insert	1	1	2	1	1	2	1	1	2	1	1
9.0m insert	3	3	3	4	4	4	5	5	5	6	6
10.5m outer	1	1	1	1	1	1	1	1	1	1	1

Note: Installation of mast is required for boom length exceeding 69m.

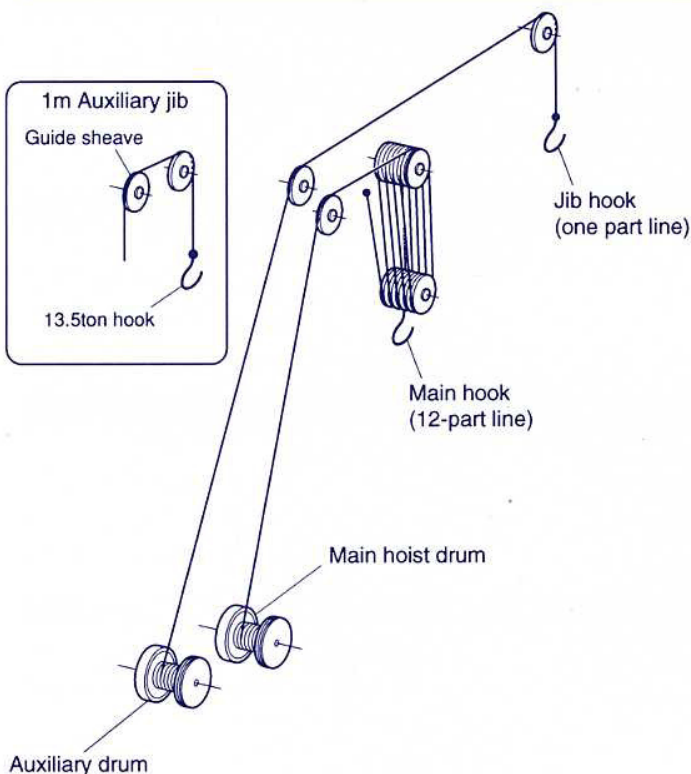
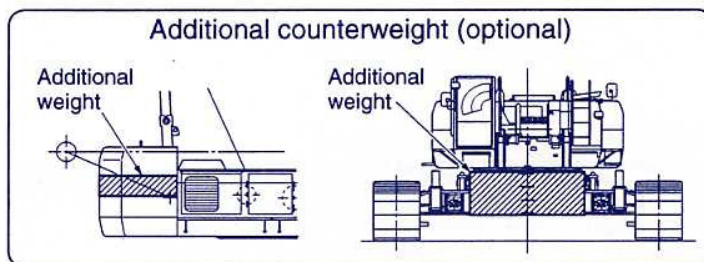
Jib standard combination

Combination	13	19	25	31
6.5m inner	1	1	1	1
6.0m insert	—	1	2	3
6.5m outer	1	1	1	1

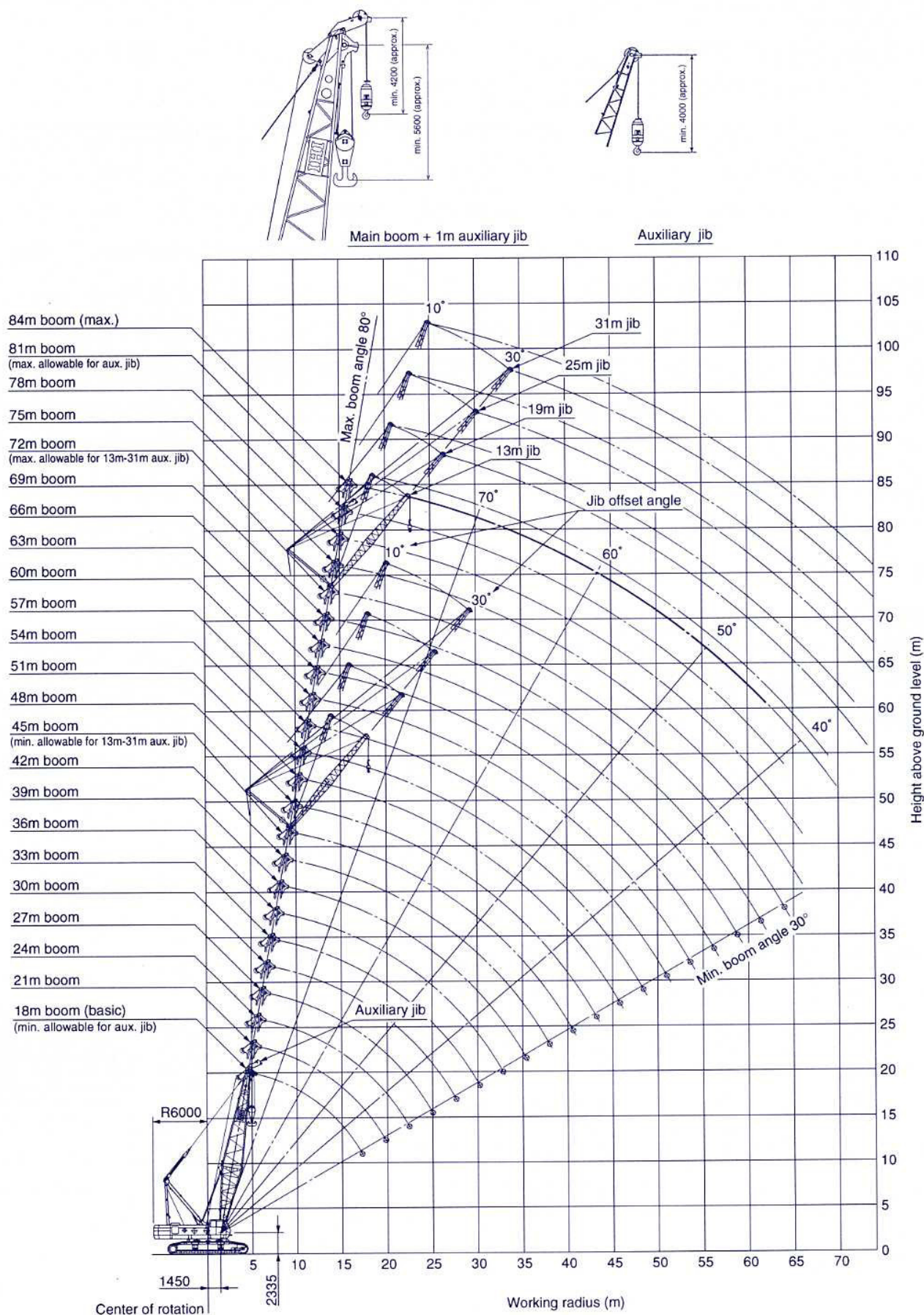
*Contact IHI if other combinations required.

Additional counterweight (optional)

Counterweight	94t
Total operating weight (with 18m boom)	191t
Average ground bearing pressure	108kpa (1.10kg/cm ²)



Working range (No load condition)



Crane



CCH1500

■ Main boom rated lifting loads (64ton counterweight)

(Unit: metric ton)

Boom length (m)	18.0	21.0	24.0	27.0	30.0	33.0	36.0	39.0	42.0	45.0	48.0	51.0	54.0	57.0	60.0
Working radius (m)															
5.0	5.0m × 150.0	5.6m × 142.0													
6.0	146.1	142.0	6.1m × 134.0	6.6m × 125.0											
7.0	137.3	137.2	134.0	125.0	7.2m × 118.0	7.7m × 108.0									
8.0	113.3	113.2	113.1	113.0	112.9	108.0	8.2m × 98.0	8.7m × 92.0							
9.0	94.6	94.5	94.4	94.3	94.2	94.1	94.0	92.0	9.2m × 84.0	9.8m × 80.0					
10.0	80.9	80.8	80.7	80.6	80.5	80.4	80.3	80.2	80.1	80.0	10.3m × 77.0	10.8m × 73.0	11.3m × 68.0	11.9m × 62.0	
12.0	63.2	63.1	63.0	62.9	62.8	62.7	62.6	62.5	62.4	62.3	62.2	62.0	61.9	61.7	12.4m × 59.1
14.0	50.7	50.6	50.5	50.4	50.3	50.3	50.2	50.1	50.0	49.9	49.8	49.7	49.6	49.5	49.4
16.0	42.3	42.2	42.1	42.0	41.9	41.8	41.7	41.6	41.5	41.4	41.3	41.1	41.0	40.9	40.7
18.0	17.2m × 38.7	36.2	36.0	35.9	35.8	35.7	35.6	35.4	35.3	35.2	35.1	35.1	35.0	34.9	34.9
20.0		19.8m × 31.8	31.2	31.1	31.0	30.8	30.7	30.6	30.4	30.3	30.3	30.2	30.2	30.1	30.1
22.0			27.4	27.3	27.2	27.1	27.0	26.8	26.7	26.6	26.5	26.4	26.4	26.3	26.2
24.0			22.4m × 26.8	24.2	24.1	24.0	23.9	23.7	23.6	23.5	23.4	23.3	23.1	23.0	22.9
26.0				25.0m × 22.9	21.6	21.5	21.4	21.3	21.2	21.1	21.0	20.8	20.7	20.5	20.4
28.0					27.6m × 19.9	19.4	19.3	19.2	19.1	19.0	18.9	18.7	18.6	18.4	18.3
30.0						17.5	17.5	17.4	17.3	17.2	17.0	16.9	16.7	16.6	16.4
32.0						30.2m × 17.4	16.0	15.9	15.8	15.7	15.5	15.4	15.2	15.1	14.9
34.0							32.8m × 15.4	14.5	14.5	14.4	14.2	14.1	13.9	13.7	13.5
36.0								35.4m × 13.8	13.4	13.3	13.1	12.9	12.8	12.6	12.4
38.0									38.0m × 12.3	12.2	12.0	11.8	11.7	11.5	11.3
40.0										11.3	11.1	10.9	10.7	10.5	10.3
42.0										40.6m × 11.0	10.2	10.0	9.8	9.6	9.5
44.0											43.2m × 9.8	9.3	9.1	8.9	8.7
46.0												45.8m × 8.7	8.4	8.2	8.0
48.0													7.7	7.6	7.4
50.0													48.4m × 7.6	7.0	6.8
52.0														51.0m × 6.7	6.3
54.0															53.6m × 5.9

Boom length (m)	63.0	66.0	69.0	72.0	75.0	78.0	81.0	84.0
Working radius (m)								
12.0	12.9m × 54.0	13.4m × 48.0	13.9m × 44.0					
14.0	49.3	48.0	44.0	14.5m × 39.0	15.0m × 34.5	15.5m × 31.0		
16.0	40.6	40.5	40.3	39.0	34.5	31.0	16.0m × 27.5	16.5m × 24.0
18.0	34.8	34.7	34.7	34.6	34.2	31.0	27.5	24.0
20.0	30.0	30.0	29.9	29.9	29.6	29.3	27.5	24.0
22.0	26.1	26.1	26.0	25.9	25.6	25.4	25.1	24.0
24.0	22.8	22.6	22.5	22.4	22.2	22.1	21.9	21.8
26.0	20.2	20.1	19.9	19.8	19.6	19.5	19.3	19.2
28.0	18.1	18.0	17.8	17.7	17.5	17.3	17.2	17.0
30.0	16.3	16.1	16.0	15.8	15.6	15.5	15.3	15.2
32.0	14.8	14.6	14.5	14.3	14.1	13.9	13.7	13.6
34.0	13.4	13.2	13.0	12.9	12.7	12.5	12.4	12.2
36.0	12.2	12.1	11.9	11.7	11.5	11.3	11.1	11.0
38.0	11.1	10.9	10.7	10.6	10.4	10.2	10.1	9.9
40.0	10.1	9.9	9.7	9.6	9.4	9.2	9.1	8.9
42.0	9.3	9.1	8.9	8.7	8.6	8.4	8.3	8.1
44.0	8.5	8.3	8.1	7.9	7.8	7.6	7.5	7.3
46.0	7.8	7.6	7.4	7.2	7.1	6.9	6.8	6.6
48.0	7.2	7.0	6.8	6.6	6.5	6.3	6.1	5.9
50.0	6.6	6.4	6.2	6.0	5.9	5.7	5.5	5.3
52.0	6.1	5.9	5.7	5.5	5.3	5.1	4.9	4.7
54.0	5.6	5.4	5.2	5.0	4.8	4.6	4.3	4.1
56.0	5.2	5.0	4.8	4.6	4.4	4.1	3.9	3.6
58.0	56.2m × 5.1	4.5	4.3	4.1	3.9	3.6	3.4	3.1
60.0		58.8m × 4.3	3.8	3.6	3.4	3.1	2.9	2.6
62.0			61.4m × 3.5	3.2	3.0	2.8	2.6	2.4
64.0				64.0m × 2.8	2.6	2.4	2.1	
66.0					2.2	2.0		

Notes

- Above rated loads are based on the machine being operated on firm level ground, within 78% of tipping load at any point of 360° around the machine with forward stability factor of over 1.15.
- Working radius is horizontal distance from center of rotation to a vertical line through the center of gravity of the load.
- The weight of the slings, hook block(s) and auxiliary lifting devices must be considered to be a part of the load.
Hook block weight:
150ton hook block...2.40ton 100ton hook block...1.40ton
60ton hook block...1.20ton 50ton hook block...1.00ton
30ton hook block...1.00ton 13.5ton hook block...0.60ton
- Jib boom can be fitted to main boom in the following combinations.

Jib length(m)	Auxiliary	13.0	19.0	25.0	31.0
Boom length(m)	18.0~81.0	45.0~72.0	45.0~72.0	45.0~72.0	45.0~72.0
- When jib boom is fitted actual loads that can be lifted with main hook block should be reduced according to the below table (the weights include auxiliary hook block).

Jib length(m)	Auxiliary	13.0	19.0	25.0	31.0
Weight to be deducted(ton)	0.80	3.5	4.0	4.9	6.0
- High "A" Frame should be extended before working.
Extend the "A" frame to the highest position when there is no mast.
Extend the "A" frame to the mid-position when there is a mast.
- Depending on the number of part lines, rated lifting load is limited as follows:

1Part line...up to 13.5ton	2Part line...up to 25.0ton
3Part line...up to 37.5ton	4Part line...up to 50.0ton
5Part line...up to 62.5ton	6Part line...up to 75.0ton
7Part line...up to 87.5ton	8Part line...up to 100.0ton
9Part line...up to 112.5ton	10Part line...up to 125.0ton
11Part line...up to 137.5ton	12Part line...up to 150ton
- Always use a mast for boom length of 69m or over. Carefully follow the instruction manual concerning installation of pendant rope.
- Rated loads shown in bold lines are based on structural strength factors.



1m Jib rated lifting loads (64ton counterweight)

(Unit: metric ton)

Boom length (m) Working radius (m)	18.0	21.0	24.0	27.0	30.0	33.0	36.0	39.0	42.0	45.0	48.0	51.0	54.0	57.0	60.0
5.0	5.9m × 13.5														
6.0	13.5	6.4m × 13.5													
7.0	13.5	13.5	7.0m × 13.5	7.5m × 13.5											
8.0	13.5	13.5	13.5	13.5	8.0m × 13.5	8.5m × 13.5									
9.0	13.5	13.5	13.5	13.5	13.5	13.5	9.0m × 13.5	9.6m × 13.5							
10.0	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	10.1m × 13.5	10.5m × 13.5	11.1m × 13.5	11.6m × 13.5			
12.0	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	12.2m × 13.5	12.7m × 13.5	13.2m × 13.5
14.0	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5
16.0	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5
18.0	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5
20.0	18.8m × 13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5
22.0		21.4m × 13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5
24.0			24.0m × 13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5
26.0				13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5
28.0				26.6m × 13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5
30.0					29.2m × 13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5
32.0						31.7m × 13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5
34.0							13.5	13.5	13.5	13.5	13.4	13.3	13.1	12.9	12.7
36.0							34.3m × 13.4	12.6	12.6	12.5	12.3	12.1	12.0	11.8	11.6
38.0								36.9m × 12.1	11.5	11.4	11.2	11.0	10.9	10.7	10.5
40.0									39.5m × 10.8	10.5	10.3	10.1	9.9	9.7	9.5
42.0										9.6	9.4	9.2	9.0	8.8	8.7
44.0										42.1m × 9.6	8.7	8.5	8.3	8.1	7.9
46.0											44.7m × 8.5	7.8	7.6	7.4	7.2
48.0												47.3m × 7.4	6.9	6.8	6.6
50.0													49.9m × 6.4	6.2	6.0
52.0														5.6	5.5
54.0														52.5m × 5.5	5.0
56.0															55.1m × 4.7

Boom length (m) Working radius (m)	63.0	66.0	69.0	72.0	75.0	78.0	81.0
12.0	13.7m × 13.5						
14.0	13.5	14.2m × 13.5	14.8m × 13.5	15.3m × 13.5	15.8m × 13.5		
16.0	13.5	13.5	13.5	13.5	13.5	16.3m × 13.5	16.9m × 13.5
18.0	13.5	13.5	13.5	13.5	13.5	13.5	13.5
20.0	13.5	13.5	13.5	13.5	13.5	13.5	13.5
22.0	13.5	13.5	13.5	13.5	13.5	13.5	13.5
24.0	13.5	13.5	13.5	13.5	13.5	13.5	13.5
26.0	13.5	13.5	13.5	13.5	13.5	13.5	13.5
28.0	13.5	13.5	13.5	13.5	13.5	13.5	13.5
30.0	13.5	13.5	13.5	13.5	13.5	13.5	13.5
32.0	13.5	13.5	13.5	13.5	13.3	13.1	12.9
34.0	12.6	12.4	12.2	12.1	11.9	11.7	11.6
36.0	11.4	11.3	11.1	10.9	10.7	10.5	10.3
38.0	10.3	10.1	9.9	9.8	9.6	9.4	9.3
40.0	9.3	9.1	8.9	8.8	8.6	8.4	8.3
42.0	8.5	8.3	8.1	7.9	7.8	7.6	7.5
44.0	7.7	7.5	7.3	7.1	7.0	6.8	6.7
46.0	7.0	6.8	6.6	6.4	6.3	6.1	6.0
48.0	6.4	6.2	6.0	5.8	5.7	5.5	5.3
50.0	5.8	5.6	5.4	5.2	5.1	4.9	4.7
52.0	5.3	5.1	4.9	4.7	4.5	4.3	4.1
54.0	4.8	4.6	4.4	4.2	4.0	3.8	3.5
56.0	4.4	4.2	4.0	3.8	3.6	3.3	3.1
58.0	57.7m × 3.9	3.7	3.5	3.3	3.1	2.8	2.6
60.0		3.2	3.0	2.8	2.6	2.3	2.1
62.0		60.3m × 3.1	2.6	2.4	2.2	2.0	1.8
64.0			62.9m × 2.4	2.0	1.8	1.6	
66.0				65.5m × 1.7			

Notes

- Above rated loads are based on the machine being operated on firm level ground, within 78% of tipping load at any point of 360° around the machine with forward stability factor of over 1.15.
- Working radius is horizontal distance from center of rotation to a vertical line through the center of gravity of the load.
- When the main hook block is installed, the lifting loads of jib must be reduced by the weight of hook block (main and jib) and other lifting devices.
150ton hook block...2.40ton 100ton hook block...1.40ton
60ton hook block...1.20ton 50ton hook block...1.00ton
30ton hook block...1.00ton 13.5ton hook block...0.60ton
- Boom lengths for auxiliary jib attachment are 18.0m-81.0m.
- Always extend the "A" frame during operation.
- Use the 1 m auxiliary jib for crane operations only. Do not use for bucket operations.
- Rated loads for the 1 m auxiliary jib are based on structural strength.