

Fully Hydraulic Crawler Crane

Lifting capacity (JIS) 50metric tons

CCH500-3

Lifting capacity (JIS) 40metric tons

CCH400-3

Lifting capacity (JIS) 35metric tons

CCH350-3

IHI



Dedicated to Outstanding Performance and Full Operator Comfort – Mark III.

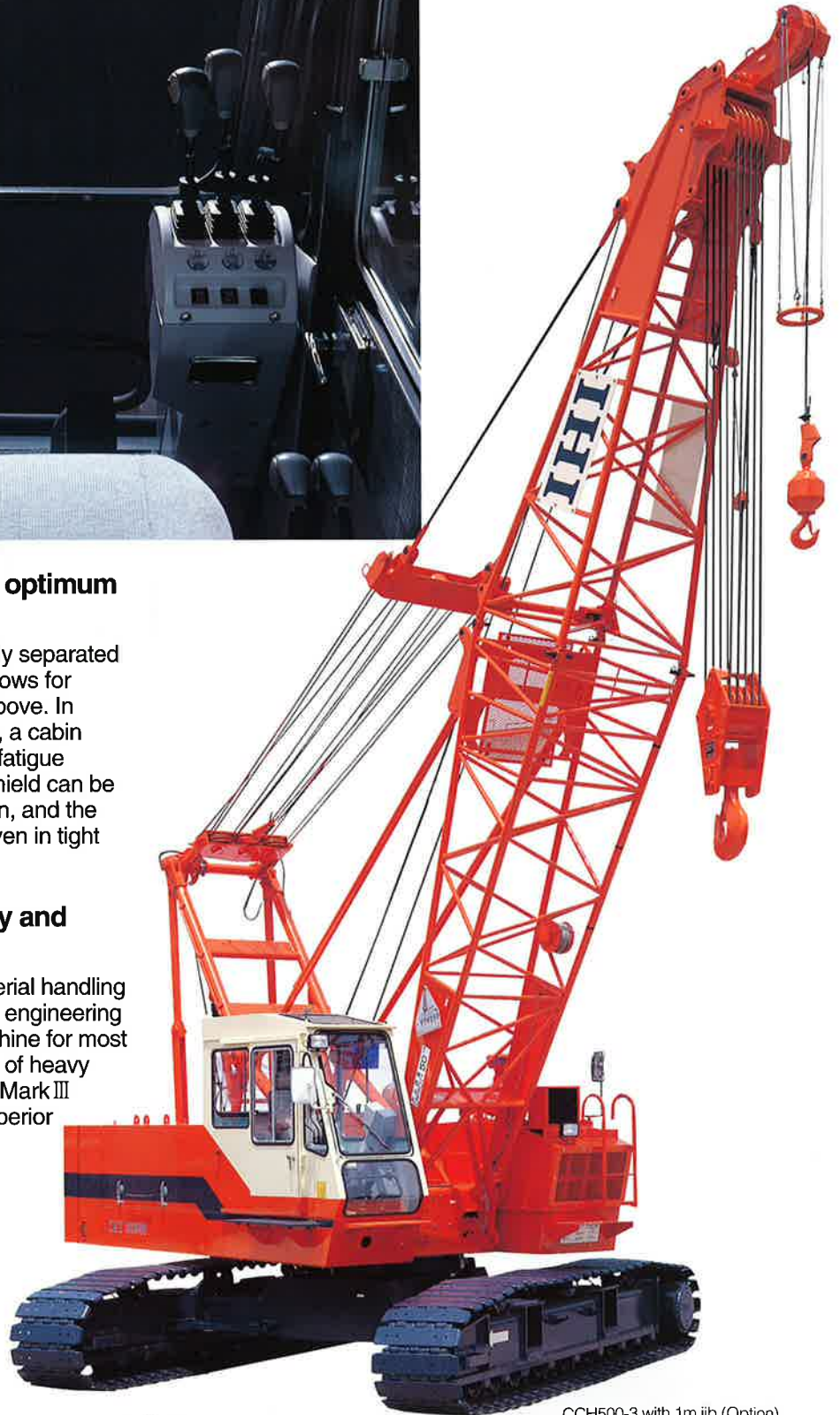


Convenience and comfort guarantee optimum performance.

In the Mark III the operator's cabin is completely separated from the machine room and outfitted with windows for unobstructed views front, rear, right, left and above. In compliance with International Standards (ISO), a cabin width of 940mm guarantees minimal operator fatigue during continuous operations. The front windshield can be stored under the ceiling for improved ventilation, and the slide door means easy boarding and exiting even in tight places.

Enjoy greater power, precision, safety and comfort.

Power, speed, durability and safety. From material handling and erection work through the full range of civil engineering tasks, the Mark III proves itself the perfect machine for most jobs. Operators working long hours in a variety of heavy operations will recognize the advantages. The Mark III offers improved comfort, greater safety and superior handling.



Specifications

Performance	
Swing speed	3.5 rpm
Travel speed	*1.6 km/h (1mph)
Gradeability	40% (Approx. 22°)
Engine	
Make	HINO MOTOR
Model	HO7CT(with turbo) diesel engine 4-cycle, water cooled, overhead valve
Type	Direct injection diesel engine
Total piston displacement	6.728 ℓ
Rated output	180 PS/2,100 rpm
Fuel tank capacity	225 ℓ
Battery	12v x 120 AH x 2 pcs.
Load hoist system (Main & Aux.)	
Hydraulic motor	Axial piston type
Reduction gear	One-stage planetary gear and single stage spur gear
Hoist drum	Dual drums on inline individual shaft, independent hydraulic motor driven, lagging type with rebus grooved drum
Clutch	Internal expanding band type
Brake	External contracting type
Drum lock	Ratchet lock
Boom hoist system	
Motor	Axial piston type
Reduction gear	Two stage planetary gear
Hoist drum	Rebus grooved drum
Brake	Automatic spring - loaded hydraulically released wet type multi-disk
Drum lock	Ratchet lock

* 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
- Engine oil pressure indicator
- Hydraulic oil thermo indicator
- Lighting for crane
- Work light 24 v x 80 w x 2
- Room light 24 v x 20 w x 1
- Safety device
- Automatic stop for hook overwinding
- Automatic stop for boom overwinding
- Telescopic boom limit stop
- Swing lock
- Main and Aux. drum lock
- Safety valve for hydraulic circuit
- Counter balance valve
- Control lever locking device
- Other standard accessories
- Windshield wiper
- Roof glass wiper
- Sunvisor
- Reclining operator's seat
- Floor mat
- Steps for operator's cab (foldable type)
- Radio
- Cigarette lighter
- Ash tray
- Rearview mirrors (R/L)
- Horn
- Swing warning flasher
- Travel warning flasher
- Low-noise cab
- Wire mesh boom walkway (for inner boom)
- Fuel filling pump
- "A" frame (High gantry) erecting device (CCH500-3)

Optional equipment

- Moment limiter (overload prevention)
- Yellow rotary light
- Wireless phone
- Bullhorn
- Combustion type heater
- Defroster
- Spark arrester
- Digging depth /Lift indicator (with bucket opening angle indicator)
- Electrical type level indicator
- Level vial
- Fire extinguisher
- Monitor TV (watching rear, left and drum)
- Drum rotation roller
- Drum mirror
- Catwalk
- Large size tool box (installed on car body)
- Third drum (with clutch and brake : type A)
- Third drum (automatic brake : type B)
- Auxiliary winch for reeling main rope
- Hydraulic power take off (A Spec.)300 kg/cm² x 225 ℓ /min
- Hydraulic power take off (B Spec.)210 kg/cm² x 125 ℓ /min
- Anemometer (for tower crane)
- Airplane warning lamp
- Boom point clearance lamp
- Drum light
- Work light on boom
- Work light for rear direction
- Rope guard for boom top surface
- 3 m, 6 m, 9 m, insert boom with pendant rope
- 1 m jib
- 35 ton hook block (3 sheaves) (CCH500-3)
- 25 ton hook block (3 sheaves)
- 15 ton hook block (1 sheave)
- 5.8 ton hook block (for jib)
- Drum barrel for 22 mm dia. rope
- Air conditioner

Crane Specifications

MODEL	CCH350-3	CCH400-3	CCH500-3
Max. lifting capacity (metric ton) x working radius (m)	35 x 3.7	40 x 3.7	50 x 3.7
Max. boom length, main (main + jib boom) (m)	39(33+12)	45(39 + 15)	51(42 + 15)
Rope speed	Main drum hoist/lowering (m/min)	*100/70 · 50/35	*100/70 · 50/35
	Aux. drum hoist/lowering (m/min)	*100/70 · 50/35	*100/70 · 50/35
	Boom drum hoist/lowering (m/min)	*60	*60
Part line	Hook block capacity (ton) x part line	35 x 7	40 x 8
	Hook block capacity (ton) x part line	5.8 x 1	5.8 x 1
	Boom drum hoist/lowering part line	12	12
Counterweight (ton)	11	12	16
Total operating weight (ton)	38.9	40.4	48.5
Boom length (m)	9	9	9
Hook block capacity (ton)	35	40	50
Average ground bearing pressure (kg/cm ²)	0.58	0.57	0.62

*: The rope speed changes depending on the load.

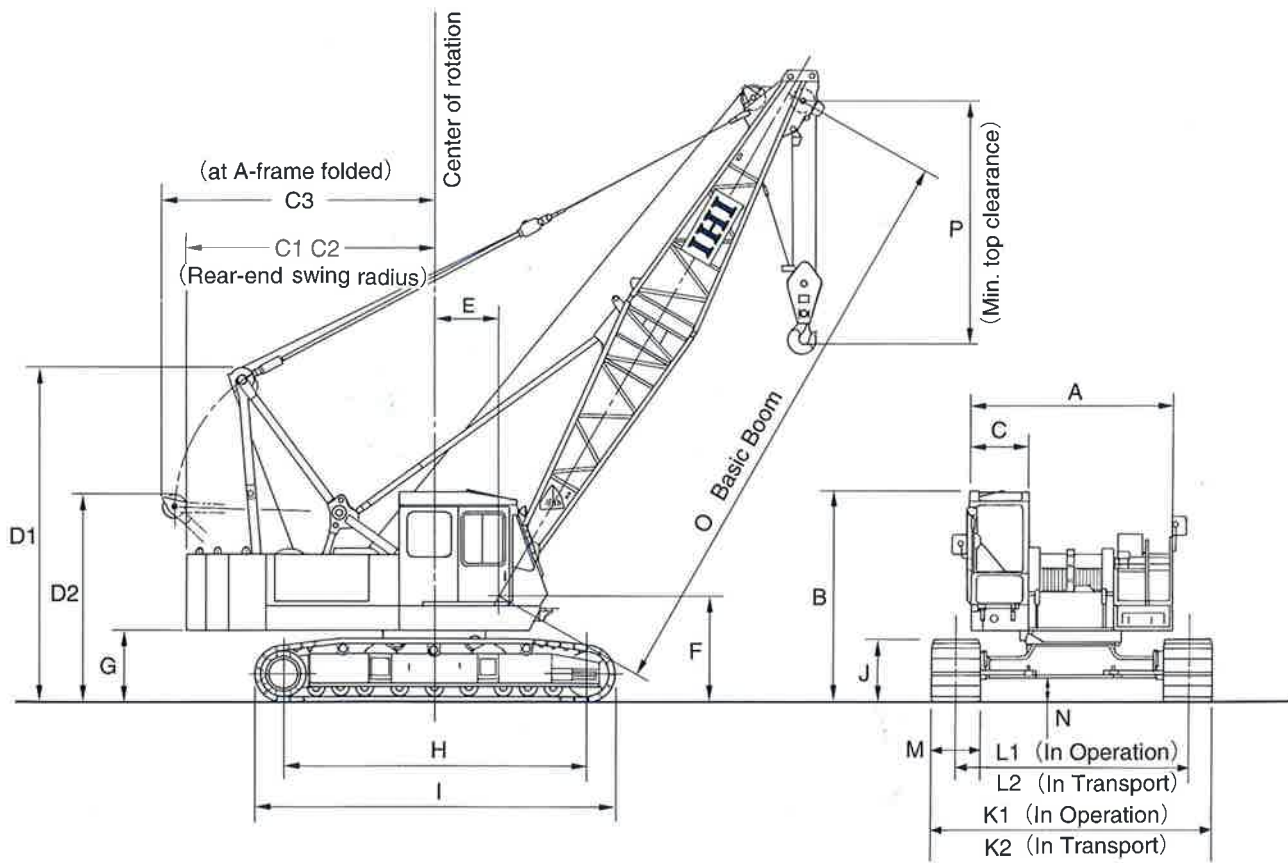
Wire rope (Rope diameter (mm) / Guaranteed strength (ton))

Place of use	CCH350-3	CCH400-3	CCH500-3	Rope type
Main drum		20.0/30.0		A
Aux. drum		20.0/30.0		A
Boom hoist		16.0/21.9		B
Boom suspension	28.0/59.7	28.0/59.7	31.5/74.9	A
Jib boom suspension		26.0/49.9		A
Jib strut suspension		28.0/56.8		A

Rope type A : 6 x Fi (29) IWRC regular Z lay
B : T IWRC 6 x WS (31) regular Z lay

Length of wire rope to be decided according to the ordered boom length.

General dimensions (with basic boom)



(Unit:mm)

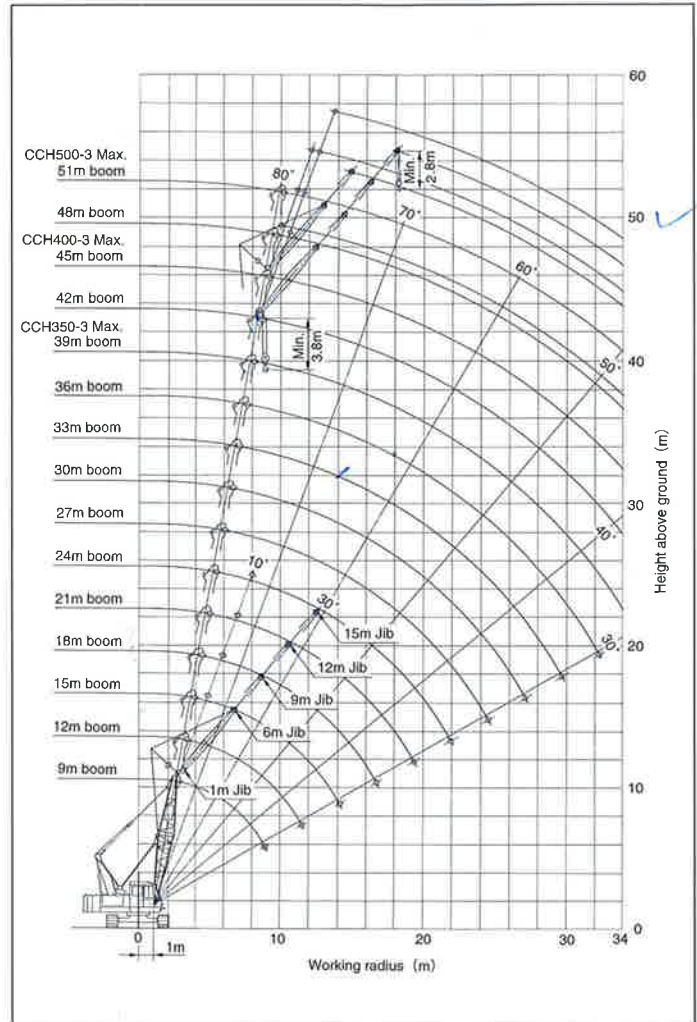
MODEL			CCH350-3	CCH400-3	CCH500-3	
A	Cab width		3140	3140	3140	
B	Cab height		3240	3240	3275	
C	Rear end swing radius and distance	C ₁	Cab rear end radius	3390	3470	3900
		C ₂	Cab rear end distance	3330	3410	3835
		C ₃	Distance "A" frame	3470	3930	4225
D	High "A" frame (High gantry) height	D ₁	Extended (Sheave)	4555	5100	5210
		D ₂	Folded (Sheave)	3245	3255	3250
E	Boom foot pin distance		1000	1000	1000	
F	Boom foot pin height		1605	1605	1650	
G	Rear end ground clearance		1075	1075	1110	
H	Length center to center tumbler		4220	4420	4700	
I	Overall crawler length		5095	5295	5570	
J	Crawler height		990	990	970	
K	Overall crawler width	K ₁	In operation	4060	4160	4350
		K ₂	In transport	3300	3300	3300
L	Crawler center distance	L ₁	In operation	3300	3400	3590
		L ₂	In transport	2540	2540	2540
M	Shoe width		760	760	760	
N	Minimum ground clearance		415	415	370	
O	Basic boom length		9000	9000	9000	
P	Minimum top clearance		3800	3800	3800	

Combination of main boom and jib boom

Jib boom length (m)	Main boom length (m)													
	9	12	15	18	21	24	27	30	33	36	39	42	45	48
1	●	●	●	●	●	●	●	●	●	○	○	■	■	■
6	●	●	●	●	●	●	●	●	○	○	■	■	■	■
9	●	●	●	●	●	●	●	○	○	○	■	■	■	■
12	●	●	●	●	●	●	○	○	○	○	○	■	■	■
15	○	○	○	○	○	○	○	○	○	○	○	○	■	■

- : Applicable : CCH350-3, CCH400-3, CCH500-3
- : Applicable : CCH400-3, CCH500-3
- : Applicable : CCH500-3

Working range



Boom composition

(Unit:m)

Standard	Boom Length	Boom composition																																												
		CCH350-3		CCH400-3		CCH500-3																																								
Standard	9	5 (inner)	+	4 (outer)	5 (inner)	+	4 (outer)	5 (inner)	+	4 (outer)																																				
Option	12	5	+	3	+	4	5	+	3	+	4	5	+	3	+	4																														
Option	15	5	+	3	+	3	+	4	5	+	3	+	3	+	4	5	+	3	+	3	+	4																								
Option	18	5	+	3	+	6	+	4	5	+	3	+	6	+	4	5	+	3	+	6	+	4																								
Option	21	5	+	3	+	3	+	6	+	4	5	+	3	+	3	+	6	+	4	5	+	3	+	3	+	6	+	4																		
Option	24	5	+	3	+	6	+	6	+	4	5	+	3	+	6	+	6	+	4	5	+	3	+	6	+	6	+	4																		
Option	27	5	+	3	+	3	+	6	+	6	+	4	5	+	3	+	3	+	6	+	6	+	4	5	+	3	+	6	+	9	+	4														
Option	30	5	+	3	+	6	+	6	+	6	+	4	5	+	3	+	6	+	6	+	6	+	4	5	+	3	+	3	+	6	+	9	+	4												
Option	33	5	+	3	+	3	+	6	+	6	+	6	+	4	5	+	3	+	3	+	6	+	6	+	6	+	4	5	+	3	+	3	+	9	+	9	+	4								
Option	36	5	+	3	+	6	+	6	+	6	+	6	+	4	5	+	3	+	6	+	6	+	6	+	6	+	4	5	+	3	+	6	+	9	+	9	+	4								
Option	39	5	+	3	+	3	+	6	+	6	+	6	+	6	+	4	5	+	3	+	3	+	6	+	6	+	6	+	6	+	4	* 5	+	3	+	3	+	6	+	9	+	9	+	4		
Option	42															5	+	3	+	6	+	6	+	6	+	6	+	6	+	4	* 5	+	3	+	3	+	9	+	9	+	9	+	4			
Option	45															5	+	3	+	3	+	6	+	6	+	6	+	6	+	6	+	4	* 5	+	3	+	6	+	9	+	9	+	9	+	4	
Option	48																															* 5	+	3	+	3	+	6	+	9	+	9	+	9	+	4
Option	51																															* 5	+	3	+	3	+	9	+	9	+	9	+	9	+	4

* : Required middle suspension for boom length 39m and longer, (CCH500-3)

Jib Boom composition

(Unit:m)

Jib Boom Length	Jib Boom composition
6	3 (inner) + 3 (outer)
9	3 + 3 + 3
12	3 + 3 + 3 + 3
*15	3 + 6 + 3 + 3

* : Not applicable for CCH350-3

Rated lifting loads (with 16 ton counterweight)

(Unit : metric ton)

Working radius (m)	Boom length (m)															
	9.0	12.0	15.0	18.0	21.0	24.0	27.0	30.0	33.0	36.0	39.0	42.0	45.0	48.0	51.0	
3.0	50.00															
3.7	50.00	50.00	3.9m X 47.90													
4.0	49.00	48.90	47.00	4.4m X 41.60												
4.5	40.40	40.30	40.20	40.10												
5.0	33.90	33.80	33.70	33.60	33.50	5.5m X 28.70	5.9m X 25.65									
6.0	25.60	25.50	25.40	25.30	25.20	25.10	25.00	6.5m X 22.05								
7.0	20.50	20.40	20.30	20.20	20.10	20.00	19.90	19.80	19.70	7.5m X 17.00						
8.0	17.10	17.00	16.90	16.80	16.70	16.60	16.50	16.40	16.30	16.20	8.1m X 15.80	8.6m X 14.40				
9.0	14.80	14.50	14.40	14.30	14.20	14.10	14.00	13.90	13.80	13.70	13.60	13.50	9.1m X 13.15	9.6m X 11.40		
10.0		12.60	12.50	12.40	12.30	12.20	12.10	12.00	11.90	11.80	11.70	11.60	11.50	11.20	10.3m X 8.50	
12.0		11.50	9.90	9.80	9.70	9.60	9.50	9.40	9.30	9.20	9.10	9.00	8.90	8.80	8.50	
14.0			8.10	8.00	7.90	7.80	7.70	7.60	7.50	7.40	7.30	7.20	7.10	7.00	6.90	
16.0			14.1m X 8.00	6.70	6.60	6.50	6.40	6.30	6.20	6.10	6.00	5.90	5.80	5.70	5.60	
18.0				16.7m X 6.35	5.70	5.60	5.50	5.40	5.30	5.20	5.10	5.00	4.90	4.80	4.70	
20.0					19.3m X 5.20	4.90	4.80	4.70	4.60	4.50	4.40	4.30	4.20	4.10	4.00	
22.0						21.9m X 4.30	4.20	4.10	4.00	3.90	3.80	3.70	3.60	3.50	3.40	
24.0							3.70	3.60	3.50	3.40	3.30	3.20	3.10	3.00	2.90	
26.0								24.5m X 3.50	3.10	3.00	2.95	2.85	2.75	2.65	2.55	2.45
28.0									27.9m X 2.90	2.70	2.60	2.50	2.40	2.30	2.20	2.10
30.0										29.7m X 2.30	2.30	2.20	2.10	2.00	1.90	1.80
32.0											2.00	1.90	1.80	1.70	1.60	1.50
34.0											32.3m X 1.95	1.60	1.50	1.40	1.35	1.25
No. of Part line	10	10	10	9	7	6	6	5	4	4	3	3	3	2	2	

NOTES

- Above rated loads are based on firm level ground, within 78% of tipping load at any point 360° throughout and with front stability of 1.15 or more.
- Working radius is horizontal distance from center of rotation to a vertical line through the centerline of gravity of the load.
- The weight of the hook block and other lifting devices must be considered to be a part of the load.
50 ton hook block 0.49 ton 15 ton hook block 0.31 ton
25 ton hook block 0.35 ton
- Crawler frame and A frame (High gantry) should also be extended before working.
- When jib boom is fitted actual loads that can be lifted with the main hook block should reduce following weights from the above chart (the weights include that of the auxiliary hook block).
- Depending on the number of part lines, rated lifting load is limited as follows:
1-part line up to 5.8 tons 6-part line up to 30.0 tons
2-part line up to 11.4 tons 7-part line up to 35.0 tons
3-part line up to 16.0 tons 8-part line up to 40.0 tons
4-part line up to 20.0 tons 9-part line up to 45.0 tons
5-part line up to 25.0 tons 10-part line up to 50.0 tons
- The hook block will not come down to ground level, if the rope part line is more than shown in above chart.

Jib boom length (m)	1.0	6.0	9.0	12.0	15.0
Weight to be deducted (ton)	0.30	0.75	0.95	1.20	1.45

Jib rated lifting loads (with 16 ton counterweight)

(Unit : metric ton)

Boom length (m)	9.0					12.0					15.0					18.0						
	Jib length (m)		Offset angle			Jib length (m)		Offset angle			Jib length (m)		Offset angle			Jib length (m)		Offset angle				
Working radius (m)	1.0	6.0	9.0	12.0	15.0	1.0	6.0	9.0	12.0	15.0	1.0	6.0	9.0	12.0	15.0	1.0	6.0	9.0	12.0	15.0		
3.0	3.4m X 5.80										4.4m X 5.80											
4.0	5.80					5.80					5.80											
4.5	5.80					5.80					5.80											
5.0	5.80	5.00				5.80	5.5m X 5.00				5.80					5.80						
6.0	5.80	5.00	6.7m X 5.00	6.1m X 5.00		5.80	5.00	6.6m X 5.00			5.80	5.00			5.80	5.5m X 5.00						
7.0	5.80	5.00	5.00	5.00	4.00	5.80	5.00	7.3m X 5.00	7.4m X 4.00		5.80	5.00	7.8m X 5.00	7.1m X 5.00		5.80	5.00	7.6m X 5.00				
8.0	5.80	5.00	5.00	5.00	4.10	5.80	5.00	5.00	5.00	4.00	5.80	5.00	5.00	5.00	4.00	5.80	5.00	6.3m X 5.00	5.00	6.4m X 4.00		
9.0	5.80	5.00	5.00	5.00	4.10	5.80	5.00	5.00	5.00	4.10	5.80	5.00	5.00	5.00	4.10	5.80	5.00	5.00	5.00	4.00	2.60	
10.0	5.80	5.00	5.00	5.00	4.10	5.80	5.00	5.00	5.00	4.10	5.80	5.00	5.00	5.00	4.10	5.80	5.00	5.00	5.00	4.00	2.60	
12.0		5.00	5.00	5.00	4.10	5.80	5.00	5.00	5.00	4.10	5.80	5.00	5.00	5.00	4.10	5.80	5.00	5.00	5.00	4.10	4.00	2.60
14.0		5.00	5.00	5.00	4.10	5.80	5.00	5.00	5.00	4.10	5.80	5.00	5.00	5.00	4.10	5.80	5.00	5.00	5.00	4.10	4.00	2.60
16.0		5.00	5.00	5.00	4.10	5.80	5.00	5.00	5.00	4.10	5.80	5.00	5.00	5.00	4.10	5.80	5.00	5.00	5.00	4.10	4.00	2.60
18.0			17.8m X 5.00	4.10	5.80	5.00	5.00	5.00	5.00	4.10	5.80	5.00	5.00	5.00	4.10	5.80	5.00	5.00	5.00	4.10	4.00	2.60
20.0			18.4m X 4.10	4.00	5.80	5.00	5.00	5.00	5.00	4.10	5.80	5.00	5.00	5.00	4.10	5.80	5.00	5.00	5.00	4.10	4.00	2.60
22.0			20.6m X 4.00	2.60	5.80	5.00	5.00	5.00	5.00	4.10	5.80	5.00	5.00	5.00	4.10	5.80	5.00	5.00	5.00	4.10	4.00	2.60
24.0			23.3m X 2.60	2.30	5.80	5.00	5.00	5.00	5.00	4.10	5.80	5.00	5.00	5.00	4.10	5.80	5.00	5.00	5.00	4.10	4.00	2.60
26.0			24.4m X 2.30	2.30	5.80	5.00	5.00	5.00	5.00	4.10	5.80	5.00	5.00	5.00	4.10	5.80	5.00	5.00	5.00	4.10	4.00	2.60
28.0					5.80	5.00	5.00	5.00	5.00	4.10	5.80	5.00	5.00	5.00	4.10	5.80	5.00	5.00	5.00	4.10	4.00	2.60
30.0						5.80	5.00	5.00	5.00	4.10	5.80	5.00	5.00	5.00	4.10	5.80	5.00	5.00	5.00	4.10	4.00	2.60
32.0							5.80	5.00	5.00	4.10	5.80	5.00	5.00	5.00	4.10	5.80	5.00	5.00	5.00	4.10	4.00	2.60
34.0								5.80	5.00	4.10	5.80	5.00	5.00	5.00	4.10	5.80	5.00	5.00	5.00	4.10	4.00	2.60

Jib rated lifting loads (with 16 ton counterweight)

(Unit : metric ton)

Boom length (m)		21.0										24.0					27.0					30.0				
Jib length (m)		1.0	6.0	9.0	12.0	15.0	1.0	6.0	9.0	12.0	15.0	1.0	6.0	9.0	12.0	15.0	1.0	6.0	9.0	12.0	15.0					
Working radius (m)	Offset angle	~ 10° 30° 10° 30° 10° 30° 10° 30° 10° 30° 10° 30° 10° 30° 10° 30° 10° 30° 10° 30°																								
	5.0	5.8m 5.80																								
6.0	5.80																									
7.0	5.80 7.1m 5.00																									
8.0	5.80 5.00																									
9.0	5.80																									
10.0	5.80																									
12.0	5.80																									
14.0	5.80																									
16.0	5.80																									
18.0	5.40																									
20.0	4.70																									
22.0	4.35																									
24.0	3.85																									
26.0	3.40																									
28.0	2.95																									
30.0	2.90																									
32.0	2.45																									
34.0	2.25																									

Boom length (m)		33.0					36.0					39.0					42.0				
Jib length (m)		1.0	6.0	9.0	12.0	15.0	1.0	6.0	9.0	12.0	15.0	1.0	6.0	9.0	12.0	15.0	1.0	6.0	9.0	12.0	15.0
Working radius (m)	Offset angle	~ 10° 30° 10° 30° 10° 30° 10° 30° 10° 30° 10° 30° 10° 30° 10° 30° 10° 30° 10° 30°																			
	7.0	7.6m 5.80																			
8.0	5.80																				
9.0	5.80																				
10.0	5.80																				
12.0	5.80																				
14.0	5.80																				
16.0	5.80																				
18.0	5.00																				
20.0	4.30																				
22.0	3.70																				
24.0	3.20																				
26.0	2.70																				
28.0	2.40																				
30.0	2.05																				
32.0	1.90																				
34.0	1.75																				

Boom length (m)		45.0					48.0				
Jib length (m)		1.0	6.0	9.0			1.0				
Working radius (m)	Offset angle	~ 10° 30° 10° 30°									
	9.0	5.80									
10.0	5.80										
12.0	5.80										
14.0	5.80										
16.0	5.50										
18.0	4.60										
20.0	3.90										
22.0	3.30										
24.0	2.80										
26.0	2.35										
28.0	2.00										
30.0	1.70										
32.0	1.40										
34.0	1.10										

NOTES for JIB BOOM works

- One part line for jib hook lifting. Rated load is limited to 5.8 tons.
The weight of the hook block and other lifting devices must be considered to be a part of the load.
5.8 ton hook block ----- 0.21 ton
- Crawler frame and A frame (High gantry) should also be extended before working.
Jib boom can be used only for crane operations.
Do not use for bucket operations.
- Main boom can only be used for crane works when installed with 6.0m ~ 15.0m jib boom.
- All rated loads are based on structural strength factor.
Make sure to prevent overloading.