

High Line Pull

IHI

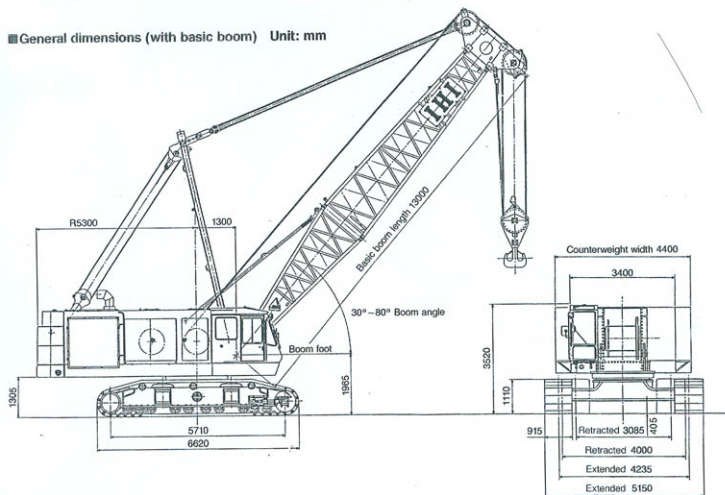
DCH1000

Fully Hydraulic Crawler-Spanner Crane

Lifting Capacity (JIS) **100** metric tons

Maximum Line Pull **30** tons

■ General dimensions (with basic boom) Unit: mm



■ Specifications

Performance		
Max. lifting capacity × working radius	100 ton × 5m	
Max. boom length w/13m boom	54m (52m + 2m)	
Swing speed	3.0rpm	
Travel speed	+ 1.4km/hr (high), 0.9km/hr (low)	
Gradeability	30% (16.7°)	
Rope speed	Main hoisting/lowering	+ 0 - 78m/min
	Auxiliary hoisting/lowering	+ 0 - 78m/min
	Boom hoisting/lowering	+ 37 × 2m/min
Hoisting line pull	Max. main hoisting line pull	Approx. 30 ton (at first layer on the drum pod 836mm rope dia. 36mm)
	Max. aux. hoisting line pull	Approx. 30 ton (at first layer on the drum pod 836mm rope dia. 36mm)
Rope part line	100 ton hook	8 part lines
	15 ton hook	1 part line
	Boom hoisting/lowering	14 part lines
Counterweight	28.5 ton	
Total operating weight (w/13m boom)	Approx. 105 ton	
Average ground bearing pressure	1.0kg/cm ²	

Note: Speed marked as "*" will be changed according to the loads.

Engine		
Model	"Caterpillar" CAT3412T	
Type	4-cycle water cooled direct injection diesel engine	
Cylinder Nos. × bore × stroke	V12-137mm × 152mm	
Total piston displacement	27.0t	
Maximum output	650ps/2000rpm	
Fuel tank capacity	600t	
Battery	12V × 200AH × 2	
Operating System		
Power source	Hydraulic	
Hoisting device (Main and Auxiliary)	Hydraulic motor	Ctino-axis piston type
	Reduction unit	3-stage planetary gear
	Hoisting drum	2 grooved drums on 2 individual shaft, front and rear
	Clutch and brake	Wet type, multi-disc
	Parking brake	Wet type, multi-disc
Drum lock	Ratchet type pawl lock	
Swing bearing	Single ball bearing type	
Hydraulic pump	Driving: 6 sets axial piston pump Control: 3 sets gear pump	

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Rated lifting loads

Unit: Metric ton

Working radius (m)	Boom length (m)														
	13.0	16.0	19.0	22.0	25.0	28.0	31.0	34.0	37.0	40.0	43.0	46.0	49.0	52.0	
4.6	100.0														
5.0	100.0	5.1m×97.7													
5.5	86.2	86.1	5.6m×82.5												
6.0	74.5	74.4	74.3	6.1m×73.0	6.6m×67.3										
7.0	58.5	58.4	58.3	58.2	58.0	7.2m×56.6	7.7m×50.0								
8.0	48.2	48.1	47.9	47.7	47.5	47.4	47.3	8.2m×45.6	8.7m×41.7						
9.0	40.8	40.7	40.5	40.3	40.1	40.0	39.9	39.8	39.7	8.3m×37.6	8.8m×34.8				
10.0	35.4	35.2	35.0	34.8	34.6	34.5	34.4	34.3	34.2	34.0	33.9	10.3m×33.7	10.8m×30.1	11.4m×27.7	
12.0	27.8	27.6	27.4	27.2	27.0	26.9	26.7	26.6	26.5	26.3	26.2	26.1	25.9	25.8	
14.0	13.0m×25.8	22.6	22.4	22.2	22.0	21.9	21.7	21.6	21.5	21.3	21.2	21.1	20.9	20.7	
16.0		15.6m×20.1	18.8	18.6	18.4	18.3	18.1	18.0	17.9	17.7	17.6	17.5	17.3	17.2	
18.0			16.2	16.0	15.8	15.7	15.5	15.4	15.3	15.1	15.0	14.9	14.7	14.5	
20.0			18.2m×16.0	13.9	13.7	13.6	13.4	13.3	13.2	13.0	12.9	12.8	12.6	12.4	
22.0				20.8m×13.2	12.1	11.9	11.7	11.6	11.5	11.3	11.2	11.1	10.9	10.7	
24.0					23.4m×11.1	10.6	10.4	10.3	10.1	10.0	9.8	9.6	9.5	9.2	
26.0						9.4	9.3	9.1	9.0	8.8	8.6	8.4	8.3	8.1	
28.0								8.3	8.1	7.9	7.8	7.6	7.4	7.1	
30.0								28.6m×8.0	7.2	7.0	6.9	6.7	6.6	6.5	6.2
32.0									31.2m×6.7	6.3	6.2	6.0	5.8	5.7	5.5
34.0										33.8m×5.7	5.5	5.4	5.2	5.1	4.8
36.0											5.0	4.8	4.6	4.4	4.1
38.0											36.4m×4.9	4.2	4.0	3.8	3.5
40.0												38.0m×3.9	3.5	3.3	3.0
42.0													41.6m×3.6	2.8	2.5
44.0														2.4	2.1
46.0														44.2m×2.3	1.7
48.0															46.8m×1.6

Note:

- Above rated loads are based on firm level ground, within 78% of tipping load at any points 360° around the machine 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.
 - 100 ton hook block..... 1.6 tons
 - 60 ton hook block..... 1.15 tons
 - 30 ton hook block..... 1.07 tons
 - 15 ton hook block..... 0.8 ton
- Crawler frame should be extended before working.
- When the aux. jib is fitted, actual loads that can be lifted with the hook block for main hoisting should be reduced 0.8 ton from the rated loads shown (the weight to be deducted includes that of the auxiliary hoisting hook block).
- Depending on the number of part lines, rated lifting load is limited as follows:
 - 36mm dia. wire rope (Guaranteed strength: 97.3 ton) and
 - 34mm dia. wire rope (Guaranteed strength: 86.7 ton)
 - 1 part line..... up to 15 tons
 - 2 part line..... up to 30 tons
 - 3 part line..... up to 45 tons
 - 4 part line..... up to 60 tons
 - 5 part line..... up to 75 tons
 - 6 part line..... up to 90 tons
 - 7 part line..... up to 99 tons
 - 8 part line..... up to 100 tons

32mm dia. wire rope (Guaranteed strength: 76.8 ton)

- 1 part line..... up to 13 tons
- 2 part line..... up to 26 tons
- 3 part line..... up to 39 tons
- 4 part line..... up to 52 tons
- 5 part line..... up to 65 tons
- 6 part line..... up to 78 tons
- 7 part line..... up to 91 tons
- 8 part line..... up to 100 tons

7. 2m aux. jib can be installed to 13m to 52m main boom.

The rated loads for the 2m aux. jib must be reduced 0.6 ton from rated lifting loads of the main boom, but not exceed 15 ton.

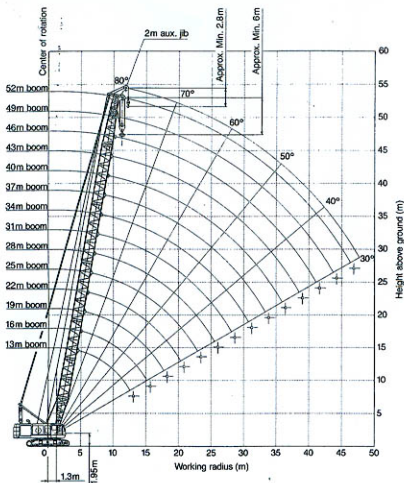
Wire rope

Purpose	Rope dia. (mm)	Guaranteed strength (t)	Rope type
Load hoisting	φ36	97.3	6×F1 (29) IWRC regular Z lay
Load hoisting	φ34	86.7	6×F1 (29) IWRC regular Z lay (OPTION)
Load hoisting	φ32	76.8	6×F1 (29) IWRC regular Z lay (OPTION)
Boom hoisting	φ20	34.2	T6×WS (31) IWRC regular Z lay
Boom suspension	φ31.5	74.9	6×F1 (29) IWRC regular Z lay

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

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Working range



Boom composition

Unit: m

Boom length	Boom composition
13	5.5 (inner) + 7.5 (outer)
16	5.5 + 3 + 7.5
19	5.5 + 3 + 3 + 7.5
22	5.5 + 3 + 6 + 7.5
25	5.5 + 3 + 3 + 6 + 7.5
28	5.5 + 3 + 3 + 9 + 7.5
31	5.5 + 3 + 6 + 9 + 7.5
34	5.5 + 3 + 3 + 6 + 9 + 7.5
37	5.5 + 3 + 3 + 9 + 9 + 7.5
40	5.5 + 3 + 6 + 9 + 9 + 7.5
43	5.5 + 3 + 3 + 6 + 9 + 9 + 7.5
46	5.5 + 3 + 3 + 9 + 9 + 9 + 7.5
49	5.5 + 3 + 6 + 9 + 9 + 9 + 7.5
52	5.5 + 3 + 3 + 6 + 9 + 9 + 9 + 7.5

Standard equipment

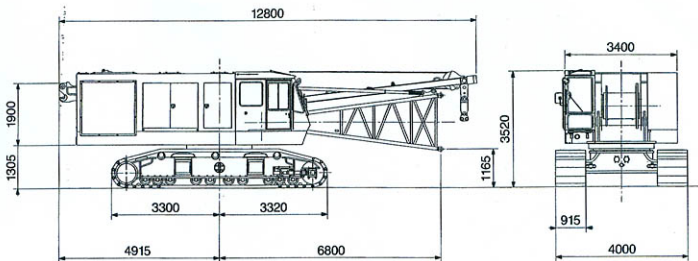
- Crane attachment
 - 13m basic boom
 - 100 ton hook block (4 sheaves)
- Instrument of crane
 - OK monitor (Eng. and Hyd. condition indicator)
 - Hydraulic circuit pressure gauge
 - Fuel level gauge
- Lighting for crane
 - Working light
 - Room light
- Safety device
 - Moment limiter (overload prevention)
 - Automatic stopper for hook and boom to overhoisting
 - Drum lock for boom, main and aux. drum
 - Swing lock
 - Hydraulic safety valve
 - Hydraulic counter balance valve
 - Automatic brake system
- Other standard accessories
 - Winch mode selector
 - Ultra low speed control
 - Electric type engine throttle
 - Air conditioner
 - Windshield wiper
 - Roof glass wiper
 - Electric type fuel filling pump
 - Radio
 - Signal horn
 - Swing warning flasher
 - Travel warning
 - Cigarette lighter
 - Ash tray
 - Lateral hyd. cylinders for crawler extend and retract
 - Reclining operator's seat
 - Large size rear view mirrors (R/L)
 - Sunvisor
 - Special noise suppression cab
 - Floor mat
 - Stops for climbing into cab (folding type)
 - Wire mesh boom walkway (for inner boom)

Optional equipment

- Hydraulic power take off for oscillator
 - Pressure: 300kg/cm²
 - Max. flow: 280l/min x 2
 - Pump horse power: 230PS
 - Piping size: 1" x 2 lines
 - Place of connector: Undercarriage
- Drum shell for 34mm and 32mm dia. wire rope to main and auxiliary drum
- Insert boom section 3.0m, 6.0m, 9.0m with pendant rope
- 2.0m auxiliary jib
- 60 ton hook block (2 sheaves)
- 30 ton hook block (1 sheave)
- 15 ton hook block (for auxiliary jib)
- Combustion type heater (in lieu of hot water type)
- Helmet phone
- Loud speaker
- Boom work light
- Boom top clearance light
- Yellow rotary light
- Cat walk
- Hand rail and ladder
- Boom stop net (outer boom and insert booms)
- Safety guard for top of cab, front glass, head light
- Spark arrester
- Name plate, slide into cab on both side
- Name plate (both side of outer boom)
- Large size tool box (W x H x L): 350mm x 400mm x 1100mm

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■ Transport dimensions (Unit: mm)



■ Transport weight

71 ton (w/5.5m inner boom and mast, w/o counterweight)

IHI

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