

New Dimensions  
in Motion

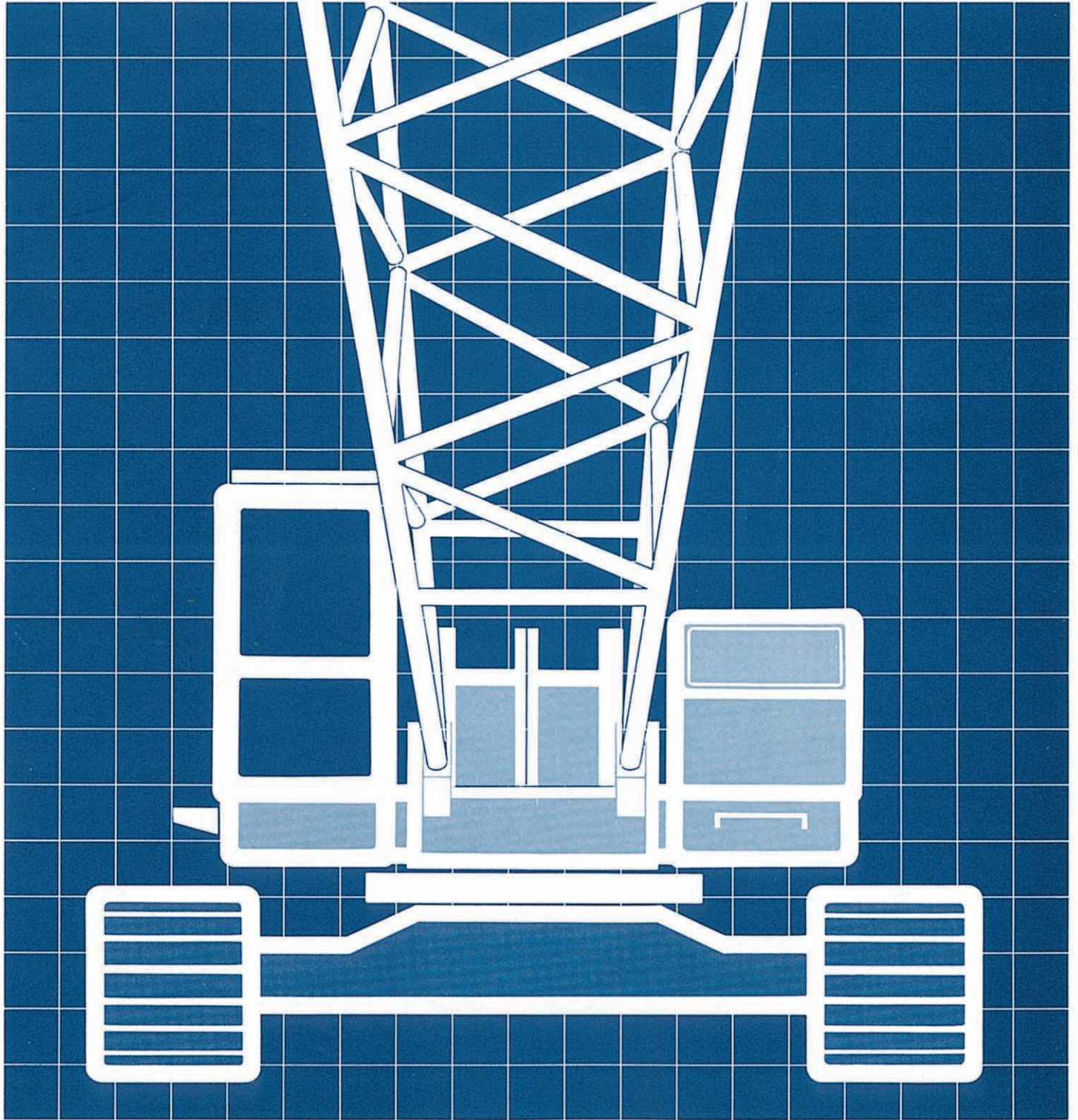
**SPECIFICATIONS**



# **KH150-3**

## **HYDRAULIC CRAWLER CRANE**

Max. Lifting Capacity : 40 000 kg

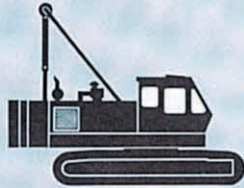




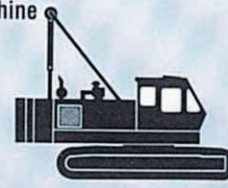
# Front Attachments

## Basic Machine

STD Basic machine



Specialized Dragline Machine



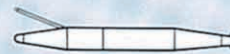
## Boom

Tubular chord boom



Lift crane . . . . . 10 – 46 m (32'10" – 150'11")  
 Clamshell . . . . . 10 – 19 m (32'10" – 62'4")  
 Pile driver . . . . . 10 – 22 m (32'10" – 72'2")

Angle chord boom



Dragline . . . . . 10 – 19 m  
 (32'10" – 62'4")

## Attachment

Boom support type  
pile driver

Leader type:  
45S  
Leader length:  
16 – 28 m  
(52'6" – 91'10")  
Hammer type:  
25 – 45 class



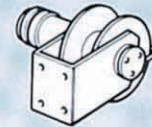
Clamshell bucket



0.6 – 1.2 m<sup>3</sup>  
(0.78 – 1.57 cu yd)

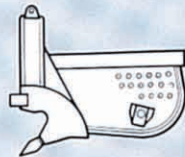
Tagline

Hydraulic type



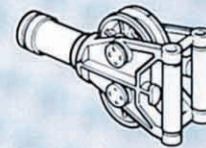
Max. digging depth  
36 m (118'1")

Dragline bucket



0.8 – 1.0 m<sup>3</sup>  
(1.05 – 1.31 cu yd)

Fair-lead



Hook blocks

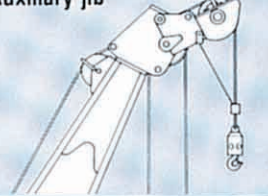


15-metric ton hook



40-metric ton hook

Auxiliary jib



Jib



6.10 – 15.25 m (20' – 50')

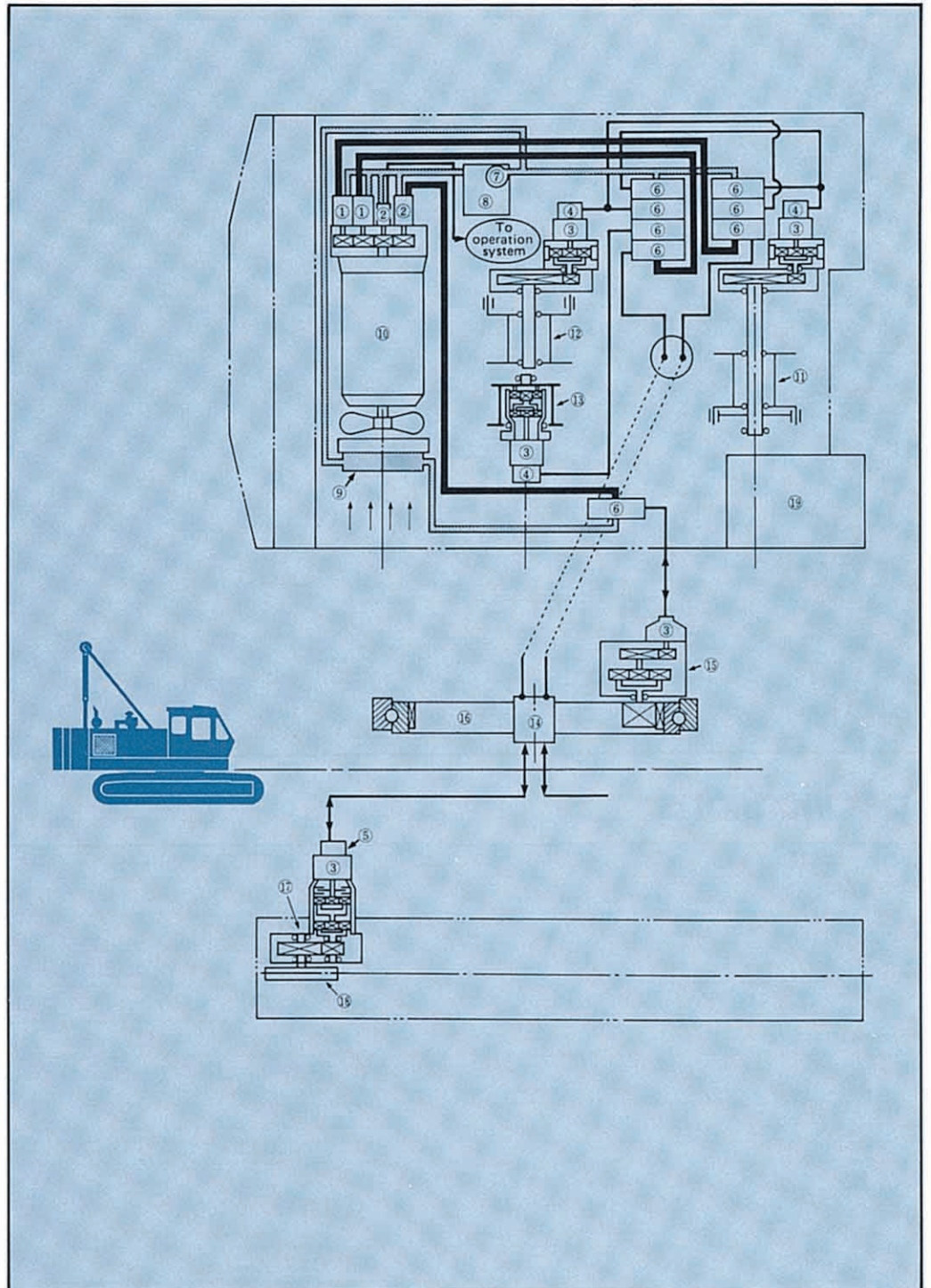


5-metric ton hook



# Power Transmission Mechanism and Hydraulic System

- 1 Variable displacement pump
- 2 Fixed displacement pump
- 3 Fixed displacement motor
- 4 Counterbalance valve
- 5 Brake valve
- 6 Control valve
- 7 Filter
- 8 Hydraulic tank
- 9 Oil cooler
- 10 Engine
- 11 Main hoist drum
- 12 Aux. hoist drum
- 13 Boom hoist drum
- 14 Center joint
- 15 Swing mechanism
- 16 Swing circle
- 17 Travel mechanism
- 18 Drive tumbler
- 19 Operator's cab

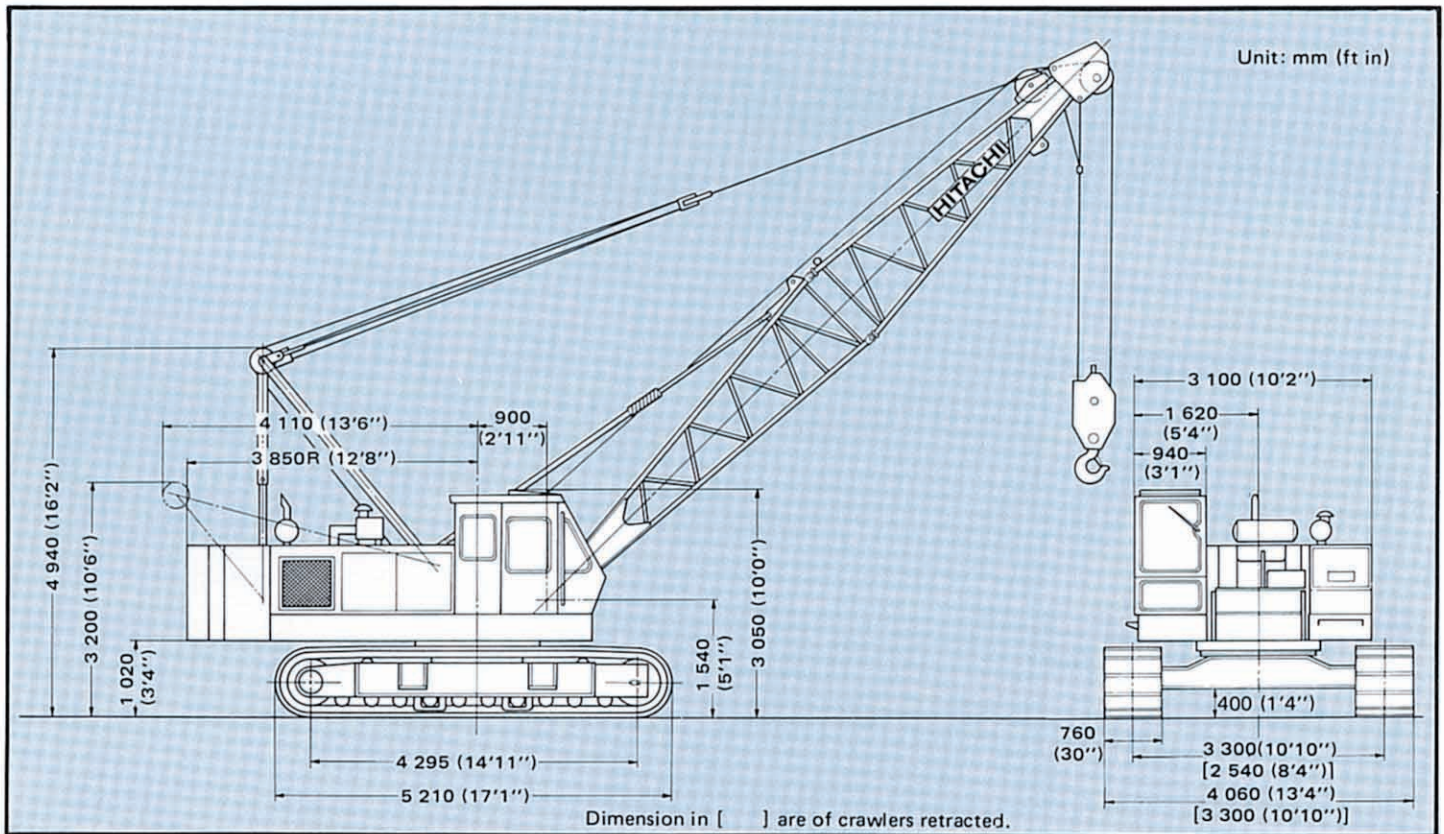




# CRAWLER CRANE

## With Tubular CRANE Boom

### Dimensions



### Specifications

<b>Maximum rated load</b>		40 000 kg (88 200 lb) at 3.7 m (12'2") working radius
<b>Boom</b>	Basic boom length	10.0 m (32'10")
	Max. boom length	46.0 m (150'11")
	Jib length	6.10 m (20'0") – 9.15 m (30'0") – 12.20 m (40'0") – 15.25 m (50'0")
	Max. boom with jib length	55.25 m (181'3") [40.0 m (131'3") boom and 15.25 m (50'0") jib]
<b>Swing speed</b>		0 – 3.3 min <sup>-1</sup> (0 – 3.3 rpm)
<b>Travel speed</b>		0 – 1.5 km/h (0 – 0.93 mph)
<b>Gradeability</b>		22° (40%)
<b>Ground pressure</b>		0.58 bar (0.58 kgf/cm <sup>2</sup> , 8.41 psi)
<b>Operating weight</b>	Equipped with basic boom, 40 000 kg (88 000 lb) capacity hook and 13 200 kg (29 100 lb) counterweight	41 000 kg (90 400 lb)
<b>Engine</b>	Model	HINO H06C-T
	Rated horsepower	110 kW (150 PS) at 2 000 min <sup>-1</sup> (2 000 rpm)



## HOOKS

Capacity	Weight	Number of hoist reeving and maximum rated loads							
		7	6	5	4	3	2	1	
40 000 kg (88 200 lb)	390 kg (860 lb)	40 000 kg (88 200 lb)	34 200 kg (75 400 lb)	28 500 kg (62 800 lb)	22 800 kg (50 300 lb)	17 100 kg (37 700 lb)	11 400 kg (25 100 lb)		Standard for main boom
15 000 kg (33 100 lb)	280 kg (620 lb)					17 100 kg (37 700 lb)	11 400 kg (25 100 lb)		Optional for main boom
5 000 kg (11 000 lb)	130 kg (290 lb)							5 000 kg (11 000 lb)	Optional for jib or aux. jib

## DRUMS

### Dimensions

	Rope dia.	Width	Drum p.c.d.	Max. rope capacity
Main hoist drum	20 mm (0.787")	306 mm (12.05")	420 mm (16.54")	220 m (722')
Aux. hoist drum	20 mm (0.787")	306 mm (12.05")	420 mm (16.54")	220 m (722')

(9th layer)

### Line speed and line pull

	Max. line speed m/min (ft/min)				Effective line pull	@	Line speed	Max. starting line pull	Max. running line pull
	Hoisting		Lowering						
Main hoist drum	H	70 (230)	H	70 (230)	108 kN (11 000 kgf) (24 300 lbf)	@	34 m/min (112 ft/min)	137 kN (14 000 kgf) (30 900 lbf)	143 kN (14 600 kgf) (32 000 lbf)
	L	35 (115)	L	35 (115)					
Aux. hoist drum	H	70 (230)	H	70 (230)	108 kN (11 000 kgf) (24 300 lbf)	@	34 m/min (112 ft/min)	137 kN (14 000 kgf) (30 900 lbf)	143 kN (14 600 kgf) (32 000 lbf)
	L	35 (115)	L	35 (115)					

H: High speed range L: Low speed range

- Notes: 1) Line speed and line pull are based on first layer of winding at rated engine rpm.  
 2) Hoisting line speed varies with load.  
 3) Line pull is based on a single line pull in high speed range.  
 4) Effective line pull is equivalent to available line pull of mechanical drive winch.

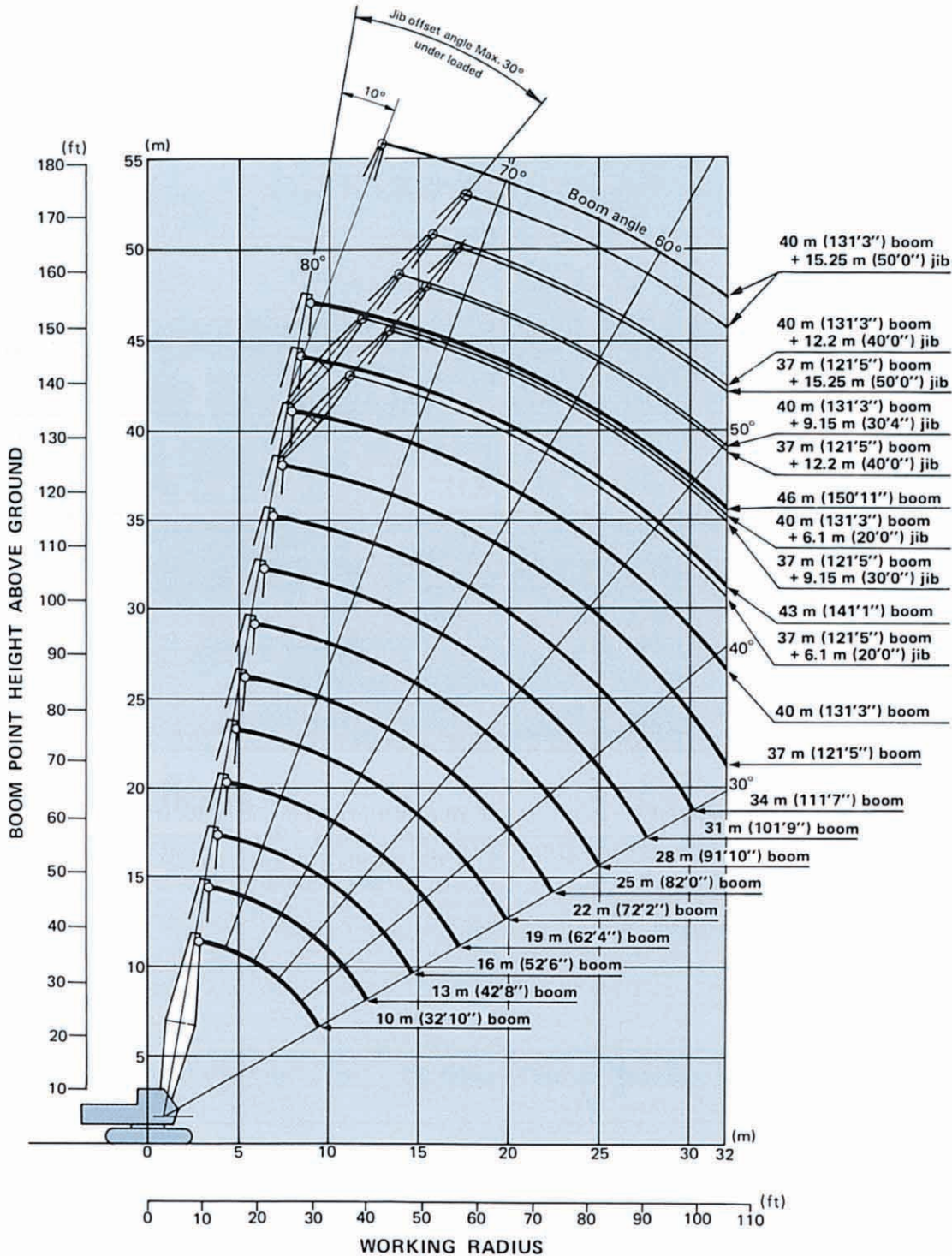
- 5) When starting, hydraulic motor is without rotating, the line pull is "Max. starting line pull". After motor rotating, the line pull becomes "Max. running line pull" shortly.

## BOOM HOIST DRUM

Rope diameter	Hoisting line speed	Lowering line speed
14 mm (0.551")	60 m/min (197 ft/min)	60 m/min (197 ft/min)

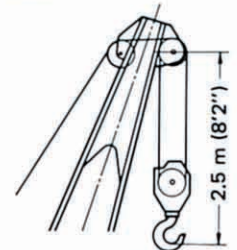


# Working Ranges



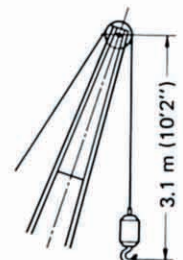
## HOOK CLEARANCE

Boom



40 000 kg (88 200 lb)  
Capacity hook

Jib



5 000 kg (11 000 lb)  
Capacity hook



# Crane Ratings

## JIS Rating:

The rated loads shown don't exceed 78% of tipping loads with the machine on firm level ground.

## BS Rating:

The rated loads are determined according to BS (British Standard; 1981) and the machine is stationed on firm, level ground.

## PCSA Rating:

The rated load are determined according to PCSA (Power Crane and Shovel Association in U.S.A.) and do not exceed 75% of tipping load on condition that the machine is stationed on firm, level ground.

### Tubular chord crane boom in 360° working area with fully extended side frames

Boom length	Working radius		Boom angle	Rated load				
				JIS rating	BS rating		PCSA rating	
				kg	kg	lb	kg	lb
m (ft in)	m	ft in	degree	kg	kg	lb	kg	lb
10.0 (32'10")	3.0	9'10"	79.26	40 000	40 000	88 100	40 000	88 100
	3.5	11'6"	76.31	40 000	40 000	88 100	40 000	88 100
	3.7	12'2"	75.12	40 000	40 000	88 100	38 400	84 600
	4.0	13'1"	73.32	35 000	35 000	77 100	33 650	74 100
	4.5	14'9"	70.28	28 950	28 950	63 800	27 800	61 200
	5.0	16'5"	67.18	24 650	24 650	54 300	23 650	52 100
	6.0	19'8"	60.72	18 900	18 900	41 600	18 150	40 000
	7.0	23'0"	53.80	15 250	15 250	33 600	14 650	32 200
	8.0	26'3"	46.16	12 750	12 750	28 100	12 200	26 800
	9.0	29'6"	37.30	10 950	10 950	24 100	10 450	23 000
9.7	31'10"	30.00	9 950	9 950	21 900	9 500	20 900	
13.0 (42'8")	3.7	12'2"	78.62	40 000	40 000	88 100	38 400	84 600
	4.0	13'1"	77.26	35 000	35 000	77 100	33 600	74 000
	4.5	14'9"	74.98	28 900	28 900	63 700	27 750	61 100
	5.0	16'5"	72.68	24 600	24 600	54 200	23 600	52 000
	6.0	19'8"	67.96	18 850	18 850	41 500	18 100	39 900
	7.0	23'0"	63.08	15 200	15 200	33 500	14 600	32 100
	8.0	26'3"	57.96	12 700	12 700	27 900	12 150	26 700
	9.0	29'6"	52.52	10 850	10 850	23 900	10 400	22 900
	10.0	32'10"	46.64	9 450	9 450	20 800	9 050	19 900
	12.0	39'4"	32.44	7 500	7 500	16 500	7 150	15 700
12.3	40'4"	30.00	7 250	7 250	15 900	6 950	15 300	
16.0 (52'6")	4.0	13'1"	79.69	34 950	34 950	77 000	33 550	73 900
	4.5	14'9"	77.86	28 850	28 850	63 600	27 700	61 000
	5.0	16'5"	76.01	24 550	24 550	54 100	23 500	51 800
	6.0	19'8"	72.27	18 800	18 800	41 400	18 000	39 600
	7.0	23'0"	68.45	15 150	15 150	33 400	14 500	31 900
	8.0	26'3"	64.52	12 600	12 600	27 700	12 050	26 500
	9.0	29'6"	60.45	10 800	10 800	23 800	10 300	22 700
	10.0	32'10"	56.20	9 400	9 400	20 700	8 950	19 700
	12.0	39'4"	46.94	7 400	7 400	16 300	7 050	15 500
	14.0	45'11"	35.91	6 050	6 000	13 200	5 750	12 600
14.9	48'11"	30.00	5 550	5 550	12 200	5 300	11 600	



Boom length	Working radius		Boom angle	Rated load				
				JIS rating	BS rating		PCSA rating	
m (ft in)	m	ft in	degree	kg	kg	lb	kg	lb
19.0 (62'4")	4.5	14'9"	79.80	28 800	28 800	63 400	27 650	60 900
	5.0	16'5"	78.26	24 500	24 500	54 000	23 500	51 800
	6.0	19'8"	75.15	18 750	18 750	41 300	17 950	39 500
	7.0	23'0"	72.00	15 100	15 100	33 200	14 450	31 800
	8.0	26'3"	68.78	12 550	12 550	27 600	12 000	26 400
	9.0	29'6"	65.49	10 750	10 750	23 600	10 250	22 500
	10.0	32'10"	62.11	9 300	9 300	20 500	8 900	19 600
	12.0	39'4"	54.98	7 300	7 300	16 000	6 950	15 300
	14.0	45'11"	47.14	5 950	5 900	13 000	5 650	12 400
	16.0	52'6"	38.10	5 000	4 900	10 800	4 750	10 400
17.5	57'5"	30.00	4 450	4 350	9 590	4 200	9 250	
22.0 (72'2")	5.0	16'5"	79.88	24 400	24 400	53 700	23 500	51 800
	6.0	19'8"	77.22	18 650	18 650	41 100	17 900	39 400
	7.0	23'0"	74.53	15 000	15 000	33 000	14 400	31 700
	8.0	26'3"	71.80	12 440	12 450	27 400	11 950	26 300
	9.0	29'6"	69.02	10 650	10 650	23 400	10 200	22 400
	10.0	32'10"	66.19	9 200	9 200	20 200	8 850	19 500
	12.0	39'4"	60.33	7 200	7 200	15 800	6 900	15 200
	14.0	45'11"	54.08	5 850	5 800	12 700	5 600	12 300
	16.0	52'6"	47.29	4 850	4 800	10 500	4 650	10 200
	18.0	59'1"	39.62	4 150	4 050	8 920	3 950	8 700
20.1	65'11"	30.00	3 550	3 450	7 600	3 400	7 490	
25.0 (82'0")	6.0	19'8"	78.78	18 600	18 600	41 000	17 800	39 200
	7.0	23'0"	76.43	14 950	14 950	32 900	14 300	31 500
	8.0	26'3"	74.05	12 450	12 450	27 400	11 900	26 200
	9.0	29'6"	71.65	10 600	10 600	23 300	10 100	22 200
	10.0	32'10"	69.20	9 150	9 150	20 100	8 750	19 200
	12.0	39'4"	64.19	7 150	7 150	15 700	6 800	14 900
	14.0	45'11"	58.95	5 800	5 750	12 600	5 500	12 100
	16.0	52'6"	53.39	4 800	4 750	10 400	4 550	10 000
	18.0	59'1"	47.40	4 050	3 950	8 700	3 850	8 480
	20.0	65'7"	40.73	3 500	3 350	7 380	3 300	7 270
22.0	72'2"	32.99	3 050	2 900	6 390	2 850	6 280	
22.7	74'6"	30.00	2 900	2 750	6 060	2 700	5 950	
28.0 (91'10")	6.0	19'8"	80.00	18 500	18 500	40 700	17 750	39 100
	7.0	23'0"	77.91	14 850	14 850	32 700	14 200	31 300
	8.0	26'3"	75.80	12 350	12 350	27 200	11 800	26 000
	9.0	29'6"	73.68	10 500	10 500	23 100	10 000	22 000
	10.0	32'10"	71.53	9 100	9 100	20 000	8 650	19 000
	12.0	39'4"	67.14	7 050	7 000	15 400	6 700	14 700
	14.0	45'11"	62.60	5 700	5 600	12 300	5 400	11 900
	16.0	52'6"	57.86	4 700	4 600	10 100	4 450	9 810
	18.0	59'1"	52.85	3 950	3 850	8 480	3 750	8 260
	20.0	65'7"	47.48	3 400	3 250	7 160	3 200	7 050
	22.0	72'2"	41.59	2 950	2 800	6 170	2 750	6 060
	24.0	78'9"	34.91	2 550	2 400	5 290	2 400	5 290
25.3	83'0"	30.00	2 350	2 200	4 850	2 200	4 850	
31.0 (101'9")	7.0	23'0"	79.10	14 850	14 850	32 700	14 200	31 300
	8.0	26'3"	77.20	12 300	12 300	27 100	11 750	25 900
	9.0	29'6"	75.30	10 450	10 450	23 000	9 950	21 900
	10.0	32'10"	73.37	9 050	9 050	19 900	8 600	18 900
	12.0	39'4"	69.46	7 000	6 950	15 300	6 700	14 700
	14.0	45'11"	65.45	5 650	5 550	12 200	5 350	11 700
	16.0	52'6"	61.29	4 650	4 550	10 000	4 400	9 700
	18.0	59'1"	56.97	3 900	3 800	8 370	3 700	8 150
	20.0	65'7"	52.41	3 350	3 200	7 050	3 150	6 940
	22.0	72'2"	47.55	2 850	2 700	5 950	2 700	5 950
	24.0	78'9"	42.27	2 500	2 300	5 070	2 300	5 070
	26.0	85'4"	36.38	2 150	2 000	4 400	2 000	4 400
	27.9	91'6"	30.00	1 950	1 750	3 850	1 800	3 960



Boom length	Working radius		Boom angle	Rated load				
				JIS rating	BS rating		PCSA rating	
	m (ft in)	m	ft in	degree	kg	kg	lb	kg
34.0 (111'7")	7.1	23'4"	79.90	14 400	13 600	29 900	14 000	30 800
	8.0	26'3"	78.35	12 200	12 200	26 800	11 650	25 600
	9.0	29'6"	76.62	10 350	10 350	22 800	9 900	21 800
	10.0	32'10"	74.88	8 950	8 950	19 700	8 550	18 800
	12.0	39'4"	71.35	6 950	6 850	15 100	6 600	14 500
	14.0	45'11"	67.74	5 550	5 450	12 000	5 250	11 500
	16.0	52'6"	64.04	4 550	4 450	9 810	4 300	9 470
	18.0	59'1"	60.21	3 800	3 700	8 150	3 600	7 930
	20.0	65'7"	56.23	3 250	3 100	6 830	3 050	6 720
	22.0	72'2"	52.05	2 750	2 600	5 730	2 600	5 730
	24.0	78'9"	47.61	2 400	2 200	4 850	2 200	4 850
	26.0	85'4"	42.82	2 050	1 900	4 180	1 900	4 180
	28.0	91'10"	37.56	1 800	1 600	3 520	1 650	3 630
	30.0	98'5"	31.55	1 550	1 350	2 970	1 450	3 190
30.5	100'1"	30.00	1 500	1 300	2 860	1 400	3 080	
37.0 (121'5")	8.0	26'3"	79.31	12 200	10 800	23 800	11 650	25 600
	9.0	29'6"	77.73	10 350	10 350	22 800	9 850	21 700
	10.0	32'10"	76.13	8 900	8 900	19 600	8 500	18 700
	12.0	39'4"	72.91	6 900	6 800	14 900	6 550	14 400
	14.0	45'11"	69.64	5 500	5 400	11 900	5 250	11 500
	16.0	52'6"	66.29	4 550	4 400	9 700	4 300	9 470
	18.0	59'1"	62.85	3 800	3 650	8 040	3 550	7 820
	20.0	65'7"	59.29	3 200	3 050	6 720	3 000	6 610
	22.0	72'2"	55.60	2 750	2 550	5 620	2 550	5 620
	24.0	78'9"	51.74	2 350	2 150	4 730	2 150	4 730
	26.0	85'4"	47.66	2 000	1 800	3 960	1 850	4 070
	28.0	91'10"	43.28	1 750	1 550	3 410	1 600	3 520
30.0	98'5"	38.51	1 500	1 300	2 860	1 400	3 080	
32.0	105'0"	33.18	1 250	1 100	2 420	1 200	2 640	
40.0 (131'3")	8.1	26'7"	79.97	11 450	9 400	20 700	11 450	25 200
	9.0	29'6"	78.66	10 250	8 800	19 400	9 850	21 700
	10.0	32'10"	77.19	8 850	8 000	17 600	8 400	18 500
	12.0	39'4"	74.23	6 800	6 700	14 700	6 450	14 200
	14.0	45'11"	71.23	5 450	5 300	11 600	5 150	11 300
	16.0	52'6"	68.17	4 450	4 300	9 470	4 200	9 250
	18.0	59'1"	65.04	3 700	3 500	7 710	3 450	7 600
	20.0	65'7"	61.82	3 100	2 900	6 390	2 900	6 390
	22.0	72'2"	58.51	2 650	2 450	5 400	2 450	5 400
	24.0	78'9"	55.07	2 250	2 050	4 510	2 100	4 620
	26.0	85'4"	51.48	1 900	1 700	3 740	1 750	3 850
	28.0	91'10"	47.70	1 600	1 450	3 190	1 500	3 300
30.0	98'5"	43.67	1 350	1 200	2 640	1 300	2 860	
32.0	105'0"	39.31	1 150	1 000	2 200	1 100	2 420	
43.0 (141'1")	9.0	29'6"	79.46	9 850	7 500	16 500	9 800	21 600
	10.0	32'10"	78.10	8 750	7 000	15 400	8 400	18 500
	12.0	39'4"	75.36	6 750	6 650	14 600	6 400	14 100
	14.0	45'11"	72.58	5 350	5 200	11 400	5 050	11 100
	16.0	52'6"	69.76	4 350	4 200	9 250	4 100	9 030
	18.0	59'1"	66.89	3 600	3 450	7 600	3 400	7 490
	20.0	65'7"	63.95	3 000	2 850	6 280	2 850	6 280
	22.0	72'2"	60.93	2 550	2 350	5 180	2 350	5 180
	24.0	78'9"	57.83	2 150	1 950	4 290	2 000	4 400
	26.0	85'4"	54.61	1 800	1 600	3 520	1 700	3 740
	28.0	91'10"	51.25	1 500	1 350	2 970	1 450	3 190
	30.0	98'5"	47.73	1 250	1 100	2 420	1 200	2 640
32.0	105'0"	44.00	1 050	900	1 980	1 000	2 200	
46.0 (150'11")	10.0	32'10"	78.89	8 350	6 000	13 200	8 250	18 100
	12.0	39'4"	76.34	6 650	5 500	12 100	6 300	13 800
	14.0	45'11"	73.75	5 250	5 100	11 200	5 000	11 000
	16.0	52'6"	71.14	4 250	4 100	9 030	4 050	8 920
	18.0	59'1"	68.48	3 500	3 350	7 380	3 300	7 270
	20.0	65'7"	65.77	2 950	2 750	6 060	2 750	6 060
	22.0	72'2"	63.00	2 450	2 250	4 960	2 300	5 070
	24.0	78'9"	60.16	2 050	1 850	4 070	1 900	4 180
	26.0	85'4"	57.23	1 700	1 500	3 300	1 600	3 520
	28.0	91'10"	54.20	1 400	1 250	2 750	1 350	2 970
	30.0	98'5"	51.06	1 150	1 000	2 200	1 100	2 420
	32.0	105'0"	47.76	900	800	1 760	900	1 980



## Rated Load for Main Boom

- Notes: 1) The rated loads shown are based on the machine on firm level ground without traveling.
- 2) The rated loads shown include the weights of all lifting attachments, such as hook and bucket. The load to be actually lifted is the rated load minus the weight of all lifting attachments.
- 3) When the jib or the auxiliary jib is attached, the load to be actually lifted is the rated load minus the weight listed below.

Jib length	6.10 m (20'0")	9.15 m (30'0")	12.20 m (40'0")	15.25 m (50'0")	Aux. jib
Weight to be reduced	700 kg (1 540 lb)	850 kg (1 870 lb)	1 000 kg (2 200 lb)	1 150 kg (2 540 lb)	200 kg (440 lb)

- 4) The jib can be attached to boom of 19.0 m (62'4") to 40.0 m (131'3") long.
- 5) The auxiliary jib can be attached to boom of 10.0 m (32'10") to 43.0 m (141'1") long.
- 6) The rated load for auxiliary jib is equal to that of main boom at the same working radius, but do not exceed maximum rated load 5 000 kg (11 000 lb).
- 7) Counterweight is 13 200 kg (29 100 lb).
- 8) In operation, crawlers must be extended.

## Rated Load for Jib

### Maximum jib rating

Jib length		6.10 m (20'0")	9.15 m (30'0")	12.20 m (40'0")	15.25 m (50'0")
Jib offset angle					
Max. rated load	10°	5 000 kg (11 020 lb)	5 000 kg (11 020 lb)	4 000 kg (8 820 lb)	3 200 kg (7 050 lb)
	30°	5 000 kg (11 020 lb)	5 000 kg (11 020 lb)	4 100 kg (9 040 lb)	3 200 kg (7 050 lb)

- Notes: 1) The rated load for jib is equal to that of the main boom at the same working radius, but should not exceed maximum jib ratings shown. The jib offset angle to the main boom is 10° and 30° under loaded condition.
- 2) The maximum working radius of the jib do not exceed that of the main boom used.



# Boom & Jib Construction

## Boom Construction

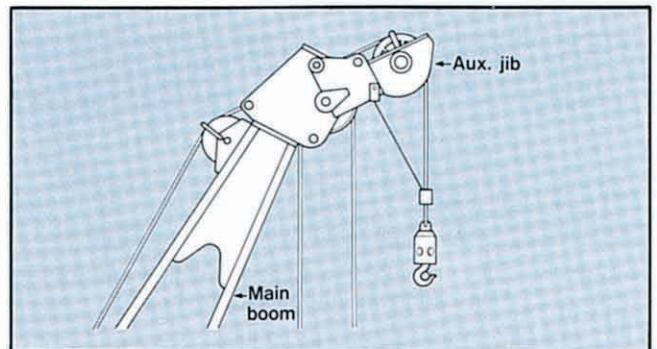
Boom length Element	10.0 m (32'10")	13.0 m (42'8")	16.0 m (52'6")	19.0 m (62'4")	22.0 m (72'2")	25.0 m (82'0")	28.0 m (91'10")	31.0 m (101'9")	34.0 m (111'7")	37.0 m (121'5")	40.0 m (131'3")	43.0 m (141'1")	46.0 m (150'11")
Lower Boom 5.5 m (18'1")	1	1	1	1	1	1	1	1	1	1	1	1	1
Upper Boom 4.5 m (14'9")	1	1	1	1	1	1	1	1	1	1	1	1	1
Boom insert 3.0 m (9'10")	—	1	2	1	2	1	2	1	2	1	2	1	2
Boom insert 6.0 m (19'8")	—	—	—	1	1	2	2	3	3	4	4	5	5
Available hook	40 000 kg (88 200 lb) hook							15 000 kg (33 100 lb) hook					
Number of rope reeving	7	7	6	5	5	4	4	3	3	3	2	2	2
Boom available with jib													
				Jib length 6.10 m (20'0")									
				Jib length 9.15 m (30'0")									
				Jib length 12.20 m (40'0")									
				Jib length 15.25 m (50'0")									
Boom available with auxiliary jib													

## Jib Construction

Jib length Element	6.10 m (20'0")	9.15 m (30'0")	12.20 m (40'0")	15.25 m (50'0")
Lower jib 3.05 m (10'0")	1	1	1	1
Upper jib 3.05 m (10'0")	1	1	1	1
Jib insert 3.05 m (10'0")	—	1	2	3
Available hook	5 000 kg (11 000 lb) hook			

### Auxiliary Jib (Optional)

Attachable to main boom top for hoisting light-weight load quickly with a single rope used. (Never use the main and auxiliary hooks at the same time.)

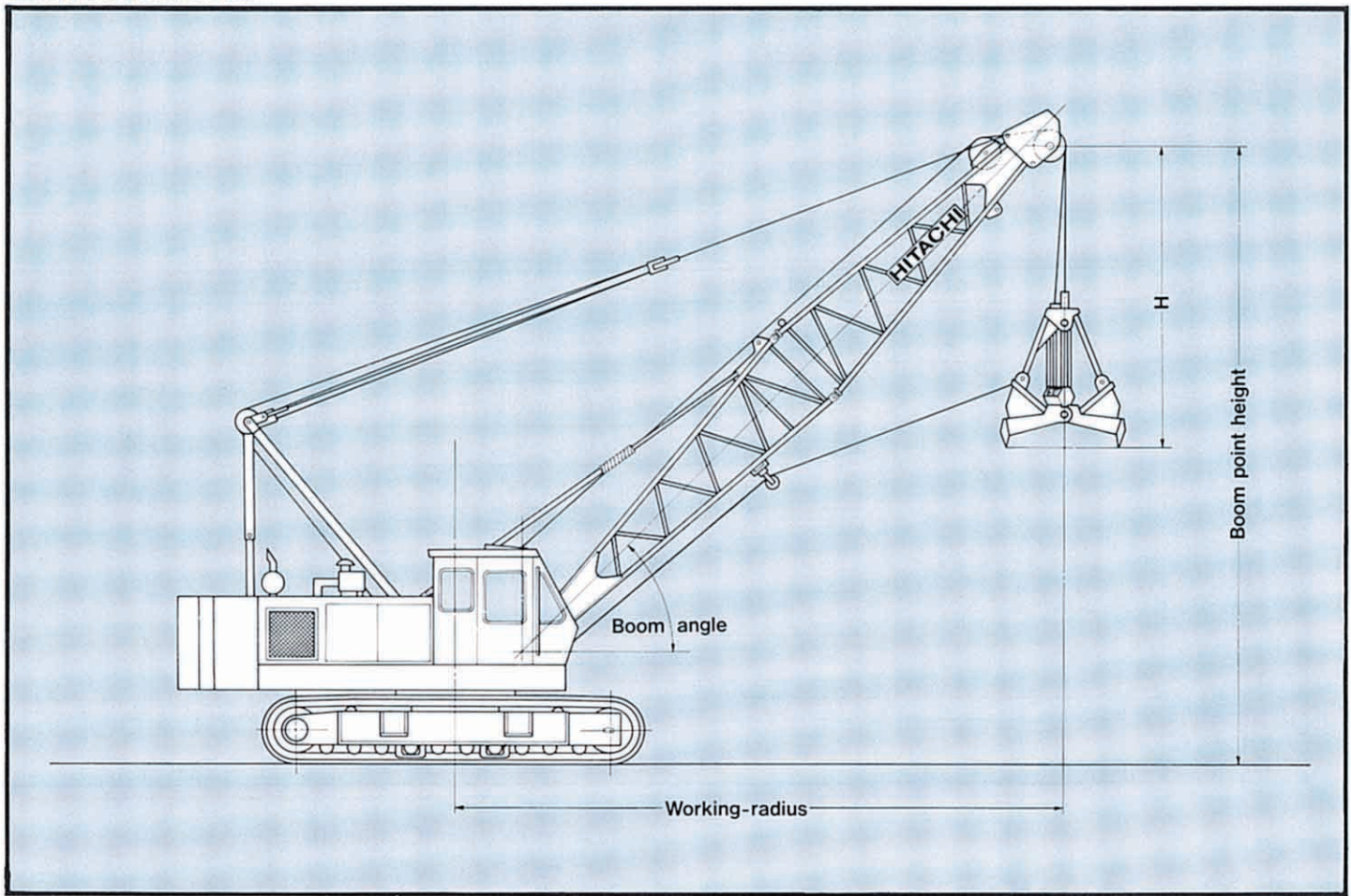




# CLAMSHELL

## With Tubular CRANE Boom

### Dimensions



### Specifications

Bucket capacity	0.6 m <sup>3</sup> (3/4 cu yd), 0.8 m <sup>3</sup> (1 cu yd), 1.0 m <sup>3</sup> (1-1/4 cu yd), 1.2 m <sup>3</sup> (1-1/2 cu yd)
Boom length	10.0 m (32'10'')– 19.0 m (62'4'')
Ground pressure	0.61 bar (0.61 kgf/cm <sup>2</sup> , 8.67 psi)
* Operating weight	43 000 kg (94 800 lb) When equipped with 13.0 m (42'8'') boom, 1.0 m <sup>3</sup> (1-1/4 cu yd) bucket and 13 200 kg (29 100 lb) counterweight

- Notes: 1. For common specifications which are not listed above, refer to p.4 and 5.  
2. \* Operating weight are approximate.



## BUCKETS

Capacity	Self weight	Bucket clearance : H
0.6 m <sup>3</sup> (3/4 cu yd)	1 600 kg (3 530 lb)	5.1 m (16'9")
0.8 m <sup>3</sup> (1 cu yd)	2 000 kg (4 410 lb)	5.4 m (17'9")
1.0 m <sup>3</sup> (1-1/4 cu yd)	2 450 kg (5 400 lb)	5.7 m (18'8")
* 1.2 m <sup>3</sup> (1-1/2 cu yd)	2 400 kg (5 290 lb)	5.7 m (18'8")

\* 1.2m<sup>3</sup> (1-1/2 cu yd) bucket is light-duty service.

## TAGLINE

	Maximum digging depth
Hydraulic operated type	36.0 m (118'1")

## Clamshell Ratings and Working Ranges

Boom length m (ft in)	Working radius m ft in		Boom angle degree	Boom point height m ft in		Rated loads								
						JIS rating	BS rating (1)		BS rating (2)		PCSA rating (1)		PCSA rating (2)	
						kg	kg	lb	kg	lb	kg	lb	kg	lb
10.0 (32'10")	5.5	18'1"	65	10.6	34'9"	5 000	6 000	13 230	5 000	11 000	6 000	13 230	5 000	11 000
	7.0	23'0"	55	9.7	31'10"	5 000	6 000	13 230	5 000	11 000	6 000	13 230	5 000	11 000
	8.3	27'3"	45	8.5	27'11"	5 000	6 000	13 230	5 000	11 000	6 000	13 230	5 000	11 000
	9.4	30'10"	35	7.2	23'7"	5 000	6 000	13 230	5 000	11 000	6 000	13 230	5 000	11 000
13.0 (42'8")	6.7	22'0"	65	13.3	43'8"	5 000	6 000	13 230	5 000	11 000	6 000	13 230	5 000	11 000
	8.7	28'7"	55	12.1	39'8"	5 000	6 000	13 230	5 000	11 000	6 000	13 230	5 000	11 000
	10.4	34'2"	45	10.6	34'9"	5 000	6 000	13 230	5 000	11 000	6 000	13 230	5 000	11 000
	11.8	38'9"	35	8.9	29'2"	5 000	6 000	13 230	5 000	11 000	6 000	13 230	5 000	11 000
16.0 (52'6")	8.0	26'3"	65	16.0	52'6"	5 000	6 000	13 230	5 000	11 000	6 000	13 230	5 000	11 000
	10.4	34'2"	55	14.6	47'11"	5 000	6 000	13 230	5 000	11 000	6 000	13 230	5 000	11 000
	12.6	41'5"	45	12.8	42'0"	5 000	5 500	12 120	5 000	11 000	5 950	13 120	5 000	11 000
	14.3	46'11"	35	10.6	34'9"	5 000	4 650	10 250	4 650	10 250	5 000	11 000	5 000	11 000
19.0 (62'4")	9.3	30'6"	65	18.7	61'4"	5 000	6 000	13 230	5 000	11 000	6 000	13 230	5 000	11 000
	12.2	40'1"	55	17.1	56'1"	5 000	5 700	12 570	5 000	11 000	6 000	13 230	5 000	11 000
	14.7	48'3"	45	14.9	48'11"	5 000	4 450	9 810	4 450	9 810	4 800	10 580	4 800	10 580
	16.8	55'2"	35	12.3	40'4"	4 200	3 700	8 160	3 700	8 160	4 000	8 820	4 000	8 820

- Notes: 1) The rated loads shown include the bucket weight. The load to be actually lifted is the rated load minus bucket weight.
- 2) The BS (1) and PCSA (1) rated loads shall apply to the power load lowering operation, or free fall operation in the case when buckets self weight are less than 2 500 kg (5 510 lb).
- 3) The BS (2) and PCSA (2) rated loads shall apply to the free fall operation where buckets self weight are over 2 500 kg (5 510 lb).

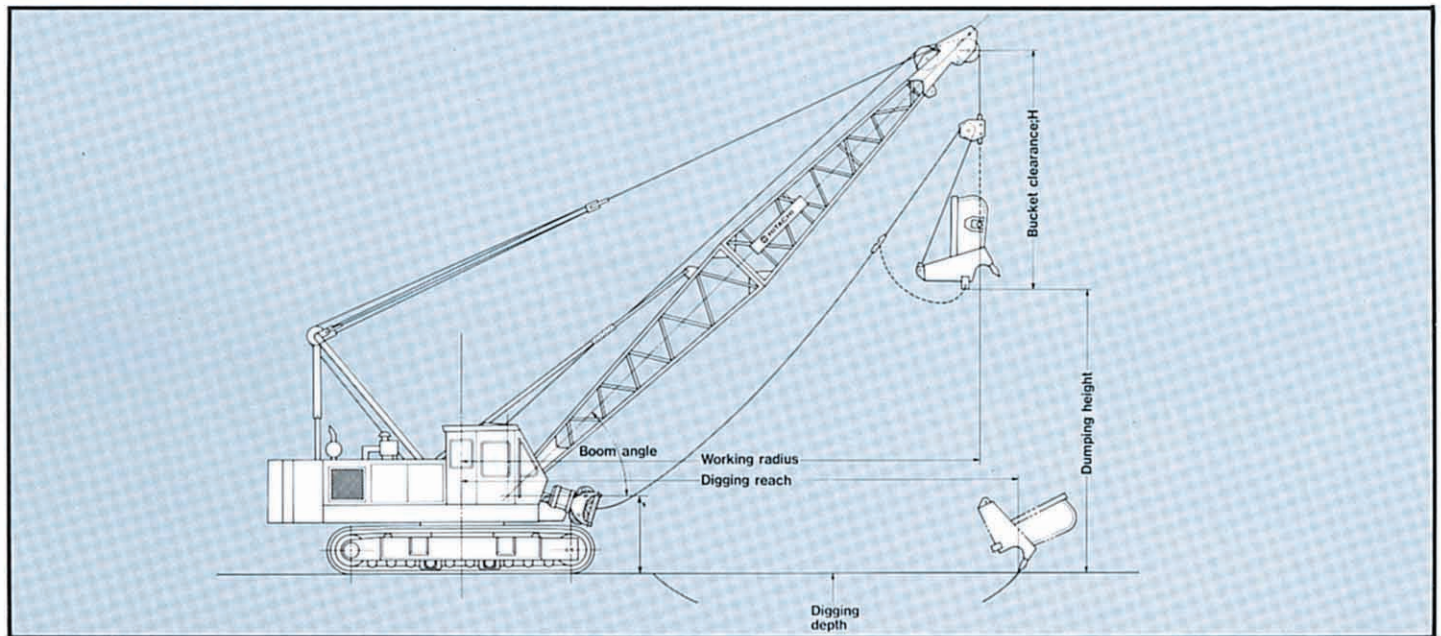
- 4) In operation, crawlers must be extended.
- 5) Counterweight is 13 200 kg (29 100 lb).
- 6) Permissible boom length for clamshell operation is 10 m (32'10") to 19 m (62'4").
- 7) The bucket supporting/operating rope length varies with the boom length and excavation depth.
- 8) For bucket fall operation, please use the power fall and free fall by half-braking (The standard free fall stroke is preferably to be set at 10 m (32'10") or less.) in combination.



# DRAGLINE

## Angle Chord DUTY CYCLE Boom

### Dimensions



### Specifications

<b>Bucket capacity</b>	0.8 m <sup>3</sup> (1.05 cu yd) — 1.0 m <sup>3</sup> (1.31 cu yd)
<b>Boom length</b>	13.0 m (42'8") — 19.0 m (62'4")
<b>Operating weight</b>	44 700 kg (98 500 lb) When equipped with 760 mm (30") shoes, 16.0 m (52'6") boom, 1.0 m <sup>3</sup> (1.31 cu yd) bucket and 13 200 kg (29 100 lb) counterweight.
<b>Ground pressure</b>	0.63 bar (0.63 kgf/cm <sup>3</sup> , 9.0 psi)

### Buckets

Capacity	Self weight	Bucket Clearance : H	Application
0.8 m <sup>3</sup> (1.05 cu yd)	1 200 kg (2 650 lb)	4.0 m (13'2")	Heavy-duty
1.0 m <sup>3</sup> (1.31 cu yd)	1 600 kg (3 530 lb)	4.2 m (13'9")	Medium-duty



## Dragline Ratings and Working Ranges

Boom length	Working radius		Boom angle	Max. dumping height		Max. digging reach		Max. digging depth		Rated load				
										JIS rating	BS rating		PCSA rating	
m (ft in)	m	ft in	degree	m	ft in	m	ft in	m	ft in	kg	kg	lb	kg	lb
13.0 (42'8")	12.5	41'0"	30	3.0	9'10"	16.1	52'10"	9.1	29'10"	3 300	3 300	7 280	3 300	7 280
	11.2	36'9"	40	4.8	15'9"	15.6	51'2"	8.8	28'10"	3 300	3 300	7 280	3 300	7 280
	9.7	31'10"	50	6.5	21'4"	14.8	48'7"	8.2	26'11"	3 300	3 300	7 280	3 300	7 280
16.0 (52'6")	15.1	49'6"	30	4.5	14'9"	19.3	63'4"	11.5	37'9"	3 300	3 300	7 280	3 300	7 280
	13.5	44'3"	40	6.8	22'4"	18.8	61'8"	11.2	36'9"	3 300	3 300	7 280	3 300	7 280
	11.6	38'1"	50	8.8	28'10"	17.8	58'5"	10.4	34'1"	3 300	3 300	7 280	3 300	7 280
19.0 (62'4")	17.7	58'1"	30	6.0	19'8"	22.6	74'2"	14.0	45'11"	3 300	3 300	7 280	3 300	7 280
	15.8	51'10"	40	8.7	28'7"	21.2	69'7"	13.0	42'8"	3 300	3 300	7 280	3 300	7 280
	13.5	44'3"	50	11.1	36'5"	20.7	67'11"	12.6	41'4"	3 300	3 300	7 280	3 300	7 280

- Notes: 1) The rated loads shown include the bucket weight. The load to be actually lifted is the rated load minus bucket weight.  
2) Maximum digging reach/depth may vary considerably depending on digging condition and the skill of the operator.

- 3) In operation, crawlers must be extended.  
4) Counterweight is 13 200 kg (29 100 lb).  
5) Permissible boom length for dragline operation is 13 m (42'8") to 19 m (62'4").

### DRUMS

#### Dimensions

	Rope dia.	Width	Drum p.c.d.	Max. rope capacity
Main hoist drum	22 mm (0.866")	360 mm (14.17")	462 mm (18.19")	224 m (735')
Aux. hoist drum	22 mm (0.866")	313 mm (12.32")	462 mm (18.19")	194 m (636')

(8th layer)

#### Line speed and line pull

H: High speed range L: Low speed range

	Max. line speed m/min (ft/min)				Effective line pull	@	Line speed	Max. starting line pull	Max. running line pull
	Hoisting		Lowering						
Main hoist drum	H	70 (230)	H	70 (230)	108 kN (11 000 kgf) 24 300 lbf	@	34 m/min (112 ft/min)	137 kN (14 000 kgf) 30 900 lbf	143 kN (14 600 kgf) 32 000 lbf
	L	35 (115)	L	35 (115)					
Aux. hoist drum	H	70 (230)	H	70 (230)	108 kN (11 000 kgf) 24 300 lbf	@	34 m/min (112 ft/min)	137 kN (14 000 kgf) 30 900 lbf	143 kN (14 600 kgf) 32 000 lbf
	L	35 (115)	L	35 (115)					

- Notes: 1) Line speed and line pull are based on first layer of winding at rated engine rpm.  
2) Hoisting line speed varies with load.  
3) Line pull is based on a single line pull in high speed range.  
4) Effective line pull is equivalent to available line pull of mechanical drive winch.

- 5) When starting, hydraulic motor is without rotating, the line pull is "Max. starting line pull". After motor rotating the line pull becomes "Max. running line pull" shortly.  
6) Main and auxiliary hoist drums have spiral rope grooves.

#### BOOM HOIST DRUM

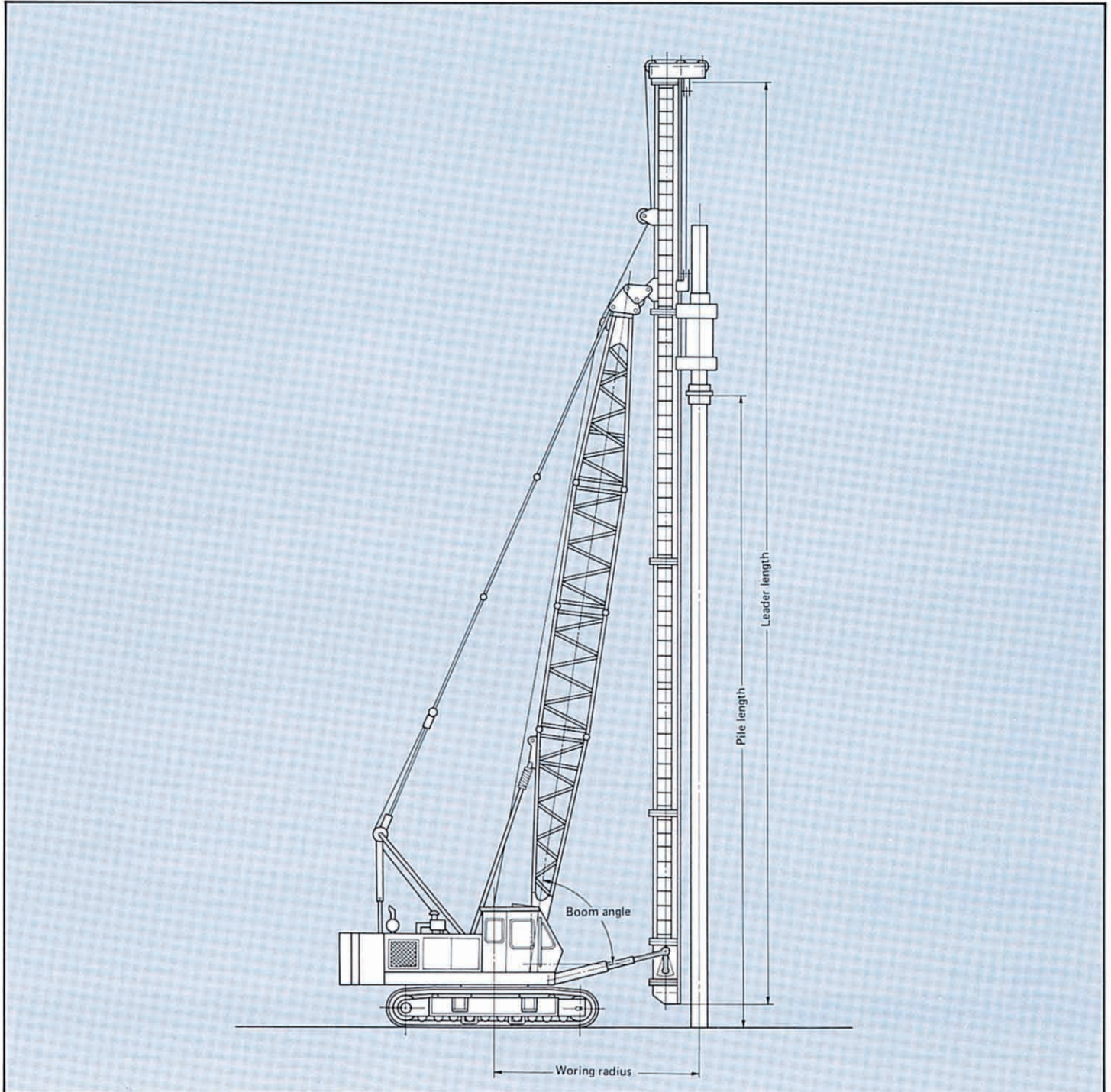
Rope diameter	Hoisting line speed	Lowering line speed
14 mm (0.551")	60 m/min (197 ft/min)	60 m/min (197 ft/min)



# BOOM-SUPPORT TYPE PILE DRIVER

With Tubular  
CRANE Boom

## Dimensions





# Specifications (45S leader)

Counterweight		13 200 (29 100)											
Type of hammer		25						35					
Hammer weight		5 500 (12 100)						8 500 (18 700)					
Cap weight		500 (1 100)						1 000 (2 200)					
Boom length		10 (32'10")		13 (42'8")		16 (52'6")		19 (62'4")		22 (72'2")		10 (32'10")	
Leader length		16 (52'6")		19 (62'4")		22 (72'2")		25 (82'0")		28 (91'10")		16 (52'6")	
Pile length		9 (29'6")		12 (39'4")		15 (49'3")		18 (59'1")		21 (68'11")		8 (26'3")	
Boom angle (°)		R	W	R	W	R	W	R	W	R	W	R	W
	82	4.0 (13'2")	5.0 (11.0)	4.5 (14'9")	5.0 (11.0)	4.9 (16'1")	5.0 (11.0)	5.3 (17'5")	5.0 (11.0)	5.7 (18'8")	5.0 (11.0)	4.1 (13'5")	7.0 (15.4)
	81	4.2 (13'9")	5.0 (11.0)	4.7 (15'5")	5.0 (11.0)	5.1 (16'9")	5.0 (11.0)	5.6 (18'4")	5.0 (11.0)	6.1 (20'0")	4.0 (8.8)	4.2 (13'9")	7.0 (15.4)
	80	4.4 (14'5")	5.0 (11.0)	4.9 (16'1")	5.0 (11.0)	5.4 (17'9")	5.0 (11.0)	5.9 (19'4")	5.0 (11.0)			4.4 (14'5")	7.0 (15.4)
	79	4.6 (15'1")	5.0 (11.0)	5.1 (16'9")	5.0 (11.0)	5.7 (18'8")	5.0 (11.0)					4.6 (15'1")	7.0 (15.4)
	78	4.7 (15'5")	5.0 (11.0)	5.4 (17'9")	5.0 (11.0)	6.0 (19'8")	5.0 (11.0)					4.8 (15'8")	7.0 (15.4)
	77	4.9 (16'1")	5.0 (11.0)	5.6 (18'4")	5.0 (11.0)							4.9 (16'1")	7.0 (15.4)
	76	5.1 (16'9")	5.0 (11.0)	5.8 (19'1")	5.0 (11.0)							5.1 (16'9")	7.0 (15.4)
	75	5.3 (17'5")	5.0 (11.0)	6.0 (19'8")	5.0 (11.0)							5.3 (17'5")	7.0 (15.4)
	74	5.4 (17'9")	5.0 (11.0)									5.4 (17'9")	7.0 (15.4)
	73	5.6 (18'4")	5.0 (11.0)									5.6 (18'4")	7.0 (15.4)
	72	5.8 (19'1")	5.0 (11.0)									5.8 (19'1")	7.0 (15.4)
71	5.9 (19'4")	5.0 (11.0)									6.0 (19'8")	6.7 (14.7)	
70	6.1 (20'0")	5.0 (11.0)											
Operating weight (Excluding pile weight)		51 800 ~ 55 200 (114 200 ~ 121 600)						55 300 ~ 57 800 (121 910 ~ 127 400)					
Ground pressure		0.74 ~ 0.78 (0.74 ~ 0.78, 10.5 ~ 11.0)						0.78 ~ 0.82 (0.78 ~ 0.82, 11.0 ~ 11.6)					

Counterweight		13 200 (29 100)											
Type of hammer		35						45					
Hammer weight		8 500 (18 700)						11 000 (24 300)					
Cap weight		1 000 (2 200)						2 000 (4 410)					
Boom length		13 (42'8")		16 (52'6")		19 (62'4")		10 (32'10")		13 (42'8")		16 (52'6")	
Leader length		19 (62'4")		22 (72'2")		25 (82'0")		16 (52'6")		19 (62'4")		22 (72'2")	
Pile length		11 (36'1")		14 (45'11")		17 (55'9")		7 (23'0")		10 (32'10")		13 (42'9")	
Boom angle (°)		R	W	R	W	R	W	R	W	R	W	R	W
	82	4.5 (14'9")	7.0 (15.4)	4.9 (16'1")	7.0 (15.4)	5.3 (17'5")	4.8 (10.6)	4.1 (13'5")	9.0 (19.8)	4.6 (15'1")	9.0 (19.8)	5.0 (16'5")	4.7 (10.4)
	81	4.7 (15'5")	7.0 (15.4)	5.2 (17'1")	7.0 (15.4)	5.6 (18'4")	3.2 (7.1)	4.3 (14'1")	9.0 (19.8)	4.8 (15'9")	8.3 (18.3)	5.3 (17'5")	3.1 (6.8)
	80	4.9 (16'1")	7.0 (15.4)	5.4 (17'9")	5.8 (12.8)			4.5 (14'9")	9.0 (19.8)	5.0 (16'5")	6.6 (14.6)	5.5 (18'1")	1.6 (3.5)
	79	5.2 (17'1")	7.0 (15.4)	5.7 (18'8")	4.5 (9.9)			4.7 (15'5")	9.0 (19.8)	5.2 (17'1")	5.1 (11.2)		
	78	5.4 (17'9")	7.0 (15.4)					4.8 (15'9")	9.0 (19.8)	5.5 (18'1")	3.8 (8.4)		
	77	5.6 (18'4")	6.7 (14.8)					5.0 (16'5")	8.8 (19.4)	5.7 (18'8")	2.7 (6.0)		
	76	5.8 (19'1")	5.7 (12.6)					5.2 (17'1")	7.6 (16.8)				
	75							5.4 (17'9")	6.4 (14.1)				
	74							5.5 (18'1")	5.4 (11.9)				
	73							5.7 (18'8")	4.5 (9.9)				
	72							5.9 (19'4")	3.6 (7.9)				
71													
70													
Operating weight (Excluding pile weight)		55 300 ~ 57 800 (121 900 ~ 127 400)						58 800 ~ 60 500 (129 600 ~ 133 380)					
Ground pressure		0.78 ~ 0.82 (0.78 ~ 0.82, 11.0 ~ 11.6)						0.83 ~ 0.86 (0.83 ~ 0.86, 11.8 ~ 12.2)					

Notes: R . . . Working radius: m (ft in.)  
W . . . Pile weight: 1 000 x kg (1 000 x lb)



# Specifications



## SUPERSTRUCTURE



### Boom Hoist Mechanism

Completely independent operation.

Boom hoisting/lowering is done by normal/reverse driving of the bent axis motor. Boom lowering is made by power lowering through the hydraulic system. Instant hoisting/lowering of boom is possible. Both hydraulic brake and spring-set hydraulic-released multiplate disc type brake offer positive and safe stopping of boom. When boom is hoisted or lowered, brakes are automatically released.

**Boom Brakes** Spring-set, hydraulic-released multiplate disc type. Brake is automatically actuated when control lever is at neutral position.

**Drum Locks** Drum pawl lock is manually controlled from operator's seat.



### Swing Mechanism

Completely independent operation. Driven by high-torque piston motor through reduction gear, swing speeds are freely controllable within the 0 to maximum speed with single lever stroking.

**Swing Brake** A disc type swing brake can be hydraulically actuated by the brake switch on the swing lever.

**Swing Lock** Manually operated mechanical lock with a rod tip which is engaged in a holder of track frame during transportation.

**Swing Circle** Single-row shear-type ball bearing with heat-treated internal gear.



### Revolving Frame

All steel welded construction, stress-relieved, precision-machined unit, especially designed for rigidity and strength.

**Gantry** Lowerable for transportation.

**Counterweight** Welded structure. Total weight 13 200 kg (29 100 lb)

Consists of two sections: one: 6 600 kg (14 550 lb)  
one: 6 600 kg (14 550 lb)



### Engine

Model .....	HINO H06C-T
Type .....	Water-cooled, 4-cycle, 6-cylinder, direct fuel injection type diesel engine 168 g/ps-h
Rated horsepower .....	110 kW (150 PS) at (DIN 6 270, Net) 2 000 min <sup>-1</sup> (2 000 rpm)
Maximum torque .....	530 N·m (54 kgf·m, 391 ft·lbf) at 1 800 min <sup>-1</sup> (1 800 rpm)
Piston displacement .....	6.845 l (418 cu in)
Fuel tank capacity .....	250 l (55 imp gal, 66 U.S. gal)
Electric system .....	24 V DC



### Main and Auxiliary Hoist Mechanism

Both main and auxiliary hoist drums are driven by swash plate type axial piston motors through reduction gear. Load hoisting/lowering are done by normal/reverse rotation of motor. Smooth, precise power lowering is made possible by the hydraulic brake. A single lever gives a choice of two speeds, high or low, for hoisting/lowering. Hoist/lower speeds are proportioned to the lever stroke, allowing easy matching to job conditions.

**Clutches** Clutches are of the spring-set, hydraulic-released internal-expanding friction band type; main and auxiliary clutches are alike in size and type, with interchangeable clutch linings.

**Brakes** External contracting friction band-type mechanical brakes, integrated with link lever, operate under normal load. For a larger load, a spring-type boost device is provided to ensure fatigue-free operation. Mechanical brake locks are equipped as standard. Furthermore, while in neutral position, the hoist lever is doubly secured in position by a hydraulic brake and an automatic brake.

**Drums** Main and auxiliary hoist drums are of special alloy cast iron. Both hoist drums are mounted on the lifetime-lubricated antifriction ball bearings.

**Drum locks** Drum pawl locks are provided for integral lock of drums. They are manually controllable from the operator's seat.





## Boom

**Tubular Chord CRANE Boom** 1 150 mm (45") wide by, 1 150 mm (45") deep at connection, lattice construction, high tensile strength steel tubular chord.

Basic boom . . . . . 2-piece, total length 10.0 m (32'10"); upper section 4.5 m (14'9") and lower section 5.5 m (18'1").

Boom point . . . . . Offset boom point, 4 sheaves [420 mm (16.5") p.c.d.] mounted on anti-friction bearings on boom peak.

Boom insert . . . . . 3.0 m (9'10") and 6.0 m (19'8") long available with appurtenant pendants.

Connection type . . . . Pin-connected

Boom backstop . . . . Dual-rail, telescopic tubular construction with spring bumper.

Boom hoist bridle . . . Serves as connection between pendants and boom hoist wire rope reeving, equipped with 6 sheaves [300 mm (12") p.c.d.] for 12-part boom hoist wire rope reeving.

**Crane Jib** 550 mm (22") wide by 480 mm (19") deep at connection, lattice construction, high tensile strength steel tubular chord.

Basic jib . . . . . 2-piece, total length 6.10 m (20'0"), upper section 3.05 m (10'0"), and lower section 3.05 m (10'0").

Jib point . . . . . 1 sheave [420 mm (16.5") p.c.d.] mounted on anti-friction bearings on jib peak.

Jib insert . . . . . 3.05 m (10'0") long available.

Connection type . . . . Pin-connected

Auxiliary jib . . . . . Optional  
Attachable to main boom top for hoisting lightweight load quickly with a single rope used.

Note:

Boom insert, crane jib, or auxiliary jib can be attached to the basic boom when needed. However, crane jib and auxiliary jib cannot be attached simultaneously to the boom and used.

**Angle Chord DRAGLINE Boom** 1 202 mm (47") wide by 1 102 mm (43") deep at connection, lattice construction, high tensile strength steel angle chord.

Basic boom . . . . . 2-piece, total length 13.0 m (42'8"); upper section 6.5 m (21'4") and lower section 6.5 m (21'4").

Boom point . . . . . Offset boom point, single sheave [sheave p.c.d.; 530 mm (20.9")] mounted on anti-friction bearing on boom peak.

Boom insert . . . . . 3.0 m (9'10") and 6.0 m (19'8") long available with appurtenant pendants.

Connection type . . . . Bolt connected.

Boom backstop . . . . Dual-rail, telescopic tubular construction with spring bumper.

Boom hoist bridle . . . Serves as connection between pendants and boom hoist wire rope reeving, equipped with 6 sheaves [300 mm (12") p.c.d.] for 12-part boom hoist wire rope reeving.



## Operator's Cab

All-weather, well-ventilated, all-round visibility, roomy operator's cab. The completely independent cab is insulated against noise and vibration. Sliding, fold-in front window swings up and stores in roof. Fully adjustable reclining seat.

Note: The cab front window of the machine for exclusive use for dragline (angle boom) is of the fixed type, and the cab on this machine is not provided with any skylight.



## UNDERCARRIAGE

**Traction mechanism** Each track is driven by a bent axis motor through reduction gear. This mechanism allows counter-rotation of tracks for maximum maneuverability in close quarters. When lever is at neutral position, both hydraulic brake and spring-set/hydraulic-released multiplate disc brake are automatically actuated to effect reliable stopping. Upper and lower rollers, sprockets and idlers are lifetime-lubricated. A hydraulic track adjuster is provided for easy tension adjustment of each track.

Gradeability . . . . . 22° (40%)

Travel speed . . . . . 0 — 1.5 km/h (0 — 0.93 mph)

**Track Frame** All-welded, stress relieved, box section construction.

**Side Frame** Side frames of all-welded construction can be retracted for transportation.

**Side Frame Extending/Retracting Device** Side frame extending/retracting is done with the cylinder provided inside the track frame. Hydraulic power source for this extending/retracting cylinder is common with that for the left track. All that's required is to operate the switching valve installed inside the track frame and shift the left travel lever. Then, side frame extending/retracting can easily be done in a short time eliminating troublesome piping, etc.



**Track Shoes** Forged steel tractor type. Shoes are flat using top grade materials for toughness and connected by induction-hardened steel pins. Hydraulic track adjusters with shock-absorbing are heavy duty recoil springs.

No. of upper rollers (on each side) . . . . . 2  
 No. of lower rollers (on each side) . . . . . 10  
 No. of track shoes (on each side) . . . . . 53  
 Shoe width . . . . . 760 mm (30")  
 Ground pressure . . . . . 0.58 bar (0.58 kgf/cm<sup>2</sup>, 8.41 psi)  
 When equipped with 10.0 m (32'10") boom, 40 000 kg (88 000 lb) capacity hook and 13 200 kg (29 100 lb) counterweights.

## HYDRAULIC SYSTEM

2 variable displacement piston pumps + 1 gear pump hydraulic system allows both independent and combined operations of all functions. Variable-displacement piston pumps not only adequately control operating speeds, but also utilize engine horsepower to maximum.

	Pump-1	Pump-2
<b>Type of pump</b>	Variable displacement pump	
<b>Pressure setting</b>	280 bar (280 kgf/cm <sup>2</sup> , 3 980 psi)	280 bar (280 kgf/cm <sup>2</sup> , 3 980 psi)
<b>Oil flow</b>	200 l/min (44.0 Imp gpm, 52.8 US gpm)	200 l/min (44.0 Imp gpm, 52.8 US gpm)

	Pump-3	Pump-4
<b>Type of pump</b>	Gear pump	
<b>Pressure setting</b>	185 bar (185 kgf/cm <sup>2</sup> , 2 630 psi)	45 bar (45 kgf/cm <sup>2</sup> , 640 psi)
<b>Oil flow</b>	134 l/min (29.5 Imp gpm, 35.4 US gpm)	32 l/min (7.0 Imp gpm, 8.5 US gpm)

**Main and Auxiliary Hoist Motor** Swash plate type axial piston motor with counterbalance valve.

**Boom Hoist Motor** Bent axis motor with counterbalance valve.

**Swing Motor** High torque piston motor.

**Travel Motor** Bent axis motor with brake valve and springset/hydraulic-released multiplate disc brake.

**Relief and Brake Valves** Each hydraulic circuit incorporates large-capacity relief valves to protect circuit from overload or shock load. Counterbalance valves (compensates safe, positive load lowering and prevents accidental load drop when hydraulic power is suddenly reduced) are provided for hoist motor. Brake valves (consisting of relief valve and counterbalance valve) are provided for travel circuit.

## Pressure Setting

### MAIN CIRCUIT

- Main relief valves
  - Hoist (main and aux.), Travel and Boom . . . . . 280 bar (280 kgf/cm<sup>2</sup>, 4 000 psi)
  - Swing . . . . . 185 bar (185 kgf/cm<sup>2</sup>, 2 600 psi)

- Overload relief valves

- Hoist (main and aux.) circuit . . . . . 287 bar (287 kgf/cm<sup>2</sup>, 4 080 psi)
- Boom hoist circuit . . . . . 265 bar (265 kgf/cm<sup>2</sup>, 3 800 psi)
- Travel circuit . . . . . 265 bar (265 kgf/cm<sup>2</sup>, 3 800 psi)

### PILOT CIRCUIT

- Main relief valve . . . . . 45 bar (45 kgf/cm<sup>2</sup>, 640 psi)

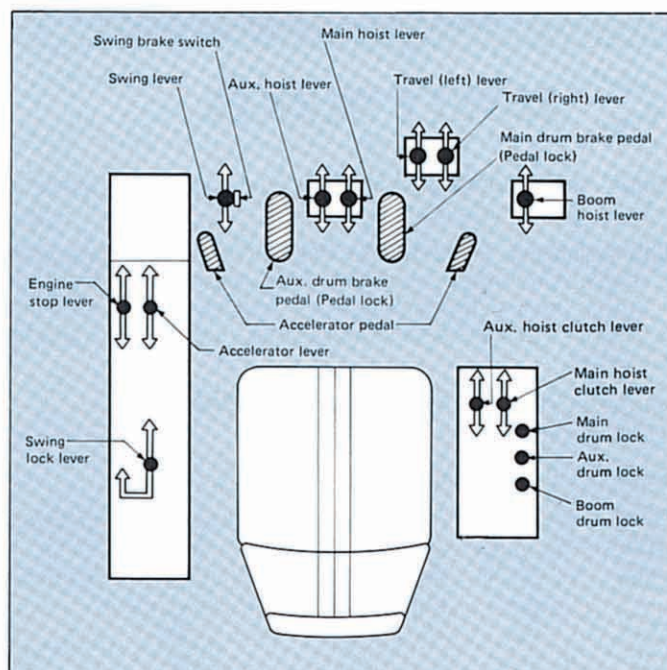
**Line Filters** High filtration 10μ full-flow filter element is provided to keep hydraulic oil clean and ensure long-term, trouble-free operation. Pilot filter and suction filter are provided for each circuit.

## CONTROLS

**Boom, Main and Auxiliary Hoist and Travel** Remote controlled hydraulic servo. Working speed can be precisely controlled by changing lever stroke.

**Swing** Mechanical linkage type.

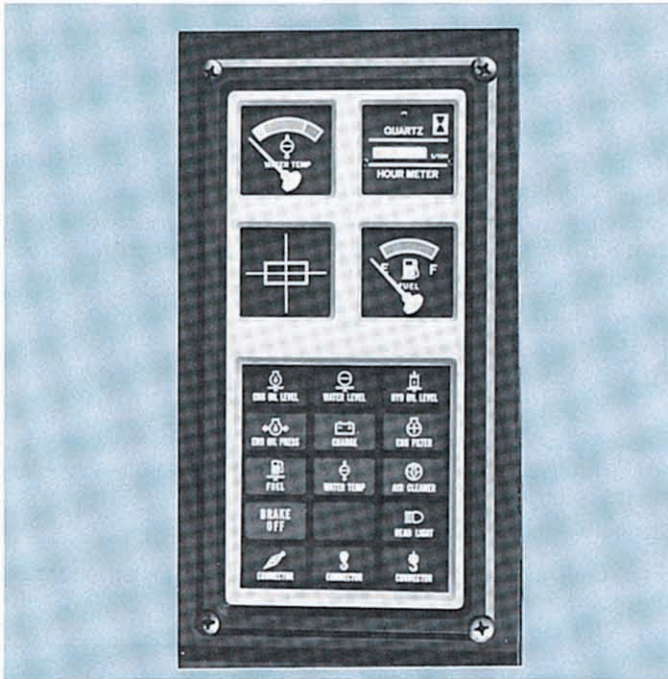
**Fuel Control** Two foot throttles (accelerator pedal) and hand throttle controls equipped as standard.





This monitor has the following functions

- **Instruments** Machine conditions are shown on meters.
- **Start up inspection monitor** To check the machine condition and safety device before starting operation.
- **Safety monitor** To warn the abnormality of the machine during operation and carelessness.



## SAFETY DEVICES

**Boom Angle Indicator** Mechanical type boom angle indicator is provided at boom foot.

**Counterbalance Valve (Brake Valve)** A counterbalance valve is incorporated in travel motors, boom hoist motor, main and auxiliary hoist motors respectively. In case the hydraulic line is broken, this valve is automatically actuated to prevent accidents.

**Spring-set/Hydraulic-released Multiplate Disc Type Travel Brakes**

**Swing Lock and Swing Brake**

**Drum Lock** A pawl type drum lock is adopted for main drum, auxiliary drum and boom drum.

Note: A pawl type drum locks for heavy duty winches (main and aux. hoist drums) are optional equipment.

For Lift crane (Std. cab)

- **Moment Limiter "Hi-Limiter"** The "Hi-Limiter" electrically detects the lifting load, and working radius from the boom angle. The detected data is calculated by a built-in micro-computer. When the lifting load reaches its alarm limit the "Hi-Limiter" buzzes, and when reaching the load limit, the control becomes inoperative.
- **Hook Overhoist Prevention Device** When the hook reaches its safety hoist limit, an alarm bell rings and an auto-stop device auto-matically stops at the same time.
- **Boom Overhoist Prevention Device** When the boom reaches its safety angle limit, a buzzer alarm sounds and boom hoisting automatically stops at the same time. A telescope type boom backstop is also installed.

## SERVICE REFILL CAPACITIES

	Liters	Imp gal	US gal
Fuel tank	250.0	55.0	66.0
Engine coolant	35.0	7.7	9.2
Engine oil	27.0	5.9	7.1
Pump transmission	2.7	0.59	0.71
Boom and winch hoist motor			
reduction device	5.6	1.2	1.5
Winch hoist motor reduction			
device	13.0	2.9	3.4
Swing reduction device	10.0	2.2	2.6
Travel final device (On each)	31.5	6.9	8.3
Hydraulic system (Including tank capacity)	285.0	62.7	75.2
Hydraulic tank	205.0	45.1	54.1

## OPTIONAL EQUIPMENT

**Operator's Cab** electric fan, cab cooler

**Third Drum** For combination operation of pile-driving and augering.

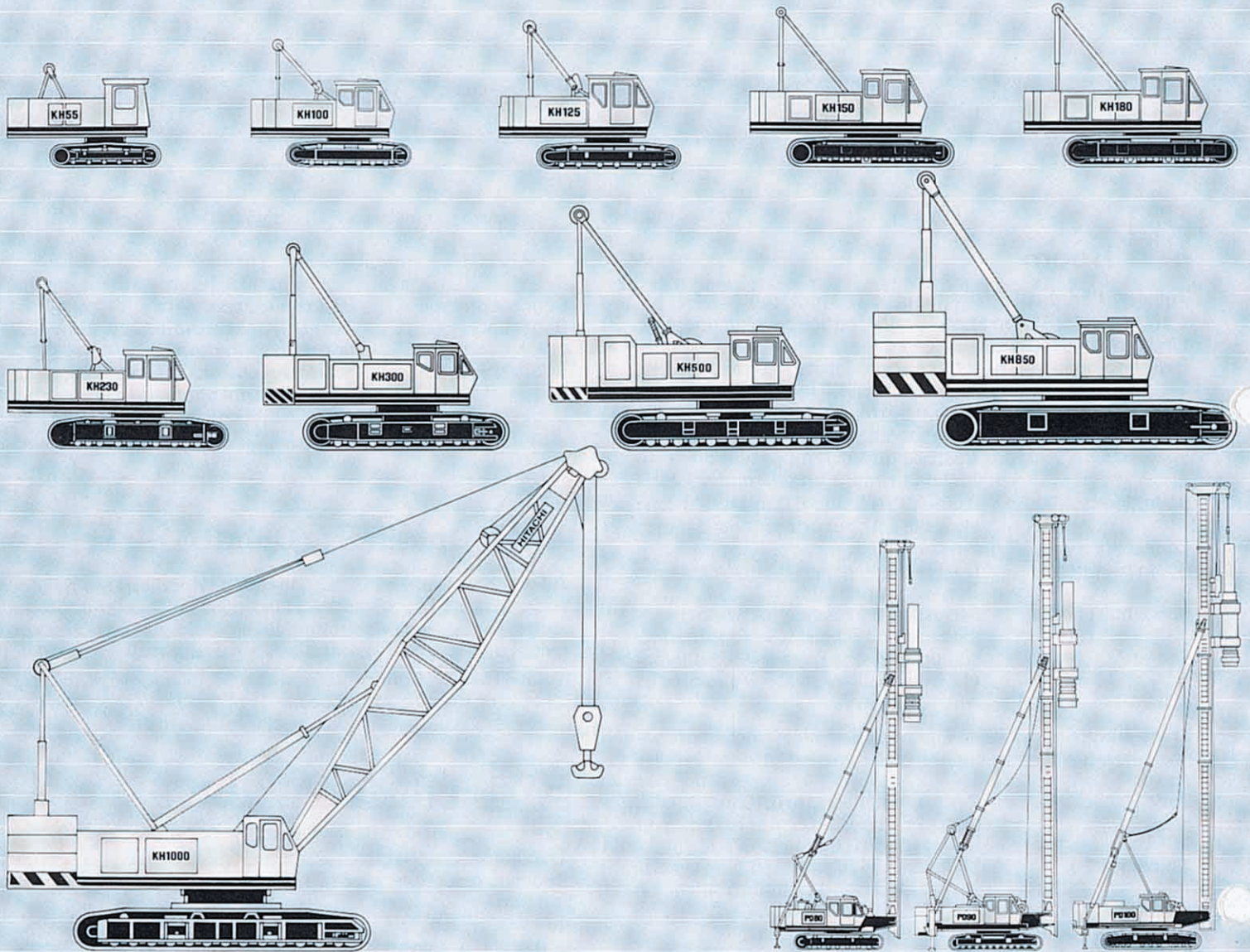
**P.T.O.** Driving a generator.

A built-in type lifting magnet or a welder can be installed.

**Auxiliary Jib for Tubular Crane Boom** Can be attached to the top of main boom for auxiliary hook-hoisting operation.



# KH AND PD SERIES



These specifications are subject to change without notice.

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