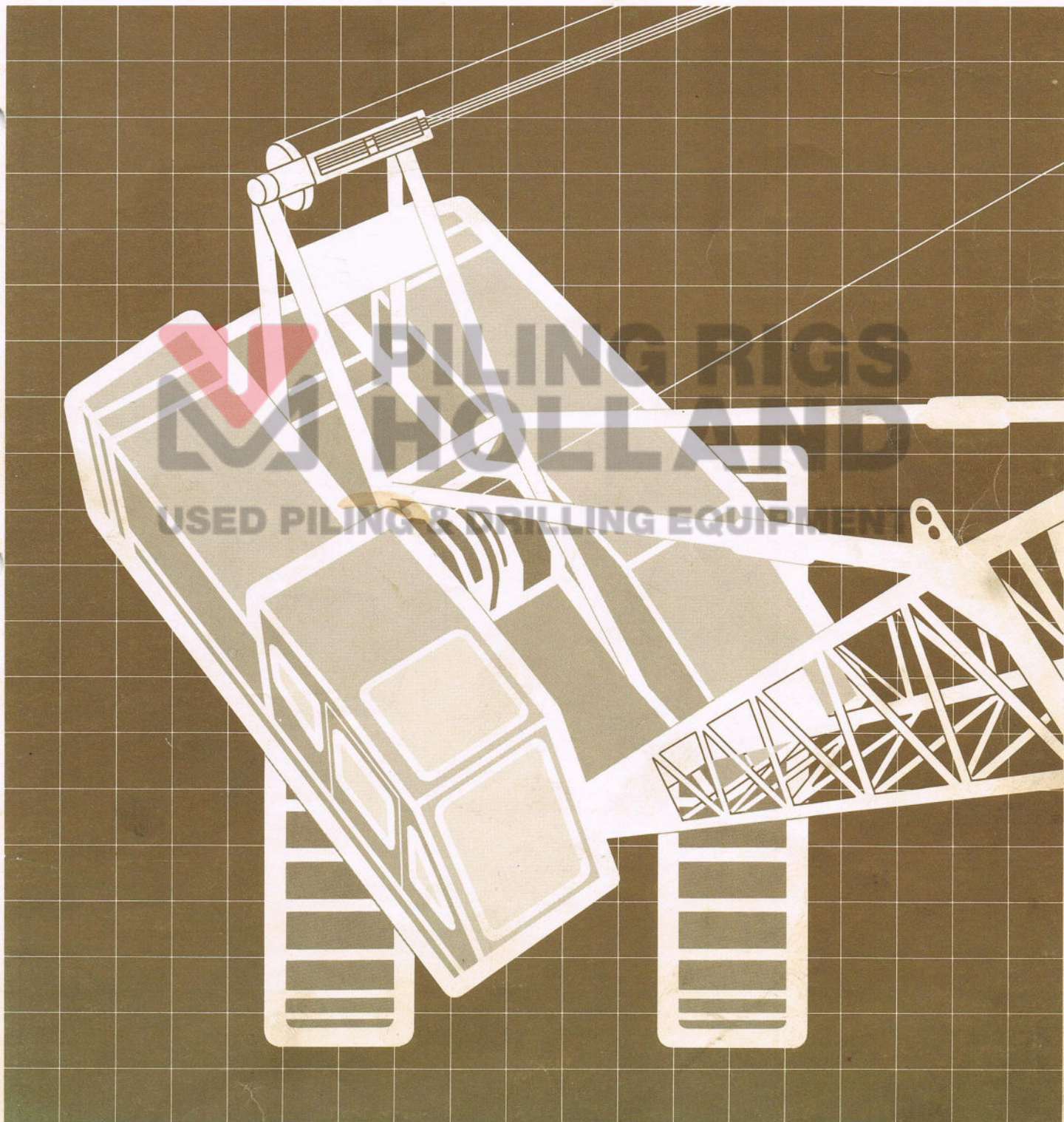


**SPECIFICATION**

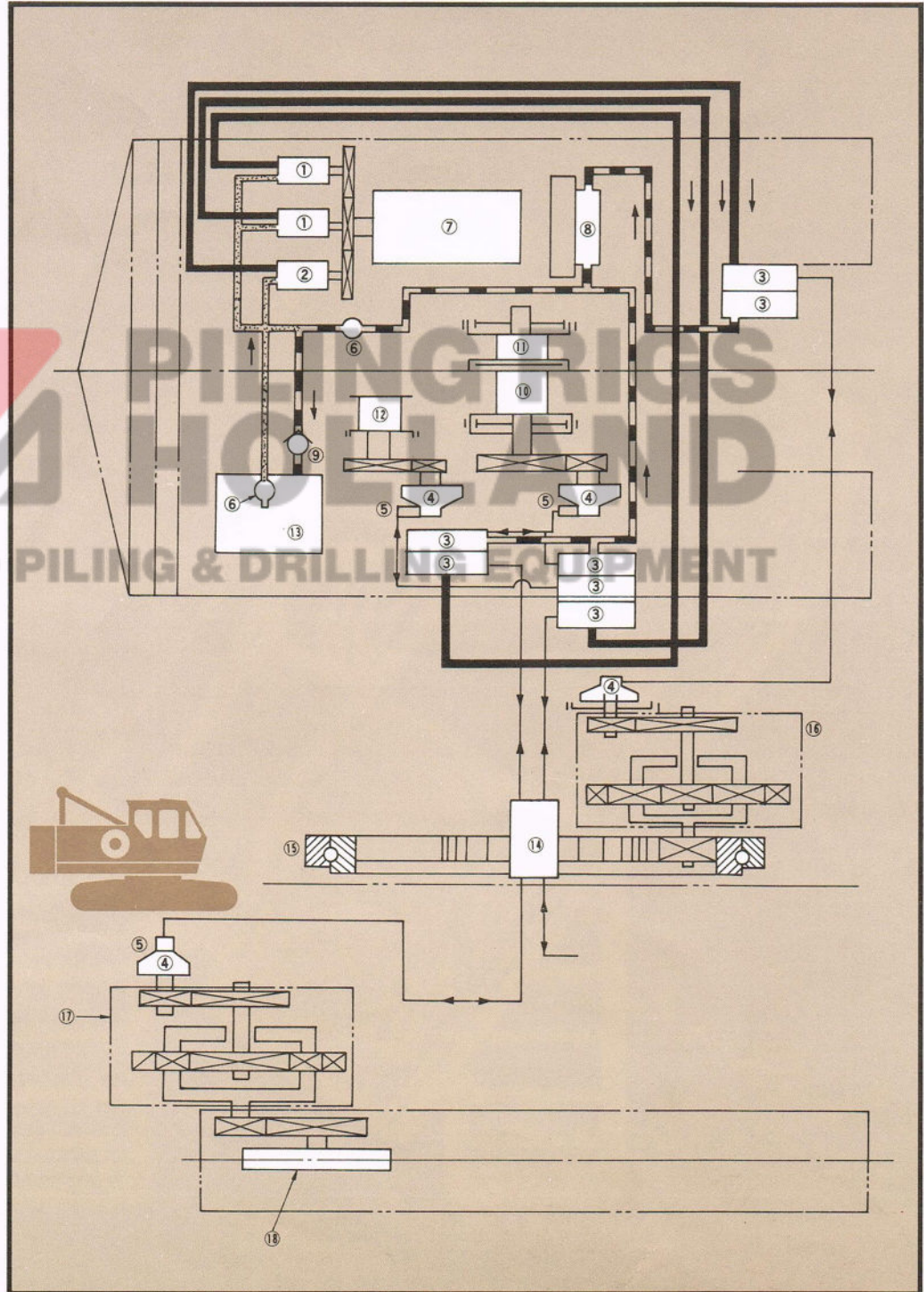
# FULL HYDRAULIC CRAWLER CRANE HITACHI KH100



**PILING RIGS  
HOLLAND**  
USED PILING & DRILLING EQUIPMENT

# Power Transmission Mechanism and Hydraulic System

- 1 Variable displacement pump
- 2 Fixed displacement pump
- 3 Control valve
- 4 Fixed displacement motor
- 5 Brake valve (counterbalance valve)
- 6 Filter
- 7 Engine
- 8 Oil cooler
- 9 Check valve
- 10 Main drum
- 11 Aux. drum
- 12 Boom drum
- 13 Oil tank
- 14 Center joint
- 15 Swing circle
- 16 Swing mechanism
- 17 Tarvel mechanism
- 18 Drive tumbler



PIPING RIGS  
HOLLAND  
USED PILING & DRILLING EQUIPMENT

# Specifications



## SUPERSTRUCTURE



## Engine

Model.....	HINO DS50
Type.....	Water-cooled, 4-cycle, 6-cylinder precombustion type, diesel engine
Net flywheel.....	127 HP/2,000 rpm
Maximum torque.....	47.2 kg-m (341.4 ft-lb/1,400 rpm)
Piston displacement.....	7,982 cc (488 cu.in.)
Fuel tank capacity.....	220 Liters (48.4 Imp-gal.)
Electric system.....	24V AC generating



## Main and Auxiliary Hoist Mechanism

The hoisting mechanism is an independent hydraulic drive type. The winch shaft is driven by an independent hydraulic motor via reduction gear. The main and auxiliary drums are mounted on the winch shaft, each drum equipped with clutch and brake. A hydraulic motor is provided with a counterbalance valve. Normal rotation, stop and reverse rotation of the winch shaft are controlled by the hoist lever. Of course, like a mechanical type, operation by clutch and brake is possible while rotating the winch shaft. Clutches are of internal expanding friction band type. Main and auxiliary clutches are alike in size and type, with clutch linings interchangeable, powered by hydraulic clutch cylinders. An accumulator is provided to produce boost pressure when engine stops.



## Boom Hoist Mechanism

The boom winch is an independent hydraulic drive type. The boom drum is driven by a hydraulic motor via reduction gear. This boom drum is directly fixed on the winch shaft by spline connection without any clutch. The hydraulic motor is provided with a counterbalance valve and the drum housing is equipped with an automatic band brake.

**Boom Drum Brake** Spring-set, hydraulic-released, external contracting friction band type. Brake is automatically actuated when control lever is returned to neutral position.

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



## Swing Mechanism

The swing function is carried out by an independent hydraulic drive system. The swing pinion is driven by a hydraulic motor via planetary reduction gear without clutch. Two braking system (swing brake and swing parking brake) are mounted between the hydraulic motor and planetary reduction gear.

**Swing Brake** Disc brake with pad shoe is hydraulically controlled by shifting the swing lever to the right from the neutral position.

**Swing Parking Brake** Disc brake with pad shoe is manually controlled by pulling up swing parking brake lever at the right side of operator's seat.

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

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

Swing speed .....0 - 3.8 rpm



## Revolving Frame

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

**Gantry** Lowerable for transportation.

**Counterweight** Welded structure made to meet front end attachment requirements.

Total weight .....8,500 kg (18,700 lb.)  
Consists of two sections: One 4,000 kg (8,800 lb.), one 4,500 kg (9,900 lb.).



## 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.



## **HYDRAULIC SYSTEM**

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

	Pump-1	Pump-2
Type of pump	Variable displacement piston pump	
Pressure setting	210 kg/cm <sup>2</sup> (3,000 psi)	210 kg/cm <sup>2</sup> (3,000 psi)
Oil flow	234ℓ/min (51.5 Imp. gal/min)	234ℓ/min (51.5 Imp. gal/min)
Use	<ul style="list-style-type: none"> <li>• Travel (left)</li> <li>• Main hoist (low)</li> <li>• Aux. hoist (low)</li> </ul>	<ul style="list-style-type: none"> <li>• Travel (right)</li> <li>• Main hoist (high)</li> <li>• Aux. hoist (high)</li> <li>• Boom hoist</li> </ul>

	Pump-3	Pump-4
Type of pump	Gear pump	Vane pump
Pressure setting	185 kg/cm <sup>2</sup> (2,600 psi)	40 kg/cm <sup>2</sup> (570 psi)
Oil flow	125ℓ/min (27.5 Imp. gal/min)	27ℓ/min (5.9 Imp. gal/min)
Use	<ul style="list-style-type: none"> <li>• Swing (third drum, optional)</li> </ul>	<ul style="list-style-type: none"> <li>• Pilot valves</li> <li>• Clutches and brakes (main and aux.)</li> </ul>

**Main and Auxiliary Hoist Motor** (One motor, common to both) Radial piston motor with counterbalance valve.

**Boom Hoist Motor** Radial piston motor with counterbalance valve.

**Swing Motor** Radial piston motor.

**Travel Motors** Low-speed high-torque radial piston motor with hydraulic brake valve and spring-set/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 main and auxiliary hoist motor and boom hoist motor. Brake valves (consisting of relief valve and counterbalance valve) are provided for travel circuit.

### Relief Valve Setting

Hoist (main and aux.) circuit.....	210 kg/cm <sup>2</sup> (3,000 psi)
Boom hoist circuit .....	210 kg/cm <sup>2</sup> (3,000 psi)
Swing circuit .....	185 kg/cm <sup>2</sup> (2,600 psi)
Travel circuit .....	210 kg/cm <sup>2</sup> (3,000 psi)

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

## **UNDERCARRIAGE**

**Traction Mechanism** Each track is driven by a high-torque piston motor through reduction gear.

This mechanism allows counter-rotation of tracks for maximum maneuverability in close quarters. When lever is returned to 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.

Gradeability.....	40%
Travel speed.....	0 - 1.5 km/h (0 - 0.93 mph)

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

**Side Frames** Side frames of all welded construction.

**Track Shoes** Heat treated alloy steel castings with induction-hardened roller path and driving lugs. Shoes are connected by induction-hardened steel pins.

No. of upper rollers (on each side) .....	2
No. of lower rollers (on each side) .....	6
No. of track shoes (on each side) .....	52
Shoe width.....	610 mm (24")
Ground pressure .....	0.61 kg/cm <sup>2</sup> (8.7 psi)
When equipped with 10.0m (32'10") boom 30,000 kg (66,000 lb.) capacity hook and 8,500 kg (18,700 lb.) counterweights.	



## SAFETY DEVICES

**Hook Overhoist Prevention Device** When hook reaches the safety hoist limit, an alarm automatically buzzes and the hoisting drum automatically stops at the same time. Even when equipped with the jib boom, these safety devices work in the same manner.

**Boom Overhoist Prevention Device** When the boom reaches its safety angle limit, the alarm automatically buzzes and drum automatically stops at the same time.

**Boom Angle Indicator** Crane boom angle indicator is a rotary drum type angle indicator that reads boom angle and rated load according to each boom length.

In operating the tower crane, those safety devices of tower raising alarm and auto-stop, tower angle indicator, tower jib overhoist alarm and auto-stop work. Provided also is a level gauge.

In case any of the hydraulic piping for hoisting travelling, boom raising/lowering or traction systems suffer damage, brake valves incorporated in their system are automatically actuated to prevent accidents, such as load drop, boom fall or coasting on slopes. Boom raising/lowering and traction systems are also equipped with spring-set, hydraulic-released brakes for added safety.

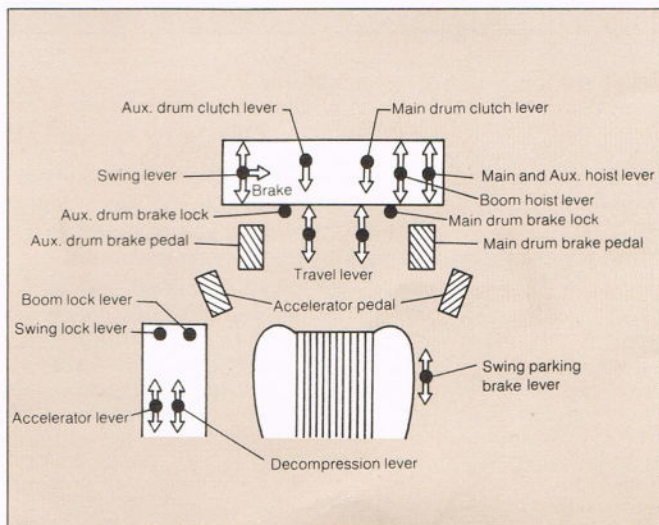
**Electric Load Indicator** This indicator is an electrically operated type that reads the weight of a suspended load.



## CONTROLS

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

**Fuel Control** Foot throttle and hand throttle controls equipped as standard.



## SERVICE REFILL CAPACITIES

	Liters	Imp. gal
• Fuel tank .....	220.0	48.4
• Cooling system .....	49.0	10.8
• Engine oil .....	28.0	6.2
• Winch motor reduction device .....	40.0	8.8
• Pump drive .....	1.5	0.33
• Swing mechanism .....	10.0	2.2
• Travel reduction gear box (on each) .....	24.0	5.3
• Hydraulic system .....	387.0	85.1
• Hydraulic tank .....	327.0	72.0



## STANDARD EQUIPMENT

**Operator's Cab** All weather cab with full 360° visibility, wide screen wiper, sliding fold-in front window, fully adjustable reclining seat.

**Instrument panel** Engine oil pressure gauge, engine coolant temperature gauge, pilot oil pressure gauge, hydraulic oil temperature gauge, ammeter, electric clock hourmeter with tachometer, heater signal, cigarette lighter, dashboard light.

**Miscellaneous** Electric horn, swing lock for transportation, tool kit, fuel level indicator, air cleaner dust indicator, lifetime lubricated rollers and sprockets, electric refuel device.



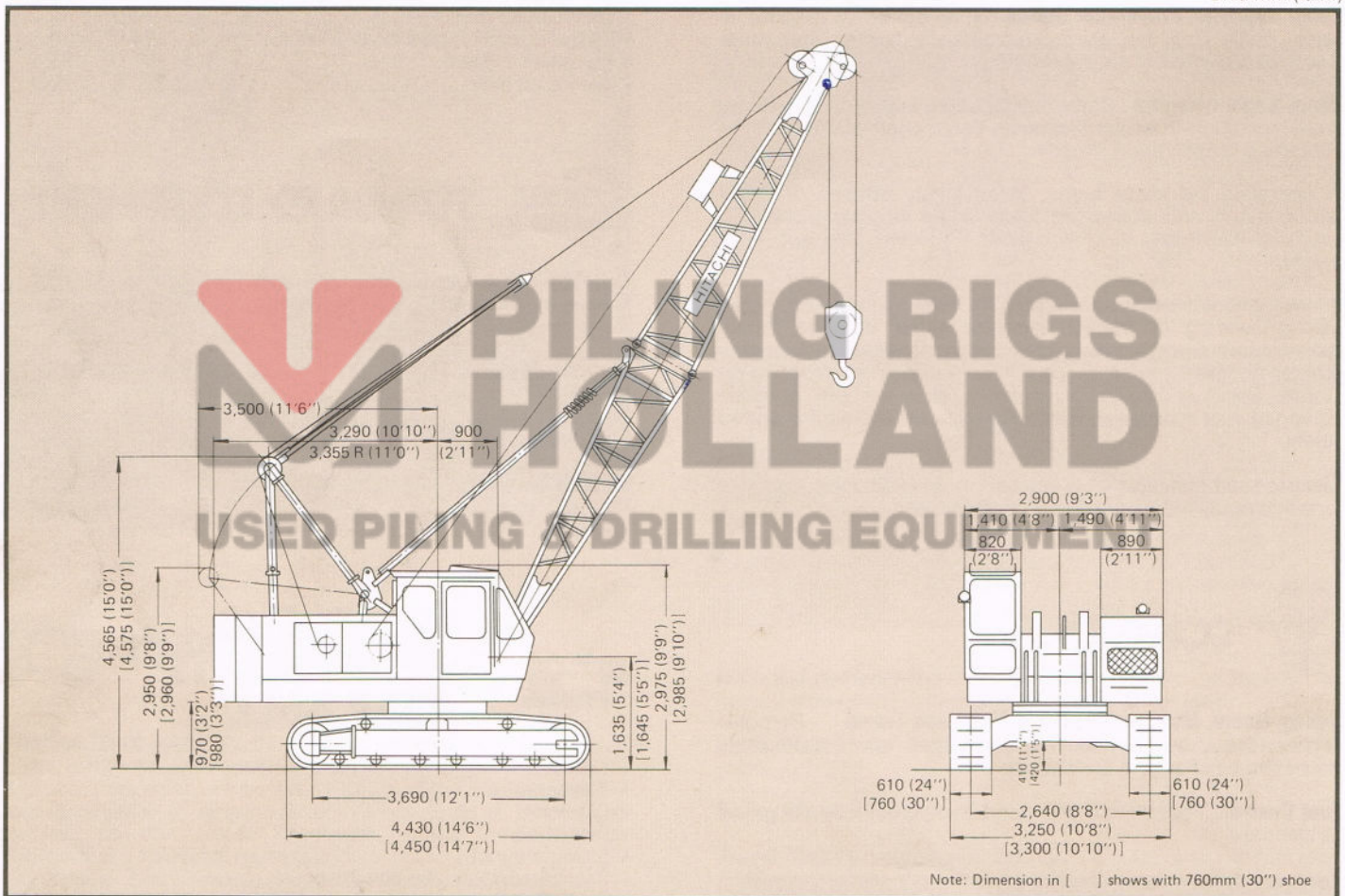
## FRONT-END ATTACHMENTS AVAILABLE

- Crane
- Tower crane
- Clamshell
- Dragline
- Lifting magnet
- 3-point-support type pile driver
  - A. Rotating leader type pile driver
  - B. Non-rotating leader type pile driver
- 3-point-support type earth augers
- Boom-suspension type pile driver
- Earth drill

# CRAWLER CRANE

## Dimensions

Unit: mm (ft.in.)



Note: Dimension in [ ] shows with 760mm (30") shoe

## Main Boom

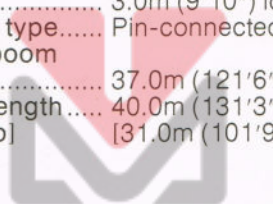
- Crane boom ..... 973mm (38") wide by 973mm(38") deep at connection, lattice construction, high tensile strength steel angle chord.
- Basic boom ..... 2-piece, total length 10.0m(32' 10") upper section 5.0m(16' 5") and lower section 5.0m(16' 5").
- Boom point ..... Offset boom point, 3-sheaves [p.c.d. 400mm(16")] mounted on antifriction bearings on boom peak.
- Boom insert..... 3.0m (9' 10") and 6.0m (19' 8") long available with appurtenant pendants.

- Connection type..... Pin-connected.
- Boom back stop..... Dual-rail, telescopic tubular construction with spring bumper.
- Boom hoist bridle ... Serves as connection between boom pendants and boom hoist wire rope reeving, equipped with 5-sheaves [p.c.d. 230mm(9")] for 10-part boom hoist wire rope reeving.

## Jib

Jib.....	408mm (16") wide by 408mm (16") deep at connection, lattice construction, high tensile strength steel tubular chord.
Basic jib.....	2-piece, total length 6.0m (19'8") upper section 3.0m (9'10") and lower section 3.0m (9'10").
Jib point .....	1-sheave [p.c.d. 400mm (16")] mounted on antifriction bearings on jib peak.
Jib insert .....	3.0m (9'10") long available.
Connection type.....	Pin-connected.
Maximum boom length .....	37.0m (121'6")
Maximum length .....	40.0m (131'3")
[boom + jib]	[31.0m (101'9") + 9.0m (29'6")]




**PILING HOLDINGS**  
 USED PILING & DRILLING EQUIPMENT

## Specifications

<b>Lifting capacity</b>		30,000 kg (66,000 lb.) at 3.0m (9'10") working radius	
<b>Line speed</b>	Main hook hoisting/lowering	High	70m/min (230 ft/min)
		Low	35m/min (115 ft/min)
	Aux. hook hoisting/lowering	High	70m/min (230 ft/min)
		Low	35m/min (115 ft/min)
Boom hoisting/lowering		45m/min (148 ft/min)	rope 14mm $\phi$
<b>Swing speed</b>		0 - 3.8 rpm	
<b>Travel speed</b>		0 - 1.5 km/h (0 - 0.93 mph)	
<b>Gradeability</b>		40%	
<b>Operating weight</b>		29,300 kg (64,500 lb.) When equipped with 10.0m (32'10") boom, 30,000 kg (66,000 lb.) capacity hook and 8,500 kg (18,700 lb.) counterweights.	
<b>Ground pressure</b>		0.61 kg/cm <sup>3</sup> (8.7 psi) [in case of 610 mm (24") shoe]	

# Main Boom & Jib Construction

## Main Boom Construction

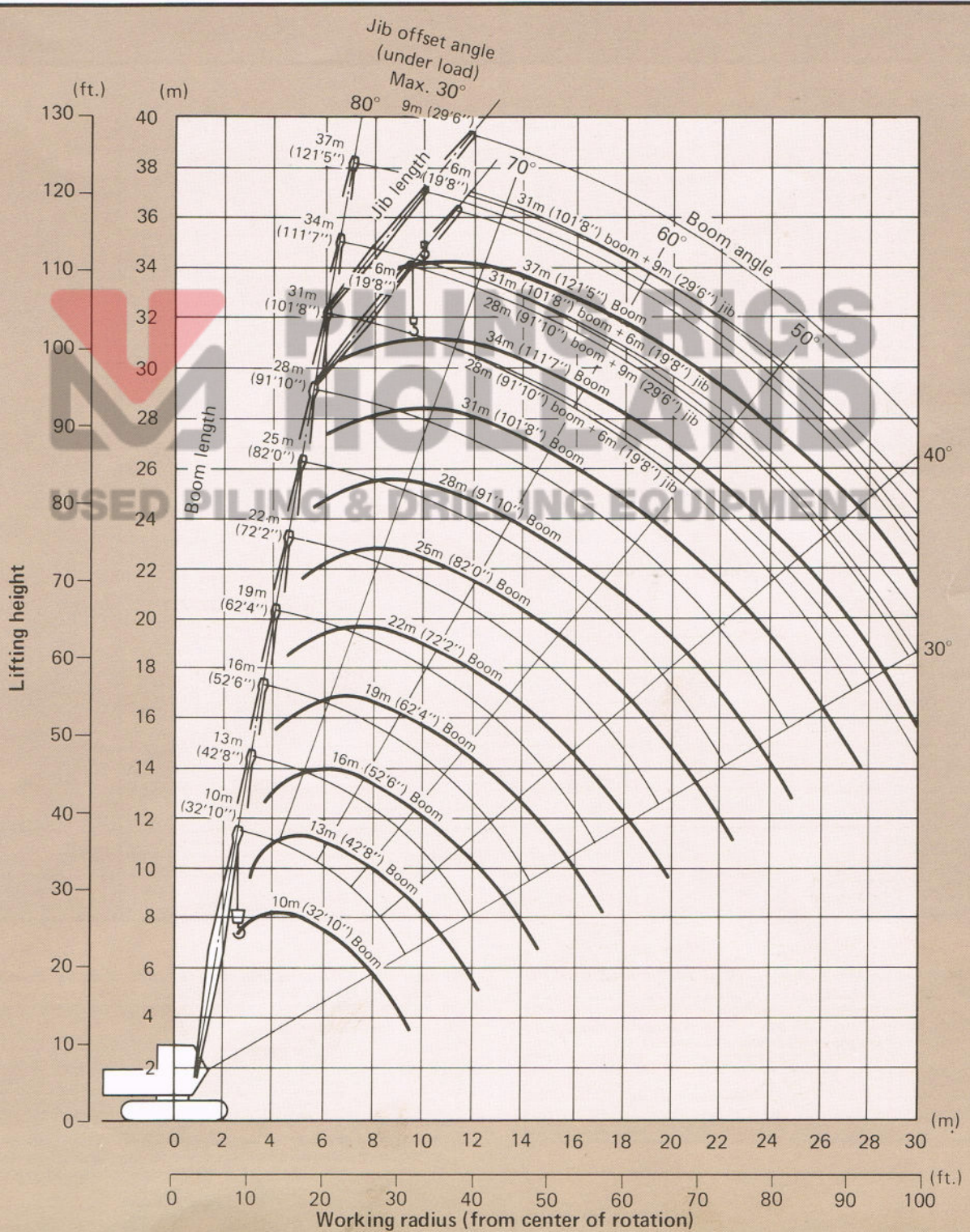
Boom length		10.0m (32'10")	13.0m (42'8")	16.0m (52'6")	19.0m (62'4")	22.0m (72'2")	25.0m (82'0")	28.0m (91'10")	31.0m (101'8")	34.0m (111'7")	37.0m (121'5")
Element											
Upper boom	5.0m (16'5")	1	1	1	1	1	1	1	1	1	1
Lower boom	5.0m (16'5")	1	1	1	1	1	1	1	1	1	1
Boom insert	3.0m (9'10")	-	1	2	1	2	1	2	1	2	1
Boom insert	6.0m (19'8")	-	-	-	1	1	2	2	3	3	4
Available hook		30,000 kg (66,000 lb.) hook				15,000 kg (33,000 lb.) hook					
Number of rope reeving		6	5	4	4	3	2	2	2	2	2
Boom available with jib											
							Jib length 6.0m (19'8") 9.0m (29'6")				

## Jib Construction

Jib length		6.0m (19'8")	9.0m (29'6")
Element			
Lower jib	3.0m (9'10")	1	1
Upper jib	3.0m (9'10")	1	1
Jib insert	3.0m (9'10")	-	1



# Working Ranges



# Rated Loads for Main Boom

KH100

Unit: kg (lb.)

Boom length Working radius	10.0m (32'10")	13.0m (42'8")	16.0m (52'6")	19.0m (62'4")	22.0m (72'2")	25.0m (82'0")	28.0m (91'10")	31.0m (101'8")	34.0m (111'7")	37.0m (121'5")
3.0m (9'10")	30,000 (66,000)									
3.5m (11'6")	22,750 (50,050)	22,650 (49,830)								
4.0m (13'1")	18,350 (40,370)	18,250 (40,150)	18,200 (40,040)							
4.5m (14'9")	15,350 (33,770)	15,250 (33,550)	15,200 (33,440)	15,100 (33,220)						
5.0m (16'5")	13,150 (28,930)	13,050 (28,710)	13,000 (28,600)	12,900 (28,380)	12,800 (28,160)					
6.0m (19'8")	10,350 (22,770)	10,250 (22,550)	10,200 (22,440)	10,100 (22,220)	10,000 (22,000)	9,900 (21,780)	9,850 (21,670)			
7.0m (23'0")	8,400 (18,480)	8,300 (18,260)	8,250 (18,150)	8,150 (17,930)	8,050 (17,710)	7,950 (17,490)	7,900 (17,380)	7,800 (17,160)	7,750 (17,050)	
8.0m (26'3")	7,000 (15,400)	6,900 (15,180)	6,850 (15,070)	6,750 (14,850)	6,650 (14,630)	6,550 (14,410)	6,500 (14,300)	6,400 (14,080)	6,350 (13,970)	6,300 (13,860)
9.0m (29'6")	6,000 (13,200)	5,900 (12,980)	5,850 (12,870)	5,750 (12,650)	5,650 (12,430)	5,550 (12,210)	5,500 (12,100)	5,400 (11,880)	5,350 (11,770)	5,300 (11,660)
10.0m (32'10")		5,100 (11,220)	5,050 (11,110)	4,950 (10,890)	4,850 (10,670)	4,750 (10,450)	4,700 (10,340)	4,600 (10,120)	4,550 (10,010)	4,500 (9,900)
12.0m (39'5")			3,850 (8,470)	3,750 (8,250)	3,650 (8,030)	3,550 (7,810)	3,500 (7,700)	3,400 (7,480)	3,350 (7,370)	3,300 (7,260)
14.0m (45'11")			3,150 (6,930)	3,050 (6,710)	2,950 (6,490)	2,850 (6,270)	2,800 (6,160)	2,700 (5,940)	2,650 (5,830)	2,600 (5,720)
16.0m (52'6")				2,500 (5,500)	2,400 (5,280)	2,300 (5,060)	2,250 (4,950)	2,150 (4,730)	2,100 (4,620)	2,050 (4,510)
18.0m (59'1")					1,900 (4,180)	1,800 (3,960)	1,750 (3,850)	1,650 (3,630)	1,600 (3,520)	1,550 (3,410)
20.0m (65'7")						1,500 (3,300)	1,450 (3,190)	1,350 (2,970)	1,300 (2,860)	1,250 (2,750)
22.0m (72'2")						1,250 (2,750)	1,200 (2,640)	1,100 (2,420)	1,050 (2,310)	1,000 (2,200)
24.0m (78'9")							1,000 (2,200)	900 (1,980)	850 (1,870)	800 (1,760)
26.0m (85'4")								700 (1,540)	650 (1,430)	600 (1,320)
28.0m (91'10")									450 (990)	400 (880)
30.0m (98'5")									350 (770)	300 (660)

**Notes:**

- The rated loads shown don't exceed 78% of tipping loads with the machine on firm level ground.
- The rated loads shown include the weights of all lifting attachments such as hook, bucket, etc. The load to be actually lifted will be rated load minus the weight of all lifting attachments.

Hook capacity	30,000 kg (66,000 lb.)	15,000 kg (33,000 lb.)
Weight	370 kg (810 lb.)	220 kg (480 lb.)

- When the jib is attached, the load to be actually lifted will be the rated load minus jib boom weights.

Jib length	6.0m (19'8")	9.0m (29'6")
Jib weight	650 kg (1,400 lb.)	750 kg (1,700 lb.)

- The jib can be attached to boom of 25.0m (82'0") to 31.0m (101'8") long.
- Counterweight is 8,500 kg (18,700 lb.).

# Rated Loads for Jib Boom

6/11/00

Unit: kg (lb.)

Boom length	25.0m (82'0")				28.0m (91'10")				31.0m (101'8")			
	6.0m (19'8")		9.0m (29'6")		6.0m (19'8")		9.0m (29'6")		6.0m (19'8")		9.0m (29'6")	
Jib angle Working radius	10°	30°	10°	30°	10°	30°	10°	30°	10°	30°	10°	30°
8.0m (26'3")	4,000 (8,800)				4,000 (8,800)							
9.0m (29'6")	4,000 (8,800)		3,800 (8,400)		4,000 (8,800)				4,000 (8,800)			
10.0m (32'10")	4,000 (8,800)	3,800 (8,400)	3,800 (8,400)		4,000 (8,800)	3,800 (8,400)	3,800 (8,400)		4,000 (8,800)		3,800 (8,400)	
12.0m (39'5")	3,250 (7,200)	3,250 (7,200)	3,250 (7,200)	3,000 (6,600)	3,200 (7,000)	3,200 (7,000)	3,200 (7,000)	3,000 (6,600)	3,100 (6,800)	3,100 (6,800)	3,100 (6,800)	
14.0m (45'11")	2,550 (5,600)	2,550 (5,600)	2,550 (5,600)	2,550 (5,600)	2,500 (5,500)	2,500 (5,500)	2,500 (5,500)	2,500 (5,500)	2,400 (5,300)	2,400 (5,300)	2,400 (5,300)	2,400 (5,300)
16.0m (52'6")	2,000 (4,400)	2,000 (4,400)	2,000 (4,400)	2,000 (4,400)	1,950 (4,300)	1,950 (4,300)	1,950 (4,300)	1,950 (4,300)	1,850 (4,100)	1,850 (4,100)	1,850 (4,100)	1,850 (4,100)
18.0m (59'1")	1,500 (3,300)	1,500 (3,300)	1,500 (3,300)	1,500 (3,300)	1,450 (3,200)	1,450 (3,200)	1,450 (3,200)	1,450 (3,200)	1,350 (3,000)	1,350 (3,000)	1,350 (3,000)	1,350 (3,000)
20.0m (65'7")	1,200 (2,600)	1,200 (2,600)	1,200 (2,600)	1,200 (2,600)	1,150 (2,500)	1,150 (2,500)	1,150 (2,500)	1,150 (2,500)	1,050 (2,300)	1,050 (2,300)	1,050 (2,300)	1,050 (2,300)
22.0m (72'2")	950 (2,100)	950 (2,100)	950 (2,100)	950 (2,100)	900 (2,000)	900 (2,000)	900 (2,000)	900 (2,000)	800 (1,800)	800 (1,800)	800 (1,800)	800 (1,800)
24.0m (78'9")					700 (1,500)	700 (1,500)	700 (1,500)	700 (1,500)	600 (1,300)	600 (1,300)	600 (1,300)	600 (1,300)
26.0m (85'4")									400 (900)	400 (900)	400 (900)	400 (900)

**Notes:**

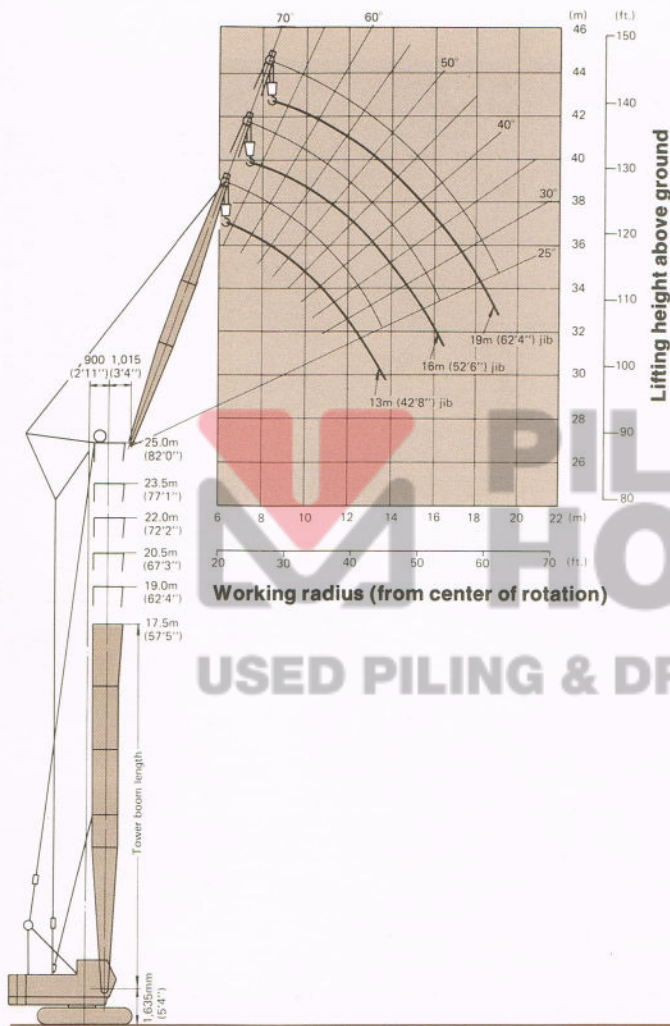
1. The rated loads shown don't exceed 78% of tipping loads with the machine on firm level ground.
2. The load to be actually lifted will be rated load minus the hook weight.

Hook capacity	4,000 kg (8,800 lb.)
Hook weight	110 kg (240 lb.)

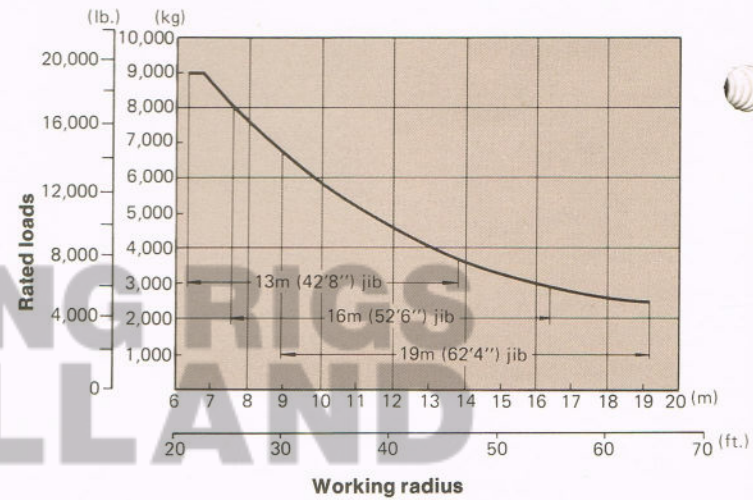
It's unnecessary to exclude the weight of main hook.

3. Jib boom offset angles to the main boom are shown when loaded.
4. Counterweight is 8,500 kg (18,700 lb.).

# TOWER CRANE



## Rated Load Curves



USED PILING & DRILLING EQUIPMENT

### Tower crane boom construction

Tower Boom Length Element	17.5m (57'5")	19.0m (62'4")	20.5m (67'3")	22.0m (72'2")	23.5m (77'1")	25.0m (82'0")
Lower tower 6.5m (21'4")	1	1	1	1	1	1
Upper tower 3.5m (11'6")	1	1	1	1	1	1
Insert 1.5m (4'11")	1	2	1	2	1	2
Insert 3.0m (9'10")	-	-	1	1	-	-
Insert 6.0m (19'8")	1	1	1	1	2	2
Tower boom available with jib						

### Tower crane jib boom construction

Jib Boom Length Element	13.0m (42'8")	16.0m (52'6")	19.0m (62'4")
Jib lower 5.0m (16'5")	1	1	1
Jib upper 5.0m (16'5")	1	1	1
Jib insert 3.0m (9'10")	1	-	1
Jib insert 6.0m (19'8")	-	1	1

## Specifications

Tower boom.....	1,150mm(45") wide by 1,150mm(45") deep at connection, lattice construction, high tensile strength steel tubular chord.
Tower length.....	17.5m (57'5"), to 25.0m (82'0") (from tower hinge to jib hinge)
Tower insert.....	1.5m (4'11"), 3.0m (9'10") and 6.0m (19'8") long available with appurtenant pendants.
Connection type.....	Pin-connected.
Tower backstop.....	Dual-rail, tubular section struts with spring bumper.
Tower hoist bridle...	Serves as connection between tower boom pendants and tower boom hoist wire rope reeving, equipped with 5-sheaves [p.c.d. 230mm(9")] mounted on anti-friction bearing.
Jib.....	940mm(37") wide by 750mm(30") deep at connection, lattice construction, high tensile strength steel tubular chord.
Jib length.....	13.0m (42'8") to 19.0m (62'4").
Basic jib.....	3-piece, total length 13.0m(42'8") upper section 5.0m(16'5"), insert section 3.0m(9'10") and lower section 5.0m(16'5").
Jib insert.....	3.0m (9'10") and 6.0m (19'8") long available.
Connection type.....	Pin-connected.
Maximum length.....	44.0m (144'4")
[Tower + Jib]	[25.0m (82'0") + 19.0m (62'4")]

## Rated Loads

Working radius	Rated loads
6.4m (21'0")	9,000 kg (19,800 lb.)
6.6m (21'8")	9,000 kg (19,800 lb.)
7.6m (24'11")	7,800 kg (17,160 lb.)
8.9m (29'2")	6,600 kg (14,520 lb.)
13.8m (45'3")	3,900 kg (8,580 lb.)
16.4m (53'10")	3,100 kg (6,820 lb.)
19.2m (63'0")	2,500 kg (5,500 lb.)

### Notes:

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

Hook capacity	15,000 kg (33,000 lb.)
Weight	220 kg (480 lb.)

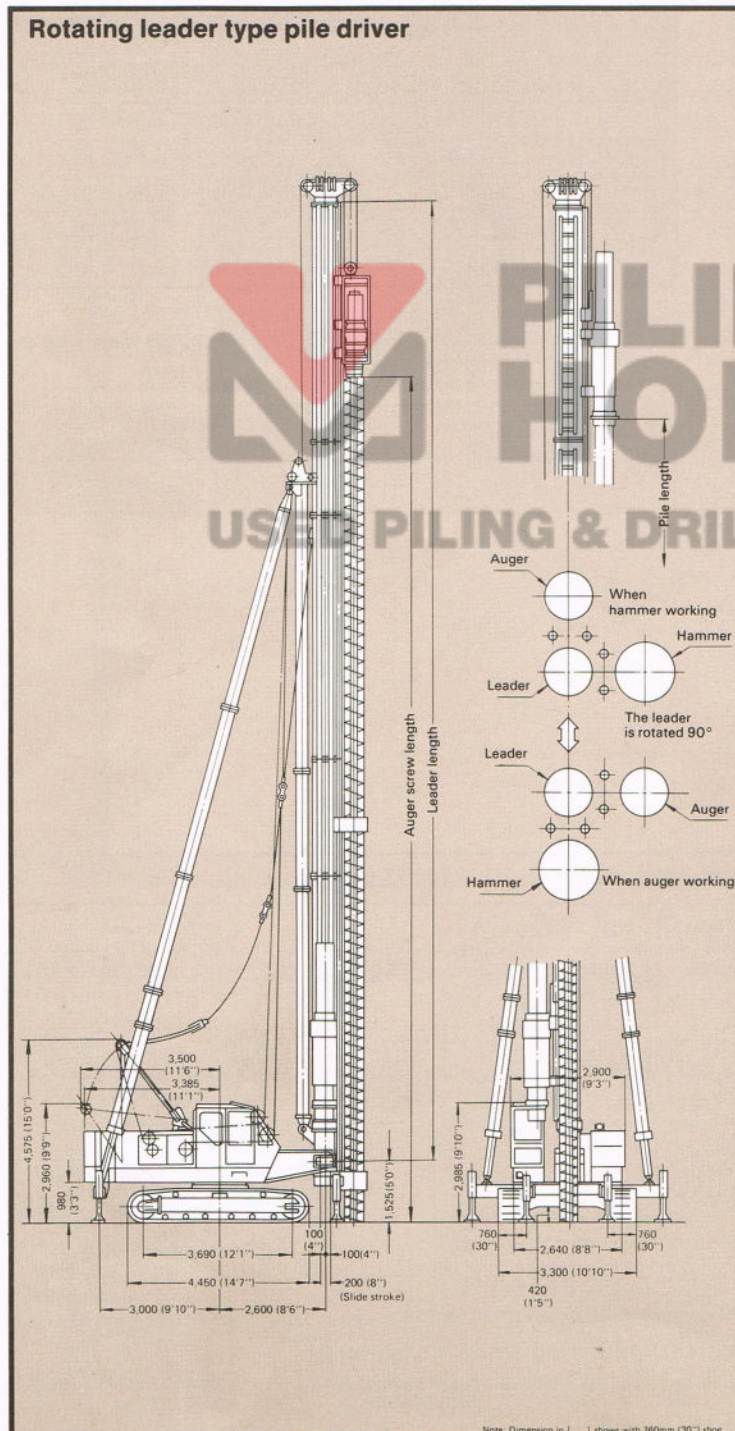
<b>Lifting capacity</b>	9,000 kg (19,800 lb.) at 6.6m (21'8") working radius		
<b>Working radius</b>	6.4m (21') to 19.2m (63')		
<b>Maximum lifting height (from ground level)</b>	42.0m (137'9"): tower boom 25.0m (82'0") and jib boom 19.0m (62'4")		
<b>Line speed</b>	Hook hoisting/lowering	High	70 m/min (230 ft/min)
		Low	35 m/min (115 ft/min)
	Jib hoisting/lowering	45 m/min (148 ft/min)	
<b>Swing speed</b>	0 - 3.8 rpm		
<b>Travel speed</b>	0 - 1.5 km/h (0 - 0.93 mph)		
<b>Operating weight</b>	34,000 kg (74,800 lb.) When equipped with 25.0m (82'0") tower, 19.0m (62'4") jib, 15,000 kg (33,000 lb.) capacity hook and 9,500 (20,900 lb.) counterweights.		
<b>Ground pressure</b>	0.71 kg/cm <sup>2</sup> (10.10 psi)		

# 3-POINT SUPPORT TYPE

## Dimensions

Unit: mm (ft.in.)

### Rotating leader type pile driver



## Specifications

- Type..... Three-point direct-support, tubular leader supported by two back stays.
- Leader ..... 40S and 40R type solid-drawn steel pipe, precision machined at connection.
- Leader length ..... Basic length 18.0m (59'1").
- Hammer guide pipe..... High tensile solid-drawn steel pipe.
- Back stay..... Hydraulic stay cylinder provided for easy vertical setting of leader and for easy oblique adjusting.
- Leader insert..... 3.0m (9'10") and 6.0m (19'18") leader inserts available with appurtenant pendants.
- Leader sliding device..... Leader can be slid 200mm (8") for easy centering and operated by hydraulic cylinder built in all-welded front steel bracket. Leader sliding can be controlled from operator's seat.
- Front jack ..... Optional
- Rear jack ..... Optional

## Working Speeds

<b>Hammer or auger hoisting speed</b> (line speed)	High	70 m/min (230 ft/min)
	Low	35 m/min (115 ft/min)
<b>Pile hoisting speed</b> (line speed)	High	70 m/min (230 ft/min)
	Low	35 m/min (115 ft/min)
<b>Auger hoisting speed (third drum)</b> (line speed)		30 m/min (99 ft/min)
<b>Swing speed</b>		0 - 3.8 rpm
<b>Travel speed</b>		0 - 1.5 km/h (0 - 0.93 mph)

# PILE DRIVER



## Specifications

		Non-rotating leader type pile driver			Non-rotating leader type earth auger		Rotating leader type pile driver/ earth auger
<b>Type of front bracket</b>		2,600			2,600		2,600
<b>Type of leader</b>		40S			40S		40R
<b>Type of hammer</b>		22	32	40	—	—	22
<b>Leader length</b>	m (ft.in.)	27.0 (88'6")	24.0 (78'9")	24.0 (78'9")	27.0 (88'6")	24.0 (78'9")	24.0 (78'9")
<b>Pile length</b>	m (ft.in.)	23.0 (75'5")	19.0 (62'4")	18.0 (59'1")	—	—	20.0 (65'7")
<b>Pile weight</b>		4,500 (9,900)			—	—	4,500 (9,900)
<b>Leader tilt angle</b>	Forward (deg.)	5°	2°	2°	—	—	—
	Backward (deg.)	20°	20°	20°	—	—	—
<b>Type of earth auger</b>		—	—	—	D-40H	D-60H	D-40H
<b>Auger screw length</b>	m (ft.in.)	—	—	—	24.0 (78'9")	21.0 (68'11")	21.0 (68'11")
<b>Drilling depth per motion</b>	m (ft.in.)	—	—	—	23.0 (75'5")	20.0 (65'7")	20.0 (65'7")
<b>Drilling diameter</b>	mm (ft.in.)	—	—	—	600 (24")	600 (24")	600 (24")
<b>Counterweight</b>		10,500 (23,100)			10,500 (23,100)		10,500 (23,100)
<b>Ground pressure</b>	kg/cm <sup>2</sup> (psi)	0.83 (11.8)	0.89 (12.6)	0.94 (13.4)	0.87 (12.4)	0.91 (12.9)	0.97 (13.8)
<b>Operating weight</b>	kg (lb.)	46,500 (102,300)	50,000 (110,000)	53,000 (116,600)	52,000 (114,400)	54,600 (120,100)	58,000 (127,600)

**Notes:**

1. Front brackets of all types are equipped with leader-sliding devices.
2. 40R type leader rotates up to 90 degrees.
3. Leader length varies when drilling diameter is over 600mm (24").
4. Drivable pile length varies depending on the type of cap used.
5. In case of auger operations, front and rear jacks must be used.
6. Weights of auger reduction device are: D-40H; 3,300 kg (7,260 lb.) and D-60H; 4,700 kg (10,340 lb.).
7. In case of inclined pile driving, rear jacks must be used.

# BOOM-SUPPORT TYPE PILE DRIVER

## Specifications

Type of leader	32P		40S		
Type of hammer	22	32	22	32	40
Boom length	m (ft.in.) 19.0 (62'4")	16.0 (52'6")	19.0 (62'4")	16.0 (52'6")	13.0 (42'8")
Leader length	m (ft.in.) 25.0 (82'0")	22.0 (78'9")	25.0 (82'0")	22.0 (78'9")	19.0 (62'4")
Pile length	m (ft.in.) 20.0 (65'7")	16.0 (52'6")	20.0 (65'7")	16.0 (52'6")	12.0 (39'4")
Working radius x Pile weight	5.1 x 4,100 (16'9" x 9,020)	4.7 x 4,100 (15'5" x 9,020)	5.2 x 4,100 (17'1" x 9,020)	4.8 x 3,800 (15'9" x 8,360)	4.5 x 4,100 (14'9" x 9,020)
	m (ft.in.) x kg (lb.) 6.1 x 2,600 (20'0" x 5,720)	5.5 x 1,700 (18'1" x 3,740)	5.8 x 2,900 (19'0" x 6,380)	5.4 x 2,000 (17'9" x 4,400)	5.2 x 1,000 (17'1" x 2,200)
Counterweight	kg (lb.) 10,500 (23,100)		10,500 (23,100)		
Ground pressure	kg/cm <sup>2</sup> (psi) 0.74 (10.5)	0.78 (11.1)	0.75 (10.7)	0.79 (11.2)	0.82 (11.7)
Operating weight	kg (lb.) 44,200 (97,200)	46,800 (103,000)	44,900 (98,800)	47,400 (104,300)	49,200 (108,200)

Note: Drivable pile length varies depending on the type of cap used.

## Working Speeds

Hammer hoisting speed (line speed)	High	70 m/min (230 ft/min)
	Low	35 m/min (115 ft/min)
Pile hoisting speed (line speed)	High	70 m/min (230 ft/min)
	Low	35 m/min (115 ft/min)
Swing speed	0 - 3.8 rpm	
Travel speed	0 - 1.5 km/h (0 - 0.93 mph)	

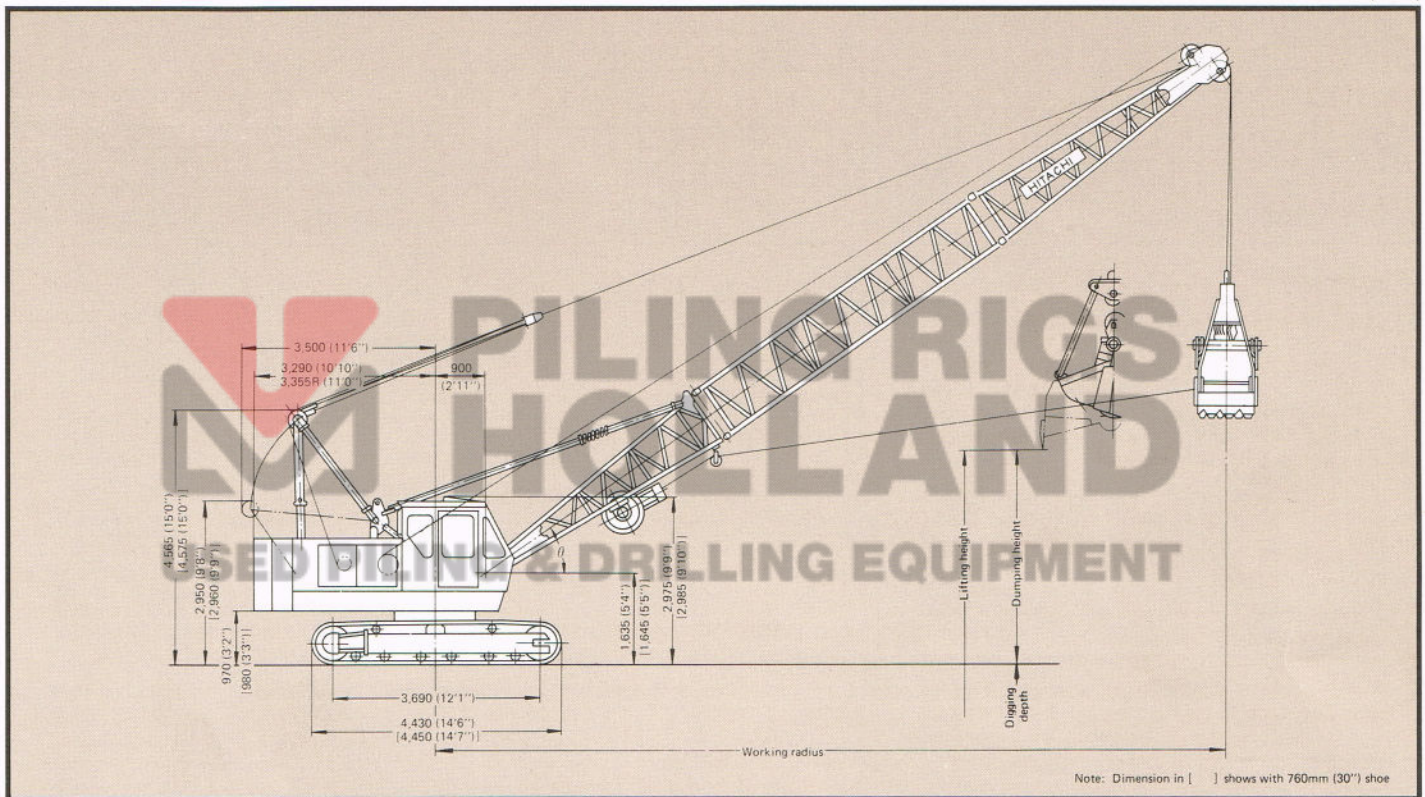


# CLAMSHELL



## Dimensions

Unit: mm (ft.in.)



## Specifications

<b>Bucket capacity</b>			0.6m <sup>3</sup> (3/4 cu.yd) 1,550 kg (3,410 lb.) medium service
			0.8m <sup>3</sup> (1 cu.yd) 1,950 kg (4,290 lb.) medium service
			1.0m <sup>3</sup> (1-1/4 cu.yd) 2,100 kg (4,620 lb.) medium service
			1.2m <sup>3</sup> (1-1/2 cu.yd) 2,300 kg (5,060 lb.) light service
<b>Boom length</b>			10.0 - 19.0m (32'10" - 62'4")
<b>Line speed</b>	Bucket holding	High	70 m/min (230 ft/min)
		Low	35 m/min (115 ft/min)
	Digging	High	70 m/min (230 ft/min)
		Low	35 m/min (115 ft/min)
Boom hoisting		45 m/min (148 ft/min)	rope 14mm $\phi$
<b>Swing</b>			0 - 3.8 rpm
<b>Travel</b>			0 - 1.5 km/h (0 - 0.93 mph)
<b>Gradeability</b>			40%
<b>Operating weight</b>			31,500 kg (69,300 lb.) When equipped with 10.0m (32'0") boom, 1.0m <sup>3</sup> (1-1/4 cu.yd) capacity bucket and 8,500 kg (18,700 lb.) counterweights.
<b>Ground pressure</b>			0.65 kg/cm <sup>2</sup> (9.3 psi) lin case of 610 mm (24") shoe

# Working Ranges

Boom length			10.0m (32'10")				13.0m (42'8")				
Boom angle			35°	45°	55°	65°	35°	45°	55°	65°	
Working radius			9.4 (30'10")	8.3 (27'3")	7.0 (23'0")	5.5 (18'1")	11.8 (38'9")	10.4 (34'2")	8.7 (28'7")	6.7 (22'0")	
Allowable gross weight			4,000 (8,800)				3,700 (8,100)	4,000 (8,800)			
Lifting height m (ft.in.)	0.6m <sup>3</sup> (3/4 cu.yd)	Tagline	Standard spring type	14.2 (46'7")	15.5 (50'11")	16.7 (54'10")	17.6 (57'9")	15.9 (52'3")	17.7 (58'1")	19.2 (63'0")	20.3 (66'7")
			Deep digging spring type	26.2 (86'0")	27.5 (90'4")	28.7 (94'3")	29.6 (97'2")	27.9 (91'8")	29.7 (97'6")	31.2 (102'5")	32.3 (106'0")
			Hydraulic type	38.2 (125'5")	39.5 (129'9")	40.7 (133'8")	41.6 (136'7")	39.9 (131'1")	41.7 (136'11")	43.2 (141'10")	44.3 (145'5")
	0.8m <sup>3</sup> (1 cu.yd)	Tagline	Standard spring type	14.0 (45'11")	15.3 (50'3")	16.5 (54'2")	17.4 (57'1")	15.7 (51'7")	17.5 (57'5")	19.0 (62'4")	20.1 (65'11")
			Deep digging spring type	26.0 (85'4")	27.3 (89'8")	28.5 (93'7")	29.4 (96'6")	27.7 (91'0")	29.5 (96'10")	31.0 (101'9")	32.1 (105'4")
			Hydraulic type	38.0 (124'9")	39.3 (129'1")	40.5 (133'0")	41.4 (135'11")	39.7 (130'5")	41.5 (136'3")	43.0 (141'2")	44.1 (144'9")
	1.0m <sup>3</sup> (1-1/4 cu.yd)	Tagline	Standard spring type	13.8 (45'3")	15.1 (49'7")	16.3 (53'6")	17.2 (56'5")	15.5 (50'11")	17.3 (56'9")	18.8 (61'8")	19.9 (65'3")
			Deep digging spring type	25.8 (84'8")	27.1 (89'0")	28.3 (92'11")	29.2 (95'10")	27.5 (90'4")	29.3 (96'2")	30.8 (101'1")	31.9 (104'8")
			Hydraulic type	37.8 (124'1")	39.1 (128'5")	40.3 (132'4")	41.2 (135'3")	39.5 (129'9")	41.3 (135'7")	42.8 (140'6")	43.9 (144'1")
	1.2m <sup>3</sup> (1-1/2 cu.yd)	Tagline	Standard spring type	13.6 (44'7")	14.9 (48'11")	16.1 (52'10")	17.0 (55'9")	15.3 (50'3")	17.1 (56'1")	18.6 (61'0")	19.7 (64'8")
			Deep digging spring type	25.6 (84'0")	26.9 (88'4")	28.1 (92'3")	29.0 (95'2")	27.3 (89'8")	29.1 (95'6")	30.6 (100'5")	31.7 (104'1")
			Hydraulic type	37.6 (123'5")	38.9 (127'9")	40.1 (131'8")	41.0 (134'7")	39.3 (129'1")	41.1 (134'11")	42.6 (139'10")	43.7 (143'6")
Digging depth	m (ft.in.)	Standard spring type	12.0 (39'5")								
		Deep digging spring type	24.0 (78'9")								
		Hydraulic type	36.0 (118'1")								
Dumping height	m (ft.in.)	0.6m <sup>3</sup> (3/4 cu.yd)	2.2 (7'3")	3.5 (11'6")	4.7 (15'5")	5.6 (18'4")	3.9 (12'10")	5.7 (18'8")	7.2 (23'7")	8.3 (27'3")	
		0.8m <sup>3</sup> (1 cu.yd)	2.0 (6'7")	3.3 (10'10")	4.5 (14'9")	5.4 (17'9")	3.7 (12'2")	5.5 (18'1")	7.0 (23'0")	8.1 (26'7")	
		1.0m <sup>3</sup> (1-1/4 cu.yd)	1.8 (5'11")	3.1 (10'2")	4.3 (14'1")	5.2 (17'1")	3.5 (11'6")	5.3 (17'5")	6.8 (22'4")	7.9 (25'11")	
		1.2m <sup>3</sup> (1-1/2 cu.yd)	1.6 (5'3")	2.9 (9'6")	4.1 (13'5")	5.0 (16'5")	3.3 (10'10")	5.1 (16'9")	6.6 (21'8")	7.7 (25'3")	



## Working Ranges

Boom length			16.0m (52'6")				19.0m (62'4")					
Boom angle			35°	45°	55°	65°	35°	45°	55°	65°		
Working radius			m (ft.in.)		14.3 (46'11")	12.6 (41'5")	10.4 (34'2")	8.0 (26'3")	16.8 (55'2")	14.7 (48'3")	12.2 (40'1")	9.3 (30'6")
Allowable gross weight			kg (lb.)		2,900 (6,400)	3,200 (7,000)	4,000 (8,800)	2,400 (5,300)	2,600 (5,700)	3,400 (7,500)	4,000 (8,800)	
Lifting height m (ft.in.)	0.6m <sup>3</sup> (3/4 cu.yd)	Tagline	Standard spring type	17.6 (57'9")	19.8 (65'0")	21.6 (70'11")	23.0 (75'5")	19.3 (63'4")	21.9 (71'10")	24.1 (79'1")	25.8 (84'8")	
		Tagline	Deep digging spring type	29.6 (97'2")	31.8 (104'5")	33.6 (110'4")	35.0 (114'10")	31.3 (102'9")	33.9 (111'3")	36.1 (118'6")	37.8 (124'1")	
		Tagline	Hydraulic type	41.6 (136'7")	43.8 (143'10")	45.6 (149'9")	47.0 (154'3")	43.3 (142'2")	45.9 (150'8")	48.1 (157'11")	49.8 (163'6")	
	0.8m <sup>3</sup> (1 cu.yd)	Tagline	Standard spring type	17.4 (57'1")	19.6 (64'4")	21.4 (70'3")	22.8 (74'9")	-	-	23.9 (78'5")	25.6 (84'0")	
		Tagline	Deep digging spring type	29.4 (96'6")	31.6 (103'9")	33.4 (109'8")	34.8 (114'2")	-	-	35.9 (117'10")	37.6 (123'5")	
		Tagline	Hydraulic type	41.4 (135'11")	43.6 (143'2")	45.4 (149'1")	46.8 (153'7")	-	-	47.9 (157'3")	49.6 (162'10")	
	1.0m <sup>3</sup> (1-1/4 cu.yd)	Tagline	Standard spring type	-	-	21.2 (69'7")	22.6 (74'2")	-	-	23.7 (77'9")	25.4 (83'4")	
		Tagline	Deep digging spring type	-	-	33.2 (109'0")	34.6 (113'6")	-	-	35.7 (117'2")	37.4 (122'9")	
		Tagline	Hydraulic type	-	-	45.2 (148'5")	46.6 (152'11")	-	-	47.7 (156'7")	49.4 (162'2")	
	1.2m <sup>3</sup> (1-1/2 cu.yd)	Tagline	Standard spring type	-	-	21.0 (68'11")	22.4 (73'5")	-	-	-	25.2 (82'8")	
		Tagline	Deep digging spring type	-	-	33.0 (108'4")	34.4 (112'10")	-	-	-	37.2 (122'1")	
		Tagline	Hydraulic type	-	-	45.0 (147'9")	46.4 (152'3")	-	-	-	49.2 (161'6")	
Digging depth	m (ft.in.)	Standard spring type	12.0 (39'5")									
		Deep digging spring type	24.0 (78'9")									
		Hydraulic type	36.0 (118'1")									
Dumping height	m (ft.in.)	0.6m <sup>3</sup> (3/4 cu.yd)	5.6 (18'4")	7.8 (25'7")	9.6 (31'6")	11.0 (36'1")	7.3 (24'0")	9.9 (32'5")	12.1 (39'9")	13.8 (45'4")		
		0.8m <sup>3</sup> (1 cu.yd)	5.4 (17'9")	7.6 (24'11")	9.4 (30'10")	10.8 (35'5")	-	-	11.9 (39'1")	13.6 (44'8")		
		1.0m <sup>3</sup> (1-1/4 cu.yd)	-	-	9.2 (30'2")	10.6 (34'9")	-	-	11.7 (38'5")	13.4 (44'0")		
		1.2m <sup>3</sup> (1-1/2 cu.yd)	-	-	9.0 (29'6")	10.4 (34'1")	-	-	-	13.2 (43'4")		

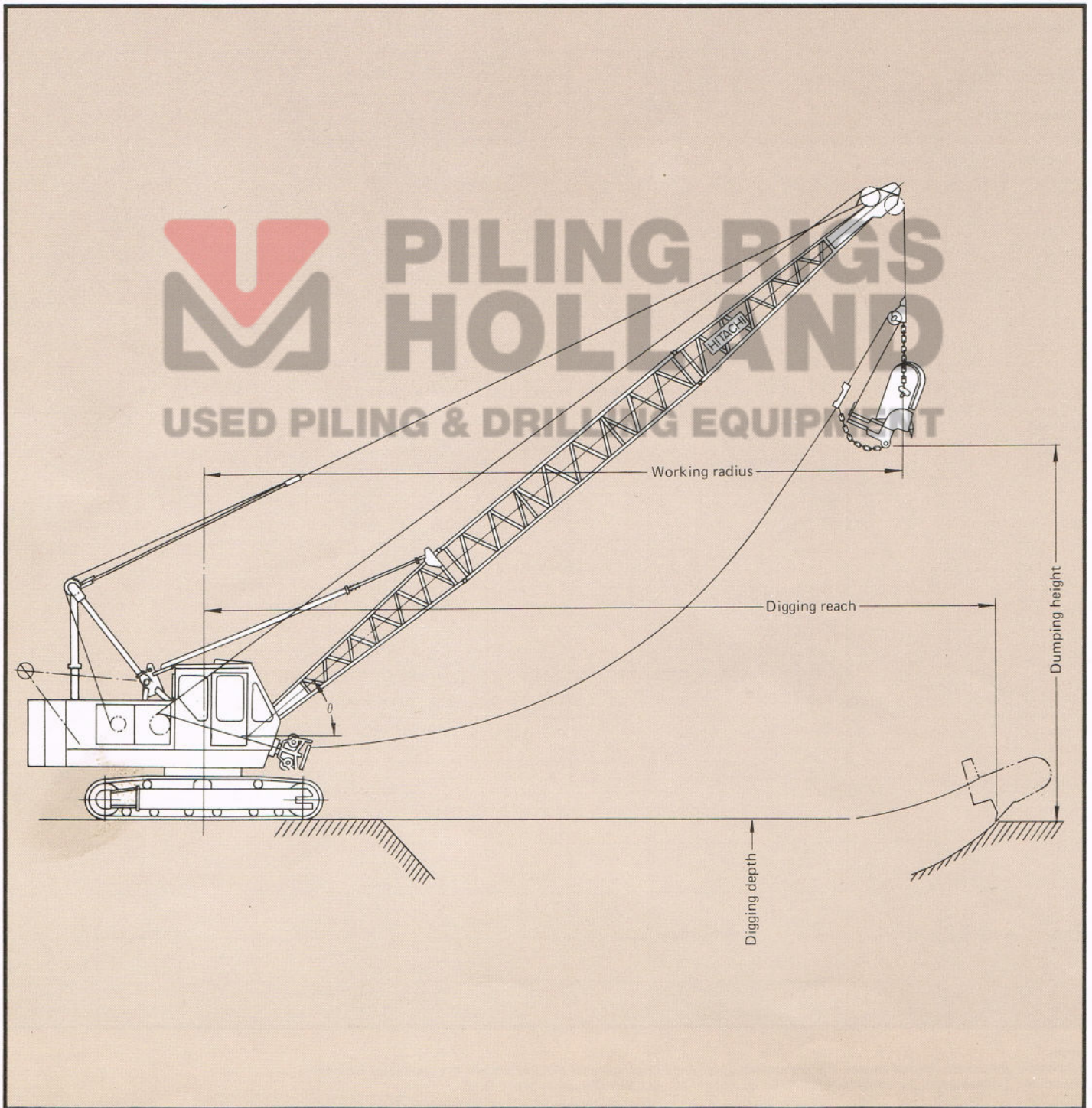
**Notes:**

Allowable gross load shown means the maximum total load consisting of bucket weight and material weight. Therefore, bucket capacity must be chosen so as not to exceed the allowable gross load.

# DRAGLINE

## Dimensions

Unit: mm (ft.in.)



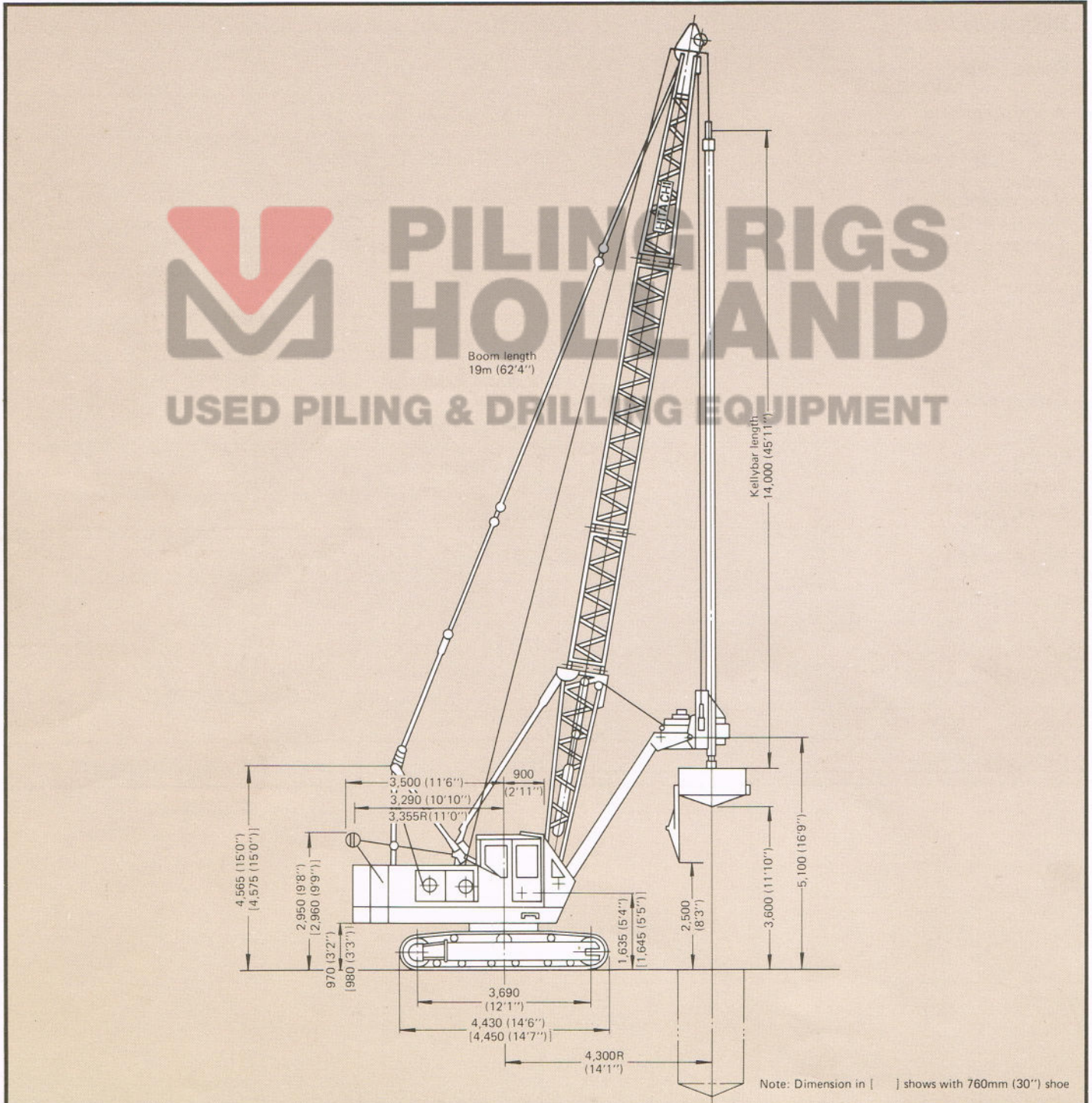
## Specifications

<b>Bucket capacity</b>		0.6m <sup>3</sup> (3/4 cu.yd)    0.8m <sup>3</sup> (1 cu.yd)	
<b>Boom length</b>		10.0 - 16.0m (32'10" - 52'6")	
<b>Working radius</b>		7.7 - 15.0m (25'3" - 49'3")	
<b>Max. digging reach</b>		10.0 - 17.4m (32'10" - 57'1")	
<b>Max. digging depth</b>		5.5 - 11.1m (18'1" - 36'5")	
<b>Dumping height</b>		3.2 - 10.2m (10'6" - 33'6")	
<b>Line speed</b>	Hoisting	High	70 m/min (230 ft/min)
		Low	35 m/min (115 ft/min)
	Digging	High	70 m/min (230 ft/min)
		Low	35 m/min (115 ft/min)
Boom hoisting		45 m/min (148 ft/min)	
<b>Swing speed</b>		0 - 3.8 rpm	
<b>Travel speed</b>		0 - 1.5 km/h (0 - 0.93 mph)	
<b>Gradeability</b>		40%	
<b>Operating weight</b>		30,700 kg (67,500 lb.) When equipped with 13.0m (42'8") boom, 0.8 m <sup>3</sup> (1 cu.yd) capacity bucket and 8,500 kg (18,700 lb.) counterweights.	
<b>Ground pressure</b>		0.63 kg/cm <sup>2</sup> (8.96 psi) [in case of 610 mm (24'0") shoe]	

# EARTH DRILL

## Dimensions

Unit: mm (ft.in.)





## Specifications

<b>Boom length</b>		19.0m (62'4")
<b>Drilling diameter</b>	Common earth	1,500mm (4'11")
	Loam or soft slit	1,700mm (5'7")
		2,000mm (6'7") (with reamer knife)*1
<b>Drilling depth</b>	Without stem	33.0m (108'3")
	With stem	43.0m (141'1")
<b>Bucket rotation</b>		High: 24 rpm Low: 12 rpm
<b>Bucket rotation torque</b>		4,000 kg-m (28,900 ft.-lb.) 5,100 kg-m (37,000 ft.-lb.), reverse
<b>Bucket hoisting load</b>		9,500 kg (20,900 lb.)
<b>Auxiliary hoisting load</b> *2		5,000 kg (11,000 lb.)
<b>Speed</b>	Bucket hoist (line speed)	High: 70 m/min (230 ft/min) Low: 35 m/min (115 ft/min)
	Auxiliary drum hoist (line speed)	High: 70 m/min (230 ft/min) Low: 35 m/min (115 ft/min)
	Boom hoist (line speed)	45 m/min (148 ft/min)
	Swing	0 - 3.8 rpm
	Travel	0 - 1.5 km/h (0 - 0.93 mph)
<b>Counterweight</b>		8,500 kg (18,700 lb.)
<b>Ground pressure</b>		0.77 kg/cm <sup>2</sup> (10.9 psi)
<b>Operating weight</b>		36,800 kg (81,000 lb.)

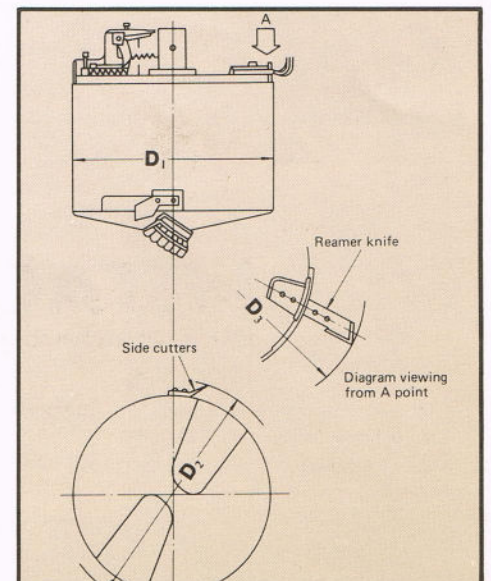
Notes:

\*1. When a reamer knife is employed, two-step drilling or other engineering technique may be required depending on soil.

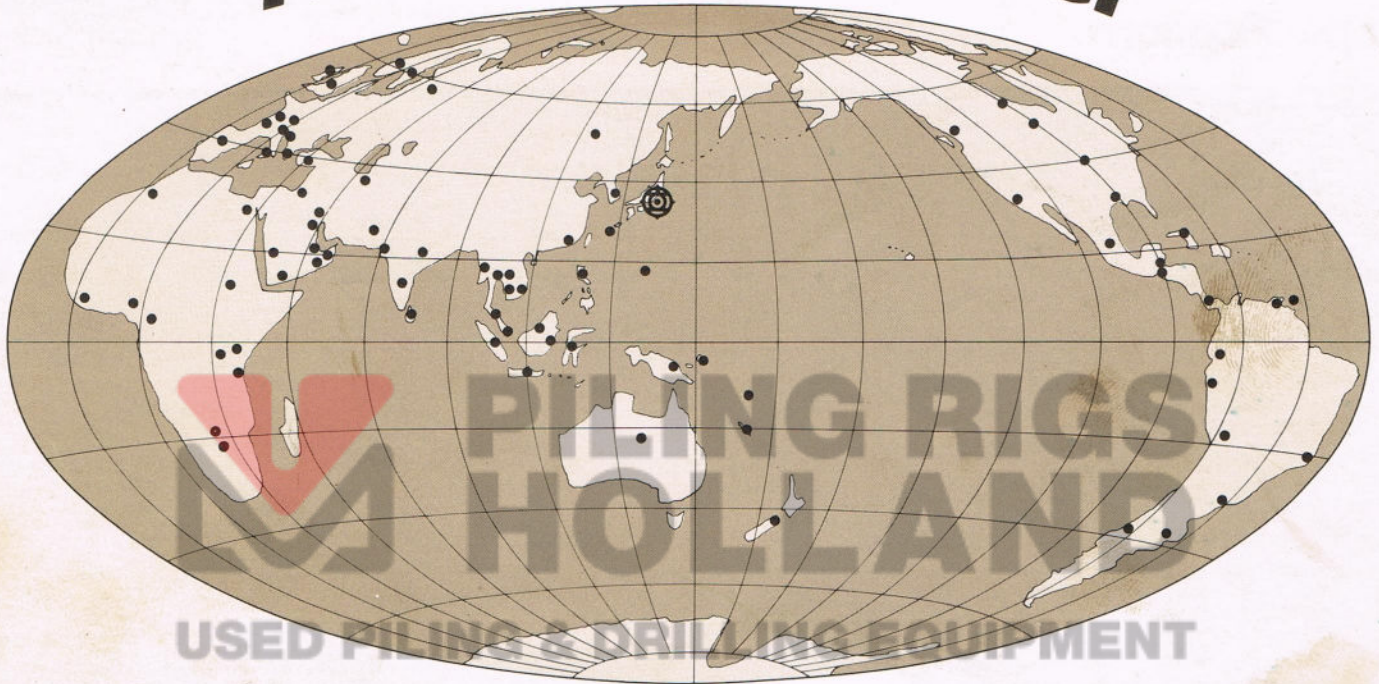
\*2. Auxiliary hoisting load varies according to boom angle. Auxiliary hoisting operation means a hoisting job of casings or reinforced cage, tremie pipe in earth drill jobs.

## Drilling Bucket

Bucket D <sub>1</sub> mm (ft.in.)	Side cutter D <sub>2</sub> mm (ft.in.)	Reamer knife D <sub>3</sub> mm (ft.in.)	Capacity m <sup>3</sup> (cu.yd)	Weight kg (lb.)	Remarks
1,580 (5'2")	1,700 (5'7")	2,000 (6'7")	0.8 (1 cu.yd)	870 (1,910)	Light duty work
1,480 (4'10")	1,600 (5'3")	1,900 (6'3")	0.8 (1 cu.yd)	840 (1,850)	Light duty work
1,380 (4'6")	1,500 (4'11")	1,800 (5'11")	0.8 (1 cu.yd)	800 (1,760)	
1,280 (4'2")	1,400 (4'7")	1,700 (5'7")	0.8 (1 cu.yd)	780 (1,720)	
1,180 (3'11")	1,300 (4'3")	1,600 (5'3")	0.8 (1 cu.yd)	750 (1,650)	
1,080 (3'7")	1,200 (3'11")	1,500 (4'11")	0.8 (1 cu.yd)	730 (1,610)	
980 (3'3")	1,100 (3'7")	1,400 (4'7")	0.67 (0.9 cu.yd)	640 (1,410)	
880	1,000	1,300	0.54	610	



# HITACHI Worldwide Anywhere, Anytime.



\* These specifications are subject to change without notice.



**HITACHI**  
Hitachi Construction Machinery Co.Ltd.

Office: 2-10, 1-chome, Uchikanda, Chiyoda-ku, Tokyo, Japan  
Telephone: Tokyo (03)293-3611  
Cable Address: "TOKHITACHIKENKI"  
Telex: 2222604