HYDRAULIC CRAWLER CRANE

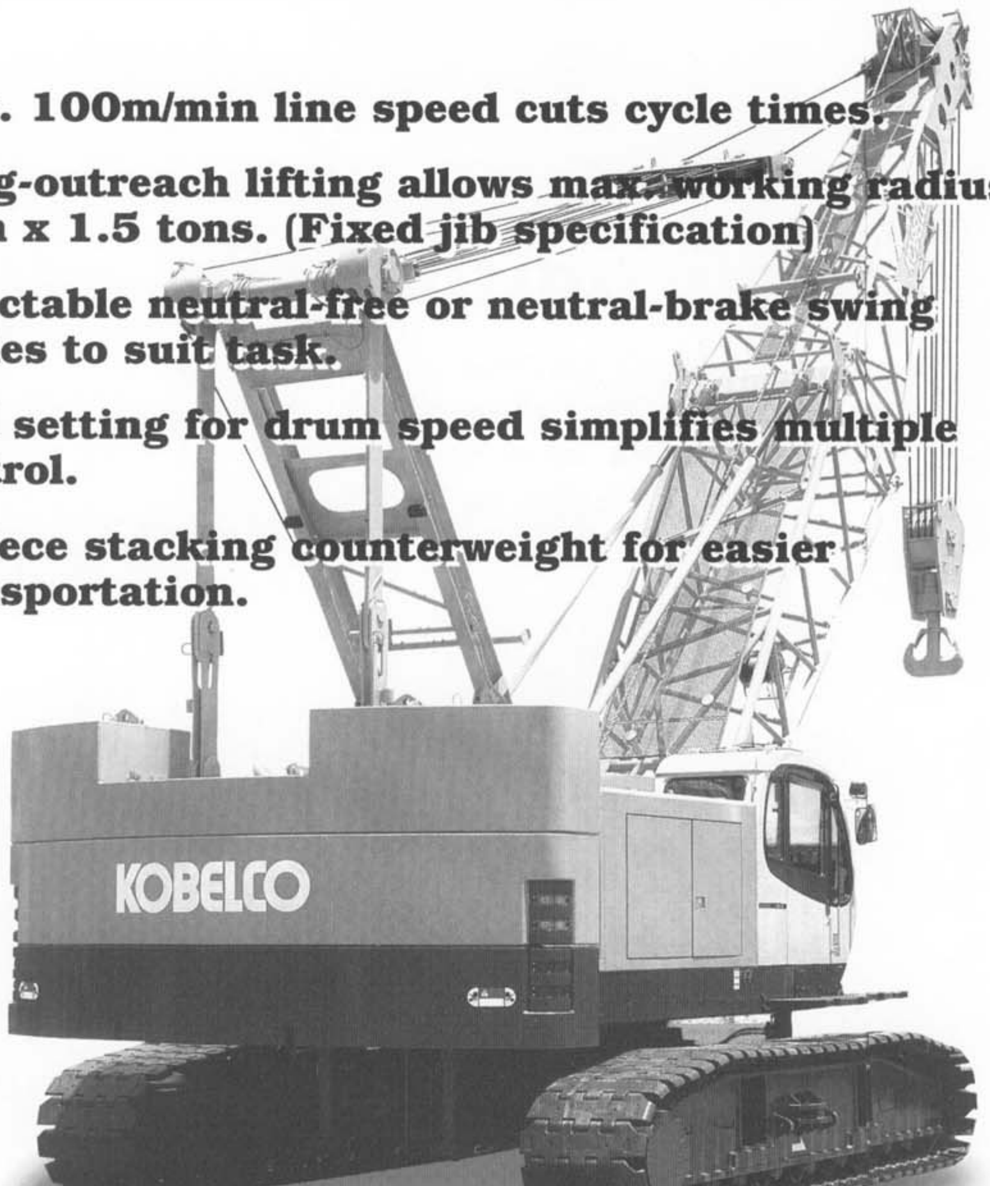
KOBELCO

7080-2 Mastertech

Max. Lifting Capacity: 90 Tons at 3.7 Meters
Max. Boom Length: 57.9 Meters
Max. Luffing Tower Lifting Capacity: 15 Tons at 14.0 Meters
Max. Tower + Tower Jib Legth: 44.2 + 35.1 Meters

Specifications

- **Max. 100m/min line speed cuts cycle times.**
- **Long-outreach lifting allows max. working radius of 54m x 1.5 tons. (Fixed jib specification)**
- **Selectable neutral-free or neutral-brake swing modes to suit task.**
- **Dial setting for drum speed simplifies multiple control.**
- **3-piece stacking counterweight for easier transportation.**



Bulletin No. 7080-2CC-SPEC-102

Specifications

7080-2

Upper Machinery

Power Plant

Model .... Mitsubishi 6D24-TE1
Type .... Water-cooled, direct fuel injection, with turbocharger
No. of cylinder 6
Bore and stroke .... 130 mm x 150 mm
Displacement .... 11.945 liters
Rated power .... 184 kW (250 PS) at 2,000 min^{-1} (rpm) (JIS D0006-1994)
Max. torque .... 1,030 N·m (105 kg·m) at 1,400 min^{-1} (rpm) (JIS D0006-1994)
Cooling system .... Liquid, recirculating bypass
Starter .... 24 V, 5.5 kW
Alternator .... 24 V, 80 A
Cycles 4
Radiator .... Corrugated type core, thermostatically controlled
Air cleaner .... Dry type with replaceable paper element
Throttle .... Electric throttle control, twist grip type
Fuel tank capacity .... 400 liters
Fuel filter ....Heavy duty wirh replaceable paper element
Batteries ....Two 12V, 150 A-hr capacity batteries, series connected

Hydraulic System

Pumps: Two variable displacement plunger pumps . and fixed displacement plunger pump are driven by . heavy-duty pump drive. One of variable displacement pump is used in the left propel circuit, boom hoist circuit and hook hoist circuit. Another is used in the right propel circuit and hook hoist circuit, and can acommodate an optional third circuit. Fixed displacement plunger pump is used in the swing circuit. In addition, two gear pumps are used in the control system and auxiliary equipment. One of these serves the clutch and brakes.
Control: Full-flow hydraulic control system for infinitely variable pressure to front and rear drums, boom hoist brakes and clutches. Controls respond instantly to the touch, delivering smooth function operation.
Max. relief valve pressure:
Load hoist, boom hoist
and propel system .... 30.9 MPa (315 kgf/cm^2)
Swing system .... 27.4 MPa (280 kgf/cm^2)
Control system .... 6.4 MPa (65 kgf/cm^2)
Reservoir capacity: 325 liters
Cooling: Oil-to-air heat exchanger (plate-fin type)
Filtration: Full-flow and bypass type with replaceable paper element
Electrical system: All wiring coded for easy servicing, individual fused branch circuits.

Boom Hoisting System

Powered by a hydraulic motor through a planetary reducer.
Brake: A spring-set, hydraulically released multiple-disc brake is mounted on the boom hoist motor and operated through a counter-balance valve.
Drum lock: External rachet for locking drum.
Drum: Single drum, grooved for 20 mm dia. wire rope.
Line speed: Single line on first drum layer
Hoisting .... 56/2 m/min
Lowering .... 56/2 m/min

Load Hoist System

Front and rear drums for load hoist powered by a hydraulic variable plunger motors, driven through planetary reducers.
Clutches: Internal expanding band type. 950 mm dia x 127 mm wide.
Brakes: External contracting band type. 1,150 mm dia x 150 mm wide with additional spring set hydraulically released brake, and external rachet for locking drum.
Both positive and negative brake systems are available in lever neutral position.
Drums: (front and rear): 588 mm P.C.D. x 617 mm wide drums, each grooved for 26 mm wire rope.
Rope capacity of 185 m working length and 348 m storage length.
Line speed: Single line on the first drum layer
(Front drum)
Hoisting .... 100/60/50/30 m/min
Lowering .... 100/60/50/30 m/min
(Rear drum)
Hoisting .... 100/60/50/30 m/min
Lowering .... 100/60/50/30 m/min

Swing System

Swing unit: Powered by hydraulic motor driving spur gears through planetary reducers, the swing system provides 360° rotation.
Swing speed .... 3.5 min^{-1} (rpm)
Swing brakes: A spring-set, hydraulically released multiple-disc brake is mounted on swing motor.
Swing circle: Single-row ball bearing with an integral internally cut swing gear.
Swing lock: Manually, four position lock for transportation

Lower Machinery

Carbody: Steel-welded carbody with axles.
Crawler: Crawler assemblies can be hydraulically extened for wide track operation or retracted for transportation. Crawler belt tension is maintained by hydraulic jack force on the track-adjusting bearing block.
Crawler drive: Independent hydraulic propel drive is built into each side frame, each with a hydraulic motor propelling a driving tumbler through a planetary gear box. Propel motor and gear box are inside of crawler width.
Crawler brakes: Spring-set, hydraulically released multiple-disc parking brakes are built into each propel drive.
Steering mechanism: A hydraulic propel system provides both skid steering (driving one track only) and counter-rotating steering (driving tracks in opposite directions).
Track rollers: 9 lower rollers and 2 upper rollers are fitted to each side frame, sealed and maintenance-free.
Shoes (flat):
Number .... 59 each side
Standard flat shoe width .... 900 mm
Max. travel speed:
High range .... 1.5 km/h
Low range .... 1.0 km/h
Max. gradeability: 40%

Weight

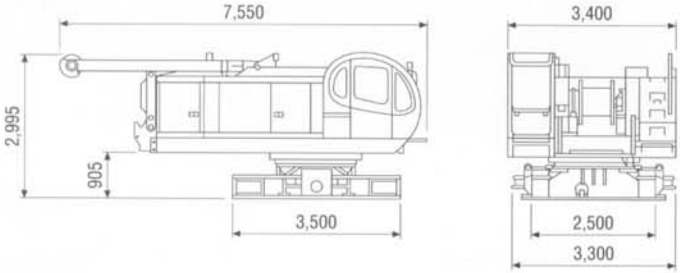
Operating weight: Approx. 84,800 kg (including 12.2 m (40 ft) boom and 90-ton hook block)
Ground pressure: Average 86 kPa (0.88 kgf/cm^2) with 900 mm shoes

Transportation Data

7080-2

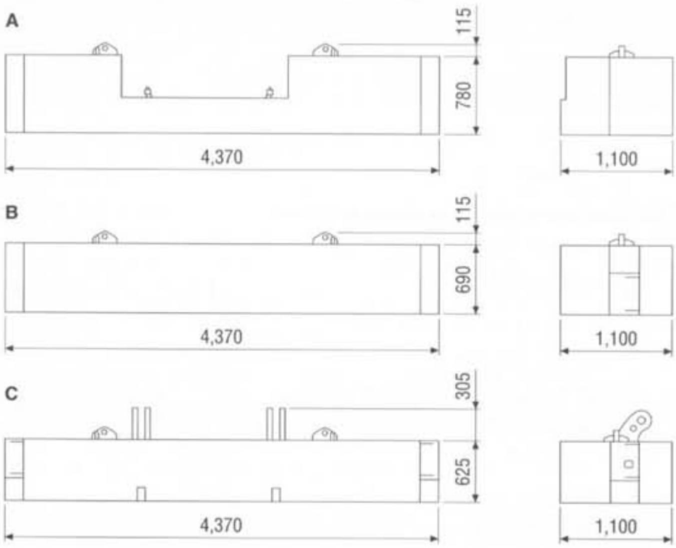
Base Machine and Carbody

31,500 kg
7,550 mm x 3,400 mm x 2,995 mm



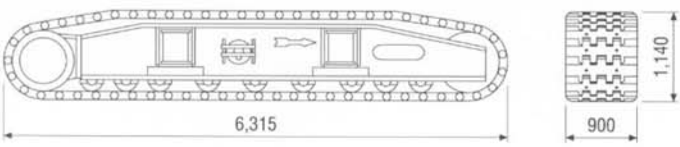
Counterweight

Total: 27,700 kg (9,300 kg + 9,300 kg + 9,100 kg)
A : 4,370 mm x 1,100 mm x 895 mm (9,300 kg)
B : 4,370 mm x 1,100 mm x 805 mm (9,300 kg)
C : 4,370 mm x 1,100 mm x 930 mm (9,100 kg)



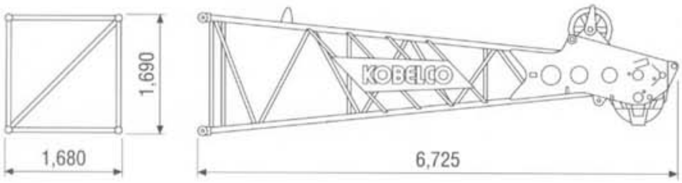
Crawlers

10,200 kg x 2
6,315 mm x 900 mm x 1,140 mm



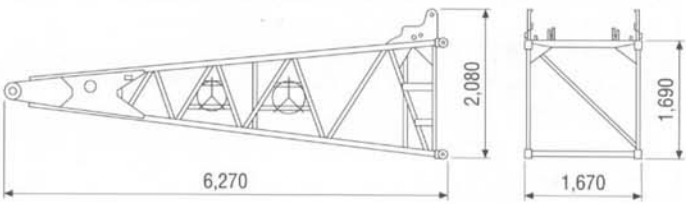
Upper Boom

1,545 kg
6,725 mm x 1,680 mm x 1,690 mm



Lower Boom

1,350 kg
6,270 mm x 1,670 mm x 1,690 mm

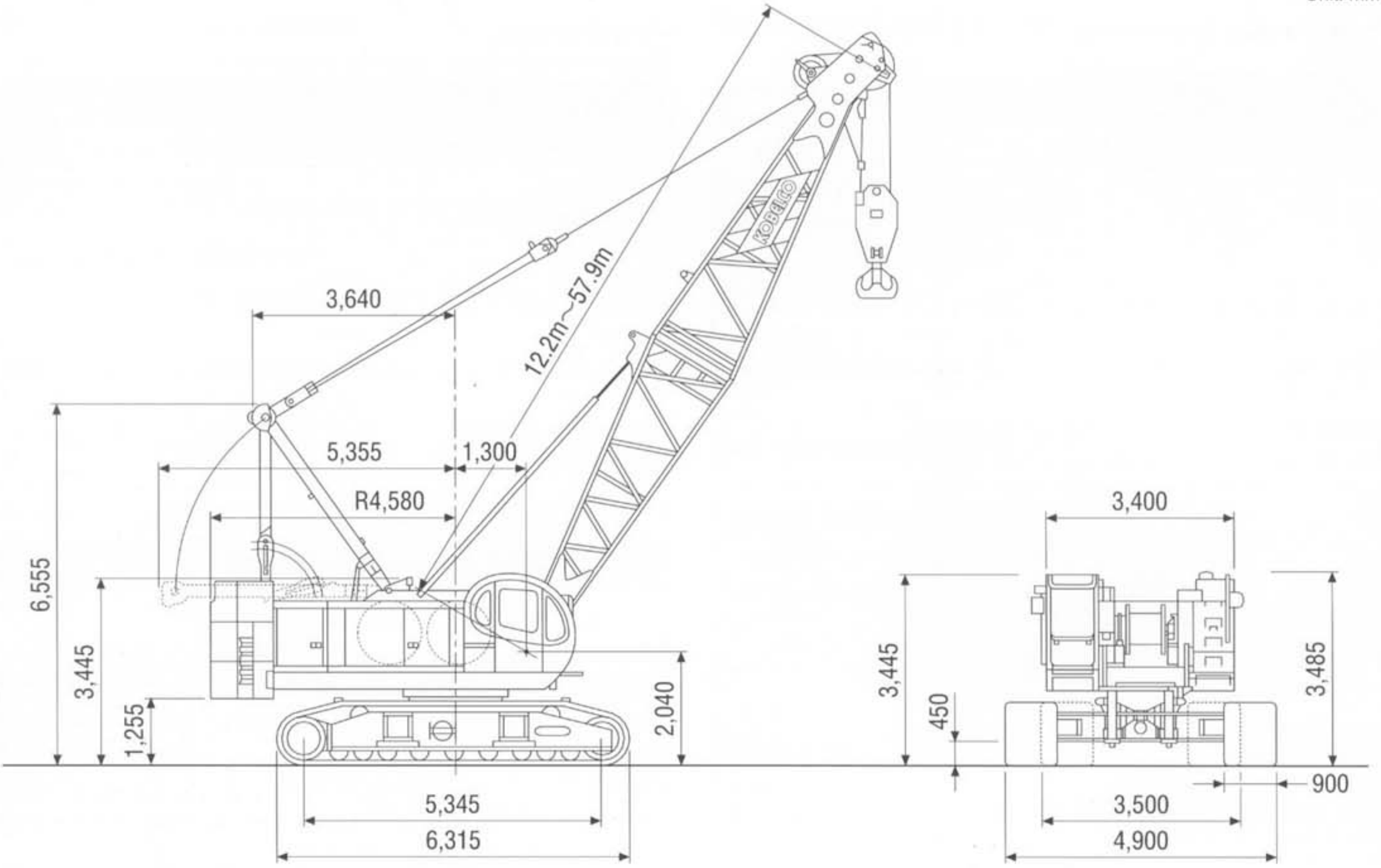


Other Attachments

Attachment	Weight	Dimensions (L x W x H)
3.0 m (10 ft) Insert Boom	382 kg	3,165 mm x 1,670 mm x 1,690 mm
6.1 m (20 ft) Insert Boom	653 kg	6,240 mm x 1,670 mm x 1,690 mm
9.1 m (30 ft) Insert Boom	923 kg	9,260 mm x 1,670 mm x 1,690 mm
9.1 m (30 ft) Insert Boom with lug	948 kg	9,260 mm x 1,670 mm x 1,820 mm
9.1 m (30 ft) Insert Boom with spreader support	1,120 kg	9,260 mm x 1,670 mm x 2,190 mm
Upper Jib	280 kg	4,960 mm x 800 mm x 800 mm
Lower Jib	200 kg	4,810 mm x 800 mm x 800 mm
6.1 m (20 ft) Insert Jib	180 kg	6,160 mm x 800 mm x 800 mm
Jib Strut	250 kg	3,620 mm x 835 mm x 615 mm
Upper Spreader for Crane	337 kg	1,650 mm x 360 mm x 685 mm
Lower Spreader for Crane	192 kg	905 mm x 210 mm x 710 mm
Gantry	2,470 kg	4,210 mm x 1,760 mm x 490 mm
Tower Cap	1,160 kg	3,990 mm x 1,706 mm x 2,155 mm
Upper Jib for Tower	535 kg	6,445 mm x 1,145 mm x 1,145 mm
Lower Jib for Tower	935 kg	7,750 mm x 1,685 mm x 1,145 mm
3.0 m (10 ft) Insert Jib for Tower	166 kg	3,125 mm x 1,140 mm x 1,145 mm
6.1 m (20 ft) Insert Jib for Tower	295 kg	6,130 mm x 1,140 mm x 1,145 mm
6.1 m (10 ft) Tapered Insert Jib for Tower	310 kg	6,170 mm x 1,140 mm x 1,145 mm
Jib Strut for Tower	980 kg	5,255 mm x 1,790 mm x 795 mm
Upper Jib Spreader for Tower	276 kg	655 mm x 775 mm x 1,170 mm
Lower Jib Spreader for Tower	324 kg	1,665 mm x 390 mm x 845 mm
60-ton Hook Block	1,150 kg	1,970 mm x 700 mm x 470 mm
50-ton Hook Block	850 kg	1,860 mm x 700 mm x 410 mm
30-ton Hook Block	700 kg	1,590 mm x 700 mm x 340 mm
11-ton Ball-Hook Block	300 kg	1,050 mm x 357 mm dia.
11-ton Light-Weight Ball-Hook Block	100 kg	970 mm x 160 mm dia.

General Dimensions

Unit: mm



Crane Attachment

Boom:
Welded lattice construction using tubular, high-tensile steel chords with pin connections between sections.

Max. lifting capacity	90,000 kg
Basic boom length	12.2 m (40')
Max. boom length	57.9 m (190')

Jib (optional):
Welded lattice construction using tubular, high-tensile steel chords with pin connections between sections.

	Fixed jib
Max. lifting capacity	11,000 kg
Basic. jib length	9.1 m (30')
Max. jib length	21.3 m (70')
Max. total length (Boom length + jib length)	51.8m (170') + 21.3 (70')

Hook blocks
A range of hook blocks can be specified, each with a safety latch.

Lifting capacity	90tons	50tons	30tons	11tons ball hook
No. of sheaves	4	3	1	0
Weight (kg)	1,150	850	700	300

Diameter of wire ropes

Standard:

Hook hoist .... 26 mm
Boom hoist (12-part line) .... 20 mm
Boom guy line (2 lines) .... 32 mm

Optional:

Jib hook hoist .... 26 mm
Jib back stay guy line (2 lines) .... 22 mm

Boom hoist reeving: 12 parts of 20 mm dia. wire rope
Boom backstops: required for all boom lengths

Line pull
(for crane, diaphram wall bucket, etc.)

	Max. available	Max. permissible
Front	108 kN (11,000 kg)	206 kN (21,000 kg)
Rear	108 kN (11,000 kg)	206 kN (21,000 kg)

Note: Figures given for max. available line pull are theoretical values provided for reference purposes. Actual values will vary according to lifting conditions.

Boom and Jib Arrangement

Boom Arrangement Chart

Boom length m (ft)	Boom arrangement
12.2 (40)	Base-Tip
15.2 (50)	Base-A-Tip
18.3 (60)	Base-A-A-Tip, Base-B-Tip
21.3 (70)	Base-A-B-Tip, Base-C-Tip
24.4 (80)	Base-A-A-B-Tip, Base-A-C-Tip, Base-B-B-Tip
27.4 (90)	Base-A-B-B-Tip, Base-B-C-Tip, Base-A-A-C-Tip
30.5 (100)	Base-A-B-C-Tip, Base-C-C-Tip
33.5 (110)	Base-A-A-B-C'-Tip, Base-B-B-C'-Tip, Base-A-C-C'-Tip
36.6 (120)	Base-A-B-B-C'-Tip, Base-B-C-C'-Tip
39.6 (130)	Base-A-B-C-C'-Tip, Base-D-A-B-C'-Tip, Base-C-C-C'-Tip, Base-D-C-C'-Tip
42.7 (140)	Base-A-A-B-C-C'-Tip, Base-D-A-A-B-C'-Tip, Base-B-B-C-C'-Tip, Base-D-B-B-C'-Tip, Base-A-C-C-C'-Tip, Base-D-A-C-C'-Tip
45.7 (150)	Base-A-B-B-C-C'-Tip, Base-D-A-B-B-C'-Tip, Base-B-C-C-C'-Tip, Base-D-B-C-C'-Tip
48.8 (160)	Base-A--B-C-C-C'-Tip, Base-D-A-B-C-C'-Tip
51.8 (170)	Base-A-A-B-C-C-C'-Tip, Base-D-A-A-B-C-C'-Tip, Base-B-B-C-C-C'-Tip, Base-D-B-B-C-C'-Tip
54.9 (180)	Base-A-B-B-C-C-C'-Tip, Base-D-A-B-B-C-C'-Tip
57.9 (190)	Base-A-A-B-B-C-C-C'-Tip, Base-D-A-A-B-B-C-C'-Tip

Base = 6.1 m (20'), Tip = 6.1 m (20')
Insert Boom: A = 3.0 m (10'), B = 6.1 m (20'), C = 9.1 m (30')
C' = 9.1 m (30') with lug for jib,
D = 9.1 m (30') with spreader support for tower jib

Jib Arrangement Chart

Jib length m (ft)	Boom arrangement
9.1 (30)	Base-Tip
15.2 (50)	Base-A-Tip
21.3 (70)	Base-A-A-Tip

Base = 4.55 m (15'), Tip = 4.55 m (15')
Insert Jib: A = 6.1 m (20')

Note:

1. Jib can be fitted to main boom between 33.5 m (110') and 51.8 m (170') in length.
2. Fitting a jib requires 9.1 m (30') insert boom with lug.

Boom Lifting Capacities

Notes:

1. Operating radius is the horizontal distance from centerline of rotation to a vertical line through the center of gravity the load.
2. Raring do not exceed 75% of tipping load. Deduct weight of hook block(s), slings and all other load handling accessories from main boom or jib rating shown.
3. Ratings shown are based on freely suspended loads and make no allowance for such factors as wind effect on lifted load, ground conditions out-of-level. Operating speeds or any other condition that could be detrimental to the safe operation of this equipment, the operator, therefore, has the responsibility to judge the existing conditions and reduce lifted loads and operating speeds accordingly.
4. At radii and boom length where no ratings are shown no chart, operation is not intended or approved.
5. Ratings surrounded by thick lines in the "Rated Loads" tables are determined by the machine's structural strength, and others are determined by the machine's stability.
6. Gantry must be in raised position for all conditions.
7. Boom inserts must be arranged as shown in the "BOOM ARRANGEMENT".
8. **Main Boom Rating Loads**
   Deduct weight of main hook, slings and all other load handling accessories from main boom rating loads shown.
9. **Auxiliary Sheave Rating Loads**
   Deduct weight of auxiliary hook block, slings and all other load handling accessories from auxiliary sheave rating loads shown.
10. **Main Boom Rating Loads with Auxiliary Sheave**
    Deduct weight of main hook block, slings and all other load handling accessories from main boom rating loads (with auxiliary sheave) shown. Boom length for auxiliary sheave mounting is 12.2 m to 54.9 m.
11. **Jib Rating Loads**
    Deduct weight of auxiliary hook block, slings and all other load handling accessories from jib rating loads shown.
12. **Main Boom Rating Loads with Jib**
    Deduct weight of main hook block, slings and all other load handling accessories from main boom rating (with jib) loads shown. Jib inserts must be arranged as shown in the "JIB ARRANGEMENT"
    Boom length for jib mounting is 33.5 m to 51.8 m.
13. **Hoist Drum Rated Loads in Metric Tons**

Main Boom

No. of parts of line	1	2	3	4
Max. load (metric ton)	11	22	33	45
No. of parts of line	5	6	7	8
Max. load (metric ton)	56	67	79	90

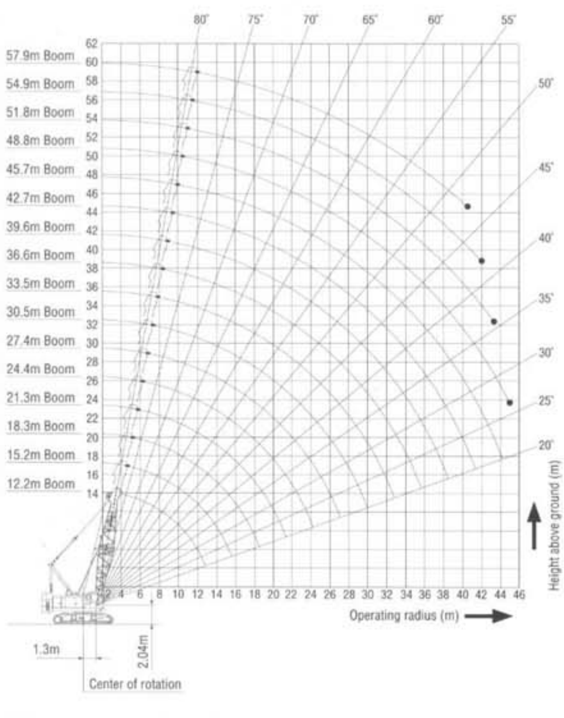
Jib

No. of parts of line	1
Max. load (metric ton)	11

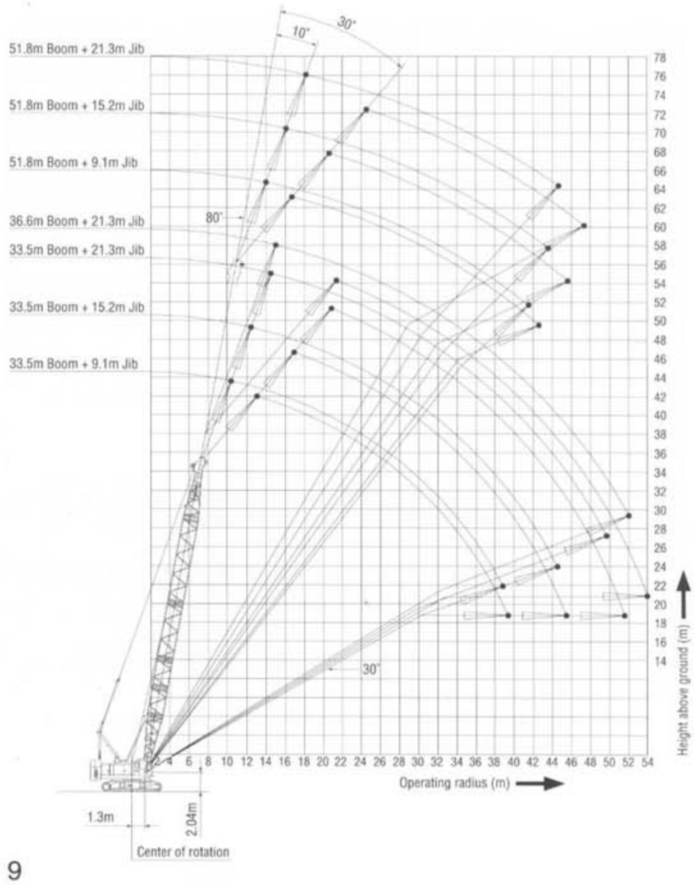
14. In principle, the boom should be erected over the front of the crawlers.
15. Both crawlers should be fully extended.
16. Figures shown by (ft) in the boom configuration are for reference only.

Working Ranges

Boom Working Range



Fixed Jib Working Range



Boom Lifting Capacities 7080-2

Unit: metric ton

Rated loads in metric tons for 360° working area (with 90-ton hook block)

Crawlers fully extended

Working radius m \ Boom length m (ft)	12.2 (40)	15.2 (50)	18.3 (60)	21.3 (70)	24.4 (80)	27.4 (90)	30.5 (100)	33.5 (110)	36.6 (120)	39.6 (130)	42.7 (140)	45.7 (150)	48.8 (160)	51.8 (170)	54.9 (180)	57.9 (190)
3.7	90.0															
4.5	73.2	73.1/4.5	60.0/4.8													
5.0	63.3	63.3	60.0	59.4/5.4	50.0/5.9											
6.0	48.5	48.5	48.5	48.5	48.5	40.0/6.4	39.8/6.9									
7.0	39.1	38.9	38.8	38.7	38.6	38.6	38.6	35.5/7.5								
8.0	32.3	32.1	32.0	31.9	31.8	31.8	31.8	31.8	30.0/8.0	29.2/8.5						
9.0	27.5	27.3	27.2	27.1	27.0	26.9	26.9	26.9	26.9	26.9	26.6/9.1	25.1/9.6				
10.0	23.8	23.7	23.6	23.4	23.3	23.3	23.3	23.3	23.3	23.2	23.0	23.0	20.0/10.1	20.0/10.6	19.8/11.2	18.1/11.7
12.0	18.3	18.3	18.3	18.3	18.2	18.1	18.1	18.1	18.1	18.0	17.8	17.8	17.8	17.8	17.8	17.7
14.0	14.7/12.8	15.2	15.1	15.0	14.8	14.7	14.7	14.6	14.6	14.5	14.3	14.3	14.3	14.3	14.3	14.1
16.0		11.9/15.7	12.7	12.6	12.4	12.3	12.3	12.2	12.2	12.1	11.9	11.9	11.9	11.8	11.7	11.5
18.0			10.9	10.8	10.6	10.5	10.5	10.3	10.3	10.2	10.0	10.0	10.0	9.9	9.8	9.6
20.0			9.8/18.5	9.4	9.2	9.1	9.0	8.9	8.9	8.8	8.6	8.6	8.6	8.4	8.3	8.1
22.0				8.3/21.4	8.1	8.0	7.9	7.7	7.7	7.6	7.4	7.4	7.4	7.2	7.1	6.9
24.0					7.2	7.1	7.0	6.8	6.8	6.7	6.5	6.5	6.4	6.3	6.1	5.9
26.0					6.9/24.3	6.3	6.2	6.0	6.0	5.9	5.7	5.7	5.6	5.4	5.3	5.1
28.0						5.8/27.1	5.6	5.4	5.4	5.2	5.0	5.0	5.0	4.8	4.6	4.4
30.0							4.8/30.0	4.8	4.8	4.7	4.5	4.5	4.4	4.2	4.0	3.9
32.0								4.4	4.3	4.2	4.0	4.0	3.9	3.7	3.5	3.3
34.0								3.9/32.9	3.9	3.8	3.6	3.5	3.4	3.2	3.1	2.8
36.0									3.3/35.7	3.4	3.2	3.2	3.0	2.8	2.6	2.3
38.0										3.0	2.9	2.8	2.7	2.4	2.2	1.9
40.0										2.7/38.6	2.6	2.5	2.3	2.0	1.8	1.6
42.0											2.0/41.5	2.2	2.0	1.7	1.5/42.0	1.5/40.5
44.0												1.6	1.6	1.5/43.3		
46.0												1.5/44.3	1.5/45.0			

Auxiliary Sheave Lifting Capacities

Unit: metric ton

Rated loads in metric tons for 360° working area (with 90-ton hook block)

Crawlers fully extended

Working radius m \ Boom length m (ft)	12.2 (40)	15.2 (50)	18.3 (60)	21.3 (70)	24.4 (80)	27.4 (90)	30.5 (100)	33.5 (110)	36.6 (120)	39.6 (130)	42.7 (140)	45.7 (150)	48.8 (160)	51.8 (170)	54.9 (180)	Boom length m (ft) / Working radius m
4.7	11.0/4.7															4.7
5.0	11.0	11.0/5.3	11.0/5.8													5.0
6.0	11.0	11.0	11.0	11.0/6.3	11.0/6.8											6.0
7.0	11.0	11.0	11.0	11.0	11.0	11.0/7.3	11.0/7.9									7.0
8.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0/8.4	11.0/8.9							8.0
9.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0/9.5						9.0
10.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0/10.0	11.0/10.5	11.0/11.0	11.0/11.6		10.0
12.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0/12.1	12.0
14.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	14.0
16.0	11.0/14.2	11.0	11.0	11.0	11.0	10.9	10.9	10.8	10.8	10.7	10.5	10.5	10.5	10.4	10.3	16.0
18.0		9.8/17.1	9.5	9.4	9.2	9.1	9.1	8.9	8.9	8.8	8.6	8.6	8.6	8.5	8.4	18.0
20.0			8.1/20.0	8.0	7.8	7.7	7.6	7.5	7.5	7.4	7.2	7.2	7.2	7.0	6.9	20.0
22.0				6.9	6.7	6.6	6.5	6.3	6.3	6.2	6.0	6.0	6.0	5.8	5.7	22.0
24.0				6.1/22.8	5.8	5.7	5.6	5.4	5.4	5.3	5.1	5.1	5.0	4.9	4.7	24.0
26.0					5.0/25.7	4.9	4.8	4.6	4.6	4.5	4.3	4.3	4.2	4.0	3.9	26.0
28.0						4.3	4.2	4.0	4.0	3.8	3.6	3.6	3.6	3.4	3.2	28.0
30.0						4.1/28.6	3.4	3.4	3.4	3.3	3.1	3.1	3.0	2.8	2.6	30.0
32.0							3.1/31.4	3.0	2.9	2.8	2.6	2.6	2.5	2.3	2.1	32.0
34.0								2.6	2.5	2.4	2.2	2.1	2.0	1.8	1.7	34.0
36.0								2.5/34.3	2.1	2.0	1.8	1.8	1.6	1.5/35.6	1.5/34.8	36.0
38.0									1.8/37.2	1.6	1.5/38.0	1.5/37.5	1.5/36.8			38.0
40.0										1.5/38.2						40.0

Note: rating inside shown in □ are determined by the strength of the boom or other structural components.

Auxiliary Sheave Lifting Capacities

Unit: metric ton

Rated loads in metric tons for 360° working area (with 50-ton hook)

Crawlers fully extended

Working radius m \ Boom length m (ft)	12.2 (40)	15.2 (50)	18.3 (60)	21.3 (70)	24.4 (80)	27.4 (90)	30.5 (100)	33.5 (110)	36.6 (120)	39.6 (130)	42.7 (140)	45.7 (150)	48.8 (160)	51.8 (170)	54.9 (180)	Boom length m (ft) / Working radius m
4.7	11.0/4.7															4.7
5.0	11.0	11.0/5.3	11.0/5.8													5.0
6.0	11.0	11.0	11.0	11.0/6.3	11.0/6.8											6.0
7.0	11.0	11.0	11.0	11.0	11.0	11.0/7.3	11.0/7.9									7.0
8.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0/8.4	11.0/8.9							8.0
9.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0/9.5						9.0
10.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0/10.0	11.0/10.5	11.0/11.0	11.0/11.6		10.0
12.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0/12.1	12.0
14.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	14.0
16.0	11.0/14.2	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	10.8	16.0
18.0		10.1/17.1	9.8	9.7	9.5	9.4	9.4	9.2	9.2	9.1	8.9	8.9	8.9	8.8	8.7	18.0
20.0			8.4/20.0	8.3	8.1	8.0	7.9	7.8	7.8	7.7	7.5	7.5	7.5	7.3	7.2	20.0
22.0				7.2	7.0	6.9	6.8	6.6	6.6	6.5	6.3	6.3	6.3	6.1	6.0	22.0
24.0				6.4/22.8	6.1	6.0	5.9	5.7	5.7	5.6	5.4	5.4	5.3	5.2	5.0	24.0
26.0					5.3/25.7	5.2	5.1	4.9	4.9	4.8	4.6	4.6	4.5	4.3	4.2	26.0
28.0						4.6	4.5	4.3	4.3	4.1	3.9	3.9	3.9	3.7	3.5	28.0
30.0						4.4/28.6	3.7	3.7	3.7	3.6	3.4	3.4	3.3	3.1	2.9	30.0
32.0							3.4/31.4	3.3	3.2	3.1	2.9	2.9	2.8	2.6	2.4	32.0
34.0								2.9	2.8	2.7	2.5	2.4	2.3	2.1	1.9	34.0
36.0								2.8/34.3	2.4	2.3	2.1	2.1	1.9	1.7	1.5/36.0	36.0
38.0									2.1/37.2	1.9	1.8	1.7	1.6	1.5/37.0		38.0
40.0										1.6/40.0	1.5/40.0	1.5/39.2	1.5/38.6			40.0

Note: rating inside shown in ☐ are determined by the strength of the boom or other structural components.

Rated loads in metric tons for 360° working area (with 30-ton hook)

Crawlers fully extended

Working radius m \ Boom length m (ft)	12.2 (40)	15.2 (50)	18.3 (60)	21.3 (70)	24.4 (80)	27.4 (90)	30.5 (100)	33.5 (110)	36.6 (120)	39.6 (130)	42.7 (140)	45.7 (150)	48.8 (160)	51.8 (170)	54.9 (180)	Boom length m (ft) / Working radius m
4.7	11.0/4.7															4.7
5.0	11.0	11.0/5.3	11.0/5.8													5.0
6.0	11.0	11.0	11.0	11.0/6.3	11.0/6.8											6.0
7.0	11.0	11.0	11.0	11.0	11.0	11.0/7.3	11.0/7.9									7.0
8.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0/8.4	11.0/8.9							8.0
9.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0/9.5						9.0
10.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0/10.0	11.0/10.5	11.0/11.0	11.0/11.6		10.0
12.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0/12.1	12.0
14.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	14.0
16.0	11.0/14.2	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	16.0
18.0		10.3/17.1	10.0	9.9	9.7	9.6	9.6	9.4	9.4	9.3	9.1	9.1	9.1	9.0	8.9	18.0
20.0			8.6/20.0	8.5	8.3	8.2	8.1	8.0	8.0	7.9	7.7	7.7	7.7	7.5	7.4	20.0
22.0				7.4	7.2	7.1	7.0	6.8	6.8	6.7	6.5	6.5	6.5	6.3	6.2	22.0
24.0				6.9/22.8	6.3	6.2	6.1	5.9	5.9	5.8	5.6	5.6	5.5	5.4	5.2	24.0
26.0					5.5/25.7	5.4	5.3	5.1	5.1	5.0	4.8	4.8	4.7	4.5	4.4	26.0
28.0						4.8	4.7	4.5	4.5	4.3	4.1	4.1	4.1	3.9	3.7	28.0
30.0						4.6/28.6	3.9	3.9	3.9	3.8	3.6	3.6	3.5	3.3	3.1	30.0
32.0							3.6/31.4	3.5	3.4	3.3	3.1	3.1	3.0	2.8	2.6	32.0
34.0								3.1	3.0	2.9	2.7	2.6	2.5	2.3	2.2	34.0
36.0								3.0/34.3	2.6	2.5	2.3	2.3	2.1	1.9	1.7	36.0
38.0									2.3/37.2	2.1	2.0	1.9	1.8	1.5/38.0	1.5/37.0	38.0
40.0										1.8/40.0	1.7	1.6	1.5/39.6			40.0
42.0											1.5/40.5	1.5/40.6				42.0

Note: rating inside shown in ☐ are determined by the strength of the boom or other structural components.

Applications

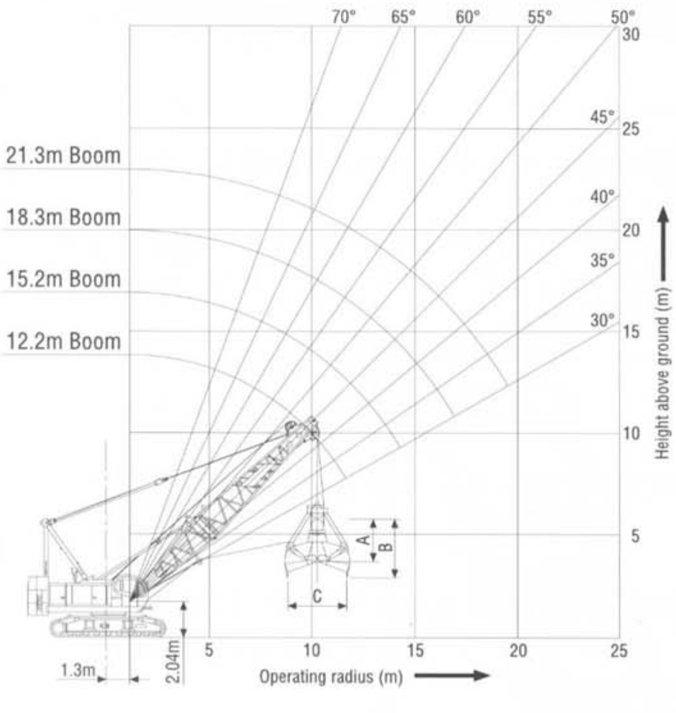
Clamshell

Clamshell ratings in metric tons for 360° working area (Crawlers fully extended)

Unit: metric ton

Working radius m \ Boom length m (ft)	12.2 (40)	15.2 (50)	18.3 (60)	21.3 (70)
5.0	10.0			
6.0	10.0	10.0		
7.0	10.0	10.0	10.0	
8.0	10.0	10.0	10.0	10.0
9.0	10.0	10.0	10.0	10.0
10.0	10.0	10.0	10.0	10.0
12.0	10.0	10.0	10.0	10.0
14.0		10.0	10.0	10.0
16.0			10.0	10.0
18.0				8.6

Working Range



Note:

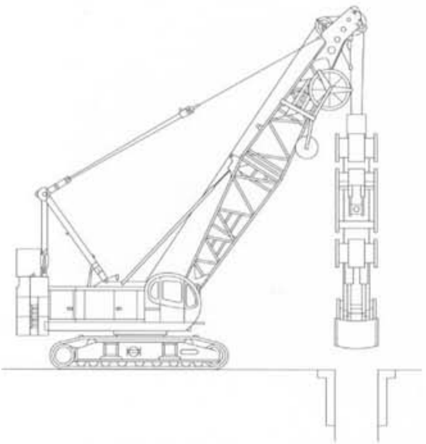
1. Working radius is the horizontal distance between the center of rotation and the bucket's center of gravity.
2. Total weight of bucket and materials must not exceed rated load.

   Example of calculation:
   Bucket capacity x Specific gravity of materials + Bucket weight= Rated load. (2.0 m^3 x 1.8 ton/m^3 + 3.8 ton = 7.4 ton)
3. Rating are determined from stability and strength of boom. During swing, avoid sudden starts and stops that exert horizontal pulling load on boom. Particular caution is advised with long-length booms.
4. Rated loads are determined by degree of stability. During simultaneous operations of boom and swing, rapid acceleration or deceleration must be avoided. Particular care is required with long boom lengths.
5 Bucket weight must not exceed 5.5 tons.

Clamshell Bucket

Bucket capacity (m^3)	Approximate weight (ton)	Bucket dimensions (m)			Application
		A	B	C	
1.6	3.2	3.3	3.6	3.0	Loading
2.0	3.8	3.5	3.9	3.1	Loading
1.25	3.6	2.9	3.7	3.0	Digging
1.6	4.6	3.2	4.0	3.2	Digging

Diaghragm Wall Bucket



Note: For details of specifications, please consult with your nearest dealers.