KATO

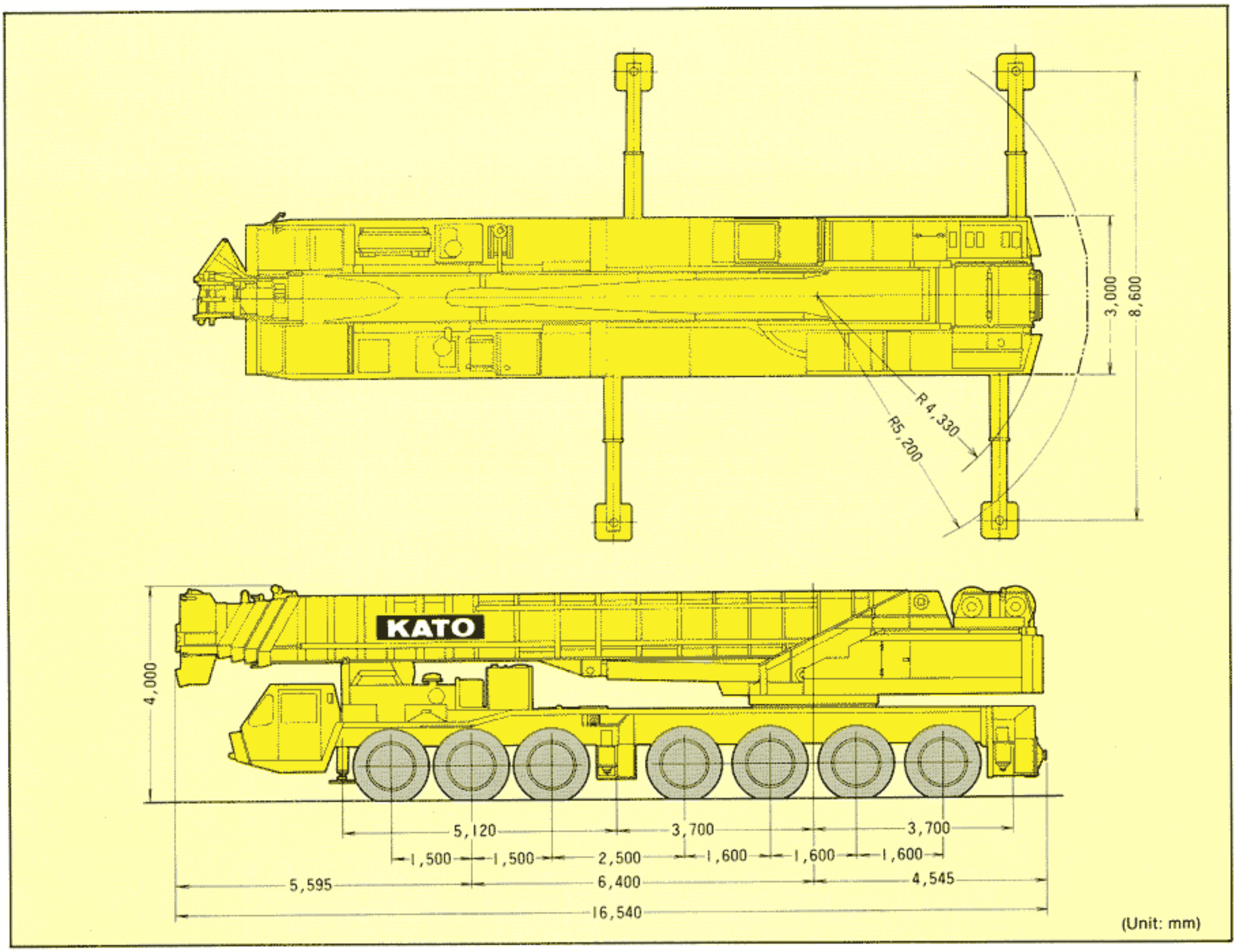
NK-1600

FULLY HYDRAULIC TRUCK CRANE

SPECIFICATION

KATO WORKS CO.,LTD.

DIMENSIONS



(Unit: mm)

CARRIER SPECIFICATIONS

Model: KATO 7200

GENERAL DIMENSIONS

Gross vehicle weight:	approx. 84000 kg	Traveling condition (with main boom and superstructure excluding counterweight)
Overall length:	approx. 16540 mm	
Overall width:	approx. 3000 mm	
Overall height:	approx. 4000 mm	
Wheel base:	6400 mm	
Treads: 1st, 2nd, 3rd, and 4th axle:	2490 mm	
5th and 6th axle:	2167 mm	
7th axle:	2502 mm	

Engine

Model:	Mitsubishi 8DC9-TL
Type:	4 cycle, water cooled, V8 with turbocharger and intercooler
Piston displacement:	16031 cc

Carrier engine

	horsepower	torque
JIS	430 PS/2200 r.p.m. 316 kW/2200 r.p.m.	160 kgf·m/1400 r.p.m. 1568 N·m/1400 r.p.m.
DIN	417 PS/2200 r.p.m. 307 kW/2200 r.p.m.	157 kgf·m/1400 r.p.m. 1537 N·m/1400 r.p.m.
SAE	432 HP/2200 r.p.m. 322 kW/2200 r.p.m.	1162 ft·lbf/1400 r.p.m. 1575 N·m/1400 r.p.m.

Max. Traveling speed:	77 km/h (at Engine 2,300 r.p.m.)
Gradeability (tan θ):	30 %
Min. turning radius: (center of extreme outer tire)	13.8 m (approx.)
Clutch:	Two dry disc
Transmission:	10 forward & 3 reverse
Axles: Steering axle:	1st, 2nd, 3rd, 4th, and 7th
Driving axle:	5th, 6th, and 7th
Steering:	Power assisted
Suspension:	
1st, 2nd, and 3rd axle:	Reyco type
4th and 7th axle:	Hydropneumatic type
5th and 6th axle:	Walking beam type

Brake

Service:	2 circuit air brake
Parking & Emergency:	Spring loaded type
Auxiliary:	Exhaust brake
Electric system:	24 V
Battery:	12 V – 200 AH × 2
Fuel tank capacity:	400 lit.
Driver's cab:	All steel, welded construction, 2 persons, low line type
Tire size: 1st, 2nd, 3rd, 4th and 7th axle:	14.00 – 24 – 24 PR (single)
5th and 6th axle:	14.00 – 24 – 24 PR (dual)

SUPERSTRUCTURE SPECIFICATIONS

Model: NK-1600 Fully Hydraulic Truck Crane

PERFORMANCE

Lifting capacity:	360° full working range with outriggers
	160 ton × 3.2 m 13.6 m Boom
	110 ton × 4.5 m 18.15 m Boom
	100 ton × 5 m 22.7 m Boom
	65 ton × 6 m 31.8 m Boom
	45 ton × 8 m 40.9 m Boom
	30 ton × 11 m 50.0 m Boom
	8 ton × 32 m Rooster sheave
Boom length:	13.6 m (Basic)
	50.0 m (Fully extended)
Max. lift above ground:	51.0 m (With fully extended boom)
Hoisting line speed	
Main winch:	114 m/min. (at 3rd layer)
Auxiliary winch:	114 m/min. (at 3rd layer)
Boom derricking angle:	–2° ~ 82°
Boom derricking time:	80 sec. (–2° ~ 82°)
Slewing speed:	1.4 r.p.m.
Crane engine	
Maker:	Mitsubishi
Model:	8DC9

Upper unit engine (superstructure)

	horsepower	torque
JIS	282 PS/1950 r.p.m. 207 kW/1950 r.p.m.	107 kgf·m/1400 r.p.m. 1048 N·m/1400 r.p.m.
DIN	266 PS/1950 r.p.m. 196 kW/1950 r.p.m.	101 kgf·m/1400 r.p.m. 990 N·m/1400 r.p.m.
SAE	279 HP/1950 r.p.m. 208 kW/1950 r.p.m.	773 ft·lbf/1400 r.p.m. 1047 N·m/1400 r.p.m.

HYDRAULIC SYSTEM

Oil pump:	Variable displacement type 2 section axial piston pump + 3 section gear pump
Hoisting motor:	Variable displacement type axial piston motor
Slewing motor:	Axial piston motor
Control valve:	Multiple, self-return type
Cylinder:	Double acting type
Oil reservoir capacity:	1350 lit.

SUPERSTRUCTURE

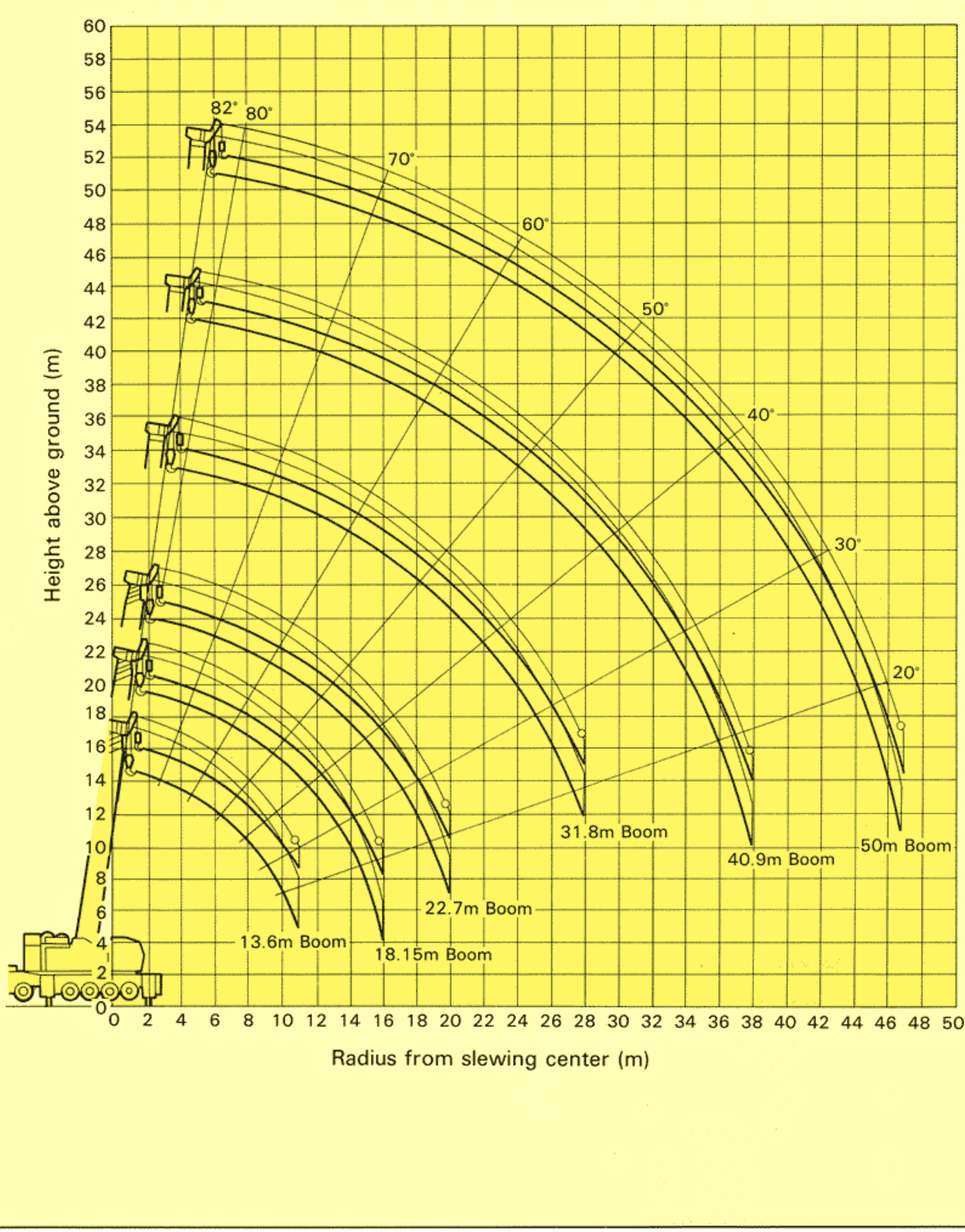
Boom:	5 section, full power
Hoisting system:	Driven by hydraulic motor through planetary gear reduction (High-low two speed system, with automatic brake) Two independent single winches
Slewing system:	Driven by hydraulic motor through planetary gear reduction (with built-in disc brake, Free/lock selector switch)
Slewing bearing:	Ball bearing type
Boom derricking system:	Twin hydraulic cylinders
Boom telescoping system:	Hydraulic cylinders
Outrigger system:	Hydraulic, vertical support type (with front jack)
Outrigger width:	8600 mm (center to center)
Counterweight removal device:	Mechanical linkage type with lock, powered by hydraulic cylinders
Counterweight:	37 ton (separate block type)
Hoisting wire rope	
Main winch:	24 mm × 350 m
Auxiliary winch:	24 mm × 300 m
Hook block	
160 ton:	No. of parts of line 20 (14+6)
110 ton:	13
50 ton:	6
16 ton:	2
8 ton:	1

SAFETY DEVICES

ACS (Automatic Crane Stopper), Outrigger width automatic detecting system, Slewing position detecting system, Boom falling prevention device, Overhoist prevention device, Drum lock device, Drum hold safety device, Drum turning indicator, Automatic winch brake, Irregular winding prevention device, Hydraulic safety valve, Outrigger lock device, Boom angle indicator, Slewing lock device

MAIN BOOM

WORKING RANGES



RATED LIFTING CAPACITY

[Based on *BS 1757 : 1981 *DIN 15019-2 *75% of tipping loads]
[Counterweight – 37 ton Outrigger width – 8.6 m Front jack – extended]

(Unit: metric ton)

Working radius (m)	360° full range					
	13.6 m Boom	18.15 m Boom	22.7 m Boom	31.8 m Boom	40.9 m Boom	50.0 m Boom
3.2	160.0					
3.5	149.0					
4.0	136.0	110.0				
4.5	123.0	110.0	100.0			
5.0	113.0	106.0	100.0			
6.0	95.5	89.5	84.0	65.0		
7.0	81.0	76.5	72.5	60.0		
8.0	70.0	66.5	63.5	55.0	45.0	
9.0	61.0	58.5	56.0	49.0	41.0	
10.0	54.0	52.0	50.5	44.0	37.0	
11.0	48.5	47.0	45.5	40.0	34.0	30.0
12.0		34.0	41.5	37.0	31.0	28.0
14.0		25.0	34.0	31.5	26.5	24.0
16.0		21.0	28.0	27.5	23.0	21.0
18.0			23.5	24.4	20.4	18.5
20.0			19.1	21.0	18.0	16.5
22.0				17.3	16.3	15.0
24.0				14.4	14.8	13.5
26.0				12.1	13.0	12.5
28.0				10.1	11.0	11.2
30.0					9.3	9.9
32.0					7.8	8.4
34.0					6.6	7.2
36.0					5.6	6.1
38.0					4.7	5.1
40.0						4.2
42.0						3.5
44.0						2.8
46.0						2.2
47.0						2.0

[NOTE]

1) The rated lifting capacities are the maximum loads guaranteed on a firm level ground when the outriggers, front jack and axle lock are set properly.
2) The rated lifting capacities include the weight of hook block and other lifting equipment.The capacities in the white area are based on the structural strength.
3) The working radii given in the table for main boom operation are the actual values including the deflection of the boom. Therefore operate the crane based on the working radius.

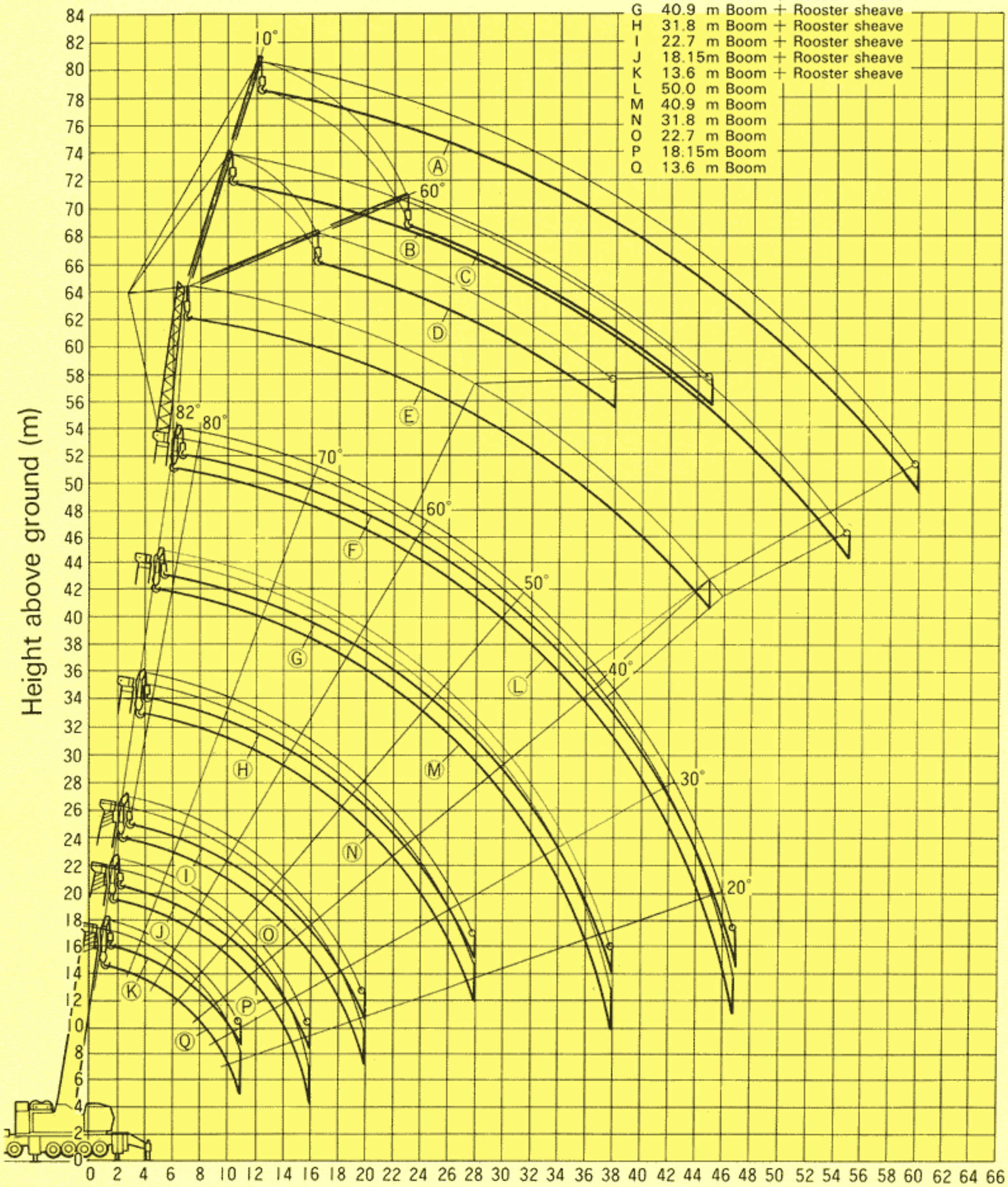
Rated lifting capacity of rooster sheave

The rated lifting capacities of the rooster sheave are equal to those of main boom subtracted the weight of main hook block, but the maximum rated lifting capacity is 8 ton.

LUFFING JIB

WORKING RANGES

A 50.0 m Boom + 11m Jib + 17m Jib (offset 10°)
B 50.0 m Boom + 11m Jib + 10m Jib (offset 10°)
C 50.0 m Boom + 11m Jib + 17m Jib (offset 60°)
D 50.0 m Boom + 11m Jib + 10m Jib (offset 60°)
E 50.0 m Boom + 11m Jib
F 50.0 m Boom + Rooster sheave
G 40.9 m Boom + Rooster sheave
H 31.8 m Boom + Rooster sheave
I 22.7 m Boom + Rooster sheave
J 18.15m Boom + Rooster sheave
K 13.6 m Boom + Rooster sheave
L 50.0 m Boom
M 40.9 m Boom
N 31.8 m Boom
O 22.7 m Boom
P 18.15m Boom
Q 13.6 m Boom



● 50 m Boom + 11 m Jib + 10 m Jib

● 50 m Boom + 11 m Jib + 17 m Jib

● 50 m Boom + 11 m Jib

RATED LIFTING CAPACITY

[Based on *BS 1757 : 1981 *DIN 15019-2 *75% of tipping loads] [Counterweight – 37 ton, Outrigger width – 8.6 m, Front jack – extended]

(Unit: metric ton)

■ **50m Boom + 11 m Jib + 10 m Jib**

50 m Boom + 11 m Jib + 10 m Jib												
360° full range												
Working radius (m)	Jib angle 10°		Jib angle 20°		Jib angle 30°		Jib angle 40°		Jib angle 50°		Jib angle 60°	
	Boom angle (°)	Load	Boom angle (°)	Load	Boom angle (°)	Load	Boom angle (°)	Load	Boom angle (°)	Load	Boom angle (°)	Load
16	79.0	8.0	79.8	7.0	80.5	6.5						
18	77.0	7.9	78.0	6.9	78.5	6.5	80.0	5.2	80.6	4.5	81.0	3.8
20	75.2	7.5	76.6	6.8	77.5	6.2	78.5	5.2	79.0	4.5	79.5	3.8
22	73.7	7.2	75.0	6.4	75.9	5.9	76.9	5.1	77.4	4.4	77.9	3.8
24	72.0	6.7	73.2	6.0	74.4	5.5	75.3	4.9	76.0	4.3	76.1	3.8
26	70.5	6.2	71.6	5.7	72.7	5.3	73.6	4.8	74.2	4.3	74.5	3.7
28	69.0	5.8	70.0	5.3	71.1	5.0	72.0	4.7	72.5	4.2	72.8	3.7
30	67.0	5.5	68.3	5.0	69.3	4.7	70.2	4.5	70.6	4.1	71.0	3.7
32	65.2	5.0	66.5	4.8	67.6	4.5	68.4	4.3	68.9	4.1	69.1	3.6
34	63.5	4.6	64.7	4.5	65.9	4.3	66.6	4.1	67.0	4.0	67.2	3.6
36	61.7	4.3	62.9	4.2	63.8	4.0	64.7	3.9	65.2	3.8	65.2	3.6
38	59.8	4.0	61.0	3.9	62.0	3.8	62.7	3.7	63.0	3.7	63.2	3.6
40	57.9	3.7	59.1	3.6	60.0	3.5	60.8	3.5	61.1	3.5		
45	52.9	3.2	54.1	3.1	54.8	3.0	55.5	3.0	55.6	3.0		
50	47.2	2.2	48.2	2.3	49.0	2.4	49.4	2.5				
55	40.5	1.1	41.5	1.2	42.3	1.3	42.5	1.3				

■ **50 m Boom + 11 m Jib + 17 m Jib**

50 m Boom + 11 m Jib + 17 m Jib												
360° full range												
Working radius (m)	Jib angle 10°		Jib angle 20°		Jib angle 30°		Jib angle 40°		Jib angle 50°		Jib angle 60°	
	Boom angle (°)	Load	Boom angle (°)	Load	Boom angle (°)	Load	Boom angle (°)	Load	Boom angle (°)	Load	Boom angle (°)	Load
16	80.5	5.5										
18	78.8	5.5	80.0	4.5								
20	77.5	5.5	78.5	4.5	80.8	3.7						
22	76.0	5.2	77.5	4.5	79.4	3.7	80.6	3.1				
24	74.6	5.0	76.0	4.3	78.0	3.7	79.1	3.0	79.9	2.4		
26	73.2	4.8	74.6	4.2	76.6	3.5	77.6	2.9	78.4	2.4	79.9	1.8
28	71.7	4.6	73.2	4.1	75.2	3.4	76.0	2.9	77.0	2.3	78.2	1.8
30	70.2	4.4	71.7	3.9	73.8	3.3	74.6	2.8	75.5	2.3	76.5	1.8
32	68.8	4.1	70.2	3.7	72.2	3.2	73.1	2.7	74.0	2.2	74.8	1.8
34	67.2	3.9	68.6	3.5	70.7	3.1	71.6	2.6	72.5	2.2	73.1	1.7
36	65.6	3.7	67.0	3.3	69.1	3.0	69.9	2.6	70.7	2.1	71.4	1.7
38	64.0	3.5	65.4	3.2	67.3	2.9	68.3	2.5	69.1	2.1	69.5	1.7
40	62.0	3.3	63.6	3.0	65.7	2.8	66.5	2.5	67.2	2.1	67.8	1.7
45	57.8	2.8	59.3	2.7	61.3	2.5	62.1	2.4	62.5	2.0	62.7	1.7
50	53.4	2.4	54.6	2.3	56.4	2.3	57.0	2.2	57.6	2.0		
55	48.1	2.0	49.4	2.0	51.1	2.0	51.5	1.9	52.0	1.9		
60	42.2	1.0	43.3	1.3	45.0	1.4	45.1	1.5				

SPECIFICATION OF LUFFING JIB

1) Jib length:
   11 m
   11 m + 10 m
   11 m + 17 m
2) Jib offset angle:
   10° ~ 60°
   (Jib angle against main boom)
3) Jib offset device:
   By double acting hydraulic cylinder

50 m Boom + 11 m Jib		
360° full range		
Working radius (m)	Boom angle (°)	Load
14	77.0	16.0
16	75.1	14.5
18	73.3	12.8
20	71.3	11.5
22	69.1	10.4
24	67.0	9.3
26	64.8	8.5
28	62.8	7.6
30	60.8	6.8
32	58.9	6.0
34	56.3	5.2
36	54.0	4.5
38	51.5	4.0
40	48.8	3.4
45	42.1	2.0

Note

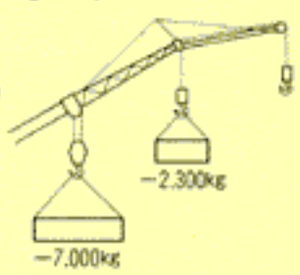
(a) Refer to lifting capacity tables for luffing jib.
The working radii are based on the values obtained when the boom is fully extended (50 m).
Jib operations should be performed on the basis of boom angle only, regardless of boom length when the boom is not fully extended.

(b) Refer to lifting capacity table for main boom.
When using the main boom with 11 m jib (or luffing jib) installed, 5500 kg(or 7000 kg) plus the weight of hook block and other lifting equipment, etc., should be subtracted from the rated lifting capacities for main boom. (Fig. 1 and 2)

(c) Refer to lifting capacity tables for luffing jib.
When using 11 m jib with luffing jib installed, 2300 kg plus the weight of hook block and other lifting equipment, etc., should be subtracted from the rated lifting capacities for 11 m jib. (Fig. 2)

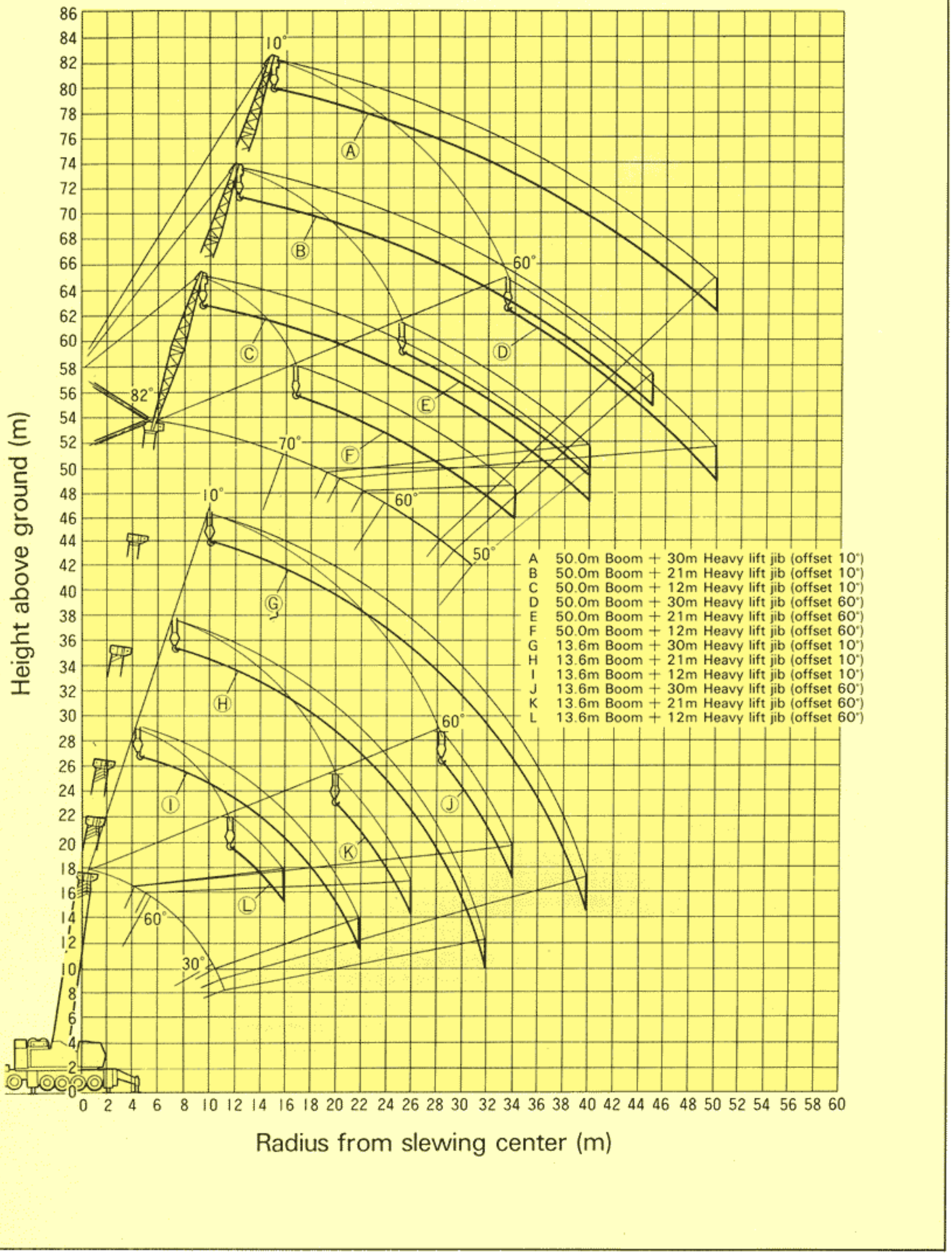
(Fig. 1)

(Fig. 2)



HEAVY LIFT JIB

WORKING RANGES



● 12 m Heavy Lift Jib

RATED LIFTING CAPACITY

[Based on *BS 1757 : 1981 *DIN 15019-2 *75% of tipping loads]

[Counterweight – 37 ton
Outrigger width – 8.6 m
Front jack – extended]

(Unit: metric ton)

■ **13.6 m Boom + 12 m Heavy Lift Jib**

13.6 m Boom + 12 m Heavy Lift Jib					
360° full range					
Working radius (m)	Jib angle 10°	Jib angle 20°	Jib angle 30°	Jib angle 45°	Jib angle 60°
6.0	75.0				
7.0	75.0				
8.0	71.5	58.2			
9.0	65.5	55.2			
10.0	60.4	52.7	45.0		
11.0	54.2	48.8	43.4		
12.0	49.1	45.2	41.4	35.0	
14.0	40.8	39.4	38.1	33.6	25.0
16.0	34.6	35.0	35.4	31.9	25.0
18.0	29.7	30.2	30.8	30.7	
20.0	25.8	26.1	26.5	26.7	
22.0	22.6	22.6	22.7		

■ **31.8 m Boom + 12 m Heavy Lift Jib**

31.8 m Boom + 12 m Heavy Lift Jib					
360° full range					
Working radius (m)	Jib angle 10°	Jib angle 20°	Jib angle 30°	Jib angle 45°	Jib angle 60°
10.0	35.0				
11.0	35.0				
12.0	33.0	29.5			
14.0	29.0	27.5	26.0		
16.0	26.0	26.0	26.0	24.0	
18.0	23.0	23.5	24.0	24.0	24.0
20.0	20.5	21.2	22.0	23.0	24.0
22.0	18.5	19.2	20.0	20.9	21.8
24.0	16.4	17.0	17.6	18.2	18.5
26.0	13.9	14.4	14.9	15.5	15.7
28.0	11.7	12.2	12.7	13.1	
30.0	9.7	10.2	10.7	11.0	
32.0	7.9	8.3	8.7	8.9	
34.0	6.4	6.7	7.0		
36.0	5.1	5.3	5.5		
38.0	3.9	4.0	4.1		
40.0	2.7	2.7			

■ **18.15 m Boom + 12 m Heavy Lift Jib**

18.15 m Boom + 12 m Heavy Lift Jib					
360° full range					
Working radius (m)	Jib angle 10°	Jib angle 20°	Jib angle 30°	Jib angle 45°	Jib angle 60°
7.0	57.0				
8.0	57.0				
9.0	57.0	52.5			
10.0	53.0	50.5			
11.0	49.5	48.7	43.4		
12.0	46.0	45.2	41.4	35.0	
14.0	37.7	39.0	38.1	33.6	25.0
16.0	31.5	32.6	33.7	31.9	25.0
18.0	26.5	27.4	28.4	29.4	24.9
20.0	22.6	23.3	24.1	25.0	
22.0	19.3	19.9	20.5	21.0	
24.0	12.0	12.0	12.0		

■ **40.9 m Boom + 12 m Heavy Lift Jib**

40.9 m Boom + 12 m Heavy Lift Jib					
360° full range					
Working radius (m)	Jib angle 10°	Jib angle 20°	Jib angle 30°	Jib angle 45°	Jib angle 60°
12.0	16.0				
14.0	16.0	14.5			
16.0	16.0	14.5	13.0		
18.0	15.7	14.3	12.9	11.0	9.5
20.0	15.4	14.0	12.7	11.0	9.5
22.0	14.1	13.3	12.6	11.0	9.5
24.0	12.6	12.5	12.5	11.0	9.5
26.0	11.2	11.8	12.4	11.0	9.5
28.0	10.1	10.7	11.3	11.0	9.5
30.0	9.0	9.5	10.0	10.4	9.5
32.0	8.0	8.4	8.9	9.0	
34.0	6.2	6.7	7.3	7.8	
36.0	5.0	5.4	5.9	6.2	
38.0	3.8	4.2	4.6	4.7	
40.0	2.7	3.0	3.4		

■ **22.7 m Boom + 12 m Heavy Lift Jib**

22.7 m Boom + 12 m Heavy Lift Jib					
360° full range					
Working radius (m)	Jib angle 10°	Jib angle 20°	Jib angle 30°	Jib angle 45°	Jib angle 60°
8.0	57.0				
9.0	57.0				
10.0	53.0	50.5			
11.0	49.5	48.7	48.0		
12.0	46.0	46.4	46.9		
14.0	37.7	39.0	40.4	35.0	
16.0	31.5	32.6	33.7	35.0	28.0
18.0	26.5	27.4	28.4	29.4	28.0
20.0	22.6	23.3	24.1	25.0	25.3
22.0	19.3	19.9	20.5	21.0	
24.0	16.2	16.7	17.3	17.8	
26.0	13.7	14.0	14.4	14.7	
28.0	11.5	11.7	12.0		
30.0	9.7	9.7	9.8		
32.0	7.6				

■ **50 m Boom + 12 m Heavy Lift Jib**

50 m Boom + 12 m Heavy Lift Jib					
360° full range					
Working radius (m)	Jib angle 10°	Jib angle 20°	Jib angle 30°	Jib angle 45°	Jib angle 60°
14.0	12.0				
16.0	12.0	11.0			
18.0	12.0	11.0	10.0		
20.0	12.0	11.0	10.0	8.8	7.5
22.0	11.7	11.0	10.0	8.8	7.5
24.0	10.4	10.3	9.9	8.8	7.5
26.0	9.4	9.6	9.8	8.8	7.5
28.0	8.3	8.8	9.2	8.8	7.5
30.0	7.4	7.8	8.2	8.7	7.5
32.0	6.6	7.0	7.3	7.8	7.5
34.0	5.9	6.2	6.5	7.0	7.3
36.0	5.3	5.5	5.8	6.2	
38.0	4.5	4.9	5.2	5.5	
40.0	3.4	3.7	4.1	4.4	
45.0			1.7	1.8	

● 21 m Heavy Lift Jib

■ **13.6 m Boom + 21 m Heavy Lift Jib**

13.6 m Boom + 21 m Heavy Lift Jib					
360° full range					
Working radius (m)	Jib angle 10°	Jib angle 20°	Jib angle 30°	Jib angle 45°	Jib angle 60°
9.0	45.0				
10.0	45.0				
11.0	44.4				
12.0	43.0				
14.0	38.7	32.8			
16.0	34.3	30.6	27.0		
18.0	30.8	27.9	25.0		
20.0	28.0	25.6	23.2	19.0	
22.0	24.6	23.1	21.7	18.3	14.0
24.0	21.6	21.0	20.5	17.5	13.7
26.0	19.1	19.3	19.5	16.8	13.4
28.0	17.0	17.3	17.7	16.3	
30.0	15.1	15.4	15.7		
32.0	13.0	13.1			

■ **31.8 m Boom + 21 m Heavy Lift Jib**

31.8 m Boom + 21 m Heavy Lift Jib					
360° full range					
Working radius (m)	Jib angle 10°	Jib angle 20°	Jib angle 30°	Jib angle 45°	Jib angle 60°
14.0	25.0				
16.0	25.0	22.5			
18.0	22.8	21.4			
20.0	20.6	20.3	20.0		
22.0	18.7	19.3	20.0		
24.0	17.0	17.7	18.5	18.0	
26.0	15.5	16.2	17.0	18.0	15.0
28.0	13.8	14.6	15.5	16.6	15.0
30.0	11.9	12.7	13.6	14.5	15.0
32.0	10.3	11.0	11.8	12.6	13.1
34.0	8.8	9.5	10.3	10.9	11.3
36.0	7.3	8.0	8.8	9.5	
38.0	6.1	6.7	7.3	7.9	
40.0	5.0	5.5	6.1	6.5	
45.0	2.7	2.9	3.2		

■ **18.15 m Boom + 21 m Heavy Lift Jib**

18.15 m Boom + 21 m Heavy Lift Jib					
360° full range					
Working radius (m)	Jib angle 10°	Jib angle 20°	Jib angle 30°	Jib angle 45°	Jib angle 60°
10.0	40.0				
11.0	40.0				
12.0	40.0				
14.0	38.0	32.5			
16.0	34.1	30.5	27.0		
18.0	29.1	27.9	25.0		
20.0	25.1	25.3	23.2	19.0	
22.0	21.8	22.9	21.7	18.3	14.0
24.0	18.8	19.8	20.5	17.5	13.7
26.0	16.2	17.1	18.0	16.8	13.4
28.0	14.0	14.8	15.6	16.3	13.4
30.0	12.1	12.8	13.5	14.3	
32.0	10.5	11.1	11.7	12.3	
34.0	3.5	6.9	10.0		

■ **40.9 m Boom + 21 m Heavy Lift Jib**

40.9 m Boom + 21 m Heavy Lift Jib					
360° full range					
Working radius (m)	Jib angle 10°	Jib angle 20°	Jib angle 30°	Jib angle 45°	Jib angle 60°
16.0	11.0				
18.0	11.0	9.5			
20.0	11.0	9.5			
22.0	10.5	9.2	8.0		
24.0	10.0	9.0	8.0	6.5	
26.0	9.9	8.9	7.9	6.5	
28.0	9.6	8.7	7.8	6.5	5.4
30.0	8.8	8.2	7.7	6.5	5.4
32.0	8.0	7.8	7.6	6.5	5.4
34.0	7.3	7.4	7.5	6.5	5.4
36.0	6.6	7.0	7.4	6.5	5.4
38.0	5.7	6.3	6.9	6.5	5.4
40.0	4.5	5.2	5.9	6.5	5.4
45.0	2.2	2.7	3.2	3.6	3.7

■ **22.7 m Boom + 21 m Heavy Lift Jib**

22.7 m Boom + 21 m Heavy Lift Jib					
360° full range					
Working radius (m)	Jib angle 10°	Jib angle 20°	Jib angle 30°	Jib angle 45°	Jib angle 60°
11.0	40.0				
12.0	40.0				
14.0	38.0	32.5			
16.0	34.1	30.5			
18.0	29.1	28.0	27.0		
20.0	25.1	25.3	25.5		
22.0	21.8	22.9	24.1	20.0	
24.0	18.8	19.8	20.8	20.0	16.0
26.0	16.2	17.1	18.0	19.1	15.6
28.0	14.0	14.8	15.6	16.6	15.2
30.0	12.1	12.8	13.5	14.3	14.8
32.0	10.5	11.1	11.7	12.3	
34.0	9.0	9.5	10.0	10.5	
36.0	7.6	8.0	8.5		
38.0	6.2	6.6	7.0		
40.0	5.2	5.2			

■ **50 m Boom + 21 m Heavy Lift Jib**

50 m Boom + 21 m Heavy Lift Jib					
360° full range					
Working radius (m)	Jib angle 10°	Jib angle 20°	Jib angle 30°	Jib angle 45°	Jib angle 60°
16.0	9.5				
18.0	9.2				
20.0	8.8	7.4			
22.0	8.5	7.2	6.0		
24.0	8.3	7.1	6.0		
26.0	8.0	7.0	6.0	5.0	
28.0	7.7	6.8	6.0	5.0	
30.0	6.9	6.4	6.0	5.0	4.0
32.0	6.3	6.1	6.0	5.0	4.0
34.0	5.6	5.8	6.0	5.0	4.0
36.0	5.1	5.5	5.9	5.0	4.0
38.0	4.5	4.9	5.3	5.0	4.0
40.0	4.0	4.4	4.8	5.0	4.0
45.0	2.5	3.0	3.5	4.0	
50.0			1.6	2.0	

● 30 m Heavy Lift Jib

■ 13.6 m Boom + 30 m Heavy Lift Jib

13.6 m Boom + 30 m Heavy Lift Jib 360° full range					
Working radius (m)	Jib angle 10°	Jib angle 20°	Jib angle 30°	Jib angle 45°	Jib angle 60°
14.0	24.0				
16.0	23.0				
18.0	21.7	19.8			
20.0	20.5	19.2	18.0		
22.0	19.3	18.3	17.4		
24.0	18.2	17.4	16.7		
26.0	17.2	16.6	16.1		
28.0	16.4	15.8	15.2	12.0	
30.0	15.6	14.9	14.3	12.0	9.0
32.0	14.6	14.1	13.6	11.5	9.0
34.0	13.3	13.1	13.0	11.0	8.7
36.0	12.0	12.2	12.4	10.7	
38.0	10.9	11.2	11.5	10.5	
40.0	9.9	10.0	10.2		

■ 18.15 m Boom + 30 m Heavy Lift Jib

18.15 m Boom + 30 m Heavy Lift Jib 360° full range					
Working radius (m)	Jib angle 10°	Jib angle 20°	Jib angle 30°	Jib angle 45°	Jib angle 60°
14.0	24.0				
16.0	23.0				
18.0	21.7	19.8			
20.0	20.5	19.2			
22.0	19.3	18.3	17.0		
24.0	18.2	17.4	16.7		
26.0	17.2	16.6	16.1		
28.0	15.6	15.7	15.2	12.0	
30.0	13.7	14.5	14.3	12.0	
32.0	12.0	13.0	13.6	11.5	9.0
34.0	10.6	11.4	12.2	11.0	8.7
36.0	9.3	10.1	10.9	10.7	8.6
38.0	8.2	8.9	9.6	10.4	
40.0	7.0	7.7	8.4	9.1	

■ 22.7 m Boom + 30 m Heavy Lift Jib

22.7 m Boom + 30 m Heavy Lift Jib 360° full range					
Working radius (m)	Jib angle 10°	Jib angle 20°	Jib angle 30°	Jib angle 45°	Jib angle 60°
14.0	24.0				
16.0	23.5				
18.0	23.0				
20.0	21.6	19.3			
22.0	20.3	18.6			
24.0	19.2	18.1	17.0		
26.0	17.8	17.2	16.6		
28.0	15.6	15.7	15.9	14.0	
30.0	13.7	14.5	15.3	13.9	
32.0	12.0	13.0	14.0	13.1	10.0
34.0	10.6	11.4	12.2	12.5	10.0
36.0	9.3	10.1	10.9	11.8	10.0
38.0	8.2	8.9	9.6	10.4	9.8
40.0	7.0	7.7	8.4	9.1	
45.0	4.6	5.0	5.5		
50.0	2.6				

■ 31.8 m Boom + 30 m Heavy Lift Jib

31.8 m Boom + 30 m Heavy Lift Jib 360° full range					
Working radius (m)	Jib angle 10°	Jib angle 20°	Jib angle 30°	Jib angle 45°	Jib angle 60°
16.0	16.0				
18.0	16.0				
20.0	16.0				
22.0	16.0	16.0			
24.0	16.0	16.0			
26.0	14.5	15.2	16.0		
28.0	13.2	14.0	14.8		
30.0	12.1	12.8	13.6	13.0	
32.0	11.2	11.8	12.5	13.0	
34.0	10.1	10.8	11.6	12.7	10.0
36.0	8.7	9.6	10.6	11.7	10.0
38.0	7.5	8.4	9.3	10.3	10.0
40.0	6.3	7.2	8.1	9.1	9.7
45.0	4.0	4.7	5.4	6.2	
50.0	2.1	2.6	3.1	3.5	

■ 40.9 m Boom + 30 m Heavy Lift Jib

40.9 m Boom + 30 m Heavy Lift Jib 360° full range					
Working radius (m)	Jib angle 10°	Jib angle 20°	Jib angle 30°	Jib angle 45°	Jib angle 60°
18.0	8.0				
20.0	8.0				
22.0	8.0				
24.0	8.0	6.7			
26.0	7.7	6.6			
28.0	7.4	6.4	5.5		
30.0	7.2	6.3	5.5		
32.0	6.9	6.2	5.5	4.2	
34.0	6.4	5.8	5.3	4.2	
36.0	5.8	5.5	5.2	4.2	3.3
38.0	5.3	5.2	5.1	4.2	3.3
40.0	4.9	4.9	5.0	4.2	3.3
45.0	3.8	4.2	4.7	4.1	3.3
50.0	1.8	2.5	3.2	3.9	
55.0				1.7	

■ 50 m Boom + 30 m Heavy Lift Jib

50 m Boom + 30 m Heavy Lift Jib 360° full range					
Working radius (m)	Jib angle 10°	Jib angle 20°	Jib angle 30°	Jib angle 45°	Jib angle 60°
20.0	6.6				
22.0	6.3				
24.0	6.1	5.1			
26.0	5.8	4.9			
28.0	5.6	4.8	4.1		
30.0	5.4	4.7	4.0		
32.0	5.2	4.5	3.9		
34.0	4.9	4.3	3.8	2.8	
36.0	4.4	4.0	3.7	2.8	
38.0	3.9	3.7	3.6	2.8	2.2
40.0	3.5	3.5	3.6	2.8	2.2
45.0	2.6	3.0	3.4	2.8	2.2
50.0	1.6	2.0	2.5	2.8	2.2
55.0				2.0	

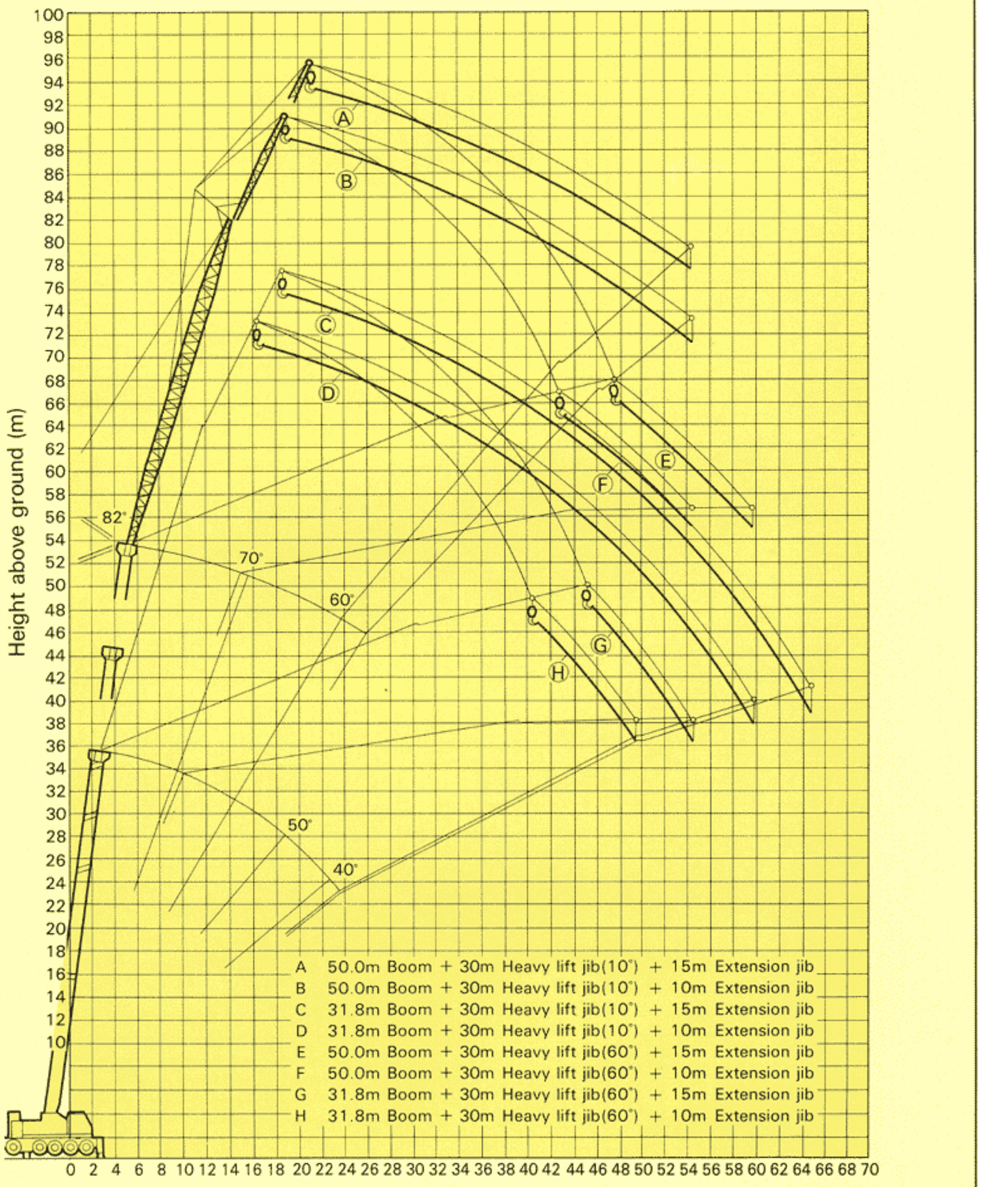
SPECIFICATION OF HEAVY LIFT JIB

1. Jib length: 12 m, 21 m, 30m
2. Jib offset angle: 10° ~ 60° (Jib angle against main boom)
3. Jib offset device: By auxiliary winch
4. Jib back stopper: By double acting hydraulic cylinder

Max. lifting capacities			
Boom length (m)	Jib length (m)	Lifting load (ton)	Working radius (m)
13.6	12	75.0	7.0
	21	45.0	10.0
	30	24.0	14.0
18.15	12	57.0	9.0
	21	40.0	12.0
	30	24.0	14.0
22.7	12	57.0	9.0
	21	40.0	12.0
	30	24.0	14.0
31.8	12	35.0	11.0
	21	25.0	16.0
	30	16.0	24.0
40.9	12	16.0	16.0
	21	11.0	20.0
	30	8.0	24.0
50.0	12	12.0	20.0
	21	9.5	16.0
	30	6.6	20.0

EXTENSION JIB

WORKING RANGES



● 30 m Heavy Lift Jib
+ 10 m Extension Jib

● 30 m Heavy Lift Jib
+ 15 m Extension Jib

RATED LIFTING CAPACITY

[Based on *BS 1757 : 1981 *DIN 15019-2 *75% of tipping loads]

[Counterweight – 37 ton
Outrigger width – 8.6 m
Front jack – extended]

(Unit: metric ton)

■ **31.8 m Boom + 30 m Heavy lift jib + 10 m Extension jib**

31.8 m Boom + 30 m Heavy lift jib + 10 m Extension jib					
360° full range					
Working radius (m)	Jib angle 10°	Jib angle 20°	Jib angle 30°	Jib angle 45°	Jib angle 60°
20	7.50				
25	7.50	7.00			
30	7.50	7.00			
35	7.50	7.00	6.50		
40	7.50	6.70	6.50	5.50	
45	6.10	6.35	5.80	5.50	5.00
50	4.70	5.30	5.10	5.05	5.00
55	3.30	3.95	4.40	4.60	
60	1.90	2.40	2.70		

■ **40.9 m Boom + 30 m Heavy lift jib + 10 m Extension jib**

40.9 m Boom + 30 m Heavy lift jib + 10 m Extension jib					
360° full range					
Working radius (m)	Jib angle 10°	Jib angle 20°	Jib angle 30°	Jib angle 45°	Jib angle 60°
25	5.20				
30	5.20	4.85			
35	5.20	4.85	4.50		
40	5.20	4.60	4.50	3.40	
45	4.20	4.40	4.00	3.10	2.00
50	3.20	3.65	3.50	2.80	2.00
55	2.20	2.60	3.00	2.50	
60	1.20	1.55	1.80	2.20	

■ **50 m Boom + 30 m Heavy lift jib + 10 m Extension jib**

50 m Boom + 30 m Heavy lift jib + 10 m Extension jib					
360° full range					
Working radius (m)	Jib angle 10°	Jib angle 20°	Jib angle 30°	Jib angle 45°	Jib angle 60°
25	2.50				
30	2.50	2.50			
35	2.50	2.50	2.50		
40	2.50	2.50	2.50	1.60	
45	2.50	2.20	2.20	1.60	1.10
50	1.80	2.10	1.90	1.60	1.10
55	1.10	1.45	1.60	1.60	1.10
60			1.00	1.60	
65				1.0	

■ **31.8 m Boom + 30 m Heavy lift jib + 15 m Extension jib**

31.8 m Boom + 30 m Heavy lift jib + 15 m Extension jib					
360° full range					
Working radius (m)	Jib angle 10°	Jib angle 20°	Jib angle 30°	Jib angle 45°	Jib angle 60°
25	5.20	4.55			
30	5.20	4.55			
35	5.20	4.55	3.90		
40	5.20	4.55	3.90	3.60	
45	4.70	4.45	3.90	3.60	3.20
50	4.20	4.15	3.70	3.40	3.20
55	3.70	3.55	3.50	3.20	3.20
60	2.60	3.00	3.30	3.00	
65	1.50	1.85	2.10		

■ **40.9 m Boom + 30 m Heavy lift jib + 15 m Extension jib**

40.9 m Boom + 30 m Heavy lift jib + 15 m Extension jib					
360° full range					
Working radius (m)	Jib angle 10°	Jib angle 20°	Jib angle 30°	Jib angle 45°	Jib angle 60°
25	4.00				
30	4.00	3.50			
35	4.00	3.50			
40	4.00	3.50	3.00		
45	4.00	3.40	3.00	2.50	
50	3.20	3.30	2.80	2.35	1.60
55	2.40	2.85	2.60	2.20	1.60
60	1.60	2.05	2.40	2.05	
65		1.25	1.50	1.90	

■ **50 m Boom + 30 m Heavy lift jib + 15 m Extension jib**

50 m Boom + 30 m Heavy lift jib + 15 m Extension jib					
360° full range					
Working radius (m)	Jib angle 10°	Jib angle 20°	Jib angle 30°	Jib angle 45°	Jib angle 60°
25	2.00				
30	2.00				
35	2.00	2.00			
40	2.00	2.00	2.00		
45	2.00	1.90	2.00	1.50	
50	1.60	1.80	1.80	1.50	1.00
55	1.20	1.50	1.60	1.50	1.00
60		1.00	1.40	1.50	1.00
65				1.50	

SPECIFICATION OF EXTENSION JIB

1. Jib length: 30m Heavy lift jib + 10m, 15m
2. Jib offest angle: (Heavy lift jib) 10° ~ 60° (Heavy lift jib angle against main boom)
3. Jib offset device: (Heavy lift jib) By auxiliary winch
4. Extension jib is attached 30m heavy lift jib and used with main boom extended to 31.8m or longer.

■ **31.8 m Boom + 30 m Heavy lift jib + 15 m Extension jib**

31.8 m Boom + 30 m Heavy lift jib + 15 m Extension jib					
360° full range					
Working radius (m)	Jib angle 10°	Jib angle 20°	Jib angle 30°	Jib angle 45°	Jib angle 60°
25	5.20	4.55			
30	5.20	4.55			
35	5.20	4.55	3.90		
40	5.20	4.55	3.90	3.60	
45	4.70	4.45	3.90	3.60	3.20
50	4.20	4.15	3.70	3.40	3.20
55	3.70	3.55	3.50	3.20	3.20
60	2.60	3.00	3.30	3.00	
65	1.50	1.85	2.10		

NK-1600

FULLY HYDRAULIC TRUCK CRANE

NOTE: KATO PRODUCTS AND SPECIFICATIONS ARE SUBJECT TO IMPROVEMENTS AND CHANGES WITHOUT NOTICE.

KATO

QUALITY & EXPERIENCE
SINCE 1895

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