

TRUCK CRANE

TG-1200M

TG

JAPANESE SPECIFICATIONS

CARRIER MODEL	OUTLINE	SPEC. NO.
MITSUBISHI P-K1500	3-stage Luffing Jib	TG-1200M-2-20101

Control No. JA-02

TG-1200M

CRANE SPECIFICATIONS

CRANE CAPACITY

12.0m	Boom	120,000kg	at 3.2m	(18 part-line)
17.7m	Boom	50,000kg	at 7.0m	(7 part-line)
23.4m	Boom	40,000kg	at 8.0m	(6 part-line)
29.1m	Boom	32,000kg	at 8.5m	(5 part-line)
34.8m	Boom	25,000kg	at 10.0m	(4 part-line)
42.4m	Boom	16,500kg	at 14.0m	(4 part-line)
50.0m	Boom	14,000kg	at 12.0m	(4 part-line)
11.0m	Jib	6,000kg	at 77°	(1 part-line)
6.25m + 12.75m	Jib	4,000kg	at 80°	(1 part-line)
6.25m + 19.75m	Jib	2,800kg	at 75°	(1 part-line)
Single top		6,000kg		(1 part-line)

MAX. LIFTING HEIGHT

Boom	50.0m
Jib	76.0m

MAX. WORKING RADIUS

Boom	42.0m
Jib	50.0m

BOOM LENGTH

12.0m - 50.0m

BOOM EXTENSION

38.0m

BOOM EXTENSION SPEED

38.0m / 147s

JIB LENGTH

11.0m, 6.25m + 12.75m, 6.25m + 19.75m

MAIN WINCH SINGLE LINE SPEED

High range: 115m/min (4th layer)
Low range: 57m/min (4th layer)

MAIN WINCH HOOK SPEED

High range: 6.4m/min (18 part-line)
Low range: 3.2m/min (18 part-line)

AUXILIARY WINCH SINGLE LINE SPEED

High range: 140m/min (2nd layer)
Low range: 70m/min (2nd layer)

AUXILIARY WINCH HOOK SPEED

High range: 140m/min (1 part-line)
Low range: 70m/min (1 part-line)

BOOM ELEVATION ANGLE

-1.0° - 82.6°

BOOM ELEVATION SPEED

-1.0° - 82.6° / 66s

SWING ANGLE

360° continue

SWING SPEED

High range: 1.6 rpm
Low range: 0.8 rpm

WIRE ROPE

Main Winch

22mm × 275m (Diameter × Length)

T(T7 × 7) + 6 × WS(36)

Designated type ordinary · Z twist

Spin-resistant type Breaking strength 41.5t

Auxiliary Winch

22mm × 185m (Diameter × Length)

T(T7 × 7) + 6 × WS(36)

Designated type ordinary · Z twist

Spin-resistant type Breaking strength 38.0t

HOOK

120t hook	(18 part-line)
50t hook	(7 part-line)
6t hook	(1 part-line)

BOOM

6-section hydraulically telescoping boom of box construction.

(stages 2-4 : synchronized; 5,6 : sequenced)

BOOM EXTENSION

4 double-acting hydraulic cylinder
1 wire rope type telescoping device

JIB

3-staged swingaround boom extensions.
(with 2nd and 3rd stages being of a pull-out type)
Hydraulic non-stage offset (5°-50°) type
(offset is 0° for 11.0m jib)

SINGLE TOP

Single sheave. Mounted to main boom head for single line work.

HOIST

Driven by hydraulic motor and via planetary gear reducer
Automatic brake
2-speed (High/Low) selection type
2 single winches

BOOM ELEVATION

2 double-acting hydraulic cylinders

SWING

Hydraulic motor driven planetary gear reducer
Swing bearing
Manual switch type brake
Swing free/lock changeover type

OUTRIGGERS

Fully hydraulic H-type
Slides and jacks each provided with independent operation device.

Full extended width 9.0m
Middle extended width 6.2m

MAX. OUTRIGGER LOAD

103t

FRONT JACK

Hydraulic operated type

REAR JACK

Hydraulic type (with cylinder for extension)

ENGINE FOR CRANE

Model 6D22

Type 4-cycle, 6 in-line cylinder, direct-injection, water-cooled diesel engine.

Piston Displacement 11,149cc

Max. Output 200PS at 2,200rpm

Max. Torque 73kg·m at 1,200rpm

HYDRAULIC PUMPS

2 variable piston pumps and 1 variable gear pumps

HYDRAULIC OIL TANK CAPACITY

1,014 liters

SAFETY DEVICES

Automatic moment limiter (AML)

With working range limiting function

Over-winding cutout

Level gauge

Working area control device

Hook safety latch

Cable follower

Winch drum lock

Hydraulic safety valve

Telescopic counterbalance valve

Elevation counterbalance valve

Jack pilot check valve

Swing lock

Front jack over load alarm

EQUIPMENTS

Crane cab heater

Oil cooler

Hydraulic oil temperature gauge

Boom angle indicator

Winch drum rotation indicator

Boom dismount device

Swing frame dismount device

Radio

Fan

OPTIONAL EQUIPMENTS

Extra counterweight (10t)

Crane cab cooler

Jib extending device

CARRIER SPECIFICATIONS

MANUFACTURER

MITSUBISHI MOTOR CORPORATION

CARRIER MODEL

P-K1500

ENGINE

Model 8DC9T

Type 4-cycle V8-cylinder, direct-injection, water-cooled diesel engine
With turbo charger

Piston displacement 16,031cc

Max. output 380PS at 2,200rpm

Max. torque 142kg·m at 1,400rpm

CLUTCH

Dry single-plate type

TRANSMISSION

10-forward and 2-reverse speeds

Constant-mesh gear (1st speed, 2nd speed, reverse)

Synchronized-mesh gear (for 3rd – 10th speeds)

REDUCER

Hypoid gear type

With planetary gear type hub reduction

FRONT AXLE

Reverse-elliot type steering knuckles

REAR AXLE

Full floating type

SUSPENSION

Front Tapered leaf spring

With torsion bar stabilizer

Rear Equalizer beam and torque rod type

STEERING

Recirculating ball screw type

With linkage type hydraulic power booster

BRAKE SYSTEM

Service Brake

Foot operated full air brake on all wheels, dual air line system, internal expanding leading and trailing shoe type.

Parking Brake

Mechanically operated, internal expanding duo-servo shoe type acting on drum at transmission case rear.

Auxiliary Brake

Exhaust brake

Spring brake, acting on 4 rear wheels

ELECTRIC SYSTEM

24 V DC. 2 batteries of 12V (140Ah)

FUEL TANK CAPACITY

400 liters

CAB

Two-man type

TIRES

Front 14.00-24-24PR

Rear 14.00-24-24PR

STANDARD EQUIPMENTS

Car heater

Car radio

Car cooler

GENERAL DATA

DIMENSIONS (CARRIER ONLY)

Overall length 12,170mm

Overall width 3,400mm

Overall height 3,050mm

Wheel base 1,550mm + 4,325mm + 1,500mm = 7,375mm

Tread Front 2,760mm

Rear 2,520mm

WEIGHTS (CARRIER ONLY)

Gross vehicle weight

Total 38,160kg

Front 15,105kg

Rear 23,055kg

PERFORMANCE (CARRIER ONLY)

Max. traveling speed 60km/h

Gradeability (tan θ) 0.69

Min. turning radius 11.8m

TOTAL RATED LOADS

(1) Fully extended
(i)

Unit : ton

· Outriggers fully extended + Front jack + Rear jack (360°) · Outriggers fully extended (Over sides) · Outriggers extended to 7.6m + Front jack + Rear jack + 10t extra weight (option) (360°)							
A \ B (m)	12.0m	17.7m	23.4m	29.1m	34.8m	42.4m	50.0m
3.2	120.0	50.0					
4.0	105.0	50.0					
4.5	92.0	50.0	40.0				
5.0	82.0	50.0	40.0				
5.5	73.0	50.0	40.0				
6.0	66.0	50.0	40.0	32.0			
6.5	60.0	50.0	40.0	32.0	25.0		
7.0	55.0	50.0	40.0	32.0	25.0	16.5	
7.5	51.0	47.0	40.0	32.0	25.0	16.5	
8.0	47.0	44.5	40.0	32.0	25.0	16.5	
8.5	43.5	42.5	38.5	32.0	25.0	16.5	
9.0	40.0	40.0	36.5	30.7	25.0	16.5	
10.0	35.0	35.2	33.5	27.8	25.0	16.5	14.0
11.0		31.2	30.1	25.4	23.0	16.5	14.0
12.0		27.6	27.0	23.3	21.0	16.5	14.0
14.0		21.4	21.8	19.6	17.6	16.5	12.6
16.0		16.2	16.8	16.2	15.1	14.0	11.5
18.0			13.2	13.4	12.9	12.1	10.5
20.0			10.4	10.7	10.8	10.6	9.5
22.0				8.5	8.7	9.3	8.6
24.0				6.6	6.8	8.2	7.7
26.0				5.0	5.2	6.9	7.0
28.0					3.8	5.6	6.1
30.0					2.7	4.4	5.5
32.0					1.8	3.4	4.6
34.0						2.6	3.7
36.0						1.8	3.0
38.0						1.2	2.3
40.0							1.7
42.0							1.2

A = Boom length
B = Working radius

(1) Fully extended
(ii)

Unit : ton

· Outriggers fully extended + Front jack + Rear jack (360°) · Outriggers fully extended (Over sides) · Outriggers extended to 7.6m + Front jack + Rear jack + 10t extra weight (option) (360°)														
E	C	11.0m	6.25m + 12.75m						6.25m + 19.75m					
	D	0°	5°	15°	25°	35°	45°	50°	5°	15°	25°	35°	45°	50°
80°		6.0	4.0	3.5	3.1	2.8	2.4	2.2	2.8	2.8	2.1	1.65	1.4	1.1
79°		6.0	3.8	3.5	3.0	2.7	2.3	2.2	2.8	2.7	2.0	1.6	1.35	1.1
78°		6.0	3.75	3.5	3.0	2.6	2.3	2.15	2.8	2.6	1.95	1.5	1.3	1.1
77°		6.0	3.75	3.5	3.0	2.5	2.2	2.1	2.8	2.5	1.9	1.5	1.3	1.1
75°		5.8	3.75	3.3	2.75	2.35	2.1	2.0	2.8	2.25	1.8	1.5	1.3	1.0
72°		5.1	3.2	2.75	2.35	2.0	1.8	1.7	2.4	1.8	1.55	1.3	1.15	1.0
70°		4.7	2.85	2.4	2.05	1.8	1.7	1.6	2.1	1.6	1.35	1.2	1.05	1.0
68°		4.2	2.5	2.1	1.85	1.65	1.55	1.45	1.8	1.45	1.2	1.05	0.95	0.9
65°		3.4	2.15	1.8	1.6	1.45	1.35	1.25	1.5	1.2	1.0	0.9	0.8	0.8
62°		2.75	1.8	1.6	1.3	1.25	1.2	1.05	1.2	1.0	0.9	0.8	0.7	0.7
60°		2.4	1.55	1.4	1.2	1.15	1.05	0.95	1.1	0.9	0.8	0.7	0.65	0.6
58°		2.1	1.35	1.2	1.1	1.0	0.95	0.85	1.0	0.8	0.7	0.6	0.6	0.6
55°		1.7	1.1	1.0	0.9	0.85	0.85							

C = Jib length D = Jib offset E = Boom angle

NOTES:

1. The total rated loads shown are for the case when the outriggers are set horizontally on firm ground. The values above the bold lines are based on the crane strength while those below are based on the crane stability.
2. The weights of slings and hooks are included in the total rated loads shown.
3. The total rated load is based on the actual working radius including the deflection of the boom.
4. Boom operations should be performed on the basis of the working radius. Jib operations should be performed on the basis of the boom angle regardless of the boom length.
5. The chart below shows the standard number of part lines for each boom length. The load per line should not exceed 7.14t for the main winch and 6.0t for the auxiliary winch.

A	12.0m	17.7m	23.4m	29.1m	34.8m	42.4m	50.0m	J
K	120t Hook	50t Hook						6.0t Hook
L	1,250kg	525kg						250kg
H	18, 14	7	6	5	4		1	

A=Boom length H=No. of part-line J=Jib / Single top K=Hook type L=Hook weight

6. The total rated load for the single top is the same as that of the boom and must not exceed 6.0 tons. However, when hooks, slings, etc. are mounted on the boom, one should work with the total rated load obtained by subtracting the weights of the hooks, slings, etc. mounted on the boom from the total rated load of the boom.

(2) Middle extended
(i)

Unit : ton

· Outriggers extended to 6.2m + 10t extra weight (option) (360°)								· Outriggers extended to 6.2m (360°)							
A \ B (m)	12.0	17.7	23.4	29.1	34.8	42.4	50.0	12.0	17.7	23.4	29.1	34.8	42.4	50.0	
	m	m	m	m	m	m	m	m	m	m	m	m	m	m	
3.2	60.0	50.0						60.0	50.0						
4.0	60.0	50.0						60.0	50.0						
4.5	60.0	50.0	40.0					60.0	50.0	40.0					
5.0	60.0	50.0	40.0					60.0	50.0	40.0					
5.5	60.0	50.0	40.0					53.0	50.0	40.0					
6.0	58.6	50.0	40.0	32.0				45.0	46.0	40.0	32.0				
6.5	51.0	50.0	40.0	32.0	25.0			39.0	39.9	40.0	32.0	25.0			
7.0	44.8	45.7	40.0	32.0	25.0	16.5		34.0	35.0	35.3	32.0	25.0	16.5		
7.5	39.8	40.7	40.0	32.0	25.0	16.5		30.0	31.0	31.3	32.0	25.0	16.5		
8.0	35.7	36.5	36.9	32.0	25.0	16.5		26.5	27.6	28.0	28.1	25.0	16.5		
8.5	31.9	32.8	33.2	31.5	25.0	16.5		23.7	24.7	25.2	25.3	24.0	16.5		
9.0	29.1	30.0	30.3	30.5	25.0	16.5		21.4	22.4	22.7	22.9	23.0	16.5		
10.0	24.1	25.1	25.4	25.6	25.0	16.5	14.0	17.4	18.4	18.8	18.9	19.0	16.5	14.0	
11.0		21.3	21.6	21.8	21.9	16.5	14.0		15.3	15.7	15.9	15.9	16.5	14.0	
12.0		18.2	18.6	18.7	18.8	16.5	14.0		12.9	13.2	13.4	13.5	14.9	14.0	
14.0		13.6	14.0	14.2	14.2	15.6	12.6		9.1	9.5	9.7	9.8	11.2	12.2	
16.0		10.2	10.7	10.9	11.0	12.4	11.5		6.2	6.8	7.0	7.1	8.5	9.5	
18.0			8.2	8.4	8.5	9.9	10.5			4.5	4.7	4.8	6.5	7.5	
20.0			6.0	6.3	6.4	8.0	8.8			2.7	3.0	3.1	4.7	5.9	
22.0				4.5	4.7	6.3	7.3				1.5	1.7	3.3	4.5	
24.0				3.1	3.2	4.9	6.0						2.2	3.3	
26.0				1.9	2.0	3.7	4.8						1.2	2.3	
28.0					1.0	2.7	3.8							1.5	
30.0						1.8	2.9								
32.0						1.0	2.1								
34.0							1.5								

A = Boom length
B = Working radius

(2) Middle extended
(ii)

Unit : ton

· Outriggers extended to 6.2m (360°) · Outriggers extended to 6.2m + 10t extra weight (option) (360°)														
E	C	6.25m + 12.75m						6.25m + 19.75m						
	D	0°	5°	15°	25°	35°	45°	50°	5°	15°	25°	35°	45°	50°
80°	11.0m	6.0	4.0	3.5	3.1	2.8	2.4	2.2	2.8	2.8	2.1	1.65	1.4	1.1
79°	11.0m	6.0	3.8	3.5	3.0	2.7	2.3	2.2	2.8	2.7	2.0	1.6	1.35	1.1
78°	11.0m	6.0	3.75	3.5	3.0	2.6	2.3	2.15	2.8	2.6	1.95	1.5	1.3	1.1
77°	11.0m	6.0	3.75	3.5	3.0	2.5	2.2	2.1	2.8	2.5	1.9	1.5	1.3	1.1
75°	11.0m	5.8	3.75	3.3	2.75	2.35	2.1	2.0	2.8	2.25	1.8	1.5	1.3	1.0
72°	11.0m	4.3	3.0	2.75	2.35	2.0	1.8	1.7	2.4	1.8	1.55	1.3	1.15	1.0

C = Jib length D = Jib offset E = Boom angle

NOTES:

1. The total rated loads shown are for the case when the outriggers are set horizontally on firm ground. The values above the bold lines are based on the crane strength while those below are based on the crane stability.
2. The weights of slings and hooks are included in the total rated loads shown.
3. The total rated load is based on the actual working radius including the deflection of the boom.
4. Boom operations should be performed on the basis of the working radius. Jib operations should be performed on the basis of the boom angle regardless of the boom length.
5. The chart below shows the standard number of part lines for each boom length. The load per line should not exceed 7.14t for the main winch and 6.0t for the auxiliary winch.

A	12.0m	17.7m	23.4m	29.1m	34.8m	42.4m	50.0m	J
K	120t Hook	50t Hook						6.0t Hook
L	1,250kg	525kg						250kg
H	18, 14	7	6	5	4		1	

A = Boom length H = No. of part-line J = Jib / Single top K = Hook type L = Hook weight

6. The total rated load for the single top is the same as that of the boom and must not exceed 6.0 tons. However, when hooks, slings, etc. are mounted on the boom, one should work with the total rated load obtained by subtracting the weights of the hooks, slings, etc. mounted on the boom from the total rated load of the boom.

(3) 10t extra weight (option) specifications
(i)

Unit : ton

· Outriggers fully extended + Front jack + Rear jack (360°) · Outriggers fully extended (Over sides)							
A \ B (m)	12.0m	17.7m	23.4m	29.1m	34.8m	42.4m	50.0m
3.2	120.0	50.0					
4.0	105.0	50.0					
4.5	92.0	50.0	40.0				
5.0	82.0	50.0	40.0				
5.5	73.0	50.0	40.0				
6.0	66.0	50.0	40.0	32.0			
6.5	60.0	50.0	40.0	32.0	25.0		
7.0	55.0	50.0	40.0	32.0	25.0	16.5	
7.5	51.0	47.0	40.0	32.0	25.0	16.5	
8.0	47.0	44.5	40.0	32.0	25.0	16.5	
8.5	43.5	42.5	38.5	32.0	25.0	16.5	
9.0	40.0	40.0	36.5	30.7	25.0	16.5	
10.0	35.0	36.0	33.5	27.8	25.0	16.5	14.0
11.0		32.8	30.9	25.4	23.0	16.5	14.0
12.0		30.0	28.7	23.3	21.0	16.5	14.0
14.0		25.5	24.3	19.7	17.6	16.5	12.6
16.0		20.5	20.5	17.0	15.1	14.0	11.5
18.0			17.0	14.9	12.9	12.1	10.5
20.0			13.5	13.2	11.1	10.6	9.5
22.0				11.6	9.5	9.3	8.6
24.0				9.5	8.1	8.2	7.7
26.0				7.5	6.8	7.2	7.0
28.0					5.6	6.3	6.1
30.0					4.5	5.5	5.5
32.0					3.4	4.8	4.8
34.0						4.2	4.3
36.0						3.6	3.8
38.0						3.0	3.4
40.0							3.0
42.0							2.7
44.0							2.5

A = Boom length

B = Working radius

(3) 10t extra weight (option) specifications

(ii)

Unit : ton

· Outriggers fully extended + Front jack + Rear jack (360°) · Outriggers fully extended (Over sides)														
E	C	11.0m	6.25m + 12.75m					6.25m + 19.75m						
	D	0°	5°	15°	25°	35°	45°	50°	5°	15°	25°	35°	45°	50°
80°		6.0	4.0	3.5	3.1	2.8	2.4	2.2	2.8	2.8	2.1	1.65	1.4	1.1
79°		6.0	3.8	3.5	3.0	2.7	2.3	2.2	2.8	2.7	2.0	1.6	1.35	1.1
78°		6.0	3.75	3.5	3.0	2.6	2.3	2.15	2.8	2.6	1.95	1.5	1.3	1.1
77°		6.0	3.75	3.5	3.0	2.5	2.2	2.1	2.8	2.5	1.9	1.5	1.3	1.1
75°		5.8	3.75	3.3	2.75	2.35	2.1	2.0	2.8	2.25	1.8	1.5	1.3	1.0
72°		5.1	3.2	2.75	2.35	2.0	1.8	1.7	2.4	1.8	1.55	1.3	1.15	1.0
70°		4.7	2.85	2.4	2.05	1.8	1.7	1.6	2.1	1.6	1.35	1.2	1.05	1.0
68°		4.2	2.5	2.1	1.85	1.65	1.55	1.45	1.8	1.45	1.2	1.05	0.95	0.9
65°		3.4	2.15	1.8	1.6	1.45	1.35	1.25	1.5	1.2	1.0	0.9	0.8	0.8
62°		2.75	1.8	1.6	1.3	1.25	1.2	1.05	1.2	1.0	0.9	0.8	0.7	0.7
60°		2.4	1.55	1.4	1.2	1.15	1.05	0.95	1.1	0.9	0.8	0.7	0.65	0.6
58°		2.1	1.35	1.2	1.1	1.0	0.95	0.85	1.0	0.8	0.7	0.6	0.6	0.6
55°		1.7	1.1	1.0	0.9	0.85	0.85		0.75	0.7	0.6	0.5	0.5	
52°		1.3	0.7	0.7	0.7	0.65	0.65		0.65	0.6	0.5	0.4	0.4	
50°		0.9												
48°		0.6												

C = Jib length D = Jib offset E = Boom angle

NOTES:

1. The total rated loads shown are for the case when the outriggers are set horizontally on firm ground. The values above the bold lines are based on the crane strength while those below are based on the crane stability.
2. The weights of slings and hooks are included in the total rated loads shown.
3. The total rated load is based on the actual working radius including the deflection of the boom.
4. Boom operations should be performed on the basis of the working radius. Jib operations should be performed on the basis of the boom angle regardless of the boom length.
5. The chart below shows the standard number of part lines for each boom length. The load per line should not exceed 7.14t for the main winch and 6.0t for the auxiliary winch.

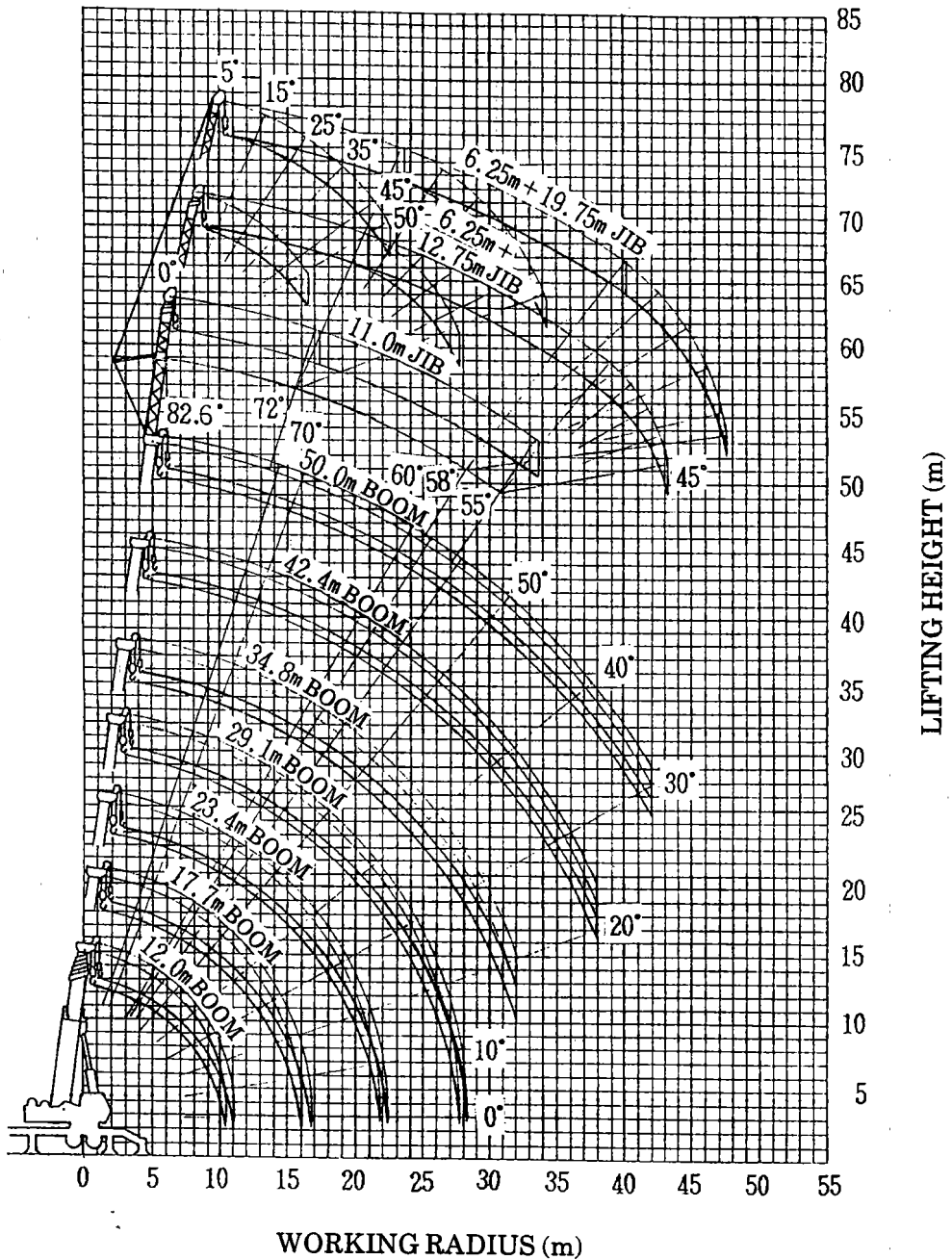
A	12.0m	17.7m	23.4m	29.1m	34.8m	42.4m	50.0m	J
K	120t Hook	50t Hook					6.0t Hook	
L	1,250kg	525kg					250kg	
H	18, 14	7	6	5	4		1	

A=Boom length H=No. of part-line J=Jib / Single top K=Hook type L=Hook weight

6. The total rated load for the single top is the same as that of the boom and must not exceed 6.0 tons. However, when hooks, slings, etc. are mounted on the boom, one should work with the total rated load obtained by subtracting the weights of the hooks, slings, etc. mounted on the boom from the total rated load of the boom.

WORKING RADIUS - LIFTING HEIGHT

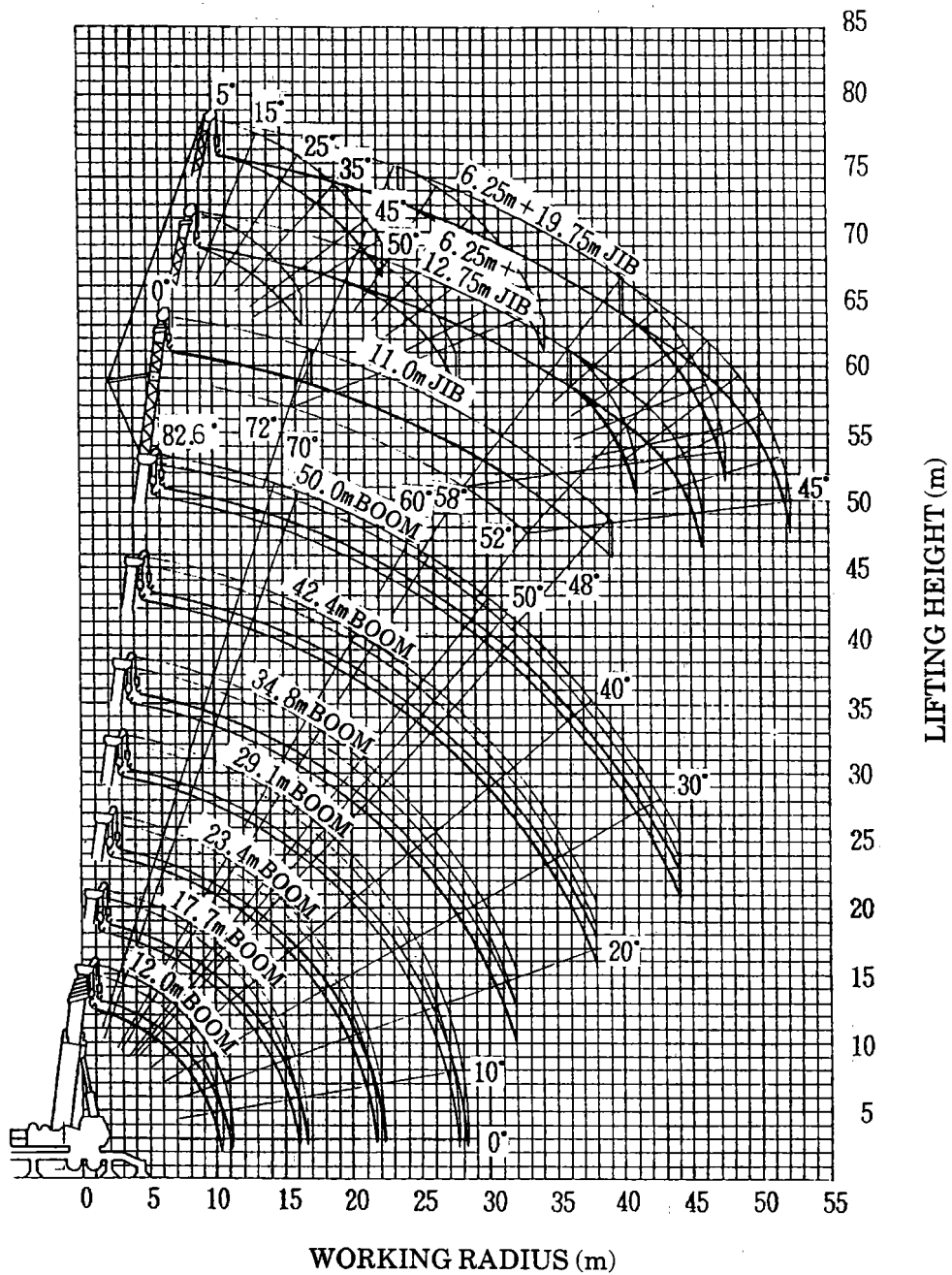
(i) Standard specifications



NOTES:

1. The deflection of the boom is not incorporated in the figure above.
2. The above chart is for the case where the outriggers are fully extended and where the front and rear jacks are used (over 360°).

(ii) 10t extra weight (option) specifications



NOTES:

1. The deflection of the boom is not incorporated in the figure above.
2. The above chart is for the case where the outriggers are fully extended and where the front and rear jacks are used (over 360°).

DIMENSIONS

