KATO NK-250E-III

FULLY HYDRAULIC TRUCK CRANE

RATED LIFTING CAPACITIES (1)

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

Working radius (m)	With fully extended outriggers — over side and over rear						
	10 m Boom	13.5 m Boom	17 m Boom	20.5 m Boom	24 m Boom	27.5 m Boom	31 m Boom
2.5	25.00	17.50	14.50				
3.0	25.00	17.50	14.50	9.50			
3.5	20.60	17.50	14.50	9.50	7.50		
4.0	18.00	17.50	14.50	9.50	7.50	6.50	
4.5	16.30	15.80	14.50	9.50	7.50	6.50	
5.0	14.85	14.40	13.25	9.50	7.50	6.50	6.00
5.5	13.65	13.25	12.20	9.50	7.50	6.50	6.00
6.0	12.30	12.20	11.30	9.50	7.50	6.50	6.00
6.5	11.20	11.00	10.50	9.50	7.50	6.50	6.00
7.0	10.25	10.00	9.80	8.80	7.50	6.50	6.00
7.5	9.40	9.20	9.10	8.30	7.50	6.50	6.00
8.0	8.65	8.45	8.35	7.80	7.00	6.10	5.65
8.3	8.25	8.05	7.95	7.50	6.75	5.90	5.45
9.0		7.20	7.10	6.95	6.25	5.45	5.05
9.5		6.65	6.50	6.55	5.90	5.20	4.80
10.0		6.00	5.90	6.20	5.60	4.95	4.60
11.0		5.00	4.85	5.25	5.00	4.50	4.20
11.8		4.30	4.20	4.60	4.65	4.15	3.95
12.0			4.10	4.45	4.60	4.10	3.90
14.0			2.90	3.25	3.40	3.50	3.35
15.3			2.30	2.70	2.85	3.00	3.00
16.0				2.40	2.60	2.75	2.85
18.0				1.75	1.95	2.10	2.15
18.8				1.50	1.75	1.90	1.95
20.0					1.45	1.60	1.70
22.0					1.10	1.20	1.30
22.3					1.00	1.15	1.25
24.0						0.90	0.95
25.8						0.65	0.75
28.0							0.50
29.3							0.40

(Unit: metric ton)

RATED LIFTING CAPACITIES (2)

Working radius (m)	With intermediately extended outriggers — 360° full range With fully extended outriggers — over front						
	10 m Boom	13.5 m Boom	17 m Boom	20.5 m Boom	24 m Boom	27.5 m Boom	31 m Boom
2.5	20.00	17.50	14.50				
3.0	20.00	17.50	14.50	9.50			
3.5	20.00	17.50	14.50	9.50	7.50		
4.0	16.50	17.50	14.50	9.50	7.50	6.50	
4.3	14.40	14.85	14.50	9.50	7.50	6.50	
5.0	10.50	10.50	10.20	9.50	7.50	6.50	6.00
5.7	7.90	7.80	7.60	7.40	7.50	6.50	6.00
6.0	7.10	7.00	6.80	6.80	7.00	6.50	6.00
6.5	6.00	5.90	5.65	5.85	6.15	6.50	6.00
6.6	5.85	5.70	5.45	5.70	6.00	6.30	6.00
7.0	5.20	5.00	4.80	5.10	5.35	5.60	5.50
8.3	3.60	3.40	3.20	3.60	3.85	4.00	4.10
9.0		2.80	2.65	3.00	3.25	3.40	3.50
10.0		2.10	1.95	2.30	2.55	2.75	2.80
11.0		1.50	1.35	1.75	2.00	2.20	2.30
11.8		1.15	1.05	1.40	1.65	1.85	1.90
13.0			0.65	0.95	1.20	1.35	1.50
13.5			0.50	0.80	1.05	1.20	1.30
14.5				0.50	0.80	0.90	1.05
15.0					0.70	0.80	0.90
16.0					0.45	0.55	0.70
16.5						0.45	0.60
17.5							0.40

(Unit: metric ton)

NOTE:

1) The rated lifting capacities indicate the maximum guaranteed loads for this model operating on a firm level surface. They include the weight of the hook block and other hoisting equipment. The figures in the blue areas are based on mechanical strength.

■ **Hook weight**

Hook	25 ton	3 ton
Weight	280 kg	60 kg

2) The working radii are the actual values including boom deflection under laden condition. The crane must be operated on the basis of those figures. However, the working radii shown for jib operations are based on the values obtained when the boom is fully extended (31m). Jib operations should be performed on the basis of boom angle only, regardless of boom length.

3) The rated lifting capacity for the rooster sheave is equivalent to the rated lifting capacity for the boom with an upper limit of 3,000 kg. However, when hoisting equipment, etc., is attached to the boom, the weight of the hoisting equipment plus the weight of the hoisting equipment attached to the boom should be subtracted from the rated lifting capacities.

4) If the boom length exceeds the specified value, refer to the rated lifting capacities for that boom length and the next highest boom length. The crane should be operated within the smaller lifting capacity.

5) When using the boom with the jib mounted, 650kg plus the weight of the hoisting equipment, etc., should be subtracted from the rated lifting capacities. The rooster sheave should not be used.

6) When the boom is fully extended with the jib installed, the boom angle must not under any circumstances be allowed to fall below the angles shown in the table below since the crane may topple.

Outriggers fully extended	25°
Outriggers intermediately extended	59°

RATED LIFTING CAPACITIES (3)

Boom angle (°)	With fully extended outriggers — over side and over rear					
	31 m boom + 8 m jib					
	5° offset		17° offset		30° offset	
	Working radius (m)	Load	Working radius (m)	Load	Working radius (m)	Load
80	8.00	2.75	8.80	1.95	10.20	1.35
76	10.50	2.75	11.50	1.95	13.00	1.35
75.5	11.00	2.65	12.00	1.90	13.50	1.35
70	14.60	2.07	15.70	1.53	16.80	1.15
65	17.70	1.73	18.80	1.32	19.60	1.02
60	20.60	1.50	21.70	1.15	22.30	0.90
54	23.80	1.28	24.80	1.00	25.40	0.80
50	25.70	0.94	26.60	0.90	27.30	0.75
48.5	26.40	0.84	27.30	0.80	27.90	0.73
44	28.30	0.62	29.10	0.60	29.80	0.58
40	30.00	0.48	30.60	0.45	31.20	0.44

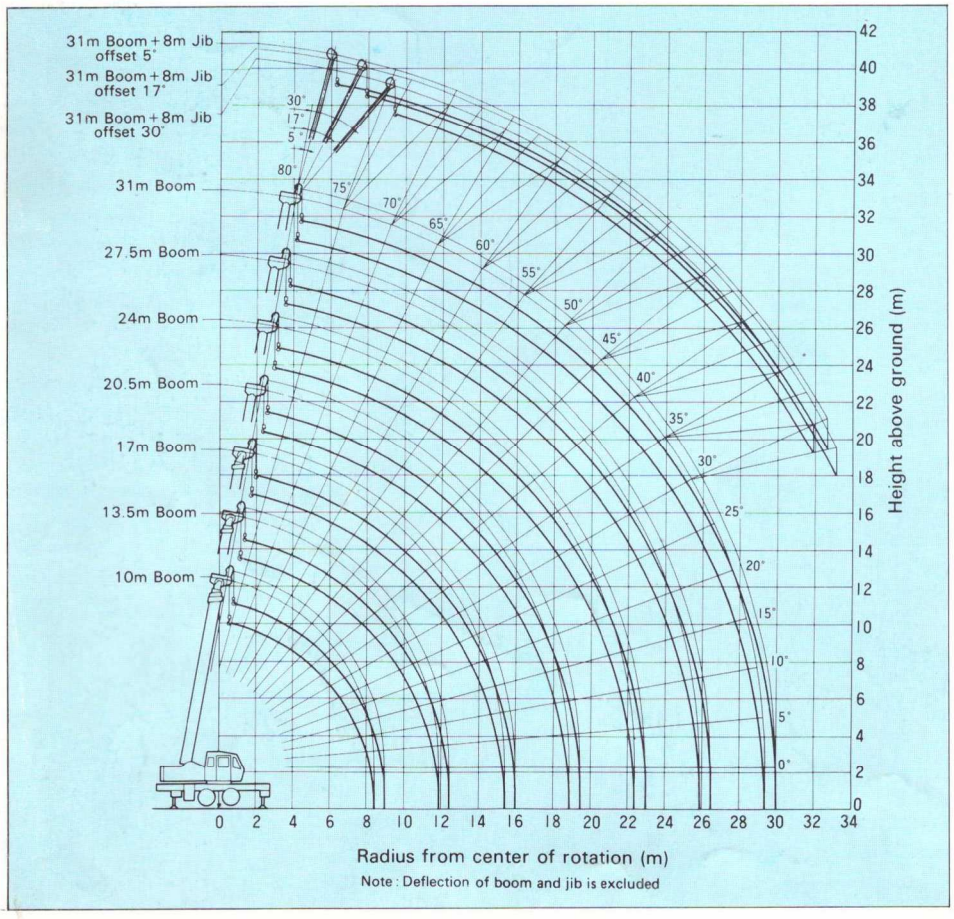
(Unit: metric ton)

RATED LIFTING CAPACITIES (4)

Boom angle (°)	With intermediately extended outriggers — 360° full range With fully extended outriggers — over front					
	31 m boom + 8 m jib					
	5° offset		17° offset		30° offset	
	Working radius (m)	Load	Working radius (m)	Load	Working radius (m)	Load
80	8.00	2.75	8.80	1.95	10.20	1.35
76	10.50	2.75	11.50	1.95	13.00	1.35
75.5	10.80	2.60	11.80	1.90	13.50	1.35
72	12.90	1.77	14.00	1.60	15.60	1.15
70	14.00	1.45	15.30	1.28	16.70	1.07
65	16.90	0.75	18.20	0.67	19.50	0.58
61	19.10	0.35	20.30	0.32	21.50	0.30

(Unit: metric ton)

WORKING RANGES



7) The minimum number of parts in the rope line is determined so that the weight per part will not exceed 3,125 kg. The number of parts per line for the various boom lengths (with a standard hook) is as follows:

Boom length	10m–17m	17m–31m
Number of parts of line	8	4

8m Jib	Rooster sheave
1	1

8) Over-front lifting performance is inferior to over rear/over side performance. Great care should be taken when transferring from over-side to over-front since there is a danger of overloading.

9) When optional front jack is extended, over-front performance is the same as over rear/side performance.
Therefore, in case outriggers are fully extended, please refer to the Rated Lifting capacities table (1) and (3).
In case outriggers are intermediately extended, please refer to the Rated Lifting capacities table (2) and (4).

SUPERSTRUCTURE SPECIFICATIONS

Name and Type: KATO NK-250E-III FULLY HYDRAULIC TRUCK CRANE

Performance

Crane capacity:	25.0t x 3.0m,	10.0m Boom with outriggers
	17.5t x 4.0m,	13.5m Boom with outriggers
	14.5t x 4.5m,	17.0m Boom with outriggers
	9.5t x 6.5m,	20.5m Boom with outriggers
	7.5t x 7.5m,	24.0m Boom with outriggers
	6.5t x 7.5m,	27.5m Boom with outriggers
	6.0t x 7.5m,	31.0m Boom with outriggers
	3.00t x 14.0m,	10m~31m Boom Rooster sheave with outriggers
	2.75t x 10.5m,	31m Boom + 8m Jib (Offset 5°) with outriggers
	1.95t x 11.5m,	31m Boom + 8m Jib (Offset 17°) with outriggers
	1.35t x 13.5m,	31m Boom + 8m Jib (Offset 30°) with outriggers
Boom length:	Basic	10m
	Maximum	31m
Jib length:		8m
Max. lifting height:		30.8m (Boom)
		39.2m (31.0m Boom + 8m Jib Offset 5°)
Main hoisting line speed:		110m/min (4th layer)
Auxiliary hoisting line speed:		95m/min (2nd layer)
Main hook hoisting speed:		13.75m/min (4th layer of wire rope) (8-part line)
Auxiliary hook hoisting speed:		95m/min (2nd layer of wire rope) (1-part line)
Boom derricking time:		44sec (-3° ~ 80°)
Boom derricking angle		-3° ~ 80°
Slewing speed:		3.0 r.p.m.

Hydraulic System

Hydraulic pump:	High pressure gear Triple gear pump
Hoisting motor:	Axial plunger type
Slewing motor:	Axial plunger type
Control valve:	Multiple automatic return type
Cylinders:	High-pressure double-acting type

Superstructure

Hoisting mechanism:	Hydraulic motor-driven, gear reduction type (automatic brake system) single winch x 2
Slewing mechanism:	Ball bearing type
Boom derricking mechanism:	Direct-acting cylinder type
Outrigger system:	Hydraulic, vertically supporting with float and vertical cylinder in single unit
Front jack (option):	Hydraulic, vertically supporting with float and vertical cylinder in single unit

Hoisting Ropes

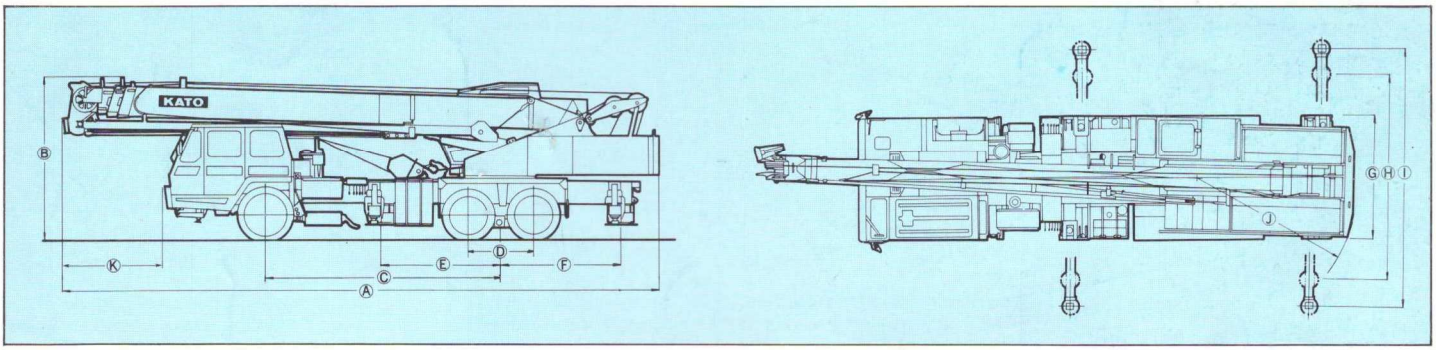
Main:	4 x F (a + 40) ϕ16 x 175m Non-rotating wire rope
Auxiliary:	4 x F (a + 40) ϕ16 x 90m Non-rotating wire rope

Safety Device

Microcomputer type ACS fully automatic overload protection device (Moment Limiter)
Boom falling safety device, Overhoist prevention device, Drum lock device, Automatic winch brake, Irregular winding prevention device, Hydraulic safety valve, Outrigger lock device, Slewing lock device

Option

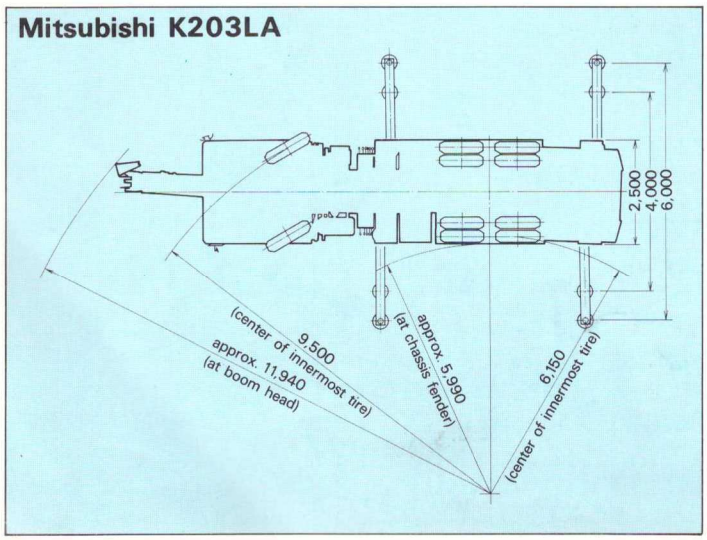
Oil cooler, Front jack, Voice alarm device for ACS, Heater, fan and radio for crane cabin



Carrier name and model	A	B	C	D	E	F	G	H	I	J	K
Mitsubishi K203LA	11,930	3,300	4,700	1,300	2,400	2,400	2,500	4,000	6,000	3,215	2,100
Nissan Diesel KW30MXL	11,930	3,300	4,600	1,300	2,450	2,450	2,500	4,000	6,000	3,215	1,950

(Unit:mm)

Mitsubishi K203LA



Nissan Diesel KW30MXL