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KATO

Kato NK250-v2 Fully Hydraulic Truck Crane

Specification

CRANE SPECIFICATION

Name and Type
KATO NK250-v2 Fully Hydraulic Truck Crane

Performance	
Maximum Rated Lifting Capacity:	25 Tonne @ 3.5m
Boom Length:	10.5m – 33.0m
Fly Jib Length:	8.7m – 14.5m
Boom Derricking Angle:	-3° - 80°
Boom Derricking Time:	-3° - 80°/53 sec.
Hoisting Line Speed	
Main Winch:	110m/min
Auxiliary Winch:	95m/min
Hoisting Hook Speed	
Main Winch (Parts of Line; 12):	13.7m/min (@ 4th layer)
Auxiliary Winch (Parts of Line; 1):	95.0m/min (@ 2nd layer)
Slewing Speed:	2.6 rpm

Wire Rope for Hoisting	
Main Winch	
Type:	4 X F (40)
Diameter:	16.0mm
Length:	180m
Auxiliary Winch	
Type:	4 X F (40)
Diameter:	16.0mm
Length:	105m
Hydraulic System	
Oil Reservoir Capacity:	420 litres
Safety Devices	
KATO ACS MS-15A	

CARRIER SPECIFICATION

Carrier	
Make:	Mitsubishi
Model:	W-KS303R
Drive System:	8x4
Max. Travelling Speed:	70 km/h
Gradeability (tan θ):	0.38
Min. Turning Radius:	11.0m
Engine	
Make:	Mitsubishi
Model:	8DC8
Type:	4 cycle water cooled direct diesel injection
No. of Cylinders:	8
Piston Displacement:	14,886 cc
Maximum Horsepower:	275ps @ 2,200 rpm
Maximum Torque:	100kg-m/1,400 rpm
Fuel Tank Capacity:	200 ℓ
Seats:	2
Tyre Size	
Front:	10.00-20-14PR
Rear:	10.00-20-14PR

General Dimensions	
Overall Length:	12,480 mm
Overall Width:	2,490 mm
Overall Height:	3,400 mm
Wheel Base:	1,450 + 3,600 + 1,350 = 6,400 mm
Treads	
Front:	2,050 mm
Rear:	1,845 mm
Gross Vehicle Weight:	28,350 kg
Front:	9,300 kg
Rear:	19,050 kg

Carrier	
Make:	Nissan
Model:	W-KG510SN
Drive System:	8x4
Max. Travelling Speed:	70 km/hr
Gradeability (tan θ):	0.37
Min. Turning Radius:	10.5m
Engine	
Make:	Nissan
Model:	RE8
Type:	4 cycle water cooled direct diesel injection
No. of Cylinders:	8
Piston Displacement:	15,115 cc
Maximum Horsepower:	295ps @ 2,200 rpm
Maximum Torque:	105kg-m/1,400 rpm
Fuel Tank Capacity:	200 ℓ
Seats:	2
Tyre Size	
Front:	10.00-20-14PR
Rear:	10.00-20-14PR

General Dimensions	
Overall Length:	12,480 mm
Overall Width:	2,490 mm
Overall Height:	3,400 mm
Wheel Base:	1,520 + 3,530 + 1,300 = 6,350 mm
Treads	
Front:	2,030 mm
Rear:	1,860 mm
Gross Vehicle Weight:	28,360 kg
Front:	9,500 kg
Rear:	18,860 kg

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Rated Lifting Capacity Chart (1)

- Outriggers Fully Extended With Front Jack (360° Full Range)
- Outriggers Fully Extended Without Front Jack (Over Side & Over Rear)

Work Radius (m)	10.5m Boom	14.2m Boom	18.0m Boom	21.7m Boom	25.5m Boom	29.2m Boom	33.0m Boom
2.5	25.00	20.00	16.00				
3.0	25.00	20.00	16.00				
3.5	25.00	20.00	16.00	12.00			
4.0	22.90	20.00	16.00	12.00	11.50		
4.5	21.00	20.00	16.00	12.00	11.50		
5.0	19.40	18.40	16.00	12.00	11.50	9.00	
6.0	16.20	15.30	13.73	12.00	11.50	9.00	
7.0	13.70	12.65	11.95	11.00	10.00	9.00	7.00
8.0	11.43	10.56	10.39	10.20	8.90	8.20	7.00
8.8	9.40	9.18	9.07	9.40	8.25	7.60	6.40
9.0		8.88	8.67	9.10	8.05	7.45	6.25
10.0		7.20	7.04	7.58	7.30	6.75	5.70
12.0		4.87	4.76	5.29	5.61	5.65	4.80
12.5		4.41	4.35	4.83	5.16	5.32	4.55
13.0			3.99	4.43	4.80	4.92	4.45
14.0			3.33	3.82	4.09	4.31	4.10
16.0			2.42	2.80	3.02	3.29	3.35
16.3			2.32	2.70	2.92	3.19	3.25
18.0				2.09	2.31	2.53	2.64
20.0				1.48	1.70	1.92	2.03
22.0					1.24	1.41	1.52
23.8					0.94	1.06	1.22
26.0						0.75	0.86
27.5						0.50	0.71
29.0							0.46
31.3							0.25
Standard Hook	for 25 ton						
Hook Weight	280 kgs						
Parts of Line	8			4			
Critical Boom Angle	-	-	-	-	-	-	-

Unit: Ton

Rated Lifting Capacity Chart (2)

- Outriggers Intermediately Extended Without Front Jack (360° Full Range)
- Outriggers Fully Extended Without Front Jack (Over Front)

Work Radius (m)	10.5m Boom	14.2m Boom	18.0m Boom	21.7m Boom	25.5m Boom	29.2m Boom	33.0m Boom
2.5	25.00	20.00	16.00				
3.0	25.00	20.00	16.00				
3.5	25.00	20.00	16.00	12.00			
4.0	22.61	20.00	16.00	12.00	11.50		
4.2	19.92	19.40	16.00	12.00	11.50	9.00	
4.6	16.77	16.30	15.98	12.00	11.50	9.00	
5.5	12.04	11.72	11.46	11.95	11.46	9.00	7.00
6.0	10.16	9.90	9.63	10.12	10.08	9.00	7.00
6.6	8.44	8.27	8.01	8.49	8.76	8.93	7.00
7.0	7.62	7.41	7.14	7.68	7.95	8.12	7.00
7.7	6.35	6.14	5.92	6.41	6.68	6.85	6.91
8.8	4.73	4.71	4.50	4.93	5.21	5.37	5.49
9.0		4.46	4.30	4.73	5.00	5.17	5.28
10.0		3.44	3.28	3.72	4.04	4.15	4.32
12.0		1.97	1.86	2.34	2.62	2.78	2.95
12.5		1.67	1.56	2.04	2.36	2.53	2.69
13.0			1.30	1.79	2.11	2.27	2.44
14.0			0.79	1.33	1.65	1.87	1.98
15.0			0.44	0.92	1.24	1.46	1.62
16.0			0.13	0.57	0.89	1.11	1.32
17.0				0.31	0.58	0.85	1.01
18.0					0.38	0.60	0.76
19.0						0.34	0.51
20.0							0.48
Standard Hook	for 25 ton						
Hook Weight	280 kgs						
Parts of Line	8			4			
Critical Boom Angle	-	-	-	25°	35°	42°	47°

Unit: Ton

Rated Lifting Capacity Chart (3)

★ 33m Boom + 8.7m Jib
- Outriggers Fully Extended With Front Jack (360° Full Range)
- Outriggers Fully Extended Without Front Jack (Over Side & Over Rear)

Boom Angle (°)	Offset 5°		Offset 17°		Offset 30°	
	Work Radius (m)	Load (t)	Work Radius (m)	Load (t)	Work Radius (m)	Load (t)
80.0	8.0	3.00	9.6	2.20	11.3	1.60
76.0	11.0	3.00	12.5	2.20	14.0	1.60
74.0	12.5	2.72	14.0	2.05	15.3	1.54
70.0	15.3	2.26	16.6	1.78	18.0	1.45
66.0	18.0	1.92	19.2	1.57	20.4	1.30
62.0	20.5	1.68	21.8	1.38	22.8	1.17
58.0	23.0	1.28	24.1	1.24	25.0	1.06
56.0	24.0	1.08	25.2	0.98	26.0	1.02
54.0	25.1	0.88	26.3	0.80	27.1	0.78
50.0	27.2	0.53	28.2	0.49	29.0	0.47
46.0	29.2	0.26	30.1	0.23	30.7	0.23
43.0	30.6	0.08	31.5	0.09	32.2	0.09
Standard Hook	for 3.4 ton					
Hook Weight	60 kgs					
Parts of Line	1					
Critical Boom Angle	40°					

Unit: Ton

★ 33m Boom + 14.5m Jib
- Outriggers Fully Extended With Front Jack (360° Full Range)
- Outriggers Fully Extended Without Front Jack (Over Side and Over Rear)

Boom Angle (°)	Offset 5°		Offset 17°		Offset 30°	
	Work Radius (m)	Load (t)	Work Radius (m)	Load (t)	Work Radius (m)	Load (t)
80.0	9.9	2.00	12.5	1.30	15.1	0.90
77.7	12.0	2.00	14.5	1.30	16.9	0.90
76.3	13.2	1.85	15.7	1.24	18.0	0.90
72.0	16.4	1.50	19.0	1.06	21.2	0.81
68.0	19.5	1.25	22.0	0.91	24.0	0.74
64.0	22.6	1.06	24.8	0.79	26.6	0.67
60.0	25.4	0.90	27.4	0.70	29.1	0.60
56.0	28.0	0.77	29.9	0.64	31.5	0.55
52.0	30.7	0.48	32.4	0.57	33.7	0.52
51.0	31.2	0.43	33.0	0.37	34.2	0.51
50.4	31.6	0.39	33.3	0.34	34.5	0.33
48.0	32.9	0.26	34.5	0.22	35.6	0.20
46.0	33.9	0.16	35.2	0.15	36.5	0.12
Standard Hook	for 3.4 ton					
Hook Weight	60 kgs					
Parts of Line	1					
Critical Boom Angle	42°					

Unit: Ton

Rated Lifting Capacity Chart (4)

★ 33m Boom + 8.7m Jib
- Outriggers Intermediately Extended Without Front Jack (360° Full Range)
- Outriggers Fully Extended Without Front Jack (Over Front)

Boom Angle (°)	Offset 5°		Offset 17°		Offset 30°	
	Work Radius (m)	Load (t)	Work Radius (m)	Load (t)	Work Radius (m)	Load (t)
80.0	8.0	3.00	9.6	2.20	11.3	1.60
76.0	11.0	3.00	12.5	2.20	14.0	1.60
72.5	13.5	2.38	15.0	1.94	16.2	1.50
71.0	14.5	1.96	16.0	1.66	17.3	1.47
70.0	15.1	1.71	16.6	1.47	18.0	1.27
68.0	16.3	1.29	17.8	1.09	19.0	1.00
65.0	18.1	0.77	19.5	0.67	20.7	0.59
60.0	21.0	0.16	22.4	0.10	23.3	0.11
Standard Hook	for 3.4 ton					
Hook Weight	60 kgs					
Parts of Line	1					
Critical Boom Angle	58°					

Unit: Ton

★ 33m Boom + 14.5m Jib
- Outriggers Intermediately Extended Without Front Jack (360° Full Range)
- Outriggers Fully Extended Without Front Jack (Over Front)

Boom Angle (°)	Offset 5°		Offset 17°		Offset 30°	
	Work Radius (m)	Load (t)	Work Radius (m)	Load (t)	Work Radius (m)	Load (t)
80.0	9.9	2.00	12.5	1.30	15.1	0.90
77.7	12.0	2.00	14.5	1.30	16.9	0.90
76.3	13.2	1.85	15.7	1.24	18.0	0.90
73.0	15.6	1.57	18.2	1.10	20.4	0.84
69.0	18.7	1.14	21.2	0.95	23.3	0.76
68.4	19.1	1.01	21.7	0.76	23.8	0.75
67.8	19.5	0.91	22.0	0.72	24.2	0.57
64.0	22.0	0.42	24.4	0.32	26.4	0.27
62.0	23.4	0.21	25.6	0.16	27.5	0.14
Standard Hook	for 3.4 ton					
Hook Weight	60 kgs					
Parts of Line	1					
Critical Boom Angle	60°					

Unit: Ton

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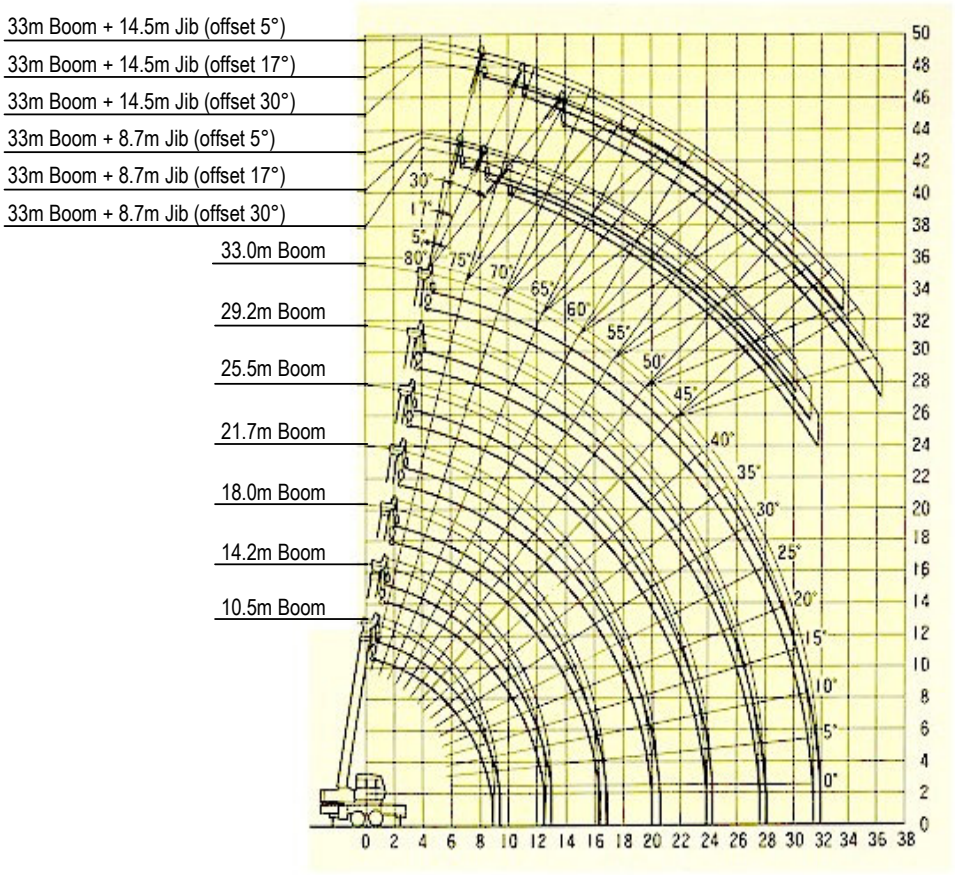
Working Range



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Operating Instructions

1. The rating lifting capacities are the maximum loads guaranteed on a firm level ground and include the weight of the hook block and other lifting equipment. The capacities above the bold lines are based on the structural strength of the machine and the others are based on the stability of the machine.

Hook Type	25 ton hook	3.4 ton hook
Weight	280 kg	60 kg

2. The working radii as given in the tables are the actual values including the deflection of the boom. Therefore, operate the machine based on the working radius. However, the working radii shown for jib operations are based on the values obtained when the boom is fully extended (33m). Jib operations should be performed on the basis of boom angle only, regardless of boom length when the boom is not fully extended.

3. The rated lifting capacities for the rooster sheave are equivalent to the rated lifting capacities for the main boom to a maximum of 3,400 kgs. At all times the weight of all lifting equipment in use (including main hook block suspended from boom head) forms part of load and must be subtracted from the rated lifting capacity.

4. If the boom length exceeds the specified value, the rated lifting capacities for the boom length above the below and present boom length should be referred to and the crane should be operated within the smaller lifting capacity.

5. When using the main boom with the jib installed 1,800 kgs plus the weight of hook block and other lifting equipment etc should be subtracted from the rated lifting capacities. When performing the above operation do not use the rooster sheave.

6. Critical boom angles for each boom length are shown on bottommost line of lifting capacity table. If the boom angle is lowered to less than the critical boom angle the machine will tip over without load. Therefore never lower the boom below these angles.

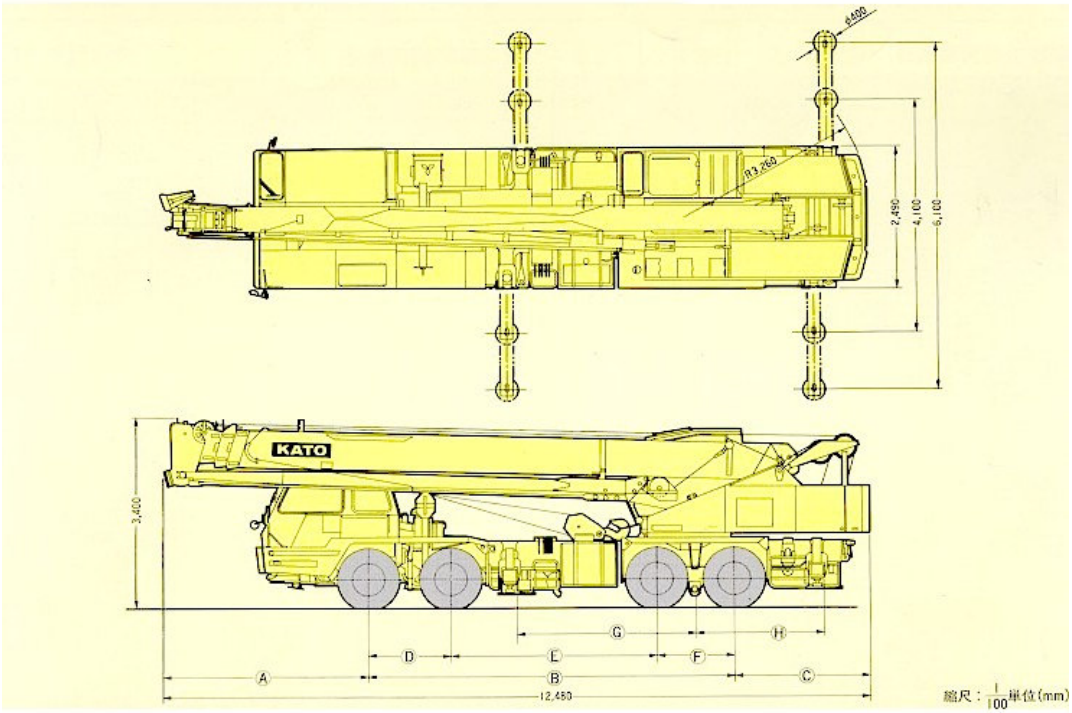
7. The standard number of parts of line is shown in the table of rated lifting capacity. When the standard number of parts of line is not used the minimum number of parts of line is determined so that weight per part will not exceed 3,125 kgs.

8. Without front jack, over front lifting performance is inferior to over side and over rear lifting performance. Great care should be taken when transferring from over side to over front since there is a danger of overloading.

9. Free fall is adopted in principle to lower the hook only. If it is necessary to lower a load by free fall, its weight should be less than 20% of the rated lifting capacity and abrupt braking should not be allowed.

10. The machine will top over or be damaged if operated with a load exceeding that specified in the rated lifting capacity table or not conforming to correct handling. If such trouble occurs the machine will not be warranted.

General Dimensions



Carrier Name Model	A	B	C	D	E	F	G	H
Mitsubishi W-KS303R	3,650	6,400	2,430	1,450	3,600	1,350	3,100	2,280
Nissan Diesel W-KG510SN	3,780	6,350	2,350	1,520	3,530	1,300	3,100	2,150

Measurement: mm

Note: Kato Products and Specifications are subject to improvements and changes without notice