KATO CR-250 CITYRANGE

AE engineering
Fylde Limited
CRANE AND PLANT HIRE

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SPECIFICATION

CRANE SPECIFICATION

Performance

Maximum rated lifting capacity:	25 metric tons×2.8m
Boom length:	6.7m−28.0m (6 section)
Fly jib length:	5.4m− 8.2m (2 section, optional)
Boom derricking angle:	-10.5°−81°
*Boom derricking time:	33sec. (0°−81°)
*Boom extending time:	68sec. (6.7m−28.0m)
*Hoisting line speed	
Main winch:	104m/min. (at 4th layer)
Auxiliary winch:	93m/min. (at 2nd layer)
*Hoisting hook speed	
Main winch (parts of line; 7):	14.9m/min. (at 4th layer)
Auxiliary winch (parts of line; 1):	93m/min. (at 2nd layer)
*Slewing speed:	2.6rpm
(*Speed:	Subject to no load)

Hoisting Ropes

Main winch;	
Diameter:	14mm
Length:	160m
Auxiliary winch;	
Diameter:	14mm
Length:	80m

Hydraulic System

Oil pump:	4 pumps, plunger and gear type
Hoisting motor:	Axial plunger type
Slewing motor:	Axial plunger type
Cylinder:	Double acting type
Control valve:	Double acting with integral check and relief valves
Oil reservoir capacity:	440 lit.

Winch System

Main winch & Auxiliary winch:
Driven by axial plunger type hoisting motor with gear reduction.
Controlled independently by respective operating lever.
Equipped with automatic brake.

Safety devices

ACS (Automatic Crane Stopper, with Voice alarm)
Boom falling prevention device
Overhoist prevention device
Drum lock device (on aux. winch)
Automatic winch brake
Irregular winding prevention device
Hydraulic safety valve
Outrigger lock device

Option

Fly jib
Hook for 25 ton
Amplifier

CARRIER SPECIFICATION

General dimensions & G.V.W.

Overall length:	approx. 9,065mm
Overall width:	approx. 2,395mm
Overall height:	approx. 3,400mm 3,360mm (With spring lock cylinders fully retracted)
Wheel base:	3,500mm
Treads; Front & Rear:	1,965mm
Center to center of extended outriggers:	6,000mm (Fully extended)
Gross vehicle weight:	approx. 24,000kg
Front & Rear:	approx. 12,000kg

Carrier

Drive system:	4×2 / 4×4
Maximum traveling speed:	49km/h
Gradeability (tanθ):	60% (computed @G.V.W.=24,000kg)
Minimum turning radius:	5.0m (4 wheel steer)
(center of extreme outer tire):	8.3m (2 wheel steer)
Engine:	
Maker:	Mitsubishi
Model:	6D16-TE1 (Turbo-charged)
Type:	4 cycle, water cooled, direct injection diesel engine
No. of cylinder:	6
Piston displacement:	7,545cc
Max.output horsepower:	158KW/2,800r.p.m.
Max.output torque:	696N-m/1,600r.p.m.
NOTE: The engine complies with Draft Directive (10201/96) −95/0209 (COD); (Stage I limit).	
Torque converter:	Engine mounted 3 elements 1 stage (with lock up clutch)
Transmission:	Remote mounted full automatic with transfer gear box 4 forward & 2 reverse speed (with Hi-Low selector)
Axle; Front & Rear:	Planetary, drive/steer type
Suspension; Front & Rear:	Coil spring equipped with hydraulic shock absorber and hydraulic locking device
Steering:	Full hydraulic power steering with reverse steering correction mechanism Five steering modes available (with automatic rear wheel steering lock system) 1. Front wheel steer 2. 4-wheel coordinated steer 3. 4-wheel crab steer 4. Rear wheel steer 5. Independent front and rear steer
Brake; Service brake:	Air-over hydraulic disk brake on 4 wheels (2 circuit) Equipped with service brake lock
Parking brake:	Spring applied, electrically air released parking brake mounted on front axle, internal expanding type
Auxiliary brake:	Exhaust brake
Electric system:	24V
Alternator:	24V−40A
Battery:	12V−115F51×2
Fuel tank capacity:	300 lit.
Driver's cab:	All steel welded construction, 1 person, Air-conditioned
Tire size; Front & Rear:	385/95R25 170E ROAD
Safety devices:	Emergency steering device Brake fluid leak warning device Suspension lock device Service brake lock Engine overrun alarm Over-shift prevention device Radiator coolant leakage warning device Motor driven retractable side mirrors

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■RATED LIFTING CAPACITY (2)

28.0m Boom + 5.4m Jib (Standard hook for 4.0ton. Hook mass 60kg)

Outriggers fully extended (6.0m) - 360° full range

Boom angle (°)	Offset 5° Working radius (m)	Offset 5° Load (t)	Offset 25° Working radius (m)	Offset 25° Load (t)	Offset 45° Working radius (m)	Offset 45° Load (t)
81.0	5.2	3.00	7.0	2.50	8.3	1.55
77.7	7.2	3.00	8.9	2.50	10.0	1.55
75.0	8.9	3.00	10.4	2.30	11.4	1.50
73.0	10.0	3.00	11.5	2.14	12.4	1.46
70.0	11.7	2.60	13.1	1.94	13.9	1.42
65.0	14.3	2.15	15.7	1.69	16.3	1.35
60.0	16.8	1.83	18.1	1.49	18.7	1.30
55.0	19.2	1.55	20.3	1.35	20.8	1.25
54.0	19.6	1.45	20.7	1.32	21.2	1.22
52.0	20.4	1.29	21.5	1.19	22.0	1.18
50.0	21.2	1.14	22.3	1.05	22.7	1.08
48.0	22.0	1.01	23.0	0.94	23.3	0.99
45.0	23.2	0.82	24.1	0.77		
40.0	25.0	0.58	25.8	0.54		
35.0	26.6	0.40	27.2	0.38		
Critical boom angle	33°		33°		46°	

Outriggers intermediately extended (4.5m) - 360° full range

Boom angle (°)	Offset 5° Working radius (m)	Offset 5° Load (t)	Offset 25° Working radius (m)	Offset 25° Load (t)	Offset 45° Working radius (m)	Offset 45° Load (t)
81.0	5.2	3.00	7.0	2.50	8.3	1.55
77.7	7.2	3.00	8.9	2.50	10.0	1.55
75.0	8.9	3.00	10.4	2.30	11.4	1.50
73.0	10.0	3.00	11.5	2.14	12.4	1.46
70.0	11.7	2.60	13.1	1.94	13.9	1.42
69.0	12.2	2.50	13.6	1.88	14.4	1.40
67.0	13.2	2.14	14.7	1.77	15.3	1.37
64.0	14.7	1.63	16.0	1.46	16.8	1.33
60.0	16.6	1.14	17.9	1.02	18.5	1.00
55.0	18.9	0.70	19.9	0.67	20.7	0.60
50.0	21.0	0.39	21.9	0.37		
Critical boom angle	48°		48°		53°	

(Unit : Metric ton)

28.0m Boom + 8.2m Jib (Standard hook for 4.0ton. Hook mass 60kg)

Outriggers fully extended (6.0m) - 360° full range

Boom angle (°)	Offset 5° Working radius (m)	Offset 5° Load (t)	Offset 25° Working radius (m)	Offset 25° Load (t)	Offset 45° Working radius (m)	Offset 45° Load (t)
81.0	6.0	2.00	8.7	1.20	10.5	0.80
77.0	8.7	2.00	11.1	1.20	12.7	0.80
75.0	10.0	2.00	12.2	1.20	13.7	0.78
72.0	11.9	1.81	14.0	1.20	15.3	0.75
70.0	13.0	1.71	15.1	1.18	16.4	0.74
65.0	15.9	1.49	17.8	1.12	18.9	0.72
60.0	18.6	1.33	20.3	1.05	21.3	0.69
55.0	21.2	1.20	22.7	0.98	23.5	0.67
53.0	22.1	1.14	23.6	0.95	24.3	0.66
50.0	23.5	0.96	24.9	0.77	25.4	0.65
47.0	24.7	0.80	26.1	0.63	26.5	0.64
45.0	25.6	0.69	26.8	0.56		
40.0	27.5	0.49	28.5	0.39		
35.0	29.1	0.33				
Critical boom angle	33°		38°		45°	

Outriggers intermediately extended (4.5m) - 360° full range

Boom angle (°)	Offset 5° Working radius (m)	Offset 5° Load (t)	Offset 25° Working radius (m)	Offset 25° Load (t)	Offset 45° Working radius (m)	Offset 45° Load (t)
81.0	6.0	2.00	8.7	1.20	10.5	0.80
77.0	8.7	2.00	11.1	1.20	12.7	0.80
75.0	10.0	2.00	12.2	1.20	13.7	0.78
72.0	11.9	1.81	14.0	1.20	15.3	0.75
70.0	13.0	1.71	15.1	1.18	16.4	0.74
65.0	15.9	1.49	17.8	1.12	18.9	0.72
63.0	16.9	1.26	18.8	1.09	19.8	0.70
60.0	18.4	0.98	20.2	0.87	21.3	0.69
58.0	19.4	0.81	21.2	0.72	22.2	0.68
55.0	20.8	0.60	22.5	0.54	23.3	0.53
50.0	23.1	0.31				
Critical boom angle	48°		53°		53°	

(Unit : Metric ton)

■RATED LIFTING CAPACITY (3)

Working radius (m)	Stationary on rubber (without outriggers) 6.7m Boom Over front	6.7m Boom 360° full range	11.0m Boom Over front	11.0m Boom 360° full range	15.2m Boom Over front	15.2m Boom 360° full range
3.0		6.00		5.50		5.20
3.5	8.50	4.50	8.50	4.10	8.00	3.80
4.0	8.50	3.30	8.50	3.20	8.00	3.00
4.5	7.50	2.55	7.20	2.55	6.50	2.40
5.0			6.10	2.00	5.40	1.90
5.5			5.10	1.55	4.55	1.50
6.0			4.25	1.20	3.85	1.15
6.5			3.55	0.90	3.30	0.85
7.0			3.00	0.65	2.80	
8.0			2.15		2.05	
9.0			1.55		1.50	
10.0					1.00	
11.0					0.60	
Standard hook	for 22 ton					
Hook mass	200 kg					
Parts of line	6		4			
Critical boom angle	—	—	—	30°	33°	57°

(Unit : Metric ton)

Working radius (m)	Pick & Carry (less than 2km/h) (without outriggers) 6.7m Boom Over front	6.7m Boom 360° full range	11.0m Boom Over front	11.0m Boom 360° full range	15.2m Boom Over front	15.2m Boom 360° full range
3.0		4.80		4.40		4.00
3.5	6.80	3.60	6.40	3.30	5.90	3.00
4.0	6.80	2.65	6.40	2.55	5.90	2.40
4.5	6.00	2.05	5.50	2.05	5.00	1.90
5.0			4.75	1.50	4.30	1.40
5.5			4.10	1.05	3.65	1.00
6.0			3.40	0.65	3.10	0.60
6.5			2.85		2.65	
7.0			2.40		2.25	
8.0			1.65		1.60	
9.0			1.00		1.00	
10.0					0.50	
11.0						
Standard hook	for 22 ton					
Hook mass	200 kg					
Parts of line	6		4			
Critical boom angle	—	—	—	42°	35°	60°

(Unit : Metric ton)

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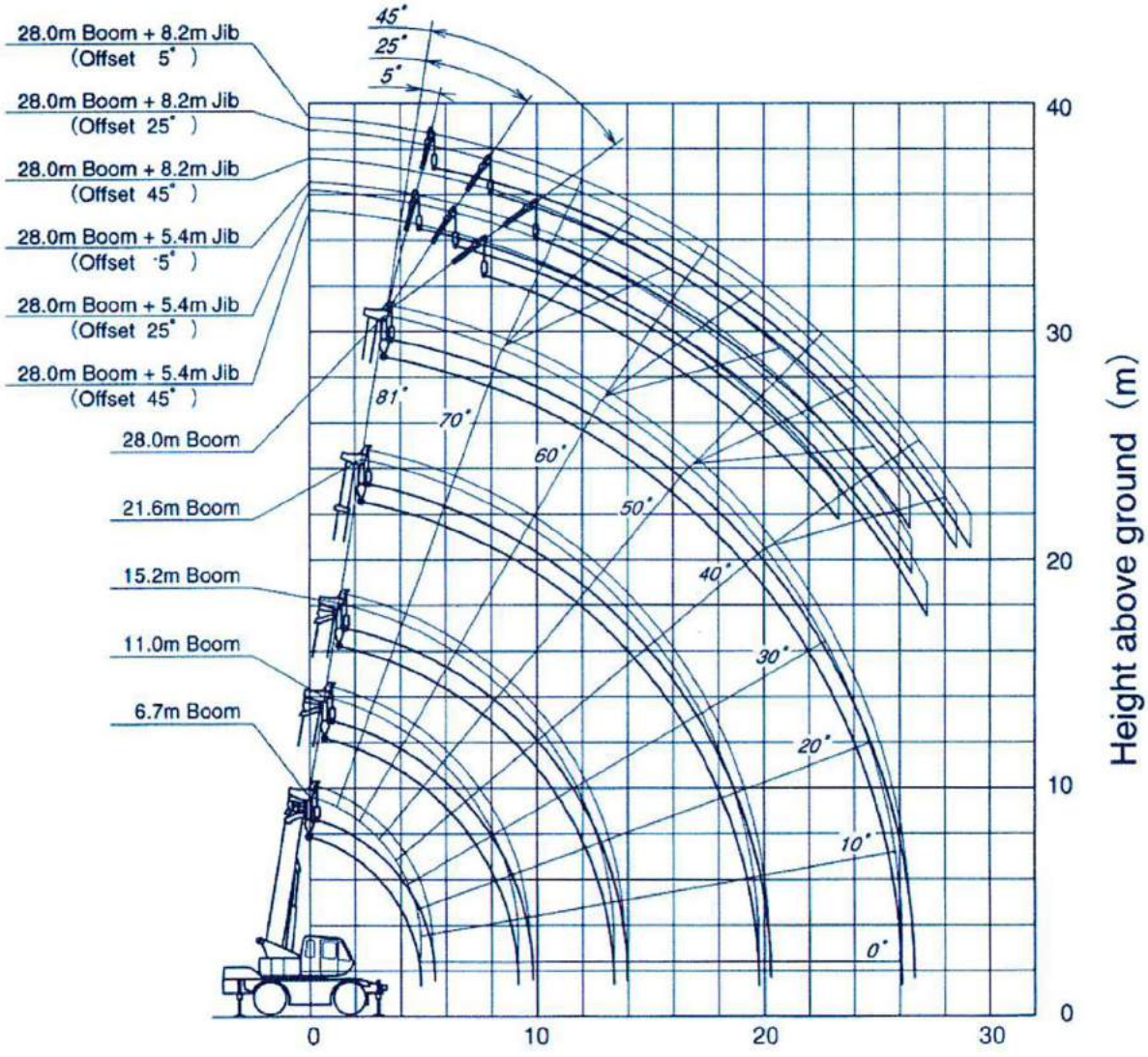
WORKING RANGE



Note : This diagram does not include deflection of Boom and Fly Jib.