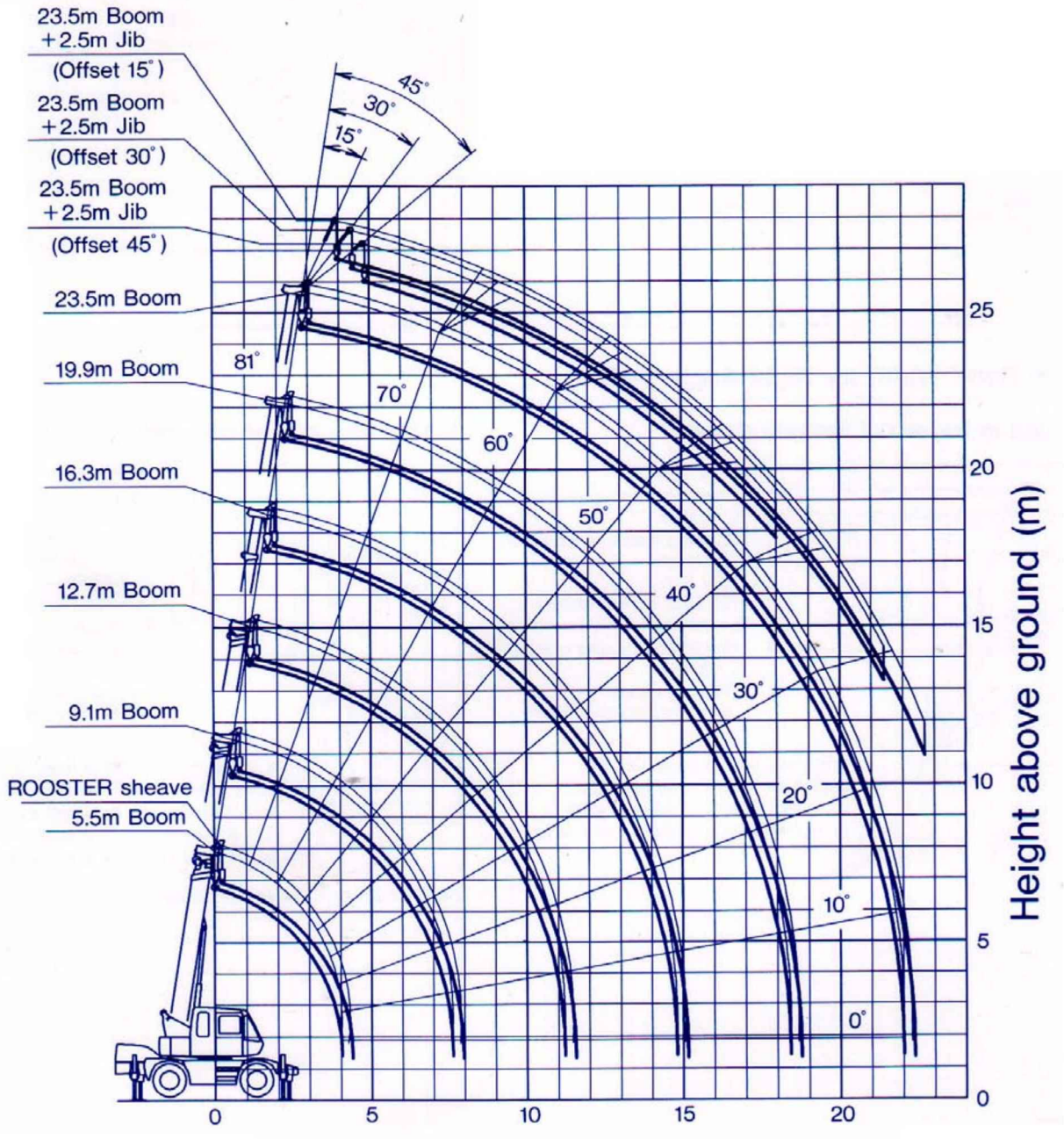
TERRANOVA GROUP

CRANES

KATO CR100

A 10t City Class With A
4.7 x 4.5 Metre Rigger Span
And 23 Metres Main Boom

WORKING RANGE



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

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■RATED LIFTING CAPACITY (3)

Based on ＊ISO 4305 ＊BS 1757:1986 ＊DIN 15019-2

Without outriggers Stationary on rubber, Pick & carry (less than 2 km/h) (over front with slewing lock pin inserted)		
Working radius (m)	Over front	
	5.5m Boom	9.1m Boom
2.0	1.10	
3.0	1.10	
4.0	1.00	0.60
7.5		0.50
Standard hook	for 10 ton	
Hook mass	80 kg	
Parts of line	4	
Critical boom angle	——	——

(Unit:Metric ton)

Notes for the Rated Lifting Capacity Chart

■Rated lifting capacity charts (1) and (2) When outriggers are used.

1. The rated lifting capacity chart indicates the maximum load which can be lifted by this crane provided it is level and standing on firm, level ground. It includes the mass of the hook and all other slings etc. The area of the rated lifting capacity chart surrounded by a thick black line is the area in which capacity is determined by the structural strength of the crane. Elsewhere the crane's stability is the deciding factor.

2. The working radius is based on the actual radius including boom and jib deflection.
   Always use the actual working radius as the standard criterion for crane operation.

3. The jib working radius is based on the jib mounted on the end of the 23.5m boom. If the boom is at any other length use the boom angle alone as the standard criterion for crane operation. (The jib is optional.)

4. Never operate the jib when the outriggers are fully retracted. (The jib is optional.)

5. The rated lifting capacity of the rooster sheave is the rated lifting capacity of the boom minus the mass of all attached slings etc. to the boom, with an upper limit of 1,400kg.
   {The hook for use with the rooster sheave is the 1.4 ton hook (mass 25kg) with one part of line.}

6. If the boom length exceeds the rated length use the rated lifting capacity for the rated length or for the next highest boom length step, whichever gives the smaller rated lifting capacity.

7. If you are working with the boom while the jib is rigged subtract 120kg from the rated lifting capacity as well as subtracting the mass of the slings etc. Do not use the rooster sheave in this situation. (The jib is optional.)

8. In whatever working conditions the corresponding boom critical angle is shown in the table. Lowering the boom below the critical angle could cause the machine to tip over even if the crane is not carrying any added load.

9. The standard parts of line for each boom length are as shown in the table. If you work with a non-standard number of parts of line take 1,300kg as the maximum load on any part of the wire rope.

10. Crane operation is permissible up to a wind speed of 10m/s. Even in relatively light wind conditions, extra care should be taken when handling loads presenting large wind catching areas.

11. Kato bears no liability whatsoever for damage, crane tipping or other accident caused by misuse of the crane, exceeding the rated lifting capacity or differing from the directions contained in the instruction manual and the warning labels.

■Rated lifting capacity charts (3) When outriggers are not used.

1. The rated lifting capacity chart indicates the maximum load which can be lifted by this crane provided it is standing on firm, level ground with all tyres inflated to the rated pressure.
   It includes the mass of the hook and all other slings etc.

2. Operation over side is not permitted. Operate this machine only over front with the slewing lock pin inserted.

3. Do not work with the jib or with a boom length of more than 9.1m. (The jib is optional.)

4. Never derrick the boom above 60°, which can cause a dangerous result.

5. Always engage the parking brake before you start stationary crane-on-rubber operation.

6. For pick and carry operation the high/low speed switch must be switched to "ON"(low range) and the shift lever set to speed 1.

7. For pick and carry operation lower the load to just above the ground and keep your speed strictly less than 2km/h to avoid swinging the load. Take particular care to avoid sharp cornering and sudden starts and stops.

8. Never operate the crane during pick and carry operation. The slewing brake must always be engaged with the slewing lock pin inserted.

9. Other than the above precautions observe points (2), (5), (6), (8), (9), (10) and (11) of the section "Precautions on outrigger use".

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■RATED LIFTING CAPACITY(1)

Based on ＊ISO 4305 ＊BS 1757 : 1986 ＊DIN 15019-2

Working radius (m)	Outriggers fully extended(4.5m) 360° full range						Outriggers intermediately extended(3.2m) 360° full range						Outriggers completely retracted (blocked on vertical cylinders) – 360° full range					
	5.5m Boom	9.1m Boom	12.7m Boom	16.3 Boom	19.9m Boom	23.5m Boom	5.5m Boom	9.1m Boom	12.7m Boom	16.3 Boom	19.9m Boom	23.5m Boom	5.5m Boom	9.1m Boom	12.7m Boom	16.3 Boom	19.9m Boom	23.5m Boom
1.5	10.00	5.00	5.00				10.00	5.00	5.00				8.00	5.00	4.90			
2.0	10.00	5.00	5.00	4.00			10.00	5.00	5.00	4.00			5.50	4.00	3.50	3.25		
2.5	10.00	5.00	5.00	4.00			10.00	5.00	5.00	4.00			3.70	3.15	2.60	2.50		
3.0	8.00	5.00	5.00	4.00	4.00		8.00	5.00	5.00	4.00	4.00		2.70	2.35	1.95	1.95	1.90	
3.5	6.10	5.00	5.00	4.00	4.00	2.30	6.10	5.00	5.00	4.00	4.00	2.30	2.10	1.85	1.50	1.55	1.55	1.50
4.0	5.20	5.00	5.00	4.00	4.00	2.30	5.20	4.45	4.30	4.00	4.00	2.30	1.60	1.45	1.15	1.25	1.25	1.20
4.5		5.00	4.55	4.00	3.70	2.30		3.90	3.55	3.50	3.40	2.30		1.10	0.85	1.00	1.00	1.00
5.0		4.40	4.10	3.70	3.40	2.30		3.35	3.00	3.00	2.95	2.30		0.85	0.65	0.80	0.85	0.85
5.5		3.95	3.70	3.40	3.10	2.30		2.80	2.55	2.60	2.55	2.30		0.65	0.45	0.60	0.65	0.70
6.0		3.55	3.35	3.15	2.85	2.30		2.35	2.20	2.25	2.25	2.10		0.50	0.30	0.45	0.55	0.55
6.5		3.15	3.05	2.90	2.60	2.15		2.00	1.90	2.00	2.00	1.95		0.35	0.20	0.35	0.40	0.45
7.0		2.80	2.80	2.65	2.40	2.00		1.75	1.65	1.75	1.75	1.75		0.25		0.25	0.30	0.35
8.0		2.50	2.30	2.25	2.05	1.75		1.50	1.20	1.35	1.40	1.40						
9.0		(7.5m)	1.90	1.95	1.80	1.55		(7.5m)	0.90	1.05	1.10	1.15						
10.0			1.50	1.70	1.60	1.40			0.65	0.80	0.90	0.90						
11.0			1.20	1.40	1.40	1.25			0.45	0.60	0.70	0.75						
12.0				1.15	1.25	1.15				0.45	0.55	0.60						
13.0				0.95	1.05	1.05				0.30	0.45	0.50						
14.0				0.78	0.90	0.95				0.20	0.35	0.35						
15.0				0.70	0.75	0.84					0.25	0.30						
16.0				(14.5m)	0.63	0.70						0.20						
17.0					0.53	0.60												
18.0					0.44	0.50												
19.0						0.42												
20.0						0.35												
21.0						0.28												
22.0						0.24												
Standard hook	for 10 ton						for 10 ton						for 10 ton					
Hook mass	80kg						80kg						80kg					
Parts of line	8	4					8	4					8	4				
Critical boom angle	—	—	—	—	—	—	—	—	—	—	25°	35°	—	—	52°	59°	64°	68°

(Unit:Metric ton)

■RATED LIFTING CAPACITY(2)

Based on ＊ISO 4305 ＊BS 1757 : 1986 ＊DIN 15019-2

23.5m Boom+2.5m Jib						
Outriggers fully extended (4.5m) –360° full range						
Boom angle (°)	Offset 15°		Offset 30°		Offset 45°	
	Working radius(m)	Load (t)	Working radius(m)	Load (t)	Working radius(m)	Load (t)
81	4.0	1.20	4.5	1.00	5.0	0.80
77.5	5.7	1.20	6.2	1.00	6.5	0.80
73	7.7	1.20	8.2	1.00	8.4	0.76
70	8.9	1.08	9.4	0.92	9.6	0.74
65	11.0	0.90	11.4	0.81	11.6	0.70
60	12.9	0.80	13.3	0.73	13.5	0.68
55	14.8	0.70	15.1	0.66	15.2	0.63
50	16.5	0.64	16.7	0.61	16.8	0.59
46.5	17.6	0.58	17.9	0.57	18.0	0.56
40	19.4	0.42	19.7	0.41		
32	21.4	0.28	21.5	0.28		
25	22.7	0.20				
Standard hook	for 1.4 ton					
Hook mass	25kg					
Parts of line	1					
Critical boom angle	15°		30°		45°	

Outriggers intermediately extended (3.2m) –360° full range						
Boom angle (°)	Offset 15°		Offset 30°		Offset 45°	
	Working radius(m)	Load (t)	Working radius(m)	Load (t)	Working radius(m)	Load (t)
81	4.0	1.20	4.5	1.00	5.0	0.80
77.5	5.7	1.20	6.2	1.00	6.5	0.80
73	7.7	1.20	8.2	1.00	8.4	0.76
70	8.9	1.08	9.4	0.92	9.6	0.74
67.5	10.0	0.98	10.4	0.86	10.7	0.72
65	11.0	0.81	11.4	0.74	11.6	0.70
60	12.9	0.54	13.3	0.52	13.4	0.50
55	14.7	0.35	15.1	0.33	15.2	0.33
50	16.5	0.20	16.7	0.20	16.8	0.20
Standard hook	for 1.4 ton					
Hook mass	25kg					
Parts of line	1					
Critical boom angle	49°		49°		49°	

(Unit:Metric ton)

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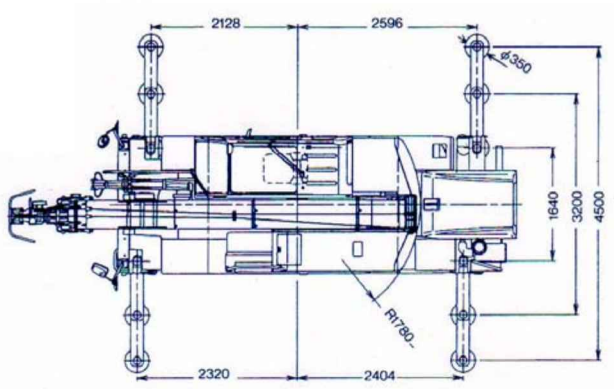
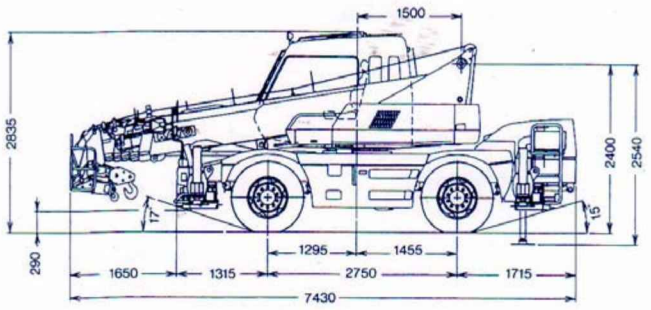
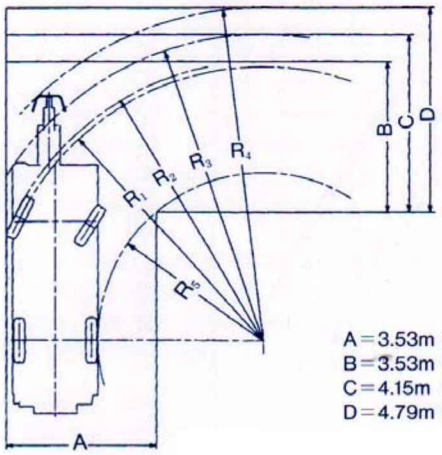




KATO FULLY HYDRAULIC CYTYRANGE CRANE MODEL CR-100

■Minimum Road Width for Right-Angle Turn

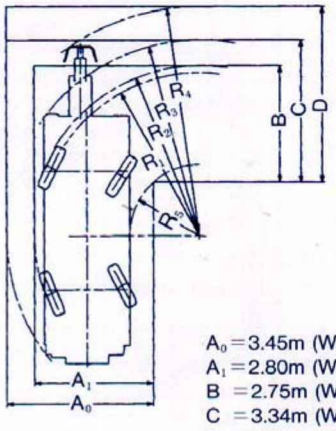
● Right turn in two-wheel steering mode



R_1 = 6.50m
(Minimum turning radius)
R_2 = 6.60m
(Turning radius of extremely outer tyre)
R_3 = 7.12m
(Chassis turning radius)
R_4 = 7.75m
(Boom end turning radius)
R_5 = 3.88m
(Turning radius extremely chassis inner)

A = 3.53m (Width of entrance)
B = 3.53m (Width of wheel exit)
C = 4.15m (Width of chassis exit)
D = 4.79m (Width of exit at end of boom)

● Right turn in 4-wheel steering mode



R_1 = 3.92m
(Minimum turning radius)
R_2 = 4.02m
(Turning radius of extremely outer tyre)
R_3 = 4.59m
(Chassis turning radius)
R_4 = 5.38m
(Boom end turning radius)
R_5 = 1.66m
(Turning radius extremely chassis inner)

A_0 = 3.45m (Width of entrance)
A_1 = 2.80m (Width of wheel entrance)
B = 2.75m (Width of wheel exit)
C = 3.34m (Width of chassis exit)
D = 4.01m (Width of exit at end of boom)

Note: The above values are based on calculations.

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