

**ROUGH
TERRAIN
CRANE**

RK450

SPECIFICATIONS

Max. Lifting capacity: 45.0 metric tons x 3.0 meters
Max. Boom Length: 39.0 meters
Max. Total Length (boom + jib): 54.0 meters

KOBELCO
◆ KOBELCO STEEL, LTD.

Lifting Capacities

NOTES FOR LIFTING CAPACITIES

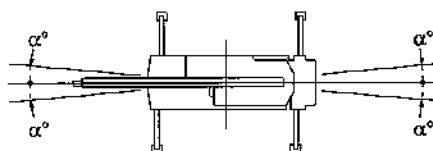
GENERAL NOTES

- Lifting capacities listed apply only to the machine as originally manufactured and designed by KOBE STEEL, LTD. modifications to this machine or use of equipment other than that specified can reduce operating capacity.
- Construction equipment can be dangerous if improperly operated or maintained. Operation and maintenance of this machine must be in compliance with the information in the operation, safety and maintenance manual supplied with machine. If this manual is missing, order replacement through the distributor.

OPERATION WITH OUTRIGGERS

- For outrigger operation, outriggers shall be fully extended with tires free of supporting surface before operating crane.
- Total rated loads shown on the chart are the maximum allowable crane capacities and are based on the machine standing level on firm supporting surface under ideal job conditions. Depending on the nature of the supporting surface, it may be necessary to have structural supports under the outrigger floats to spread the load to larger bearing surface.
- Capacities do not exceed 78% of the tipping loads. Capacities based on factors other than machine stability such as structural competence are shown in bold lines.
- Weight of hooks, hook blocks, slings and other lifting devices are a part of the total load. Their total weight must be subtracted from the rated load to obtain the weight that can be lifted.
45-ton hook block weight 370kg
21-ton hook block weight 230kg
4.5-ton hook block weight 90kg
- The working radius given in the charts allow for loaded boom deflection. Always operate the machine on the basis of actual operating radius.
- Total rated loads are based on freely suspended loads and make no allowance for such factors as the effect of wind, sudden stopping of loads, supporting surface conditions, side loads, etc. Side pull on boom or jib is extremely dangerous.
- Maximum outrigger extension is 7.2m. Two intermediate extension positions are also provided at 5.4m and 4.0m. Minimum outrigger extension is 2.49m.
Over-the-side ratings depend on outrigger extension. Values for each outrigger position are given separately and must be followed accordingly during operation. Load rating over the front and rear assume fully extended outrigger position.

Over-the-front area



Over-the-rear area

Outriggers	5.4m extension	4.0m extension	2.49m extension (only H type)
α° (FRONT)	28	20	5
α° (REAR)	28	20	5

- Ratings of the auxiliary sheave should not exceed 4,500kg. For boom length between 10.2m and 17.4m, deduct the weight of 45-ton hook block (4,500kg) from the main boom rating. For boom length longer than 17.4m, deduct the 20-ton hook block (230kg).
- To determine load ratings that fall between those shown in the charts, proceed as follows:
 - For boom lengths not listed use rating for next longer boom length or next shorter boom length, whichever smaller.
 - For load radii not shown, use rating for next larger radius.
- Total load that can be lifted over a jib is based on main boom angle only.

- When lifting over the boom with a jib extended, deduct the weight of the hook block, other handling accessories, and 1,800kg (with jib box section stored) or 2,100kg (extended) from the main boom ratings.
Do not use the auxiliary sheave when the jib is extended.
- To attempt to lift loads in the area other than those listed in the rated load charts, the machine may tip or collapse.
- Standard hoist reeving is shown below. Rated single-line pull is 4,500kg.

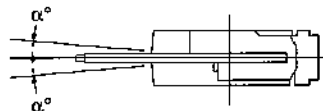
Boom length	10.2m	17.4m	24.6m	31.8m	39.0m	Aux. sheave
Hook	45-ton	45-ton	21-ton	21-ton	21-ton	4.5-ton
Parts of line	10	6	5	3	2	1

- Free fall should in principle be done with no load on a hook. When a load must unavoidably be applied, load allowable for free fall operations are restricted to one-fifth of rated loads at the given load radius.
Never brake suddenly during free fall, or machine may tip.

OPERATION WITHOUT OUTRIGGERS (ON TIRES)

- Load ratings are the allowable maximum lifting capacities for a firm and level surface, with tires filled to prescribed pressure (8.00kg/cm²), and with axle lock-out cylinder engaged. Damaged tires are hazardous to safe operation of crane. Ratings include hook block and all other load handling accessories. Values in the bold lines are based on the machine's hydraulic or structural limitations; all others are based on stability.
45-ton hook block weight 370kg
21-ton hook block weight 230kg
4-ton hook block weight 90kg
- The working radius given in the charts allow for loaded boom deflection. Always operate the machine on the basis of actual operating radius.
- Load ratings differ for over-the-front and 360° operation. Care must be taken to avoid overload when swinging a load from an over-the-front position to a over-the-side position.

Over-the-front area



On tires	Stationary	Pick & carry
α° (FRONT)	1°	1°

- Ratings of the auxiliary sheave should not exceed 4,500kg. For boom length between 10.2m and 17.4m, deduct the weight of 45-ton hook block (4,500kg) from the main boom rating. For boom length longer than 17.4m, deduct the 20-ton hook block (230kg).
- Do not operate the jib or use free fall.
- Parking brake and auxiliary brake must be applied during stationary load lifting.
- Pick and carry operations must be done in the low travel mode.
- During pick and carry operations, keep the load close to the ground to avoid swaying, and travel no faster than 2.0km/h. Avoid cornering, sudden starts, sudden acceleration, and sudden braking. Boom must be centered over the front area.
- Do not operate the crane functions while carrying the load.
- Standard hoist reeving is shown below.
Single-line load must not exceed 4,500kg.

Boom length	10.2m	17.4m	24.6m	Aux. sheave
Hook	45-ton	45-ton	21-ton	4.5-ton
Parts for line	10	6	5	1

Main Boom Lifting Capacities with Outriggers

Operating radius in meters	With outriggers 7.2m extended— 360° working area					With outriggers in 5.4m position—over the side					With outriggers in 4.0m position—over the side					With outriggers in 2.57m position over the side		
	Boom length in meters					Boom length in meters					Boom length in meters					Boom length in meters		
	10.2	17.4	24.6	31.8	39.0	10.2	17.4	24.6	31.8	39.0	10.2	17.4	24.6	31.8	39.0	10.2	17.4	24.6
3.0	45.00	28.00	20.00			45.00	28.00	20.00			40.00	28.00	20.00			15.00	12.00	11.00
3.5	40.80	28.00	20.00	13.00		40.80	28.00	20.00	13.00		33.20	28.00	20.00	13.00		15.00	12.00	11.00
3.75	38.90	28.00	20.00	13.00		38.90	28.00	20.00	13.00		30.00	28.00	20.00	13.00		15.00	12.00	11.00
4.0	37.00	28.00	20.00	13.00		37.00	28.00	20.00	13.00		27.00	25.30	20.00	13.00		13.60	12.00	11.00
4.5	33.50	28.00	20.00	13.00	7.50	33.50	28.00	20.00	13.00	7.50	21.60	21.15	20.00	13.00	7.50	11.00	10.50	9.80
5.0	30.20	28.00	20.00	13.00	7.50	28.20	24.90	20.00	13.00	7.50	17.80	17.30	16.70	13.00	7.50	9.10	8.70	8.65
5.5	27.50	25.70	20.00	13.00	7.50	24.20	22.50	20.00	13.00	7.50	15.00	14.40	14.10	13.00	7.50	7.65	7.30	7.20
6.0	25.00	23.60	20.00	13.00	7.50	20.80	20.50	18.25	13.00	7.50	12.80	12.20	12.05	13.00	7.50	6.45	6.20	6.10
6.5	22.70	21.80	18.50	13.00	7.50	18.00	17.40	16.65	13.00	7.50	11.10	10.60	10.35	11.50	7.50	5.50	5.25	5.15
7.0	20.70	20.20	17.10	13.00	7.50	15.40	15.00	15.00	13.00	7.50	9.65	9.30	9.00	10.20	7.50	4.70	4.50	4.40
7.2	11.50	18.60	16.60	13.00	7.50	11.50	14.25	14.20	13.00	7.50	9.15	8.80	8.50	9.70	7.50	4.40	4.20	4.10
7.5		18.70	16.00	13.00	7.50		13.30	13.10	13.00	7.50		8.10	7.85	9.00	7.50		3.85	3.75
8.0		17.40	15.00	12.35	7.50		11.70	11.50	12.00	7.50		7.15	6.90	8.00	7.50		3.20	3.20
8.5		16.20	14.10	11.70	7.50		10.40	10.20	11.00	7.50		6.30	6.10	7.10	7.05		2.80	2.65
9.0		15.00	13.30	11.15	7.50		9.30	9.10	10.00	7.50		5.60	5.40	6.40	6.60		2.35	2.20
9.5		13.80	12.60	10.60	7.50		8.40	8.15	9.10	7.50		5.00	4.80	5.75	6.20		1.90	1.75
10.0		12.45	12.00	10.10	7.50		7.55	7.30	8.30	7.50		4.45	4.25	5.20	5.70		1.50	1.40
11.0		10.30	10.15	9.20	7.00		6.20	6.00	6.90	6.75		3.50	3.25	4.25	4.75		0.85	0.70
12.0		8.65	8.50	8.40	6.50		5.15	4.90	5.80	6.05		2.70	2.45	3.45	4.00			
13.0		7.35	7.20	7.70	6.05		4.25	4.00	4.90	5.40		2.00	1.80	2.80	3.35			
14.0		6.30	6.15	7.00	5.65		3.45	3.25	4.20	4.75		1.40	1.25	2.20	2.80			
14.4		4.00	5.75	6.60	5.50		3.20	3.00	3.95	4.50		1.20	1.05	2.00	2.60			
15.0			5.30	6.10	5.25			2.60	3.60	4.15			0.75	1.70	2.30			
16.0			4.55	5.40	4.90			2.05	3.05	3.60				1.25	1.85			
17.0			3.95	4.75	4.55			1.60	2.55	3.15				0.90	1.50			
18.0			3.40	4.20	4.20			1.15	2.10	2.75				0.60	1.15			
19.0			2.90	3.70	3.90			0.80	1.70	2.40					0.85			
20.0			2.40	3.30	3.80				1.35	2.05					0.60			
21.0			2.00	2.90	3.30				1.05	1.75								
21.6			1.80	2.65	3.15				0.90	1.55								
22.0				2.50	3.00				0.80	1.45								
23.0				2.20	2.70				0.55	1.20								
24.0				1.90	2.40					0.95								
25.0				1.60	2.15					0.75								
26.0				1.35	1.90					0.55								
27.0				1.10	1.65													
28.0				0.90	1.45													
28.8				0.80	1.30													
29.0					1.25													
30.0					1.05													
31.0					0.90													
32.0					0.75													
33.0					0.60													
Min. angle	0°	0°	0°	0°	0°	0°	0°	28°	36°	43°	0°	0°	45°	50°	55°	0°	38°	57°

*H-type only

Main Boom Lifting Capacities without Outriggers

Operating radius in meters	Stationary						Pick & Carry (under 2km/h)					
	360° working area			Over the front			360° working area			Over the front		
	Boom length in meters			Boom length in meters			Boom length in meters			Boom length in meters		
	10.2	17.4	24.6	10.2	17.4	24.6	10.2	17.4	24.6	10.2	17.4	24.6
3.0	12.50	10.00	5.50	20.00	15.00	10.50	8.00	6.50	4.50	14.50	10.50	8.00
3.5	8.10	8.00	5.50	20.00	15.00	10.50	8.00	6.50	4.50	14.50	10.50	8.00
3.75	8.05	7.20	5.50	20.00	15.00	10.50	8.00	6.50	4.50	14.50	10.50	8.00
4.0	7.20	6.50	5.50	20.00	15.00	10.50	7.20	6.50	4.50	14.50	10.50	8.00
4.5	5.70	5.25	5.50	17.40	15.00	10.50	5.70	5.25	4.50	12.50	10.50	8.00
5.0	4.50	4.20	4.20	15.10	15.00	10.50	4.50	4.20	4.20	11.00	10.50	8.00
5.5	3.60	3.25	3.25	13.66	13.70	10.50	3.60	3.25	3.25	9.90	10.50	8.00
6.0	2.80	2.65	2.45	12.20	12.40	10.50	2.80	2.55	2.45	8.95	9.90	8.00
6.5	2.20	1.85	1.85	11.20	11.30	9.50	2.20	1.95	1.85	8.25	8.60	8.00
7.0	1.70	1.45	1.35	10.30	10.20	8.70	1.70	1.45	1.35	7.60	7.80	7.25
7.2	1.50	1.25	1.15	10.00	9.75	8.35	1.50	1.25	1.15	7.35	7.45	7.00
7.5		1.05	0.95		9.10	7.90		1.05	0.95		7.00	6.65
8.0		0.70	0.65		8.10	7.20		0.70	0.65		6.35	6.05
8.5					7.20	6.55					5.60	5.50
9.0					6.40	5.90					5.25	5.00
9.5					5.75	5.40					4.75	4.55
10.0					5.20	4.80					4.30	4.10
11.0					4.30	3.90					3.60	3.30
12.0					3.60	3.20					3.00	2.75
13.0					3.00	2.65					2.40	2.25
14.0					2.40	2.15					1.90	1.80
14.4					2.20	1.95					1.70	1.65
15.0						1.70						1.40
16.0						1.30						1.05
17.0						0.90						0.75
Min. angle	0°	54°	65°	0°	0°	37°	0°	54°	65°	0°	0°	37°

With outriggers in 7.2m position—380° working area							
		9.0 m jib			15.0 m jib		
Main boom angle	Offset angle			Offset angle			
	5°	17°	30°	5°	17°	30°	
82	3.50	2.80	2.20	2.40	1.60	1.10	
80	3.50	2.80	2.20	2.40	1.60	1.10	
78	3.50	2.80	2.20	2.40	1.60	1.10	
77	3.50	2.80	2.20	2.32	1.60	1.10	
76	3.50	2.80	2.20	2.23	1.60	1.10	
75	3.50	2.80	2.20	2.15	1.60	1.10	
74	3.32	2.68	2.11	2.08	1.53	1.08	
72	3.00	2.45	1.96	1.91	1.41	1.04	
70	2.75	2.24	1.82	1.76	1.32	1.00	
68	2.52	2.05	1.71	1.63	1.25	0.96	
66	2.30	1.91	1.62	1.51	1.18	0.92	
64	2.12	1.80	1.53	1.41	1.13	0.89	
62	1.96	1.69	1.46	1.33	1.08	0.86	
60	1.85	1.60	1.39	1.25	1.04	0.84	
58	1.74	1.50	1.32	1.19	0.99	0.81	
57	1.70	1.45	1.29	1.16	0.97	0.79	
56	1.62	1.41	1.26	1.14	0.95	0.78	
55	1.49	1.37	1.23	1.11	0.93	0.78	
54	1.35	1.27	1.20	1.06	0.90	0.75	
53	1.22	1.14	1.07	0.95	0.88	0.74	
52	1.10	1.03	0.96	0.84	0.78	0.71	
51	0.99	0.92	0.86	0.74	0.70	0.63	
50	0.88	0.81	0.77	0.66	0.61	0.55	
48	0.67	0.63	0.60	0.48	0.44	0.41	
47	0.58	0.53	0.52	0.41	0.38	0.35	
46	0.50	0.45	0.43	0.35			
45	0.42	0.37	0.35				
44	0.34						
Min. angle	44°	45°	45°	46°	47°	47°	

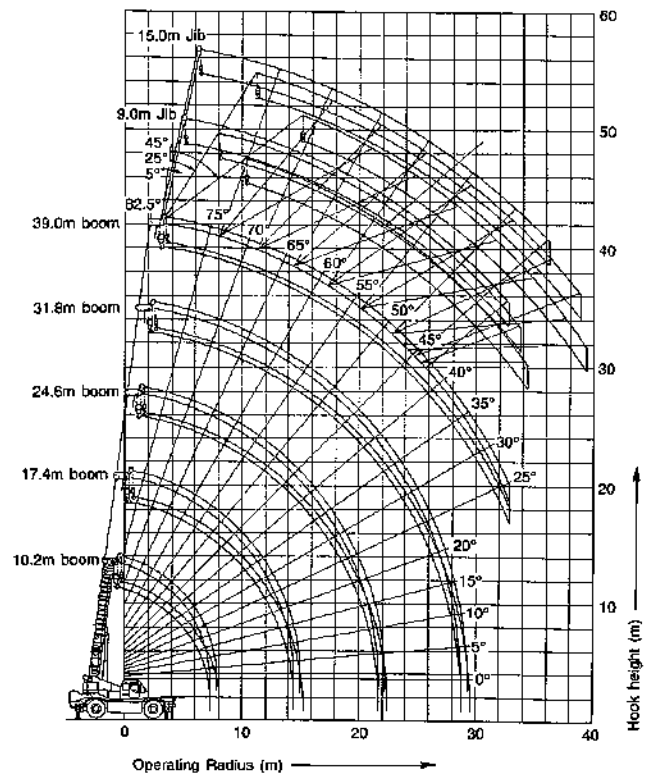
[illegible]

5

With outriggers in 7.2m position—360° working area							
		9.0 m jib			15.0 m jib		
Main boom angle	Offset angle			Offset angle			
	5°	25°	45°	5°	25°	45°	
82	3.50	2.40	1.80	2.40	1.25	0.80	
80	3.50	2.40	1.80	2.40	1.25	0.80	
78	3.50	2.40	1.80	2.40	1.25	0.80	
77	3.50	2.40	1.60	2.32	1.25	0.80	
76	3.50	2.40	1.60	2.23	1.22	0.80	
75	3.50	2.31	1.60	2.15	1.20	0.80	
74	3.32	2.23	1.58	2.06	1.18	0.79	
72	3.00	2.08	1.54	1.91	1.14	0.79	
70	2.75	1.95	1.50	1.76	1.10	0.78	
68	2.52	1.84	1.45	1.63	1.06	0.77	
66	2.30	1.72	1.39	1.51	1.02	0.76	
64	2.12	1.60	1.35	1.41	0.99	0.75	
62	1.96	1.52	1.31	1.33	0.95	0.74	
60	1.85	1.45	1.26	1.25	0.92	0.73	
58	1.74	1.37	1.22	1.19	0.88	0.72	
57	1.70	1.34	1.20	1.16	0.86	0.72	
56	1.62	1.30	1.17	1.14	0.84	0.71	
55	1.49	1.27	1.14	1.11	0.82	0.71	
54	1.35	1.21	1.12	1.06	0.80	0.70	
53	1.22	1.10	1.02	0.95	0.78	0.70	
52	1.10	1.00	0.94	0.84	0.72	0.69	
51	0.99	0.90	0.85	0.74	0.64	0.62	
50	0.88	0.80	0.78	0.66	0.57	0.54	
48	0.67	0.62	0.59	0.48	0.43	0.40	
47	0.58	0.52	0.50	0.41	0.37	0.34	
46	0.50	0.44	0.42	0.35	0.32		
45	0.42	0.38	0.34				
44	0.34						
Min. angle	44°	45°	45°	46°	46°	47°	

[illegible][illegible]

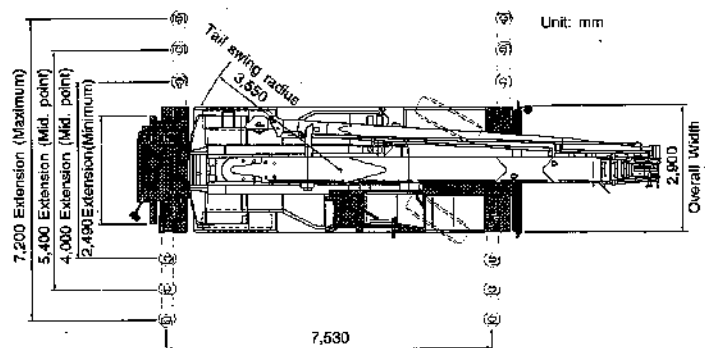
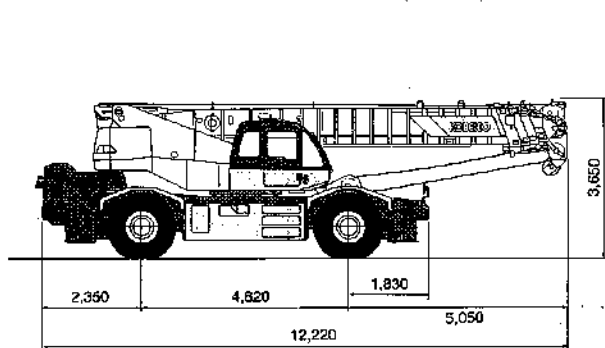
Working Ranges



Ratings inside the bold lines are governed by the strength of the boom or other structural components.

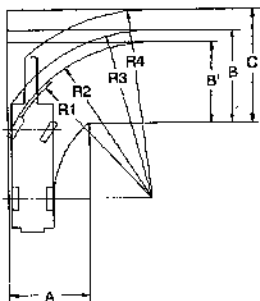
Dimensions

RK450



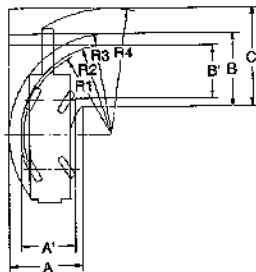
Turning Radius

2-Drive Steering (Front)



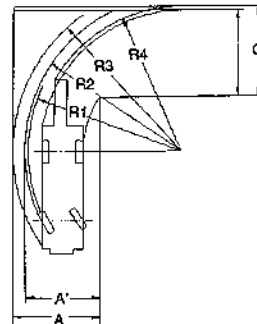
R1	Minimum turning radius	10.60m
R2	Tire clearance with curb	10.89m
R3	Carrier clearance	11.70m
R4	Boom clearance	13.22m
A	Entrance width	5.62m
B	Exit width (carrier)	6.43m
B'	Exit width (tires)	5.62m
C	Exit width (boom)	7.95m

4-Drive Steering



R1	Minimum turning radius	5.94m
R2	Tire clearance with curb	6.25m
R3	Carrier clearance	7.07m
R4	Boom clearance	8.86m
A	Entrance width (carrier)	5.07m
A'	Entrance width (tires)	3.73m
B	Exit width (carrier)	5.07m
B'	Exit width (tires)	3.73m
C	Exit width (boom)	6.90m

2-Drive Steering (Rear)



R1	Minimum turning radius	10.60m
R2	Tire clearance with curb	10.89m
R3	Carrier clearance	11.75m
R4	Boom clearance	10.15m
A	Entrance width (carrier)	6.11m
A'	Entrance width (tire)	5.25m
B	Exit width	6.11m
C	Exit width (boom)	6.32m

Note: Due to our policy of continual product improvement, all designs and specifications are subject to change without advance notice.



KOBE STEEL, LTD.

ENGINEERING & MACHINERY DIVISION

Construction Machinery & Compressor Group

27-8, Jingumae 6-chome, Shibuya-ku, TOKYO, 150 Japan/Tel: (03) 3797-7021/Fax: (03) 3797-7072

Bulletin No. RK450-2-SPEC-101

921103TF Printed in Japan