

KATO**NEW SS-500^{SP}****ラフター
KR-50H***Special***SPECIFICATIONS**

TYPE	50 ton ROUGH TERRAIN CRANE
NAME	KR-50H

■CRANE SPECIFICATION

MAX TOTAL RATED LOAD	10.4m Boom	50,000kg x 3.0m (12 part-line)
	17.55m Boom	28,000kg x 5.0m (7 part-line)
	24.7m Boom	20,000kg x 6.0m (5 part-line)
	31.85m Boom	14,000kg x 8.5m (4 part-line)
	39.0m Boom	7,600kg x 10.0m (4 part-line)
	9.0m Jib	3,500kg x 75° (1 part-line)
	14.5m Jib	2,400kg x 77° (1 part-line)
	Rooster Sheave	4,500kg (1 part-line)
BOOM LENGTH	10.4m ~ 39.0m	
JIB LENGTH	9.0m ~ 14.5m	
MAX. RATED LIFTING HEIGHT	40.0m (boom) 54.3m (jib)	
HOISTING LINE SPEED (WINCH UP)	MAIN WINCH	134m/min (4th layer)
	AUXILIARY WINCH	118m/min (2nd layer)
HOISTING HOOK SPEED (WINCH UP)	MAIN WINCH	(12 part-line) 11.2m/min. (4th layer)
	AUXILIARY WINCH	(1 part-line) 116.0m/min. (2nd layer)
BOOM DERRICKING ANGLE	0° ~ 82°	
BOOM DERRICKING TIME	0° ~ 82° / 50sec	
BOOM EXTENDING TIME	10.4m ~ 39.0m / 113sec	
SLEWING SPEED	2.1 rpm	
TAIL SLEWING RADIUS	3,600m	

●EQUIPMENT & STRUCTURE

BOOM TYPE	Box-shaped, 5-section hydraulically telescopic type (Boom section 2 / 3, 4 / 5 simultaneously operated)
JIB TYPE	2 sections (2nd section of hydraulically telescopic type) (offset angles 5° ~ 45°)
BOOM EXTENSION / RETRACTION EQUIPMENT	Hydraulic cylinders (3), with wire rope
BOOM DERRICKING / LOWERING EQUIPMENT	Hydraulic cylinder type
WINCH SYSTEM MAIN & AUXILIARY WINCHES	2 single winch driven by hydraulic motor and via spur gear reducer With free-fall device Automatic brake with foot brake With flow regulation valve with pressure compensation

WHEEL BASE		4,900mm
TREAD	FRONT	2,410mm
	REAR	2,410mm
SEATING CAPACITY		2
GROSS VEHICLE WEIGHT	GROSS WEIGHT	37,990kg
	FRONT	19,050kg
	REAR	18,940kg

- Stow the hooks in place before travelling.
- Before you use the machine, read the precautions in the instruction manual thoroughly to operate it correctly.
- KATO products and specifications are subject to improvements and changes without notice

■ CARRIER SPECIFICATION

MAX. TRAVELLING SPEED	49 km/h
GRADEABILITY	0.57 (tan θ)
MINIMUM TURNING RADIUS	10.4m (2 wheel drive)
	6.2m (1 wheel drive)

● ENGINE

MODEL	Mitsubishi 6D22-TC
TYPE	4-cylinder, 6-cylinders, water cooled direct-injection turbo charged diesel engine with intercooling
PISTON DISPLACEMENT	11,14 $\frac{1}{2}$ cc
MAX. POWER	320ps / 2,200rpm
MAX. TORQUE	118kg-m / 1,400rpm

● ENGINE & STRUCTURE

DRIVE SYSTEM	4-wheel drive (4x4) selection	
TORQUE CONVERTER	3-element, 1-stage unit (with automatic lock-up mechanism)	
TRANSMISSION	Automatic and manual transmission 4 forward and 1 reverse speeds (with Hi / Low setting)	
NUMBER OF SPEEDS	Full floating type with 2-stage reduction device	
AXLES	FRONT	2-line hydro-pneumatic disc brake (4 wheels)
	REAR	Mechanically operated, internal expanding shoe type
SUSPENSION	FRONT & REAR	Electro-pneumatic operated exhaust brake
BRAKE SYSTEM	SERVICE BRAKE	Coil spring, 4-link type (with hydraulic lock cylinder)
	PARKING BRAKE	Coil spring, 4-link type (with hydraulic lock cylinder)
	AUXILIARY BRAKE	Fully hydraulic power steering
STEERING		With reverse steering correction mechanism
TYRE SIZE	FRONT	505 / 95 R25 183E ROAD
	REAR	505 / 95 R25 183E ROAD
FUEL TANK CAPACITY		300 liters
BATTERIES		(12V - 150AH) X 2

● SAFETY DEVICES

	Emergency steering device, Steering wheel steering lock device, Over-lift prevention device, Brake oil leakage alarm, Engine over-run alarm
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■ GENERAL DIMENSIONS

OVERALL LENGTH	12,600mm
OVERALL WIDTH	3,000mm
OVERALL HEIGHT	3,780mm

SLEWING EQUIPMENT		Hydraulic motor driven planetary gear reducer (with built-in negative brake Swing free / lock changeover type
OUTRIGGERS	TYPE	Ball bearing type
	EXTENSION WIDTH	Fully extended width 7,400mm
		Middle extended width 6,400mm
		Middle extended width 5,400mm
		Middle extended width 4,300mm
Fully retracted width 2,590mm		
WIRE ROPE	Main Winch	SeS (#8) + 6 x WS(31) 18mm dia. X 220m
	Auxiliary Winch	1WRC(x WS(29) 18mm dia. X 120m
•HYDRAULIC EQUIPMENT		
HYDRAULIC PUMP		2 Variable plunger type, 2 gear pumps
HYDRAULIC MOTOR	HOISTING MOTOR	Axial plunger type
	SLEWING MOTOR	Axial plunger type
CONTROL VALVE		Multiple automatic stabilization type (with Pressure compensation flow control valve)
CYLINDER		High pressure double acting type
HYDRAULIC OIL TANK CAPACITY		650 liters
•SAFETY DEVICES		
		ACS / automatic moment limiter (with Voice alarm) Swing automatic stop device Outrigger extension width detector Free-fall interlock device Over-winding cutout device Winch drum lock Automatic brake device Outrigger lock device Angle meter Swing warning lamp Hydraulic oil over-heat alarm
•STANDARD EQUIPMENT		
		Air conditioner with dehumidifier AM / FM Radio with clock Oil Cooler
•OPERATOR'S CAB		
		Winch camera TV ACS External indication device Loudspeaker Door mirror
•OPTIONAL EQUIPMENT		
		Winch view camera, Hook for 70 / 48 ton, Slewing warning buzzer, Winch over unwinding device, Cab heater, Cab cooler, Fan, AM / FM Radio, Fire extinguisher, ACS outside indicator

(Unit : metric ton)

RADIUS (m)	WITH OUTRIGGERS 7.4M EXTENDED -360° WORKING AREA				WITH OUTRIGGERS IN 6.4M POSITION - OVER THE SIDE				WITH OUTRIGGERS IN 5.4M POSITION - OVER THE SIDE				WITH OUTRIGGERS IN 4.3M POSITION - OVER THE SIDE				WITH OUTRIGGERS IN 2.59M POSITION-OVER THE SIDE							
	BOOM LENGTH IN METRES				BOOM LENGTH IN METRES				BOOM LENGTH IN METRES				BOOM LENGTH IN METRES				BOOM LENGTH (M)							
	10.4M	17.55M	24.7M	31.95M	39.0M	10.4M	17.55M	24.7M	31.85M	39.0M	10.4M	17.55M	24.7M	31.85M	39.0M	10.4M	17.55M	24.7M	31.85M	39.0M	10.4M	17.55M	24.7M	
1.0	30.00	28.00	20.00			50.00	28.00	20.00			45.00	28.00	21.00			33.00	28.00	20.00			16.00	12.00	11.00	
3.2	45.00	28.00	20.00	14.00		45.00	28.00	20.00	14.00		43.30	28.00	21.00	14.00		33.00	28.00	20.00	14.00		16.00	12.00	11.00	
3.5	41.00	28.00	20.00	14.00		41.00	28.00	20.00	14.00		41.00	28.00	21.00	14.00		33.00	28.00	20.00	14.00		16.00	12.00	11.00	
4.0	37.00	28.00	20.00	14.00		37.00	28.00	20.00	14.00		37.00	28.00	21.00	14.00		27.00	28.00	20.00	14.00		12.60	12.00	11.00	
5.0	33.50	28.00	20.00	14.00	7.60	33.50	28.00	20.00	14.00	7.60	33.50	28.00	21.00	14.00	7.60	22.00	23.00	20.00	14.00	7.60	10.40	9.90	9.50	
5.5	30.20	28.00	20.00	14.00	7.60	30.20	28.00	20.00	14.00	7.60	30.20	28.00	21.00	14.00	7.60	18.50	19.00	17.00	14.00	7.60	8.70	8.80	8.10	
5.5	27.50	26.10	20.00	14.00	7.60	27.50	26.10	20.00	14.00	7.60	25.30	24.20	21.00	14.00	7.60	15.80	16.00	14.90	14.00	7.60	7.30	6.90	6.30	
6.0	25.00	24.40	20.00	13.00	7.60	25.00	24.40	20.00	14.00	7.60	21.15	20.85	11.25	14.00	7.60	13.50	13.50	12.90	12.70	7.60	6.30	5.90	5.75	
6.5	22.70	22.40	18.70	14.00	7.60	22.70	22.40	18.70	13.50	7.60	17.90	17.60	11.40	14.00	7.60	11.80	11.50	11.30	11.50	7.60	5.40	5.00	4.85	
7.0	20.70	20.60	17.60	13.50	7.60	20.70	20.60	17.60	13.00	7.60	15.45	15.15	11.60	13.50	7.60	10.30	10.00	9.80	10.40	7.60	4.60	4.30	4.15	
7.5	18.90	18.60	16.00	13.00	7.60	18.20	18.60	13.00	13.00	7.60	13.15	13.05	13.00	7.60		8.70	8.60	9.10	7.60		3.65	3.65	3.60	
8.0	17.50	15.60	12.50	7.60		15.95	15.60	12.50	7.60		11.95	11.45	11.90	7.60		7.70	7.60	8.10	7.60		3.10	3.00		
8.5	16.20	14.70	11.90	7.60		14.10	14.00	11.90	7.60		10.25	11.15	10.90	7.60		6.75	6.75	7.50	7.60		2.65	2.50		
9.0	15.00	13.90	11.30	7.60		12.55	12.45	11.30	7.60		9.10	10.00	9.95	7.60		6.00	6.00	6.75	7.00		2.20	2.10		
10.0	13.00	12.30	10.30	7.60		10.15	10.00	10.30	7.60		7.35	7.25	8.15	7.60		4.80	4.75	5.10	5.80		1.50	1.50	1.35	
11.0	11.00	10.90	9.40	7.10		8.35	8.20	9.00	7.10		6.00	1.90	6.75	7.10		3.85	3.75	4.50	4.80			0.90		
12.0	9.30	9.20	8.65	6.60		6.95	6.85	7.75	6.60		4.95	85	5.70	6.10		3.05	2.90	3.70	4.15					
13.0	7.90	7.75	8.00	6.15		5.95	5.75	6.60	6.15		3.10	0.00	4.80	5.25		2.35	2.20	3.05	3.50					
14.0	6.70	6.60	7.40	5.75		5.00	4.85	5.65	5.75		3.40	2.0	4.10	4.55		1.75	1.60	2.50	2.95					
15.0		5.65	6.50	5.35			4.10	4.90	5.35			1.55	3.90	4.30			1.60	2.00	2.50					
15.0		4.90	5.70	5.00			3.35	4.25	4.70			0.95	3.90	3.40			0.95	1.50	2.05					
16.0		3.50	4.40	4.40			2.20	3.15	3.65			0.95	1.95	2.50			0.80	1.30						
19.0		2.95	3.85	4.15			1.75	2.70	3.20			0.65	1.55	2.10					1.00					
20.0		2.50	3.35	3.90			1.35	2.25	2.80				1.20	1.75					0.75					
21.0		2.05	2.95	3.50			1.00	1.90	2.40				0.90	1.45										
22.0			2.55	3.10				1.55	2.10				0.65	1.15										
24.0			1.85	2.40				1.00	1.50					0.65										
26.0			1.30	1.85				0.55	1.00															
28.0			0.90	1.35					0.65															
30.0				0.95																				
32.0				0.65																				
33.0				0.50																				
C.B.A.								23	27				37	45				40	45		54		58	60
S.H.K.	50t		22t			50t		22t			50t		22t			50t		22t			50t		22t	
H.K.M.	420kg		270kg			420kg		270kg			420kg		270kg			420kg		270kg			420kg		270kg	
P.L.	12	7	5	4	4	12	7	5	4	4	12	7	5	4	4	12	7	5	4	4	12	7	5	

LEGION C.B.A. - CRITICAL BOOM ANGLE
S.H.K. - STANDARD BOOKH.K.M. - BOOK MASS
P.L. - PART LINES

39.0m Boom + 9.0m Jib

(7.4m)						(9.4m)						(15.4m)						(14.3m)											
Outrigger lift capacity chart						Outrigger lift capacity chart						Outrigger lift capacity chart						Outrigger lift capacity chart											
Boom angle (°)	offset 25'	offset 32'	offset 45'	offset 60'	offset 75'	Boom angle (°)	offset 25'	offset 32'	offset 45'	offset 60'	offset 75'	Boom angle (°)	offset 25'	offset 32'	offset 45'	offset 60'	offset 75'	Boom angle (°)	offset 25'	offset 32'	offset 45'	offset 60'	offset 75'						
82.0	7.0	3.50	10.0	2.40	12.0	1.60	82.0	7.0	3.50	10.0	2.40	12.0	1.60	82.0	7.0	3.50	10.0	2.40	12.0	1.60	82.0	7.0	3.50	10.0	2.40	12.0	1.60		
75.0	13.1	3.50	13.7	4.00	17.4	1.60	75.0	13.1	3.50	13.7	4.00	17.4	1.60	75.0	13.1	3.50	13.7	4.00	17.4	1.60	75.0	13.1	3.50	13.7	4.00	17.4	1.60		
72.0	14.7	3.35	17.3	2.25	18.9	1.56	73.0	14.7	3.35	17.3	2.25	18.9	1.56	73.0	14.7	3.35	17.3	2.25	18.9	1.56	73.0	14.7	3.35	17.3	2.25	18.9	1.56		
70.0	17.1	2.95	19.5	2.05	21.0	1.51	70.0	17.1	2.95	19.5	2.05	21.0	1.51	70.0	17.1	2.95	19.5	2.05	21.0	1.51	70.0	17.1	2.95	19.5	2.05	21.0	1.51		
66.0	20.3	2.45	22.5	1.55	23.0	1.45	66.0	20.3	2.45	22.5	1.55	23.0	1.45	66.0	20.3	2.45	22.5	1.55	23.0	1.45	66.0	20.3	2.45	22.5	1.55	23.0	1.45		
60.0	21.5	2.35	21.0	1.75	25.2	1.41	60.0	21.5	2.35	21.0	1.75	25.2	1.41	60.0	21.5	2.35	21.0	1.75	25.2	1.41	60.0	21.5	2.35	21.0	1.75	25.2	1.41		
50.0	24.7	1.82	26.7	1.55	27.7	1.34	50.0	24.7	1.82	26.7	1.55	27.7	1.34	50.0	24.7	1.82	26.7	1.55	27.7	1.34	50.0	24.7	1.82	26.7	1.55	27.7	1.34		
45.0	27.1	1.70	28.6	1.43	29.5	1.29	45.0	27.1	1.70	28.6	1.43	29.5	1.29	45.0	27.1	1.70	28.6	1.43	29.5	1.29	45.0	27.1	1.70	28.6	1.43	29.5	1.29		
40.0	27.0	1.40	30.0	1.30	30.7	1.25	40.0	27.0	1.40	30.0	1.30	30.7	1.25	40.0	27.0	1.40	30.0	1.30	30.7	1.25	40.0	27.0	1.40	30.0	1.30	30.7	1.25		
32.0	26.5	1.05	31.5	0.85	32.1	0.90	32.0	26.5	1.05	31.5	0.85	32.1	0.90	32.0	26.5	1.05	31.5	0.85	32.1	0.90	32.0	26.5	1.05	31.5	0.85	32.1	0.90		
30.0	30.8	0.85	32.6	0.75	33.1	0.70	30.0	30.8	0.85	32.6	0.75	33.1	0.70	30.0	30.8	0.85	32.6	0.75	33.1	0.70	30.0	30.8	0.85	32.6	0.75	33.1	0.70		
25.0	32.6	0.40	35.1	0.35	35.4	0.35	25.0	32.6	0.40	35.1	0.35	35.4	0.35	25.0	32.6	0.40	35.1	0.35	35.4	0.35	25.0	32.6	0.40	35.1	0.35	35.4	0.35		
20.0	43.0		43.0		43.0		20.0	43.0		43.0		43.0		20.0	43.0		43.0		43.0		20.0	43.0		43.0		43.0		43.0	

39.0m Boom + 14.5 Jib

(7.4m)						(9.4m)						(15.4m)						(14.3m)											
Outrigger lift capacity chart						Outrigger lift capacity chart						Outrigger lift capacity chart						Outrigger lift capacity chart											
Boom angle (°)	offset 25'	offset 32'	offset 45'	offset 60'	offset 75'	Boom angle (°)	offset 25'	offset 32'	offset 45'	offset 60'	offset 75'	Boom angle (°)	offset 25'	offset 32'	offset 45'	offset 60'	offset 75'	Boom angle (°)	offset 25'	offset 32'	offset 45'	offset 60'	offset 75'						
82.0	8.5	2.40	13.0	1.40	16.5	0.90	82.0	8.5	2.40	13.0	1.40	16.5	0.90	82.0	8.5	2.40	13.0	1.40	16.5	0.90	82.0	8.5	2.40	13.0	1.40	16.5	0.90		
78.0	12.3	2.40	18.5	1.43	19.8	0.90	78.0	12.3	2.40	18.5	1.40	19.8	0.90	78.0	12.3	2.40	18.5	1.40	19.8	0.90	78.0	12.3	2.40	18.5	1.40	19.8	0.90		
72.0	13.2	2.40	17.4	1.38	20.4	0.90	72.0	13.2	2.40	17.4	1.38	20.4	0.90	72.0	13.2	2.40	17.4	1.38	20.4	0.90	72.0	13.2	2.40	17.4	1.38	20.4	0.90		
70.0	15.1	2.30	19.2	1.34	22.0	0.90	70.0	15.1	2.30	19.2	1.34	22.0	0.90	70.0	15.1	2.30	19.2	1.34	22.0	0.90	70.0	15.1	2.30	19.2	1.34	22.0	0.90		
70.0	16.6	2.15	20.8	1.20	23.5	0.87	70.0	16.6	2.15	20.8	1.20	23.5	0.87	70.0	16.6	2.15	20.8	1.20	23.5	0.87	70.0	16.6	2.15	20.8	1.20	23.5	0.87		
67.0	18.6	1.93	23.4	1.15	25.9	0.84	67.0	18.6	1.93	23.4	1.15	25.9	0.84	67.0	18.6	1.93	23.4	1.15	25.9	0.84	67.0	18.6	1.93	23.4	1.15	25.9	0.84		
63.0	23.9	1.83	27.1	1.10	29.6	0.79	63.0	23.9	1.83	27.1	1.10	29.6	0.79	63.0	23.9	1.83	27.1	1.10	29.6	0.79	63.0	23.9	1.83	27.1	1.10	29.6	0.79		
60.0	29.0	1.40	31.2	0.98	33.0	0.74	60.0	29.0	1.40	31.2	0.98	33.0	0.74	60.0	29.0	1.40	31.2	0.98	33.0	0.74	60.0	29.0	1.40	31.2	0.98	33.0	0.74		
56.0	31.0	1.25	33.8	0.90	35.3	0.74	56.0	31.0	1.25	33.8	0.90	35.3	0.74	56.0	31.0	1.25	33.8	0.90	35.3	0.74	56.0	31.0	1.25	33.8	0.90	35.3	0.74		
52.0	33.1	0.92	35.9	0.85	37.1	0.73	52.0	33.1	0.92	35.9	0.85	37.1	0.73	52.0	33.1	0.92	35.9	0.85	37.1	0.73	52.0	33.1	0.92	35.9	0.85	37.1	0.73		
50.0	35.0	0.65	37.7	0.55	38.6	0.53	50.0	35.0	0.65	37.7	0.55	38.6	0.53	50.0	35.0	0.65	37.7	0.55	38.6	0.53	50.0	35.0	0.65	37.7	0.55	38.6	0.53		
47.0	36.8	0.40	39.2	0.35	40.0	0.33	47.0	36.8	0.40	39.2	0.35	40.0	0.33	47.0	36.8	0.40	39.2	0.35	40.0	0.33	47.0	36.8	0.40	39.2	0.35	40.0	0.33		
40.0	45.0		45.0		45.0		40.0	45.0		45.0		45.0		40.0	45.0		45.0		45.0		40.0	45.0		45.0		45.0		45.0	

When the outriggers are used

- The lifting capacity charts are based on the jib bowed on the boom side.
- The lifting capacity chart indicates the maximum load which can be lifted by the crane provided it is level and standing on firm level ground. The values in the chart include the mass of the main hook and slings for boom operation, and auxiliary hook and slings for jib operation. (58 ton hook mass: 423kg). 22ton hook mass: 270kg). 4.5 ton hook mass: 120kg).
- Within the chart the figures in the area between a thin line are based on structural limitations while other figures are determined by stability limitations.
- The working radius is the actual values allowing for boom and jib deflection. Therefore you must always operate on the basis of the working radius.
- The jib working radius is based on the jib mounted on the end of the 39.0m boom. When operating at other boom lengths, use the boom angle arcs as the criterion.
- Do not operate the jib when the outriggers are completely retracted.
- The lifting capacities for the over side vary with the outrigger extension. Therefore for each outrigger extension condition you should work according to the lifting capacity chart. Use the front area lifting capacity chart for the front area lifting capacity, and the lifting capacity chart of outrigger full extension for the rear area lifting capacity.

- The lifting capacity of the rockers/shave is the lifting capacity of the boom minus the mass of all attached hook, slings etc. In the boom, with an upper limit of 4.5 kg.
- The hook to use with the rocker/shave is the 4.5-ton hook (mass: 105kg) with one part of leg.
- If the boom length, boom angle/jib length, jib angle and/or working radius exceeds the rated values, use the lifting capacity for the rated values or for the next one, whichever gives the smaller lifting capacity.
- If you are working with the boom while the jib is retracted, subtract 2.0 ton from the each lifting capacity of the boom.
- In whatever working conditions the corresponding boom critical angle is shown in the chart. The crane can tip over if the boom is lowered below the critical angle, even if unbraked.
- Therefore, never lower the boom below these angles.
- If you work with 16 parts of leg on the hook with 1 marked in the lifting capacity chart, use the "rocker/shave and shackle bracket".
- The standard parts of leg for each boom length are as indicated in the chart. It is not permitted to use a non-standard number of parts of leg, do not exceed 45 t/m (4.8 t/m) per side rope respectively.
- 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 or assembling large wind catching areas.

- Kate bears no liability whatsoever for damage, crane tipping or other accident caused by crane operations which differ from the operations contained in the instruction manual and the warning labels.

Front area  Rear area

Outrigger extension (m)	Full extension (t)	Intermediate extension (t)	Minimum extension (t)	Full retraction (t)
5.0	35	30	25	20

