More Power Than Ever!

NK-300E-v

- Maximum rated lifting capacity : 30t
- Maximum boom length : 33m
- Maximum jib length : 14.5m
- Maximum lifting height : 32.8m(boom), 47.3m(33m boom+14.5m jib offset 5°)

KATO

Tops in advanced functions, power, speed, safety and cost

A superstar is born!!
The NK-300E-v draws on the very latest technology to give unprecedented power, stability and ease of operation.


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Advanced Electronics Enhance Reliability

Extra long boom boosts high and remote lift capabilities

- *Boom length* *10.5~33m*
- *Jib length* *8.7~14.5m (2 section)*
- *Jib offset* *(3-stage: 5 , 17 , 30)*

FULL POWER BOOM

- The tough new Fullpower boom utilizes a sequential, synchronized extention/ retraction control system that permits single-lever control and speeds up operations at all boom lengths from low at 10.5m (fully retracted) to high lifts at 33m (fully extended).
- For greater ease of use, operability and safety, the new boom is of a robust construction that reduces vertical deflection and lateral bending during operations.

FANTASTIC OPERATING RANGE! IDEAL FOR CLOSE-IN OPERATIONS THANKS TO 3-STAGE JIB OFFSET (5 , 17 , 30)

- In addition to the conventional offset angles of 5° and 30°, the jib on the NK-300E-v can also operate at an extra offset angle of 17 . Selection of the 3 offset angles is simple and the feature is a real boon in close-in work during the construction of high-rise buildings or when performing high-lift operations in restricted spaces.

Renowned the World over for Precision

COMPULOAD

Moment Limiter

AUTOMATIC SEVEN-POINT DETECTION

The advanced ACS Moment Limiter is a fully automatic overload prevention device incorporating calculation functions based on the latest electronic know-how. It provides precise output on up to seven safety factors: Safety level (total moment), boom angle, working radius, boom length, critical load, actual load and maximum hook lift. These factors are displayed on a graphic display panel. This arrangement permits easy read-out without eye fatigue and facilitates a constant and accurate appraisal of changes in the safety factors, thereby enhancing the safety of crane operation.

CONSTANT FIVE-POINT DISPLAY OF OPERATING CONDITION

- In-panel Indicators have been replaced by digital displays that show safety level, boom angle, boom length, working radius and critical load at all times, without any troublesome button operations. For further the display of safety level is colorzoned to enable the operator to take in the condition of the load at a glance.
- **Protection against breakdowns and malfunctions**...For double protection in the unlikely event of a malfunction in the ACS Moment Limiter or any other problems, a trouble indicator has been provided to generate an emergency signal in the appropriate display to warn the operator.

WIDE OPERATING RANGE! FORWARD-ACTING DERRICKING CYLINDER DELIVERS DERRICKING RANGE FROM −3 TO 80

- The powerful forward-acting derrick cylinder and the rearward installation of the derrick cylinder not only give the NK-300E-v a derricking range from −3 to 80 but result in excellent visibility during operations.

EASY TO MOUNT ON EVEN THE MOST RESTRICTED WORKSITE

- The crane is compactly designed so that the jib folds conveniently under the boom during travelling, and opens out forward and upward when required for use. Mounting requires less space and bother than the horizontal fold-out type, making it ideal for rapid setups in confined sites.

GREATER EFFICIENCY IN SINGLE-ROPE LIFTING OPERATIONS−CONVENIENT ROOSTER SHEAVE

- This feature greatly enhances operating speed when handling lightweight loads. The rooster sheave is easy to mount at the head of the boom, and the hoisting and lowering of single hook load can be carried out with greater ease and efficiency.

Extra-Large Cabin for Greater Comfort and Ease of Operation

EXTRA-LARGE CABIN FOR GREATER COMFORT AND EASE OF OPERATION

● The spacious cabin is finished in highly relaxing color tones and comes with a sliding door that facilitates ingress and egress and can be left open without getting in the operator's way. A push-up type window is incorporated in the roof for better ventilation. Careful consideration has been given to human engineering for maximum operator comfort; the lengths of the levers can be adjusted and the highbacked seat can be moved forward or backward, raised or lowered to suit any physique. The result is a comfortable, roomy cabin that helps banish fatigue even during extended periods of operation.

● Easy to use pedals have been attached to the winch levers for greater convenience in compound operations.

● **Priority given to safety in operator's cab**... For maximum operator comfort and safety all instrumentation utilizes the very latest electronic technology and, together with the various controls and levers, has been located in the optimum position for visivility and ease of operation.

ACS CONTROLS PERFORMANCE ACCORDING TO OUTRIGGER STATUS

● **Sturdy, fully hydraulic outriggers**... The outriggers are designed for 2-stage extention, 6.1m at maximum stroke and 4.1m at intermediate stroke for greater stability during operations on restricted sites. Messy float mounting and dismounting operations have been eliminated by incorporating them into a single unit with the vertical cylinders, thus helping to reduce operation times. Ample road clearance permits the simple setting of wooden blocks.

● **Contorols on either side of undercarriage for independent, simultaneous outrigger operation**... All vertical and horizontal outrigger adjustments can be controlled independently and simultaneously by means of contorols located on both sides of the undercarriage. The large stroke of the vertical cylinders permits quick, easy, levelling, even where conditions are poor, such as on sloping or uneven ground.

HYDRAULIC FRONT JACK MAKES 360 LIFTING POSSIBLE

● A Hydraulic jack installed under the front extremity of the carrier chassis enables the crane to offer the same lifting performance in all directions. This means that there are fewer limitations caused by the orientation of the crane when it enters a site, boosts its operational range.

● Hydraulic front jack (option)

Outriggers Capable of Intermediate Extension for Operations on Narrow Sites

JUST THE JOB FOR COMPOUND OPERATIONS!

● The NK-300E-v features 2 independently-driven winches equipped with powerful automatic brakes. This feature is particularly useful in compound operations because the main and auxiliary winches are controlled by separate levers that permit them to perform hoisting and lowering operations independently yet at the same time. The sesult is faster operations and greater efficiency.

● The automatic brake prevents accidents resulting from incorrect operation, while the elimination of tiring pedal operations for the main and auxiliary winches represents a big reduction in operator workload.

2-stage winch speed control

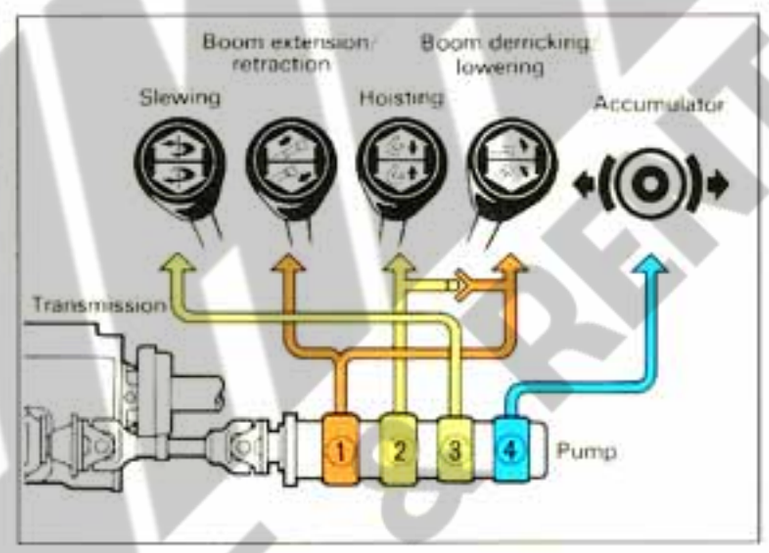
● For greatertional versatility, combined dual hydraulic circuits permit 2-stage speed control of the main and auxiliary winches by means of independent levers, enabling the operator to vary the speed of the two winches between high and low without any loss of hoisting power.

A SPECIAL HYDRAULIC SYSTEM COMPRISING 4 POWERFUL PUMPS PERMITS

● The use of 4 separate pumps enables the NK-300E-v to perform 3 operations such as winch (hoisting, lowering), boom (derricking, telescorping) and slewing simultaneously and with outstanding speed and efficiency.

CONVENIENT SLEWING SYSTEM WITH FREE-LOCK SWITHING

● The slewing system can be locked for operations involving delicate slewing during high or heavy lifting or left free for simple back-and-forth work. The result is safe, efficient operation in a wide range of applications.



TRIPLE SAFETY BACKUP GUARANTEES SURER BRAKING FOR GREATER SAFETY

● The winch mechanism is equipped with three separate safety features: an automatic brake, a counterbalancing valve and a drum lock. These are designed to eliminate the danger arising from operating error and assure safer, more positive operation.

Tried and tested irreguler winding prevention device

● The drum is grooved and equipped with a device to prevent irregularities in rope feeding. This not only keeps the rope winding smoothly but also prolongs rope life.

Non-rotating sope eliminates hook torsion

● The use of non-rotating rope prevents tangling during operations and damage to the rope caused by twisting of the hook, resulting in smoother, safer operations.

FOR TOTAL PEACE OF MIND... CAREFULLY DESIGNED SAFETY DEVICES

● Safety was a prime consideration during the design of the NK-300E-v, which is equipped with numerous safety devices, including the ACS Moment Limiter, an over-hoisting prevention device, a slewing lock device, a boom derricking safety device, automatic brakes, an outrigger locking mechanism and hydraulic relief valves. All cylinders mounted in the boom, outriggers and so on are fitted with specially designd safety valves.

Address inquiries to:

* NOTE: Illustrations may include optional equipment. KATO products and specifications are subject to improvements and changes without notice.

KATO

QUALITY & EXPERIENCE
SINCE 1895

KATO WORKS CO.,LTD.

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MANK-300E-V-1-KEX
920603(Hp) Printed in Japan

KATO

NK-300E-v

FULLY HYDRAULIC TRUCK CRANE

Maximum rated lifting capacity : 30t×3.0m
Maximum boom length : 33.0m Maximum fly jib length : 14.5m
Maximum lifting height : 33.0m (boom), 47.5m (33m boom+14.5m jib offset 5°)

Innovations For The Future

KATO WORKS CO.,LTD.

- Carrier : FAW CA5320JQZ
- Gross vehicle weight : 30,900kg
- Dimensions (L.W.H.) :
  12.58 × 2.5 × 3.88m
- Engine output :
  206kW / 2,300min^{-1} (ISO Net)

Operator's Cab

Fly jib Offset

Outrigger Width

4.1m
Intermediately Extended

6.1m
Fully Extended

http://www.kato-works.co.jp

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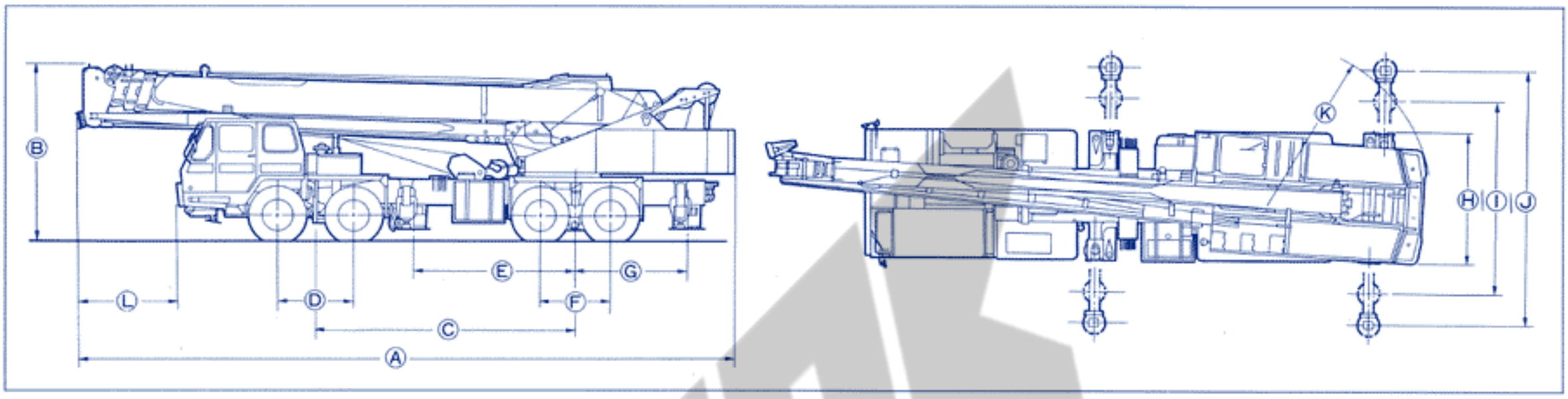
8.2010-1000(AT)1 Printed in Japan

KATO

NK-300E-v

FULLY HYDRAULIC TRUCK CRANE

SPECIFICATION



Carrier name and model	A	B	C	D	E	F	G	H	I	J	K	L
Mitsubishi K303LA	12,580	3,450	5,000	1,450	3,100	1,350	2,150	2,500	4,100	6,100	3,395	1,800
Nissan Diesel KG45SXL	12,580	3,450	4,940	1,520	3,100	1,300	2,100	2,500	4,100	6,100	3,395	1,630

(Unit : mm)

CRANE SPECIFICATION

Performance

Maximum rated lifting capacity	: 30 metric tons × 3.0m
Boom length	: 10.5m ~ 33m (4 section)
Fly jib length	: 8.7m ~ 14.5m (2 section)
Max. lifting height	: 32.8 m (Boom) 47.3 m (33 m Boom + 14.5 m jib offset 5°)
Boom derricking angle	: −3° ~ 80°
Boom derricking time	: 53 sec. (−3° ~ 80°)
Boom extending time	: 110 sec. (10.5m ~ 33m)
Hoisting line speed	
Main winch	: 110m/min. (at 4th layer)
Auxiliary winch	: 95m/min. (at 2nd layer)
Hoisting hook speed	
Main winch (part of line; 10)	: 11.0m/min. (at 4th layer)
Auxiliary winch (part of line; 1)	: 95.0m/min. (at 2nd layer)
Slewing speed	: 2.6 r.p.m. (Speed: Subject to no load)

Hoisting Ropes

Main winch;	Type	: 4 × F (a + 40) (Non-rotating type)
	Diameter	: 16mm
	Length	: 105m
Auxiliary winch;	Type	: 4 × F (a + 40) (Non-rotating type)
	Diameter	: 16mm
	Length	: 105m

Hydraulic System

Oil pump	: 4 section gear type
Hoisting motor	: Axial plunger type
Slewing motor	: Axial plunger type
Cylinder	: Double acting type
Control valve	: 3 position 4 way double acting with integral check and relief valves
Oil reservoir capacity	: 420 lit.

Superstructure

Hoisting mechanism	: Hydraulic motor-driven, gear reduction type (automatic brake system) single winch x 2
Slewing mechanism	: Ball bearing type
Boom derricking mechanism	: Direct-acting cylinder type
Outrigger system	: Hydraulic, vertically supporting with float and vertical cylinder in single unit
Front jack (option)	: Hydraulic, vertically supporting with float and vertical cylinder in single unit
Crane cab	: All steel welded construction

Winch system

Main winch & Auxiliary winch	: Driven by axial plunger type hoisting motor through built-in gear reduction. Controlled independently by respective operating lever. Equipped with automatic brake. With free fall device

Safety Devices

Microcomputer type ACS fully automatic overload protection device (Moment Limiter)
Boom falling safety device, Overhoist prevention device, Drum lock device, Automatic winch brake, Irregular winding prevention device, Hydraulic safety valve, Outrigger lock device, Slewing lock device

Option

Oil cooler, Front jack, Voice alarm device for ACS, Heater, fan and radio for crane cabin

RATED LIFTING CAPACITY

Based on BS 1757 : 1986
DIN 15019-2
75% of tipping loads

Note: Front jack is optional.

Outriggers fully extended with front jack – 360° full range Outriggers fully extended without front jack – over side and over rear							
Working radius (m)	10.5 m Boom	14.2 m Boom	18 m Boom	21.7 m Boom	25.5 m Boom	29.2 m Boom	33 m Boom
2.5	30.00	20.00	16.00				
3.0	30.00	20.00	16.00				
3.5	25.40	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	13.70	12.00	11.50	9.00	7.00
7.0	13.70	12.65	11.95	11.00	10.00	9.00	7.00
8.0	11.15	10.65	10.55	10.20	8.90	8.20	7.00
8.5	10.25	9.70	9.65	9.65	8.45	7.80	6.60
9.0		8.80	8.80	9.20	8.05	7.45	6.25
10.0		7.30	7.15	7.65	7.30	6.75	5.70
12.0		5.10	4.95	5.40	5.65	5.65	4.80
12.5		4.70	4.55	5.05	5.25	5.45	4.55
13.0			4.20	4.65	4.90	5.05	4.45
14.0			3.55	4.00	4.25	4.40	4.10
16.0			2.55	2.95	3.20	3.40	3.50
18.0				2.20	2.45	2.65	2.80
20.0				1.65	1.85	2.05	2.20
22.0					1.40	1.60	1.70
24.0						1.20	1.35
26.0						0.90	1.00
27.5						0.70	0.85
29.0							0.65
31.0							0.45
Standard hook	for 30 ton						
Hook weight	300 kg						
Parts line	10	8		4			
Critical boom angle	—	—	—	—	—	—	—

(Unit: Metric ton)

Outriggers intermediately extended without front jack – 360° full range Outriggers fully extended without front jack – over front							
Working radius (m)	10.5 m Boom	14.2 m Boom	18 m Boom	21.7 m Boom	25.5 m Boom	29.2 m Boom	33m 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	17.35	16.20	16.00	12.00	11.50		
5.0	14.00	13.60	13.45	12.00	11.50	9.00	
5.5	11.60	11.40	11.20	12.00	11.50	9.00	
6.0	10.00	9.80	9.60	10.20	10.10	9.00	7.00
6.5	8.50	8.50	8.15	8.95	9.10	9.00	7.00
7.0	7.55	7.25	7.15	7.80	8.10	8.30	7.00
7.5	6.50	6.40	6.20	6.85	7.25	7.35	7.00
8.5	5.00	4.95	4.85	5.40	5.75	5.85	5.80
9.0		4.35	4.30	4.80	5.10	5.25	5.30
10.0		3.45	3.35	3.85	4.10	4.30	4.40
12.0		2.10	1.95	2.45	2.70	2.90	3.05
12.5		1.70	1.70	2.15	2.40	2.65	2.80
13.0			1.40	1.90	2.15	2.40	2.55
14.0			0.95	1.40	1.70	1.95	2.10
15.0			0.55	1.05	1.30	1.55	1.75
16.0				0.70	1.00	1.20	1.40
17.0				0.40	0.70	0.95	1.10
18.0					0.45	0.70	0.85
19.0						0.45	0.60
20.0							0.40
Standard hook	for 30 ton						
Hook weight	300 kg						
Parts line	10	8		4			
Critical boom angle	—	—	—	25°	35°	42°	47°

(Unit: Metric ton)

Outriggers fully extended with front jack – 360° full range Outriggers fully extended without front jack – over side and over rear						
Boom angle (°)	33 m Boom + 8.7 m Jib					
	Offset 5°		Offset 17°		Offset 30°	
	Working radius (m)	Load (t)	Working radius (m)	Load (t)	Working 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	1.48	24.1	1.24	25.0	1.06
56.0	24.0	1.28	25.2	1.18	26.0	1.02
54.0	25.1	1.08	26.3	1.00	27.1	0.98
50.0	27.2	0.74	28.2	0.70	29.0	0.67
46.0	29.2	0.47	30.1	0.44	30.7	0.43
43.0	30.6	0.30	31.5	0.30	32.0	0.30
Standard hook	for 3 ton					
Hook weight	60 kg					
Parts line	1					
Critical boom angle	40°					

(Unit: Metric ton)

Outriggers fully extended with front jack – 360° full range Outriggers fully extended without front jack – over side and over rear						
Boom angle (°)	33 m Boom + 14.5 m Jib					
	Offset 5°		Offset 17°		Offset 30°	
	Working radius (m)	Load (t)	Working radius (m)	Load (t)	Working 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	0.66	32.4	0.57	33.7	0.52
51.0	31.2	0.61	33.0	0.55	34.2	0.51
50.4	31.6	0.57	33.3	0.52	34.5	0.50
48.0	32.9	0.45	34.5	0.40	35.6	0.38
46.0	33.9	0.35	35.2	0.33	36.5	0.30
Standard hook	for 3 ton					
Hook weight	60 kg					
Parts line	1					
Critical boom angle	42°					

(Unit: Metric ton)

Outriggers intermediately extended without front jack – 360° full range Outriggers fully extended without front jack – over front						
Boom angle (°)	33 m Boom + 8.7 m Jib					
	Offset 5°		Offset 17°		Offset 30°	
	Working radius (m)	Load (t)	Working radius (m)	Load (t)	Working 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	2.56	15.0	1.94	16.2	1.50
71.0	14.5	2.14	16.0	1.84	17.3	1.47
70.0	15.1	1.90	16.6	1.65	18.0	1.45
68.0	16.3	1.48	17.8	1.28	19.0	1.18
65.0	18.1	0.97	19.5	0.86	20.7	0.78
60.0	21.0	0.37	22.4	0.30	23.3	0.30
Standard hook	for 3 ton					
Hook weight	60 kg					
Parts line	1					
Critical boom angle	58°					

(Unit: Metric ton)

Outriggers intermediately extended without front jack – 360° full range Outriggers fully extended without front jack – over front						
Boom angle (°)	33 m Boom + 14.5 m Jib					
	Offset 5°		Offset 17°		Offset 30°	
	Working radius (m)	Load (t)	Working radius (m)	Load (t)	Working 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	1.31	21.2	0.95	23.3	0.76
68.4	19.1	1.18	21.7	0.92	23.8	0.75
67.8	19.5	1.08	22.0	0.88	24.2	0.73
64.0	22.0	0.60	24.4	0.49	26.4	0.43
62.0	23.4	0.39	25.6	0.33	27.5	0.30
Standard hook	for 3 ton					
Hook weight	60 kg					
Parts line	1					
Critical boom angle	60°					

(Unit: Metric ton)

NOTES:

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

(2) The working radii as given in the table 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 (33 m). 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 3000 kg. 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 and below the 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, 1800 kg 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) The standard number of parts of line is shown in the rated lifting capacity table.
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 3000 kg.

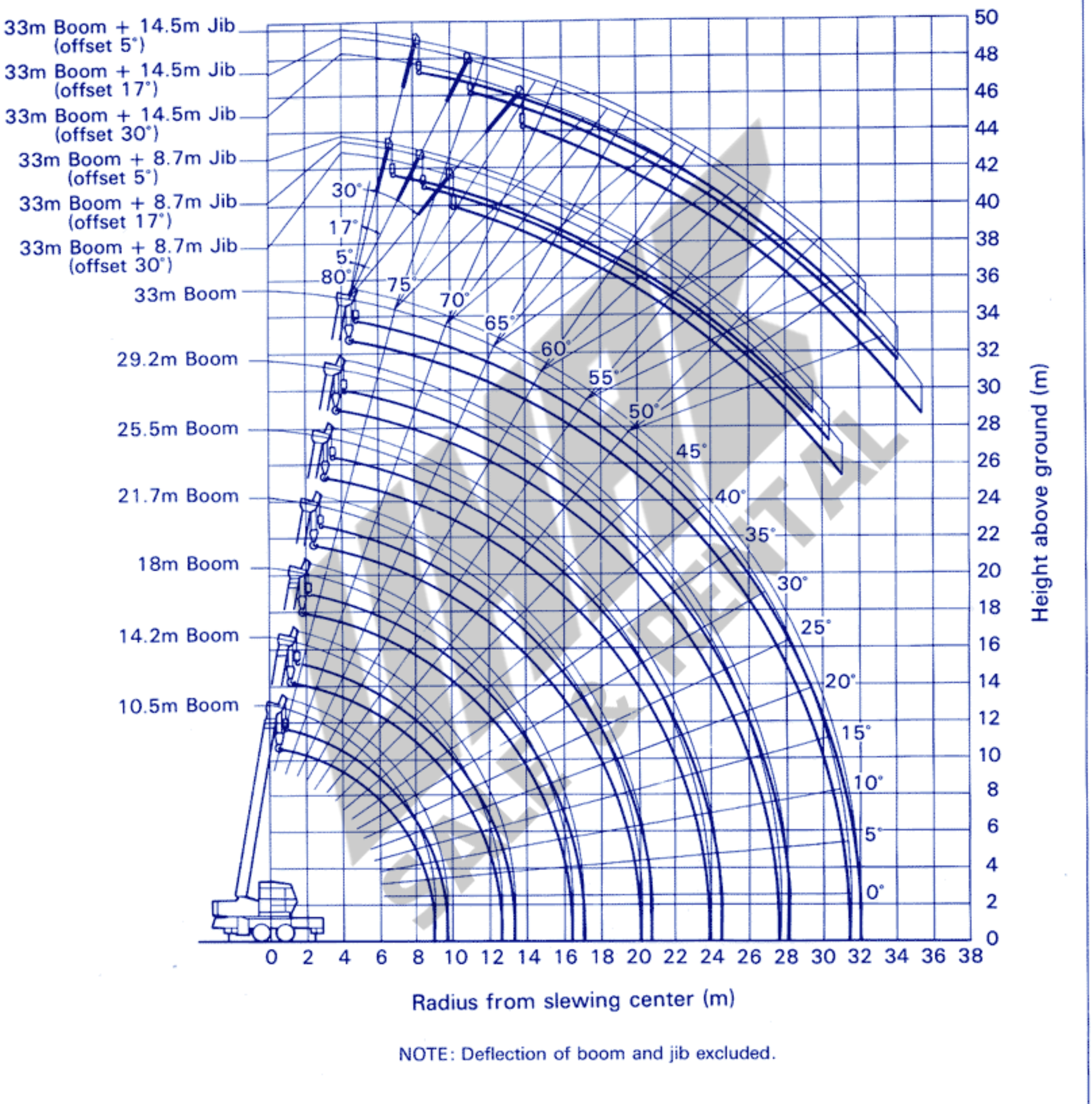
(7) Without front jack, over front lifting performance is inferior to over side and over rear lifting performance. Great care should be taken when transferring from over side to over front since there is a danger of overloading.

(8) 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.

(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 tip 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.

WORKING RANGE



NOTE: Deflection of boom and jib excluded.

CARRIER SPECIFICATION

■MITSUBISHI K303LA

General dimensions

Overall length:		approx. 12,580mm
Overall width:		approx. 2,500mm
Overall height:		approx. 3,450mm
Wheel base:		6,400mm (1,450mm + 3,600mm + 1,350mm)
Treads:	Front	2,050mm
	Rear	1,845mm
Center to center of extended outriggers:		6,100mm (Fully extended) 4,100mm (Intermediately extended)
Gross vehicle weight:		approx. 28,800kg
	Front	approx. 9,400kg
	Rear	approx. 19,400kg

Carrier

Maker & Model:		MITSUBISHI K303LA
Drive system:		8 × 4
Maximum traveling speed:		65km/h
Gradeability (tanθ):		30% (computed, @G.V.W. = 28,800kg)
Minimum turning radius (center of extreme outer tire):		11.0m

Engine

Maker:		MITSUBISHI
Model:		8DC8-2A
Type:		4 cycle, water cooled, diesel
No. of cylinder:		V - 8
Piston displacement:		14,886cc
Max. output horsepower:		290 PS/2,000 r.p.m. 213 KW/2200 r.p.m.
Max. output torque:		100 kg·m/1,400 r.p.m. 980 N·m/1,400 r.p.m.

NOTE: The output is in accordance with JIS D1004, 1976. Rated power output guaranteed within 5% at standard ambient condition.

Clutch:		Single dry plate, hydraulic control with air booster
Transmission:		5 forward & 1 reverse speed, synchromesh and constantmesh gear
Axles:	Front	Reverse "ELLIOT" type
	Rear	Full floating type
Steering:		Ball nut type with power booster
Suspension:	Front	Semi-elliptic leaf springs
	Rear	Equalizer beams and torque rods
Brake:	Service	2 circuit air brake, 8 wheels internal expanding type
	Parking & Emergency	Spring loaded brake, acting on 4 rear wheels, variable air operated
	Auxiliary	Exhaust brake
Electric system:		24V
Battery:		12V—145F51 × 2
Fuel tank capacity:		200 lit
Driver's cab:		All steel welded construction, 2 persons, low line type, offset left hand side
Tire size:	Front	10.00—20—14PR
	Rear (dual)	10.00—20—14PR

■NISSAN DIESEL KG45SXL

General dimensions

Overall length:		approx. 12,580mm
Overall width:		approx. 2,500mm
Overall height:		approx. 3,450mm
Wheel base:		6,350mm (1,520mm + 3,530mm + 1,300mm)
Treads:	Front	2,025mm
	Rear	1,860mm
Center to center of extended outriggers:		6,100mm (Fully extended) 4,100mm (Intermediately extended)
Gross vehicle weight:		approx. 29,000kg
	Front	approx. 9,400kg
	Rear	approx. 19,600kg

Carrier

Maker & Model:		NISSAN DIESEL KG45SXL
Drive system:		8 × 4
Maximum traveling speed:		64km/h
Gradeability (tanθ):		33% (computed, @G.V.W. = 29,000kg)
Minimum turning radius (center of extreme outer tire):		10.5m

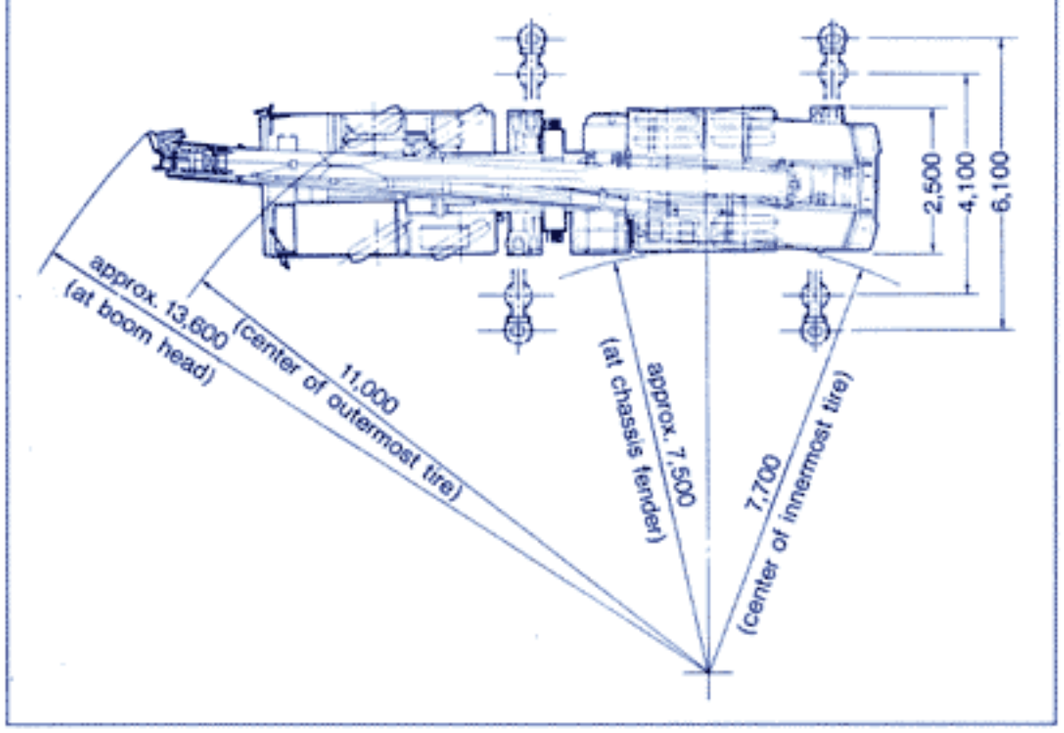
Engine

Maker:		NISSAN DIESEL
Model:		PE6T
Type:		4 cycle, water cooled, diesel
No. of cylinder:		6-inline
Piston displacement:		11,670cc
Max. output horsepower:		275 PS/2,300 r.p.m. 202 KW/2,300 r.p.m.
Max. output torque:		98 kg·m/1,200 r.p.m. 960 N·m/1,200 r.p.m.

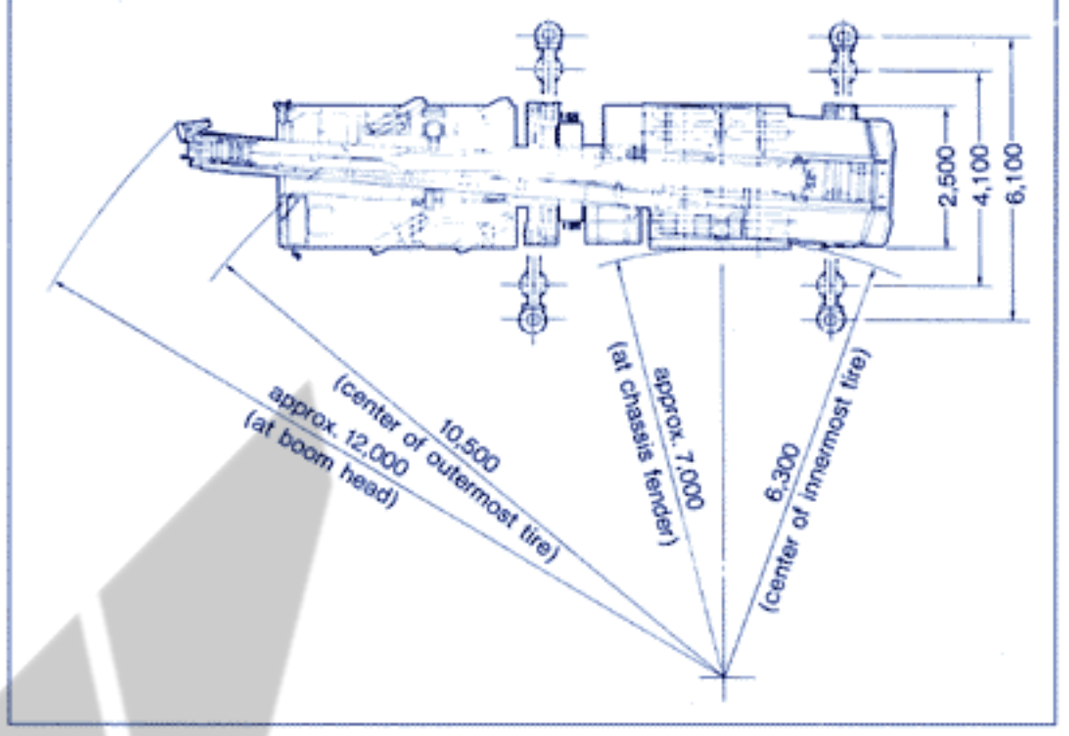
NOTE: The output is in accordance with JIS D1004, 1976.

Clutch:		Single dry plate, hydraulic control with air booster
Transmission:		6 forward & 1 reverse speed, synchromesh and constantmesh gear
Axles:	Front	Reverse "ELLIOT" type
	Rear	Full floating type
Steering:		Ball nut type with power booster
Suspension:	Front	Semi-elliptic leaf springs
	Rear	Equalizer beams and torque rods
Brake:	Service	2 circuit air brake, 8 wheels internal expanding type
	Parking	Mechanical, acting on propeller shaft
	Auxiliary	Exhaust brake
Electric system:		24V
Battery:		12V—115F51 × 2
Fuel tank capacity:		200 lit
Driver's cab:		Steel, two men, semi under floor type one side cab
Tire size:	Front	10.00—20—14PR
	Rear (dual)	10.00—20—14PR

Mitsubishi K303LA



Nissan Diesel KG45SXL



*NOTE: KATO products and specifications are subject to improvements and changes without notice.

KATO
QUALITY & EXPERIENCE
SINCE 1895

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KATO

NK-300E-v

FULLY HYDRAULIC TRUCK CRANE

【SPECIFICATION】

■CRANE

Description		Truck crane with maximum lifting capacity 30 ton	
Model		NK-300E-v	
●Specification			
Maximum rated lifting capacity		10.5 m Boom	30,000 kg×3.0 m (Parts of line : 10)
		14.2 m Boom	20,000 kg×4.5 m (Parts of line : 8)
		18.0 m Boom	16,000 kg×5.0 m (Parts of line : 8)
		21.7 m Boom	12,000 kg×6.0 m (Parts of line : 4)
		25.5 m Boom	11,500 kg×6.0 m (Parts of line : 4)
		29.2 m Boom	9,000 kg×7.0 m (Parts of line : 4)
		33.0 m Boom	7,000 kg×8.0 m (Parts of line : 4)
		8.7 m Jib	3,000 kg×76° (Parts of line : 1)
		14.5 m Jib	2,000 kg×77.7° (Parts of line : 1)
		Rooster	3,000 kg (Parts of line : 1)
Boom length		10.5 m — 33.0 m (4 section)	
Fly jib length		8.7 m — 14.5 m (2 section)	
Maximum lifting height		33.0 m (Boom)	
		47.5 m (jib)	
Hoisting line speed (winch up)	Main winch	110 m / min. (at 4th layer)	
	Auxiliary winch	95 m / min. (at 2nd layer)	
Hoisting hook speed (winch up)	Main winch	(Parts of line; 10) : 11.0 m / min. (at 4th layer)	
	Auxiliary winch	(Parts of line; 1) : 95.0 m / min. (at 2nd layer)	
Boom derricking angle		-3° — 80°	
Boom derricking time		53 s / -3° — 80°	
Boom extending time		110 s (10.5 m — 33.0 m)	
Slewing speed		2.6 min^{-1}	
Tail slewing radius		3,395 mm	
●Equipment and structure			
Boom type		Box-shaped, 4-section hydraulically telescopic type (Boom sections 3 / 4 simultaneously operated)	
Jib type		2 sections (2nd section of draw-out type, 3-step inclination type (offset angles 5°,17° and 30°))	
Boom extension/ retraction equipment		Two hydrauric cylinders and wire ropes used together	
Boom derricking/ lowering equipment		One hydraulic cylinder of direct acting type with pressure-compensated flow control valve	
Winch system Main & Auxiliary winches		Driven by axial plunger type hoisting motor through built-in gear reduction. Controlled independently by respective operating lever. Equipped with automatic brake.	
Slewing equipment		Ball bearing type	
Wire rope for hoisting	Main winch	Diameter: 16 mm×Length: 180 m	
	Auxiliary winch	Diameter: 16 mm×Length: 105 m	
●Hydraulic system			
Oil pump		4 section gear type	
Hydraulic motor	Hoisting motor	Axial plunger type	
	Slewing motor	Axial plunger type	
Control valve		3 position 4 way double acting with integral check and relief valves	
Cylinder		Double acting type	
Oil reservoir capacity		420 L	
●Safety devices			
		ACS (Automatic crane stopper with voice alarm), Boom falling prevention device, Overhoist prevention device, Drum lock device, Automatic winch brake, Hydraulic safety valve, Outrigger lock device	
●Standard equipment			
		Fly jib, Rooster sheave, Independent two winches control system, Irregular winding prevention device, Winch automatic brake, Hooks (30 ton, 3 ton), Full size fender, Large size steps, 3 working lights, Moment limiter with voice alarm, Winch drum turning indicator, Outrigger sheet, Cigar lighter, Ashtray, Cab floor mat, Tool kit	
●Optional equipment			
		Winch over-unwinding device, Front jack, Hydraulic oil cooler, Cab heater, Cab cooler, Fan, Radio AM FM, Fire extinguisher	

■CARRIER

Maker and model		FAW CA5320JQZ
●Specification		
Maximum traveling speed		70 km/h
Gradeability (tan θ)		29 % (computed at G.V.W. = 30900 kg)
Minimum turning radius (center of extreme outer tire)		11.0 m
●General dimensions		
Overall length		approx. 12,580 mm
Overall width		approx. 2,500 mm
Overall height		approx. 3,880 mm
Wheel base		5,825 mm (4,475 mm+1,350 mm)
Treads	Front	2,071 mm
	Rear	1,847 mm
Outriggers	Type	Hydraulic H-beam type (with float and vertical cylinder in single unit)
	Extended outriggers	6,100 mm (Fully extended)
		4,100 mm (Intermediately extended)
Gross machine weight	Gross weight	approx. 30,900 kg
	Front weight	approx. 6,950 kg
	Rear weight	approx. 23,950 kg
●Engine		
Model		CA6DL1-28 (EURO-Ⅱ)
Type		4 cycle, turbo charged, direct injection water cooled, diesel
Piston displacement		7.7 L
Max. power		206 kW / 2,300 min^{-1}
Max. torque		1,100 N·m / 1,600 min^{-1}
●Equipment and structure		
Drive system		6×4
Clutch		Single dry plate, hydraulic control with air booster
Transmission		Manual transmission type
Number of speeds		8 forward & 1 reverse speed
Axles	Front	Reverse "ELLIOT" type
	Rear	Full floating type with hub reduction
Suspension	Front	Leaf springs with shock absorber
	Rear	Equalizer beams and torque rods with leaf springs (with lockout device)
Brakes	Service	2 circuit air brake, 6 wheels internal expanding type
	Parking Emergency	Spring loaded brake 4 rear wheels, variable air operated
	Auxiliary	Exhaust brake
Steering	Type	Ball nut type with power booster
Tire size	Front	11.00R20-16 PR
	Rear (dual tire)	11.00R20-16 PR
Fuel tank capacity		300 L
Seating capacity		2 persons
Battery		(12 V — 6-QAW-180)×2
●Standard equipment		
		Towing hook (front and rear, eye type), Spare tire & wheel, Air dryer, Radio AM FM with cassette deck, Cigar lighter, Ashtray, Cab cooler, Cab heater

- Stow the hooks in place before traveling.
- Before you use this 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.

■RATED LIFTING CAPACITY

Based on ISO 4305

10.5 m — 33.0 m Boom

(Unit : Metric ton)

Outriggers fully extended with front jack - 360° full range Outriggers fully extended without front jack - over side and over rear							
Working radius(m)	10.5 m Boom	14.2 m Boom	18 m Boom	21.7 m Boom	25.5 m Boom	29.2 m Boom	33 m Boom
2.5	30.00	20.00	16.00				
3.0	30.00	20.00	16.00				
3.5	25.40	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	13.70	12.00	11.50	9.00	7.00
7.0	13.70	12.65	11.95	11.00	10.00	9.00	7.00
8.0	11.15	10.65	10.55	10.20	8.90	8.20	7.00
8.5	10.25	9.70	9.65	9.65	8.45	7.80	6.60
9.0		8.80	8.80	9.20	8.05	7.45	6.25
10.0		7.30	7.15	7.65	7.30	6.75	5.70
12.0		5.10	4.95	5.40	5.65	5.65	4.80
12.5		4.70	4.55	5.05	5.25	5.45	4.55
13.0			4.20	4.65	4.90	5.05	4.45
14.0			3.55	4.00	4.25	4.40	4.10
16.0			2.55	2.95	3.20	3.40	3.50
18.0				2.20	2.45	2.65	2.80
20.0				1.65	1.85	2.05	2.20
22.0					1.40	1.60	1.70
24.0						1.20	1.35
26.0						0.90	1.00
27.5						0.70	0.85
29.0							0.65
31.0							0.45
Standard hook	for 30 ton						
Hook mass	300 kg						
Parts of line	10	8		4			
Critical boom angle	—	—	—	—	—	—	—

(Unit : Metric ton)

Outriggers intermediately extended without front jack - 360° full range Outriggers fully extended without front jack - over front							
Working radius(m)	10.5 m Boom	14.2 m Boom	18 m Boom	21.7 m Boom	25.5 m Boom	29.2 m Boom	33 m 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	17.35	16.20	16.00	12.00	11.50		
5.0	14.00	13.60	13.45	12.00	11.50	9.00	
5.5	11.60	11.40	11.20	12.00	11.50	9.00	
6.0	10.00	9.80	9.60	10.20	10.10	9.00	7.00
6.5	8.50	8.50	8.15	8.95	9.10	9.00	7.00
7.0	7.55	7.25	7.15	7.80	8.10	8.30	7.00
7.5	6.50	6.40	6.20	6.85	7.25	7.35	7.00
8.5	5.00	4.95	4.85	5.40	5.75	5.85	5.80
9.0		4.35	4.30	4.80	5.10	5.25	5.30
10.0		3.45	3.35	3.85	4.10	4.30	4.40
12.0		2.10	1.95	2.45	2.70	2.90	3.05
12.5		1.70	1.70	2.15	2.40	2.65	2.80
13.0			1.40	1.90	2.15	2.40	2.55
14.0			0.95	1.40	1.70	1.95	2.10
15.0			0.55	1.05	1.30	1.55	1.75
16.0				0.70	1.00	1.20	1.40
17.0				0.40	0.70	0.95	1.10
18.0					0.45	0.70	0.85
19.0						0.45	0.60
20.0							0.40
Standard hook	for 30 ton						
Hook mass	300 kg						
Parts of line	10	8		4			
Critical boom angle	—	—	—	*25°*	*35°*	*42°*	*47°*

33 m Boom+8.7 m Jib

33 m Boom+14.5 m Jib

(Unit : Metric ton)

Outriggers fully extended with front jack - 360° full range
Outriggers fully extended without front jack - over side and over rear

33 m Boom + 8.7 m Jib							33 m Boom + 14.5 m Jib						
Boom angle (°)	Offset 5°		Offset 17°		Offset 30°		Boom angle (°)	Offset 5°		Offset 17°		Offset 30°	
	Working radius (m)	Load (t)	Working radius (m)	Load (t)	Working radius (m)	Load (t)		Working radius (m)	Load (t)	Working radius (m)	Load (t)	Working radius (m)	Load (t)
80.0	8.0	3.00	9.6	2.20	11.3	1.60	*80.0*	9.9	2.00	12.5	1.30	15.1	0.90
76.0	11.0	3.00	12.5	2.20	14.0	1.60	*77.7*	12.0	2.00	14.5	1.30	16.9	0.90
74.0	12.5	2.72	14.0	2.05	15.3	1.54	*76.3*	13.2	1.85	15.7	1.24	18.0	0.90
70.0	15.3	2.26	16.6	1.78	18.0	1.45	*72.0*	16.4	1.50	19.0	1.06	21.2	0.81
66.0	18.0	1.92	19.2	1.57	20.4	1.30	*68.0*	19.5	1.25	22.0	0.91	24.0	0.74
62.0	20.5	1.68	21.8	1.38	22.8	1.17	*64.0*	22.6	1.06	24.8	0.79	26.6	0.67
58.0	23.0	1.48	24.1	1.24	25.0	1.06	*60.0*	25.4	0.90	27.4	0.70	29.1	0.60
56.0	24.0	1.28	25.2	1.18	26.0	1.02	*56.0*	28.0	0.77	29.9	0.64	31.5	0.55
54.0	25.1	1.08	26.3	1.00	27.1	0.98	*52.0*	30.7	0.66	32.4	0.57	33.7	0.52
50.0	27.2	0.74	28.2	0.70	29.0	0.67	*51.0*	31.2	0.61	33.0	0.55	34.2	0.51
46.0	29.2	0.47	30.1	0.44	30.7	0.43	*50.4*	31.6	0.57	33.3	0.52	34.5	0.50
43.0	30.6	0.30	31.5	0.30	32.0	0.30	*48.0*	32.9	0.45	34.5	0.40	35.6	0.38
							46.0	33.9	0.35	35.2	0.33	36.5	0.30
Standard hook	for 3 ton						Standard hook	for 3 ton					
Hook mass	60 kg						Hook mass	60 kg					
Parts of line	1						Parts of line	1					
Critical boom angle	*40°*						Critical boom angle	*42°*					

33 m Boom+8.7 m Jib

33 m Boom+14.5 m Jib

(Unit : Metric ton)

Outriggers intermediately extended without front jack - 360° full range
Outriggers fully extended without front jack - over front

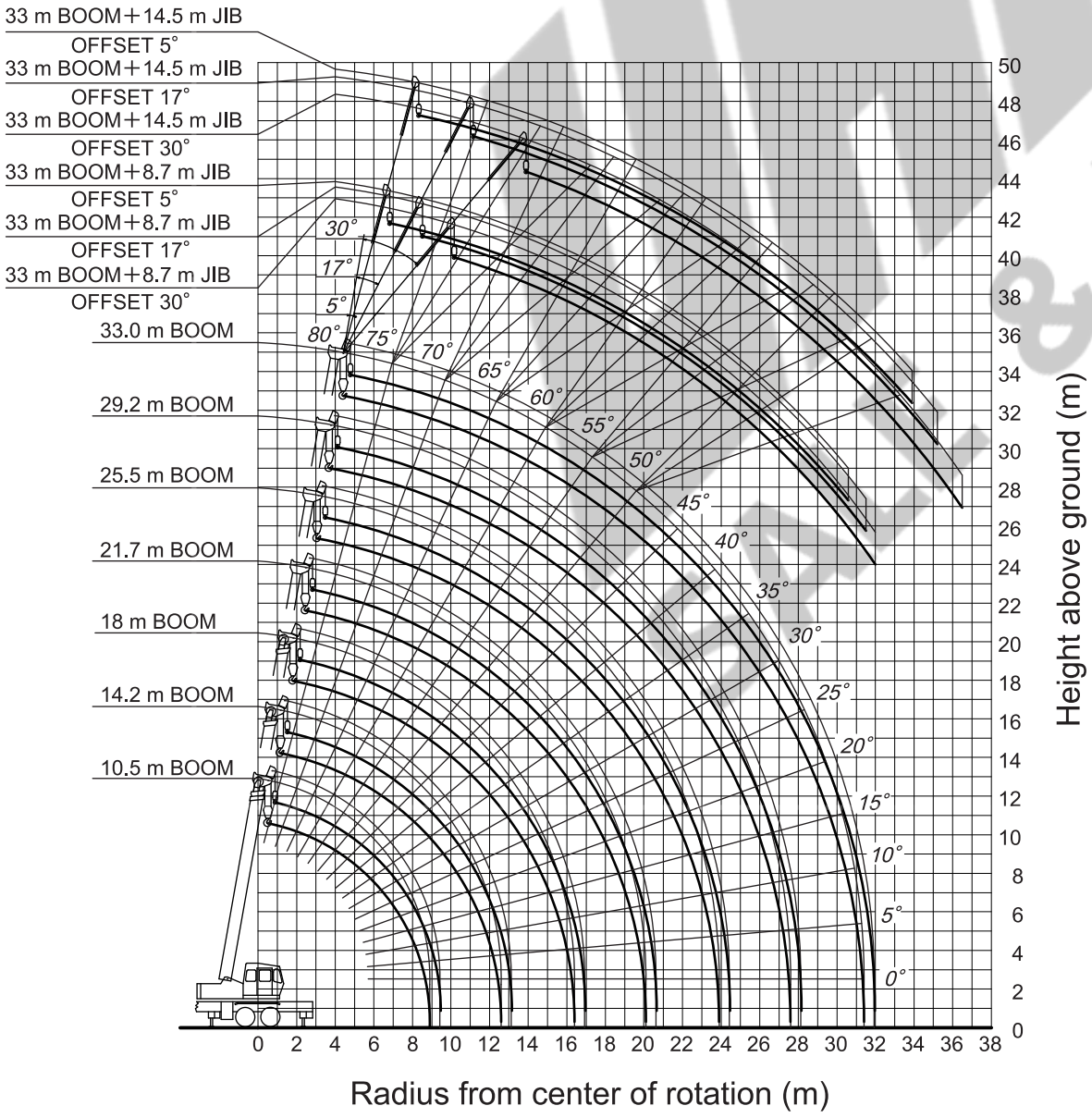
33 m Boom + 8.7 m Jib							33 m Boom + 14.5 m Jib						
Boom angle (°)	Offset 5°		Offset 17°		Offset 30°		Boom angle (°)	Offset 5°		Offset 17°		Offset 30°	
	Working radius (m)	Load (t)	Working radius (m)	Load (t)	Working radius (m)	Load (t)		Working radius (m)	Load (t)	Working radius (m)	Load (t)	Working radius (m)	Load (t)
80.0	8.0	3.00	9.6	2.20	11.3	1.60	*80.0*	9.9	2.00	12.5	1.30	15.1	0.90
76.0	11.0	3.00	12.5	2.20	14.0	1.60	*77.7*	12.0	2.00	14.5	1.30	16.9	0.90
72.5	13.5	2.56	15.0	1.94	16.2	1.50	*76.3*	13.2	1.85	15.7	1.24	18.0	0.90
71.0	14.5	2.14	16.0	1.84	17.3	1.47	*73.0*	15.6	1.57	18.2	1.10	20.4	0.84
70.0	15.1	1.90	16.6	1.65	18.0	1.45	*69.0*	18.7	1.31	21.2	0.95	23.3	0.76
68.0	16.3	1.48	17.8	1.28	19.0	1.18	*68.4*	19.1	1.18	21.7	0.92	23.8	0.75
65.0	18.1	0.97	19.5	0.86	20.7	0.78	*67.8*	19.5	1.08	22.0	0.88	24.2	0.73
60.0	21.0	0.37	22.4	0.30	23.3	0.30	*64.0*	22.0	0.60	24.4	0.49	26.4	0.43
							62.0	23.4	0.39	25.6	0.33	27.5	0.30
Standard hook	for 3 ton						Standard hook	for 3 ton					
Hook mass	60 kg						Hook mass	60 kg					
Parts of line	1						Parts of line	1					
Critical boom angle	*58°*						Critical boom angle	*60°*					

■Notes for the rated lifting capacity chart

Precautions

1. The rated lifting capacities are the maximum load guaranteed on a firm level ground and include the mass of hook block and other lifting equipment. The capacities enclosed with bold lines are based on the structural strength of machine and the others are based on the stability of machine.
2. The working radii as given in the table 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 (33 m).
   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 3000 kg.
   At all times the mass 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 and below the 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, 1800 kg plus the mass 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. The standard number of parts of line is shown in the rated lifting capacity table.
   If you work with a non-standard number of parts of line, take 29.4 kN (3 tf) as the maximum load on any part of the wire rope.
7. 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.
8. 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.
9. Free fall is adopted in principle to lower the hook only.
   If it is necessary to lower a load by free fall, its mass should be less than 20 % of the rated lifting capacity and abrupt braking should not be allowed.
10. The machine will tip 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.

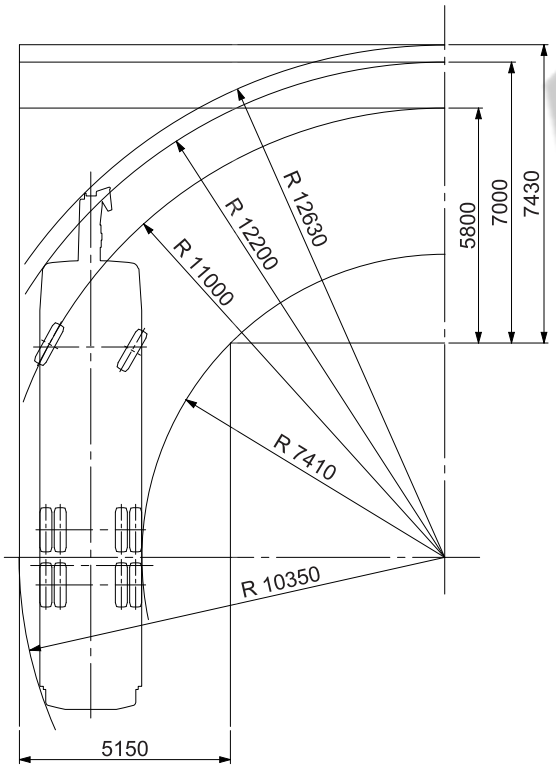
■WORKING RANGE



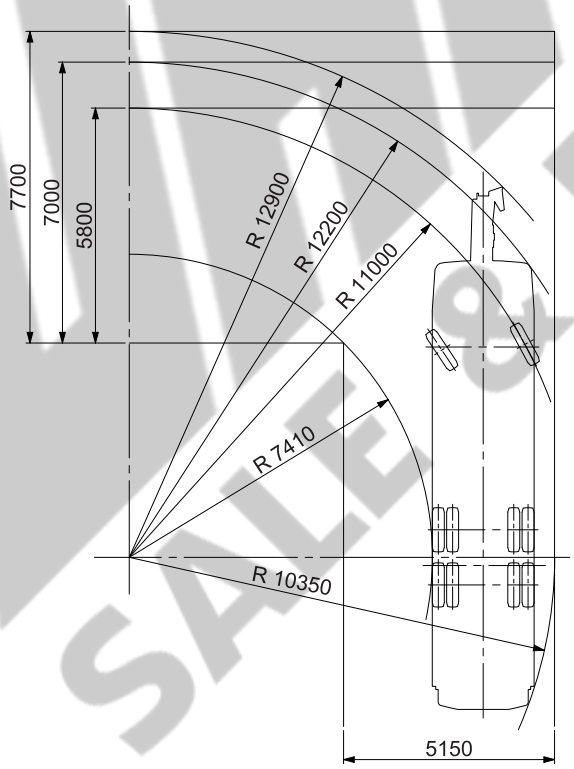
Note: Deflection of boom and jib excluded

■Minimum path width

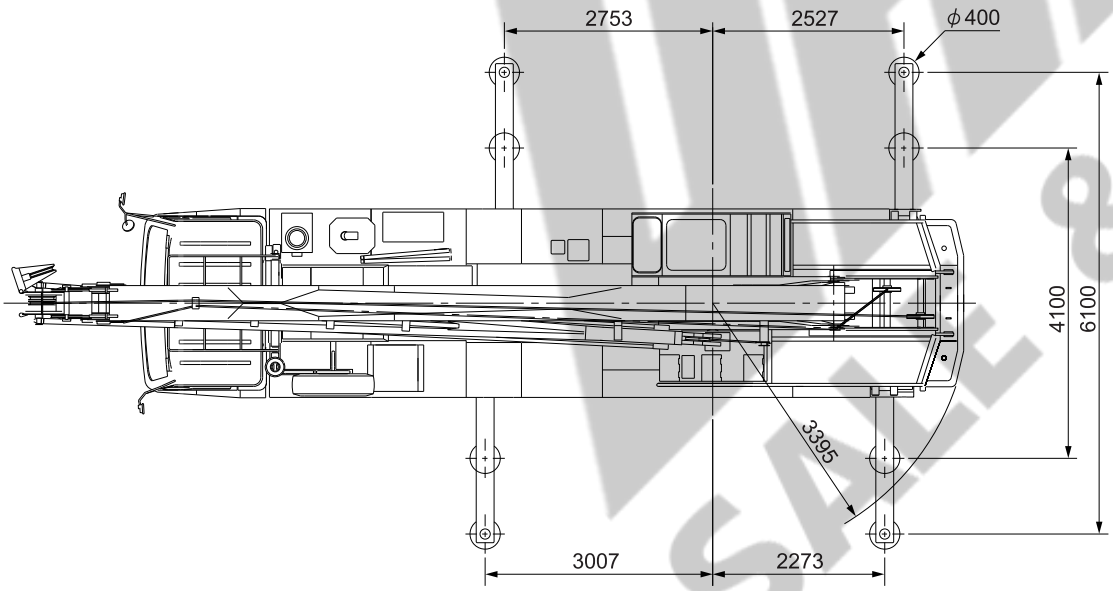
●Right turn



●Left turn

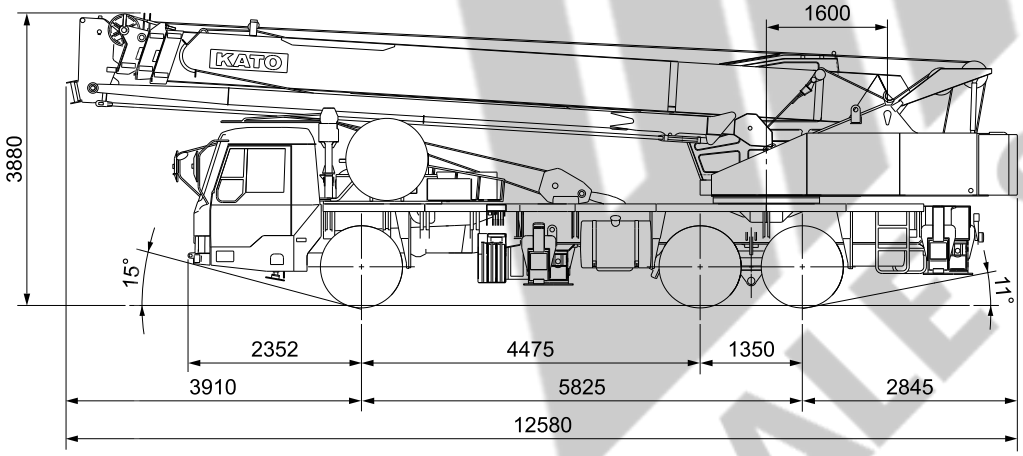


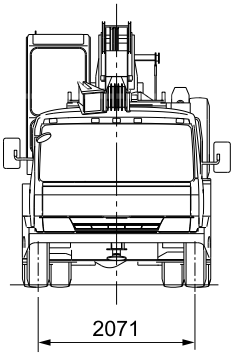
■Overall view

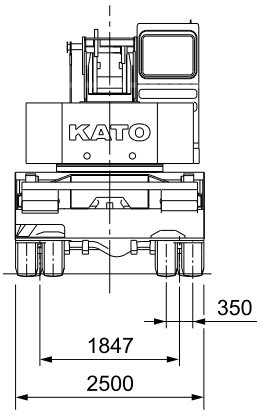


Reduced scale: 1/100 Unit (mm)

■Overall view







Reduced scale: 1/100 Unit (mm)

* KATO products and specifications are subject to improvements and changes without notice.

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