

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 hydraulic 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
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● 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
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.

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)

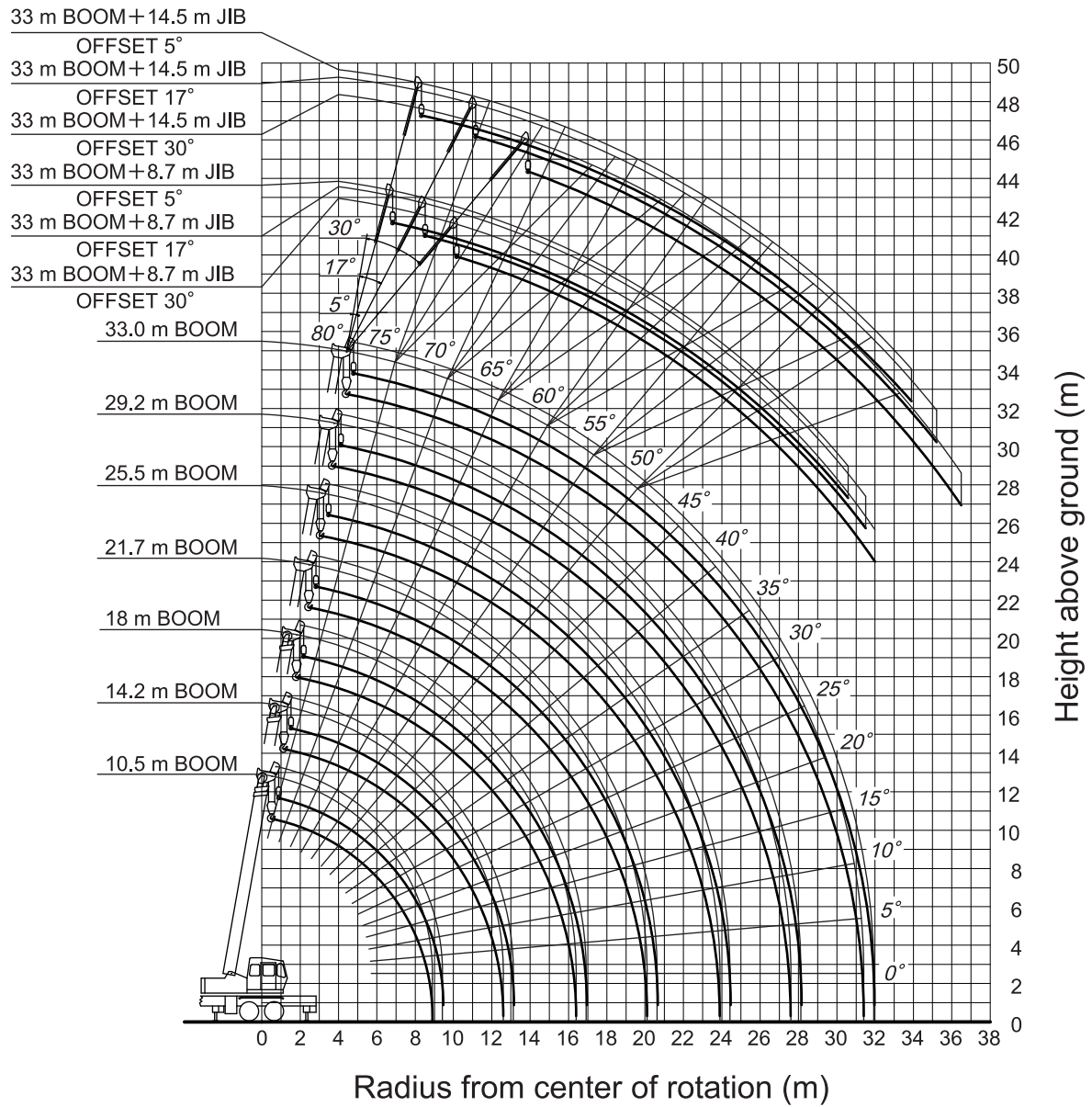
Outriggers intermediately extended without front jack - 360° full range Outriggers fully extended without front jack - over front													
33 m Boom + 8.7 m Jib							33 m Boom + 14.5 m Jib						
Boom angle (°)	Offset 5°		Offset 17°		Offset 30°		Boom angle (°)	Offset 5°		Offset 17°		Offset 30°	
	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.

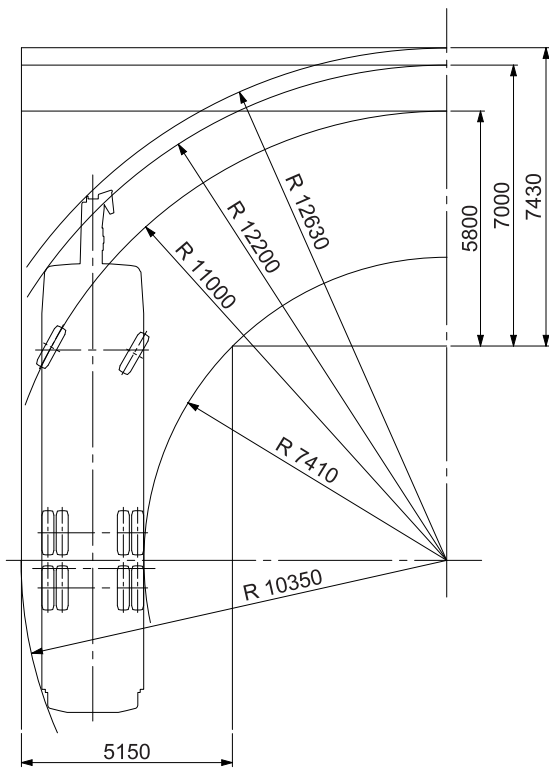
WORKING RANGE



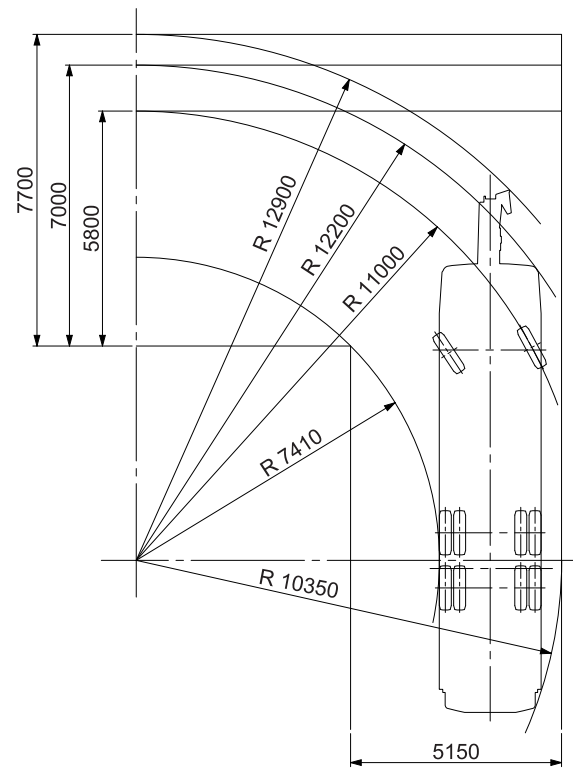
Note: Deflection of boom and jib excluded

Minimum path width

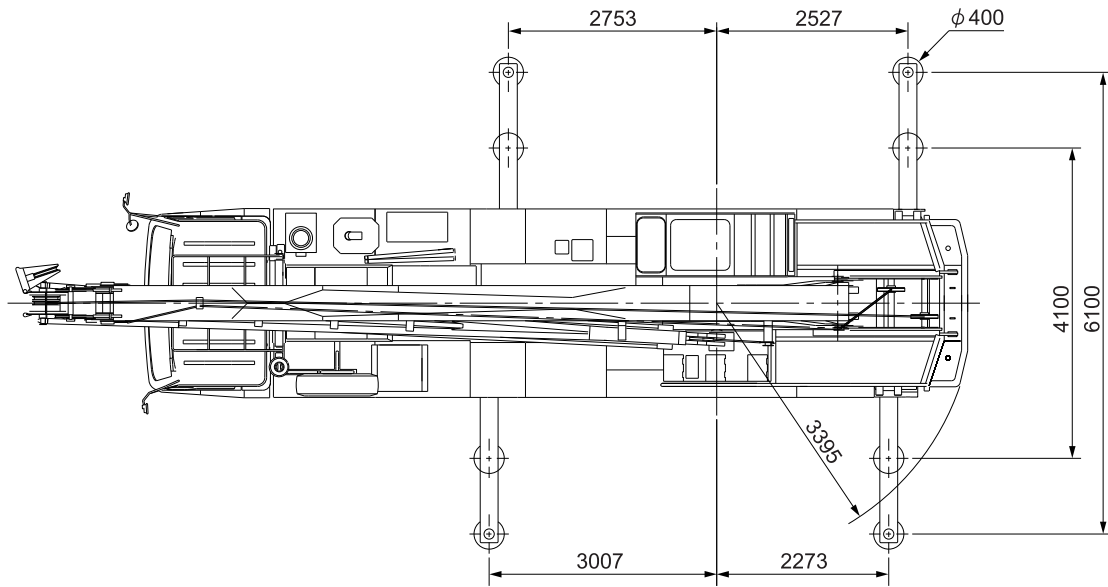
● Right turn



● Left turn

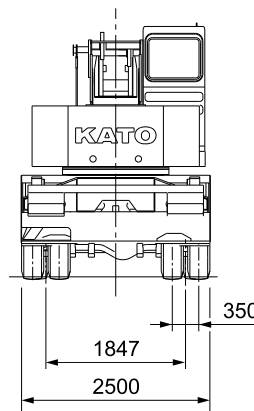
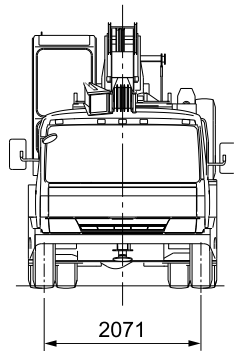
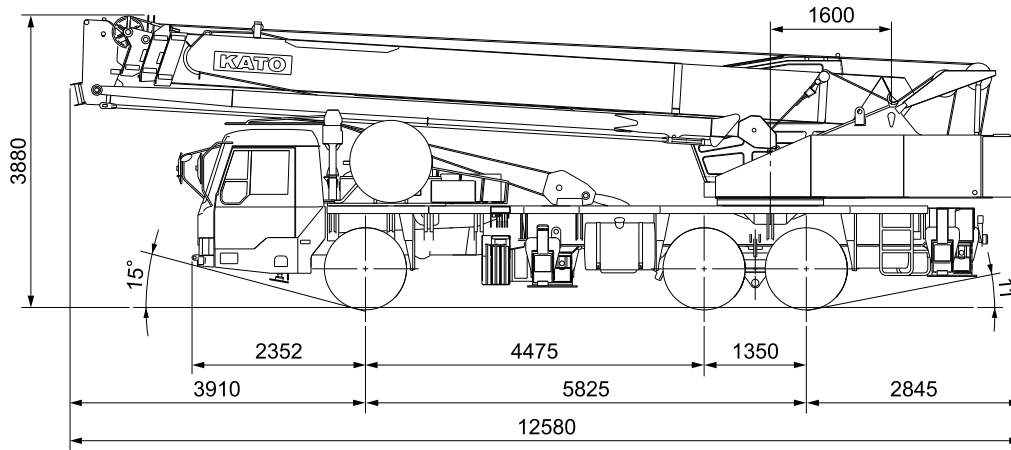


Overall view



Reduced scale: 1/100 Unit (mm)

Overall view



Reduced scale: 1/100 Unit (mm)

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We acquired the "ISO 9001" certification which is an international standard for quality assurance.