

# NK-600RX

## FULLY HYDRAULIC TRUCK CRANE

### 【SPECIFICATION】

#### ■ CRANE

Description	Truck crane with maximum lifting capacity 60 ton
Model	NK-600RX

#### ● Specification

Maximum rated lifting capacity	11.0 m Boom	60,000kg × 2.7 m (Parts of line : 14)
	11.0 m Boom	40,000kg × 4.0 m (Parts of line : 10)
	15.0 m Boom	28,000kg × 5.0 m (Parts of line : 8)
	19.0 m Boom	28,000kg × 5.0 m (Parts of line : 8)
	23.0 m Boom	24,000kg × 6.0 m (Parts of line : 6)
	27.0 m Boom	20,000kg × 7.0 m (Parts of line : 5)
	35.0 m Boom	14,000kg × 8.5 m (Parts of line : 4)
	43.0 m Boom	8,000kg × 11.0 m (Parts of line : 4)
	9.2 m Jib	3,500kg × 78° (Parts of line : 1)
	15.0 m Jib	2,500kg × 80° (Parts of line : 1)
	Rooster	4,500kg (Parts of line : 1)
Boom length	11.0m — 43.0m (5-section)	
Fly jib length	9.2m, 15.0m (2-section)	
Maximum lifting height	43.0m (Boom) 58.0m (Jib)	
Hoisting line speed	Main winch	114 m/min. (at 3rd layer)
	Auxiliary winch	105 m/min. (at 2nd layer)
Hoisting hook speed	Main winch	(Parts of line; 14) : 8.1 m/min. (at 3rd layer)
	Auxiliary winch	(Parts of line; 1) : 105 m/min. (at 2nd layer)
Boom derricking angle	-2.5° — 81°	
Boom derricking time	70s (-2.5° — 81°)	
Boom extending time	170s (11.0m — 43.0m)	
Slewing speed	2.1min <sup>-1</sup>	
Tail slewing radius	3,480mm	

#### ● Equipment and structure

Boom type	Round-shaped, 5-section hydraulic telescopic type (the 2nd and 3rd, 4th and 5th boom sections simultaneously operated)	
Jib type	2 sections (2nd section of draw-out type) (offset angles 5°, 25° and 45°)	
Boom extension/retraction equipment	Three 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 planetary gear reduction. Controlled independently by operating lever. equipped with automatic brake.	
Slewing equipment	Ball bearing type	
Wire rope for hoisting	Main winch	Diameter: 18mm × Length: 235m
	Auxiliary winch	Diameter: 18mm × Length: 125m

#### ● Hydraulic equipment

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	695L	

#### ● Safety devices

	ACS (Automatic Crane System with voice alarm), Boom derricking / telescoping holding valve, Overhoist prevention device, Drum lock device, Winch drum turning indicator device, Automatic winch brake, Winch holding valve, Winch drum roller, Hydraulic safety valves, Outrigger lock pins, Joystick control safety stop system, Slewing lock	
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#### ● Standard equipment

	Front jack, Fly jib, Rooster sheave, Independent two winches control system, Irregular winding prevention device, Winch automatic brake, Hooks (40 ton, 20 ton, 4.5 ton), Hydraulic oil cooler, Full size fender, Large size steps, 3 working lights, Moment limiter with voice alarm, Winch drum turning indicator, Sun visor, Cigar lighter, Ashtray, Cab floor mat, Tool kit, Winch over-unwinding device, AM/FM Radio, Fire extinguisher, Cab level gauge	
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#### ● Optional equipment

	Winch drum mirror (hoist mirror), Yellow rev. light, Cab heater, Cab cooler, Fan, Roof visor, Sub hook sheave for 60t, Outrigger sheet, K-COR (Kato Crane Operation Recorder)	
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#### ■ CARRIER

Maker	KATO
Model	KT4060L, KT4060R

#### ● Specification

Maximum traveling speed	75km/h
Grade ability (tan θ)	35% (computed at G.V.W.= 41,200kg)
Minimum turning radius	11.7m

#### ● General dimensions & G.V.W.

Overall length	approx. 13,370mm	
Overall width	approx. 2,800mm	
Overall height	approx. 3,750mm	
Wheel base	1,450mm + 3,900mm + 1,350mm = 6,700mm	
Treads	Front	2,300mm
	Rear	2,080mm
Outriggers	Type	Hydraulic H-beam type (with float and vertical cylinder in single unit)
	Extension width	7,000mm (Fully extended)
		4,800mm (Intermediately extended) 2,500mm (Completely retracted ※blocked on vertical cyls.)
Gross machine weight	Gross weight	approx. 41,200kg
	Front weight	approx. 15,500kg
	Rear weight	approx. 25,700kg

#### ● Engine

Maker	HINO
Model	E13C-YY (Equivalent to EURO III)
Type	4 cycle, 6 cylinders, water cooled, direct injection turbo-charged diesel engine with intercooling
Piston displacement	12.913L
Max. power	302kW / 1,800min <sup>-1</sup>
Max. torque	1863N · m / 1,100min <sup>-1</sup>

\* NOTE : Diesel Fuel recommended by KATO must be used

#### ● Equipment and structure

Drive system	8 × 4	
Clutch	Single dry plate, hydraulic control with air booster	
Transmission	Manual transmission type	
Number of speeds	6 forward & 1 reverse speed	
Axles	Front	Reverse "ELLIOT" type
	Rear	Full floating type
Suspension	Front	Leaf springs with shock absorber
	Rear	Equalizer beams & torque rods
Brake	Service	2 circuit air brake
	Front axles	Disk brake
	Rear axles	Drum brake
	Parking	Spring loaded brake
	Auxiliary	Engine retarder brake
Steering	Type	Ball nut type with power booster
Tire size	Front	315 / 80R22.5 156 / 150K
	Rear (dual tire)	315 / 80R22.5 156 / 150K
	Front	315 / 80R22.5 156 / 153J
	Rear (dual tire)	315 / 80R22.5 156 / 153J
Fuel tank capacity	370 L	
Seating capacity	2 persons	
Battery	12V — 145G51 × 2	

#### ● Standard equipment

	Towing hook (front and rear, eye type), Spare tire & wheel, Air dryer, AM/FM Radio, Cigar lighter, Ashtray, Air conditioner	
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- 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.

7710010000 (Left-hand drive)  
7710010100 (Right-hand drive)

**11.0m — 43.0m 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)	11.0m Boom	11.0m Boom	15.0m Boom	19.0m Boom	23.0m Boom	27.0m Boom	35.0m Boom	43.0m Boom
2.7	60.00							
3.0	55.20	40.00	28.00	28.00	24.00			
3.5	46.70	40.00	28.00	28.00	24.00			
4.0	40.50	40.00	28.00	28.00	24.00	20.00		
4.5	35.50	35.50	28.00	28.00	24.00	20.00		
5.0	31.50	31.50	28.00	28.00	24.00	20.00	14.00	
5.5	28.30	28.30	27.60	27.50	24.00	20.00	14.00	
6.0	25.60	25.60	25.30	25.00	24.00	20.00	14.00	
6.5	23.30	23.30	23.00	22.90	22.50	20.00	14.00	8.00
7.0	21.40	21.40	21.00	20.80	20.60	20.00	14.00	8.00
7.5	19.70	19.70	19.30	19.30	19.00	18.60	14.00	8.00
8.0	17.90	17.90	17.75	17.60	17.50	17.50	14.00	8.00
8.5	16.50	16.50	16.40	16.30	16.20	16.20	14.00	8.00
9.0	15.10	15.10	15.10	14.90	14.80	14.70	13.90	8.00
10.0			12.40	12.30	12.20	12.05	12.90	8.00
11.0			10.35	10.15	10.05	9.90	10.85	8.00
12.0			8.70	8.50	8.40	8.30	9.15	7.85
13.0			7.40	7.20	7.10	7.00	7.85	7.40
14.0				6.15	6.05	5.95	6.75	6.85
16.0				4.50	4.40	4.25	5.15	5.55
18.0					3.15	3.05	3.90	4.35
20.0					2.25	2.15	2.95	3.35
22.0						1.40	2.20	2.65
24.0						0.85	1.60	2.05
26.0							1.10	1.55
28.0							0.70	1.10
30.0								0.80
31.0								0.60
Critical boom angle	—						33°	40°
Standard hook	For 60ton	For 40ton				For 20ton		
Hook mass	615kg	475kg				320kg		
Parts of line	14	10	8	8	6	5	4	4

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(Unit: Metric ton)

Outriggers intermediately extended without front jack - 360° full range							
Outriggers fully extended without front jack - over front							
Working radius (m)	11.0m Boom	15.0m Boom	19.0m Boom	23.0m Boom	27.0m Boom	35.0m Boom	43.0m Boom
3.0	32.00	28.00	28.00	24.00			
3.5	32.00	28.00	28.00	24.00			
4.0	32.00	28.00	28.00	24.00	20.00		
4.5	30.70	28.00	28.00	24.00	20.00		
5.0	23.10	22.75	21.50	21.40	20.00	14.00	
5.5	18.25	17.95	17.45	16.80	16.70	14.00	
6.0	14.90	14.65	14.50	13.60	13.50	14.00	
6.5	12.45	12.20	12.00	11.50	11.20	12.30	8.00
7.0	10.50	10.35	10.20	9.95	9.45	10.45	8.00
7.5	9.10	8.90	8.75	8.50	8.20	9.00	8.00
8.0	7.90	7.70	7.55	7.35	7.20	7.85	8.00
9.0	6.05	5.90	5.75	5.55	5.55	6.05	6.50
10.0		4.55	4.45	4.20	4.20	4.80	5.20
11.0		3.50	3.35	3.15	3.15	3.90	4.20
12.0		2.65	2.55	2.35	2.35	3.10	3.45
13.0		2.00	1.85	1.65	1.65	2.45	2.85
14.0						1.90	2.30
15.0							1.85
Critical boom angle	—	—	35°	48°	58°	64°	68°
Standard hook	For 40ton				For 20ton		
Hook mass	475kg				320kg		
Parts of line	8	8	8	6	5	4	4

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## 43m Boom + 9.2m Jib

## 43m Boom + 15m Jib

(Unit: Metric ton)

Outriggers fully extended with front jack - 360° full range Outriggers fully extended without front jack - over side and over rear													
43m Boom + 9.2m Jib							43m Boom + 15m Jib						
Boom angle (°)	Offset 5°		Offset 25°		Offset 45°		Boom angle (°)	Offset 5°		Offset 25°		Offset 45°	
	Working radius (m)	Load (ton)	Working radius (m)	Load (ton)	Working radius (m)	Load (ton)		Working radius (m)	Load (ton)	Working radius (m)	Load (ton)	Working radius (m)	Load (ton)
81	10.3	3.50	13.3	2.50	15.0	1.35	81	12.0	2.50	16.5	1.30	19.8	0.75
80	11.3	3.50	14.2	2.50	15.8	1.35	80	13.1	2.50	17.5	1.30	20.6	0.75
79	12.3	3.50	15.1	2.45	16.7	1.35	79	14.3	2.45	18.5	1.25	21.4	0.70
78	13.3	3.50	16.0	2.40	17.6	1.30	78	15.3	2.40	19.5	1.25	22.3	0.70
77	14.3	3.40	16.9	2.30	18.4	1.30	77	16.4	2.30	20.4	1.20	23.3	0.70
75	16.1	3.10	18.7	2.20	20.1	1.25	75	18.5	2.15	22.4	1.15	25.1	0.65
72	18.8	2.65	21.2	2.00	22.6	1.20	74	19.5	2.10	23.3	1.15	26.0	0.65
70	20.5	2.45	22.9	1.85	24.1	1.15	72	21.5	1.90	25.2	1.10	27.7	0.65
68	22.3	2.25	24.5	1.75	25.7	1.15	70	23.4	1.70	27.0	1.05	29.4	0.65
66	24.0	2.05	26.1	1.65	27.2	1.10	68	25.3	1.55	28.8	1.00	31.0	0.60
64	25.4	1.70	27.7	1.45	28.7	1.10	66	27.1	1.45	30.6	0.95	32.6	0.60
62	26.8	1.40	29.1	1.20	30.2	1.05	64	28.9	1.30	32.3	0.90	34.1	0.60
60	28.3	1.10	30.4	1.00	31.4	0.90	62	30.5	1.10	34.0	0.90	35.5	0.60
58	29.7	0.85	31.7	0.75	32.6	0.75	60	32.1	0.85	35.4	0.75	37.0	0.55
56	31.1	0.75	33.0	0.55	33.8	0.55	58	33.6	0.65	36.9	0.55	38.4	0.55
Critical boom angle	55°						Critical boom angle	57°					
Standard hook	For 4.5 ton						Standard hook	For 4.5 ton					
Hook mass	120kg						Hook mass	120kg					
Parts of line	1						Parts of line	1					

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## 43m Boom + 9.2m Jib

## 43m Boom + 15m Jib

(Unit: Metric ton)

Outriggers intermediately extended without front jack - 360° full range Outriggers fully extended without front jack - over front													
43m Boom + 9.2m Jib							43m Boom + 15m Jib						
Boom angle (°)	Offset 5°		Offset 25°		Offset 45°		Boom angle (°)	Offset 5°		Offset 25°		Offset 45°	
	Working radius (m)	Load (ton)	Working radius (m)	Load (ton)	Working radius (m)	Load (ton)		Working radius (m)	Load (ton)	Working radius (m)	Load (ton)	Working radius (m)	Load (ton)
81	10.3	3.50	13.3	2.50	15.0	1.35	81	12.0	2.50	16.5	1.30	19.8	0.75
80	11.3	3.50	14.2	2.50	15.8	1.35	80	13.1	2.50	17.5	1.30	20.6	0.75
79	12.3	3.50	15.1	2.40	16.7	1.35	79	14.3	2.40	18.5	1.25	21.4	0.70
78	13.0	2.75	15.9	2.15	17.6	1.30	78	15.2	2.20	19.5	1.25	22.2	0.70
77	13.9	2.40	16.7	1.90	18.4	1.30	77	16.1	1.90	20.4	1.20	22.3	0.70
76	14.7	2.00	17.4	1.60	19.3	1.25							
Critical boom angle	75°						Critical boom angle	76°					
Standard hook	For 4.5 ton						Standard hook	For 4.5 ton					
Hook mass	120kg						Hook mass	120kg					
Parts of line	1						Parts of line	1					

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(Unit: Metric ton)

Outriggers completely retracted (blocked on vertical cylinders) - 360° full range	
Working radius (m)	11.0m Boom
3.0	8.00
3.5	6.40
4.0	5.10
4.5	4.20
5.0	3.40
5.5	2.80
6.0	2.30
6.5	1.90
7.0	1.60
7.5	1.25
8.0	1.00
Standard hook	For 40 ton
Hook mass	475kg
Parts of line	10

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4th and 5th boom section telescoping mode (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)	19.0m Boom	27.0m Boom
3.0	14.00	
3.5	14.00	
4.0	14.00	8.00
4.5	14.00	8.00
5.0	14.00	8.00
6.0	13.60	8.00
7.0	12.00	8.00
8.0	10.70	7.30
9.0	9.65	6.50
10.0	8.80	5.85
11.0	8.05	5.30
12.0	7.45	4.85
13.0	6.90	4.45
14.0	6.45	4.10
15.0	6.05	3.80
16.0	5.70	3.50
18.0		3.05
20.0		2.70
22.0		2.40
24.0		2.15
Critical boom angle	—	
Standard hook	For 20ton	
Hook mass	320kg	
Parts of line	4	

4th and 5th boom section telescoping mode (Unit: Metric ton)

Outriggers intermediately extended without front jack - 360° full range Outriggers fully extended without front jack - over front		
Working radius (m)	19.0m Boom	27.0m Boom
3.0	14.00	
3.5	14.00	
4.0	14.00	8.00
4.5	14.00	8.00
5.0	14.00	8.00
6.0	13.60	8.00
7.0	11.20	8.00
8.0	9.05	7.30
9.0	7.45	6.50
10.0	6.20	5.85
11.0	5.20	5.30
12.0	4.35	4.60
13.0	3.70	4.00
14.0	3.10	3.45
15.0	2.60	3.00
16.0	2.20	2.65
18.0		2.00
20.0		1.50
22.0		1.05
24.0		0.75
Critical boom angle	—	
Standard hook	For 20ton	
Hook mass	320kg	
Parts of line	4	

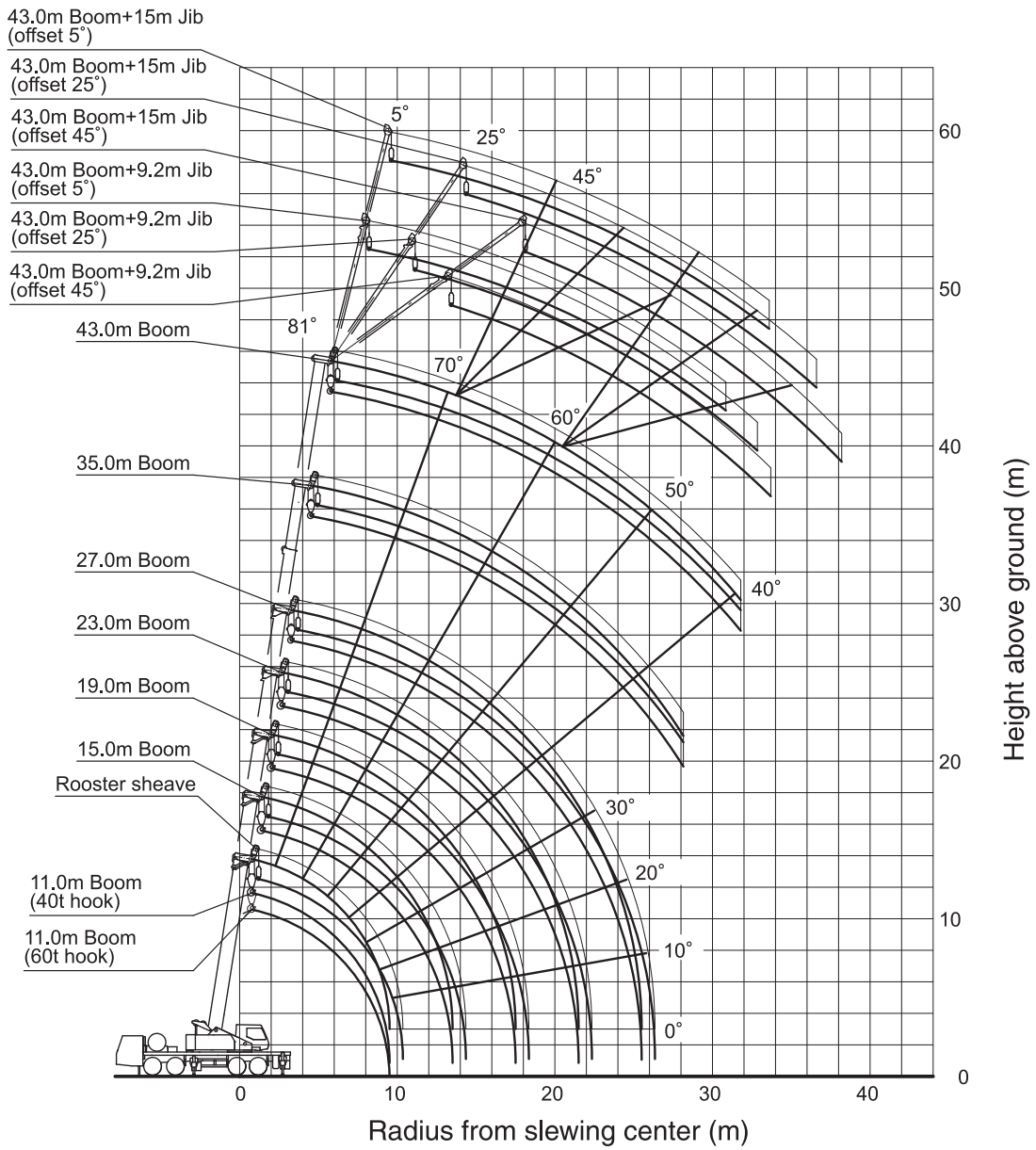
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## ■ Notes for the lifting capacity chart

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1. The rated lifting capacities indicate the maximum load which can be lifted by this crane provided it is standing on firm, level ground. They include the mass of the hook and all other slings etc. The capacities enclosed with bold lines are based on the structural strength of the crane.
2. The working radii as given in the rated lifting capacity chart are the actual values including the deflection of the boom. Therefore, operate the crane 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 (43m). If the boom is at any other length, jib operations should be performed on the basis of the boom angle only.
3. The rated lifting capacities for the rooster sheave are equivalent to the rated lifting capacities for the boom to a maximum of 4500kg.  
At all times the mass of all slings etc. in use (including the slings etc. attached to the boom) must be subtracted from the rated lifting capacity.
4. If the boom length exceeds the rated value, the rated lifting capacities for the rated boom length or for the one stage longer boom length should be referred to, and the crane should be operated within the smaller lifting capacity.
5. If you are working with the boom while the jib is mounted, 4000kg plus the mass of the slings etc. should be subtracted from the rated lifting capacity. When performing the above operation, do not use the rooster sheave.
6. Critical boom angles for each boom length are shown on bottommost line of the rated lifting capacity chart. If the boom angle is lowered to less than the critical boom angle, the crane will tip over even if unloaded. Therefore, never lower the boom below these angles.
7. The standard number of parts of line for each boom length are indicated in the rated lifting capacity chart. If you work with a non-number of parts of line, take 42.1kN (4.3tf) as the maximum load on any part of the wire rope.
8. Frontward hoisting capacity with the outriggers fully extended is lower than sideward or rearward hoisting capacity. Great care should be taken when transferring from over side to over front since there is a danger of overloading.
9. 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.
10. If you work with a load in excess of the rated lifting capacity or use incorrect working procedures, you are risking damaging the crane or tipping it over. In such cases, the crane will not be guaranteed.
11. When the 4th & 5th boom sections are extended before extending the 2nd & 3rd boom sections completely, the rated lifting capacity for the special purpose shall be applied to prevent from damages on boom and extension system.

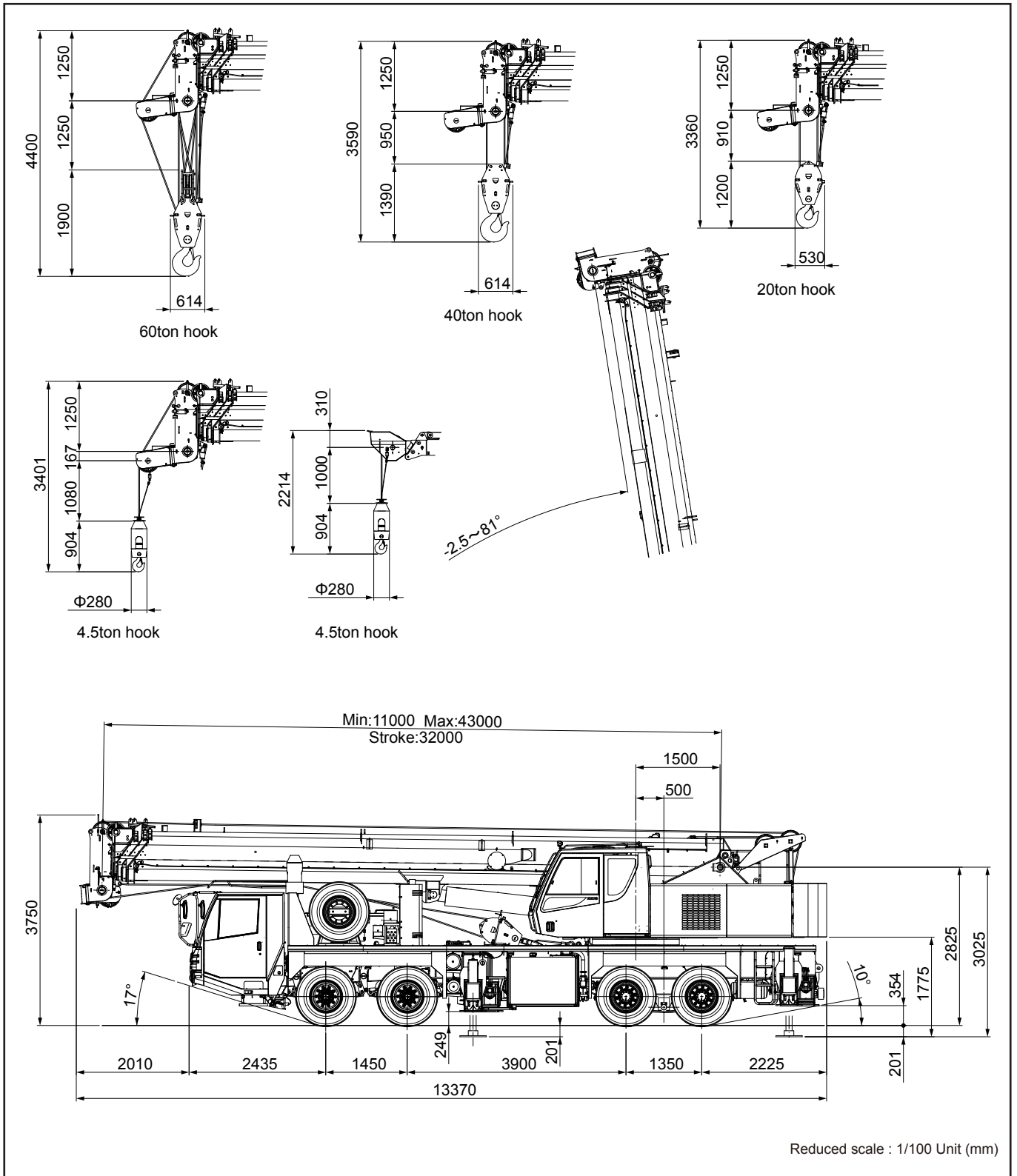
# WORKING RANGE



Notes:  
 1. Deflection of boom and jib is excluded.



# Overall view



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

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

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