XCT25_Y1 Truck Crane

Technical specifications

25 t

33.5 m

29 m

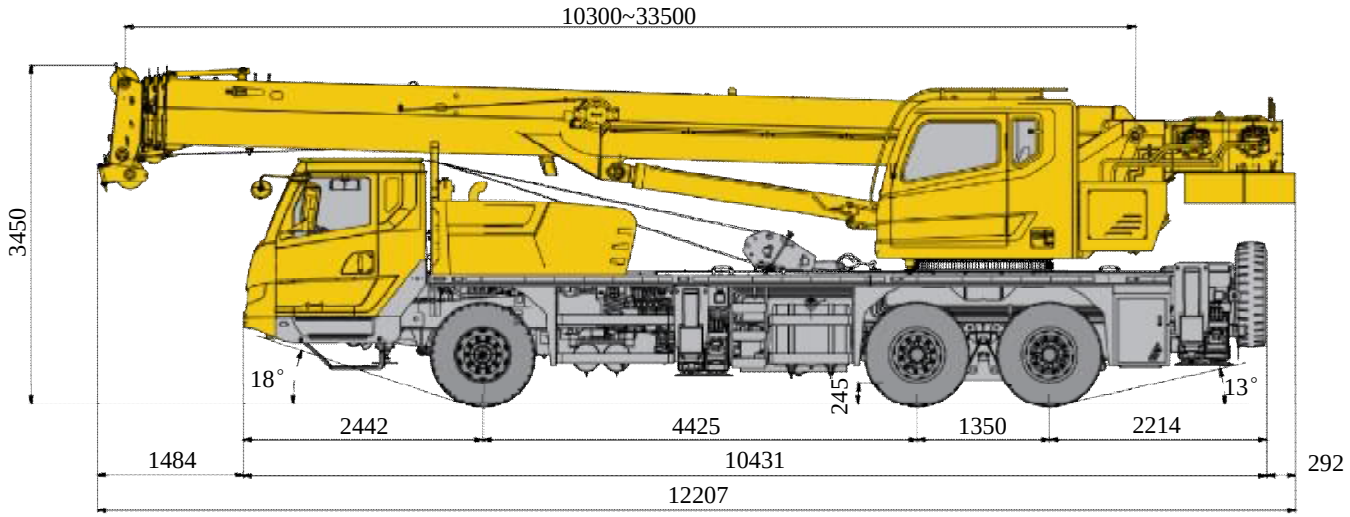
41.6 m

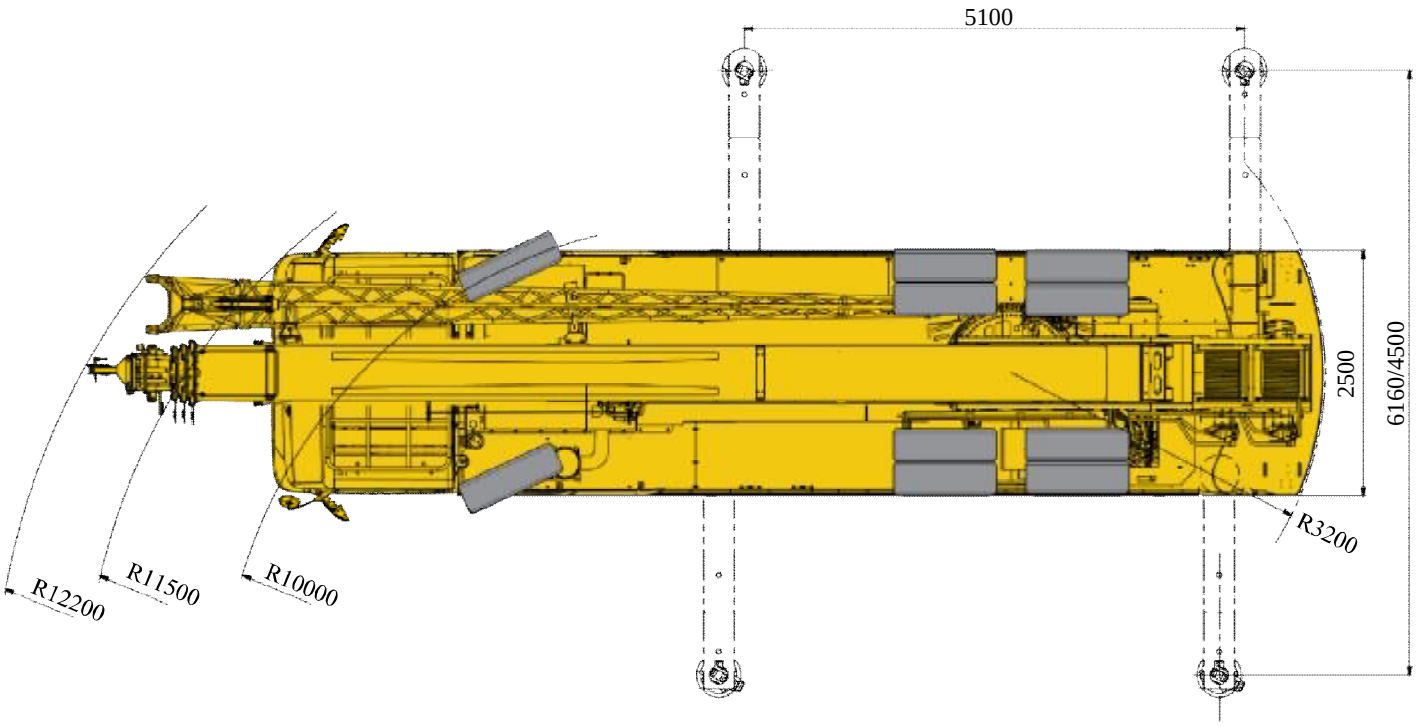
2nd edition, August 2024

XCMG

Contents

Dimensions


10300~33500
3450
18°
245
13°
2442
4425
1350
2214
1484
10431
292
12207


5100
2500
6160/4500
R3200
R12200
R11500
R10000

Technical specifications

	**Chassis**	
Frame	Designed and manufactured by XCMG, the frame is made of high strength steel with fully covered walking surface and anti-torsion box-typed structure.	●
Outrigger	Four outriggers arranged in H-shape are hydraulically controlled by control levers. There is an outrigger control station located at each side of the chassis, and there is a level gauge on each control station. The outrigger movements can be simultaneously or separately controlled at any side of the chassis. There is a check valve fitted in each outrigger cylinder, and a double-way hydraulic valve fitted in each jack cylinder. Fifth jack is equipped. Longitudinal × lateral (fully-extended): 5.1 m×6.16 m Float dimension: φ340 mm Float dimension for the 5th jack: φ260 mm Reaction force of outrigger at max. lifting load: 329kN	●
Engine	SC7H260Q3, in-line 6-cylinder, supercharged, intercooled diesel engine, made by SDEC, with rated power of 192 kW/2200 rpm, max. torque of 1000 Nm/1400 rpm, compliant with China III emission standard. Fuel tank capacity: 240 L.	●
Transmiss-ion	Mechanical transmission , made by Shaanxi Fast Gear Co., Ltd., 8-forward speed and 1-reverse speed.	●
Axles	Three high strength load-bearing axles, designed by using the foreign advanced technology and made by famous manufacturer, have reliable performance. 1st axle: single tire, for steering; 2nd axle: double-tire, for driving; 3rd axle: double-tire, for driving.	●
Suspension	Leaf spring suspensions are adopted for front axle. Rubber spring suspensions with V-type care adopted for rear axles, leading to improved chassis stability.	●
Tires	10 tires and 1 spare tire. Tire specification: 12R22.5	●
Brake	Dual-circuit, air pressure brake, drum brake. Service brake: dual-circuit air pressure brake acting on all wheels. Parking brake: air-release brake, acting on wheels of axles 2-3. Auxiliary brake: engine exhaust brake, which is safe and reliable, and will prolong the service life of brake lining.	●
Steering system	Mechanically steering mechanism with a hydraulic booster.	●
Driver's cab	Right-hand drive, new type, steel full dimension cab with 4-point connecting structure, has swing-out doors at both sides. The driver's seat is manually adjustable in height. A simple sleeper for the co-driver's seat is installed to supply comfort and reduce fatigue. The cab has better thermal insulation effect. Safety glass, electrically operated door window lifters, electrically adjusted mirrors make operation convenient and safe. Steering wheel is adjustable in height and angle.	●
	Beacon light	○
	Backup camera	○
Electrical system	24V DC, two sets of 12V battery in series. Generator output voltage is 28±0.3V, and output current is 70A.	●

Other items of equipment available on request.

Symbol explanation

● —— **Standard configurations;**

○ —— **Optional configurations.**

Technical specifications

	**Superstructure**	
Structure	Designed and manufactured by XCMG, made of high strength steel.	●
Hydraulic system	Hydraulic pump: quadruple pump driven by chassis engine, fixed-displacement pump used for lifting, luffing and telescoping operations. Control valve: load sensing proportional multi-way change valve controlled by pilot hydraulic oil, which is integrated with impact resistance valve and cavitation-proof valve. Oil circuit: there is an air cooled hydraulic oil cooler equipped to effectively reduces the oil temperature. Hydraulic oil tank capacity: 476 L	●
Operating method	Pilot control	●
	Mechanical control	○
Main winch	Hydraulic control speed regulation. The system is driven by a hydraulic motor through a planetary gear reducer, with a normally closed brake, a counterbalance valve and a Lebus-type grooved drum equipped.	●
Slewing system	Four-point contact-ball slewing ring is driven by the planetary gear reducer of slewing mechanism, which is driven by a hydraulic motor, and may continuously slew 360°. Power control and free slewing function as well as stepless speed regulation are available.	●
Luffing system	Single cylinder with self-compensation balanced valve.	●
Operator's cab	Operator's cab is designed according to ergonomics with outward-open door (pilot) and adjustable seat. It is equipped with safety glass and roof protective grilles. Sun visor is equipped at the windshield. Standard fan and air conditioning.	●

	**Superstructure**	
Safety devices	Hydraulic counterbalance valve	●
	Hydraulic relief valve	●
	Double-way hydraulic lock	●
	Load moment indicator (LMI)	●
	Lowering limiter	●
	Anti-two block at boom head	●
	Free slewing	●
	Turntable locking	●
	Tri colored light bar	●
	Spring centering system for control levers	○
	Angle indicator	○
	Winch monitoring system	○
	Slewing beacon light	○
Counterweight	Fixed counterweight is 2.2 t.	●

	**Boom and jib system**	
Boom	U-shape profile, made of high strength steel, with special anti-deformation design. Single cylinder plus ropes is used to telescope the boom. Boom length: 10.3 m ~ 33.5 m.	●
Auxiliary sheave	Fitted at boom head, used for single line operation. Its lifting performance is the same as that for boom, but the maximum lifting load does not exceed 2 t.	●
Fixed jib	The jib consists of a connecting bracket, a rotating bracket and a foldable lattice jib. Three offset angles of 0°, 15° and 30° are available. It is stowed along the side of the boom. Fixed jib length: 8.15 m	●

Other items of equipment available on request.

Symbol explanation

● —— Standard configurations;

○ —— Optional configurations.

Weight

Axle	1	2	3	Total weight
t	7.01	8.75	8.75	24.51

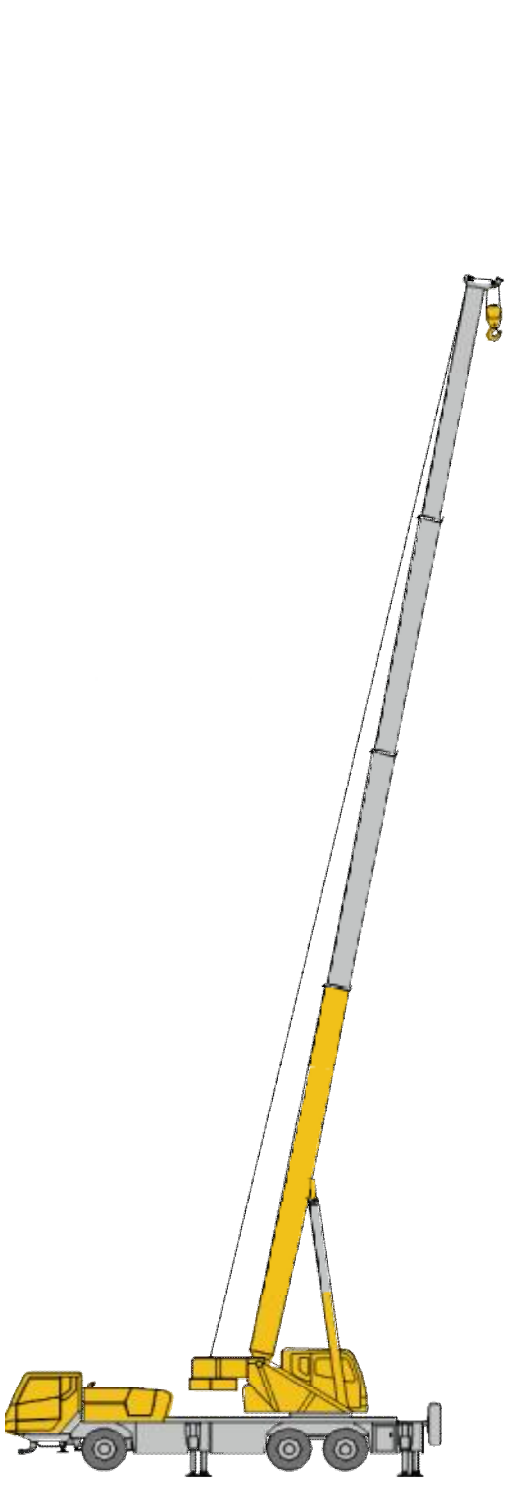
Hook block	Parts of line	Weight of hook block (kg)	Dimensions (mm)	Remark
25 t	9	260	353×390×1202	Single hook
2 t	1	60	518×236×236	Single hook

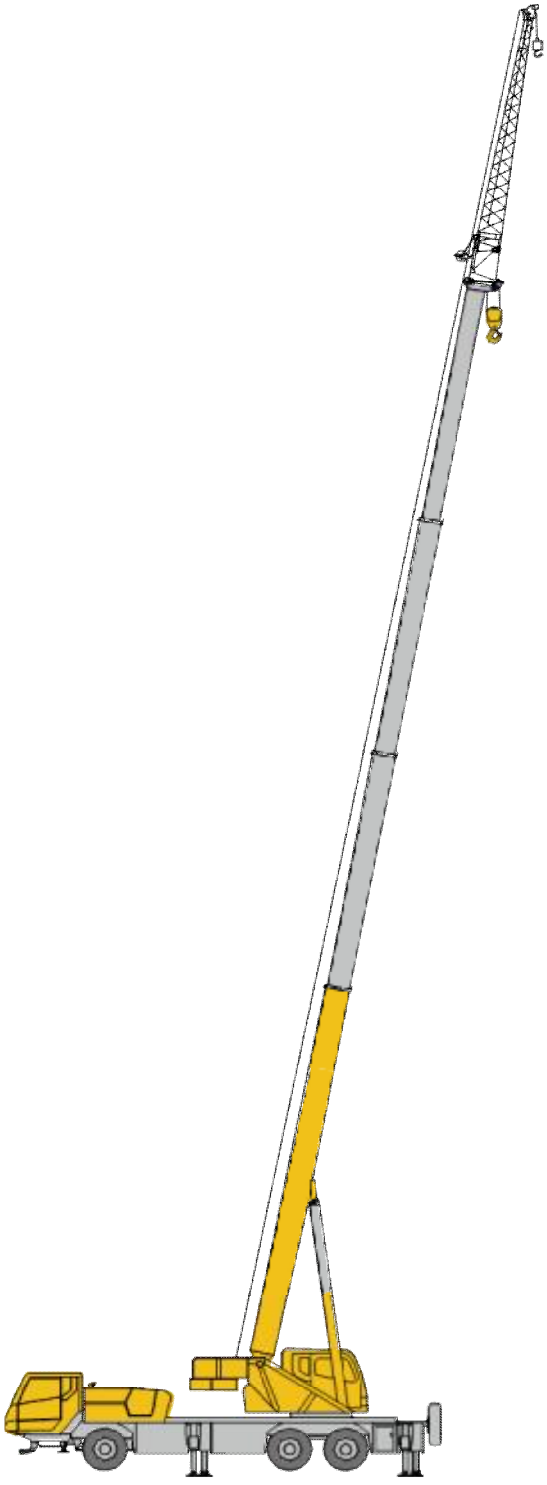
Working speeds

	km/h	
12R22.5	2 ~ 85	42%

Operation mechanism	Working speeds	Max. single line pull	Rope diameter/ length
1	0-120 m/min, single line, 4th layer	3 t	14 mm/135 m
2	0-120 m/min, single line, 4th layer	3 t	14 mm/90 m
	0-2 r/min		
	Approx. 35 s for boom luffing up from 0° to 80°		
	Approx. 50 s for boom extending from 10.3 m to 33.5 m		

Boom / Jib combinations

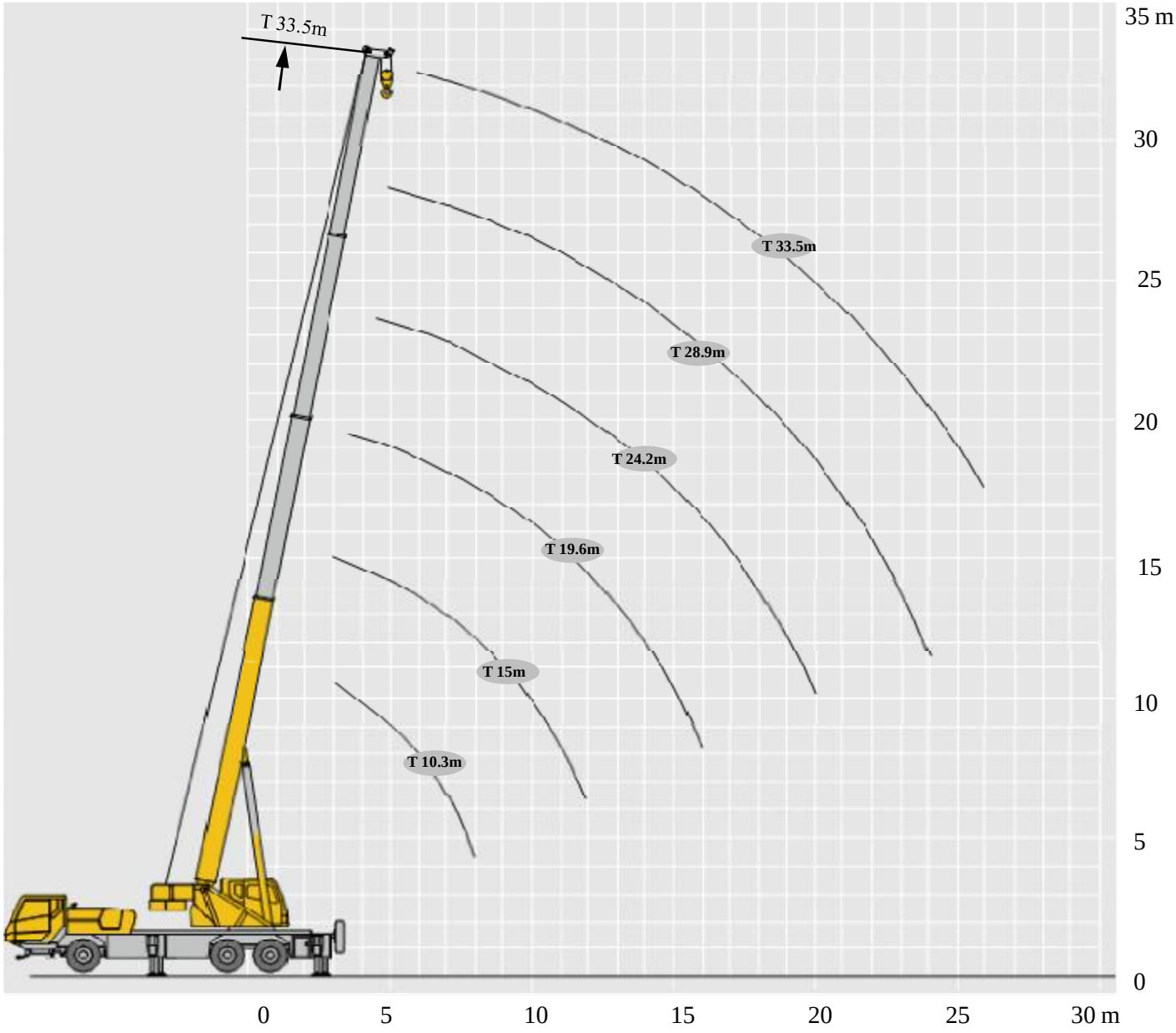




Boom	Jib
T: 10.3~33.5 m	T: 33.5 m F: 8.15 m

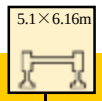
Working range diagram

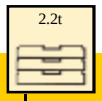
Boom



Load charts

T 10.3~33.5 m

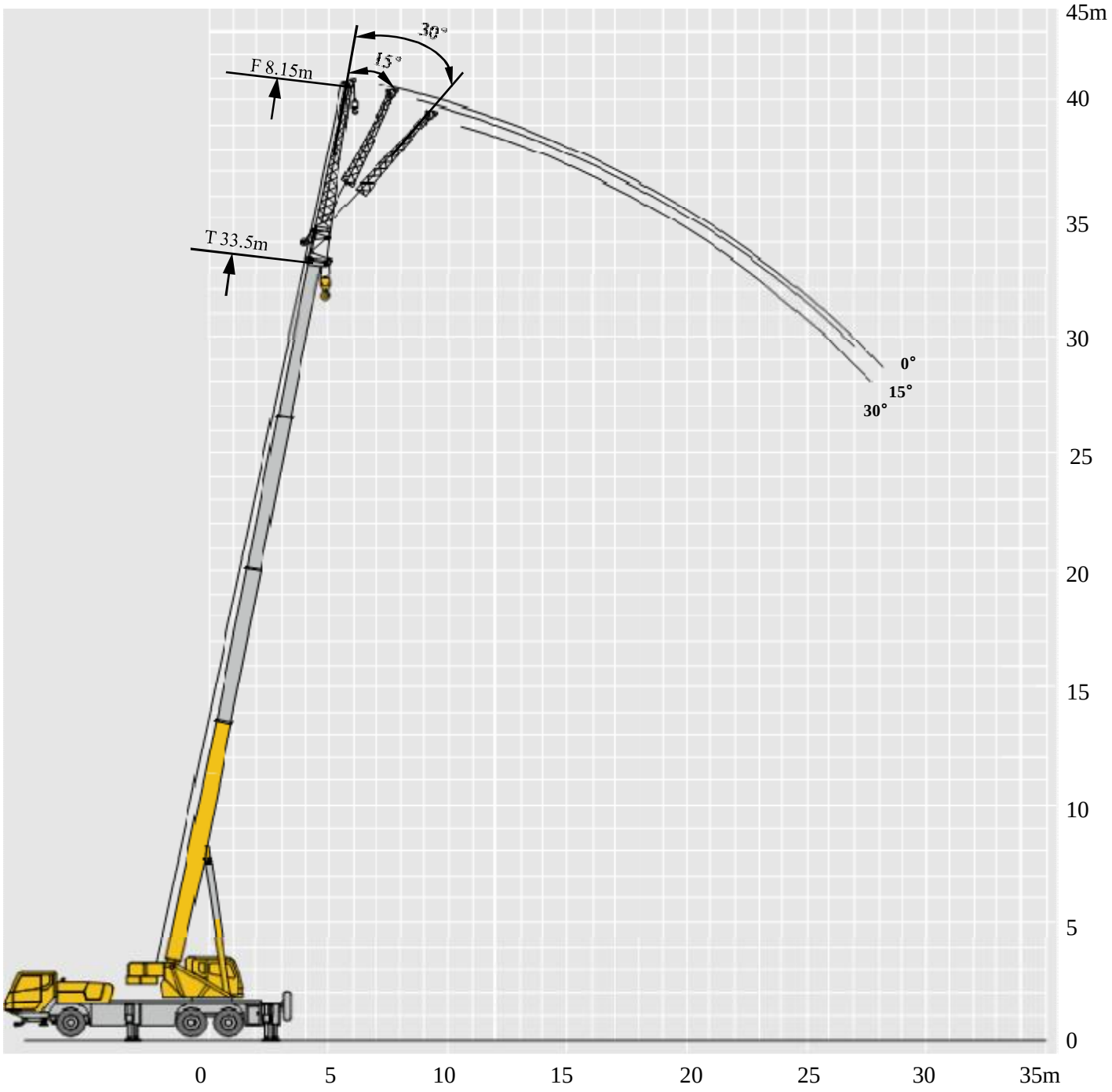





	10.3m	15m	19.6 m	24.2 m	28.9m	33.5m	
3	25	19	18				3
3.5	23	19	18				3.5
4	22	19	18				4
4.5	21	19	17.8	11.7			4.5
5	19.2	17.6	16.3	11.3	8.7		5
5.5	17	16.2	15	10.5	8.3		5.5
6	14.3	14.7	14.2	10.1	8	6.1	6
6.5	12.6	12.8	13	9.5	7.9	6.1	6.5
7	11	11.2	11.4	9.1	7.7	6	7
8	8.7	8.9	9.1	8.4	7.2	5.5	8
9		7.5	7.5	7.4	6.6	5.2	9
10		6.3	6.3	6.4	5.5	4.7	10
12		4.4	4.6	4.7	4.3	4	12
14			3.4	3.5	3.6	3.4	14
16			2.6	2.7	2.8	2.7	16
18				2.1	2.2	2.2	18
20				1.7	1.7	1.7	20
22					1.4	1.4	22
24					1.1	1.1	24
26						0.9	26
28						0.6	28
Parts of line	9	7	6	4	3	3	Parts of line

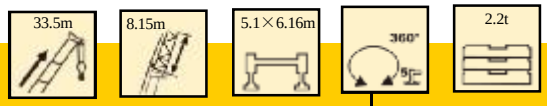
Working range diagram

Jib



Load charts

J8.15 m



	0°	15°	30°	
	8.15m			
79	2	1.85	1.5	79
78	2	1.85	1.45	78
76	2	1.8	1.4	76
74	2	1.75	1.35	74
72	2	1.6	1.3	72
70	2	1.5	1.25	70
68	1.85	1.45	1.2	68
66	1.8	1.4	1.15	66
64	1.7	1.35	1.1	64
62	1.55	1.3	1.05	62
60	1.3	1.15	1	60
58	1.1	1	0.9	58
56	0.9	0.8	0.7	56
54	0.7	0.65	0.5	54
52	0.55	0.45	0.4	52
50	0.45	0.35	0.3	50
45	0.3			45

Description of symbols

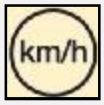
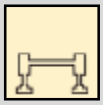
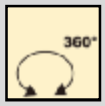
General symbols			
	Superstructure		Chassis
	Lifting capacity		Axle
	Boom length		Travel speed
	Working radius		Grade ability
	Boom angle		Tires
	Boom lifting height		Outriggers
	Fixed jib length		Hook block
	Jib offset angle		Counterweight
	Jib lifting height		Winch
	Boom at the side and rear working areas without 5th jack		360° operation of the boom
	With 5th jack down, 360° operation of the boom		Max. working radius

Table of main technical parameters

Category	Item		Unit	Parameter
Dimensions	Dimensions (L×W×H)		mm	12207×2500×3450
	Wheel base		mm	4425+1350
	Track (front/rear)		mm	2026/1844
	Front overhang/rear overhang		mm	2442/2214
	Front extension/rear extension		mm	1484/292
Weight	Max. permissible total weight		kg	24510
	Axle load	Axle 1	kg	7010
		Axle 2	kg	8750
		Axle 3	kg	8750
Power	Engine model		——	SC7H260Q3
	Rated power/rotation speed		kW/(r/min)	192/2200
	Max. net power/rotation speed		kw/(r/min)	188/2200
	Max. output torque/ rotation speed		N.m/(r/min)	1000/1400
Travel	Max. travel speed		km/h	≥85
	Min. stable travel speed		km/h	2 ~ 3
	Min. turning diameter		m	≤20
	Min. turning diameter at boom tip		m	≤24.4
	Min. ground clearance		mm	245
	Approach angle		°	18
	Departure angle		°	13
	Braking distance (initial speed at 30 km/h)		m	≤10
	Max. grade ability		%	≥42
	Fuel consumption per 100 km		L	28
Noise	Exterior noise level when accelerating		dB(A)	≤84
	Noise level at seated position		dB(A)	≤90

Table of main technical parameters

Category	Item			Unit	Parameter
Main performance	Max. rated lifting capacity			t	25
	Min. rated working radius			m	3
	Turning radius at turntable tail	At counterweight		mm	3200
	Maximum load moment	Base boom		kN.m	941
		Fully-extended boom		kN.m	470
		Fully-extended boom + jib		kN.m	306
	Outrigger span	Longitudinal		m	5.1
		Lateral		m	6.16
	Lifting height	Basic boom		m	10.2
		Fully-extended boom		m	33.4
		Fully-extended boom + jib		m	41.6
	Boom length	Base boom		m	10.3
		Fully-extended boom		m	33.5
		Fully-extended boom + jib		m	41.65
	Jib offset angle			°	0, 15, 30
Working speeds	Time for raising boom			s	≤35
	Time for fully extending the boom			s	≤55
	Max. slewing speed			r/min	≥2
	Time for extending and retracting the outriggers	Outrigger beam	Retracting	s	≤25
			Out	s	≤30
		Outrigger jack	Retract	s	≤25
			Out	s	≤30
	Lifting speed (single line at 4th layer, no load)	Main winch		m/min	≥120
		Auxiliary winch		m/min	≥120
Noise	Exterior noise level			dB(A)	≤109
	Noise level at seated position			dB(A)	≤85

Notes

1. The total rated load given in the rated load charts is the maximum lifting capacity when the crane is set up on firm and level ground. The total rated load includes the weight of the hook blocks and slings. To calculate the actual weight that could be lifted, the weight of hook blocks and slings should be deducted from the lifting capacities.
2. The working radius is the horizontal distance between the gravity center of load and the rotational axis of the crane superstructure measured on the ground when the load is lifted off ground, and it is the actual value including loaded boom deflection. Take boom deflection into consideration before beginning a lifting operation.
3. A lifting operation is permissible only when the wind force is below grade 5 (instantaneous wind speed of 14.1 m/s, wind pressure of 125 N/m²).
4. Before beginning lifting, the operator shall know the weight of the load to be lifted and its working range, and then select proper operation modes. Never operate the crane beyond the limit shown in the chart. Take the lower value from the chart when the boom length or working radius is between the range of values.
5. Observe the boom angle limit. Never operate the crane with the boom angle beyond the recommended limit even if a load is not being carried. Otherwise, the crane will tip.
6. Extend boom sections according to the specified percentage.

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