XCA160 All Terrain Crane

Technical specifications

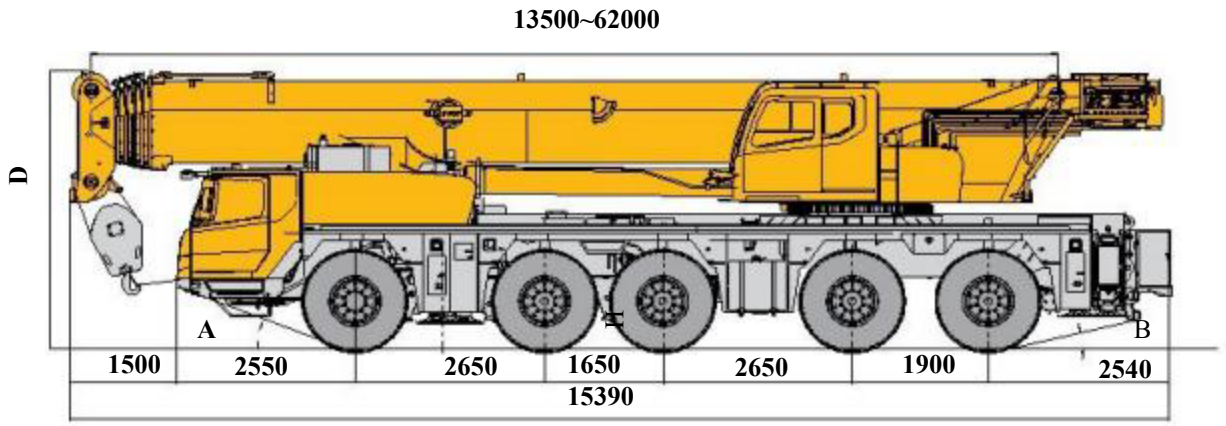
160 t

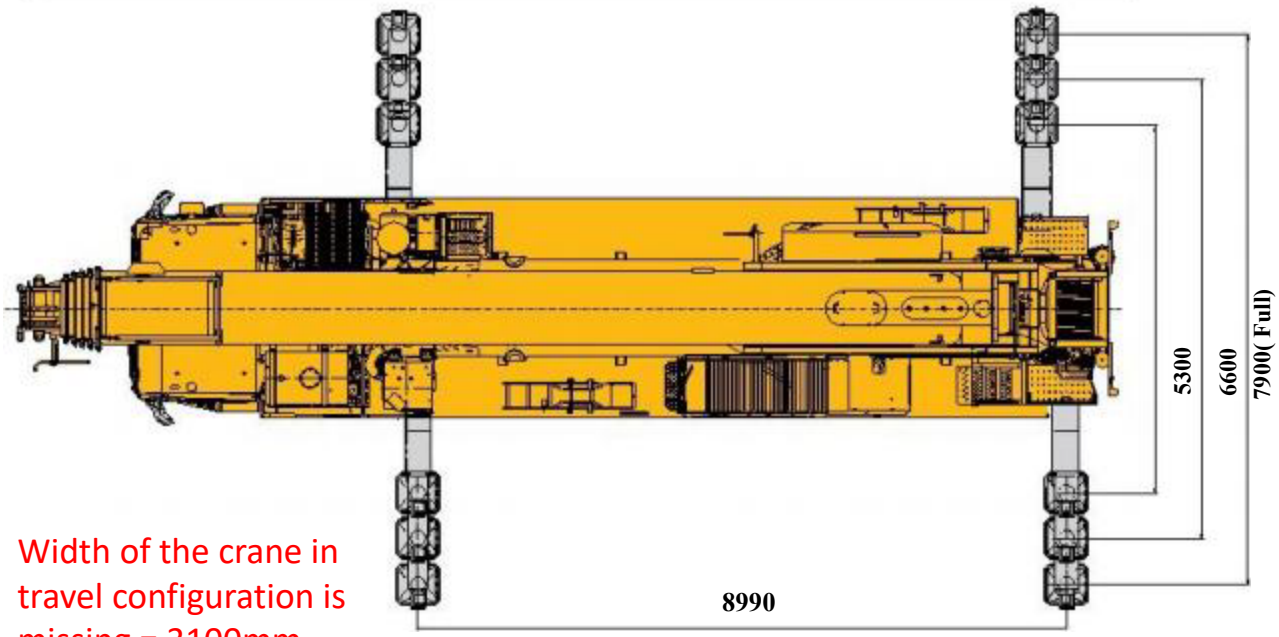
62 m

03/2023 Edition

Contents

Dimensions





Width of the crane in travel configuration is missing = 3100mm

	A	B	D	E	R1	R2	H
525/80R25 (20.5 R25)	20°	12°	4000				352

Technical specifications

	Chassis	
Frame	Designed and manufactured by XCMG, it is made of high strength steel. The chassis is a box type anti-torsion type. The cranes deck is covered in anti-slip plate, to prevent slips trips and falls.	●
Outrigger	Four outriggers arranged in H-shape are hydraulically controlled by. Double-stage outrigger beam is adopted. There is an outrigger control station located at each side of the chassis, and there is a level gauge, an illuminator and two speed buttons on each control station. There is a check valve fitted in each outrigger cylinder, and a double-acting hydraulic valve fitted in each jack cylinder.	●
Engine	Powered by a German Mercedes Benz AG OM471LA, 6 cylinder turbo diesel. Rated power/rpm: 390 kw /1600 rpm. Rated torque/rpm: 2600 N.m /1300 rpm. Emission: EU Stage IV/EPA Tier 4F. Fuel tank capacity: 500 L. Adblue tank capacity 40l giving 700hrs of uninterrupted operation. Ration 1:20	●
Hydraulic system	The pump unit directly connected to the PTO port of the Mercedes Benz engine is used for outriggers, steering, suspension and independent cooling for hydraulic system. The system is a three chamber pump arrangement to ensure maximum hydraulic pressure is achieved at all time.	●
Transmissio n	A German ZF Automatic transmission is equipped with a hydraulic retarder, 12 forward gears and 2 reverse gears.	●
Transfer box	The Drop box is a KESSLER mmechanical transfer box, equipped with a full time emergency steering oil pump. Giving you peace of mind that steering will not be lost, if engine power is until the crane is stationary.	●
Alxes	German KESSLER high-strength axle, equipped with pneumatically controlled disc brake. 2nd axle, 3rd axle, 4th axle and 5th axle are for driving.	●
Suspension	Hydro-pneumatic suspension is adopted for all axles, providing good shock absorbing effect. Functions of automatic leveling, suspension lifting, elastic/rigid state switch-over, etc. are available.	●
Tires	All axles come with 525/80R25 （20.5R25） tyres this includes the spare tyre and wheel. The tyres have a speed rating of >80kph and have a load bearing capability when manoeuvring with full counter weight.	●
Brakes	Service brake: double-circuit air pressure brake, acting on all wheels. Parking brake: spring-loaded brake, acting on the wheels of 2-5 axles. Auxiliary brake: engine exhaust brake, and transmission retarder, which are safe and reliable, and will prolong the service life of brake lining.	●
Steering	All axles steering, with advanced electro-hydraulic proportional steering control technology applied to ensure various steering modes for meeting the requirements under various working conditions.	●
Driver's cab	New full size European steel structure cab, with suspension connecting structure adopted, is equipped with shock absorbers at the rear of the cab to provide comphort on long journeys.. Safety glass, electrically operated door window lifters, adjustable seats, electrical adjustable mirrors, steering wheel adjustable in height and angle, reversing display and large screen liquid crystal display & CD player are equipped. New combined central control panel is reasonably arranged with arc shape adopted, presenting human- oriented design concept. Heating & air- conditioning are standard.	●
Electrical System	DC 24 volts is in series with two 12-volt battery packs.	●

Technical specifications

	Superstructure	Configuration
Frame	Designed and manufactured by XCMG, made of high strength steel.	●
Hydraulic system	Electric proportional variable pump is used for lifting, elevating and telescoping operations. A closed pump is used to drive slewing operation. The proportional solenoid steering control valve; air-cooled hydraulic oil radiator.	●
Operating mode	The electric-proportional pilot operation system is equipped with two levers at left and right sides controlling the main movements of the crane, and stepless slewing speed regulation is available.	●
Main winch system	Hydraulic control is used for speed regulation. The system is driven by a hydraulic motor through a planetary gear reducer, with a normally closed brake, a balanced valve and a grooved drum equipped.	●
Auxiliary winch system	Hydraulic control is used for speed regulation. The system is driven by a hydraulic motor through a planetary gear reducer, with a normally closed brake, a balanced valve and a grooved drum equipped.	●
Slewing system	A single-row, four-point contact-ball external slewing bearing; the system is driven by a hydraulic motor through a planetary gear reducer with constant-closed brake equipped, and may continuously slew 360°. Power control and free slewing function as well as stepless speed regulation are available.	●
Elevating system	Single elevating cylinder and the elevating counterbalance valve with the load compensation function. Balance valve-controlled boom gravity combined with power for lowering boom is used for boom elevating down.	●

	Superstructure	Configuration
Operator's cab	Steel cab with a full-view windshield, safety glass, sliding door, adjustable seat with electric heating function; it can tilt backward about 20°; double-layer sun shield is adopted for roof window; sun shield is also equipped at the windshield and rear window; wipers, roof guardrails, pull-out step, LMI, human-machine interactive control panel, electric controlled armrest, engine accelerator pedal, engine start switch, etc. are also available. Heater, air conditioner.	●
Safety devices	Hydraulic counterbalance valve; hydraulic relief valve; hydraulic double-way valve; LMI; lowering limiter; anti-two block; anemometer; winch monitor	●
Combined counterweight	Total weight is 55t. 5 counterweight combinations of 0 t, 15 t, 25 t, 35 t and 55t are available.	●
Hook block	75t	●
	35t	●
	11t	●

Technical specifications

	Boom and jib	Configuration
Boom	6-section boom with U-shaped cross-section, welded structure with single-plate boom head and compact boom tail. Single-cylinder pinning telescoping system, Boom length: 13.5 m～62 m.	●
Single top	Installed at the boom top, used for single line operation. Its lifting performance is the same as that for boom, but the max. lifting load could not exceed 10.3 t.	●
Jib	The jib consists of a connecting bracket, a rotating bracket and two lattice sections. Three offset angles of 0°, 15° and 30° are available. It is stowed along the side of the boom. Jib length: 10.5 m,17.5 m	○
Boom extension	Two-section lattice jib, welded structure, attached to boom head. Length of boom extension: 3×7.5m	○
Independent jib head	Lattice jib, welded structure, attached to boom head . Length of independent jib head is 2.9 m	○

Product parts list is as mentioned above. Please refer to the product quotation for specific parts.

Symbol explanation:

- ● ——**it means the standard configuration;**
- ○ ——**it means the optional configuration.**

Weight

Axle	1	2	3	4	5	Total weight
t	≤12	≤12	≤12	≤12	≤12	≤60[1)]

1)Single top, counterweight and auxiliary winch are excluded from superstructure. 17.5m jib and 35t hook is carried in superstructure. Storage box with timber and chain(total is 400kg) are carried in chassis. Drive/steering type is 10×8 × 10/ 10×6 × 10; Tire specification: 525/80 R 25

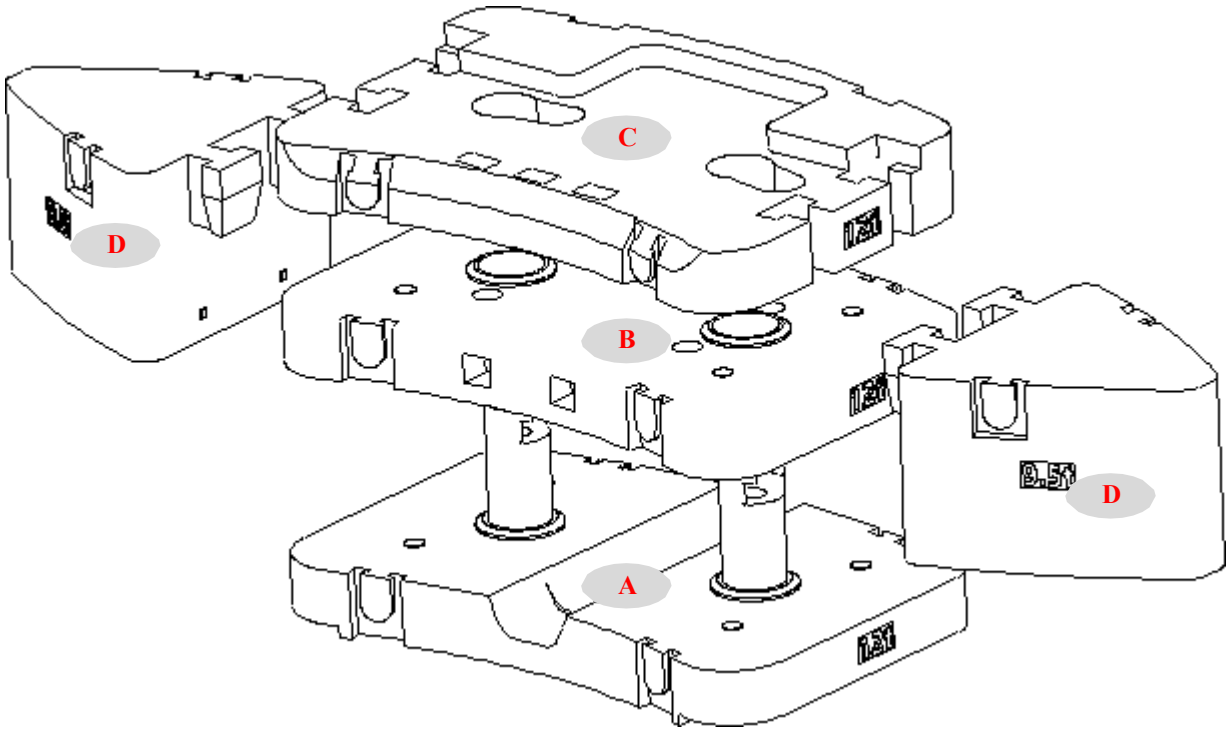
Hook	Parts of line	Weight (kg)		Remarks
130t	12	1017		Double hook， Optional
75t	7	640		Double hook， Standard
35t	3	420		Double hook， Standard
11t	1	296		Single hook， Standard

Working speeds

	km/h	
525/80 R 25 (20.5 R 25)	1 ~ 80	60%

Drive	Working speed	Max. single line pull	Rope diameter/ length
1	0-135 m/min, single line, 4th layer	10.3t	22 mm/320 m
2	0-100 m/min, single line, 4th layer	10.3t	22 mm/210 m
360°	0-1.5 r/min		
	Approx. 65s for boom elevation from -0.5° to 81°		
	Approx.420s for boom extension from 13.5m to 62m		

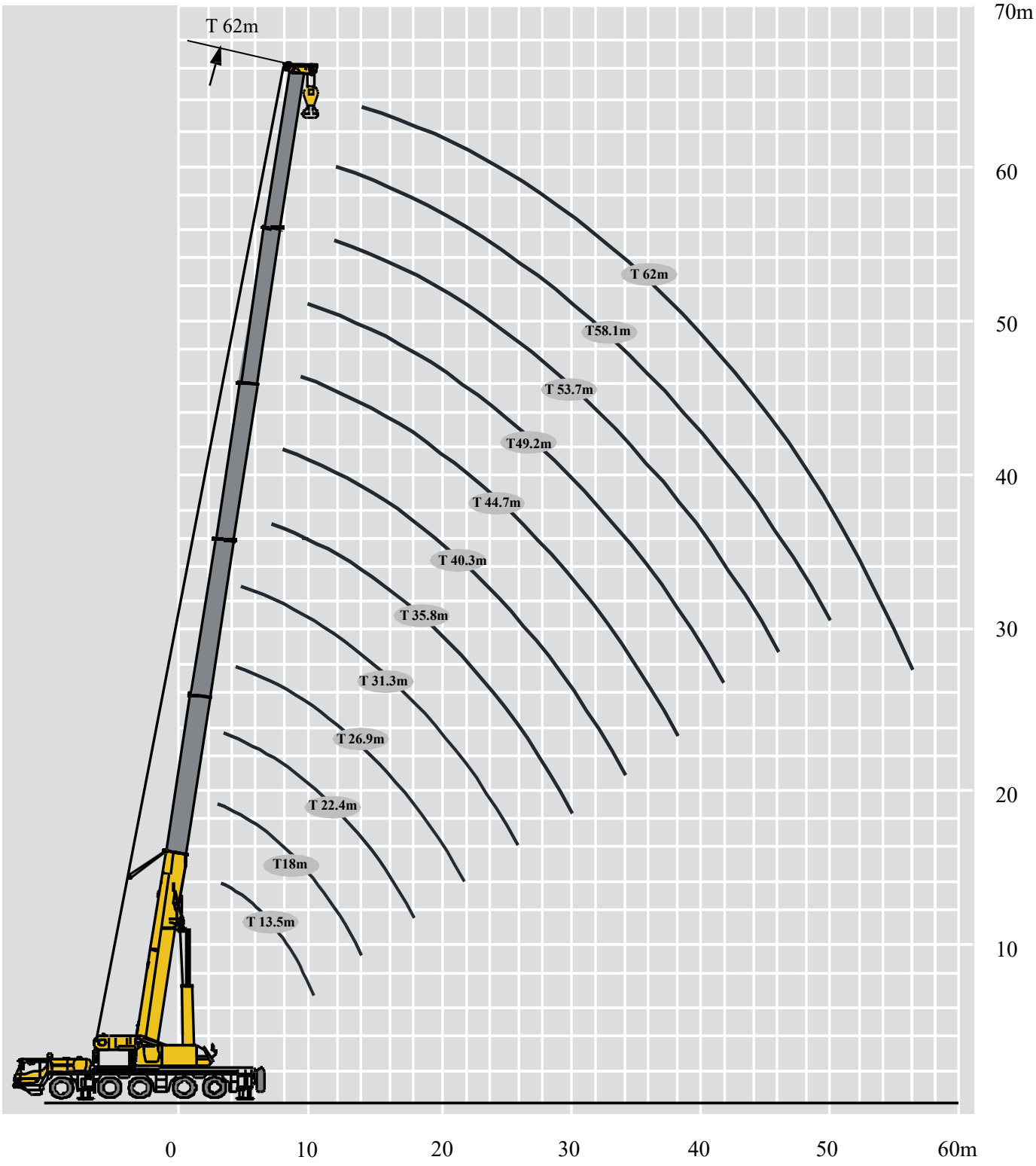
Insert transport configurations and weights here



Drawings do not match the weights below

Counterweight	A	B	C	D
Size (L×W×H) (mm)	2995×2041×1030	2995×2041×324	2995×2041×362	1660×1555×987
Weight (t)	15	10	10	10

Working mode	55t	35t	25t	15t	0t
Combinations	A+B+C+2×D	A+B+C	A+B	A	0


T 62m
T 62m
T58.1m
T 53.7m
T49.2m
T 44.7m
T 40.3m
T 35.8m
T 31.3m
T 26.9m
T 22.4m
T18m
T 13.5m
70m
60
50
40
30
20
10
0
10
20
30
40
50
60m

	13.5 m	13.5m	18m	22.4m	26.9m	31.3m	35.8m	40.3m	44.7m	49.2m	52.3m	53.7m	56.8m	58.1m	61.2m	62m	
2.5	160**																2.5
3	130*	96															3
3.5	120*	96	117.0	114.0													3.5
4	110*	96	108.0	105.0	102.0	99.0											4
4.5	102*	96	100.0	97.0	95.0	92.0											4.5
5	95*	85	93.0	91.0	88.0	86.0	68.9										5
6	83*	79	82.0	80.0	78.0	76.0	65.2	60.6	43.9								6
7	74*	74	73.0	71.0	70.0	68.0	61.6	56.2	41.4								7
8	66*	60	66.0	64.0	63.0	61.0	58.4	52.3	38.0	34.8	24.7	25.4					8
9	59*	55	59.0	58.0	57.0	55.0	55.0	48.7	36.3	33.9	23.6	26.4	21.5				9
10	53*	50	54.0	53.0	52.0	51.0	50.0	45.1	34.7	32.5	22.8	26.5	21.5	20.9			10
12			44.0	44.0	44.0	44.0	43.0	38.3	31.6	28.2	20.1	24.4	20.0	21.0	17.5	16.9	12
14			34.4	35.4	36.2	35.8	35.1	33.8	29.0	25.0	17.8	21.5	18.3	18.8	17.3	16.8	14
16				29.2	29.4	29.1	28.5	30.5	26.2	22.4	16.0	19.3	16.4	16.9	15.6	15.3	16
18				24.4	24.6	24.3	23.6	27.0	23.5	20.1	14.4	17.3	14.7	15.2	14.0	13.8	18
20					20.9	20.6	21.0	24.0	21.4	18.3	13.1	15.6	13.4	13.7	12.6	12.5	20
22					18.0	18.2	18.3	21.1	19.5	16.7	12.0	14.3	12.3	12.6	11.5	11.4	22
24					15.6	16.0	16.0	19.8	18.1	15.4	11.1	13.2	11.4	11.5	10.6	10.4	24
26						14.4	14.1	18.0	16.8	14.1	10.2	12.1	10.5	10.6	9.7	9.6	26
28						12.8	12.8	16.0	15.4	13.1	9.5	11.2	9.7	9.7	9.0	8.8	28
30							11.4	14.5	14.5	12.2	8.9	10.4	9.1	9.1	8.4	8.1	30
32							10.2	13.2	13.0	11.4	8.3	9.6	8.4	8.4	7.7	7.6	32
34								12.3	11.7	10.7	7.7	9.1	7.9	7.9	7.3	7.0	34
36								11.1	10.6	10.0	7.3	8.4	7.4	7.4	6.8	6.6	36
38									9.6	9.2	6.9	7.9	7.0	7.0	6.4	6.2	38
40									8.9	8.7	6.5	7.4	6.6	6.5	6.0	5.8	40
42										8.0	6.1	7.0	6.2	6.1	5.5	5.4	42
44										7.3	5.8	6.6	5.9	5.8	5.2	5.1	44
46										6.6	5.5	6.3	5.6	5.5	5.0	4.8	46
48											5.2	6.0	5.3	5.2	4.7	4.6	48
50												5.7	5.0	4.9	4.5	4.3	50
52													4.8	4.7	4.2	4.1	52
54														4.4	4.0	3.9	54
56															3.8	3.7	56
58																3.5	58

.Notes: The technical data with ** followed are for the nominal load，special equipment is required.
The technical data with * followed are for over rear.

Description of symbols

General symbols

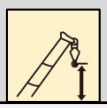
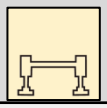
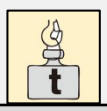
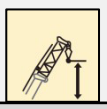
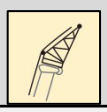
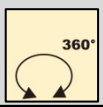
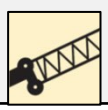
	Superstructure		Chassis
	Lifting capacity		Axle
	Boom length		Driving speed
	Radius		Grade ability
	Boom angle		Tires
	Hoist height with boom		Outriggers
	Fixed jib length		Hook block
	Jib offset angle		Counterweight
	Hoist height with jib		Winch
	Independent jib head		360° rotation
	Boom extension		

Table of main technical parameters

Category	Item		Unit	Parameter
Dimensions	Dimensions (Length × width × height)		mm	15390x3100x4000
	Wheel base		mm	2650+1650+2650+1900
	Track (Front/ Rear)		mm	2572
	Front/ Rear overhang		mm	2500/2540
	Front/ Rear extension		mm	1500/0
Weight	Max. permissible weight		kg	≤60000
	Axle load	1st axle	kg	≤12000
		2nd axle	kg	≤12000
		3rd axle	kg	≤12000
		4th axle	kg	≤12000
		5th axle	kg	≤12000
Power	Engine model		——	OM471LA
	Rated power/rpm		kW/(r/min)	390/1600
	Max. output torque/rpm		N.m/(r/min)	2660/1300
Travel	Max. travel speed		km/h	≥80
	Min. travel speed		km/h	≤3
	Min. turning diameter		m	≤21
	Min. turning diameter at boom tip		m	≤25
	Min. ground clearance		mm	352
	Approach angle		°	20
	Departure angle		°	12
	Braking distance (at 30 km/h)		m	≤10
	Max. grade ability		%	≥60
Noise	Noise level at seated position		dB(A)	≤90

Table of main technical parameters

Category	Item			Unit	Parameter
Main performance	Max. total rated lifting capacity			t	160
	Min. rated working radius			m	2.5
	Turning radius at turntable tail	Counterweight		mm	5110
		Auxiliary winch		mm	4960
	Outrigger span	Longitudinal		m	8.99
		Lateral		m	7.9
	Boom length	Base boom		m	13.5
		Fully-extended boom		m	62
		Fully-extended boom + Jib		m	102
Working speed	Boom raising time			s	≤65
	Boom fully extended time			s	≤420
	Max. slewing speed			r/min	≥1.5
	Outrigger extending and retracting time	Outrigger beam	Retracting	s	≤40
			Extending	s	≤40
		Outrigger jack	Retracting	s	≤60
			Extending	s	≤90
	Hoisting speed (single line, 4th layer, no load)	Main winch		m/min	≥135
		Auxiliary winch		m/min	≥90
Noise	Noise level at seated position			dB（A）	≤85

Notes

1. The total rated loads given in the rated load charts are the maximum lifting capacity when the crane is set up on firm and level ground, which includes the weight of the hook block and slings. The weight of above-mentioned devices should be deducted from the rated lifting load.
2. The working radius shown in the rated load charts is the radius when the load is lifted off the 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 is 14.1 m/s, wind pressure is 125 N/m^2).
4. Before beginning lifting operation, the operator should know the weight of the load to be lifted and its working range, and then select proper working conditions. Never operate the crane beyond the limit shown in the chart. Use 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. The boom should be extended according to the telescoping code shown by digits, which means the percentage of boom sections extended.