XCA160 / All Terrain Crane

Technical specifications

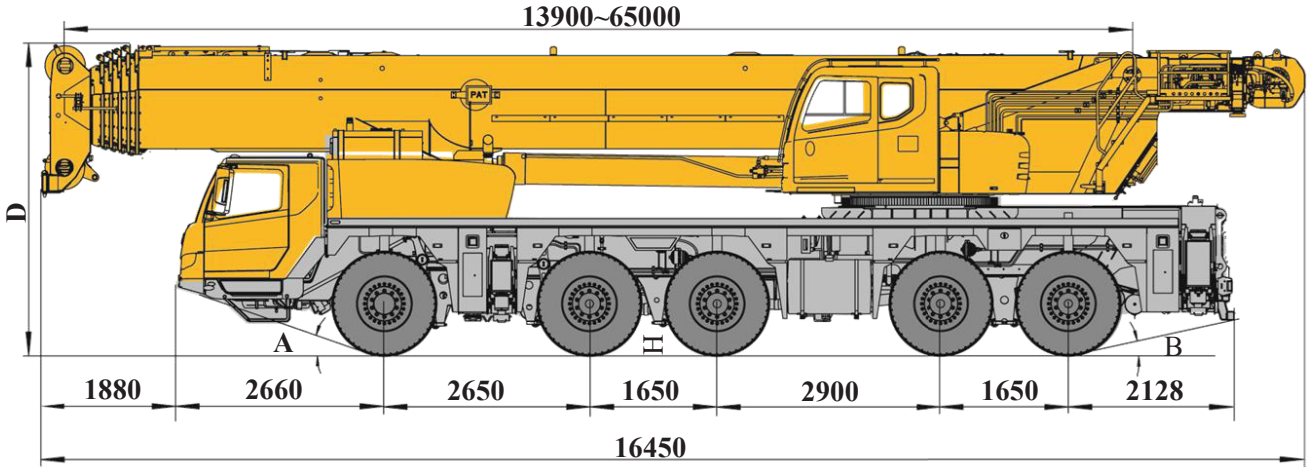
160 t

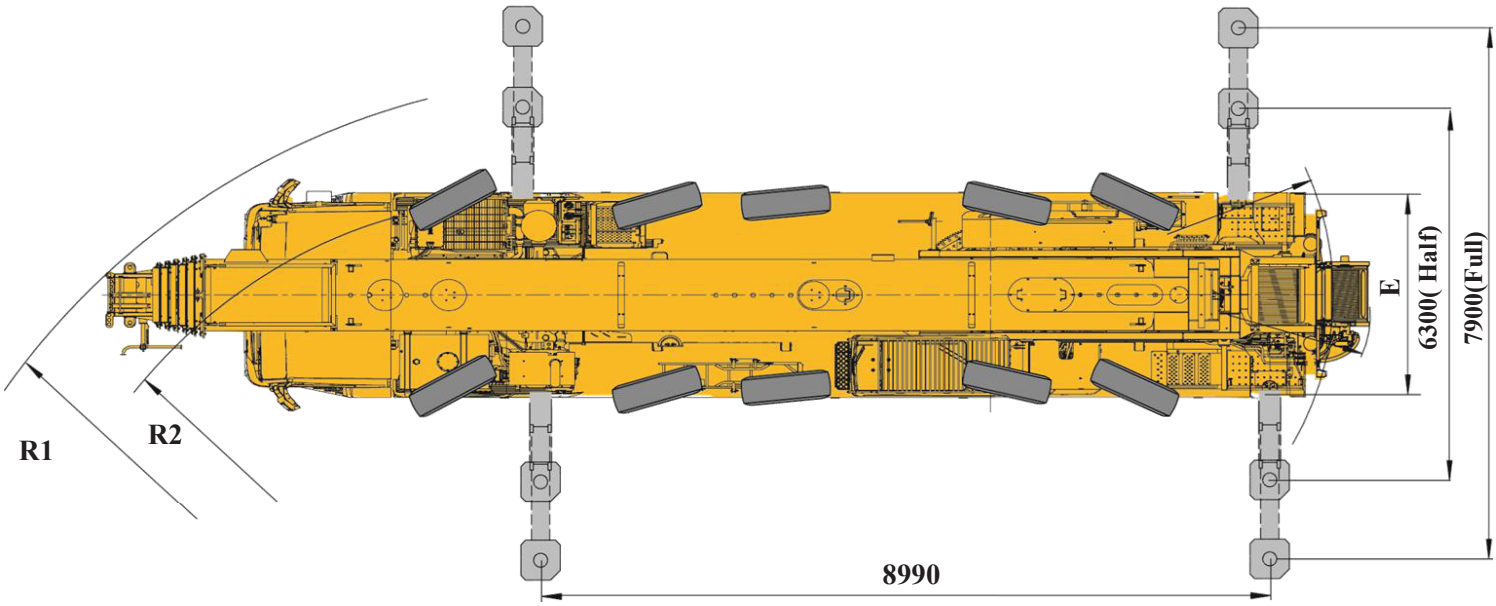
65 m

95.5m

2021

Dimensions





R:
Tight turning radius mode

	A	B	D	E	R1	R2	H
525/80R25 (20.5 R25)	20°	12°	4000	3150	12500	10500	352

Technical specifications

	**Chassis**	
Frame	Designed and manufactured by XCMG, it 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. 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-way hydraulic valve fitted in each jack cylinder.	●
Engine	Daimler AG OM471LA, 6 cylinders, diesel. Rated power/rpm: 390 kw /1700 rpm. Rated torque/rpm: 2460 N.m /1300 rpm. Emission standard: EU Stage IV/EPA Tier 4F. Fuel tank capacity: 460 L.	●
Hydraulic system	The pump unit directly connected to the PTO port of the engine is used for outriggers, steering, suspension and independent cooling for hydraulic system.	●
Transmission	Automatic transmission imported from ZF Germany, equipped with a retarder, 12 forward gears and 2 reverse gears.	●
Transfer box	Mechanical transfer box imported from KESSLER Germany, equipped with an emergency steering oil pump.	●
Axles	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.	●
Tyres	10 tyres and 1 spare tyre, each axle is equipped with single tire, manufactured by Double coin, large bearing capacity.	●
	Tire specifications: 525/80R25（20.5R25）	●
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 retarder, 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 dimension steel structure cab, with suspension connecting structure adopted, is equipped with shock absorbers at the rear of the cab. 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, 12 t, 24 t, 36 t and 55t are available.	●
Hook block	130t	●
	75t	●
	8t	●

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: 13.9 m～65 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 8 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: 11 m,18.5 m	○
Boom extension	Two-section lattice jib, welded structure, attached to boom head. Length of boom extension: 2×8 m	○

Weight

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

1)Jib, single top, counterweight and hook blocks are excluded from superstructure. Spare tire, spare tire bracket, outrigger floats and storage box are excluded from chassis. Drive/steering type is 10×8×10; Tire specification: 525/80 R 25

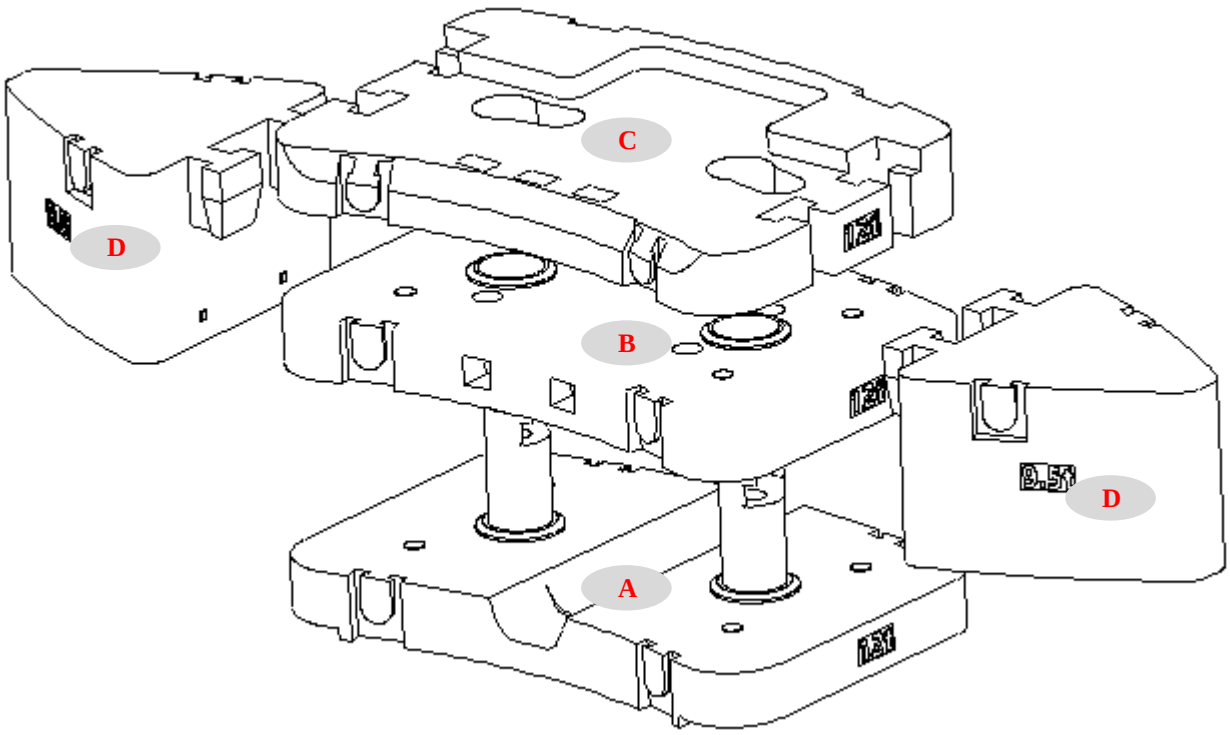
Hook	Parts of line	Weight (kg)	Dimensions (mm)	Remarks
130t	12	1017	1785×730×560	Double hook，optional
75t	7	640	1500×590×324	Double hook ， Standard
8t	1	256	731×426×426	Single hook，Standard

Working speeds

		
525/80 R 25 (20.5 R 25)	1～80	60%

Drive	Working speed	Max. single line pull	Rope diameter/ length
	0-135 m/min, single line, 4th layer	104kN	22 mm/320 m
	0-90 m/min, single line, 4th layer	89kN	22 mm/210 m
	0-1.5 r/min		
	Approx. 60s for boom elevation from -0.5° to 81°		
	Approx. 750s for boom extension from 13.9m to 65m		

Counterweight

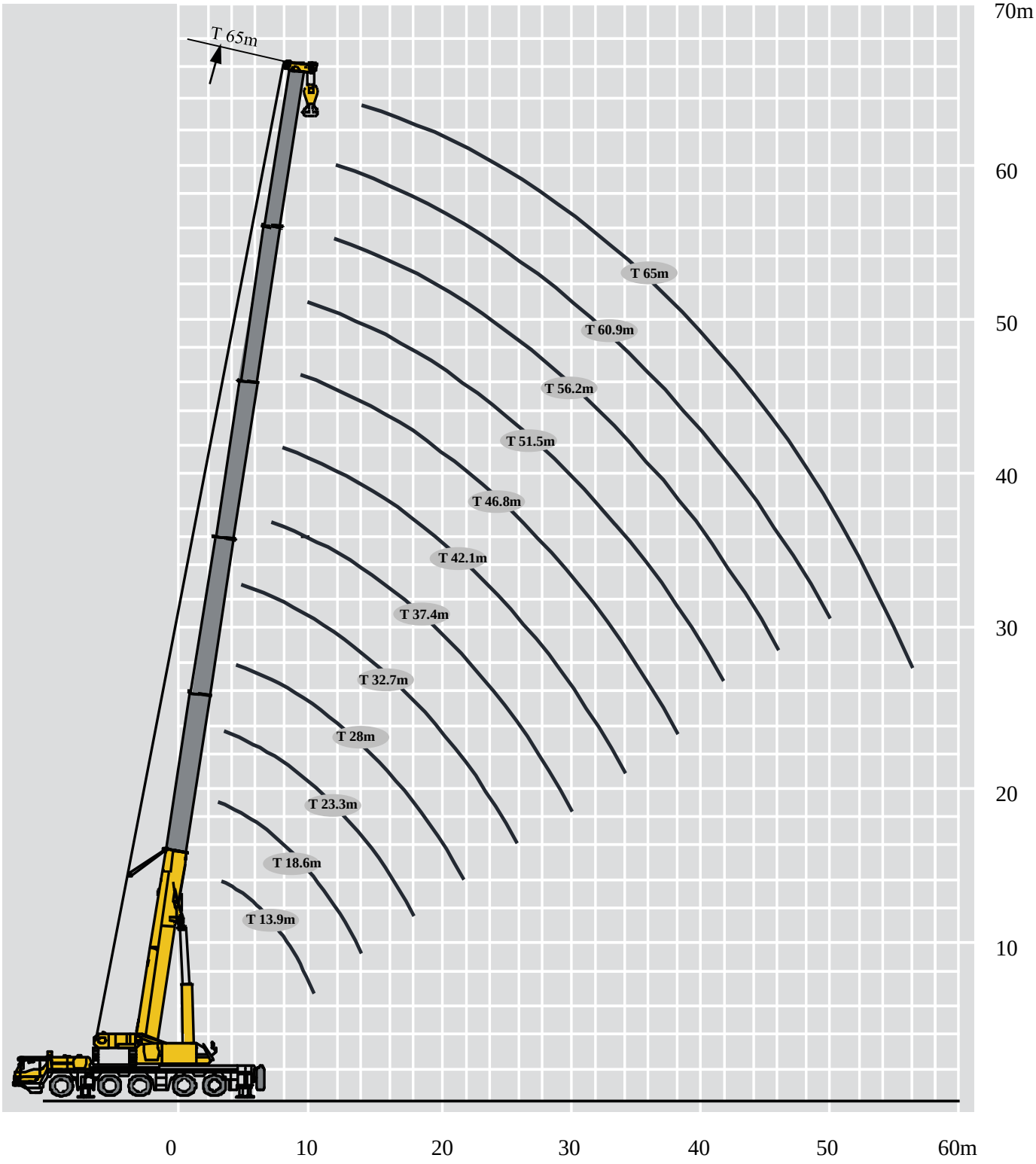


Counterweight	A	B	C	D
Size (L×W×H) (mm)	2995×2041×1030	2995×2041×324	2995×2041×362	1660×1555×987
Weight (t)	12	12	12	9.5

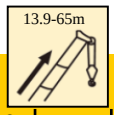
Working mode	55t	36t	24t	12t	0t
Combinations	A+B+C+2×D	A+B+C	A+B	A	0

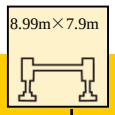
Lifting heights

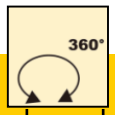
Boom



Lifting capacities



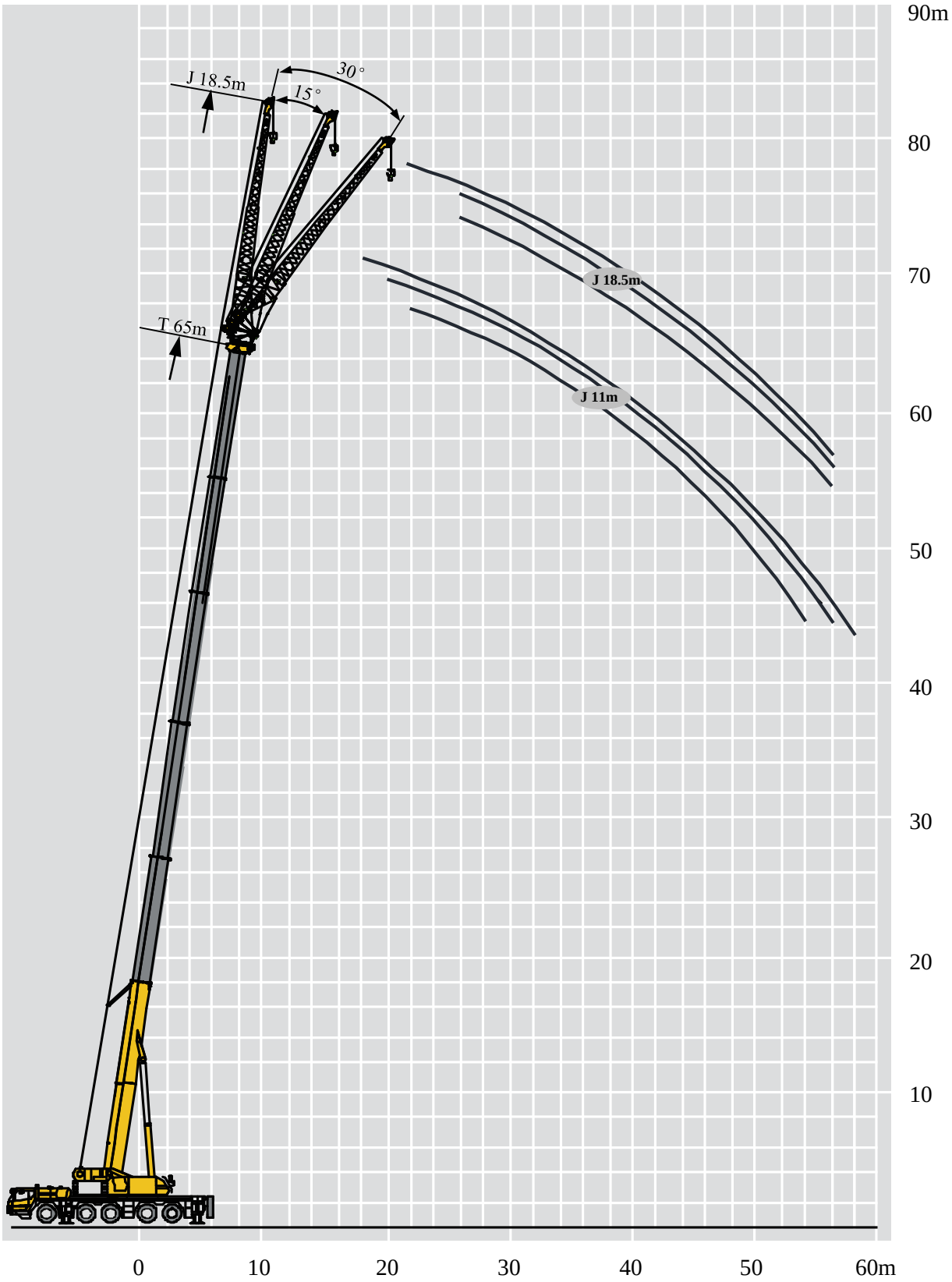




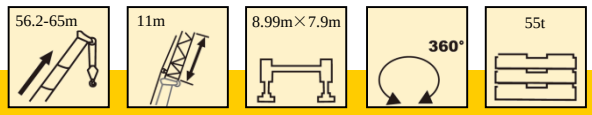
	13.9 m	13.9m	18.6m	23.3m	28m	32.7m	37.4m	42.1m	46.8m	51.5m	54.8m	56.2m	59.5m	60.9m	64.2m	65m	
2.5	160**																2.5
3	130*	130.0															3
3.5	128*	108.0	95.0														3.5
4	120*	102.0	95.0	95.0													4
4.5	112*	95.0	92.0	92.0	88.0												4.5
5	105*	89.0	91.0	90.0	88.0												5
6	89.5*	84.2	84.5	84.4	83.9	75.0											6
7	75.8*	75.0	74.6	74.5	74.0	74.6	58.0										7
8	65.5*	65.5	65.5	65.5	65.0	62.0	58.0	48.0									8
9	57.5*	56.0	57.8	57.5	57.0	57.6	54.0	46.4	35.0								9
10	50*	47.5	51.0	51.0	51.8	52.4	50.0	42.8	33.6	30.0							10
12			41.2	42.2	43.0	42.3	42.0	36.2	30.7	28.0	20.0	25.6					12
14			33.8	35.3	35.5	35.4	34.8	32.0	28.2	25.7	19.0	24.0	18.0	19.2	16.8	15.5	14
16				30.0	30.5	30.2	29.0	28.3	26.1	24.7	17.6	21.4	17.0	18.2	16.5	15.4	16
18				25.8	26.2	26.0	25.0	24.7	24.0	22.3	15.9	19.2	16.4	16.3	15.6	14.9	18
20					22.8	22.7	22.3	22.2	21.5	20.1	14.4	17.4	14.8	14.8	14.2	13.5	20
22					20.5	20.0	20.0	19.8	19.5	18.4	13.2	15.8	13.5	13.8	12.9	12.5	22
24						17.5	18.0	17.5	17.0	16.5	12.1	14.5	12.4	12.6	11.7	11.4	24
26						16.4	15.8	15.7	15.1	14.8	11.1	13.2	11.4	11.5	10.7	10.5	26
28							14.5	14.5	13.7	13.5	10.3	12.2	10.6	10.6	9.8	9.6	28
30							13.0	12.6	12.6	12.7	9.5	11.3	9.7	9.8	9.1	8.9	30
32								11.0	11.0	10.5	8.9	10.4	9.1	9.1	8.4	8.1	32
34								10.5	9.8	9.4	8.3	9.7	8.4	8.5	7.8	7.6	34
36									9.2	8.4	7.8	8.5	7.9	7.7	7.3	6.8	36
38									8.7	7.6	7.3	8.0	7.4	7.1	6.8	6.3	38
40										7.2	6.8	7.5	6.3	6.9	6.3	5.8	40
42										6.6	5.7	7.0	5.5	6.0	5.4	5.5	42
44										6.2	5.1	6.5	5.0	5.3	4.8	5.0	44
46											4.5	5.9	4.4	5.2	4.3	4.6	46
48												5.4	4.0	4.6	3.4	4.3	48
50													3.4	4.0	3.2	4.1	50
52														3.6	2.8	3.7	52
54															2.5	3.5	54
56																3.3	56

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

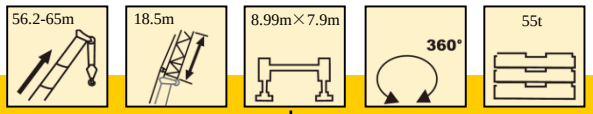
Lifting heights



Lifting capacities



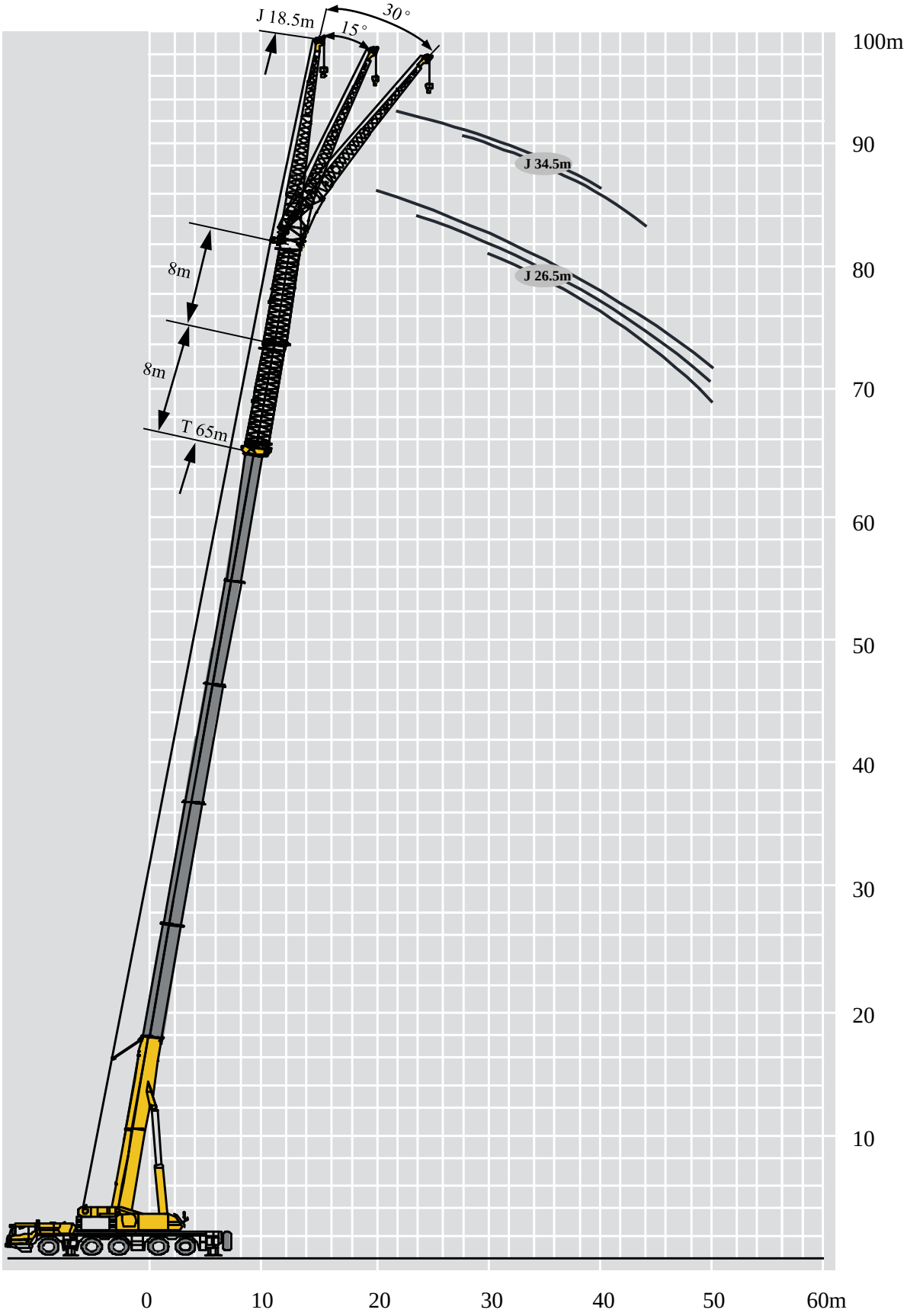
	56.2m			60.9 m			65 m			
	0°	15°	30°	0°	15°	30°	0°	15°	30°	
16	8.0									16
18	8.0	6.2		7.8			7.4			18
20	8.0	5.9	4.4	7.6	5.7		7.2	5.6		20
22	7.8	5.8	4.3	7.4	5.6	4.3	7.1	5.5	4.3	22
24	7.5	5.7	4.2	7.2	5.5	4.1	7.0	5.3	4.0	24
26	7.3	5.5	4.0	7.1	5.4	4.0	6.8	5.2	3.9	26
28	7.1	5.3	3.8	6.8	5.2	3.8	6.6	5.1	3.8	28
30	6.9	5.2	3.7	6.7	5.1	3.7	6.5	4.9	3.6	30
32	6.7	5.1	3.6	6.5	5.0	3.6	6.3	4.8	3.5	32
34	6.4	4.9	3.4	6.4	4.9	3.5	6.2	4.7	3.4	34
36	6.3	4.7	3.3	6.2	4.8	3.4	5.8	4.7	3.3	36
38	6.2	4.3	3.2	6.0	4.6	3.2	5.4	4.6	3.2	38
40	6.0	4.2	3.1	5.6	4.4	3.1	5.0	4.4	3.1	40
42	5.7	4.1	3.1	5.2	4.2	3.0	4.6	4.3	3.0	42
44	5.3	4.0	3.0	4.8	4.1	3.1	4.2	4.2	3.0	44
46	5.0	3.8	2.9	4.5	4.0	3.0	3.9	3.9	2.9	46
48		3.8	2.9	4.1	3.8	2.9	3.7	3.7	2.9	48
50		3.6	2.8		3.7	2.8	3.4	3.4	2.8	50
52			2.6		3.4	2.9	3.1	3.2	2.8	52
54			2.4			2.6		2.7	2.8	54
56						2.4			2.4	56
58									2.2	58
组合	22221			22222			33333			组合



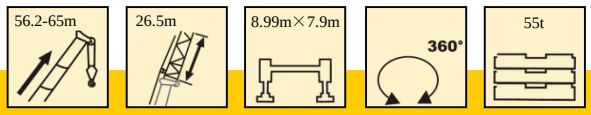
	56.2m			60.9 m			65 m			
	0°	15°	30°	0°	15°	30°	0°	15°	30°	
18	4.1									18
20	4.0			3.8						20
22	4.0	2.7		3.7			3.4			22
24	4.0	2.6		3.7	2.6		3.4	2.6		24
26	3.9	2.5	1.6	3.6	2.5		3.3	2.5		26
28	3.6	2.4	1.5	3.6	2.3	1.5	3.3	2.3	1.6	28
30	3.4	2.3	1.4	3.5	2.2	1.4	3.3	2.2	1.5	30
32	3.1	2.2	1.5	3.3	2.1	1.4	3.2	2.1	1.4	32
34	3.0	2.1	1.4	3.2	2.0	1.4	3.2	2.0	1.5	34
36	2.8	2.0	1.3	3.0	1.9	1.3	3.0	1.9	1.4	36
38	2.7	1.8	1.3	2.8	1.7	1.3	2.9	1.7	1.3	38
40	2.6	1.7	1.3	2.7	1.6	1.3	2.8	1.6	1.4	40
42	2.5	1.6	1.2	2.6	1.6	1.2	2.6	1.5	1.3	42
44	2.3	1.6	1.2	2.4	1.6	1.2	2.5	1.5	1.3	44
46	2.2	1.6	1.2	2.3	1.5	1.2	2.4	1.5	1.1	46
48	2.1	1.5	1.2	2.2	1.5	1.2	2.3	1.4	1.2	48
50	2.0	1.5	1.2	2.1	1.4	1.2	2.1	1.4	1.1	50
52		1.4	1.1	1.9	1.4	1.1	2.0	1.4	1.2	52
54		1.4	1.1	1.9	1.4	1.1	2.1	1.4	1.1	54
56			1.0		1.3	1.1	2.0	1.4	1.1	56
58			1.0		1.1	1.1		1.3	1.1	58
60						1.0		1.3	1.0	60
62						1.0			1.0	62
64									1.0	64
组合	22221			22222			33333			组合

Lifting heights

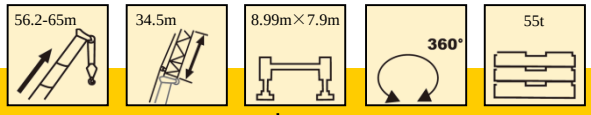
Telescopic boom extension



Lifting capacities



	56.2+8			60.9+8			65+8			
	18.5 m									
	0°	15°	30°	0°	15°	30°	0°	15°	30°	
18	3.6									18
20	3.6			3.2						20
22	3.6			3.2			3.1			22
24	3.5	2.6		3.2			3.0			24
26	3.5	2.5		3.2	2.5		3.0			26
28	3.5	2.4		3.1	2.4		3.0	2.4		28
30	3.4	2.2	1.6	3.1	2.3		3.0	2.4		30
32	3.3	2.1	1.6	3.1	2.2	1.5	3.0	2.2	1.5	32
34	3.3	2.0	1.5	3.0	2.1	1.5	2.9	2.1	1.5	34
36	3.1	1.9	1.4	3.0	1.9	1.4	2.9	2.0	1.4	36
38	3.0	1.8	1.3	3.0	1.9	1.4	2.9	1.9	1.4	38
40	2.9	1.8	1.3	2.9	1.8	1.3	2.8	1.9	1.3	40
42	2.7	1.8	1.3	2.7	1.7	1.3	2.8	1.8	1.3	42
44	2.5	1.7	1.2	2.6	1.7	1.3	2.8	1.8	1.3	44
46	2.3	1.5	1.2	2.5	1.7	1.3	2.7	1.7	1.2	46
48	2.2	1.6	1.2	2.4	1.6	1.2	2.6	1.6	1.2	48
50	2.1	1.5	1.2	2.2	1.5	1.2	2.5	1.6	1.2	50
52	2.0	1.4	1.1	2.1	1.6	1.2	2.4	1.6	1.1	52
54	2.1	1.5	1.1	2.1	1.5	1.2	2.2	1.6	1.1	54
56	2.0	1.4	1.1	2.1	1.4	1.2	2.1	1.4	1.1	56
58		1.3	1.0	2.0	1.5	1.1	2.0	1.4	1.1	58
60		1.2	1.0	1.8	1.4	1.1	1.8	1.4	1.1	60
62			1.0		1.3	1.0	1.7	1.3	1.0	62
64						1.0		1.3	1.0	64
66									1.0	66
	22221			22222			33333			



	56.2+16			60.9+16			65+16			
	18.5 m									
	0°	15°	30°	0°	15°	30°	0°	15°	30°	
22	3.0			2.7						22
24	3.0			2.7			2.5			24
26	3.0			2.7			2.5			26
28	3.0			2.7			2.5			28
30	2.9	2.4		2.7	2.4		2.5	2.3		30
32	2.9	2.3		2.6	2.3		2.4	2.3		32
34	2.9	2.2		2.6	2.3		2.4	2.3		34
36	2.9	2.0	1.5	2.6	2.1		2.4	2.2		36
38	2.9	2.0	1.4	2.6	2.0	1.5	2.3	2.0	1.5	38
40	2.8	2.0	1.4	2.6	2.0	1.4	2.3	2.0	1.4	40
42	2.8	1.8	1.4	2.5	2.0	1.4	2.3	2.0	1.4	42
44	2.7	1.8	1.4	2.5	1.8	1.4	2.3	1.9	1.4	44
46	2.5	1.8	1.3	2.5	1.8	1.3	2.2	1.9	1.4	46
48	2.5	1.6	1.3	2.4	1.8	1.3	2.2	1.8	1.3	48
50	2.5	1.6	1.3	2.4	1.8	1.3	2.2	1.8	1.3	50
52	2.3	1.6	1.3	2.3	1.6	1.3	2.1	1.7	1.3	52
54	2.2	1.5	1.2	2.2	1.6	1.3	2.0	1.6	1.3	54
56	2.1	1.5	1.1	2.1	1.5	1.3	1.9	1.6	1.3	56
58	2.1	1.5	1.1	1.8	1.5	1.2	1.4	1.6	1.3	58
60	2.0	1.4	1.1	1.8	1.5	1.1	1.3	1.6	1.3	60
62	2.0	1.4	1.1	1.7	1.5	1.1		1.2	1.2	62
64		1.4	1.1		1.4	1.1			1.0	64
66			1.1			1.1				66
	22221			22222			33333			

Description of symbols

General symbols

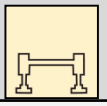
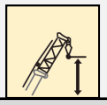
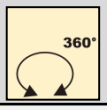
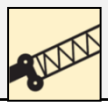
	Superstructure		Chassis
	Lifting capacity		Axle
	Boom length		Driving speed
	Radius		Grade ability
	Boom angle		Tires
	Hoist height with boom		Outriggers
	Fixed jib length		Hook block
	Jib offset angle		Counterweight
	Hoist height with jib		Winch
	Independent jib head		360° rotation
	Boom extension		

Table of main technical parameters

Category	Item		Unit	Parameter
Dimensions	Dimensions (Length×width×height)		mm	16450×3150×4000
	Wheel base		mm	2650+1650+2900+1650
	Track (Front/ Rear)		mm	2572
	Front/ Rear overhang		mm	2660/2128
	Front/ Rear extension		mm	1880/932
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)	390/1700
	Max. output torque/rpm		N.m/(r/min)	2460/1300
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
	Max. load moment	Base boom		kN.m	5145
		Fully-extended boom		kN.m	2695
	Outrigger span	Longitudinal		m	8.99
		Lateral		m	7.9
	Hoist height	Base boom		m	14
		Fully-extended boom		m	64.1
		Fully-extended boom + Jib		m	95.5
	Boom length	Base boom		m	13.9
		Fully-extended boom		m	65
		Fully-extended boom + Jib		m	99.5
Working speed	Boom raising time			s	≤60
	Boom fully extended time			s	≤750
	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.

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