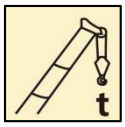
QY50K5D_3 Truck Crane 2025

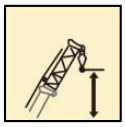
Technical Specification



50t


44m


34m


52.2 m

July 2024, 2nd Edition

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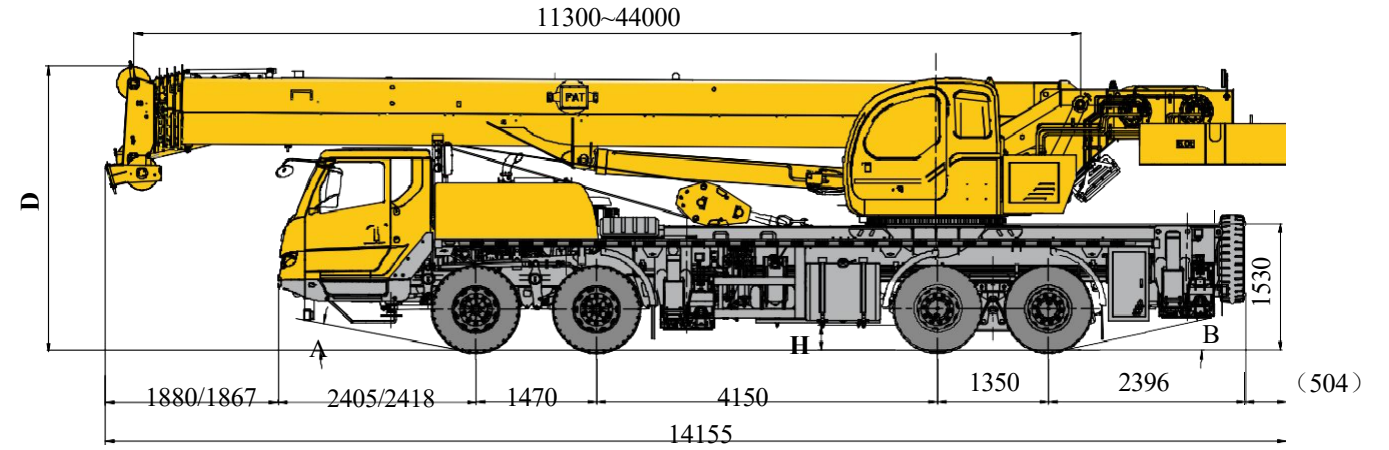
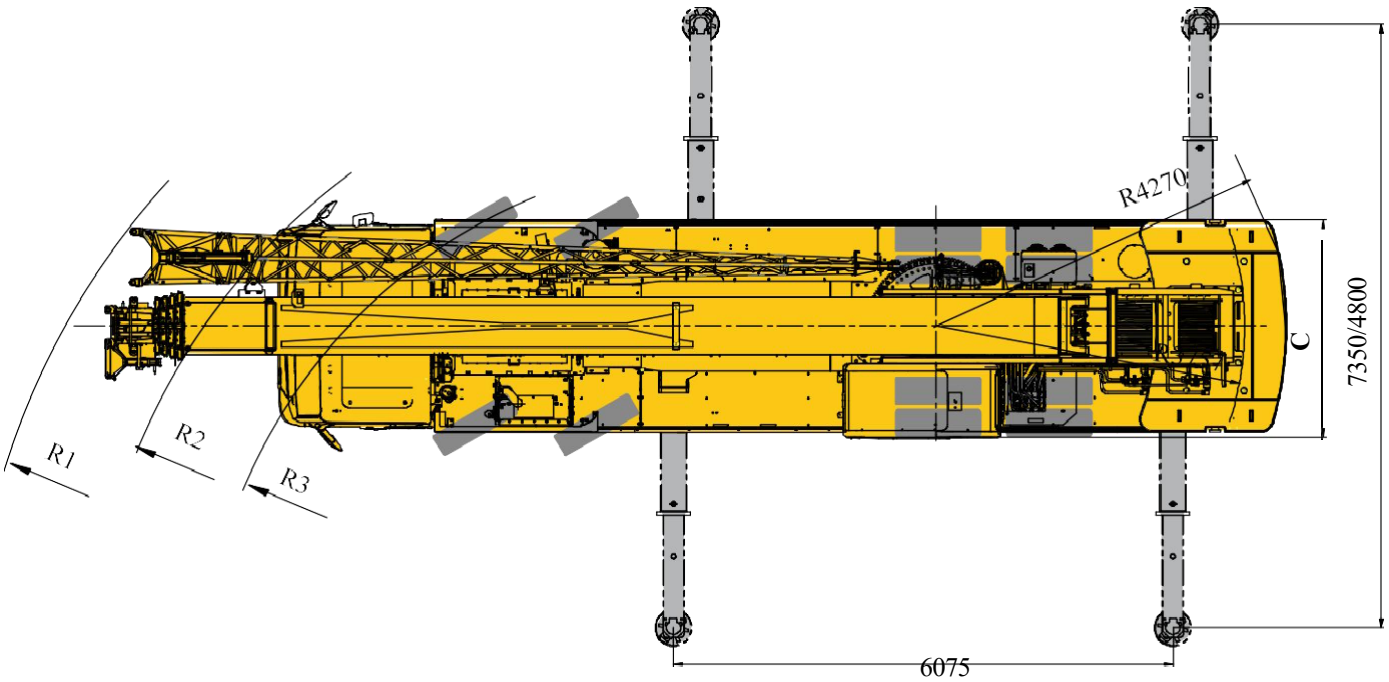
Size Parameter





	A	B	C	D	R1	R2	R3	H
12.00R22.5	11°	12°	2650	3480	15000	14500	12000	280 /258

Note:

When the Qixing cab is configured, the forward extension is 1867mm and the front overhang is 2418mm.

When the XCMG truck cab is configured, the forward extension is 1880mm and the front overhang is 2405mm. When the Hande axle is configured, the minimum ground clearance is 280mm.

When the Meritor axle is configured, the minimum ground clearance is 258mm.

Technical Specifications

Chassis

Frame	Designed and manufactured by XCMG, full-coverage walkway platform, torsion-resistant box structure, made of high-strength steel. ◦
Outriggers	Four outriggers, H-shaped arrangement, double-stage horizontal outriggers are adopted, with horizontal extension The vertical extension and retraction are hydraulically controlled. Manual longitudinal control handles are installed on both sides of the chassis, along with levels and speed control buttons. Moreover, the vertical outriggers are equipped with hydraulic bidirectional locks. The size of the footplate: Φ450mm. The reaction force of the outriggers at the maximum lifting capacity is 494kN.
Engine	SC9DF340Q6, in-line six-cylinder water-cooled electronically controlled diesel engine Manufactured by Shangchai. Rated power: 251kW/1900rpm Maximum torque: 1490Nm/1200-1500rpm Maximum standard torque: 1557N.m National VI emission standard, engine displacement: 8820ml; Fuel tank capacity: 350L The volume of the urea tank is 35 liters.
Transmission	Fast 9-speed transmission, 9 forward gears, 1 reverse gear, mechanical operation, with synchronizer.
Axle	High-strength axles from well-known brand manufacturers, 1 and 2 axles for steering, 3 and 4 axles for drive
Suspension	The front axle adopts leaf springs. The rear axle adopts rubber spring suspension with a V The thrust rod structure of the type enhances the driving stability of the chassis and reduces the wear of the tires.
Tyre	Twelve tires and one spare tire. Tire specification: 12R22.5.
Braking	Service brake: Dual-circuit pneumatic brake, acting on all wheels. Parking brake: Spring energy storage brake, acting on the 3 - and 4-axle wheels. Auxiliary braking: Engine exhaust braking and deceleration braking.
Turn	1. Mechanical steering + hydraulic power assist for Bridges 1 and 2.
Cab	It is equipped with a front windshield safety glass with a wide field of view, an electric wiper, an electric window lifter, a heating and cooling air conditioner, which can achieve functions such as blowing on the face and feet, defrosting and defogging, and a retractable, etc. The driver's seat is equipped with a mechanical shock-absorbing seat to meet the requirements of operational comfort and riding convenience for passengers. The passenger seat is a single person and is equipped with a 1kg fire extinguisher.
Electrical system	Two 12V battery packs with a DC voltage of 24V are connected in series. Generator, 28V-80A.

Chassis (Plug-In Version)

Motor	TZ290XSXG100A, Weiteli permanent magnet synchronous motor. Motor power: 100/150 kW Motor torque: 700/1050N.m External power supply voltage (AC) : 380V.

Technical Specifications

Chassis

Frame	Designed and manufactured by XCMG, made of high-strength steel.
Outriggers	The chassis engine drives the gear pump through the transmission for lifting. Amplitude variation, extension and retraction, and rotation actions. Specialized throttling load sensitive design ensures a more stable minimum system flow rate and a more reasonable system stiffness The micro-movement and smoothness of the business are more prominent. Adopting the split-combined flow technology, the two pumps of lifting, luffing and telescopic flow are combined. Air-cooled hydraulic oil heat exchanger. The capacity of the hydraulic oil tank is 735 liters.
Manipulation Mode	Pilot liquid proportional control, stepless speed regulation, operated by two controllers on the left and right Handle control.
Lifting Mechanism	Double folded wire rope groove drum, driven by a hydraulic motor, with built-in planets Gear speedometer and normally closed brake, with a balance valve. The main and auxiliary hoisting mechanisms operate independently.
Rotary Mechanism	Single-row four-point contact ball external gear slewing bearing, driven by a hydraulic motor Drive, built-in planetary gear reducer and normally closed brake It can rotate continuously by 360°, has the functions of power control or free sliding, and can be steplessly speed-regulated.
Amplitude Variation Mechanism	Single double-acting front hydraulic luffing cylinder with a balance valve.
Control room	The large arc control room is equipped with a front window, safety glass and car Windows It is equipped with a sun visor. The backrest of the operator's seat can be reclined and positioned. The control lever is installed on the armrests on both sides of the seat. It features dual-motor wipers for the front and top Windows, a 2.5L water bottle, and standard air conditioning with both heating and cooling.
Electrical system	24V DC, two batteries connected in series.
Safety Device	Hydraulic balance valve, hydraulic relief valve, hydraulic bidirectional lock, force Moment limiter Three-turn protectors to prevent the steel wire rope from being over-discharged; A height limit is set at the arm head to prevent the steel wire rope from overwinding. Hoist monitoring device, real-time monitoring of hoist status.
Torque Limiter	When the actual torque approaches overload, an audible and visual alarm is issued. And automatically stop dangerous actions before overload. It has an overload memory function (black box) and a self-diagnosis function for faults.
Lifting Hook	40t hooks, 5t hooks.
Balanced Weight	The total weight is 8 tons, and there are two combinations available: 8 tons and 5 tons.

Boom system

Main arm	It is composed of one basic arm and four telescopic arms, with a "U" -shaped cross-section The cylindrical welded structure is made of high-strength structural steel and features a double-cylinder rope row telescopic mechanism. Main arm length: 11.3m to 44m.
Secondary Arm	Single-section truss welded structure, with three fixed auxiliary arm installation angles of 0°, 15° and 30°. Secondary arm length: 9 meters.
Single Sliding at The Arm End Wheel	Single pulley, installed at the top of the main boom, is used for single-strand wire rope lifting The operation has the same lifting performance as the main boom, but the maximum lifting capacity does not exceed 4000kg.

Vehicle Model

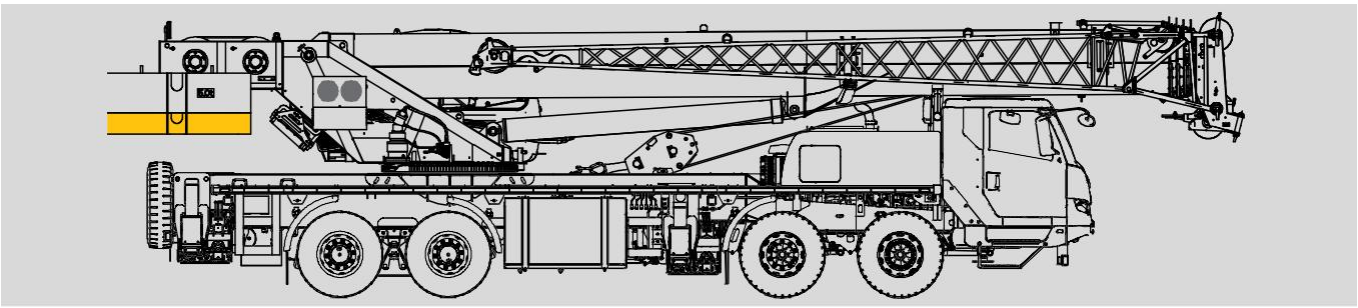
Vehicle model	Function description
Standard type	The five-section main arm is 44 meters long and the fixed secondary arm is 9 meters.
Note: This product is only available in one model, the standard type.	

Weight

Axle	1	2	3	4	Total Weight
	6.35	6.35	12.65	12.65	38[1)]
	5.6	5.6	14.9	14.9	41[2)]

1) Highway driving condition: The rear of the turntable does not carry a 3t movable counterweight. The main hook is fixed on the middle frame platform of the vehicle, and the auxiliary hook is fixed at the rear of the frame.

2) Heavy-load transfer state: Carry 3 movable counterweights on the basis of the road driving state.



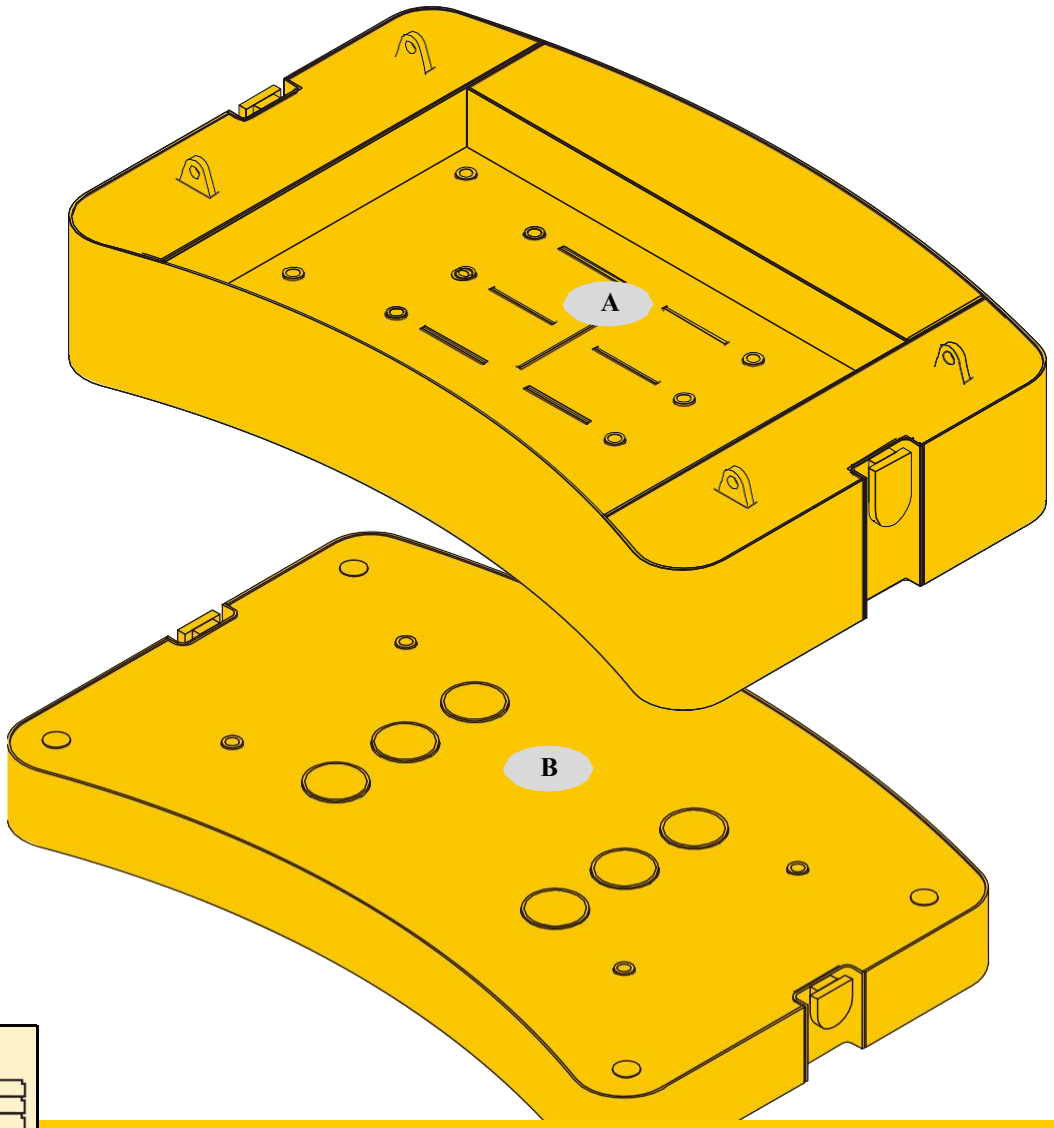
Hook	Multiplier	Hook Weight	Hook Size	Remarks
50 t	10	397	439×544×1325	Single hook
40 t	9	360	389×504×1362	Single hook
5 t	1	100	300×300×535	Single hook

Operation Speed

	km/h	
12R22.5	2.5～90	45%

Working Mechanism	Operation Speed	Maximum Single-Rope Tensile Strength	Steel Wire Rope Diameter/Length
1	0-130 m/min，Single rope, fourth layer	50kN	18 mm/190 m
2	0-130 m/min，Single rope, fourth layer	50kN	18 mm/115 m
360°	0-2.5 r/min		
	Lift from -0.2° to 80.3° in about 40 seconds		
	It extends from 11.3 meters to 44 meters, approximately 85s		

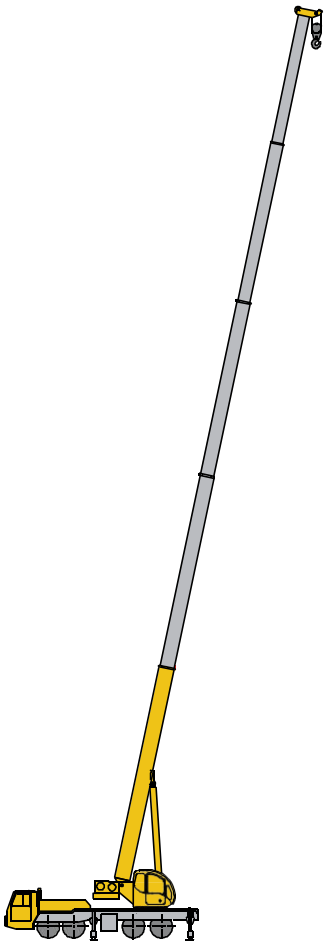
Balanced Weight

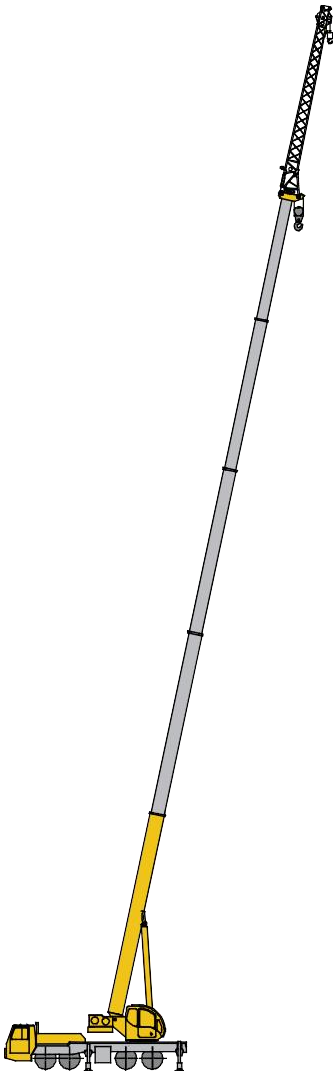


Balanced Weight	A	B
Dimensions (Length × Width × Height) mm	2580×1722×495	2580×1722×265
weight t	5	3

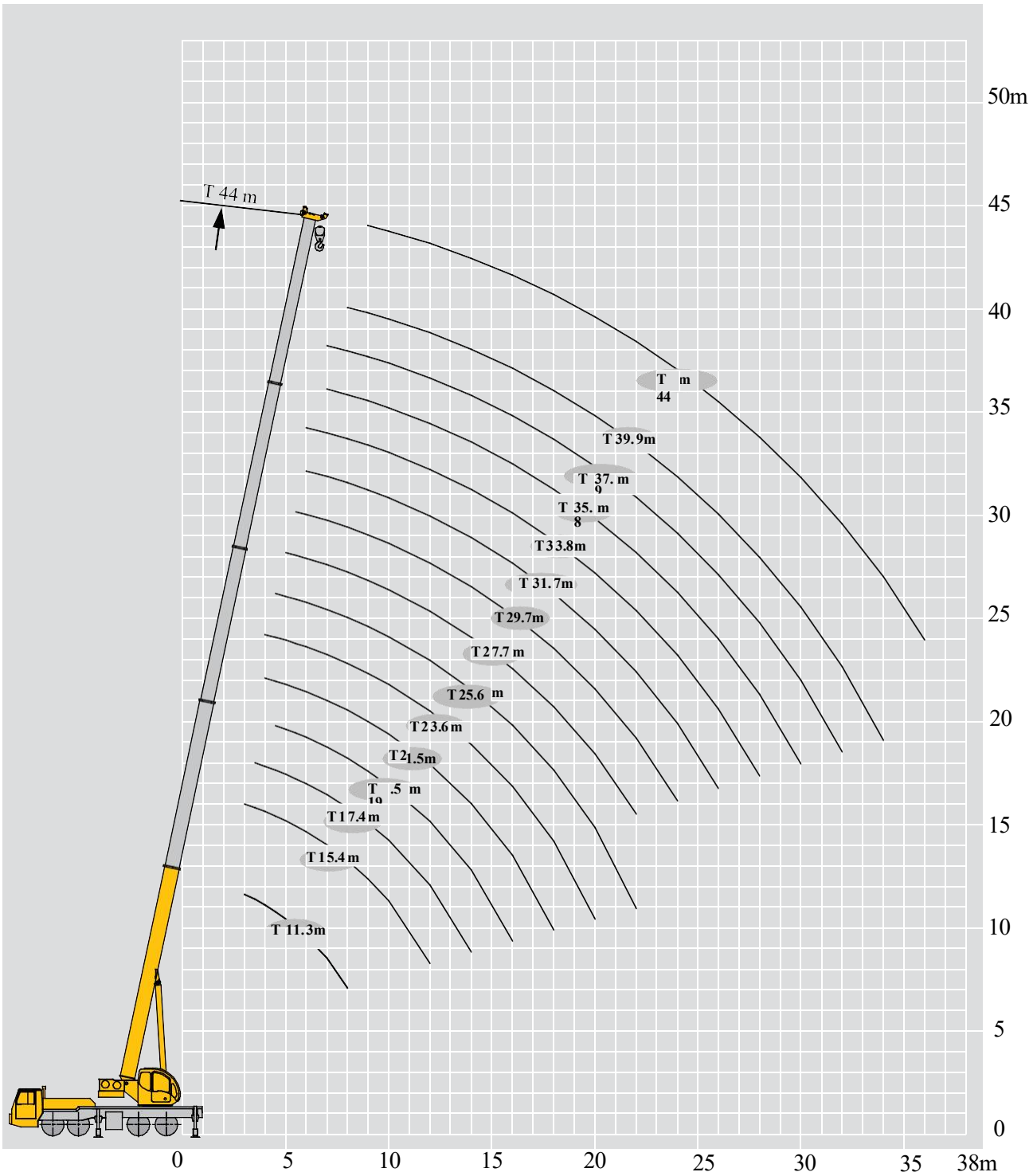
Working Condition Mode	8t	5t
Combination form	A+B	A

Boom Combination Scheme



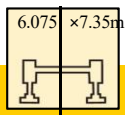


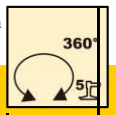
Main Arm	Secondary Arm
T：11.3~44m	T：44m J：9 m

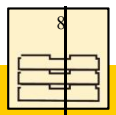

T 44 m
T m
44
T 39.9m
T 37. m
9
T 35. m
8
T 33.8m
T 31.7m
T 29.7m
T 27.7 m
T 25.6 m
T 23.6 m
T 21.5m
T .5 m
16
T 17.4 m
T 15.4 m
T 11.3m
50m
45
40
35
30
25
20
15
10
5
0
0
5
10
15
20
25
30
35
38m

Lifting Performance Table

T 11.3~44m

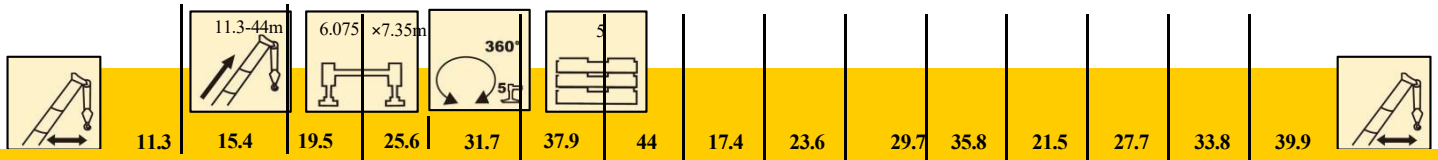




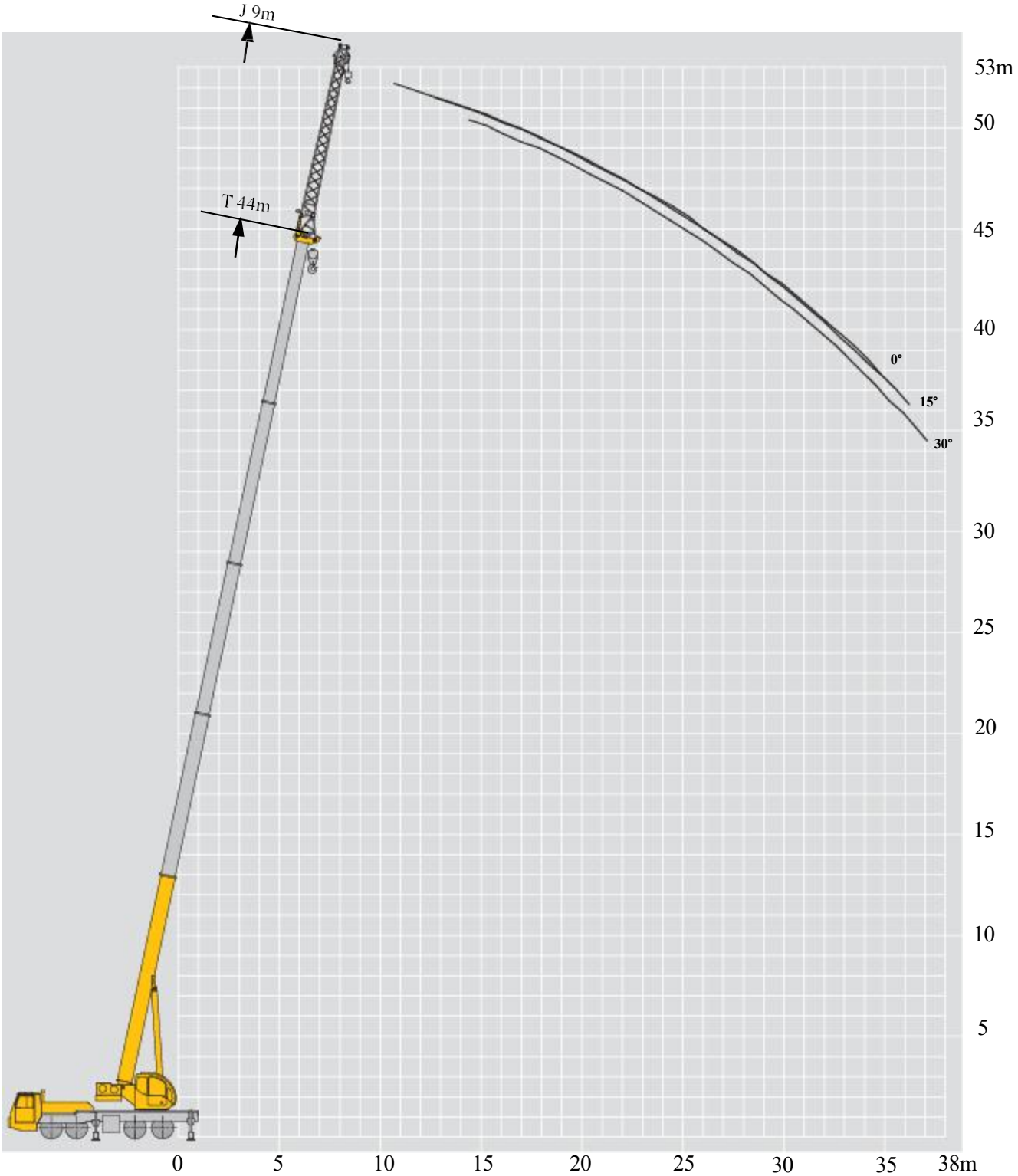
	11.3	15.4	19.5	25.6	31.7	37.9	44	17.4	23.6	29.7	35.8	21.5	27.7	33.8	39.9	
3	50															3
3.5	40	38														3.5
4	35.5	36						25								4
4.5	33.5	33	28	23				25	23.5			23.6				4.5
5	32.5	30.6	28	23				25	23.5			23.6	22.5			5
5.5	29.7	28.5	27	22.7				25	23.5	14		23.6	22.5			5.5
6	27	26.5	24.5	21.4	19.1			25	23.2	14		23.6	22.5	12.6		6
7	23	22.3	21.6	19.1	17.6	12.5		23.5	21.7	14	10.3	22	22.5	12.6		7
8	19.2	19	19	17	15.9	12.5		20	20	14	10.3	19.5	18.9	12.6	10.2	8
9		16	16.2	15.3	14.3	12.2	9.2	17.4	17.5	13.6	10.3	17	17	12.6	10.2	9
10		13.9	13.5	13.9	13.2	11.7	8.9	15.3	15.8	12.7	10.3	14.8	15.4	12.2	10.1	10
12		9.9	9.7	10.6	10.7	10	8.3	11.4	11.9	11.3	9.1	10.9	11.5	11.8	9.1	12
14			7.1	7.9	8.4	8.5	7.3	8.7	9.2	9.5	8.2	8.3	8.8	9.1	8.1	14
16			5.3	6.1	6.6	6.9	6.4		7.3	7.6	7.1	6.4	6.9	7.2	7.1	16
18				4.7	5.2	5.5	5.7		6	6.2	6.4	5.1	5.5	5.8	6	18
20				3.7	4.2	4.5	4.7		4.9	5.2	5.3		4.5	4.8	5	20
22				2.9	3.3	3.6	3.9			4.3	4.5		3.7	4	4.2	22
24					2.7	3	3.2			3.6	3.8			3.3	3.5	24
26					2.2	2.4	2.7				3.2			2.7	2.9	26
28						2	2.2				2.7			2.2	2.4	28
30						1.6	1.8				2.3				2	30
32						1.2	1.5								1.7	32
34							1.2								1.4	34
Ratio	10	8	7	6	4	3	3	6	6	4	3	6	5	4	3	Ratio

Lifting Performance Table

T 11.3~44m



	11.3	15.4	19.5	25.6	31.7	37.9	44	17.4	23.6	29.7	35.8	21.5	27.7	33.8	39.9	
3	50															3
3.5	40	38														3.5
4	35.5	36						25								4
4.5	33.5	33	28	23				25	23.5			23.6				4.5
5	32	30.6	28	23				25	23.5			23.6	22.5			5
5.5	28.5	28	27	22.7				25	23.5	14		23.6	22.5			5.5
6	26	25.2	24.5	21.4	19.1			25	23.2	14		23.6	22.5	12.6		6
7	21.5	21	20.8	19.1	17.6	12.5		22.4	21.7	14	10.3	22	22.5	12.6		7
8	17.4	16.9	16.6	17	15.9	12.5		18.6	19.1	14	10.3	18	18.6	12.6	10.2	8
9		13.4	13.1	14.1	14.3	12.2	9.2	15	15.5	13.6	10.3	14.4	15	12.6	10.2	9
10		10.9	10.7	11.5	12.1	11.7	8.9	12.4	12.9	12.7	10.3	11.9	12.4	12.2	10.1	10
12		7.6	7.3	8.2	8.6	9	8.3	8.9	9.4	9.6	9.1	8.5	9	9.3	9.1	12
14			5.2	6	6.5	6.8	7	6.8	7.2	7.4	7.6	6.3	6.8	7.1	7.3	14
16			3.8	4.5	5	5.3	5.5		5.7	5.9	6.1	4.8	5.3	5.6	5.7	16
18				3.4	3.9	4.2	4.4		4.6	4.8	4.9	3.7	4.2	4.4	4.6	18
20				2.6	3	3.3	3.5		3.7	3.9	4.1		3.3	3.6	3.8	20
22				1.9	2.4	2.6	2.8			3.2	3.4		2.6	2.9	3.1	22
24					1.8	2.1	2.3			2.7	2.8			2.4	2.5	24
26					1.3	1.6	1.8				2.4			1.9	2.1	26
28						1.2	1.4				2			1.5	1.7	28
30							1.1				1.6				1.4	30
Ratio	10	8	7	6	4	3	3	6	6	4	3	6	5	4	3	Ratio


J 9m
T 44m
0°
15°
30°
53m
50
45
40
35
30
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20
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5
0
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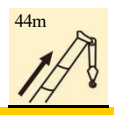
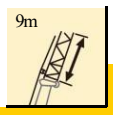
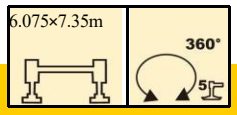
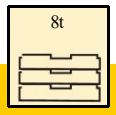
15
20
25
30
35
38m

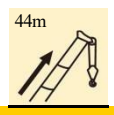


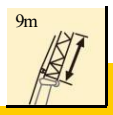


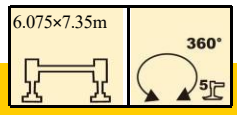




	9m			
	0°	15°	30°	
80	3.6	2.9	2.1	80
78	3.5	2.8	2	78
75	3.3	2.5	1.7	75
72	3.1	2.4	1.6	72
70	3	2.3	1.6	70
65	2.5	2	1.5	65
60	2	1.8	1.3	60
55	1.5	1.4	1.2	55
50	1	0.8	0.7	50



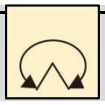
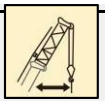


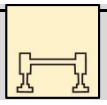
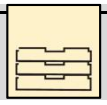
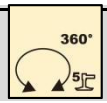


	9m			
	0°	15°	30°	
80	3.6	2.9	2.1	80
78	3.5	2.8	2	78
75	3.3	2.5	1.7	75
72	3.1	2.4	1.6	72
70	3	2.3	1.6	70
65	2.5	2	1.5	65
60	1.7	1.6	1.3	60
55	1.1	1	1	55
50	0.7	0.6	0.6	50

Symbol Identification

Conventional Identification

	Get on the bus
	Lifting capacity
	Boom length
	Working range
	Boom elevation Angle
	The lifting height of the main arm
	Fix the length of the secondary arm
	Secondary arm installation Angle
	The lifting height of the secondary arm
	Do not use the side and rear of the fifth outriggers for operation
	Maximum working range

	Chassis
	Axle
	Driving speed
	Climbing ability
	Tyre
	Outriggers
	Hook
	Balanced weight
	Roll up
	Use the fifth outriggers for 360° full rotation

Use The Fifth Outriggers For 360° Full Rotation

Category	Project		Unit	Parameter
Size Parameter	Overall dimensions (length × Width × height)		mm	14155×2650×3480
	Wheelbase		mm	1470+4150+1350
	Track length (front/rear)		mm	Non-plug-in: 2032/1854 (Hande) 2073/1838 (Shenzhou) Plug-in: 2032/1854 (Hande + Meritor)
	Front overhang/rear overhang		mm	2405/2396 (XCMG Automobile) or 2418/2396 (Qixing)
	Extend forward/backward		mm	1880/504 (XCMG Automobile) or 1867/504 (Qixing)）
Weight Parameter	Maximum allowable total mass		kg	38000
	Axle load	One axis	kg	6350
		Two-axis	kg	6350
		Three-axis	kg	12650
		Four-axis	kg	12650
Dynamic Parameter	Engine model		——	SC9DF340Q6
	Rated power/rotational speed		kW/(r/min)	251/1900
	Maximum net power/rotational speed		kW/(r/min)	248/1900
	Maximum torque/rotational speed		N.m/(r/min)	1490/1200-1500
Driving Parameter	Maximum vehicle speed		km/h	≥90
	Minimum stable vehicle speed		km/h	2.5～3
	Minimum turning diameter		m	≤24
	Minimum turning diameter of the boom head		m	≤29
	Minimum ground clearance		mm	280 Hande /258 Meritor
	Approach Angle		°	11
	Departure Angle		°	12
	Braking distance (initial braking speed is 30km/h)		m	≤10
	Maximum climbing ability		%	≥45
	Fuel consumption per 100 kilometers		L	35
Noise	External noise during accelerated driving		dB(A)	≤88
	Noise beside the driver's ear		dB(A)	≤90

Main Technical Parameter Table

Category	Project	Unit	Parameters
Electric drive parameters (Plug-in version）	Motor power (rated power/peak power)	kW	100/150
	Motor torque (rated torque/peak torque)	N.m	700/1050
	External power supply voltage (AC)	V	380

Main Technical Parameter Table

Category	Project			Unit	Parameters
Main Performance Parameters	Maximum rated gross lifting capacity			t	50
	Minimum rated working range			m	3
	The tail of the turntable rotates half a turn	Balance weight point		mm	4270
		Main Volume		mm	3757
	Maximum lifting moment	Basic arm		kN.m	1600
		The longest main arm		kN.m	947
		The longest main arm + secondary arm		kN.m	581
	Outrigger span	Vertical		m	6.075
		"Horizontal"		m	7.35
	Lifting height	Basic arm		m	11.6
		The longest main arm		m	44
		The longest main arm + secondary arm		m	52.2
	Boom length	Basic arm		m	11.3
		The longest main arm		m	44
		The longest main arm + secondary arm		m	53
	Secondary arm installation Angle			°	0, 15, 30
Working Speed Parameter	Boom lifting time			s	≤40
	The full extension time of the boom			s	≤85
	Maximum rotational speed			r/min	≥2.5
	The extension and retraction time of the outriggers	Horizontal outriggers	closed	s	≤30
			put	s	≤40
		Vertical outriggers	closed	s	≤30
			put	s	≤40
	Lifting speed (single rope, fourth layer) Empty load	Main hoisting mechanism		m/min	≥130
		Auxiliary hoisting mechanism		m/min	≥130
Noise	External radiation			dB（A）	≤108
	At the driver's position			dB（A）	≤85

Precautions

1. The rated total lifting capacity value in the table is the maximum total lifting capacity that this crane can guarantee on a flat and solid ground, including the weight of the hook and lifting gear. Therefore, in order to estimate the weight of the heavy object, the weight of the above-mentioned device must be subtracted.
2. The working range in the table is the horizontal distance from the lifted object to the crane's axis of rotation when the lifted object is off the ground. It is the actual value including the deformation of the boom. Therefore, the deformation of the boom should be considered before lifting.
3. Operations are only allowed at winds below level 5 (instantaneous wind speed 14.1m/s, wind pressure 125N/m²).
4. Before lifting, the operator must understand the weight of the object and the working range, and then select the appropriate working conditions. It is strictly forbidden to exceed the values in the table. When the amplitude and boom length are between two adjacent values, the lifting operation should be determined based on the smaller of the two values.
5. The operation should be carried out within the main arm elevation Angle range. Even when the load is empty, the main arm elevation Angle should not be outside the range to prevent the entire machine from overturning.
6. The length of the main arm in the table should be extended in accordance with the extension requirements of each section of the arm.