ZOOMLION

ZMC450V532

TRUCK CRANE

40
PRODUCTS


ZMC450V5
45t
Wt:340kg

CONTENTS

ZMC450V532

5 Boom sections & Full-wheel steering

Conforming to Brazilian standard for axle load

Standard configuration: Outrigger pressure detection **/** Reverse camera **/** Rotation alarm system **/** Circular warning light for superstructure and chassis **/**Anemometer**...**

Excellent performance

U-shape boom with 5 boom sections made of high strength structural steel. 44m when fully extended, 52.3m max. lifting height with the basic boom and jib.
1245kN.m max. lifting moment on basic boom, 807kN.m on fully extended boom.
6.6t counterweight, 6.66m outrigger spread, 35t kerb mass, sound anti-tipping capacity.

Efficient & convenient

135m/min max. lifting speed, 2.6r/min max. slewing speed, high working efficiency.
Lowest stabilized winch speed 2.5m/min, lowest stabilized slewing speed of 0.1°/min, reliable at low speed, accurate load positioning
Full wheel steering by the three axles, 9.5m steering radius, providing excellent mobility.
Efficient drive chain, straight layout of propeller shaft, fast crane translocation.

Comfortable & safe

The onboard information platform provides real-time monitoring and control near at hand.
910mm wide operator's cab, seat adjustable in 6 directions, push-open windows as standard configuration, electric fan, AC for both cooling and heating, providing more comfortable operations.
10-inch multifunction true-color screen of the load moment limiter, winch monitoring as standard configuration, virtual wall, fault display, intelligent OM recommendation, etc., enhancing work safety.
Full width driver's cab installed with mechanically suspended seat, 9-inch reversing display as standard configuration, providing comfortable and thoughtful driving experience.

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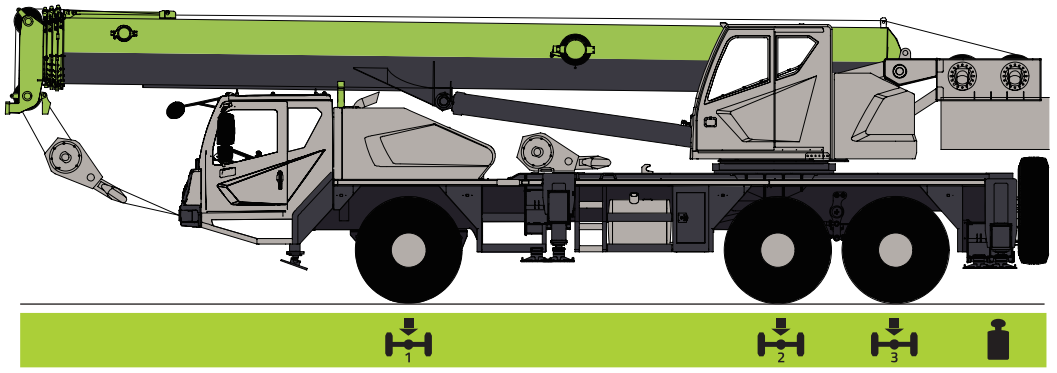
Max. load moment of basic boom
1245 kN.m

Max. lifting moment with fully extended boom
807 kN.m

Max. lifting height of jib
52.4 m

Traveling mode



Working Speed

	km/h	%	
385/95R25	85	45	9/R
Drive	φ		F
1	ϕ 17	185m	50kN
2	ϕ 17	115m	50kN
360	0~2.7r/min		
	30s/70s		
	70s/95s		

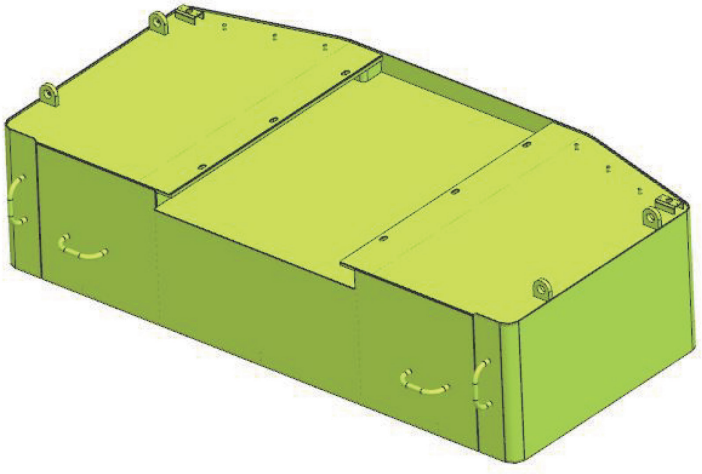
Hook

Specification	Weight (t)	Transport dimensions (mm)	Fall
45t	340kg	1.4m×0.5m×0.4m	9
3t	60kg	0.6m×0.3m×0.3m	1

Optional components

No.	Description
1	Cold start system
2	Outrigger PDO length detection system
3	Sleeper I

Counterweight



			Quantity (piece)
G	6.6t	2.7m×1.4m×0.7m	1

SPECIFICATIONS

Crane Superstructure

Hydraulic system
▪ Open type, hydraulic-controlled proportional pilot operated, proportional speed control system, the power element is variable pump plus gear pump.

Hoist mechanism
▪ Composed of a hydraulic motor, winch reducer, hositing limit switch, lowering limit switch, and wire rope.

Derricking mechanism
▪ One front-mounted hydraulic cylinder with safety balance valve.

Slewing mechanism
▪ Composed of a hydraulic motor, slewing reducer and slewing bearing, providing 360° unlimited slewing function.

Operator's cab
▪ Steel structure body. Equipped with adjustable seat with head-rest. Equipped with pilot hydraulic control joysticks, windshield wiper and washer.

Slewing platform
▪ The layout of articulated points of the boom and derricking mechanism is more reasonable.

Counterweight
▪ One 6.6t fixed counterweight.

Jib
▪ 8.5m jib, offset: 0°, 15°, 30°

Outriggers
▪ H-type outriggers, which are in box-shaped structure and welded of low-alloy and high-strength steel plate, are of good sectional performance and strong load bearing capability viafinite element analysis and simulated design;
▪ 2-section horizontal outrigger beam can be extended and retracted with a horizontal cylinder and a set of outrigger extension / retraction rope;
▪ Manual outrigger control levers are fitted on both sides of the vehicle for controlling the outriggers to extend or retract simultaneously or independently. Each vertical cylinder is equipped with a two-way hydraulic lock to ensure stable and reliable operation of the crane;
▪ In addition, the crane also can work with outriggers intermediately extended for narrow area operation;
▪ The 5th outrigger is installed beneath the driver's cab. The crane can realize full range slewing operation with the 5th outrigger set up.

Safety devices
▪ Automatic load moment limiter,warning light,the digital LCD. hoisting limit switch, hook safety device, lowering limit switch, 5th outrigger overpressure protection device, two-way hydraulic lock, balance valve, relief valve and so on.

Electrical system
▪ Adopting two-wire system, the power supply is 24V DC.

Boom and telescoping mechanism
▪ The boom consists of one basic boom and four telescopic booms, and the cylinder is made of low alloy high-strength steel, possessing good bending resistance. The boom structure adopts embedded slider. Two telescopic cylinders with synchronized telescopic mechanism complete the free telescoping of the boom.

Rooster sheave
▪ It is secured at the outside of the boom head when it is not used. It can be rotated around the shaft and pinned onto the boom head when it is used;
▪ This option is set up for rapid hoists over the boom head to improve the working efficiency when the loads are light.

Main and auxiliary hooks
▪ Main hook: 45 t, with 4 pulleys, installed with a mounting lug at the end of the wire rope and an anti-slipping and anti-rotation hook latch;
▪ Auxiliary hook (1 reeving): 3t, installed with an anti-twist and anti-slipping hook latch.

Air condiitoning
▪ AC for both cooling and heating.

SPECIFICATIONS

Crane chassis

Engine

▪ Specialized high-pressure common rail electric injection diesel engine for construction machinery

Clutch

▪ Single Dry Clutch.
▪ Air bossted hydraulic control mechanism

Transmission

▪ Mechanical 9-speed transmission with locking pin synchronizers in both the main and secondary cases, with transverse teeth output.

PTO

▪ Rated output torque: 700N/m; output mode: flange connection, output flange rotation and engine rotation is of the same direction; ▪ rear-mounted power take-off, installed on the intermediate shaft at the bottom of the tranmission; manual pneumatic maneuvering.

Propeller shaft

▪ Styre series open-type propeller shaft assy., which consists of two sections, and is with contrate gear on the flange.

Chassis frame

▪ It adopts a box-type structure with high loading and anti-twisting capacity, and the material is high-strength structural steel plate.

Wheels and tires

▪ Special wheel rim and inflated tires
▪ Size: 385/95R25.

Steering system

▪ Consist of an integral circular ball power steering gear, steering oil pump and steering drive mechanism.

Suspension

▪ Transverally installed leaf spring suspension for the front axle, and rubber suspension for the rear axle.

Driver's cab

▪ Low-mounted full-width driver's cab of a steel structure. The front instrument condole, adjustable steering wheel and electric windows at the two sides, adjustable hydraulic damping seat, AC for both heating and cooling, and sun visor provide the driver with comfortable environment.
Braking System
▪ It consists of a traveling brake (foot brake), a parking or emergency brake (hand brake) and an auxiliary brake. The traveling brake is a double circuit pneumatic brake, acting on all wheel hubs; the parking or emergency brake is a spring brake, acting on the hubs of the second, third and fourth axles; the auxiliary brake is the engine exhaust and VVEB.
▪ Brake pedal travel: 95mm.

Electrical system

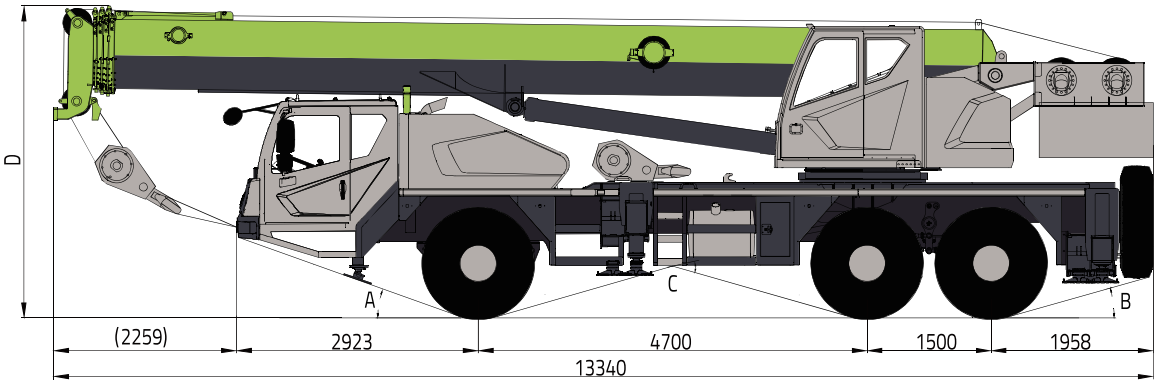
▪ Two 6-QW-200 battery connected in series (each voltage 12V), using a single-wire system, the metal itself (negative) is used as the return line, and the negative is grounded through the main power switch, which composes of 24V output voltage;
▪ The standard generator is an integrated AC generator with voltage regulating function. , Tthe output power is 2kW.

TECHNICAL DATA

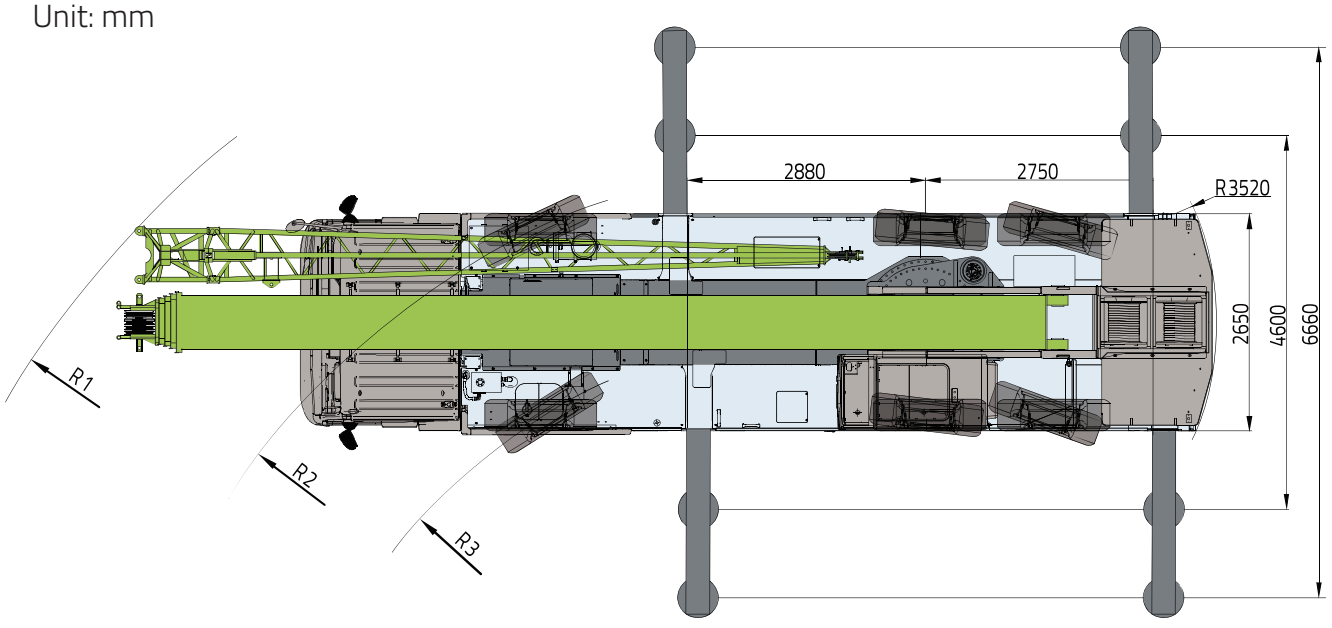
	Item	Unit	Value	Remarks
Working performance	Max. rated lifting capacity	kg	45000	
	Max. load moment of basic boom	kN.m	1245	
	Max. lifting moment with fully extended boom	kN.m	807	
	Max. lifting height of basic boom	m	11.8	
	Max. lifting height of boom	m	44.1	These parameters do not include deflection of boom and jib.
	Max. lifting height of jib	m	52.4	
Working speeds	Max. hoist rope speed (Main winch)	m/min	135	Drum 4th layer
	Max. hoist rope speed (Auxiliary winch)	m/min	135	Drum 4th layer
	Boom derricking up time	s	30	
	Boom telescoping out time	s	70	
	Slewing speed	r/min	0-2.7	
Driving	Max. working altitude	m	2000	
	Max. driving speed	km/h	85	
	Max. gradeability	%	45	
	Min. turning diameter	m	≤19	
	Min. ground clearance	mm	415	
	Fuel consumption per hundred kilometers	L	29	
Power parameters	Engine model		YCK 08310-30	
	Rated power/RPM	kW/r/min	228/2200	
	Rated net power/RPM	kW/r/min	224/2200	
	Max. output torque/RPM	N.m/r/min	1265/1200-1700	
Mass	Deadweight in driving condition	kg	35000	
	Complete vehicle kerb mass	kg	34870	
	Front axle load	kg	11000	
	Rear axle load	kg	24000	
Dimensions	Overall dimensions (L×W×H)	mm	13340×2650×3780	
	Transversal distance between outriggers	m	5.63	
	Longitudinal distance between outriggers	m	Fully extended:6.66 Intermediately extended: 4.60	
	Slewing radius of counterweighttail	mm	3520	
	Boom length	m	11.1~44	
	Boom angle	°	-2~80	
	Jib length	m	8.5	
	Jib angle	°	0,15,30	

DIMENSIONS

Unit: mm



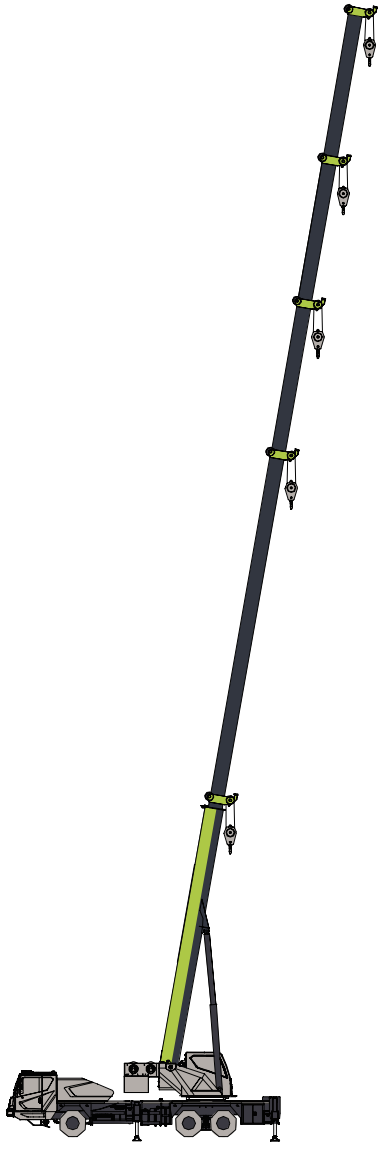
Unit: mm



	A(°)	B(°)	C(°)	D(mm)	R1(mm)	R2(mm)	R3(mm)
385/95R25	20	15	32	3780	12420	9500	7580

BOOM/JIB COMBINATION

T Boom
J Jib



T5

T5J

Working Condition	Boom/Jib Length
T	11.1-44m
TJ	44m T + 8.5m J

LIFTING HEIGHTS/CAPACITIES

1. Values in Column Ⅰ represent the extended length of the telescopic cylinder I under corresponding OMs. Values in Column II represent 3 times the extended length of the telescopic cylinder II.

2. The outriggers should be fully or intermediately extended for all rated capacitieis. It is prohibited to lift a load when the outriggers are not extended.

3. When the 5th outrigger is extended, the values in the chart are applicable to 360-degree working range. When the 5th outrigger is not extended, lifting over the front working area is strictly prohibitd.

4. The values given in the rated capacity charts are the max. permissible lifting capacities under various OMs and specified operating conditions. The values as given in the tables include the mass of the hook (main hook: 340 kg, auxiliary hook: 60 kg) and slings

Rated capacity = the actual lifting capacity of the crane + mass of the hook and slings

5. The working radius is the horizontal gravity center distance of the hook block from the rotational axis of the crane superstructure measured at the ground.

6. When a boom length or working radius is between two values in the chart, the rated capacity should be determined using the interpolation method. The rated capacity displayed in the load moment limiter is for reference only.

7. If the jib is mounted on the boom head during boom operation, the possible load should be subtracted by the mass of the lsing and another 700kg..

8. The maximum lifting capacity for the rooster sheave is 3000 kg. If the rated lifting capacity found out in the rated capacity chart is less than 3000 kg according to the actual working conditions, the lifting capacity found out in the table should be referred to.

For example:

The rated lifting capacity is 3050 kg when the crane is working with 29.4 m long boom under 22 m working radius.

The rated lifting capacity is 2000 kg if the crane is working with 35.7m long boom under 26 m working radius.

9. During operation, do not lift a load with both the main hook and auxiliary hook simultaneously.

Warning: whenthe boom length exceeds 30m, even if the hook is unloaded, the boom should be derricked according to the rated capacity charts, otherwise the crane may tip over.

Graphical representation


OM with boom only


OM with boom and jib


Boom angle

Full range slewing

360° full range slewing with 5th outrigger

Working radius

Outriggers fully extended

Outriggers intermediately extended

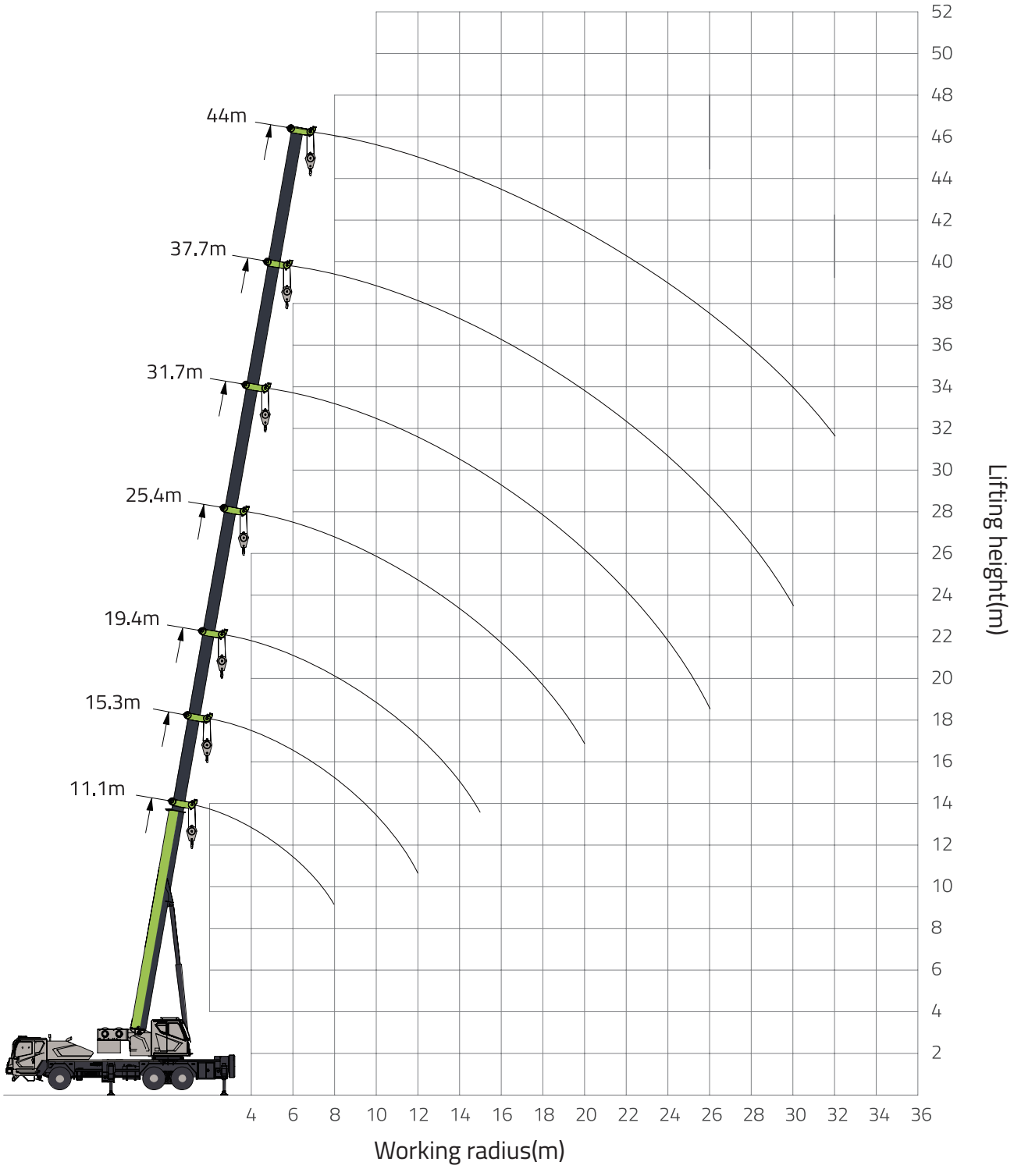
Counterweight mass

Max. reevings


Hook lifting capacity

T

LIFTING HEIGHT CHART



RATED CAPACITY CHART

with boom only

11.1 - 44m 6.66m

Unit: t

m	Boom length (m)						
	11.1	15.3	19.4	25.4	31.7	37.7	44
2.5	45.00						
3	35.00	25.00					
3.5	25.00	25.00					
4	25.00	25.00	21.50				
4.5	25.00	24.50	21.50	19.00			
5	24.80	24.00	21.50	19.00			
5.5	23.10	22.50	21.00	19.00			
6	21.00	20.30	19.50	19.00	15.00		
7	17.20	16.80	16.50	17.30	14.50	10.50	
8	14.50	14.20	13.80	14.50	13.50	10.50	
9		12.10	11.80	12.40	12.40	10.20	7.50
10		10.40	10.30	10.70	11.00	9.10	7.40
11		8.80	8.60	9.45	9.20	8.50	7.00
12		7.30	7.10	7.95	8.50	7.90	6.50
14			5.00	5.80	6.30	6.60	5.80
16				4.30	4.80	5.10	5.15
18				3.20	3.70	4.00	4.20
20				2.40	2.75	3.20	3.40
22					2.20	2.50	2.70
24					1.70	1.95	2.20
26					1.20	1.50	1.75
28						1.10	1.40
30						0.80	1.05
32							0.80
I(m)	0	4.2	8.3	8.3	8.3	8.3	8.3
II(m)	0	0	0	6	12.3	18.3	24.6
02345 123	9	8	5	5	4	3	3
	45t						

RATED CAPACITY CHART

with boom only

11.1 - 44m 6.66m

Unit: t

m	Boom length (m)					
	11.1	15.3	21.3	27.6	33.6	39.9
2.5	45.00					
3	35.00	25.00				
3.5	25.00	25.00				
4	25.00	25.00				
4.5	25.00	24.50	19.00			
5	24.80	24.00	19.00			
5.5	23.10	22.50	19.00	16.00		
6	21.00	20.30	19.00	16.00	10.50	
7	17.20	16.80	17.60	16.00	10.50	
8	14.50	14.20	16.00	15.00	10.50	7.80
9		12.10	14.00	13.00	10.00	7.80
10		10.40	11.70	12.00	9.20	7.50
11		8.80	9.80	10.30	8.60	7.00
12		7.30	8.25	8.80	8.00	6.50
14			6.10	6.60	6.90	5.70
16			4.60	5.10	5.40	5.00
18				3.95	4.25	4.50
20				3.10	3.40	3.60
22				2.45	2.75	2.95
24					2.20	2.40
26					1.75	1.95
28					1.40	1.60
30						1.25
32						1.00
I(m)	0	4.2	4.2	4.2	4.2	4.2
II(m)	0	0	6	12.3	18.3	24.6
	9	8	5	4	3	3
	45t					

RATED CAPACITY CHART

with boom only

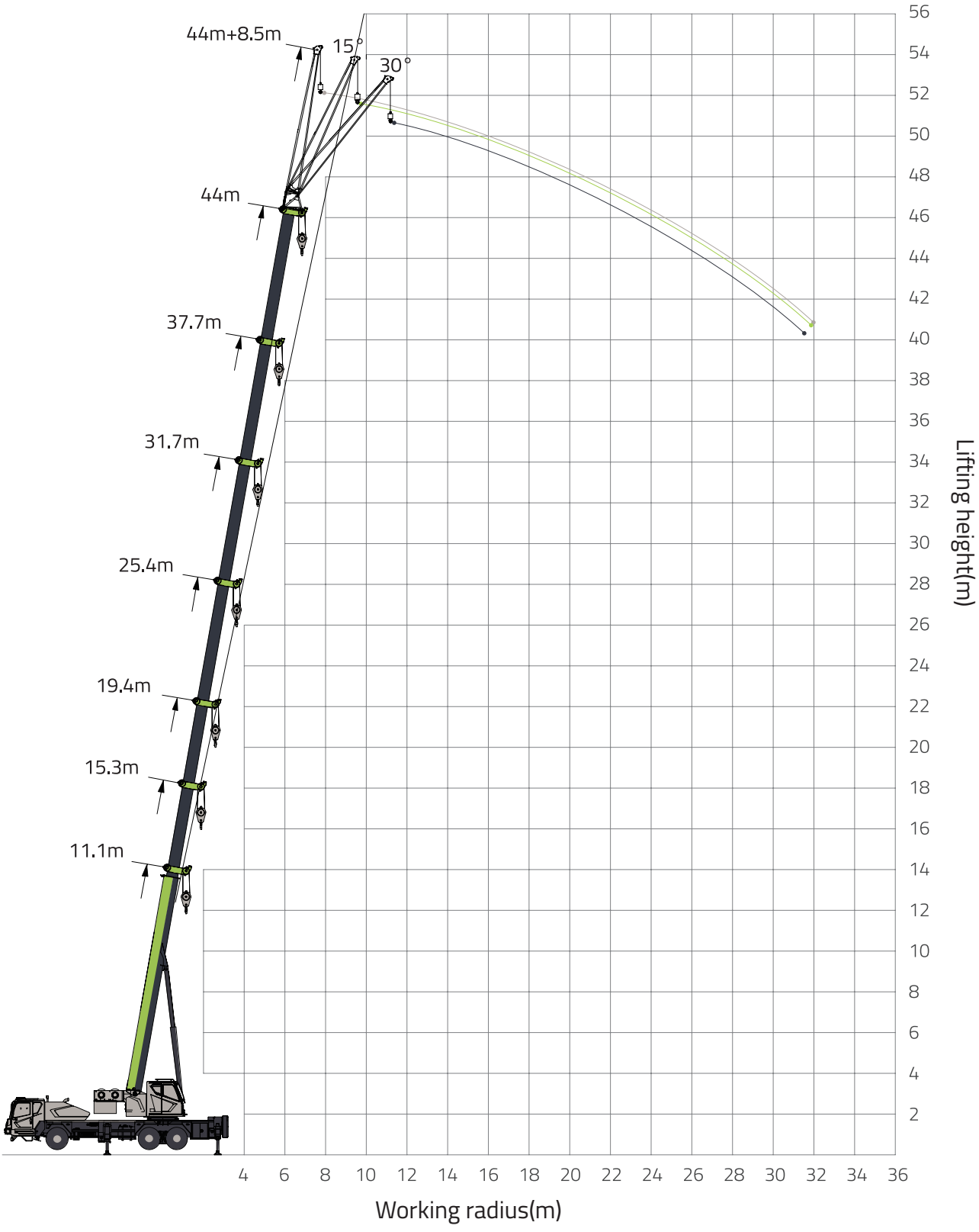
11.1 - 44m 6.66m

Unit: t

	Boom length (m)				
	11.1	**17.1**	**23.4**	**29.4**	**35.7**
2.5	45.00				
3	35.00				
3.5	25.00	19.00			
4	25.00	19.00	16.00		
4.5	25.00	19.00	16.00		
5	24.80	19.00	16.00	10.50	
5.5	23.10	19.00	16.00	10.50	
6	21.00	19.00	16.00	10.50	
7	17.20	17.60	16.00	10.30	8.00
8	14.50	16.00	15.00	10.10	8.00
9		14.00	13.50	9.30	7.90
10		12.20	11.60	8.60	7.30
11		10.20	10.60	8.00	6.70
12		8.70	9.20	7.50	6.20
14			7.00	6.50	5.40
16			5.45	5.60	4.70
18			4.35	4.60	4.20
20				3.75	3.70
22				3.05	3.20
24				2.50	2.70
26					2.20
28					1.85
30					1.50
I(m)	0	0	0	0	0
II(m)	0	6	12.3	18.3	24.6
	9	5	4	3	3
	45t				

TJ

LIFTING HEIGHT CHART



RATED CAPACITY CHART

boom +jib

Unit:t

	Boom(44.0m)+Jib(8.5m)		
	0°	15°	30°
80	3.00	2.80	2.10
78	3.00	2.80	2.00
76	2.80	2.60	1.90
74	2.80	2.40	1.80
72	2.70	2.20	1.80
70	2.70	2.10	1.70
68	2.50	2.00	1.70
66	2.30	1.90	1.60
64	2.00	1.80	1.55
62	1.80	1.60	1.50
60	1.65	1.50	1.30
58	1.40	1.30	1.20
56	1.20	1.10	1.10
54	1.00	0.95	0.90
52	0.85	0.80	0.75
50	0.70	0.65	0.65
	1		
	3t		

ZOOMLION

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