

WITH **GREAT POWER**
COMES **GREAT RESPONSIBILITY**

ZOOMLION

ROUGH TERRAIN CRANE

ZRT1300V532



Max. rated lifting
capacity

130t

Max. load moment
of basic boom

3760kN.m

Max. lifting height
of main boom

50.5m

Max. lifting height
of jib

66.7m

ZRT1300V532

ROUGH TERRAIN CRANE

"King of Lifting" to Break the Limits——An Innovator and Leader of 2-axle 130T Rough Terrain Crane

Outstanding performance

- Optimal 50m U-type boom; lifting capacity with outriggers is 20% higher than products of the same tonnage in the industry
- Four-wheel drive and multiple steering modes ensure superb off-road performance and maneuverability

Excellent maneuverability

- Electro-proportional constant-power load sensitive pumps ensure the optimal matching of "high speed for light load and low speed for heavy load"
- Fully upgraded control system provides fast response speed, preferable micro-inching performance and efficient and accurate synchronous operation

Intelligent and safe

- Equipment management platform realizes such functions as safe monitoring and control of operation and driving, fault diagnosis, and operation information recording, etc.
- 3.0 integrated valve + highly intelligent load moment limiter system; winch monitoring and virtual wall are equipped as standard to provide more stable and more accurate synchronous operation



Specifications

Crane Superstructure

Main boom

The box-shaped telescopic boom consists of 5 U-type boom sections made of high-strength steel. The telescopic boom sections are telescoped in / out via two telescopic cylinders and two sets of boom extension/retraction ropes. Each telescopic cylinder is equipped with a plug-in balance valve.

The boom head is equipped with 6 pulleys, which is convenient for changing wire rope reevings without removing the wedges. A rooster sheave is optional.

Main boom length (fully retracted): 12700mm

Main boom length (fully extended): 50000mm

Telescoping-out time: 150s

Jib

It consists of two lattice jib sections. The jib section II is secured into the jib section I, and the whole jib is fixed at one side of the main boom during transport. A single pulley is assembled at the jib head.

Jib angle : 0°, 15° and 30°

Jib length: 9.5m 16m

Derricking mechanism

A front-mounted single derricking cylinder is installed with a derricking balance valve.

Derricking angle: -1°~ 80°

Derricking speed: -1°~ 80°/ 70s

Hoisting mechanism

Main and auxiliary winches

Main and auxiliary winches share the same fittings. Load hoisting and lowering are realized through the rotation of the drum driven by the planetary reducer, which is driven by the variable axial piston hydraulic motor.

Wire rope

Anti-twisting wire rope

Max. hoist rope tensile force: 8500kg

Max. hoist rope speed: 130m/min (At the 4th layer)

Rope diameter: 20mm

Main winch rope length: 260m

Auxiliary winch rope length: 140m

Hook

Rotatable main hook: 70t, with 6 pulleys and a hook latch, with 6 pulleys and a hook latch, secured at the front of the chassis frame.

Rotatable auxiliary hook: 8t, with a hook latch, used with the rooster sheave and jib, secured at the auxiliary hook holder on the chassis frame.

Slewing mechanism

It consists of such parts as hydraulic motor, planetary gear reducer, pinion gear and slewing ring, etc. Via the planetary gear reducer, the hydraulic motor drives the pinion gear to rotate and makes the slewing bearing’s outer ring rotate around its inner toothed ring fixed on chassis frame, realizing 360° unlimited slewing of the superstructure.

Hydraulically controlled normally-closed brake with controllable slewing function and 360° hydraulic slewing lock.

Slewing speed: 0~1.6 r/min

Slewing platform

The turntable adopts a wall plate structure.

Counterweight

Fixed counterweight of 14.5t

Hydraulic system

Oil pump

The two variable pumps mounted on the transmission together supply hydraulic oil to the telescoping, derricking and hoist mechanisms. Moreover, the two pumps also supply pilot oil.

Duplex gear pumps are mounted on the transmission. One gear pump supplies hydraulic oil to outriggers, braking system, oil radiator of chassis torque converter, and superstructure AC. The other gear pump supplies hydraulic oil to outriggers, slewing and steering systems.

Control valve

Quadruple downstream-pressure compensation hydraulic-controlled multiplex directional valve.

Pipeline

Hydraulic oil return lines are fitted with an air-cooled hydraulic oil cooler driven by an electric motor.

The system pressure can be displayed on the instrument console. Hydraulic pipelines are fitted with pressure test ports.

Hydraulic oil tank

Capacity: 1300 L

The built-in return oil filter has a defoaming function. The filter fineness is 10µm.

Specifications

Crane Superstructure

Crane control

Operations of the superstructure are controlled by the two hydraulic joysticks on both sides of operator’s seat;

The left joystick controls the slewing mechanism and the auxiliary winch;

The right joystick controls the derricking mechanism and the main winch.

Hoisting, derricking and telescoping can be executed synchronously.

Driver’s cab

There is only one cab for ZRT1300V5 rough terrain crane. It can be used as the operator’s cab as well as the driver’s cab. It is a side-mounted one-seat left-hand driving cab. Both sides of the seat are equipped with an armrest box. The left armrest box can be pulled up.

Length: 1810±5mm

Width: 1050±5mm

Height: 1710±5mm

Load moment limiter

If the actual load moment approaches the rated one, the buzzer sends out a sound-light alarm and all dangerous operations of the crane are cut off automatically if the rated load moment is reached.

The load moment limiter can also limit working ranges, such as working radius, boom angle, lifting height, slewing range, etc.

The following information can be displayed on the monitor:

- Boom angle or moment ratio;
- Boom length or default hook weight;
- Actual working radius or slewing angle;
- Actual lifting capacity;
- Max. permissible lifting capacity;
- Jib angle or wire rope reeving;
- Indication of boom position;
- Outrigger position or “On Tires” indication.

The following information is displayed by bar graph:

- Dynamic moment percentage;
- Working pressure of hydraulic system.

Outriggers

H-type outriggers, hydraulically controlled, can be operated in the cab simultaneously or independently.

Each vertical jack cylinder is equipped with a two-way hydraulic lock to ensure the secure lock of outriggers during working or driving.

Outrigger boxes are directly welded on the chassis frame. The outriggers can be completely extended, half extended or completely retracted for different operating modes.

Outrigger spread (longitudinal): 8500 mm

Outrigger spread (transversal): 8400 mm (fully extended)
5800 mm (half extended)
3140 mm (fully retracted)

Specifications

Crane chassis

Type
Rear-mounted engine; left-hand drive; drive mode: 4 x 2 and 4 x 4

Chassis frame
An Integral box-type structure welded by high-strength steel

Engine
Model: CUMMINS QSB6.7
Type Four-stroke, 6-cylinder, direct injection, water-cooled, turbocharged diesel engine.
Max. output power: 194KW/2200rpm(Dongfeng Cummins) 194KW/2400rpm US Cummins)
Max. output torque: 990 N.m /1500rpm

Drive system
Electrically controlled automatic hydraulic transmission, capable of four-wheel drive mode when the transmission drives both the front and rear axles, as well as rear-wheel drive mode when the transmission disengages from the front axle and only drives the rear axle. Electrically controlled automatic hydraulic transmission; front and rear axles driving mode; front-axle driving is separable. Multiple forward and reverse gears; electric-hydraulic power gear shift with an automatic locking mechanism; The working hydraulic oil pump and the steering oil pump directly take off power from the transmission.

Axle
Front axle:Steering and driving axle, rigidly mounted to the chassis frame, with a planetary reducer and brake.
Rear axle:Full-floating steering and driving axle, with a planetary reducer and brake.

Steering system
Fully hydraulic power steering gear. The cylinder of the steering and driving axles is controlled by steering wheel to realize crane steering.
4 steering modes:
2-wheel steering – front wheel steering
2-wheel steering – rear wheel steering
4-wheel steering – all-wheel steering
4-wheel steering – crab steering

Suspension system
Front axle: rigidly mounted to the chassis frame
Rear axle: a swing axle, connecting to the chassis frame via a hydraulic suspension cylinder.

Braking system
Service brake:Hydraulically controlled disc brake acting on 4 wheels
Parking brake:Hydraulically released parking brake, acted by the spring mounted on the input shaft of the front axle.

Electrical system
24V DC, 2 batteries with 12V rated voltage and 120Ah rated current.

Fuel tank
Capacity: 300 L.

Tire
Size: 29.5-25-34PR

Technical Data

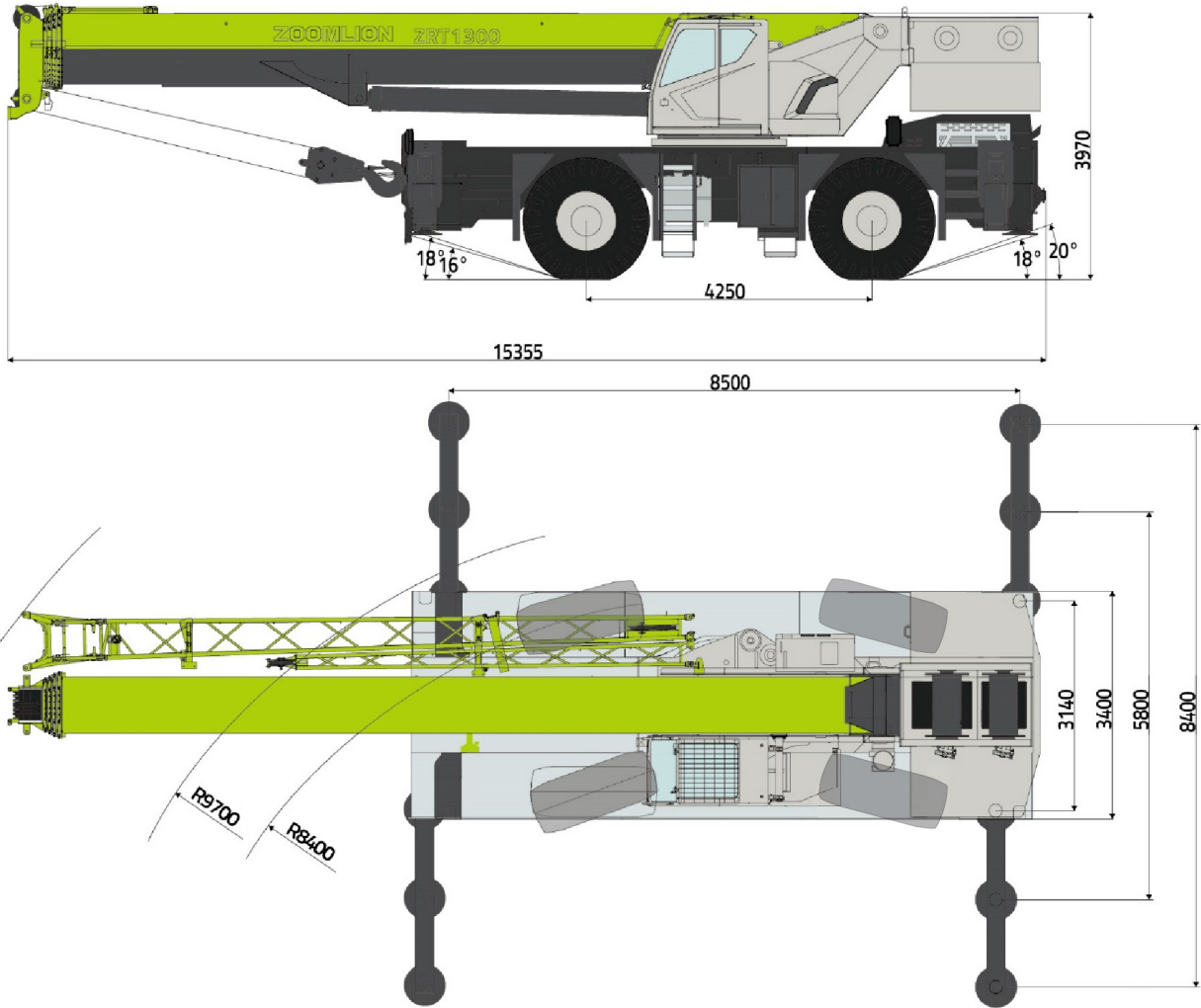
	Item	Unit	Value	Remarks
 Working performance	Max. rated lifting capacity × working radius	kg.m	130000×2.5	
	Max. load moment of the basic boom	kN.m	3760	
	Max. load moment of the boom (fully extended)	kN.m	1862	
	Max. lifting height of the boom (fully extended)	m	50.5	
	Max. lifting height of the jib	m	66.7	
 Working speeds	Max. hoist rope speed (Main winch)	m/min	130	
	Min. boom telescoping-out time	s	150	
	Min. boom telescoping-in time	s	170	
	Min. boom derricking-up time	s	70	
	Min. boom derricking-down time	s	155	
	Slewing speed	r/min	0-1.6	
 Driving	Max. driving speed	km/h	30	
	Wheelbase	mm	4250	
	Treads(Front / Rear)	mm	2565	
	Max. gradeability	%	75	
 Gross vehicle mass	Gross weight	kg	62500	
	Front axle load	kg	31500	
	Rear axle load	kg	31000	
 Hydraulic system	Rated working pressure	MPa	28	
	Rated working flow	L/min	320	
	Hydraulic oil tank capacity	L	1300	
 Dimensions	Overall dimensions (L × W × H)	mm	15355×3400×3970	
	Outrigger spread (longitudinal × transversal)	mm	8500×8400	
	Boom length	mm	12700-50000	
	Jib length	mm	9500, 16000	
	Boom angle	°	-1-80	
	Slewing range		360° unlimited slewing	

Main Parts Table

	Item	Unit	Main configuration
Power system	Engine manufacturer & model		Cummins QSB6.7
	Fuel type		Diesel
	Intake system		Turbo-charged, air-to-air inter-cooling
	Cooling system		Water-cooling
	Engine rated power	KW/rpm	194KW/2200rpm (Dongfeng Cummins) 194KW/2400rpm (US Cummins)
	Engine rated torque	N.m/rpm	990N.m/1500rpm
	Fuel tank capacity		300 L
Drive system	Transmission drive mode		4×2, 4×4
	Transmission brand or model		DANA
	Transmission gear		6 forward and 6 reverse gears
Travelling system	Suspension		Rigid (front) / Flexible (rear)
	Axle brand or model		Meritor
	Steering mode		2-wheel steering (front wheels) 2-wheel steering (rear wheels) 4-wheel steering Crab steering
	Tire size		29.5-25-34PR
	Tire number		4
Hydraulic system	Main valve brand		ZOOMLION
	Pump		HYTEK
	Balance valve / hydraulic lock		ZOOMLION
Electrical system	Load moment limiter		ZOOMLION/HIRSCHMANN
Emission			T III

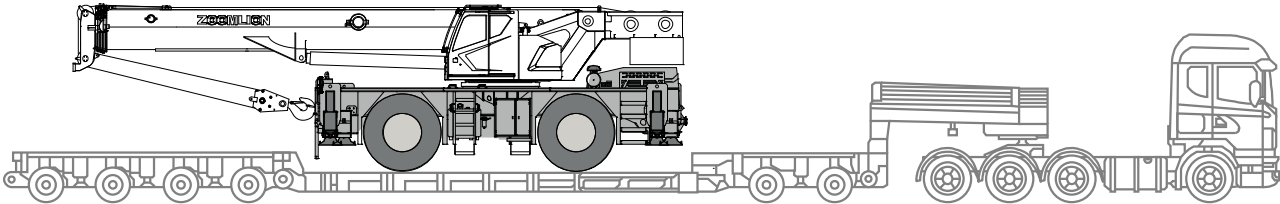
Dimensions

Unit: mm



Unit: mm

Transport of the main body (meeting road transport requirements)
Dimensions: width of 3.4m, height of 3.97m;
Weight: 62.5t (with counterweight, jib and hook)



Boom/Jib Combination

T: Main boom

F: Jib



Lifting heights + Lifting capacities

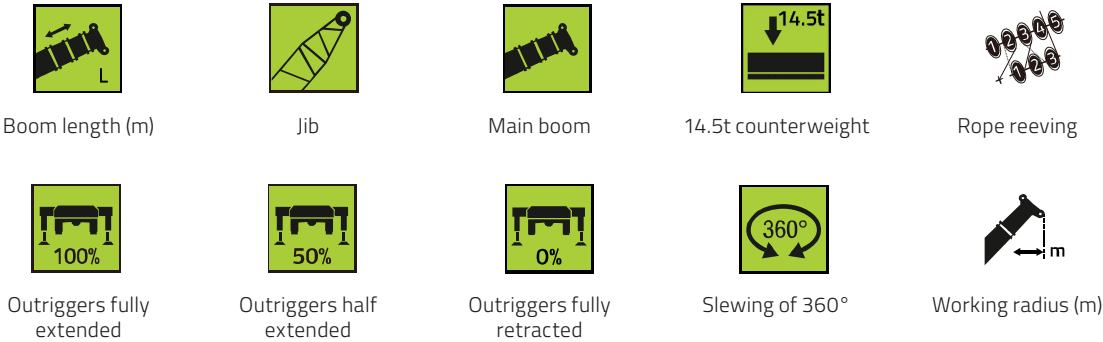
Rated capacity charts are provided for different operating modes of the crane. The operator should choose the correct capacity chart and determine the rated lifting capacity according to the actual operating mode.

The values in Column "I" represent the extended length of the telescopic cylinder I under a corresponding OM. The values in Column II represent three times the extended length of the telescopic cylinder II under a corresponding OM.

Matters needing attention:

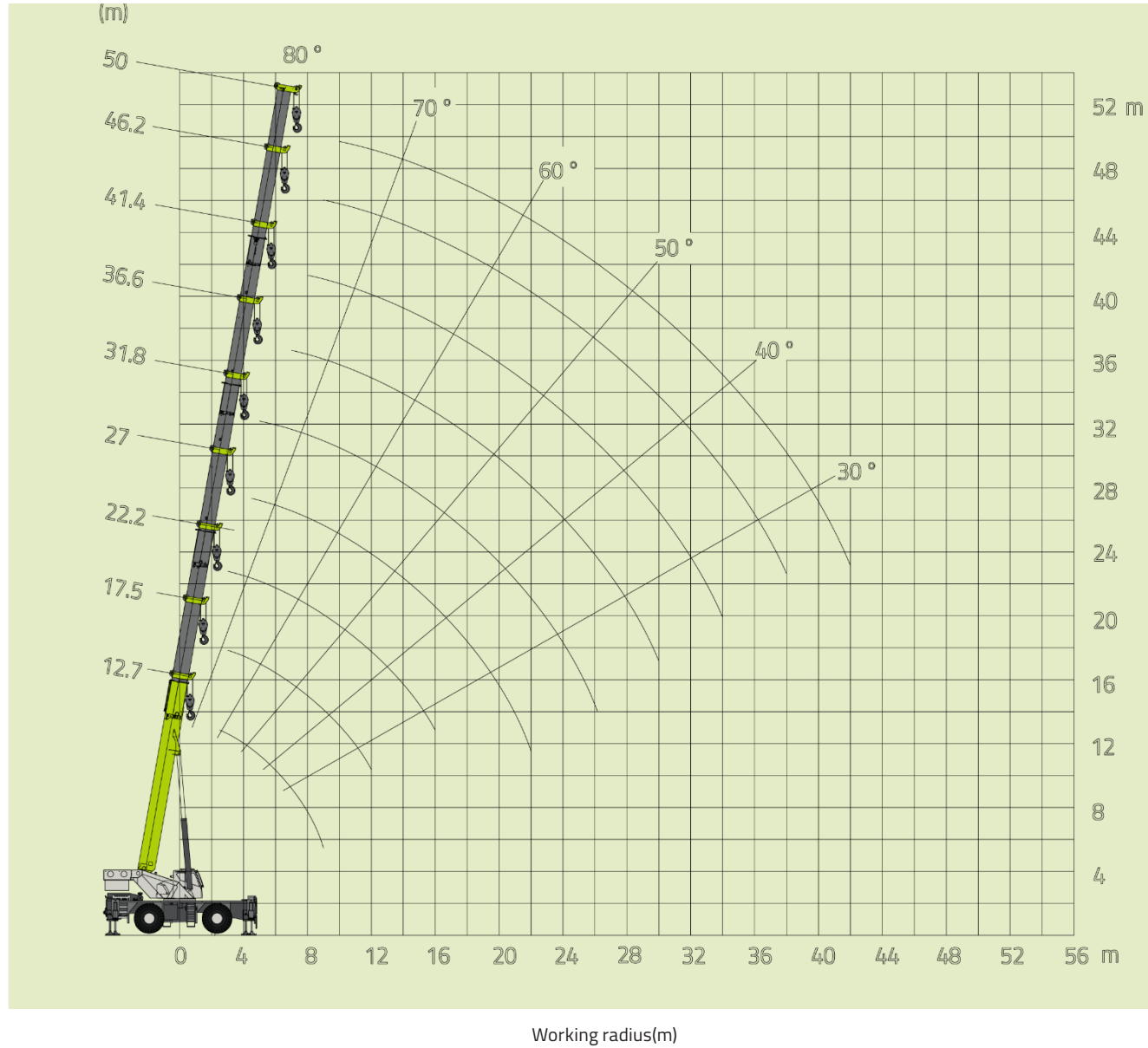
- a)A hook for higher lifting capacity should be used if the rated lifting capacity exceeds 70t. For operating modes marked with "*" in the table, the crane should be retrofitted with special devices.
- b)Rated load of the crane is provided based on the fact that the crane stands on a leveled, solid and flat supporting ground.
- c)Rated load of the outriggers is provided based on the fact that the outriggers are fully or half extended or fully retracted and the tires are supported off the ground.
- d)Rated load must not be exceeded and do not load the crane with heavy objects to determine its allowable loads.
- e)The load must be lifted vertically. Do not pull the load with an angle.
- f)When the working radius and the main boom length are within the range of the listed values in the table, the smaller value of rated load should be adopted.
- g)The boom angle shown on the lifting height chart is an approximate value for the working radius of a certain boom length. The boom angle should be larger before loading to account for boom deflection.
- h)Rated load includes the weight of hook, wire rope, and auxiliary lifting devices. The net load is obtained by subtracting the weight of these devices from the rated load.
- i)The load rating of crane tires depends on proper tire pressure and tire condition. Extra care must be taken when increasing tire pressure. See the Operator's Manual for precautions.
- j)For pick-and-carry operations in tires, the boom must be centered at the front of the crane with the slewing brake lock engaged. Keep the minimum lifting height of the boom so that the load approaches the ground. The crane must travel on a smooth and flat surface.
- k)Avoid swinging during load lifting.
- l)Creeping means the crane travels less than 61m (200ft) within 30 minutes. The maximum creeping speed shall not exceed 1.44 km/h (0.9mph).
- m)Please refer to the Operator's Manual for more details on pulley reeving and installation of wire rope.
- n)If a rope reeving larger than the specified reeving is adopted, the hook may not be able to touch the ground due to insufficient length of rope. Choose correct rope reeving according to Table 1.1 in Load Ratings.
- o)Proper maintenance of wire rope is an inseparable part of safe crane operation. Please refer to the Operator's Manual and Maintenance Manual for proper maintenance and inspection requirements.
- p)Rated load should be reduced according to adverse working conditions, such as soft or uneven ground, unbalanced surface, strong wind, lateral load, swing operation, on-load yanking or sudden stop, dangerous state, inexperienced personnel, lifting with two cranes, traveling with load, electric wires, etc. (Lateral push and pull of the main boom or the jib is dangerous). Stop working immediately and retract the boom to the state for driving if the wind speed is higher than 14.1m/s (46.2 ft/s) or there is lightning when the crane is working. Maintenance of the crane should be carried out in line with the Operator's Manual and Maintenance Manual so as not affect its load ratings.

Illustration for rated capacities



Lifting Height Curves

T



Lifting Capacity Chart

T

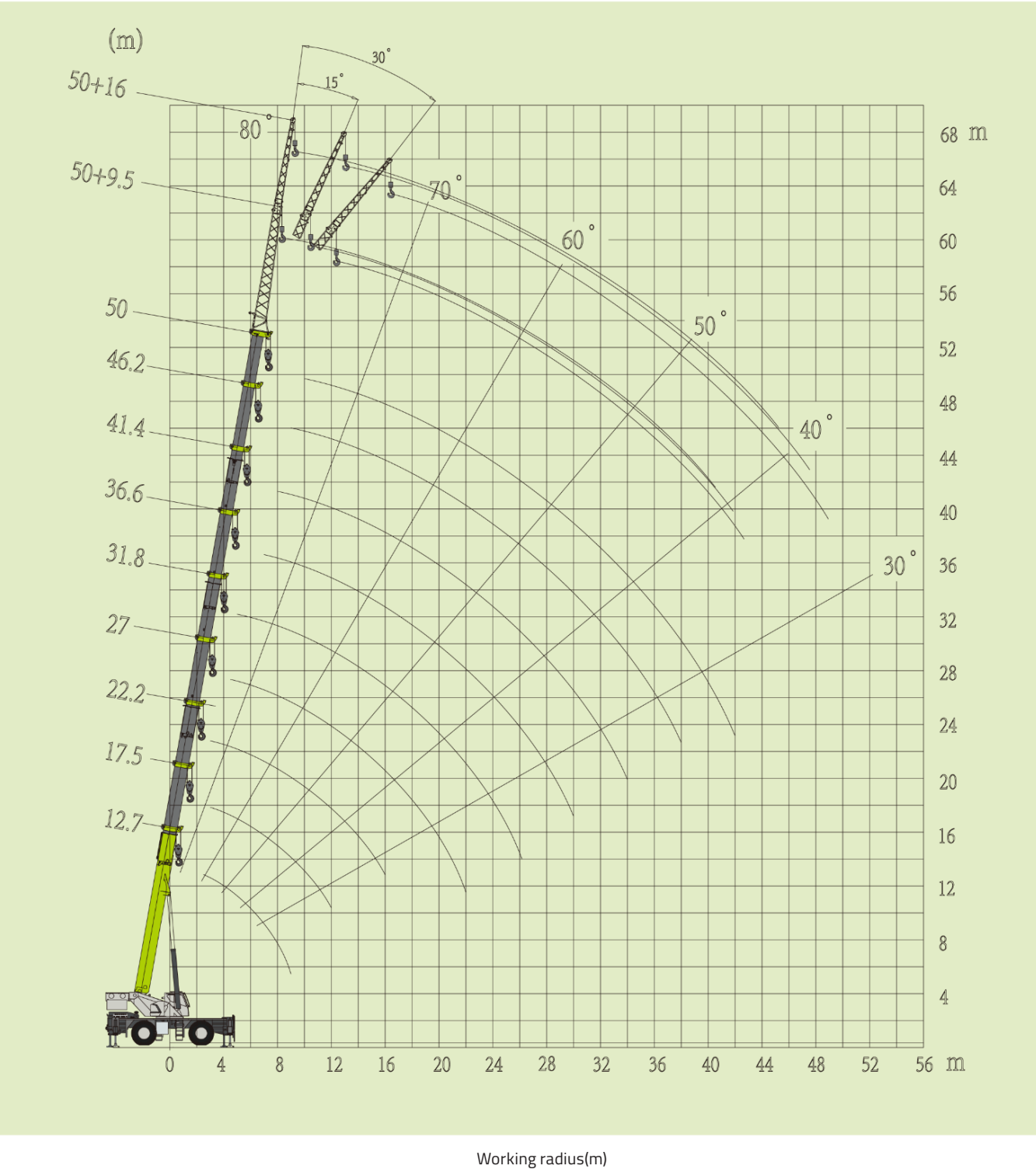


Unit: ton

	12.7m	17.5m	22.2m	27.0m	31.8m	36.6m	41.4m	46.2m	50.0m	
2.5	130.0*									2.5
3.0	110.0*	70.0	50.0							3.0
3.5	96.0*	70.0	50.0							3.5
4.0	86.0*	70.0	50.0	38.0						4.0
4.5	80.0*	70.0	50.0	38.0						4.5
5.0	73.0*	65.0	50.0	38.0	36.0					5.0
5.5	69.0	60.0	48.0	38.0	36.0					5.5
6.0	64.0	55.0	46.5	37.0	36.0					6.0
7.0	53.0	47.0	42.0	36.0	35.0	31.0				7.0
8.0	45.0	41.0	38.0	34.0	33.0	30.0	22.0			8.0
9.0	36.0	35.5	35.0	32.0	30.0	28.0	22.0	19.0		9.0
10.0		31.4	31.0	29.0	27.5	26.0	21.0	18.0	14.5	10.0
11.0		26.0	25.7	27.0	25.5	24.0	20.0	17.0	14.0	11.0
12.0		21.8	21.5	22.7	23.5	22.0	18.5	16.0	13.5	12.0
14.0			15.5	16.7	17.5	18.3	16.0	14.0	13.0	14.0
16.0			11.5	12.7	13.5	14.2	14.6	12.5	11.5	16.0
18.0				9.9	10.7	11.4	11.8	11.5	10.5	18.0
20.0				7.9	8.6	9.2	9.6	10.0	9.5	20.0
22.0				6.2	6.9	7.5	7.9	8.3	8.6	22.0
24.0					5.6	6.2	6.5	6.9	7.2	24.0
26.0					4.5	5.1	5.4	5.8	6.0	26.0
28.0						4.2	4.5	4.9	5.1	28.0
30.0						3.4	3.7	4.1	4.3	30.0
32.0							3.1	3.4	3.6	32.0
34.0							2.5	2.8	3.0	34.0
36.0								2.4	2.5	36.0
38.0								2.0	2.1	38.0
40.0									1.7	40.0
42.0									1.4	42.0
I	0	4.8	9.5	9.5	9.5	9.5	9.5	9.5	9.5	I
II	0	0	0	4.8	9.6	14.4	19.2	24.0	27.8	II
	12	11	8	7	6	5	4	3	3	
	70t									

Lifting Height Curves

TF



Lifting Capacity Chart

TF



Unit: ton

Main boom							
	50.0+9.5			50.0+16.0			
	0°	15°	30°	0°	15°	30°	
80.0	5.5	3.3	2.5	3.0	2.0	1.5	80.0
78.0	5.0	3.3	2.5	3.0	2.0	1.45	78.0
76.0	4.8	3.2	2.5	2.9	1.9	1.4	76.0
74.0	4.5	3.1	2.5	2.7	1.8	1.35	74.0
72.0	4.2	3.0	2.5	2.5	1.7	1.3	72.0
70.0	3.9	2.9	2.4	2.3	1.65	1.25	70.0
68.0	3.6	2.8	2.3	2.1	1.6	1.25	68.0
66.0	3.4	2.7	2.2	2.0	1.55	1.2	66.0
64.0	3.2	2.6	2.1	1.9	1.5	1.2	64.0
62.0	3.0	2.5	2.05	1.8	1.45	1.15	62.0
60.0	2.8	2.4	2	1.7	1.4	1.15	60.0
58	2.7	2.3	1.95	1.6	1.35	1.1	58.0
56.0	2.6	2.2	1.9	1.55	1.3	1.1	56.0
54.0	2.5	2.1	1.85	1.5	1.25	1.05	54.0
52.0	2.2	2.0	1.8	1.45	1.2	1.05	52.0
50.0	1.9	1.8	1.7	1.4	1.15	1.0	50.0
48.0	1.7	1.6	1.5	1.35	1.1	0.95	48.0
46.0	1.5	1.4	1.3	1.2	1.05	0.9	46.0
44.0	1.3	1.2	1.1	1.0	0.9	0.85	44.0
42.0	1.1	1.0	0.9	0.8	0.75	0.7	42.0
40.0	0.9	0.8	0.7				40.0
38.0							38.0
	1						
	8t						

ZOOMLION

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