

ZOOMLION

思想 构筑 未来
Vision Creates Future

ZCT300V532-1

TELESCOPIC CRAWLER CRANE



Max.lifting moment: 125.5t·m

Max.length of boom: 43m

Max.length of boom with fixed jib: 43m+8m





ZCT300V532-1



Technical parameters

- Overall dimensions
- Technical parameters
- Working conditions



System description

- Description of product components and systems
- Safety device



lifting capacity

- Boom combinations
- Lifting Height Curve
- Work conditions chart



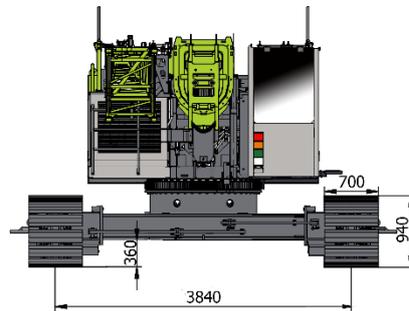
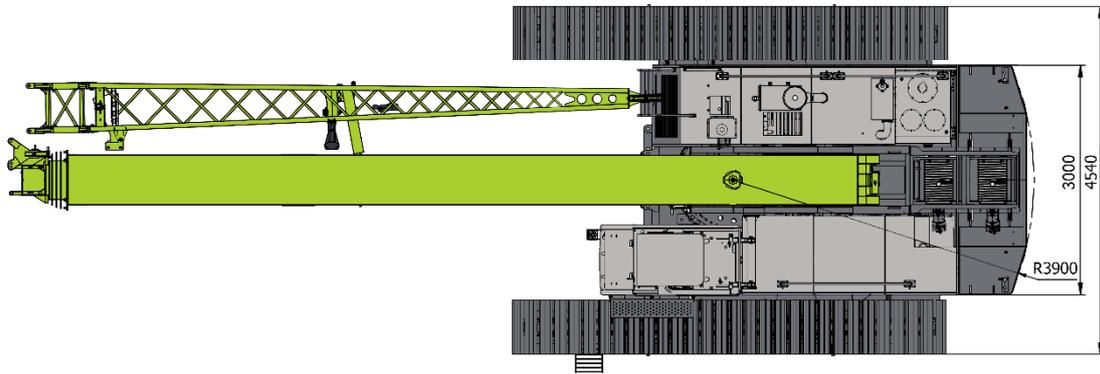
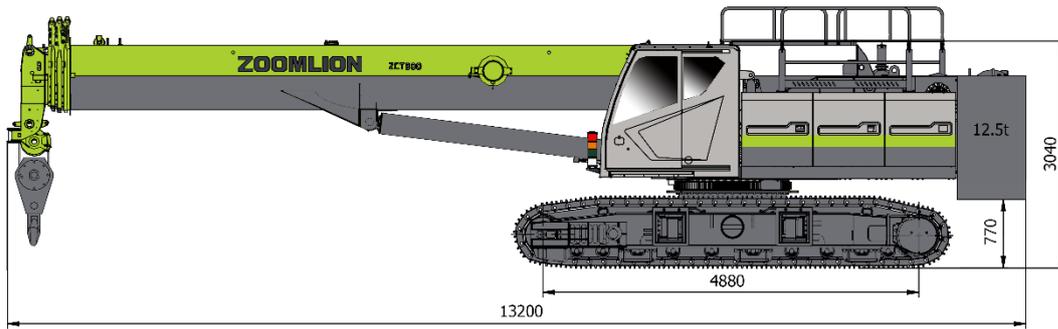
Product transportation

- Transport dimensions
- Component transport dimensions



ZOOMLION Overall Dimension

Unit: mm

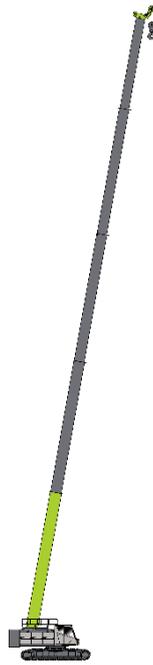


Item	Unit	Value	
Overall dimension	Overall length	mm	13200
	Overall width	mm	4540 (3000 tracks retracted)
	Overall height	mm	3040
	Center distance between main and follower wheels	mm	4880
	Track plate width	mm	700
Main Boom working conditions	Max.lifting moment	t·m	125.5
	Maximum rated lifting capacity	t	30
	Boom length	m	10.9~ 43
	Boom angle	°	-1.5 ~ 80
	Maximum lifting capacity of boom tip pulley	t	4.5
Fixed jib working condition	Longest main arm + jib	m	43 + 8
	Main and jib angle	°	0、15、30
	Maximum lifting capacity of fully extended boom	t	3
Speed parameter	Boom lifting speed	m/min	0~ 142
	Jib lifting speed	m/min	0~ 142
	Lifting boom full up/down time	S	35/45
	Lifting boom full extension/retraction time	S	70/70
	Slewing speed	rpm	0~ 2.7
	Unloaded travel speed	km/h	0~ 2.5
Diesel engine	Model	/	WeiChai WP6G190E301
	Rated power / rotational speed	kW/rpm	140/2000
	Exhaust emission	/	Off-road Chinese National Stage III
	Model	/	YuChai YCA05K220-T300
	Rated power / rotational speed	kW/rpm	162/2200
	Exhaust emission	/	Off-road Chinese National Stage III
Wire rope	Diameter	mm	Φ17
Mainframe transport parameters	Deadweight	t	41.3(full transportation)
	Maximum transportation weight per piece	t	28.8(Without Counterweights)
Mainframe transport dimensions	L × W × H	mm	13200×3000×3040
Counterweight		t	12.5
Gauge x Ground Length x Track Plate Width		mm	2290(Track retraction)×4880×700
Max. gradeability		%	45
Ground Pressure		M Pa	0.06
Tail turning radius		mm	3900





S-1



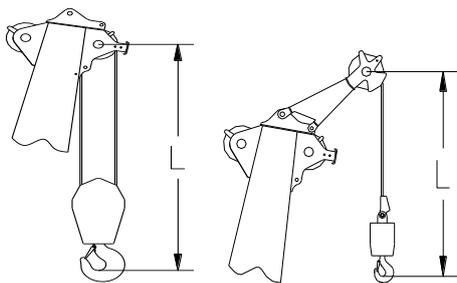
S-2



SF-1

Working condition code	Working condition name	Boom combinations
S-1	Boom working condition	10.9~ 43m
S-2	Rooster sheave	10.9~ 43m
SF-1	Jib working condition	43m + 8m

Hook Height Limit Table



Hook specification	L (m)
30t	3.0
3t	2.5





Power system

Model Type	Weichai WP6G190E301
Displacement	Water-cooling, four-stroke, in-line six-cylinder, direct-injection turbocharged; 6.75L
Rated power	140kW/2000rpm
Maximum torque	860N.m/1500rpm
Emission standard	Off-road Chinese National Stage III
Air filter	KW2452B8-0000
Cooling System	water cooling
Starter motor	24V/4.5KW
Battery	200Ah
Gas pedal	electronic gas pedal
Fuel tank volume	400L
Urea tank volume	35L



Power system (optional)

Model Type	YuChaiYCA05K220-T300
Displacement	Vertical, in-line, water-cooling, four-stroke, in-line four-cylinder; 5.018L
Rated power	162kW/2200rpm
Maximum torque	718N.m/1600-1800rpm
Emission standard	Off-road Chinese National Stage III
Air filter	KLQ-778J
Cooling System	water cooling
Starter motor	24V/5KW
Battery	24V/120Ah
Gas pedal	electronic gas pedal
Fuel tank volume	400L
Urea tank volume	35L



hydraulic system

Main pump	L11VO165LE2S2/11R
Main pump	J25L-6T
Gear pumps	JHP2040R08
Filter	YLQ-302, flow rate 950L
Cooling method	Intermediate cooling, plate-fin structure ZSR-315
Hydraulic system pressure	30MPa
Main and secondary winch pressure	Lifting 30MPa /Lowering 10MPa
Travel pressure	30MPa
Slewing system pressure	15MPa
Luffing pressure	30MPa
Telescopic pressure	16MPa
Hydraulic oil tank volume	600L



Electrical system

System structure

The entire vehicle includes: power supply, engine start, engine shutdown, indicator, alarm, lighting, fan, wiper, horn, hoist height limitation, centralized display panel, torque limiter system, safety devices, etc. These devices ensure the safe operation of the crane and a good working environment.

Torque Limiter Monitor

With Zoomlion self-developed III generation control system, high calculation precision, safe and reliable; Touch screen, can display engine speed, oil quantity, oil pressure, engine working time, hydraulic system pressure, fault icon, lifting capacity, boom parameters and other information;

Battery

24V DC, negative iron, 2 x 200AH batteries.



Derricking mechanism

System Features

Single-cylinder front-type luffing mechanism; luffing angle: $-1.5^{\circ} \sim 80^{\circ}$; self-weighted luffing system, saving energy consumption, and smoother luffing and luffing operation.



lifting mechanism

System Features

Liquid-controlled two-point variable motor with pressure cut-off; Motor start large displacement, effectively preventing heavy load lifting slippery hook; Double folding line reel, effectively preventing multi-layer winding rope mess; Reducer built-in wet, spring-loaded normally closed brake with pressure oil release; The main and auxiliary winches can be controlled independently or combined; The main and auxiliary winch reducer and motor are of the same type and can be interchanged;

Rope

Diameter	$\phi 17\text{mm}$;
Rope length	180m(main winch)/110m(secondary winch);
Maximum rope speed without load	140m/min(main winch)/120m/min(secondary winch);
Rated single rope pulling force	4.6t;



Slewing mechanism

System Features

Piston motor, large ratio reducer, smoother slewing; Slewing hydraulic system with buffer valve, slewing braking more smoothly; With free sliding and 360° slewing locking function; Single-row roller ball four-point contact slewing bearings;

Slewing bearings

Slewing brake

The slewing reducer is equipped with an



Slewing lock internal wet, spring-loaded, normally closed brake, relieved by pressure oil;
It is equipped with both mechanical locking pin and electrical slewing locking function.

Slewing speed After operation or transportation, the mechanical locking pin can be used to lock the slewing in the front and rear direction. During operation, the electrical slewing lock can be used to lock the slewing in any 360° to prevent misoperation of the slewing;
0-2.7r/min

Traveling speed Fast and slow gear function, maximum driving speed 2.7km/h

Climbing capacity 45%

 **Counterweight**

Counterweight Fixed counterweights, Total weight 12.5 tons.

 **Operator's cab**

Operator's cab Full-closed operator's cab, panoramic sunroof with wide field of vision, equipped with windshield, front/back and height-adjustable seats with armrests and headrests, configurable windshield wipers and scrubbers (with optional tilt function);

Control Boxes Electrical switches and joysticks are installed on the control boxes on both sides, and the control boxes and seat can be adjusted forward and backward to adapt to customers in different body sizes;

Joysticks Cross-axis hydraulic joysticks, installed in both sides of the control box on both sides of the seat, travel control pedals with a push rod, easy to control, and easy to operate the complex action;

Air conditioner Standard heating and cooling air conditioner, with optimized air ducts and vents

Display screen Equipped with 10-inch touch screen and 7-inch monitoring screen. The monitoring screen has a function of splitting display, which can monitor the situation of the winch winding rope, the right side of the vehicle body and the rear of the counterweight.

 **Crane undercarriage**

Traveling power Two sides of independent hydraulic drive system. The hydraulic motor drives the reducer and driving wheel to realize the crawler walking function;
Straight line walking, steering and other functions of the crawler are controlled by the joystick and foot pedal;

Traveling brake Internal, wet, pad type normally closed brakes. Pressure oil release;

Crawler carrier extending & retracting mechanism The track carrier is retracted by hydraulic cylinders with a track gauge (reach) of 3840mm;

Crawler tensioning The expansion and contraction of the track carrier is driven by hydraulic cylinders with a gauge (retraction) of 2290mm;

Track pad Three-rib track pad, made of high-strength alloy cast steel, width 700mm, quantity 62*2;

 **Boom**

Boom U-shaped cross-section high-strength structural steel lifting boom, five-section boom, basic boom 10.9 meters, maximum boom length 43m.
Double-cylinder rope extending and retracting mode

Jib(optional) Length 8m.
Installation angle 0°, 15°, 30°.

 **Hook**

Main hook 30t hook, 4 pulleys

Secondary hook 3t hook

 **Moment limiter**

High-precision moment limit system, high safety and efficiency of construction;
The moment limit system automatically detects the boom length, boom angle and load weight. Real-time display and calculation of rated load, actual load, working range, boom angle and other parameters;
When the crane exceeds the normal working range, the moment limiter restricts the action in the dangerous direction and sends out an alarm message, and it has a black box recording function;
The moment limit system mainly consists of a display, a controller, a length-angle sensor, and a pressure sensor.

 **Function locking**

The left control box in the control cab is equipped with a function locking rod, the function locking rod is not lowered and all operations do not work.

 **Hoisting limiter**

Both main and sub hoist are equipped with height limiters;
When the hook is lifted to a certain height, the height limit switch acts to cut off the lifting action, alarm information is shown on the display and the buzzer of the display alarms; the tricolor light is red and the buzzer alarms.

 **Lowering limiter**



The main and secondary hoist are equipped with three-turn protectors; When the wire rope is put to the last three turns, the protecting device acts to cut off the falling hook action, the display shows the alarm information, and the display buzzer alarm; the tricolor light is red, and the buzzer alarm.



Slewing locking device

It adopts both electric-magnetic locking and mechanical locking. The electric-magnetic locking is used for travelling with a suspended load, while the mechanical locking is used to secure the relative position between the superstructure and undercarriage to ensure working safety.



Safety Catch

A safety catch plate is installed on the hook, which can protect the lifted load from falling off from the hook



Rear-view-mirror

Located on the left front of the control cab for viewing the left rear.



Illumination lights

Work light: LED work light is installed on the top of driver's cab and boom for construction lighting; Height marker Light: installed on the top of the boom, used for boom height warning.



Level gauge

An electric level gauge, which can display the inclination angle of the superstructure on the screen.



Emergency stop button

The left front of the dashboard in the operator's cab is equipped with an emergency stop button. It allows the engine to be shut down and all movements to be stopped in an emergency situation.



Tricolor warning light

Tricolor warning light is located in front of the cab, divided into red, yellow and green colors, displaying the load status simultaneously; Load rate less than 90%, green light on; Load rate between 90% and 100%, yellow light on

and continuous alarm sound; Load rate more than 100%, red light on, and send a continuous alarm, the computer automatically cut off the dangerous direction action.



Slewing and Traveling alarm

An acoustic alarm will be sent out during slewing movements and traveling movements.



Video monitoring system

Stand
ard

Winch camera, display to monitor the winch working condition in real time;

Right camera, used to monitor the situation at the right rear of the machine;

Boom head camera, used to observe the situation of heavy loads hanging from the hook.

Option
al

Boom head camera, for observing the heavy load hanging from the hook.



Remote monitoring system

GPS satellite positioning, GPRS data transfer Device use status query, statistics, operational data monitoring, and analysis.



Wireless remote

Optional

The operator can wireless remote control the mainframe outside the vehicle to get on and off the platform truck, avoiding the discomfort caused by the impact of the movement process of the mainframe.



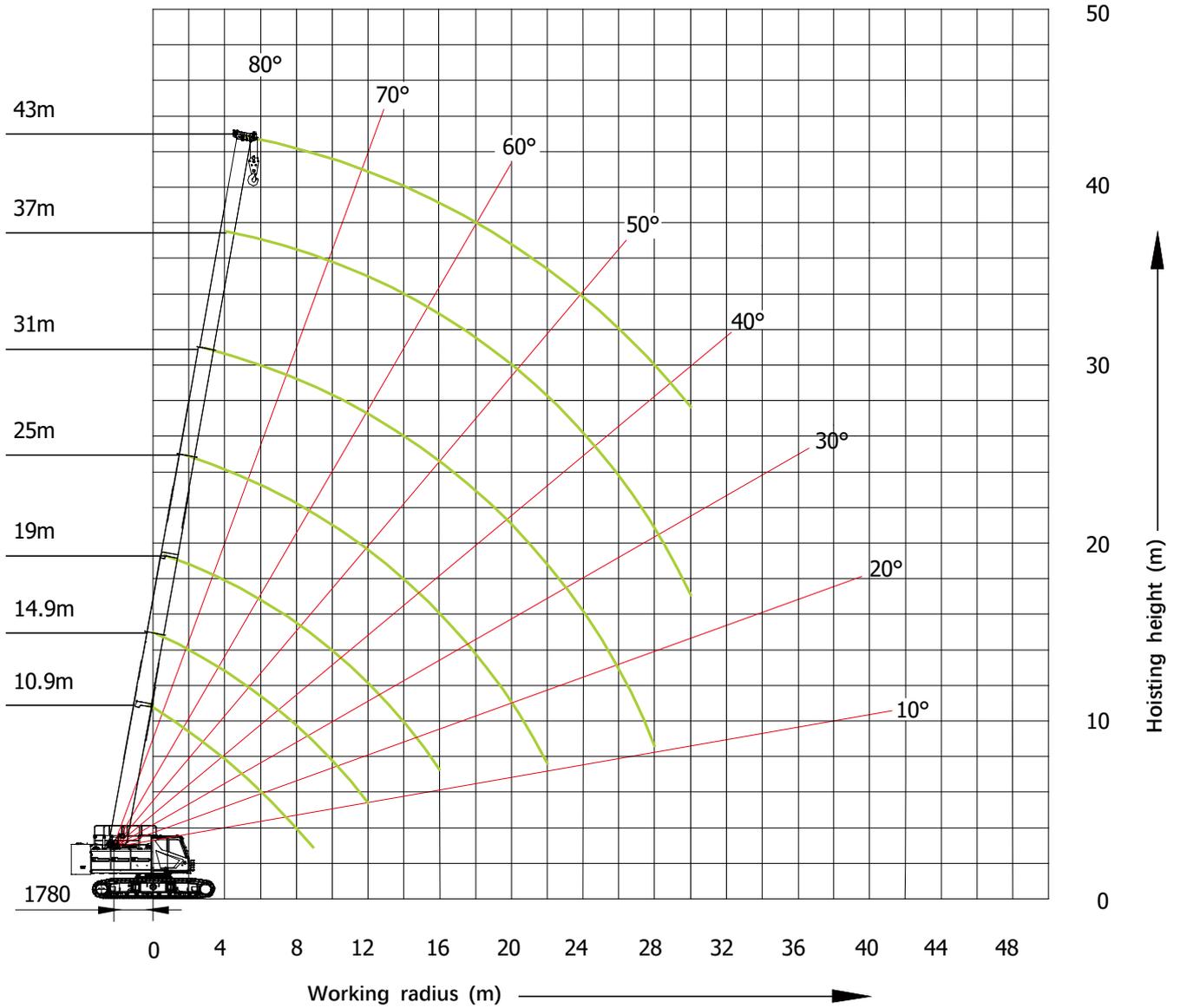
Anemometer

Optional

Electronic wind speed sensor for real-time display of wind speed values on the monitor.



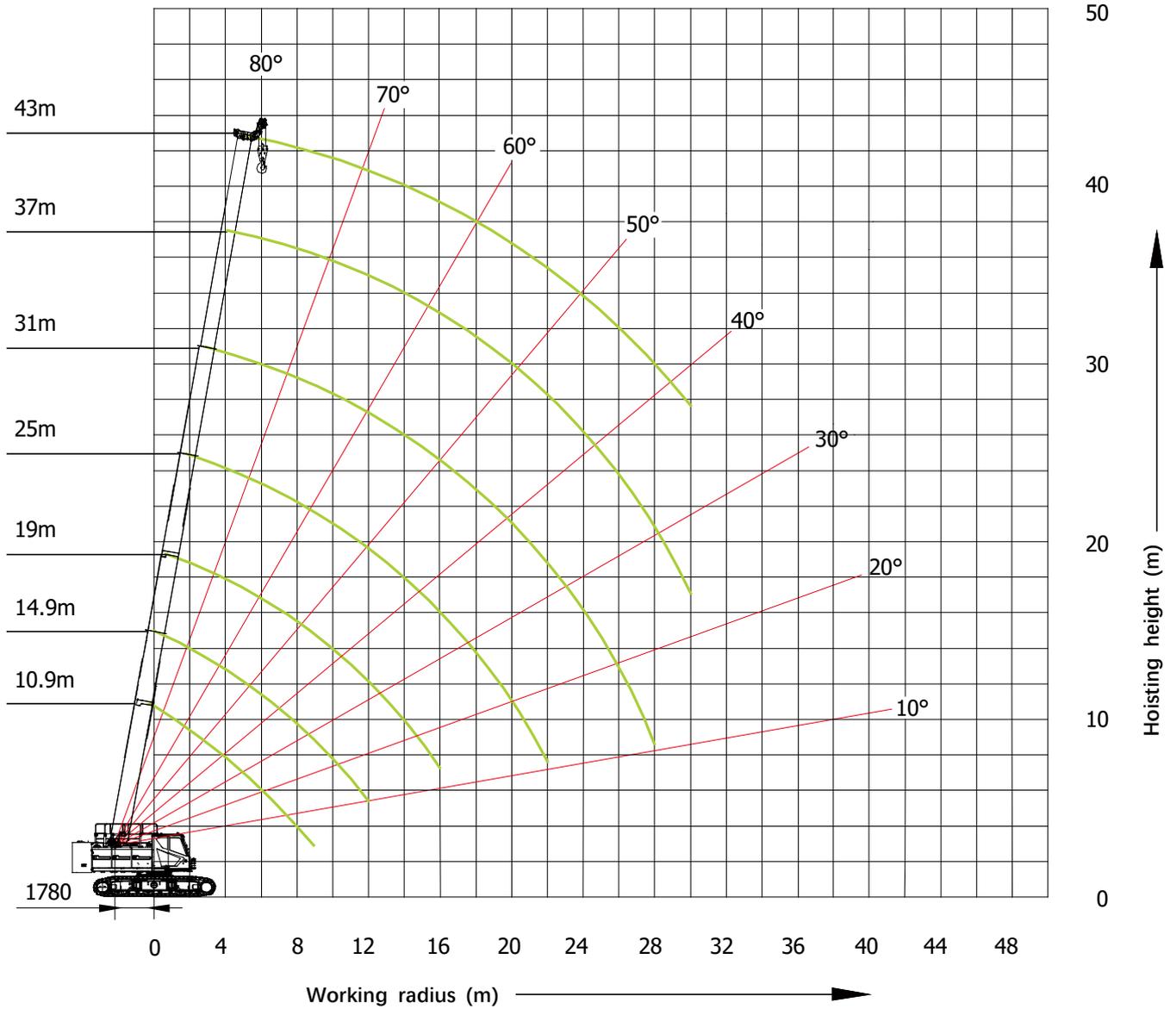
Boom working condition (S) lifting height curve



Note: The maximum lifting height should be reduced by the hook limit height on the basis of the diagram above, refer to the hook limit height diagram on page 4.



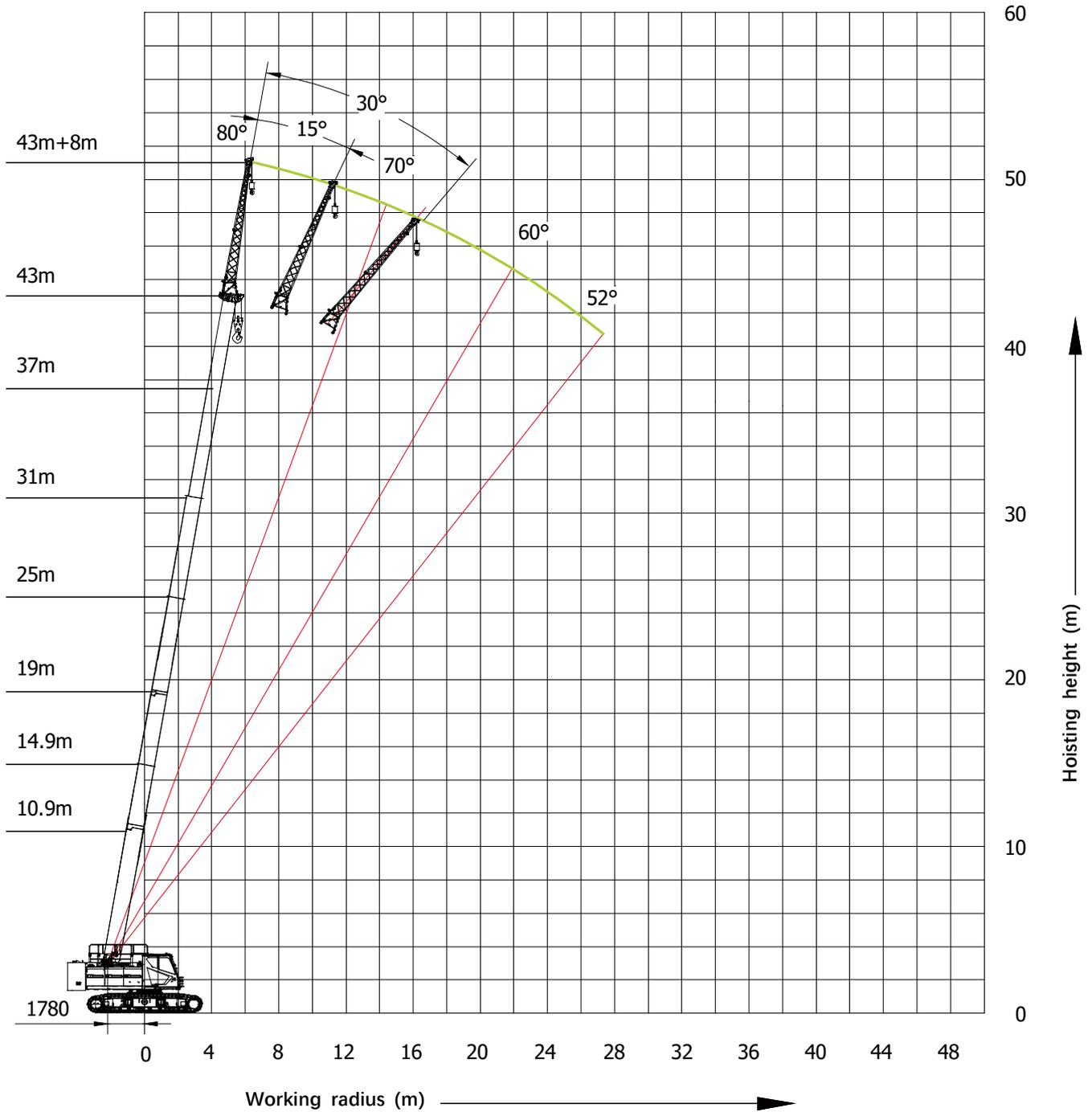
Boom tip pulley working condition (S) lifting height curve



Note: The maximum lifting height should be reduced by the hook limit height on the basis of the diagram above, refer to the hook limit height diagram on page 4.



Boom + jib working conditions (S) lifting height curve



Note: The maximum lifting height should be reduced by the hook limit height on the basis of the diagram above, refer to the hook limit height diagram on page 4.



Rated lifting capacity chart

unit: t

Working range (m)	Lifting Performance Chart for Boom Condition (S)							Working range (m)
	I-cylinder extended to 100%, full track extension, 360° operation, 12.5t counterweight, 0°							
	10.9	14.9	19	25	31	37	43	
3.0	30	29						3.0
3.5	30	27.5						3.5
4.0	28.5	26.5	20.5	19				4.0
4.5	26.5	25.5	20.5	19				4.5
5.0	25.1	24.2	20.5	19				5.0
5.5	22.7	21.2	20.5	19				5.5
6.0	20.5	19.6	19	18	15	10.2		6.0
7.0	15.8	15.1	14.8	15.6	14	10.2		7.0
8.0	12.5	12.3	12.1	13.4	12.6	10.2		8.0
9.0	10.3	10	9.8	10.5	11.4	9.9	7.5	9.0
10.0		8.3	8.2	8.9	9.2	9.1	7.5	10.0
11.0		7	6.9	7.6	8.3	8.3	7.3	11.0
12.0		5.9	5.8	6.4	6.9	7.6	6.8	12.0
14.0			4.2	4.8	5.1	5.5	5.9	14.0
16.0			3	3.7	4.1	4.5	4.5	16.0
18.0				2.8	3.1	3.4	3.7	18.0
20.0				2.1	2.5	2.8	3	20.0
22.0				1.5	1.9	2.1	2.5	22.0
24.0					1.5	1.6	1.9	24.0
26.0					1.1	1.2	1.6	26.0
28.0					0.75	1.05	1.3	28.0
30.0						0.85	0.85	30.0
I	0	4	8	8	8	8	8	I
II	0	0	0	6	12	18	24	II
Reeving	8	8	6	5	4	3	3	Reeving
Hook	30t							Hook

Attention:

1. The above working conditions are all for full extension of the track carrier, and lifting weights with the track carrier retracted is prohibited;
2. The whole truck inclination angle in the chart refers to the inclination angle when the forward direction of the crane is parallel or perpendicular to the uphill direction;
3. The values listed in the chart are the maximum total lifting capacity (including hooks and spreaders) of this type of crane on level and solid road surface, i.e. the rated total lifting capacity; it is only permitted to be operated within the range indicated by the working conditions to prevent the danger of tipping over;



4. The rated total lifting capacity includes the weight of the hook (0.285t for the main hook and 0.08kg for the secondary hook) and the weight of the other pick-up devices.

Rated lifting capacity chart

unit: t

Working range (m)	Boom Tip Pulley Condition (S) Lifting Performance Chart							Working range (m)
	I-cylinder extended to 100%, full track extension, 360° operation, 12.5t counterweight, 0°							
	10.9	14.9	19	25	31	37	43	
3.0	4.5	4.5						3.0
3.5	4.5	4.5						3.5
4.0	4.5	4.5	4.5	4.5				4.0
4.5	4.5	4.5	4.5	4.5				4.5
5.0	4.5	4.5	4.5	4.5				5.0
5.5	4.5	4.5	4.5	4.5				5.5
6.0	4.5	4.5	4.5	4.5	4.5	4.5		6.0
7.0	4.5	4.5	4.5	4.5	4.5	4.5		7.0
8.0	4.5	4.5	4.5	4.5	4.5	4.5		8.0
9.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5	9.0
10.0		4.5	4.5	4.5	4.5	4.5	4.5	10.0
11.0		4.5	4.5	4.5	4.5	4.5	4.5	11.0
12.0		4.5	4.5	4.5	4.5	4.5	4.5	12.0
14.0			4.2	4.5	4.5	4.5	4.5	14.0
16.0			3	3.7	4.1	4.5	4.5	16.0
18.0				2.8	3.1	3.4	3.7	18.0
20.0				2.1	2.5	2.8	3	20.0
22.0				1.5	1.9	2.1	2.5	22.0
24.0					1.5	1.6	1.9	24.0
26.0					1.1	1.2	1.6	26.0
28.0					0.75	1.05	1.3	28.0
30.0						0.85	0.85	30.0
I	0	4	8	8	8	8	8	I
II	0	0	0	6	12	18	24	II
Reeving	8	8	6	5	4	3	3	Reeving
Hook	30t							Hook

Attention:

1. The above working conditions are all for full extension of the track carrier, and lifting weights with the track carrier retracted is prohibited;
2. The whole truck inclination angle in the chart refers to the inclination angle when the forward direction of the crane is parallel or perpendicular to the uphill direction;
3. The values listed in the chart are the maximum total lifting capacity (including hooks and spreaders) of this type of crane on level and solid road surface, i.e. the rated total lifting



- capacity; it is only permitted to be operated within the range indicated by the working conditions to prevent the danger of tipping over;
- The rated total lifting capacity includes the weight of the hook (0.285t for the main hook and 0.08kg for the secondary hook) and the weight of the other pick-up devices.

Rated lifting capacity chart

unit: t

Boom elevation angle (°)	Boom + jib working conditions (SF) lifting performance chart			Boom elevation angle (°)
	I-cylinder extended to 50%, full track extension, 360° operation, 12.5t counterweight, 0°			
	12.5t counterweight, full track extension, 360° direction lifting (horizontal road surface)			
	43+8(m)			
	0°	15°	30°	
80	3	2.6	2	80
78	2.8	2.6	1.9	78
76	2.8	2.5	1.8	76
74	2.8	2.3	1.7	74
72	2.6	2.2	1.6	72
70	2.4	2.1	1.5	70
68	2.2	1.9	1.35	68
66	1.9	1.7	1.25	66
64	1.6	1.5	1.1	64
62	1.4	1.3	1	62
60	1.2	1.1	0.9	60
58	1	0.9	0.75	58
56	0.8	0.7	0.6	56
54	0.7	0.5	0.5	54
52	0.6			52
50				50
Reeving	1			
Hook	3t			

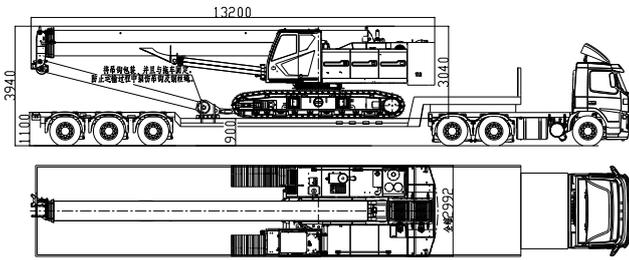
Attention:

- The above working conditions are all for full extension of the track carrier, and lifting weights with the track carrier retracted is prohibited;
- The whole truck inclination angle in the chart refers to the inclination angle when the forward direction of the crane is parallel or perpendicular to the uphill direction;
- The rated total lifting capacity includes the weight of the hook (0.285t for the main hook and 0.08kg for the secondary hook) and the weight of the other pick-up devices.





Transportation option I for complete vehicle :



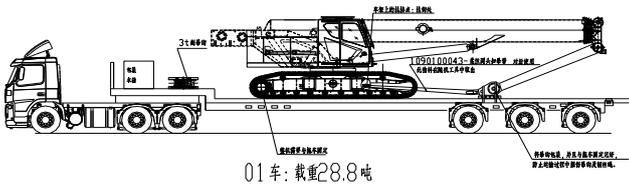
Transport vehicle

Components included

- Basic machine
- Main Boom
- Counterweights
- 30t hookx1
- Track carrier

Transportation weight 41.3t

Transportation option II for complete vehicle :

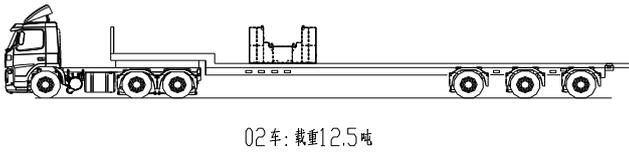


Transport vehicle I

Components included

- Crane body(remove counter weights)

Transportation weight 28.8t



Transport Vehicle II

Components included

- Counterweights

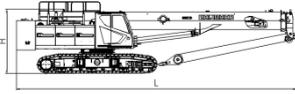
Transportation weight 12.5t



Component transport dimensions

Basic machine (with boom, no tracks removed)

x1



Length	13200	mm
Width	2990	mm
Height	3040	mm
Weight	41300	kg

Jib (optional)

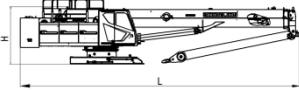
x1*



Length	13200	mm
Width	3490	mm
Height	3390	mm
Weight	36400	kg

Basic machine (with boom, tracks removed)

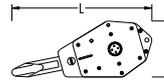
x1*



Length	13200	mm
Width	2990	mm
Height	2720	mm
Weight	31840	kg

30t hook

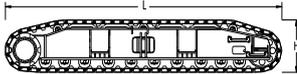
x1



Length	1100	mm
Width	304	mm
Height	480	mm
Weight	285	kg

Track carrier assembly

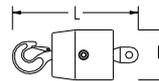
x2*



Length	5677	mm
Width	900	mm
Height	940	mm
Weight	4730	kg

3t hook

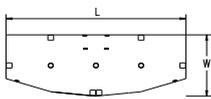
x1



Length	595	mm
Width	219	mm
Height	219	mm
Weight	63	kg

Counterweight

x1



Length	2992	mm
Width	890	mm
Height	1736	mm
Weight	12500	kg

Note:

- ① The components above are only schematic, and they are not drawn according to a fixed scale. The length dimensions are overall dimensions.
- ② Weights do not include packages and may vary slightly from labeling due to manufacturing errors;
- ③ The components above may be improved, which will result in changes in dimensions and weight. Therefore, the actual weight and dimension should be subject to factory products.
- ④ The number of components with "*" is determined according to actual needs.





BN202403-01



Follow Zoomlion crane QR
code for more information

ZOOMLION

The information provided is for reference only, actual factory prevails.

All rights reserved. Reproduction and copying of any part of contents is not allowed for any purposes without Zoomlion' s approval

Address: Zoomlion Lugu Industrial Park, High-tech Zone, Changsha, Hunan, China

Service Hotline: 400-800-0157

www.zoomlion.com