

ZOOMLION

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Vision Creates Future

ZCT600V532

TELESCOPIC CRAWLER CRANE



Max. Lifting moment: 225t·m
Length of Boom: 11.9m ~ 46m
Length of Boom with Jib: 46m+12.8m





ZCT600V532

P02

Technical data

- Overall dimensions
- Main technical parameters
- Operating modes

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System description

- Components and systems
- Safety devices

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Lifting performance

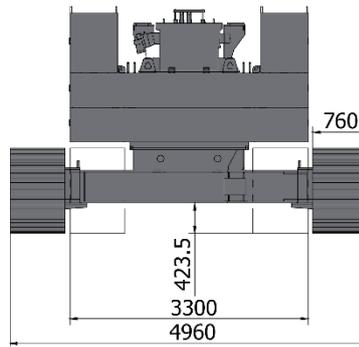
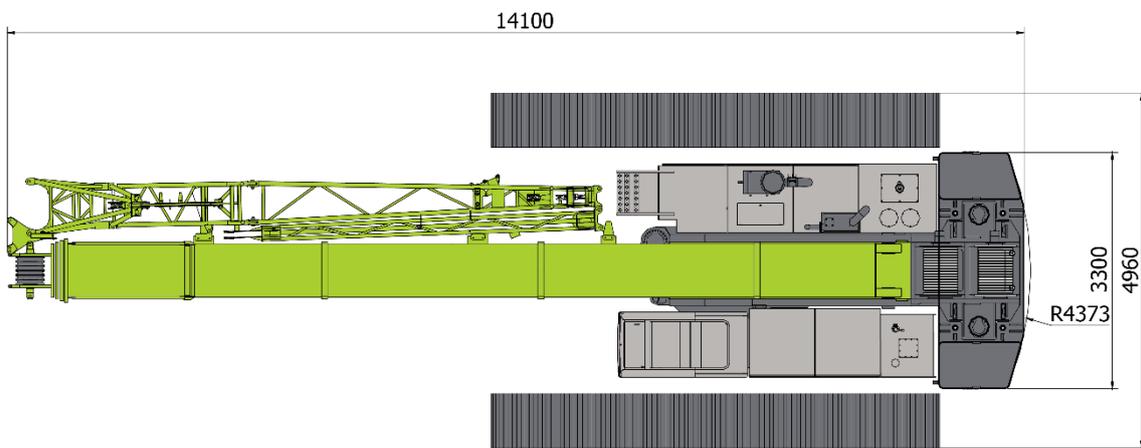
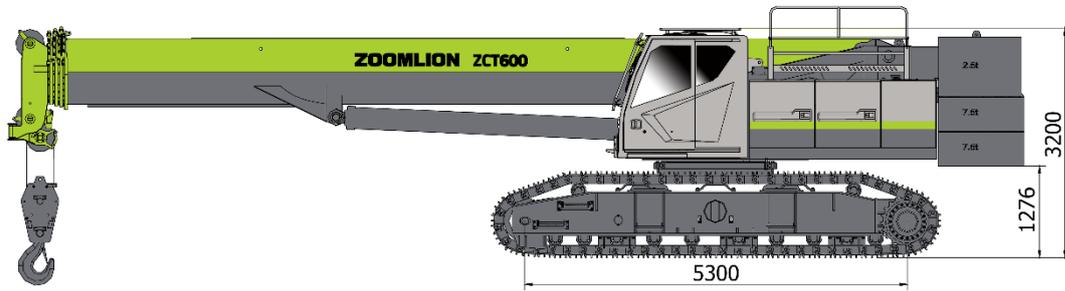
- Lifting height curves
- Lifting capacity charts

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Product transportation

- Transport plan
- Transport dimensions

Unit: mm



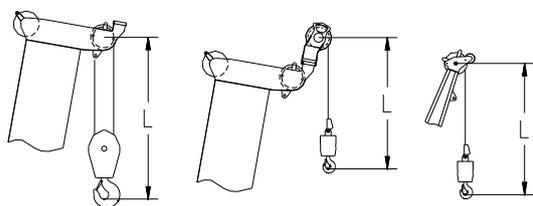
	Item	Unit	Value
Overall dimension	Overall length	mm	14100
	Overall width	mm	4960 (or 3300 with tracks retracted)
	Overall height	mm	3220
	Center distance between driving wheel and driven wheel	mm	5300
	Track pad width	mm	760
Boom	Max. lifting moment	t·m	225
	Maximum rated lifting capacity	t	60
	Boom length	m	11.9~46
	Boom angle	°	-2~80
	Maximum lifting capacity of rooster sheave	t	5
Jib	Longest main boom + jib	m	46+12.8
	Jib length	m	7.5~12.8
	Jib offset	°	0、15、30
	Maximum lifting capacity of fully extended boom	t	5
Speed	Hoisting speed of main winch	m/min	0~135
	Hoisting speed of auxiliary winch	m/min	0~135
	Boom derricking-up/down time	S	50/80
	Boom telescoping-out/in time	S	120/115
	Slewing speed	rpm	0~2
	Traveling speed	km/h	2.2 (empty load) / 1.5 (full load)
Diesel engine	Model	/	WeiChai WP6G210E330
	Rated power / rotational speed	kW/rpm	154/2200
	Exhaust emission	/	China Nonroad III
	Model	/	US Cummins QSB6.7
	Rated power / rotational speed	kW/rpm	194/2400
	Exhaust emission	/	Tier3
Wire rope	Diameter	mm	Φ17
Transport parameters	Deadweight	t	64.5
	Maximum single-piece transport weight	t	44 (whole crane)
Transport dimensions	L × W × H	mm	14055×3300×3220
Counterweight		t	20
Distance between track centers × Track contact length × Track Pad Width		mm	2540 (tracks retracted) × 5300 × 760
Max. gradeability		%	45
Ground Pressure		MPa	0.065
Tail slewing radius		mm	4373





OM code	Operating mode	Boom combination
S	Main boom	11.9m~ 46m
SH	Rooster sheave	11.9m~ 46m
SF	Main boom + Jib	46m + 7.5m~12.8m

Hook limit height



Hook specification	L (m)
60t	3
5t	2.5





Power system

Model	WeiChai WP6G210E330
Type	In-line six-cylinder, intercooling and supercharging
Displacement	6.75L
Rated power	154kW/2200rpm
Service power	154kW/2000rpm
Maximum torque	860N.m/1500rpm
Emission standard	China Nonroad III
Air filter	KLQ-389
Cooling System	Pressurized water-cooling system with thermostat
Starter motor	24V/4.5KW
Battery	200Ah
Gas pedal	Electronic gas pedal
Fuel tank volume	570L



Power system (Optional)

Model	US Cummins QSB6.7
Type	In-line six-cylinder, intercooling and supercharging
Displacement	6.7L
Rated power	194kW/2400rpm
Service power	194kW/2400rpm
Maximum torque	987N.m/1500rpm
Emission standard	Tier3
Air filter	KLQ-389
Cooling System	Pressurized water-cooling system with thermostat
Starter motor	24V/4.5KW
Battery	200Ah
Gas pedal	Electronic gas pedal
Fuel tank volume	570L



Hydraulic system

Main pump	HP1VAO190LE2S2-01R-NED12K02P
Main valve	J25L-6T
Gear pump	JHP2063/2020
Filter	YLQ-302, flow rate of 950L
Cooling method	Inter-cooling, plate-fin structure ZSR-315
Hydraulic system pressure	30MPa
Main and auxiliary winch pressure	Hoisting: 30MPa / Lowering: 10MPa
Traveling pressure	30MPa
Slewing pressure	15MPa
Luffing pressure	30MPa
Telescoping pressure	16MPa
Hydraulic oil tank volume	770L



Electrical system

System components

The electrical system includes power supply, engine start/shutdown device, indicator lights, warning devices, illumination devices, fan, wiper, horn, hoisting limiter, centralized display panel, load moment limiter, safety devices, etc., which not only ensure safe operation of the crane but also provide a good working environment.

Load moment limiter

With the 3rd generation of Zoomlion self-developed control system, the load moment limiter is safe and reliable and provides high calculation precision.

Monitor

The touch screen displays engine speed, oil volume, engine oil pressure, engine working time, hydraulic system pressure, fault icon, lifting capacity, boom parameters, etc.

Battery

24V DC, negative ground, two batteries of 200AH each.



Derricking mechanism

System features

Front-mounted single-cylinder derricking mechanism;
Derricking angle: -2°~80°;
Self-weighted derricking-down system saves energy and makes the downward derricking more stable.



Hoisting mechanism

System features

Liquid-controlled two-point variable motor with pressure cut-off;
Large starting displacement of motor effectively prevents heavy load from slipping off the hook;
Double Lebus winch drum avoids disorderly winding;
Reducer is equipped with a built-in wet and spring-loaded normally-closed brake with pressure oil release;
The main and auxiliary winches can be controlled independently or synchronously;
The main and auxiliary winch reducers and motors are of the same model and can be interchanged.

Rope Diameter

φ17mm;

Rope length

230m (main winch)
140m (auxiliary winch)

Maximum rope speed without load

135m/min (main winch)
135m/min (auxiliary winch);

Rated single rope pull

5t;





Slewing mechanism

- System features** Piston motor and reducer with large transmission ratio ensure smoother slewing;
The slewing hydraulic system with a cushion valve makes the slewing brake more stable;
Functions like free swinging and 360° slewing are available.
- Slewing bearings** Single-row four-point-contact ball bearing
- Slewing brake** The slewing reducer is equipped with a built-in wet and spring-loaded normally-closed brake with pressure oil release.

Two locking methods: mechanical locking pin and electrical locking.
- Slewing locking**
 - Mechanical locking: slewing can be locked by the mechanical locking pin at front or rear when the operation is finished or in transport;
 - Electrical locking: slewing can be locked electrically in a full range of 360° during operation to avoid misoperation.
- Slewing speed** 0-2 r/min



Counterweight

- Counterweight** Combined counterweight;
Counterweight slabs are stacked up and installed by hydraulic cylinders and lifting chains.
There are 4 counterweight slabs with a total weight of 20t. The bottom slab and the middle slab are 7.5t and the two side slabs are 2.5t each.



Operator's cab

- Operator's cab** The spacious and full-closed cab has a broad vision and is equipped with a safety windshield glass, an adjustable seat with armrest and headrest, a wiper and a washer (with optional pitching function).

Electrical switches and joysticks are installed on the armrest boxes on both sides. The armrest boxes and the seat can be adjusted forward and backward to adapt to customers in different body sizes;
- Armrest box** The two cross-axis hydraulic joysticks are installed on the armrest boxes at both sides of the seat. The traveling control pedal is equipped with a lever, which is easy to control and perform a synchronous operation.
- Joysticks**
- Air conditioner** A heating and cooling air conditioning system with optimized air duct and air outlet is equipped as standard.

Monitor

A 10-inch touch screen for displaying and a 7-inch monitoring screen are equipped as standard. The monitoring screen has a function of splitting display, which monitors rope winding as well as the right side of the crane and the rear of the counterweight.



Undercarriage

- Traveling power** Two independent hydraulic drive systems on both sides. The hydraulic motor drives the reducer and the driving wheel to realize traveling;
Traveling in a straight line, steering and other functions of tracks are controlled by joysticks and foot pedals;
Configuration 1: Reducer with a torque of 80000N.m (for cast flat track pads only);
Configuration 2: Reducer with a torque of 100000N.m.
- Traveling brake** Internal, wet, flat-type normally-closed brake with pressure oil release.
- Extending & retracting of tracks** Extending and retracting of tracks are driven by hydraulic cylinders;
the track gauge (extended) is 4200mm.
- Tracks tensioning** Extending and retracting of tracks are driven by hydraulic cylinders;
the track gauge (retracted) is 2540mm.
Configuration 1: High-strength alloy cast steel three-rib track pads with a width of 760mm; quantity: 60*2.
- Track pad** Configuration 2: High-strength alloy cast flat track pads with a width of 762mm; quantity: 66*2.
- Traveling speed** Fast and slow gears;
maximum driving speed of 2.2km/h
- Gradeability** 45%



Boom

- Boom** U-shaped cross-section, high-strength structural steel, five boom sections.
The basic boom length is 11.9m.
The maximum boom length is 46m.
Double-cylinder rope telescoping mode.
- Jib (optional)** Length: 7.5m, 12.8m
Installation angle: 0°, 15°, 30°



Hook

- Main Hook** For 60t, with 6 pulleys
- Secondary hook** For 5t





Load moment limiter

High-precision load moment limit system ensures the safety and the high efficiency of operation.

The moment limit system automatically detects the boom length, boom angle and load weight. It displays and calculates rated load, actual load, working radius, boom angle and other parameters in real time.

When the crane exceeds the normal working range, the load moment limiter restricts dangerous operations and sends out an alarm. And it has the black-box recording function.

The load moment limit system mainly consists of a display, a controller, a length-angle sensor, and a pressure sensor.



Function locking

The left armrest box in the cab is equipped with a function locking rod. All operations are invalid if the function lock rod is engaged.



Hoisting limiter

Both the main and the auxiliary hoisting mechanisms are equipped with a hoisting limiter.

When the hook is lifted to a certain height, the height limit switch starts to function and cuts off the hoisting. An alarm is displayed on the monitor. The tricolor light is red and the buzzer sounds to alarm.



Lowering limiter

Both the main and the auxiliary hoisting mechanisms are equipped with a lowering limiter.

The lowering limiter starts to function and cuts off the lowering of the hook when there are only three windings of rope left on the drum. An alarm is displayed on the monitor. The tricolor light is red and the buzzer sounds to alarm.



Slewing locking device

The slewing locking device is used to keep the superstructure fixed during transport. It must be kept unlocked in operation.



Safety Latch

A safety latch is installed on both the main and the auxiliary hook, which prevents the load from falling off from the hook.



Rear-view-mirror

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



Illumination lights

Work light: LED work lights are installed on the top of the cab and the boom head;

Height marker Light: it is installed on the top of the boom, used for marking the boom height.



Level gauge

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



Emergency stop button

An emergency stop button is set at the left front of the dashboard in the cab. Press the button to shut down the engine and stop all the operations in emergencies.



Tricolor warning light

Tricolor warning light is located in front of the cab. It illuminates with three colors, i.e. red, yellow and green, indicating the load status.

Load rate less than 90%: the green light on;

Load rate between 90% and 100%: the yellow light on with a continuous sound alarm;

Load rate more than 100%: the red light on with a continuous sound alarm. And dangerous operations are automatically cut off.



Slewing and Traveling alarm

A sound-light alarm will be sent out during slewing and traveling



Video monitoring system

Standard

Winch camera: monitors winch working condition in real time;

Right-side camera: monitor the situation at the right rear of the crane.

Optional

Boom head camera: monitor the situation of the load on the hook.





Remote monitoring system

GPS satellite positioning, GPRS data transfer
Remote query of equipment condition;
monitoring and analysis of operational data



Wireless remote control

Optional

Remotely control the traveling, derricking and slewing of the crane;
Remotely control the loading and unloading on flatbed trailer.



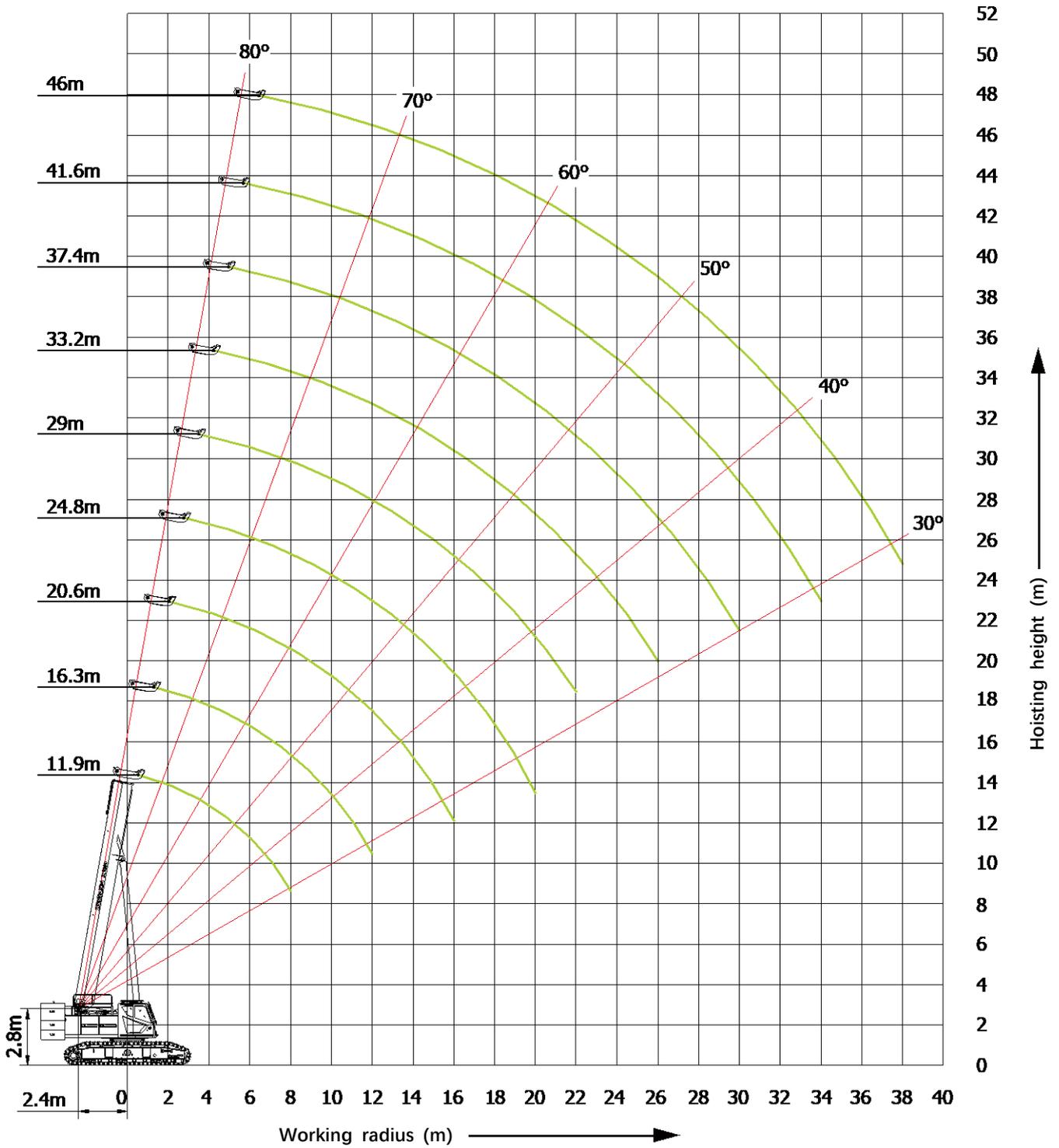
Anemometer

Optional

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



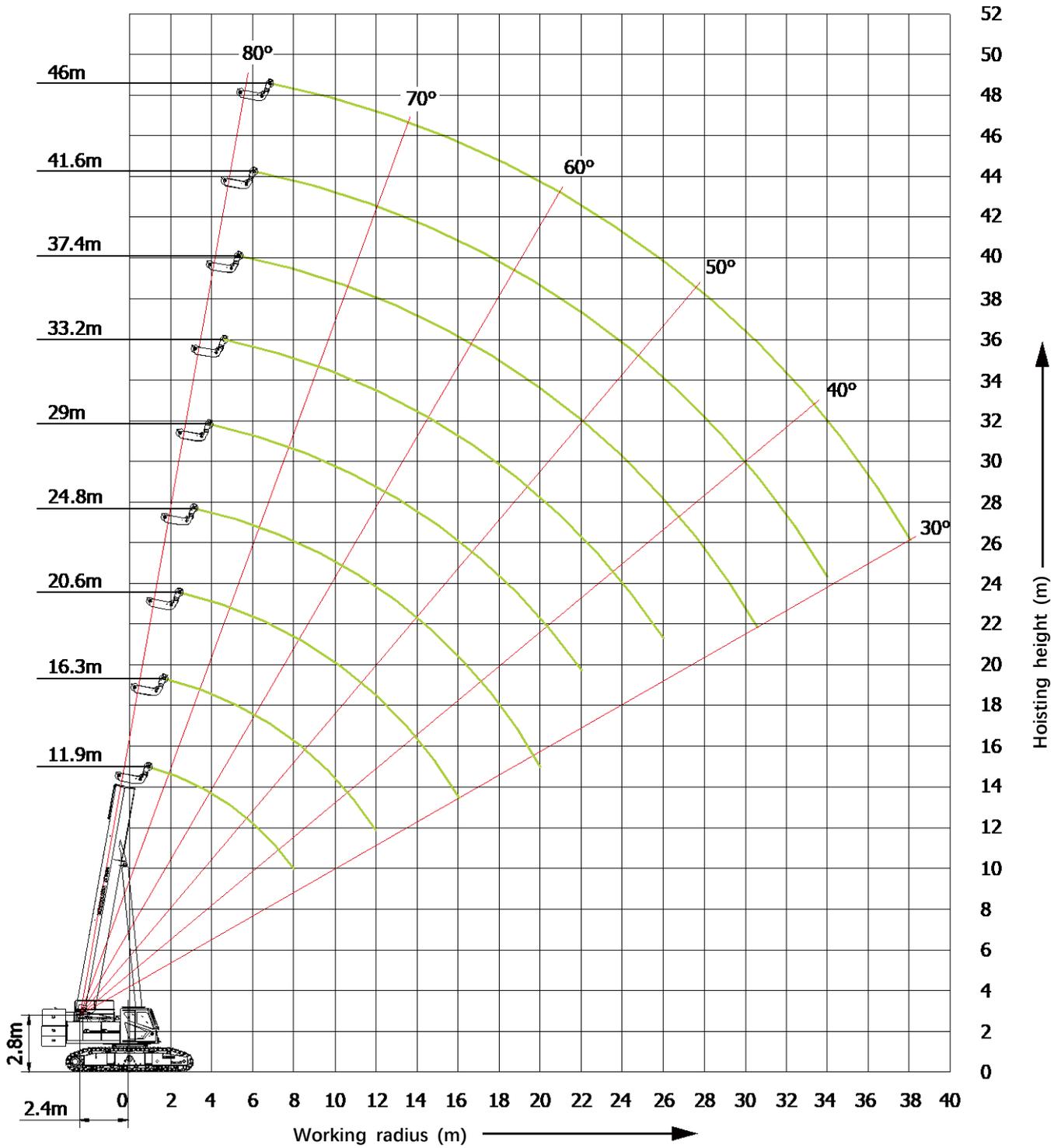
Main Boom OM (S) lifting height curves



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.

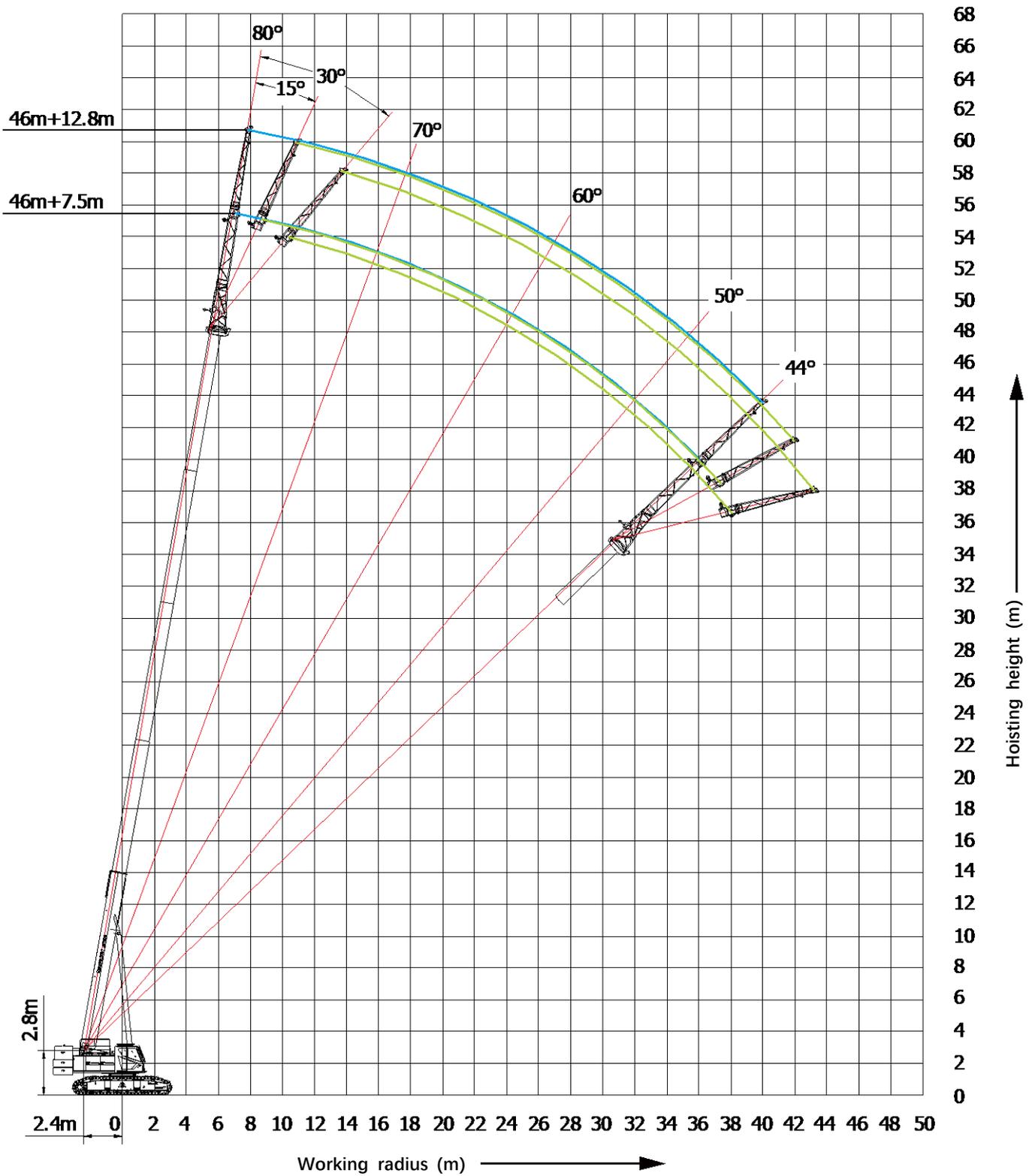


Rooster sheave OM (SH) lifting height curves



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.

Main boom + Jib OM (SF) lifting height curves



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.



Notes:

1. Crawler carriers are fully extended for all the above operating modes. Lifting is prohibited when crawler carriers are retracted.
2. 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. Values in the charts are the permissible maximum lifting capacities for various operating modes under specified conditions. The rated total lifting capacity includes the weight of the hook (0.51kg for the main hook and 0.14kg for the auxiliary hook) and the weight of the other slings and devices

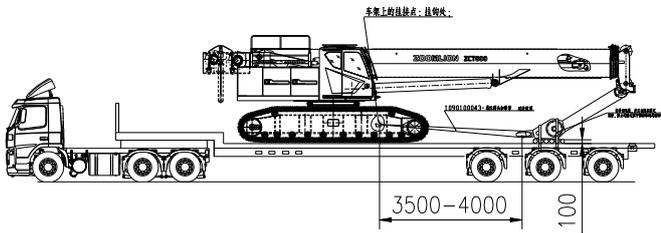
Working radius (m)	Lifting capacity chart of main boom OM (S)									Working radius (m)
	Cylinder I fully extended; tracks fully extended; 360° working range; 20t counterweight; 0° (Unit: t)									
	11.9	16.3	20.6	24.8	29	33.2	37.4	41.6	46	
3	60	46								3
3.5	54	46	38							3.5
4	52	46	35	29						4
4.5	50	46	33	28	27					4.5
5	44	43	31	27.5	27					5
5.5	38	37	28	25.5	27					5.5
6	36	35	27	24.5	27	22				6
7	27	26.5	24.5	22	24.5	20	19			7
8	21	21	22	19.5	21.5	18	16.8	15		8
9		17	18	17.5	19.2	16.5	14.5	14	11	9
10		14.5	14.5	15.5	15.6	15	13.6	12.8	10.8	10
11		11.2	11.5	11.8	12.5	13	12.4	11.2	10	11
12		9.8	10	11.5	11.5	12.5	11.5	10.4	9.6	12
14			7.8	8.4	9	9.6	9.8	9	8.6	14
16			5.5	6.5	7	7.5	7.8	8	7.6	16
18				5	5.2	6	6.2	6.5	6.8	18
20				3.8	4.1	4.8	5	5	5.6	20
22					3.1	3.7	4	4.2	4.5	22
24						3	3.2	3.2	3.7	24
26						2.4	2.6	2.6	3	26
28							2.1	2.2	2.5	28
30							1.6	1.8	2.1	30
32								1.4	1.8	32
34								1.1	1.4	34
36									1.1	36
38									0.9	38
I	0	4.4	8.7	8.7	8.7	8.7	8.7	8.7	8.7	I
II	0	0	0	4.2	8.4	12.6	16.8	21	25.4	II
Reeving	12	10	8	8	6	5	4	4	4	Reeving
Hook	60t									Hook

Working radius (m)	Lifting capacity chart of rooster sheave OM (SH)									Working radius (m)
	Cylinder I fully extended; tracks fully extended; 360° working range; 20t counterweight; 0° (Unit: t)									
	11.9	16.3	20.6	24.8	29	33.2	37.4	41.6	46	
3	5	5								3
3.5	5	5	5							3.5
4	5	5	5	5						4
4.5	5	5	5	5	5					4.5
5	5	5	5	5	5					5
5.5	5	5	5	5	5					5.5
6	5	5	5	5	5	5				6
7	5	5	5	5	5	5	5			7
8	5	5	5	5	5	5	5	5		8
9		5	5	5	5	5	5	5	5	9
10		5	5	5	5	5	5	5	5	10
11		5	5	5	5	5	5	5	5	11
12		5	5	5	5	5	5	5	5	12
14			5	5	5	5	5	5	5	14
16			5	5	5	5	5	5	5	16
18				5	5	5	5	5	5	18
20				3.8	4.1	4.8	5	5	5	20
22					3.1	3.7	4	4.2	4.5	22
24						3	3.2	3.2	3.7	24
26						2.4	2.6	2.6	3	26
28							2.1	2.2	2.5	28
30							1.6	1.8	2.1	30
32								1.4	1.8	32
34								1.1	1.4	34
36									1.1	36
38									0.9	38
I	0	4.4	8.7	8.7	8.7	8.7	8.7	8.7	8.7	I
II	0	0	0	4.2	8.4	12.6	16.8	21	25.4	II
Reeving	1									Reeving
Hook	5t									Hook



Boom angle (°)	Lifting capacity chart of main boom + jib OM (SF)						Boom angle (°)
	Operation at the rear and side; 20t fixed counterweight (Unit: t)						
	46+7.5			46+12.8			
	0°	15°	30°	0°	15°	30°	
80	5	3.3	2.5	3	2	1.5	80
78	5	3.3	2.5	3	2	1.45	78
76	4.8	3.2	2.5	2.9	1.9	1.4	76
74	4.5	3.1	2.5	2.7	1.8	1.35	74
72	4.2	3	2.5	2.5	1.7	1.3	72
70	3.9	2.8	2.4	2.3	1.65	1.25	70
68	3.6	2.7	2.3	2.1	1.6	1.25	68
66	3.4	2.6	2.2	2	1.55	1.2	66
64	3.1	2.5	2.1	1.9	1.5	1.2	64
62	2.7	2.4	2	1.8	1.45	1.15	62
60	2.3	2.1	1.85	1.7	1.4	1.1	60
58	2.1	1.9	1.6	1.6	1.35	1.05	58
56	1.8	1.6	1.5	1.35	1.25	1	56
54	1.6	1.3	1.2	1.2	1.1	0.9	54
52	1.3	1.1	1	1	0.9	0.85	52
50	1.1	1	0.9	0.85	0.8	0.75	50
48	0.9	0.8	0.7	0.7	0.65	0.6	48
46	0.75	0.7	0.6	0.6			46
44	0.6	0.55					44
Reeving	1						Reeving
Hook	5t						Hook

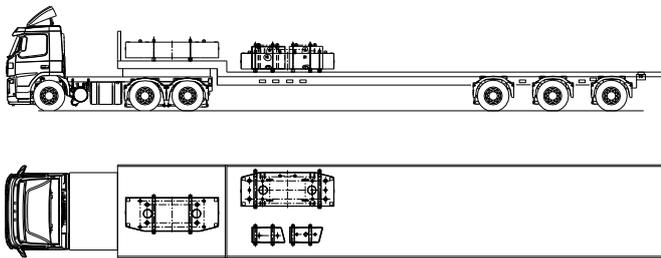
Transport plan I for whole crane:



Trailer #1

Components included	<ul style="list-style-type: none"> • Basic machine (with boom & crawler carrier) • Hook for 60t • Hook for 5t
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Transport weight	44.4t
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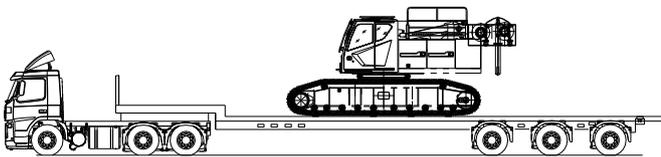


Trailer #2

Components included	<ul style="list-style-type: none"> • Lower movable counterweight • Upper movable counterweight • Counterweight slab x2 • Packaging box x2
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Transport weight	20t
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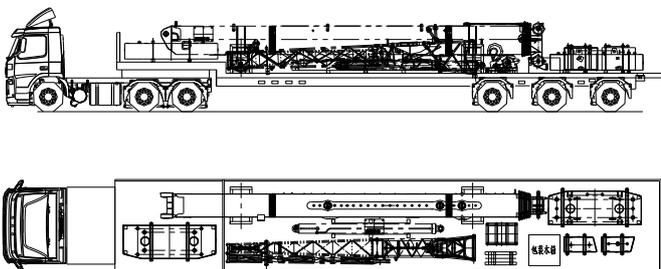
Transport plan II for whole crane:



Trailer #1

Components included	<ul style="list-style-type: none"> • Basic machine (without boom)
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Transport weight	31.2t
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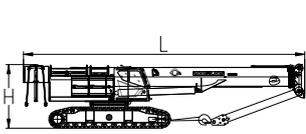
Trailer #2

Components included	<ul style="list-style-type: none"> • Main boom • Jib (with section 1 and section 2) • Derricking cylinder • Hook for 60t • Hook for 5.5t • Lower movable counterweight • Upper movable counterweight • Left counterweight slab • Right counterweight slab
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Transport weight	33.2t
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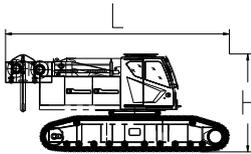


Basic machine (with boom and tracks) ×1



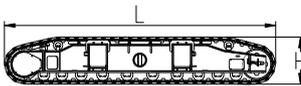
Length	14100	mm
Width	3300	mm
Height	3220	mm
Weight	44500	kg

Basic machine (with tracks but no boom) ×1*



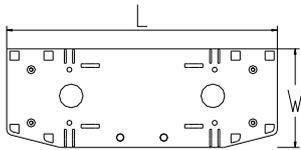
Length	7330	mm
Width	3300	mm
Height	3200	mm
Weight	31200	kg

Crawler carrier assy. ×2



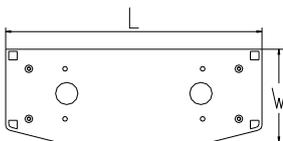
Length	6340	mm
Width	1040	mm
Height	1120	mm
Weight	8000	kg

Lower movable counterweight ×1



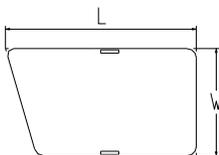
Length	3300	mm
Width	1185	mm
Height	553	mm
Weight	7500	kg

Upper movable counterweight ×1



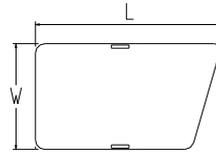
Length	3300	mm
Width	1185	mm
Height	687	mm
Weight	7500	kg

Left counterweight slab ×1



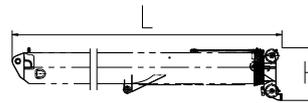
Length	1159	mm
Width	923	mm
Height	660	mm
Weight	2500	kg

Right counterweight slab ×1



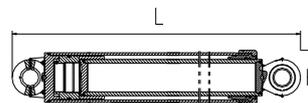
Length	1159	mm
Width	923	mm
Height	660	mm
Weight	2500	kg

Boom ×1



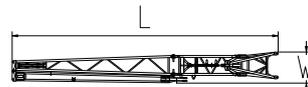
Length	12365	mm
Width	884	mm
Height	1570	mm
Weight	10600	kg

Derricking cylinder ×1



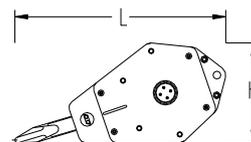
Length	4850	mm
Width	370	mm
Height	330	mm
Weight	1200	kg

Jib (with section 1 and section 2) ×1*



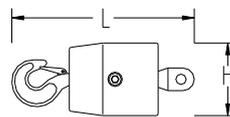
Length	7990	mm
Width	950	mm
Height	1245	mm
Weight	725	kg

Hook for 60t ×1



Length	1480	mm
Width	520	mm
Height	520	mm
Weight	510	kg

Hook for 5t ×1



Length	810	mm
Width	270	mm
Height	270	mm
Weight	140	kg

Note:

- ① Illustrations above are schematic diagrams that are not drawn in fixed proportions.
- ② Packaging weight is not included. Weights might be different from what are listed in the above table due to manufacturing error.
- ③ Dimensions of actual products shall prevail if dimensions and weights differ from what are listed above due to parts improvement.
- ④ The number of components marked with "*" is determined by the actual need.

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