

# 150 ton capacity ZCT1500V653



**ZOOMLION**

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**ZOOMLION**

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PRODUCTS

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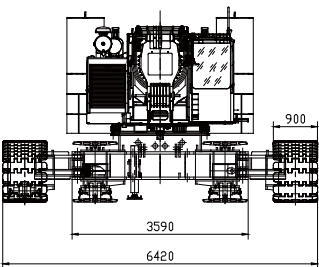
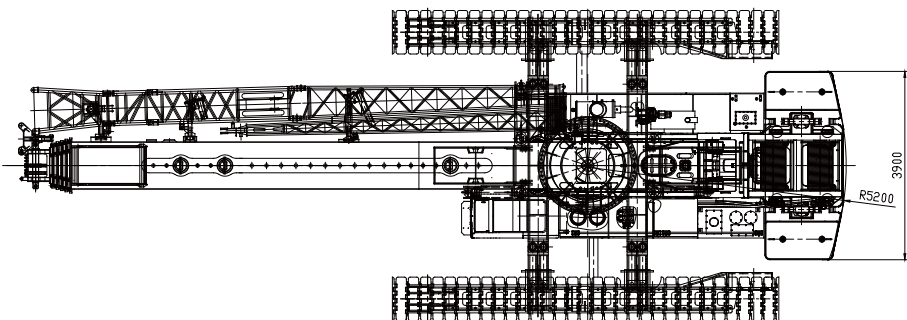
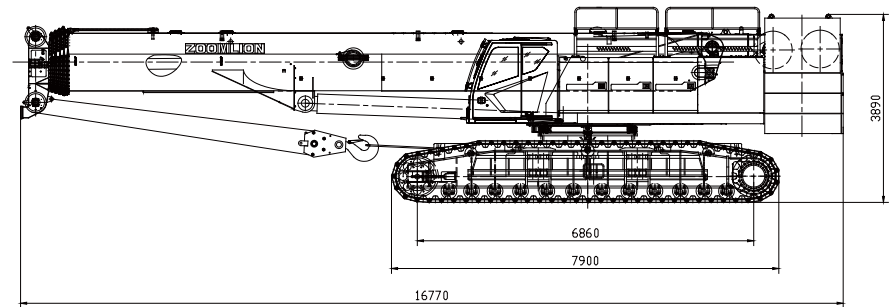
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# DIMENSIONS



# TECHNICAL FEATURE

## Strong lifting capacity

- The boom consists of 6 oval-shaped boom sections which can extend to a maximum length of 65 m, contributing to the crane's superior comprehensive lifting capacity and securing Zoomlion's leadership in the industry. The independently designed plate-type boom head and compact boom end realize optimal overlapping ratio as well as stronger lifting capacity of the main boom. The second generation of free boom telescoping technology, which is novel in the industry, increases stability during telescoping and brings the overall vehicle with higher anti-tipping capacity.

## High work efficiency

- An electric proportional control joystick is installed in the crane, which is capable of compounding movements of the main and auxiliary winches, the derricking mechanism, the slewing mechanism and the telescoping mechanism, therefore greatly increasing the crane's lifting efficiency.
- The crane is characterized in its convenient, flexible, stable and reliable operations which can be adjusted in a stepless way.
- Single rope speed of the hoisting winch 1 and 2 can reach 142 m/min (at 4th layer on the drum).

## Stronger single wire rope pulling force

- The main and auxiliary winches use a standard  $\phi 22$  anti-twisting wire rope, whose single rope pulling force can reach 10.7 t.

## Optimization of transportation, assembly and dismantling

- Easy for transfer between working sites; the whole vehicle can be transported in one truck after its counterweight is removed.
- The movable counterweight plates can be installed and removed conveniently by a counterweight handle. Therefore they are also convenient for transportation.
- The crawler carriers can be extended and retracted, and the maximum transport width of the crane is 3.6 m.
- Vertical outriggers are installed to provide convenience during crawler carrier dismantling process.

# TECHNICAL DESCRIPTION



## Engine

Engine model: QSL9-C330.  
Type: six-cylinder in-line, intercooling turbo-charged diesel engine.  
Rated power: 246kW/2000r/min.  
Max. torque: 1630N.m/1100r/min .  
Emission standard: Euro V.  
Fuel tank capacity: 600L.



## Hoisting mechanism

It consists of a main hoist mechanism and an auxiliary hoist mechanism.  
The two hoist mechanisms are driven by an axial plunger hydraulic motor with a built-in planetary gear reducer to lift or lower the hook.  
A brake is fitted between the motor and reducer.  
The two winch mechanisms can be controlled independently and also can carry out simultaneous movements.  
The auxiliary hoist winch is of same model of the main winch, and both of them adopt a variable motor. The main winch is installed with an overlowering protection device which gives alarm when there are only 3 wraps of wire rope left on the drum.  
The sealed-in planetary reducer is of a compact structure, light deadweight and high reliability.  
Specifications for high-tensile torsion resistant hoist rope:  
Diameter: 22.0 mm.  
Strength grade: 1960 N/mm2.  
Length of main hoist rope: 320 m.  
Length of auxiliary hoist rope: 220 m.  
Single rope pulling force: 10.7 t.



## Hydraulic system

The superstructure adopts an electro-hydraulic pilot proportionally controlled hydraulic system which is controlled by the integrated computer, therefore high operational comfort, sound fine and simultaneous movements are realized. The hydraulic system is a variable system combines open-type and close-type characteristics. Small hydraulic loss, high working efficiency and movement accuracy, stable and reliable operations and stepless speed adjustment are assured. A counterweight handling system and a cab tilting mechanism are also installed. Stable startup and braking performance and high system reliability are assured.  
The oil cooler for hydraulic system: a radiator driven by a high-power hydraulic motor, 47 kW.  
Hydraulic oil tank capacity: 1000 L.



## Swing

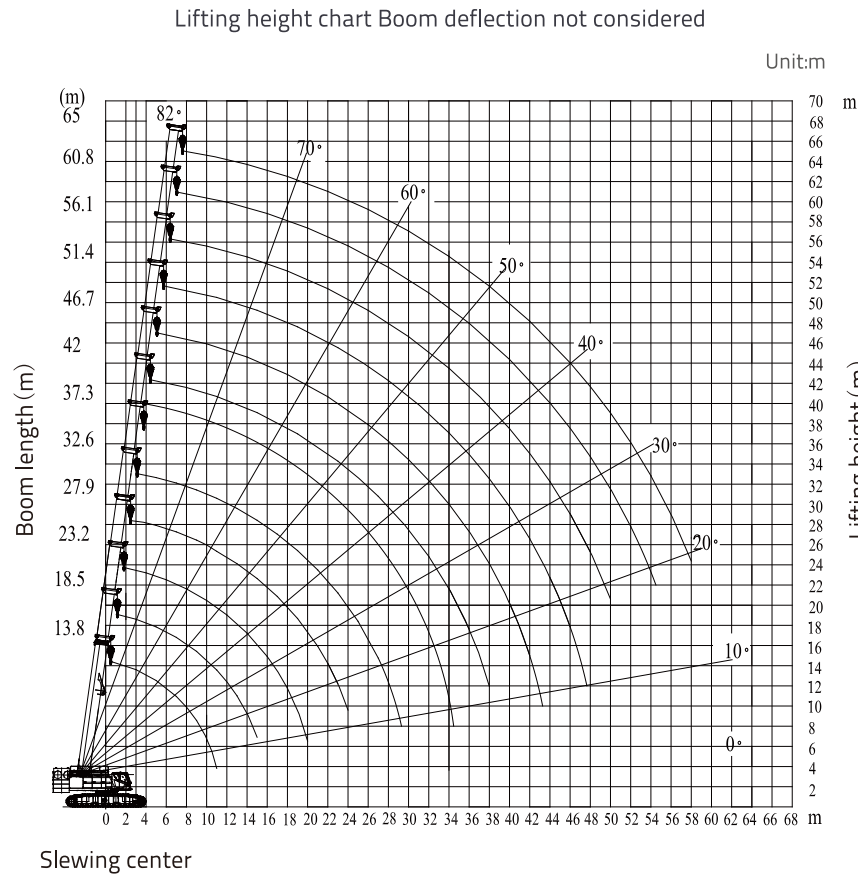
The slewing mechanism consists of a hydraulic motor and planetary reducer. The dual-reducer slewing mechanism, and the slewing ring which is external engaged with the reducer, realizes large output torque and stable transmission of force.  
The crane is capable of conducting controllable free swing during lifting operation where the crane is automatically aligned to the slewing center relative to the load.  
A slewing cushion valve and a normally-closed brake are installed to ensure stable and reliable slewing.

# LIFTING PERFORMANCE

Work conditions and rated capacity charts

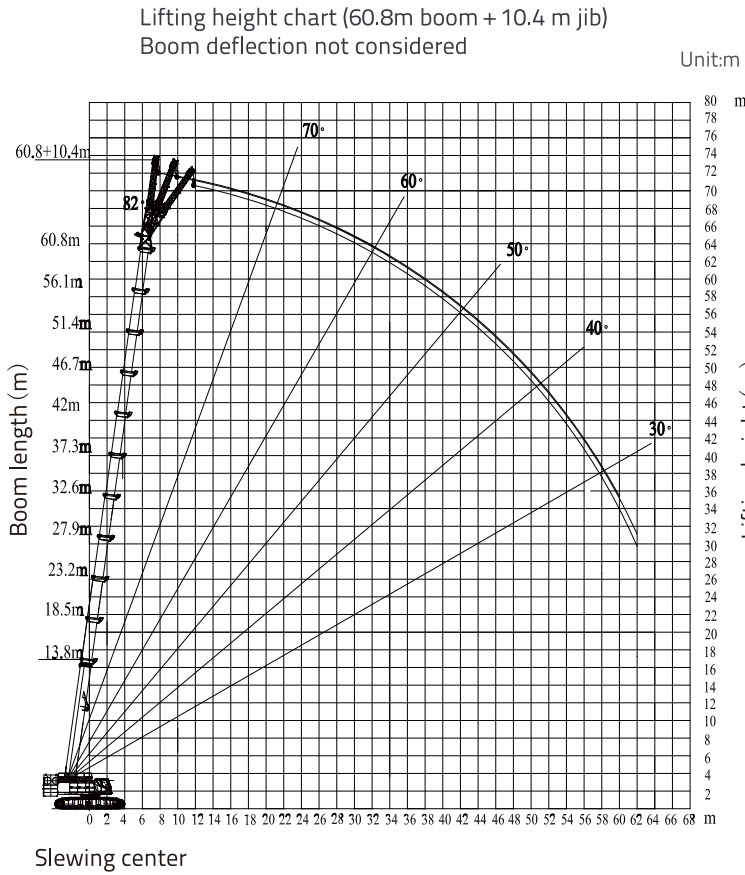
Working range

Lifts with the boom only



Lifts with boom and jib

Boom + 10.4m jib



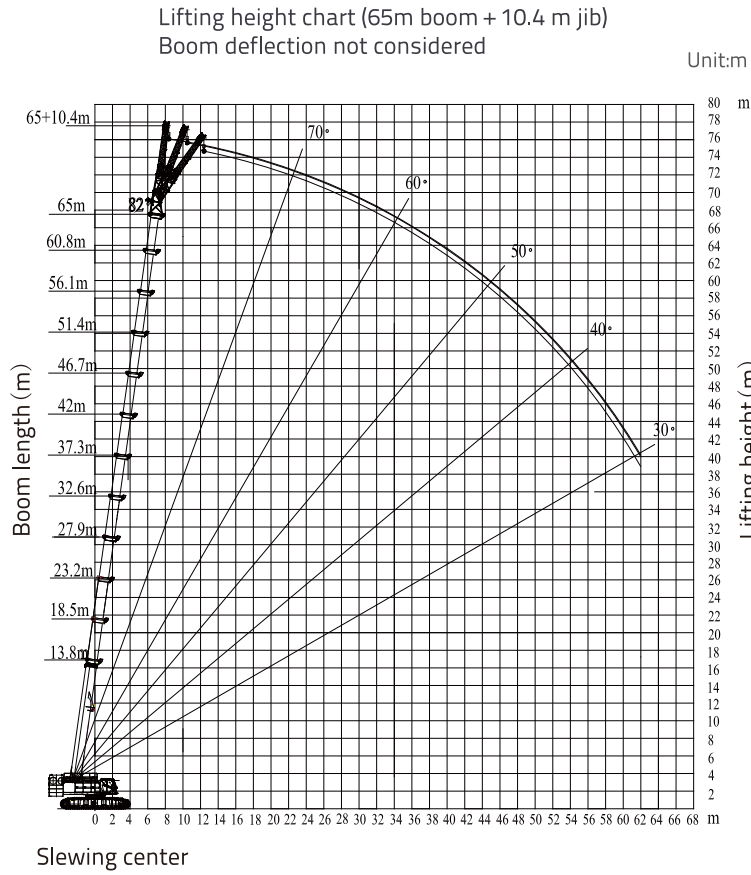
# LIFTING PERFORMANCE

Work conditions and rated capacity charts

Working range

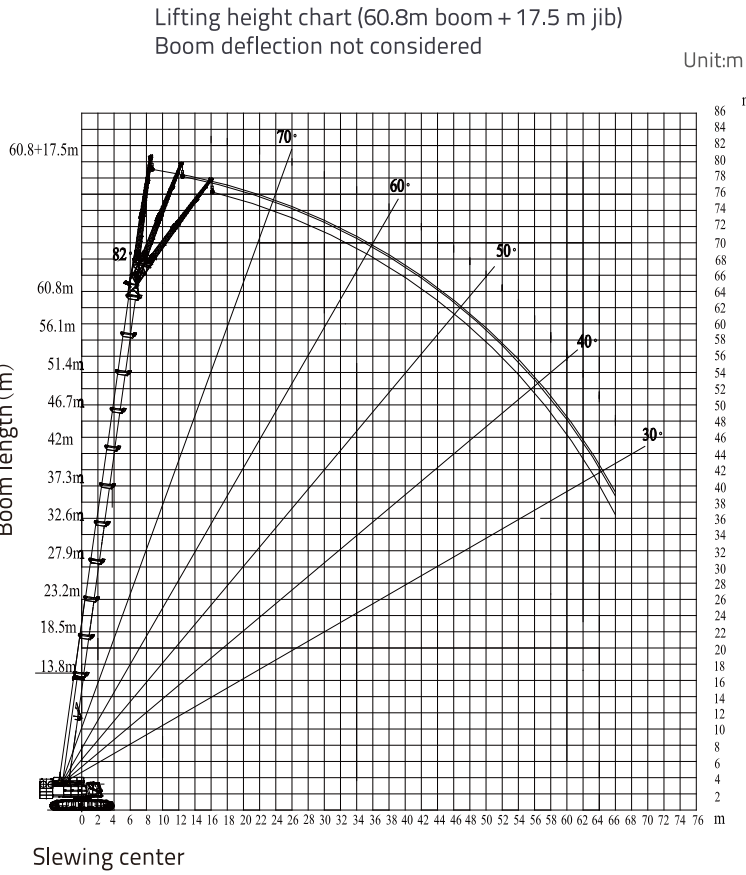
Lifts with boom and jib

Boom + 10.4m jib



Lifts with boom and jib

Boom + 17.5m jib



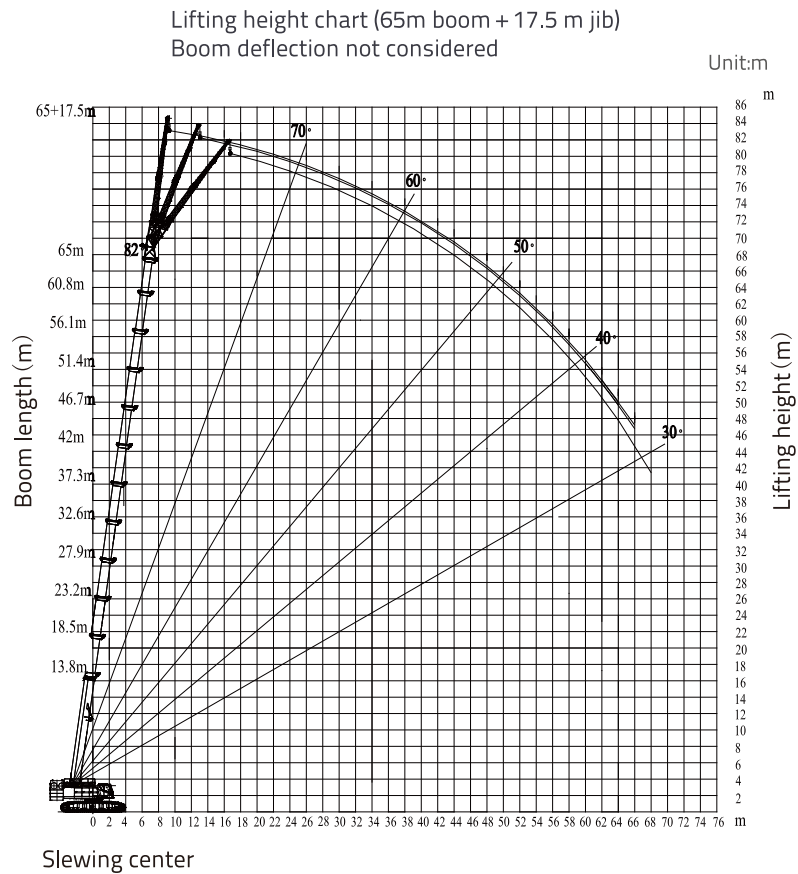
# LIFTING PERFORMANCE

Work conditions and rated capacity charts

Working range

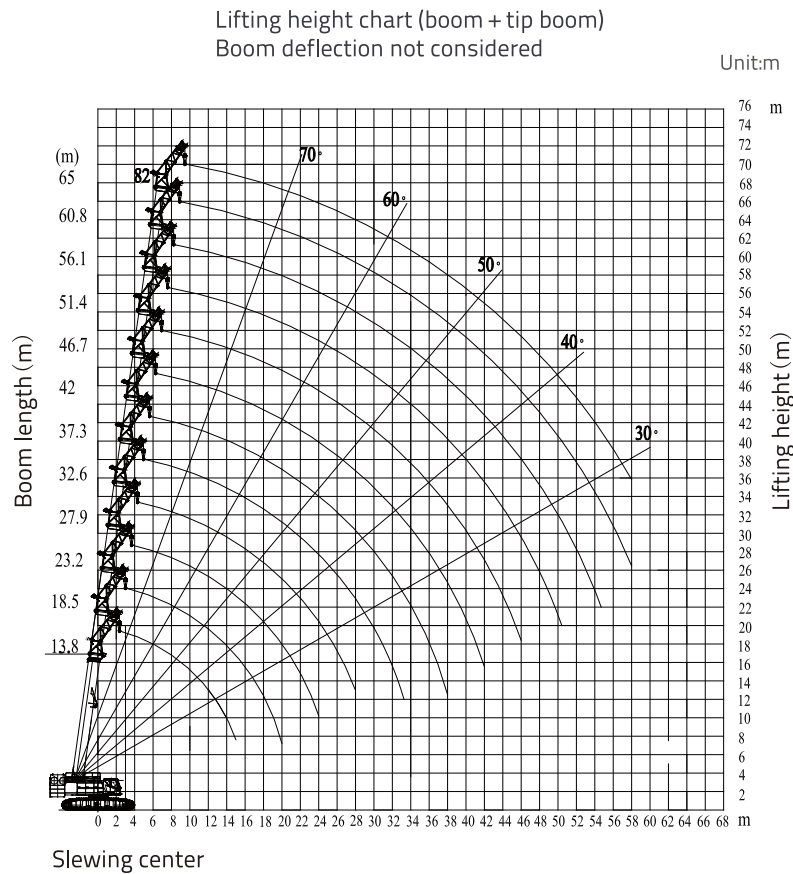
Lifts with boom and jib

Boom + 17.5m jib



Lifts with boom and jib

Boom + 4.9m tip boom



# LIFTING PERFORMANCE

Rated lifting capacity with boom

Unit:t

Over 360° working range, with 40t counterweight and 7t balance weight, with crawler carrier fully extended													
Working radius (m)	Boom (m)						Crane gradient						
	13.8	18.5	18.5	18.5	18.5	23.2	23.2	23.2	23.2	23.2	27.9	27.9	
2.5	150	0°	0°	0°	0°	0°	0°	0°	0°	0°	0°	0°	
3	135	115	53.5	105	105								
3.5	130	110	51	98	98	105	26	103	55	76			
4	120	107	48	90	90	100	25	96	53	72	85	28	
4.5	110	100	46	85	85	90	24	90	50	67	85	26	
5	100	96	44	80	80	88	23	88	48	63	82	25	
5.5	90	89	42	75	75	82	21.5	82	46	60	78	24	
6	85	81	40	72	72	78	20.5	78	45	56	75	23	
6.5	82	75	38.5	68	68	75	19.5	75	43	53	70	22	
7	74	70	37	66	66	70	18.5	70	40	50	62	21	
8	62	62	35	60	60	62	17	60	39	46	58	19	
9	53	54	32.5	50	50	50	16	49	36	42	55	18	
10	45	45	30.5	42	42	42	15	41	34	40	47	17	
11	38	39	29	36	36	35	14	36	33	36	40	16	
12		33	27.5	31	31	31	13	32	30	32	34	15	
13		30	26	28	28	27	12	28	29	28	30	14	
14		26	25	25	25	25	11.5	25	26	25	26	13.5	
15		23	23	22	22	23	11	22	23	22	23	13	
16						20	10.5	20	21	20	20	12	
18						16	9.5	17	18	17	17	11	
20						13	9	14	15	14	14	10.5	
22											12	9.5	
24											10	9	
26													
28													
30													
32													
34													
36													
38													
40													
42													
44													
46													
48													
50													
52													
54													
56													
58													
Reeving		12				12	11			11		9	
Main hook	150t	110t				110t				110t		110t	
Telescope mode	I	1	1	1	1	1	2	1	1	1	1	2	1
	II	1	2	1	1	1	2	1	2	1	1	2	1
	III	1	1	1	2	1	1	1	2	1	2	2	1
	IV	1	1	1	1	2	1	1	1	2	2	1	2
	V	1	1	2	1	1	1	3	1	2	1	1	3

Unit:t

Over 360° working range, with 40t counterweight and 7t balance weight, with crawler carrier fully extended													
Working radius (m)	Boom (m)						Crane gradient						
	27.9 0°	27.9 0°	27.9 0°	32.6* 0°	32.6 0°	32.6 0°	32.6 0°	32.6 0°	37.3* 0°	37.3 0°	37.3 0°	37.3 0°	
2,5													
3													
3,5													
4	82	57	32										
4,5	78	55	30	78	26	58	37	32					
5	73	53	29	78	25	58	35	30	60	26	32	38	
5,5	70	51	27	75	23	55	33	29	60	25	30	36	
6	66	50	25	70	22	53	31	28	58	24	28	34	
6,5	63	47	24	68	21	52	30	26	58	23	26	32	
7	60	45	23	65	20	50	28	25	58	22	25	31	
8	55	41	21	60	18	48	26	23	55	20	23	28	
9	50	37	19	53	17	43	24	22	50	18	22	26	
10	42	34	18	45	16	40	22	20	45	17	20	24	
11	36	32	16	38	15	36	20	19	40	16	18	22	
12	32	30	15	34	14	32	19	18	35	15	17	21	
13	28	28	14	30	13	27	18	16	31	14	16	20	
14	25	26	13	26	12	25	17	15	27	13	15	18	
15	22	24	12,5	24	11	22	16	14,5	24	12	14	17	
16	20	21	12	22	11	20	15	14	22	11	13	16	
18	17	18	11	18	9,5	17	13	12	19	10	12	14	
20	14	15	10	15	8,8	14	12	11,5	16	9,5	11	13	
22	12	13	9	12	8	12	11	10,5	13	9	10	12	
24	10	12	8	10	7	11	10	10	11	8,2	9	11	
26				9	6,5	9	9	9	10	7,7	8	10	
28				8	6	8	8,5	8	9	7	7,5	8	
30				7	5,5	7	7	7	8	6,5	7	7,5	
32									7	6	6,5	7	
34										5,5	6	6	
36													
38													
40													
42													
44													
46													
48													
50													
52													
54													
56													
58													
Reeving	9			8	8					7			
Main hook	110t				110t					60t			
Telescope mode	I	1	1	1	2	1	1	1	1	2	1	1	1
	II	2	1	1	2	1	2	1	1	2	1	1	2
	III	2	2	1	2	1	2	3	2	2	3	3	3
	IV	2	2	3	2	3	2	2	3	2	3	3	2
	V	1	2	2	1	3	2	2	2	2	3	2	2

LIFTING PERFORMANCE

Rated lifting capacity with boom

Over 360° working range, with 40t counterweight and 7t balance weight, with crawler carrier fully extended													
Working radius (m)	Boom (m)						Crane gradient						
	37.3 0°	42* 0°	42 0°	42 0°	42 0°	42 0°	46.7* 0°	46.7 0°	46.7 0°	46.7 0°	51.4* 0°	51.4 0°	
2,5													
3													
3,5													
4													
4,5													
5	48												
5,5	45												
6	43	50	25	43	30	36							
6,5	40	47	24	41	29	35							
7	39	45	23	39,4	28	34		25	35				
8	36	42	21	36,2	25,7	31	37	24	33	28			
9	33	38	20	33,5	24	29	35	22	30,7	26	31	23	
10	30	36	18	31	22	27	33	20,5	29	24,3	30,5	21,8	
11	28	32	17	28,9	20,5	25	30,5	19,4	27	22,8	28,5	20,7	
12	26	30	16	27	19,2	23,6	28,8	18	25,5	21,4	27,5	19,6	
13	25	28	15	25,4	18	22	27	17	24	20,2	26	18,7	
14	23	26	14	23,9	17	21	25,5	16	22,7	19	24,5	17,6	
15	22	24	13	22,5	16	19,8	24,3	15,2	21,5	18	23	16,8	
16	20	22	12	21,3	15	18,7	22	14,3	20	17	22	16	
18	17	18	11	18,6	13,5	17	18	13	18	15,5	18	14,5	
20	14,5	15	10	15,8	12,3	15,4	15	11,5	14,5	14	15	13	
22	12,7	13	9	13,5	11,2	14	12,8	10,5	12,5	12,8	12,8	12	
24	11	11	8	11	10	12,4	10,8	9,7	11	11,8	11	11	
26	9,5	9	7,8	9,7	9,3	10,7	9,3	9	9,5	10,9	10	10	
28	8	8,6	7,3	8,5	8,7	9,6	8	8,3	8,2	10	8,5	9,5	
30	7	7,5	6,8	7,5	8	8,5	7	7,6	7,2	8	7,5	8,8	
32	6,5	6,5	6,3	6,5	7,4	7,5	6,2	7	6,3	7	6,5	8,2	
34	6	5,7	5,9	5,5	6,9	6,7	5,4	6,6	5,6	6,4	5,5	6,7	
36		4,8	5,5	5	6,4	6	4,7	6,2	5	5,7	5	6,2	
38		4	5	4,5	5,5	5	4	5,8	4,4	5,1	4,3	5,5	
40							3,5	5,4	3,8	4,6	3,5	5	
42							3	5,1	3,4	4,1	3	4,5	
44							2,5	4,2	3	3,7	2,9	4	
46											2,4	3,6	
48											2	3,3	
50													
52													
54													
56													
58													
Reeving	7	5			5		4		4		3		
Main hook		60t					60t				60t		
Telescope mode	I	1	3	1	2	1	1	3	1	2	1	3	1
	II	3	2	1	3	2	3	3	2	3	3	3	3
	III	2	2	3	2	3	3	2	3	3	3	3	3
	IV	2	2	3	2	3	2	2	3	2	3	2	3
	V	2	2	3	2	2	2	2	3	2	2	2	3

Rated lifting capacity with boom

Over 360° working range, with 40t counterweight and 7t balance weight, with crawler carrier fully extended					
Working radius (m)	Boom (m)		Crane gradient		
	51,4 0°	56,1* 0°	56,1 0°	60,8* 0°	65* 0°
2,5					
3					
3,5					
4					
4,5					
5					
5,5					
6					
6,5					
7					
8					
9	27				
10	26	25	23		
11	24	25	22		
12	23	24	20,5	20	
13	21,7	23	19,7	19	
14	20,5	22	18,9	18,5	15,5
15	19,5	21	18	18	15,2
16	18,5	20	17	17,5	15
18	17	18	15,6	15,8	14,5
20	15,4	15,5	14,3	14,7	14
22	14	13	13,2	13,2	13,5
24	11,2	11	12,2	11,4	12
26	9,7	10	11,2	10	10
28	8,6	8,5	8,9	8,8	9
30	7,6	7,5	7,9	7,7	8
32	6,7	6,5	7	6,8	7,3
34	6	6	6,2	6,1	6,5
36	5,3	5,2	5,6	5,4	5,5
38	4,7	4,5	5	4,8	5
40	4,2	4	4,5	4,2	4,5
42	3,7	3,5	4	3,7	4
44	3,3	3	3,6	3,2	3,5
46	2,9	2,5	3,2	2,8	3
48	2,5	2,3	2,8	2,5	2,7
50		2	2,5	2,1	2,4
52				1,8	2
54				1,6	1,7
56				1,3	1,4
58					1,2
Reeving	3				
Main hook	60t	25t			
Telescope mode	I	2	3	2	3
	II	3	3	3	4
	III	3	3	3	4
	IV	3	3	3	4
	V	2	2	3	4

MIAN TECHNICAL PARAMETERS

Item		Unit	Value	Remarks
Max. lifting capacity		t	150	
Max. lifting moment		t×m	533	
Main boom length		m	13.8-65	
Jib length		m	10.4-17.5	Optional
Max. length of main boom with fixed jib		m	65+17.5	
Main boom angle		°	-1.5-82	
Jib angle		°	0, 15, 30	
Max. single rope speed of the main hoisting winch		m/min	142	Unloaded, the 4th drum layer
Max. single rope speed of the auxiliary hoisting winch.		m/min	142	Unloaded, the 4th drum layer
Boom derricking up time		s	65	
Slewing speed		rpm	0-1.5	
Traveling speed		km/h	0-1.7	
Max. gradeability		%	40	
Ground pressure		MPa	0.09	
Deadweight		t	125	With the main hook installed (excluding jib)
Counterweight		t	40	
Overall dimensions (L × W × H)		mm	16770×6420(3600) ×3890	
Engine	Model		QSL9-C330	
	Rated power / rotational speed	kW/rpm	246/2000	
	Max. output torque / rotational speed	Nm/rpm	1630/1100	
	Exhaust emission	/	Euro V	
Distance between track center × crawler contact length × crawler width		mm	2650×6500×900	Crawler carrier retracted
		mm	5520×6500×900	Crawler carrier extended
Noise	Noise level outside the operator's cab during operation	dB	≤107	
	Noise level in the operator's cab during operation	dB	≤85	

Note:  
2.The single rope speed of the winch, slewing speed and traveling speed vary with the load.  
3.The ground pressure is an average value, and the actual maximum ground pressure should be determined according to actual lifting conditions.