

The Zoomlion logo consists of a green parallelogram with the word "ZOOMLION" in white, bold, uppercase letters inside it.

ZOOMLION

ZOOMLION ZTC600V TRUCK CRANE

TECHNICAL SPECIFICATIONS

GQ0631142700705EN

Zoomlion Heavy Industry Science & Technology Co.,Ltd.

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1 Product characteristics

ZOOMLION ZTC600V532.1 truck crane, which makes good use of Zoomlion's years of experience in designing and manufacturing mobile cranes combined with advanced technologies, is a new generation of high-performance product designed and developed to meet the market demands. Its performances, such as lifting height, boom length, working speed and lifting capacity, etc., have achieved advanced international level.

This product is a truck crane of full range slewing function, telescopic boom sections and pilot-operated proportional controlled systems. The 4-axle (8 × 4 drive, offering convenient and flexible hydraulically powered steering) special purpose chassis provides wide vision, spacious cab and luxurious equipment.

The latest multiple unit directional control valve, variable pumps system ensure that each executive mechanism makes full use of its working capability.

The safety devices, such as relief valve, balance valve, hydraulic lock and brake valve, etc. in the hydraulic system, are against rupture of pipes and hoses.

The complete lighting systems and the safety devices, such as load moment limiter, can ensure your safety during operation and are convenient for night work.

This crane has a novel style which makes it beautiful in figure, in form and in color.

2 Specifications, complete vehicle

2.1 Product model

Model in engineering industry:	ZTC600V
Product code:	ZTC600V532.1

2.2 Technical data

Item		Value	Remarks
Working performance	Max. rated lifting capacity kg	60000	
	Max. load moment of basic boom kN.m	2033	
	Max. load moment of max. length boom kN.m	1235	
	Max. lifting height of basic boom m	12.8	
	Max. lifting height of boom m	45.7	These parameters do not include deflection of boom and jib.
	Max. lifting height of jib m	61.5	
Working speeds	Max. hoist rope speed (Main winch) m/min	125	Drum 4 th layer
	Max. hoist rope speed (Auxiliary winch) m/min	125	Drum 4 th layer
	Boom derricking up time s	45	
	Boom telescoping out time s	95	
	Slewing speed r/min	0 - 2.2	
Driving	Max. working altitude m	2000	
	Max. driving speed km/h	85	
	Max. gradeability %	47	
	Min. turning diameter m	≤23	
	Min. ground clearance mm	285	
	Fuel consumption per hundred kilometer L	43	
Mass	Deadweight in driving condition kg	42000	Not including 2.5 t auxiliary counterweight
	Complete vehicle kerb mass kg	41805	
	Front axle load kg	16000	
	Rear axle load kg	26000	
Dimensions	Overall dimensions (L × W × H) mm	13950×2800×3750	
	Outrigger spread (L) m	5.92	
	Outrigger spread (W) m	Fully extended: 7.1 m Intermediately extended: 4.8 m	
	Tail slewing radius mm	3930	
	Boom length m	11.6 - 45	
	Boom angle °	-2 - 80	
	Jib length m	9.5, 16.0	
	Jib angle °	0, 15, 30	

2.3 Rated capacity charts

This crane is provided with various rated capacity charts. The operator should select proper rated lifting capacity referring to resp. lifting capacity tables according to actual working conditions. For details, please refer to Table 1 to Table 14.

The values in column "I" refer to the extendable length of telescoping cylinder I.

The values in column "II" refer to 3 times extendable length of telescoping cylinder II, namely, the total extendable length of boom section 3, 4 and 5.

Table 2 Rated capacity chart

Unit: Kg

Working radius (m)	Boom length (m)						
	Telescopic cylinder I fully extended, outriggers fully extended, over side or rear working area, with 11 t counterweight						
	11.6	15.9	20.1	26.4	32.7	39.0	45.0
3.0	60000	45500	35500				
3.5	51500	45500	35500				
4.0	48000	45500	35500				
4.5	45000	43500	35500	27000			
5.0	41500	41000	33500	27000			
5.5	38000	37000	31500	27000			
6.0	34500	33800	30000	26000	19800		
6.5	31500	30700	29000	25000	19800		
7.0	29000	28000	28000	24000	19800		
7.5	27000	27000	26000	23000	19000		
8.0	26000	26000	25000	22000	18400	14400	
9.0	21500	21000	21000	20000	17000	13600	
10.0		17200	17000	18000	15800	12800	10000
11.0		14200	14000	15000	14500	12000	9600
12.0		12200	12000	13000	13200	11500	9200
14.0			8800	9800	10500	10000	8400
16.0			6600	7600	8300	8800	7600
18.0				5900	6500	7000	7000
20.0				4600	5200	5700	6000
22.0					4200	4600	4900
24.0					3400	3800	4100
26.0					2700	3100	3400
28.0						2500	2800
30.0						2000	2300
32.0						1600	1900
34.0							1500
36.0							1200
38.0							900
I (m)	0	4.3	8.5	8.5	8.5	8.5	8.5
II (m)	0	0	0	6.3	12.6	18.9	24.9
Reeving	12	10	8	6	4	4	3
Hook	60t						

Table 3 Rated capacity chart

Unit: Kg

Working radius (m)	Boom length (m)					
	Telescopic cylinder I intermediately extended, outriggers fully extended, over side or rear working area, with 11 t counterweight					
	11.6	15.9	22.2	28.5	34.8	40.8
3.0	60000	45500				
3.5	51500	45500	27000			
4.0	48000	45500	27000			
4.5	45000	43500	27000			
5.0	41500	41000	27000	24000		
5.5	38000	37000	27000	24000		
6.0	34500	33800	27000	24000		
6.5	31500	30700	27000	24000	16500	
7.0	29000	28000	27000	23000	16500	
7.5	27000	27000	26000	22000	16000	
8.0	26000	26000	25000	21000	15500	10800
9.0	21500	21000	21500	19000	14500	10400
10.0		17200	18700	18000	13500	10000
11.0		14200	15500	16100	12500	9600
12.0		12200	13500	14100	11600	9200
14.0			10200	10800	10200	8400
16.0			8000	8600	9000	7600
18.0			6300	6900	7300	7000
20.0				5600	6000	6300
22.0				4600	5000	5300
24.0					4100	4400
26.0					3400	3700
28.0					2800	3100
30.0						2600
32.0						2200
34.0						1800
I (m)	0	4.3	4.3	4.3	4.3	4.3
II (m)	0	0	6.3	12.6	18.9	24.9
Reeving	12	10	6	5	4	3
Hook	60t					

Table 4 Rated capacity chart

Working radius (m)	Boom length (m)				
	Telescopic cylinder I fully retracted, outriggers fully extended, over side or rear working area, with 11 t counterweight				
	11.6	17.9	24.2	30.5	36.5
3.0	60000	27000			
3.5	51500	27000			
4.0	48000	27000	24000		
4.5	45000	27000	24000		
5.0	41500	27000	24000		
5.5	38000	27000	23200	18600	
6.0	34500	27000	22500	17900	
6.5	31500	27000	21700	17200	
7.0	29000	27000	21000	16500	11500
7.5	27000	25500	20200	15700	11500
8.0	26000	24000	19500	15000	11500
9.0	21500	23000	18000	13800	11000
10.0		19000	17000	12800	10500
11.0		16000	16000	11800	9800
12.0		14000	14600	11000	9200
14.0		10700	11300	9500	8200
16.0			9000	8500	7200
18.0			7400	7800	6400
20.0				6400	5900
22.0				5300	5300
24.0				4500	4700
26.0					4000
28.0					3500
30.0					3000
I (m)	0	0	0	0	0
II (m)	0	6.3	12.6	18.9	24.9
Reeving	12	6	5	4	3
Hook	60t				

Table 5 Rated capacity chart

Unit: Kg

Working radius (m)	Boom length (m)						
	Telescopic cylinder I fully extended, outriggers intermediately extended, over side or rear working area, with 11 t counterweight						
	11.6	15.9	20.1	26.4	32.7	39.0	45.0
3.0	50000	45500	35500				
3.5	50000	45500	35500				
4.0	45000	41000	35500				
4.5	40000	39000	35500	27000			
5.0	32000	31000	31000	27000			
5.5	27000	26500	27000	27000			
6.0	23000	22500	23000	26000	19800		
6.5	20000	19500	20000	23000	19800		
7.0	17500	17000	17500	19500	19800		
7.5	15500	15000	16000	17000	18000		
8.0	14000	13500	14000	15000	16000	14400	
9.0	11500	11000	10800	11800	12800	13600	
10.0		9200	9000	10000	11000	11500	10000
11.0		7900	7700	8700	9400	9900	9600
12.0		6500	6300	7300	8000	8500	8800
14.0			4200	5200	5900	6400	6700
16.0			2700	3700	4400	4800	5100
18.0				2700	3200	3600	3900
20.0				1800	2300	2700	3000
22.0					1600	2000	2300
24.0					1100	1500	1800
26.0					750	1000	1300
28.0						700	1000
I (m)	0	4.3	8.5	8.5	8.5	8.5	8.5
II (m)	0	0	0	6.3	12.6	18.9	24.9
Reeving	12	10	8	6	4	4	3
Hook	60t						

Table 6 Rated capacity chart

Unit: Kg

Working radius (m)	Boom length (m)					
	Telescopic cylinder I intermediately extended, outriggers intermediately extended, over side or rear working area, with 11 t counterweight					
	11.6	15.9	22.2	28.5	34.8	40.8
3.0	50000	45500				
3.5	50000	45500	27000			
4.0	45000	41000	27000			
4.5	40000	39000	27000			
5.0	32000	31000	27000	24000		
5.5	27000	26500	25000	24000		
6.0	23000	22500	23500	22000		
6.5	20000	19500	20500	20500	16500	
7.0	17500	17000	18000	19000	16500	
7.5	15500	15000	16000	17000	16000	
8.0	14000	13500	14500	15500	15500	10800
9.0	11500	11000	11500	12500	13000	10400
10.0		9200	10000	11000	11500	10000
11.0		7900	8700	9500	10000	9600
12.0		6500	7500	8300	8800	9000
14.0			5600	6200	6700	6900
16.0			4100	4700	5100	5300
18.0			3000	3600	4000	4200
20.0				2700	3100	3300
22.0				2000	2400	2600
24.0					1800	2000
26.0					1400	1600
28.0					1000	1200
30.0						900
I (m)	0	4.3	4.3	4.3	4.3	4.3
II (m)	0	0	6.3	12.6	18.9	24.9
Reeving	12	10	6	5	4	3
Hook	60t					

Table 7 Rated capacity chart

Working radius (m)	Boom length (m)				
	Telescopic cylinder I fully retracted, outriggers intermediately extended, over side or rear working area, with 11 t counterweight				
	11.6	17.9	24.2	30.5	36.5
3.0	50000	27000			
3.5	50000	27000			
4.0	45000	27000	24000		
4.5	40000	27000	24000		
5.0	32000	27000	24000		
5.5	27000	27000	23200	18600	
6.0	23000	24000	22500	17900	
6.5	20000	21000	20000	17200	
7.0	17500	18500	18000	16500	11500
7.5	15500	16500	17000	15700	11500
8.0	14000	15000	16000	15000	11500
9.0	11500	12500	13500	13800	11000
10.0		10500	11500	12000	10500
11.0		9500	10000	10500	9800
12.0		8000	8500	9000	9000
14.0		6000	6500	7000	7300
16.0			5200	5600	5900
18.0			4000	4400	4700
20.0				3400	3700
22.0				2800	3100
24.0				2200	2500
26.0					2000
28.0					1600
30.0					1200
I (m)	0	0	0	0	0
II (m)	0	6.3	12.6	18.9	24.9
Reeving	12	6	5	4	3
Hook	60t				

Table 8 Rated capacity chart

Unit: Kg

Working radius (m)	Boom length (m)						
	Telescopic cylinder I fully extended, outriggers fully extended, over side or rear working area, with 7.5 t counterweight						
	11.6	15.9	20.1	26.4	32.7	39.0	45.0
3.0	60000	45500	35500				
3.5	51500	45500	35500				
4.0	48000	45500	35500				
4.5	45000	43500	35500	27000			
5.0	41500	41000	33500	27000			
5.5	37400	37000	31500	27000			
6.0	34000	33800	30000	26000	19800		
6.5	31200	30700	29000	25000	19800		
7.0	28600	28000	28000	24000	19800		
7.5	26200	26000	26000	23000	19000		
8.0	24000	24000	24000	22000	18400	14400	
9.0	19800	19200	19000	20000	17000	13600	
10.0		15400	15200	16500	15800	12800	10000
11.0		12500	12300	13500	14000	12000	9600
12.0		10500	10300	11500	12200	11500	9200
14.0			7300	8500	9200	9600	8400
16.0			5200	6400	7100	7500	7600
18.0				4800	5500	5900	6200
20.0				3700	4300	4700	5000
22.0					3400	3800	4100
24.0					2700	3100	3400
26.0					2000	2400	2700
28.0						1900	2200
30.0						1500	1800
32.0						1100	1400
34.0							1100
36.0							800
I (m)	0	4.3	8.5	8.5	8.5	8.5	8.5
II (m)	0	0	0	6.3	12.6	18.9	24.9
Reeving	12	10	8	6	4	4	3
Hook	60t						

Table 9 Rated capacity chart

Unit: Kg

Working radius (m)	Boom length (m)					
	Telescopic cylinder I intermediately extended, outriggers fully extended, over side or rear working area, with 7.5 t counterweight					
	11.6	15.9	22.2	28.5	34.8	40.8
3.0	60000	45500				
3.5	51500	45500	27000			
4.0	48000	45500	27000			
4.5	45000	43500	27000			
5.0	41500	41000	27000	24000		
5.5	37400	37000	27000	24000		
6.0	34000	33800	27000	24000		
6.5	31200	30700	27000	24000	16500	
7.0	28600	28000	27000	23000	16500	
7.5	26200	26000	25500	22000	16000	
8.0	24000	24000	24000	21000	15500	10800
9.0	19800	19200	20500	19000	14500	10400
10.0		15400	16800	17000	13500	10000
11.0		12500	13500	14500	12500	9600
12.0		10500	11900	12600	11600	9200
14.0			8800	9500	9800	8400
16.0			6700	7400	7800	7600
18.0			5100	5800	6200	6500
20.0				4600	5000	5300
22.0				3700	4100	4400
24.0					3300	3600
26.0					2700	3000
28.0					2200	2500
30.0						2000
32.0						1700
34.0						1400
36.0						
I (m)	0	4.3	4.3	4.3	4.3	4.3
II (m)	0	0	6.3	12.6	18.9	24.9
Reeving	12	10	6	5	4	3
Hook	60t					

Table 10 Rated capacity chart

Working radius (m)	Boom length (m)				
	Telescopic cylinder I fully retracted, outriggers fully extended, over side or rear working area, with 7.5 t counterweight				
	11.6	17.9	24.2	30.5	36.5
3.0	60000	27000			
3.5	51500	27000			
4.0	48000	27000	24000		
4.5	45000	27000	24000		
5.0	41500	27000	24000		
5.5	37400	27000	23200	18600	
6.0	34000	27000	22500	17900	
6.5	31200	27000	21700	17200	
7.0	28600	27000	21000	16500	11500
7.5	26200	25500	20200	15700	11500
8.0	24000	24000	19500	15000	11500
9.0	19800	21000	18000	13800	11000
10.0		17300	16500	12800	10500
11.0		14500	14500	11800	9800
12.0		12500	13200	11000	9200
14.0		9300	10000	9500	8200
16.0			7900	8300	7200
18.0			6300	6700	6400
20.0				5500	5600
22.0				4600	4800
24.0				3800	4000
26.0					3400
28.0					2900
30.0					2400
32.0					
I (m)	0	0	0	0	0
II (m)	0	6.3	12.6	18.9	24.9
Reeving	12	6	5	4	3
Hook	60t				

Table 11 Rated capacity chart

Unit: Kg

Working radius (m)	Boom length (m)						
	Telescopic cylinder I fully extended, outriggers intermediately extended, over side or rear working area, with 7.5 t counterweight						
	11.6	15.9	20.1	26.4	32.7	39.0	45.0
3.0	50000	45500	35500				
3.5	50000	45500	35500				
4.0	45000	41000	35500				
4.5	38000	37000	33500	27000			
5.0	30500	29500	28500	27000			
5.5	25000	24000	24000	24500			
6.0	21000	20500	20000	21500	19800		
6.5	18000	17300	17000	18200	19800		
7.0	15500	15000	14500	15700	16500		
7.5	13500	12800	12500	14000	14800		
8.0	12000	11500	11200	12400	13200	14400	
9.0	9500	9000	8600	9800	10600	11000	
10.0		7100	6800	8000	8800	9200	10000
11.0		5700	5500	6700	7300	7700	8000
12.0		4600	4500	5600	6200	6600	6900
14.0			2700	3800	4400	4800	5100
16.0			1500	2500	3100	3500	3800
18.0				1600	2200	2600	2900
20.0				800	1400	1800	2100
22.0					800	1200	1500
24.0						800	1100
26.0							
I (m)	0	4.3	8.5	8.5	8.5	8.5	8.5
II (m)	0	0	0	6.3	12.6	18.9	24.9
Reeving	12	10	8	6	4	4	3
Hook	60t						

Table 12 Rated capacity chart

Working radius (m)	Unit: Kg					
	Boom length (m)					
	Telescopic cylinder I intermediately extended, outriggers intermediately extended, over side or rear working area, with 7.5 t counterweight					
	11.6	15.9	22.2	28.5	34.8	40.8
3.0	50000	45500				
3.5	50000	45500	27000			
4.0	45000	41000	27000			
4.5	38000	37000	27000			
5.0	30500	29500	27000	24000		
5.5	25000	24000	25000	24000		
6.0	21000	20500	22000	20000		
6.5	18000	17300	19000	17500	16500	
7.0	15500	15000	16500	16800	16500	
7.5	13500	12800	14500	15000	15000	
8.0	12000	11500	13000	13600	13500	10800
9.0	9500	9000	10500	11000	11500	10400
10.0		7100	8500	9100	9500	9900
11.0		5700	7000	7600	8000	8500
12.0		4600	5900	6500	6800	7200
14.0			4100	4800	5100	5400
16.0			2800	3500	3800	4100
18.0			1900	2600	2900	3200
20.0				1800	2100	2400
22.0				1200	1500	1800
24.0					1000	1300
26.0						1000
I (m)	0	4.3	4.3	4.3	4.3	4.3
II (m)	0	0	6.3	12.6	18.9	24.9
Reeving	12	10	6	5	4	3
Hook	60t					

Table 13 Rated capacity chart

Working radius (m)	Boom length (m)				
	Telescopic cylinder I fully retracted, outriggers intermediately extended, over side or rear working area, with 7.5 t counterweight				
	11.6	17.9	24.2	30.5	36.5
3.0	50000	27000			
3.5	50000	27000			
4.0	45000	27000	24000		
4.5	38000	27000	24000		
5.0	30500	27000	24000		
5.5	25000	27000	23200	18600	
6.0	21000	23500	22500	17900	
6.5	18000	20000	20000	17200	
7.0	15500	17600	18000	16500	11500
7.5	13500	14600	16000	15700	11500
8.0	12000	13700	14500	14000	11500
9.0	9500	11000	11700	12000	11000
10.0		9100	9700	10000	10500
11.0		7600	8200	8500	8800
12.0		6300	6900	7200	7500
14.0		4600	5200	5500	5800
16.0			3900	4200	4500
18.0			2900	3300	3500
20.0				2500	2700
22.0				1900	2100
24.0				1400	1600
26.0					1300
28.0					1000
I (m)	0	0	0	0	0
II (m)	0	6.3	12.6	18.9	24.9
Reeving	12	6	5	4	3
Hook	60t				

Table 14 Rated capacity chart

Unit: Kg

Working radius (m)	Boom length (m)						
	Telescopic cylinder I fully extended, outriggers fully extended, over side or rear working area, with 5 t counterweight						
	11.6	15.9	20.1	26.4	32.7	39.0	45.0
3.0	60000	45500	35500				
3.5	51500	45500	35500				
4.0	48000	45500	35500				
4.5	45000	43500	35500	27000			
5.0	41500	41000	33500	27000			
5.5	37400	37000	31500	27000			
6.0	34000	33800	30000	26000	19800		
6.5	31200	30700	29000	25000	19800		
7.0	28600	28000	28000	24000	19800		
7.5	26000	26000	25000	23000	19000		
8.0	23000	22400	22000	22000	18400	14400	
9.0	18000	17400	17000	18500	17000	13600	
10.0		14000	13600	14900	15800	12800	10000
11.0		11400	11000	12400	13000	12000	9600
12.0		9500	9100	10400	11000	11500	9200
14.0			6300	7500	8100	8600	8400
16.0			4300	5500	6100	6600	7000
18.0				4100	4700	5200	5500
20.0				3000	3600	4100	4400
22.0					2800	3200	3500
24.0					2100	2500	2800
26.0					1600	2000	2200
28.0						1500	1700
30.0						1100	1300
32.0							1000
34.0							
36.0							
I (m)	0	4.3	8.5	8.5	8.5	8.5	8.5
II (m)	0	0	0	6.3	12.6	18.9	24.9
Reeving	12	10	8	6	4	4	3
Hook	60t						

Table 15 Rated capacity chart

Unit: Kg

Working radius (m)	Boom length (m)					
	Telescopic cylinder I intermediately extended, outriggers fully extended, over side or rear working area, with 5 t counterweight					
	11.6	15.9	22.2	28.5	34.8	40.8
3.0	60000	45500				
3.5	51500	45500	27000			
4.0	48000	45500	27000			
4.5	45000	43500	27000			
5.0	41500	41000	27000	24000		
5.5	37400	37000	27000	24000		
6.0	34000	33800	27000	24000		
6.5	31200	30700	27000	24000	16500	
7.0	28600	28000	27000	23000	16500	
7.5	26000	26000	25000	22000	16000	
8.0	23000	22400	23000	21000	15500	10800
9.0	18000	17400	18900	19000	14500	10400
10.0		14000	15400	16300	13500	10000
11.0		11400	12800	13600	12500	9600
12.0		9500	10800	11600	11600	9200
14.0			7900	8600	9000	8400
16.0			5900	6600	7000	7300
18.0			4500	5200	5600	5900
20.0				4100	4500	4800
22.0				3200	3600	3900
24.0					2900	3200
26.0					2300	2600
28.0					1800	2100
30.0						1700
32.0						1300
34.0						1000
36.0						
I (m)	0	4.3	4.3	4.3	4.3	4.3
II (m)	0	0	6.3	12.6	18.9	24.9
Reeving	12	10	6	5	4	3
Hook	60t					

Table 16 Rated capacity chart

Working radius (m)	Boom length (m)				
	Telescopic cylinder I fully retracted, outriggers fully extended, over side or rear working area, with 5 t counterweight				
	11.6	17.9	24.2	30.5	36.5
3.0	60000	27000			
3.5	51500	27000			
4.0	48000	27000	24000		
4.5	45000	27000	24000		
5.0	41500	27000	24000		
5.5	37400	27000	23200	18600	
6.0	34000	27000	22500	17900	
6.5	31200	27000	21700	17200	
7.0	28600	27000	21000	16500	11500
7.5	26000	25000	20200	15700	11500
8.0	23000	23500	19500	15000	11500
9.0	18000	19700	18000	13800	11000
10.0		16100	16500	12800	10500
11.0		13400	14000	11800	9800
12.0		11400	12100	11000	9200
14.0		8500	9200	9500	8200
16.0			7200	7500	7200
18.0			5700	6000	6300
20.0				4900	5200
22.0				4000	4300
24.0				3300	3600
26.0					3000
28.0					2500
30.0					2100
32.0					
I (m)	0	0	0	0	0
II (m)	0	6.3	12.6	18.9	24.9
Reeving	12	6	5	4	3
Hook	60t				

Table 17 Rated capacity chart

Working radius (m)	Unit: Kg						
	Boom length (m)						
	Telescopic cylinder I fully extended, outriggers intermediately extended, over side or rear working area, with 5 t counterweight						
	11.6	15.9	20.1	26.4	32.7	39.0	45.0
3.0	50000	45500	35500				
3.5	50000	45500	35500				
4.0	45000	41000	35500				
4.5	37000	35000	33000	27000			
5.0	29000	28500	27000	27000			
5.5	23500	23000	22800	23000			
6.0	19500	19000	18700	19500	19800		
6.5	16500	16000	16000	17000	17500		
7.0	14000	13500	13500	14500	15500		
7.5	12000	11500	11500	12500	13500		
8.0	10500	10000	10000	11000	12000	12500	
9.0	8200	7900	7800	8800	9600	10000	
10.0		6300	6200	7300	7900	8300	8800
11.0		4800	4700	5800	6400	6700	7200
12.0		3800	3700	4800	5400	5700	6200
14.0			2000	3100	3700	4000	4500
16.0				2000	2600	2900	3200
18.0				1100	1700	2000	2300
20.0					1000	1300	1600
22.0							1100
I (m)	0	4.3	8.5	8.5	8.5	8.5	8.5
II (m)	0	0	0	6.3	12.6	18.9	24.9
Reeving	12	10	8	6	4	4	3
Hook	60t						

Table 18 Rated capacity chart

Working radius (m)	Unit: Kg					
	Boom length (m)					
	Telescopic cylinder I intermediately extended, outriggers intermediately extended, over side or rear working area, with 5 t counterweight					
	11.6	15.9	22.2	28.5	34.8	40.8
3.0	50000	45500				
3.5	50000	45500	27000			
4.0	45000	41000	27000			
4.5	37000	35000	27000			
5.0	29000	28500	25000	24000		
5.5	23500	23000	23000	22000		
6.0	19500	19000	20000	19000		
6.5	16500	16000	17400	17000	16500	
7.0	14000	13500	15300	16000	15500	
7.5	12000	11500	13200	14000	14000	
8.0	10500	10000	11700	12500	12500	10800
9.0	8200	7900	9200	10000	10000	10000
10.0		6300	7500	8300	8700	9000
11.0		4800	6000	6800	7200	7500
12.0		3800	5000	5700	6100	6400
14.0			3400	4100	4500	4800
16.0			2200	2800	3200	3500
18.0			1400	2000	2300	2600
20.0				1300	1600	1900
22.0					1100	1300
I (m)	0	4.3	4.3	4.3	4.3	4.3
II (m)	0	0	6.3	12.6	18.9	24.9
Reeving	12	10	6	5	4	3
Hook	60t					

Table 19 Rated capacity chart

Working radius (m)	Boom length (m)				
	Telescopic cylinder I fully retracted, outriggers intermediately extended, over side or rear working area, with 5 t counterweight				
	11.6	17.9	24.2	30.5	36.5
3.0	50000	27000			
3.5	50000	27000	24000		
4.0	45000	27000	24000		
4.5	37000	27000	24000		
5.0	29000	27000	24000		
5.5	23500	25000	23200	18600	
6.0	19500	21500	21000	17900	
6.5	16500	18000	18000	17200	
7.0	14000	16000	16600	16500	11500
7.5	12000	13500	14500	14500	11500
8.0	10500	12300	13200	13500	11500
9.0	8200	10000	10700	11000	11000
10.0		8000	8700	9000	9500
11.0		6600	7300	7600	8000
12.0		5500	6200	6500	6800
14.0		3900	4500	4800	5100
16.0			3300	3600	3900
18.0			2400	2700	3000
20.0				2000	2300
22.0				1500	1700
24.0				1000	1200
I (m)	0	0	0	0	0
II (m)	0	6.3	12.6	18.9	24.9
Reeving	12	6	5	4	3
Hook	60t				

Table 20 Rated capacity chart

Unit: Kg

Boom angle (°)	Boom (m) + jib (m)					
	Outriggers fully extended, with 11 t counterweight					
	45+9.5			45+16		
	0°	15°	30°	0°	15°	30°
80	5000	3300	2500	3000	2000	1400
78	5000	3300	2500	3000	2000	1400
76	4800	3200	2500	2900	1800	1300
74	4500	3100	2500	2700	1700	1300
72	4200	3000	2400	2500	1600	1200
70	3900	2800	2300	2300	1500	1200
68	3600	2700	2200	2100	1400	1100
66	3300	2600	2100	2000	1300	1100
64	3100	2500	2000	1900	1300	1100
62	2900	2350	1950	1800	1250	1050
60	2600	2200	1900	1700	1250	1050
58	2300	2100	1850	1600	1200	1050
56	2100	1900	1800	1500	1200	1000
54	1800	1700	1650	1400	1150	1000
52	1600	1500	1450	1200	1100	1000
50	1400	1300	1250	1050	950	900
48	1200	1100	1050	850	800	750
46	1000	950	900	750	700	650
44	900	850	800	650	600	550
42	800	750	700			
Reeving	1					
Hook	5t					

Table 21 Rated capacity chart

Unit: Kg

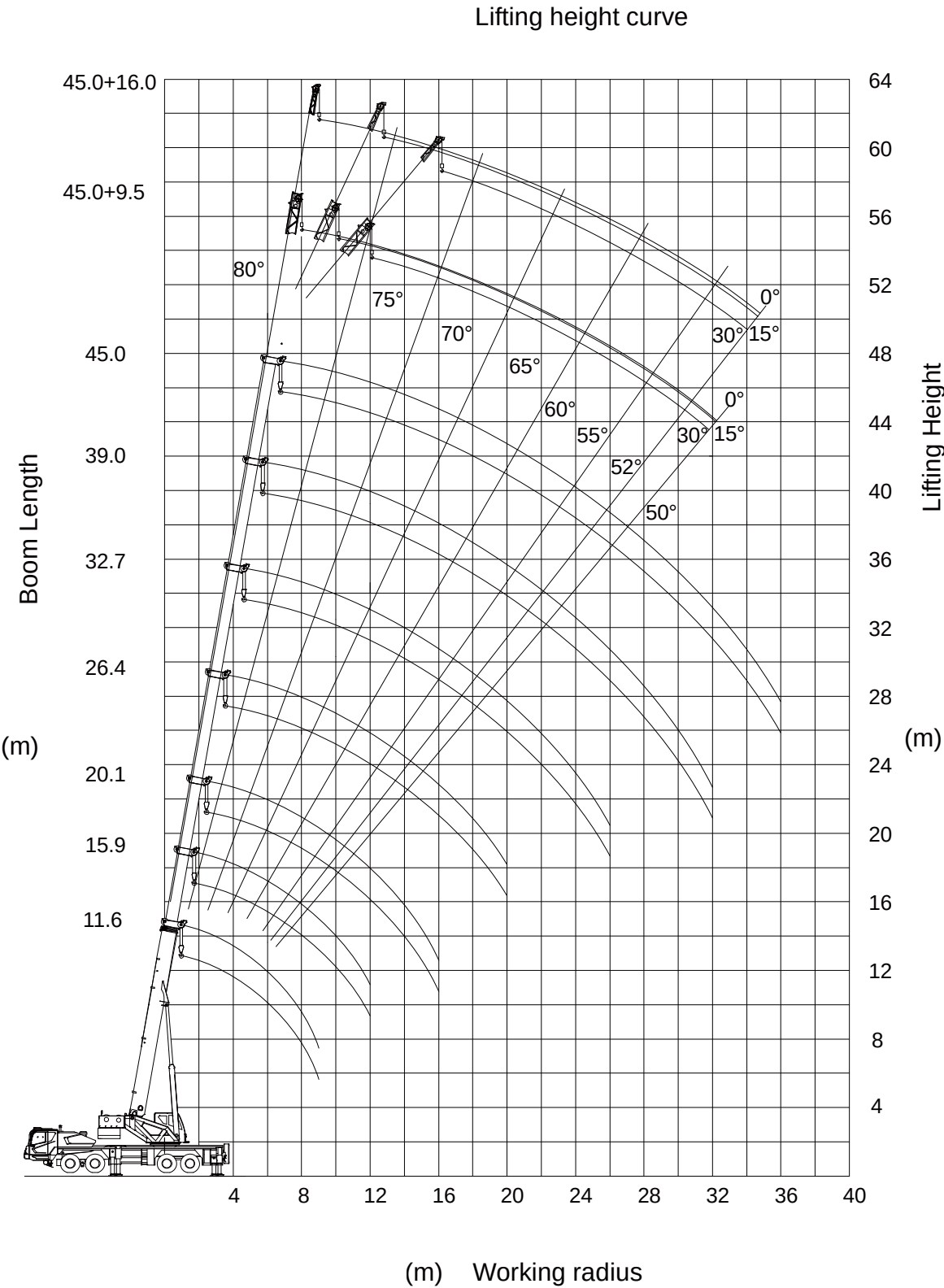
Boom angle (°)	Boom (m) + jib (m)					
	Outriggers fully extended, with 7.5 t counterweight					
	45+9.5			45+16		
	0°	15°	30°	0°	15°	30°
80	5000	3300	2500	3000	2000	1400
78	5000	3300	2500	3000	2000	1400
76	4800	3200	2500	2900	1800	1300
74	4500	3100	2500	2700	1700	1300
72	4200	3000	2400	2500	1600	1200
70	3900	2800	2300	2300	1500	1200
68	3600	2700	2200	2100	1400	1100
66	3300	2600	2100	2000	1300	1100
64	2800	2500	2000	1900	1300	1100
62	2400	2200	1900	1800	1200	1000
60	2100	2000	1800	1700	1200	1000
58	1800	1600	1600	1400	1100	1000
56	1500	1400	1300	1200	1100	900
54	1200	1200	1200	1000	900	800
52	1000	1000	900	800	700	650
50	800	700	700	650	600	550
Reeving	1					
Hook	5t					

Table 22 Rated capacity chart

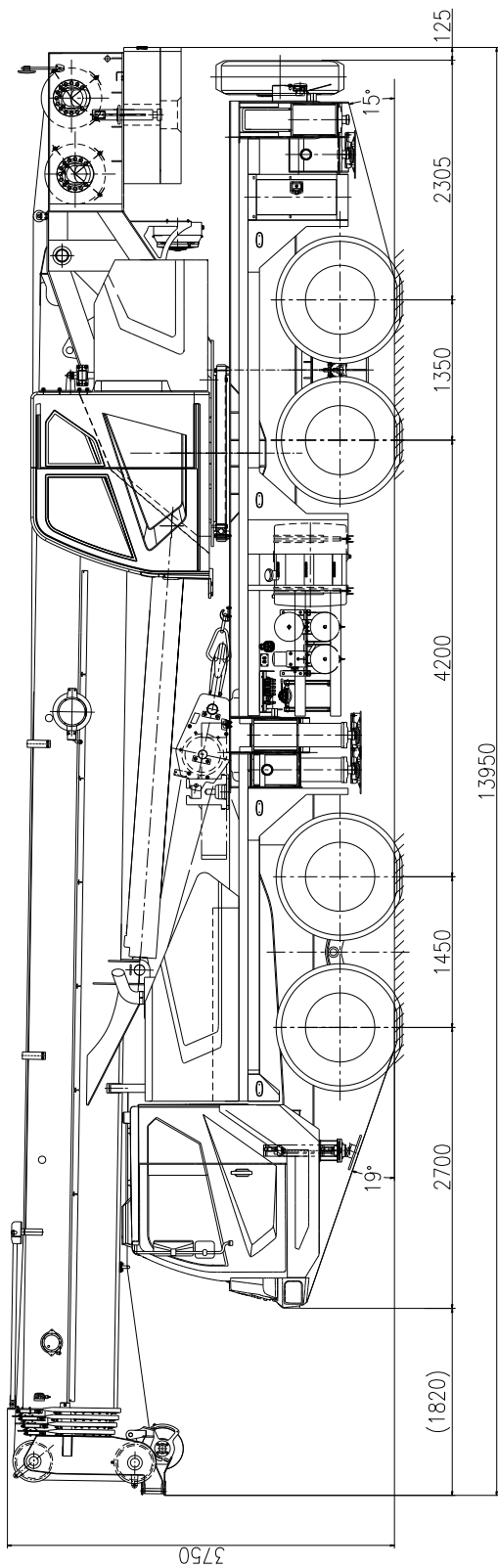
Unit: Kg

Boom angle (°)	Boom (m) + jib (m) Outriggers fully extended, with 5 t counterweight					
	45+9.5			45+16		
	0°	15°	30°	0°	15°	30°
80	5000	3300	2500	3000	2000	1400
78	5000	3300	2500	3000	2000	1400
76	4800	3200	2500	2900	1800	1300
74	4500	3100	2500	2700	1700	1300
72	4200	3000	2400	2500	1600	1200
70	3900	2800	2300	2300	1500	1200
68	3300	2700	2200	2100	1400	1100
66	2800	2600	2100	2000	1300	1100
64	2400	2200	2000	1800	1300	1100
62	2100	1900	1800	1600	1200	1000
60	1800	1600	1500	1300	1200	1000
58	1500	1300	1300	1100	1000	900
56	1200	1100	1100	900	800	700
54	1000	900	900	700	600	
52	800	700	700			
50	600					
Reeving	1					
Hook	5t					

2.4 Lifting height chart



2.5 Overall view (Unit: Metric mm)



3 Components, superstructure

3.1 Boom and telescoping mechanism

The box-shaped boom consists of 5 U-type boom sections made of low-alloy high-strength steel plate, providing the boom with excellent bending-resistance capacity, super load bearing capacity, light deadweight, large lateral stiffness and small end deflection. Self-created sliding block support structure and a series of optimized design have the deadweight of the boom greatly decreased and the stress on the boom evenly distributed to avoid partial distortion. Furthermore, the boom has good guidance quality and adjustability.

The telescopic boom sections are telescoped in / out via two telescoping cylinders and two sets of boom extension / retraction rope. The telescoping cylinder I drives the telescopic boom section 1 to telescope in / out. The telescoping cylinder II drives telescopic boom sections 2, 3, and 4 to telescope in / out simultaneously together with the boom extension / retraction rope. This compact design makes the crane work reliably. Each cylinder is fitted with a balance valve.

3.2 Jib

It consists of two jib sections of lattice structure and can be installed and removed by inserted pins.

Jib section 1 is articulated on the head of top boom section with pins and can be assembled below an angle of 0°, 15° or 30° to the telescopic boom according to your needs. The angle can be conveniently changed via the pins and pull bracket.

It can be folded on the side of boom when it is not used.

Jib length:

Jib section 1: 9.5 m

Jib section 1 + jib section 2: 16 m

3.3 Slewing platform

Single ribbed plate structured and optimized Slewing platform made from high-strength steel plate makes the layout of articulated points of boom and derricking mechanism more reasonable. It also has a distinctive structure and beautiful appearance.

The engine hood is of a designed ergonomically.

The securing device installed in the front of the Slewing platform can prevent the superstructure from slewing during driving.

3.4 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.

3.5 Derricking mechanism

1 front-mounted hydraulic cylinder with balance valve provides the boom with smooth derricking movements from -2° to 80° .

3.6 Slewing mechanism

Via the planetary gear reducer, the axial plunger hydraulic motor drives the pinion gear on the output shaft to rotate the toothed ring of slewing bearing fixed on chassis frame, providing superstructure with 360° unlimited slewing.

The slewing mechanism is of controllable aligning function, which can make the load be aligned automatically during operation. Slewing valve and normally-closed brake can ensure stable and reliable slewing operation of the crane. 4-point contact ball-type slewing bearing ensures the Slewing platform with super-strong load bearing capability and long service life.

3.7 Hoist mechanism

It consists of main and auxiliary hoist mechanisms.

The two hoist mechanisms are driven by axial plunger hydraulic motor with 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 two-stage planetary reducer is of compact structure, light deadweight and high reliability.

Specifications for high-tensile torsion resistant hoist rope:

Diameter: $\phi 17.0$ mm

Strength grade: 1870 N/mm²

Length of main hoist rope: 210 m

Length of auxiliary hoist rope: 130 m

3.8 Main and auxiliary hooks

Main hook: 60 t, with 6 pulleys, press nipple and hook latch

Auxiliary hook (1 reeving): 5 t, with hook latch

3.9 Operator's cab

As the new series operator's cab, it is of steel-structure with front-mounted instrument console and adjustable seat with headrest. Two joysticks are located at either side of the seat to control the superstructure movements. The ergonomically designed arrangement provides spacious operating space, reasonable arrangement, beautiful appearance and convenient & safe operation.

The cab can also be tilted backwards by 20° via the tilting cylinder to broaden the operator's field of vision during operation.

3.10 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 via Pro/E simulated design and actual-used calculation.

2-section horizontal outrigger beam can be extended and retracted with a horizontal cylinder and a set of outrigger extension / retraction rope. Large outrigger span ensures stability of the crane.

The outrigger pad which is mounted at the bottom of vertical cylinder can be pushed inwards (to avoid the complete vehicle from being over-wide during driving) and pulled outwards (for convenient operation) to greatly reduce the labor intensity. After the outriggers are completely extended or retracted, the outrigger pads can be secured with retaining pins.

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.

3.11 Hydraulic system

The open-type hydraulic system adopts advanced pilot-operated proportional joysticks, hydraulic proportional control system and anti-pollution bite-type fitting to ensure the high reliability of the system. The main power element is the variable pump with dual gear pumps. Among which, the variable pump supplies hydraulic oil for main winch, auxiliary winch, derricking mechanism and telescoping mechanism; one pump of the dual gear pumps supplies hydraulic oil for chassis

hydraulic system and slewing mechanism, while the other one supplies hydraulic oil for air conditioning system.

The outrigger control valves are new-type manual multiple directional control valves to control the horizontal and vertical cylinders' movements. Each of them is fitted with a pressure limiting valve, thus, can prevent the piston rods of horizontal cylinders from bending.

The 5th outrigger can retract with the vertical cylinders synchronously and thus efficiently prevent its cylinder from damage due to forgetting retracting it

There is a slow speed function configured for hoisting, derricking, slewing and telescoping movements, which can be adjusted through the load moment limiter based on working need. Moreover, a counterweight handler and a cab tilting mechanism are also installed, realizing sound startup and braking stability and high system reliability.

3.12 Electrical system

Double wire system, negative grounded, 24 Volt DC.

The electrical system consists of superstructure electrical system and chassis electrical system.

The electrical system of superstructure includes the devices such as warning light "Main / auxiliary winch approaching upper limit", warning light "Main / auxiliary winch approaching lower limit", hoisting limit switch, lowering limit switch, overload protection device, emergency off switch, control lights and signals etc., ensuring safe operation and providing good working environment.

The electrical system of chassis includes the USB / SD / MP3 player, air conditioning and heater etc, ensuring the safety driving performance and providing comfortable driving environment.

3.13 Safety devices

This crane is equipped with an automatic load moment limiter whose display and warning devices are all fitted in operator's cab.

When the actual load reaches 90% of the rated one, the warning light lights up and the buzzer sends out slow acoustic warning.

When the actual load exceeds 100% of the rated one, the warning light lights up, the buzzer sends out fast acoustic warning and all dangerous movements are switched off.

The basic parameters, such as moment ratio, boom angle, boom length, working radius, actual lifting capacity and rated lifting capacity will be displayed on the digital LCD.

This crane is also equipped with the following safety devices to ensure the crane safety:

- a) Hoisting limit switch
- b) Hook latch
- c) Lowering limit switch

- a) The 5th outrigger overpressure protection device
- d) Two-way hydraulic lock
- e) Balance valve
- f) Relief valve

3.14 Air conditioning and heater

The operator's cab and the driver's cab are equipped with special air conditioning and heater for vehicle

3.15 Counterweight

The counterweight consists of one 5 t fixed counterweight plate (counterweight plate 1), one 2.5 t counterweight plate (counterweight plate 2), and one 3.5 t movable counterweight. The fixed counterweight plate is bolted with the auxiliary counterweight plate, while the movable counterweight plate is lifted through a hydraulic cylinder.

4 Specifications, chassis

Chassis	Engine	Model	WP10.375E33
		Rated power kW/r/min	276/1900
		Max. output torque N.m/r/min	1600/1100-1400
		Manufacturer	Weichai Power Co., Ltd.
	Model		ZLJ5420JQZV3
	Type		II
	Code		ZLJ5420JQZV3.1
	Limits for exhaust pollutants and smoke		Comply with GB3847-2018 / GB17691-2005 (Chinese National Stage III)
	Manufacturer		Zoomlion Heavy Industry Science & Technology Co., Ltd.

For detailed information, please refer to *Technical Specifications, Special Purpose Chassis for Truck Crane*.

Appendix

Table of main purchased parts

Ser. No.	Description	Manufacturer	Remarks
1	Main valve	Changde Zoomlion Heavy Industry Science & Technology Hydraulic Co., Ltd.	
2	Plunger pump (variable pump)	Hi-tech Hydraulic Co., Ltd.	
		Avic Liyuan Hydraulic Co., Ltd.	
		Sichuang Yibin Push Drive Co., Ltd.	
		Wuxi Weifu Fine Machinery Manufacturing Co., Ltd.	
	Gear pump	Jinan Hydraulic Pump Co., Ltd.	
		Xuzhou Keyuan Hydraulic Co., Ltd.	
		Permco (Tianjin) Hydraulic Co., Ltd.	
		Fuxin Beixing Hydraulic Co., Ltd.	
3	Winch motor	Beijing Huade Hydraulic Industrial Group Co., Ltd.	
		Hi-tech Hydraulic Co., Ltd.	
		Avic Liyuan Hydraulic Co., Ltd.	
		Wuxi Weifu Fine Machinery Manufacturing Co., Ltd.	
4	Winch reducer	Xuzhou Keyuan Hydraulic Co., Ltd. Tongshan County Branch Company	
		Shanghai Wanhui Mechanical Manufacture Co., Ltd.	
		Zhuzhou Gear Co., Ltd.	
		Taian Taishan Fusheng Gear Co., Ltd.	
5	Slewing motor	Shanghai Electrical, Hydraulic and Pneumatic Co., Ltd.	
		Hi-tech Hydraulic Co., Ltd.	
		Shanghai Dazhong Hydraulic Technology Co., LTD.	
		Wuxi Weifu Fine Machinery Manufacturing Co., Ltd.	
		Avic Liyuan Hydraulic Co., Ltd.	
		Beijing Huade Hydraulic Industrial Group Co., Ltd.	
6	Slewing reducer	Xuzhou Keyuan Hydraulic Co., Ltd. Tongshan County Branch Company	
		Shanghai Wanhui Mechanical Manufacture Co., Ltd.	
		Zhuzhou Gear Co., Ltd.	

Ser. No.	Description	Manufacturer	Remarks
		Taian Taishan Fusheng Gear Co., Ltd.	
7	Slewing ring	Yantai Haiying Machinery Co., Ltd.	
		Yantai HaoYang Machinery Co., Ltd.	
8	Telescopic cylinder	Hunan Teli Hydraulic Co., Ltd.	
9	Derricking cylinder	Hunan Teli Hydraulic Co., Ltd.	
10	Horizontal cylinder	Hunan Teli Hydraulic Co., Ltd.	
11	Vertical cylinder	Hunan Teli Hydraulic Co., Ltd.	
12	Balance valve – telescoping mechanism	Changde Zoomlion Heavy Industry Science & Technology Hydraulic Co., Ltd.	
13	Balance valve – derricking mechanism	Changde Zoomlion Heavy Industry Science & Technology Hydraulic Co., Ltd.	
14	Balance valve – hoist mechanism	Changde Zoomlion Heavy Industry Science & Technology Hydraulic Co., Ltd.	
15	Wire rope	Hubei Fuxing Science and Technology Co., Ltd.	
		Shanghai Junwei Sling Co., Ltd.	
		JULI Sling Co., Ltd.	
		Jiangsu SAFETY Steel Wire Rope Co., Ltd.	
16	Hook	Shandong Hong Ruida Machinery Co., Ltd.	
		Juli Sling Co., Ltd.	
		Changsha Lanying Industry Co., Ltd.	
17	Load moment limiter	Zoomlion Electrical Appliance Company	
18	Operator's cab	Yangzhou Shenzhou Automobile Interiors Co., Ltd.	

Note:

The equipment fitted in the crane is subject to change due to design improvements or other reasons. Therefore, the above table is for reference only.