

# ZOOMLION ROUGH TERRAIN CRANE ZRT600



**ZOOMLION**

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website:en.zoomlion.com 2021.09.14

**ZOOMLION**

**4.0**  
PRODUCTS





# CONTENTS

HIGHLIGHTS .....	2
KEY SYMBOLS .....	3
CRANE DIMENSIONS .....	4
CRANE AND COMPONENT WEIGHTS .....	4
LIFTING HEIGHT CURVE .....	5-11
LIFTING CAPACITY TABLES .....	5-11
TECHNICAL DESCRIPTION .....	12

## Highlights

The ZRT600 features a 45m U-shape telescopic boom. Innovative plate-type boom head and compact boom tail reduces the operating weight of the boom and maximizes lifting performance. Max. lifting moment of basic boom is 2116.8kN.m, and 1197 kN.m for fully extended boom.

Spacious operator's cab offers comfortable and easy operation with less fatigue.

Robust Cummins QSB6.7 diesel engine (EPA Tier3 / Tier4F) outputs 194KW power and supplies a maximum torque of 990N\*m.







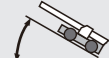



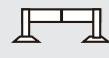









A 6-speed power shift transmission from DANA offers the latest technology for the diverse off-road performance.

AxleTech axles are used to offer the most reliable driving performance, and it can easily handle all wheel steering and crab steering with high maneuverability.





## KEY SYMBOLS

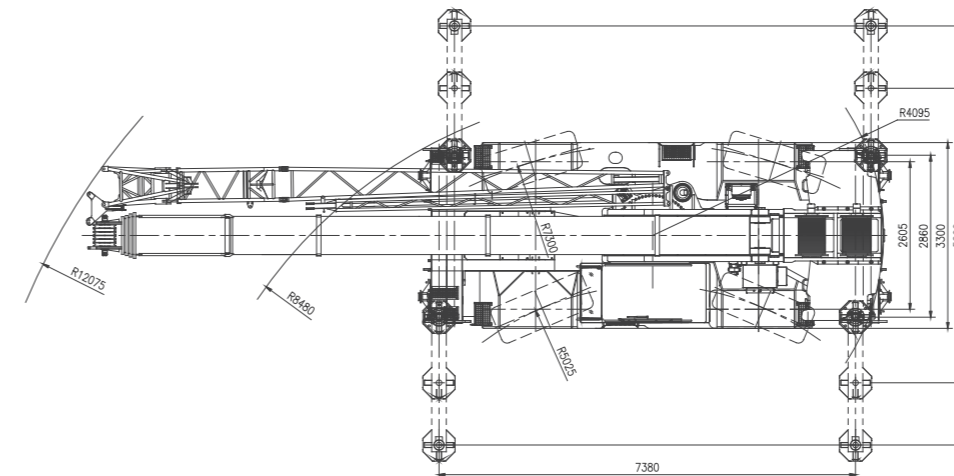
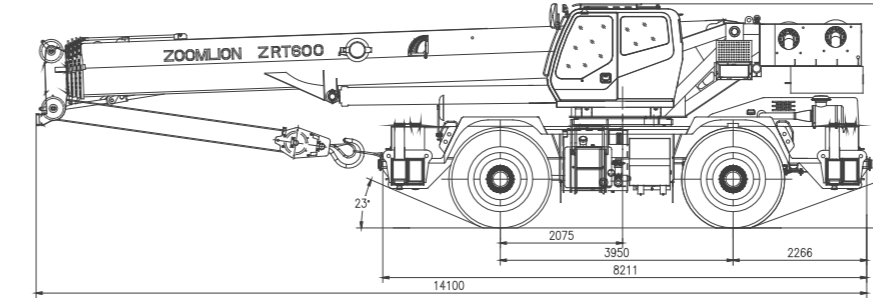
	Engine		Brakes
	Axles		Main boom
	Steering		Hook ball
	Gradeability		Hook block
	Tires and wheels		Main and auxiliary winches
	Outrigger system (100%, 50%, 0% extended)		Crane with counterweight
	Swing		Side-stowed jib
	Max. boom length with jib ext.		Distance from the hook to the head
	Load Moment Indicator(LMI)		Tip height
	Transmission		Working radius

## STANDARD EQUIPMENT




- Formed boom
- Offsettable jib 0° -15° -30°
- Cameras
- Auxiliary lifting sheave
- 6 ton hook ball ,with hook latch
- Rotation-resistant wire rope
- Deluxe tiltable seat
- Air conditioner/Heater
- Work light package : boom, cab and suprestructure
- Revolving amber light
- AM/FM radio
- Battery disconnect switch
- Front and rear lift lugs

**ZRT600 with Tier4F engine is ANSI certified;**  
**ZRT600 with Tier3 engine is CE and EAC certified**

## CRANE DIMENSIONS



## CRANE AND COMPONENT WEIGHTS






CRANE OPERATING WEIGHTS			
	GROSS Vehicle Weight	Front Axle Load	Rear Axle Load
	Kg		
CRANE WITH CTWT.	45000	25000	20000

## Hook Detailed Description

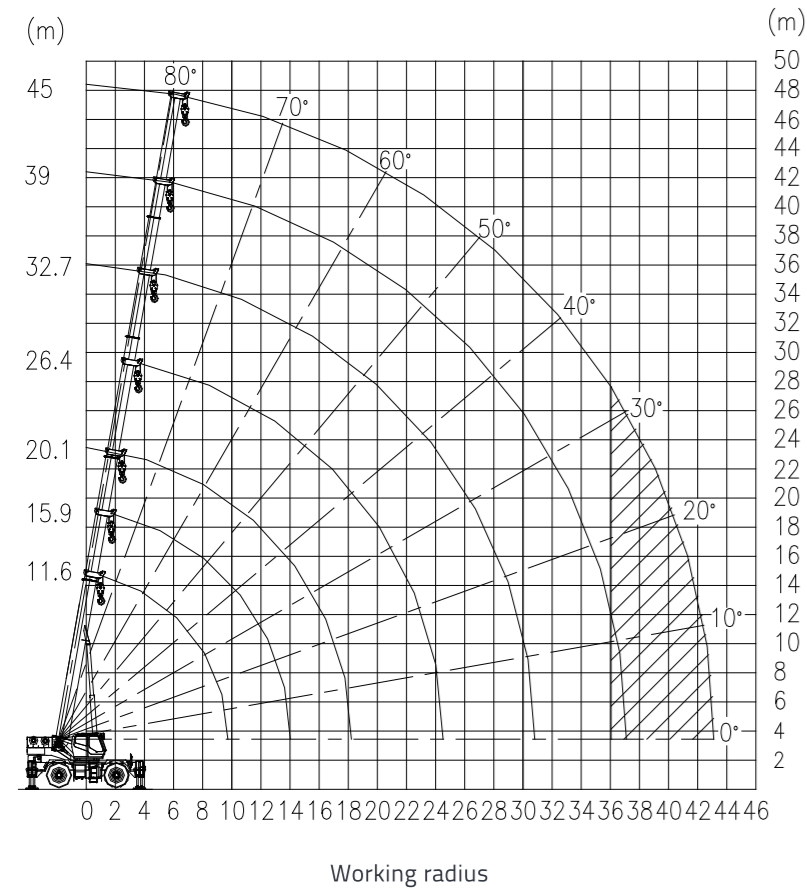
Hook Load T	No. of Sheaves	No. of Lines	Weight Kg
60.0	6	12	510kg
5.5	-	1	150kg

## Working speed

	 km/h min. MIN.	 km/h max. MAX.	 %	
26.5-25-32PR	0-2	40/37	75	6 / R6

Drive	Operation Speed	Rope diameter/length	Max. single line pull
	130m/min	Φ 17mm/210m	5600Kg
	130m/min	Φ 17mm/130m	5600Kg
	0 ~ 2.4r/min		
	45/125s		
	95/110s		

## LIFTING HEIGHT CURVE



## LIFTING CAPACITY TABLES



Working radius (m)	Cylinder I fully extended, outrigger fully extended, 7.8t counterweight						
	11,6	15,9	20,1	26,4	32,7	39,0	45,0
3.0	60000	46000	36000				
3.5	57000	46000	36000				
4.0	54000	46000	36000				
4.5	48000	44000	34000	27000			
5.0	43000	42000	33500	27000			
5.5	39000	38500	32500	27000			
6.0	35600	35000	32000	26000	19800		
6.5	32600	32200	30600	25000	19800		
7.0	30100	29800	29500	24000	19800		
7.5	28000	27600	26500	23000	19000		
8.0	26000	25200	24000	22000	18400	14400	
9.0	20200	20000	19500	20000	17000	13600	
10.0		16000	16000	16500	15800	12800	10000
11.0		13200	13000	13600	14000	12000	9600
12.0		11000	11000	11600	12200	11500	9200
14.0			7700	8600	9200	9600	8400
16.0			5500	6500	7100	7500	7600
18.0				5000	5600	5900	6200
20.0				3900	4400	4700	5000
22.0					3500	3800	4100
24.0					2750	3100	3400
26.0					2150	2400	2700
28.0						1900	2150
30.0						1500	1750
32.0						1100	1350
34.0							1050
36.0							750
38.0							
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

## LIFTING CAPACITY TABLES



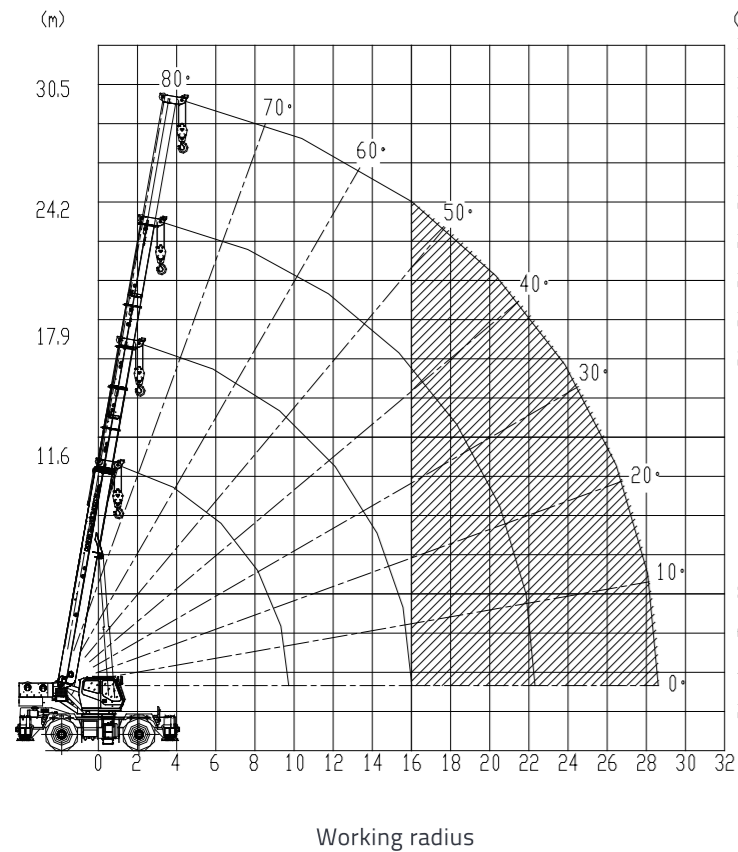
Working radius (m)	Cylinder I fully extended, outrigger extended to 50%(7.38m x 5.2m), 7.8t counterweight						
	11,6	15,9	20,1	26,4	32,7	39	45
3	60000	46000	36000				
3.5	54000	44000	36000				
4	46000	42000	36000				
4.5	40000	38000	34000	27000			
5	33000	31500	30500	27000			
5.5	28000	26500	26000	26500			
6	23500	22500	22000	23000	19800		
6.5	20000	19500	19000	20000	19800		
7	18500	18300	18000	19000	19000		
7.5	16000	15800	15500	16500	17000		
8	14200	13800	13500	14500	15000	14400	
9	11200	10800	10600	11500	12000	12000	
10		8800	8600	9500	10000	10000	10000
11		7100	6900	8000	8600	9000	9000
12		5900	5600	6700	7400	7800	8000
14			3700	4700	5300	5800	6000
16			2300	3300	3900	4400	4600
18				2300	2800	3300	3600
20				1500	2000	2500	2800
22					1400	1800	2100
24					900	1300	1500
26						800	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



Working radius (m)	Cylinder I fully extended, outrigger extended to 0%(7.38m x 2.86m), 7.8t counterweight						
	11,6	15,9	20,1	26,4	32,7	39	45
3	35000	32000	28000				
3.5	27000	26000	25000				
4	22000	21500	21000	20000			
4.5	18000	17500	17000	17000			
5	14500	14000	13800	14000			
5.5	12000	11800	11500	12000	12500		
6	10400	10000	9800	10500	11000		
6.5	9000	8700	8500	9200	9800		
7	7800	7500	7300	8100	8900	9000	
7.5	6800	6400	6300	7200	7800	8000	
8	6000	5500	5400	6300	6900	7200	7000
9		4200	4000	4900	5400	5800	6000
10		3100	2900	3800	4300	4600	5000
11		2200	2000	2900	3400	3800	4000
12		1600	1400	2200	2700	3000	3300
14				1200	1600	1900	2100
16					1100	1200	1300
18						700	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



## LIFTING HEIGHT CURVE



## LIFTING CAPACITY TABLES

Unit: kg

Working radius (m)	Cylinder I fully extended, tire stationary condition, 360° operation, 7.8t counterweight			
	11,6	15,9	20,1	26,4
3.0	21000	20000	20000	
3.5	20000	19500	19000	
4.0	17500	17000	16500	17000
4.5	14500	14000	13500	14300
5.0	12500	12000	11500	12300
5.5	10800	10000	9500	10500
6.0	9400	9000	8800	9200
6.5	8000	7600	7400	8100
7.0	7000	6600	6300	7100
7.5	6000	5600	5300	6200
8.0	5300	4800	4500	5400
9.0		3500	3200	4100
10.0		2500	2200	3200
11.0		1600	1400	2400
12.0		1000	800	1700
I (m)	0	4,3	8,5	8,5
II (m)	0	0	0	6,3
Reeving	12	10	8	6
Hook	60t			

Note: 360° and front operation in the table are static operation conditions of crane

## LIFTING CAPACITY TABLES

Unit: kg

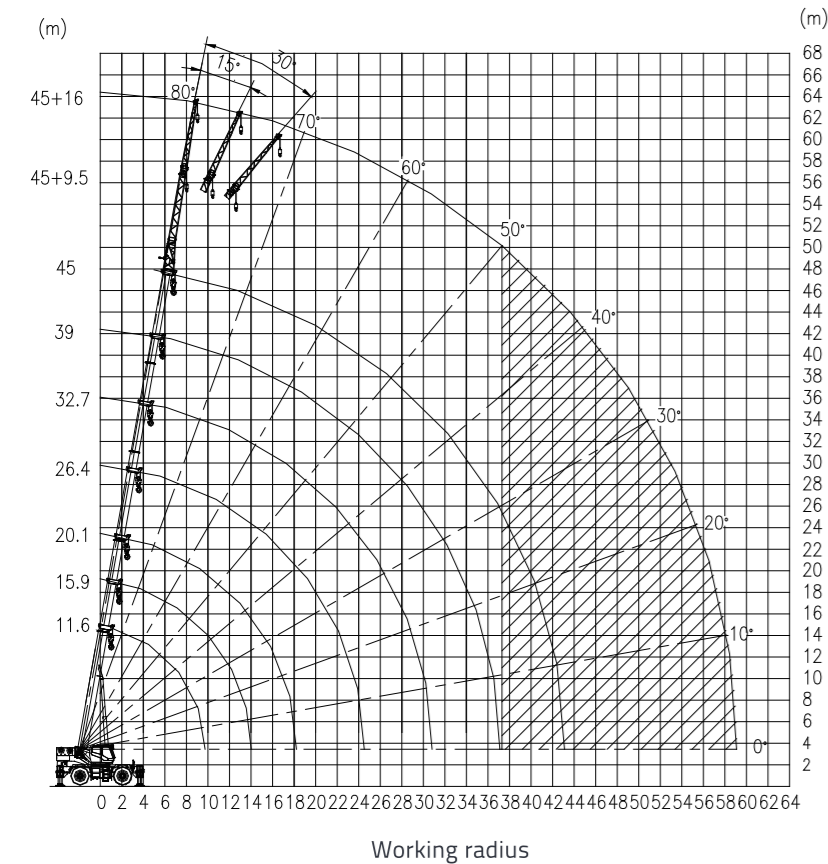
Working radius (m)	Cylinder I extended to 50%, tire stationary condition, 360° operation, 7.8t counterweight			
	11,6	15,9	22,2	28,5
3.0	21000	20000		
3.5	20000	19500	20000	
4.0	17500	17000	18000	18000
4.5	14500	14000	15000	15500
5.0	12500	12000	13000	13500
5.5	10800	10000	11000	12000
6.0	9400	9000	9700	10200
6.5	8000	7600	8400	9000
7.0	7000	6600	7400	8000
7.5	6000	5600	6500	7100
8.0	5300	4800	5700	6300
9.0		3500	4500	5100
10.0		2500	3500	4100
11.0		1600	2700	3300
12.0		1000	2000	2600
14.0			1000	1600
16.0				800
I (m)	0	4,3	4,3	4,3
II (m)	0	0	6,3	12,6
Reeving	12	10	6	5
Hook	60t			

Unit: kg

Working radius (m)	Cylinder I extended to 0%, tire stationary condition, 360° operation, 7.8t counterweight			
	11,6	17,9	24,2	30,5
3.0	21000			
3.5	20000	20000		
4.0	17500	19500	19000	
4.5	14500	16500	16300	
5.0	12500	14000	14000	
5.5	10800	11600	12000	
6.0	9400	10000	11000	10000
6.5	8000	9000	9600	9600
7.0	7000	8000	8600	8600
7.5	6000	7000	7600	7800
8.0	5300	6200	6800	7000
9.0		5000	5500	5500
10.0		4000	4500	4500
11.0		3200	3700	3700
12.0		2500	3000	3000
14.0		1500	2000	2000
16.0			1200	1200
I (m)	0	0	0	0
II (m)	0	6,3	12,6	18,9
Reeving	12	6	5	4
Hook	60t			



## LIFTING CAPACITY TABLES



## LIFTING CAPACITY TABLES

Main boom + jib 9.5m      360° slewing      Outrigger fully extended

Main boom angle (°)	Outrigger fully extended, 7.8t counterweight					
	0°		15°		30°	
	Radius(m)	Lifting capacity	Radius(m)	Lifting capacity	Radius(m)	Lifting capacity
80	12	5000	13.7	3300	15.2	2500
78	14.1	5000	15.6	3300	17.1	2500
76	16	4800	17.5	3200	18.9	2500
74	17.9	4500	19.4	3100	20.8	2500
72	19.7	4200	21.2	3000	22.5	2400
70	21.6	3900	23	2800	24.3	2300
68	23.3	3600	24.8	2700	26	2200
66	25.1	3300	26.5	2600	27.7	2100
64	26.6	2800	28.2	2500	29.3	2000
62	28	2400	29.7	2200	30.8	1900
60	29.4	2100	31.1	2000	32.2	1800
58	30.9	1800	32.4	1600	33.5	1600
56	32.3	1500	33.8	1400	34.8	1300
54	33.6	1200	35.1	1200	36	1200
52	34.9	1000	36.3	1000	37.2	900
50	36.2	800	37.6	700	38.4	700
48						
Reeving	1					
Hook	5.5t					

## LIFTING CAPACITY TABLES

Main boom + jib 16m      360° slewing      Outrigger fully extended

Main boom angle (°)	Outrigger fully extended, 7.8t counterweight					
	0°		15°		30°	
	Radius(m)	Lifting capacity	Radius(m)	Lifting capacity	Radius(m)	Lifting capacity
80	13.7	3000	16.9	2000	19.7	1400
78	15.9	3000	19.1	2000	21.8	1400
76	18	2900	21.2	1800	23.8	1300
74	20.1	2700	23.2	1700	25.8	1300
72	22.2	2500	25.2	1600	27.7	1200
70	24.2	2300	27.2	1500	29.6	1200
68	26.3	2100	29.1	1400	31.4	1100
66	28.2	2000	31	1300	33.1	1100
64	30.1	1900	32.8	1300	34.9	1100
62	32	1800	34.6	1200	36.6	1000
60	33.8	1700	36.3	1200	38.1	1000
58	35.4	1400	38	1100	39.7	1000
56	36.9	1200	39.5	1100	41.2	900
54	38.3	1000	40.8	900	42.4	800
52	39.7	800	42.2	700	43.6	650
50	41.1	650	43.5	600	44.8	550
48						
Reeving	1					
Hook	5.5t					

Unit: kg

Working radius (m)	Pick & carry, front operation, 7.8t counterweight			
	11,6	17,9	24,2	30,5
3.0	21000			
3.5	20000	16000		
4.0	18000	16000		
4.5	16500	16000	14000	
5.0	14500	15000	14000	
5.5	13500	14000	14000	
6.0	12000	12500	13000	10000
6.5	10500	11000	12000	10000
7.0	9200	10000	10500	10000
7.5	8100	9200	9500	9500
8.0	7100	8200	8700	8700
9.0		6600	7100	7100
10.0		5500	6000	6000
11.0		4500	5000	5000
12.0		3600	4100	4100
14.0			3000	3000
16.0			2000	2000
I (m)	0	0	0	0
II (m)	0	6.3	12.6	18.9
Reeving	12	6	5	4
Hook	60t			



## NOTES


a)Crane load ratings are based on the crane being leveled and standing on a firm and uniform supporting surface.

b)Crane load ratings on outriggers are based on all outrigger beams being positioned according to the applicable lift chart and the tires raised free of the supporting surface.

c)CRANE LOAD RATINGS MUST NOT BE EXCEEDED. DO NOT ATTEMPT TO TIP THE CRANE TO DETERMINE ALLOWABLE LOADS.

d)Lift the load vertically. Do not pull the load at an angle.

e)When either radius or boom length, or both, are between listed values, the smaller of the two listed load ratings shall be used.

f)Do not operate at longer radii than those listed on the applicable lift chart (cross hatched areas  shown on range diagrams) as tipping can occur without a load on the hook.

g)The boom angles shown on the lift charts give an approximation of the operating radius for a specified boom length. The boom angle, before loading, should be greater to account for boom deflection.

h) Rated loads include the weight of hook block, slings, and auxiliary lifting devices. Their weights shall be subtracted from the listed rated load to obtain the net load that can be lifted.

i)Consult appropriate section of the Operator's Manual for more exact description of hoist line reeving.

j)The use of more parts of line than required by the load may result in having insufficient rope to allow the hook block to reach the ground. Choose the correct line parts to get a rope in the proper length. Refer to Table 1.1.

k)Properly maintained wire rope is essential for safe crane operation. Consult the Operator's Manual and Maintenance Manual for proper maintenance and inspection requirements.

l)When the rotation-resistant wire rope is used, the allowable rope loading shall be the breaking strength divided by five (5), unless otherwise specified by the wire rope manufacturer.

m)The user shall operate at reduced ratings to allow for adverse job conditions, such as: soft or uneven ground, out of level conditions, high winds, side loads, pendulum action, jerking or sudden stopping off loads, hazardous conditions, experience of personnel, two-machine lifts, traveling with loads, electric wires, etc. (side pull on boom or jib is hazardous). If the wind speed is higher than the maximum permissible value (45 ft/s (13.8 m/s), grade 6) or it is fulminous during crane operation, stop the work, fully retract the boom and correctly stow the boom.

n)Load ratings are dependent upon the crane being maintained according to the Operator's Manual and Maintenance Manual.

## TECHNICAL DESCRIPTION

### Crane carrier

<b>Engine</b>	Cummins QSB6.7 diesel engine, output 194KW, max. torque 990N*m. Exhaust emissions acc. to EPA Tier3 & Tier4F. Fuel tank 300 litres.
<b>Transmission</b>	DANA gearbox with 6 forward and 6 reverse gear
<b>Axles</b>	Front: fixed steerable and driven axle with planetary reducer and brake Rear: Floating steerable and driven axle with planetary reducer and brake
<b>Tires</b>	4 tires, tire size: 26,5–25–32PR
<b>Steering</b>	Hydraulic power steering with four different steering modes
<b>Brakes</b>	Service brake and parking brake
<b>Electrical System</b>	Two sets 12V–120Ah batteries
<b>Frame</b>	ZOOMLION–made 2–axle chassis
<b>Outriggers</b>	H type outriggers, hydraulically extendable horizontal and vertical outriggers
	Longitudinal span      7380 mm
	Horizontal span        7400 mm(fully extended) 5200 mm(half extended) 2860 mm(fully retracted)

### Crane superstructure

<b>Main boom</b>	5 section U–shape telescoping boom,total length reaches 45m. Main boom length:45m fully extended11.6m fully retracted
<b>Jib</b>	2 section lattice jibs(9.5m, 16m), offset 0° ,15° ,30°
<b>Winch:</b>	Main winch and auxiliary winch are the same with vairable displacement piston motor and planetary reducer
<b>Slewing gear</b>	Hydraulic fixed displacement motor, planetary reducer and slewing bearing
<b>Hydraulic system</b>	Dual various displacement pumps offer power oil to telescoping, derricking and lifting movements. One gear pump output power oil to outriggers, radiator and brake. Hydraulic tank 850Litres.
<b>Operator's cab</b>	Spacious cab with man–machine friendly layout offers a comfortable operating experience. AC and heater.
<b>Safety devices</b>	LMI, limit switch, relief valve, emergency stop button and etc.
<b>Counterweight</b>	7.8T

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