ZOOMLION

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ZRT850

ZOOMLION

4.0 PRODUCTS

85	12.1-47	65.7
t	m	m
Max. capacity	Max. boom length	Max. tip height

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FEATURES

The ZRT850 features a 5-section, U-shaped ,47m telescopic boom.It's telescoping system consists of a two-stage hydraulic cylinder with a rope extension mechanism.

Its innovative new boom head and end structure ,with optimized boom connections provide with stronger load-bearing capacities.

2nd generation of arbitrary telescoping technology enables more stable telescoping and greatly enhances its anti-rollover performance.

We chose the AXLE-TECH brand axle because it offers the most reliable product on the market ,all wheel and crab steering ensure easy handling and high manoeuverability in constricted conditions.

Full-vision operator cab is designed for maximum comfort and ease of operation.

A 6-speed powershift transmission from DANA offers the latest technology for the diverse needs of off-road cranes.

The ZRT cranes from ZOOMLION are powered by US-CUMMINS diesel engine which meets Tire-III emissions regulations. The engine develops 194kw and supplies a maximum torque of 990N.

The crane's work is secured by the WIDE MSC670 LMI(Load Moment limiter),delivers the industry's most reliable electronic monitoring system available (HIRSCHMANN as option) .

STANDARD EQUIPMENT

- Formed boom
- Offsettable jib 0°-15°-30°
- Auxiliary winch
- Cameras
- Auxiliary lifting sheave
- 70ton hook block, with 6 sheaves and hook latch
- 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

ANSI & CE Standard

KEY/SYMBOLS

Engine	p4	Transmission	p6
Axles	p4	Cameras	p6
Steering	p4	Brakes	p6
Gradeability	p4	Main boom	p6
Tires and wheels	p4	Hook ball	p6
Outrigger system (100%, 50%, 0% extended)	p4	Hook block	p6
Swing	p5	Main and auxiliary winches	p6
Hydraulic system	p5	Crane with counterweight	p7
Counterweight	p5	Side-stowed jib	p7
Operator cab	p5	Distance from the hook to the head	p7
Max. boom length with jib ext.	p5	Tip height	p7
Load Moment Indicator(LMI)	p5	Working radius	p7

TECHNICAL DESCRIPTION

ENGINE

CUMMINS QSB6.7.....Inline 6 cylinder intecooled turbo diesel.
Kilowtts KW.....194 @ 2400 rpm.
Peak torque Nm.....990@1500rpm.

300 liter fuel tank capacity
USA Federal EPA / California ARB / European EU / Tier III emission rating.

AXLES

AXLE-TECH front and rear steering axles with planetary reduction.
Front - Rigid mount.
Rear - Full-floating rear axle. Automatic rear axle oscillating lock occurs when superstructure.
is swung 10° from centerline in either direction.

STEERING

Power steering with four independent modes:
Front Wheel
Rear-Wheel
All-Wheel
Crab

GRADEABILITY

75% max.gradeability.

TIRES AND WHEELS

29.5-25-34PR rating, earthmoving-style tires, Steel disc wheel.

OUTRIGGER SYSTEM

Four independent horizontal beams and vertical jacks with integral holding valves, each independently controlled form the operator cab.
100%-Fully extended outriggers
Footprint.....53.87sq.m
50%-Mid position outriggers
Footprint 37.64sq.m
0%-Fully retracted outriggers
Footprint.....21.4sq.m
Outrigger span.....Length 7.38m, Width 7.3m

TECHNICAL DESCRIPTION

SWING

Bi-directional hydraulic swing drive with multi-disc wet brake and planetary reduction gearbox.
Spring-applied hydraulically released swing brake and 360° pneumatic positive swing lock.
Max. swing speed: .....2rpm.

HYDRAULIC SYSTEM

Gear pump for main and auxiliary winches, boom hoist and telescope cylinders.
Gear pump for steering.
Gear pump for outriggers and slewing.
1000 liter hydraulic reservoir with external sight and temperature gauge.

Easily accessible (10 micron) cartridge-style full-flow filters with bypass protection.
Max. operating pressure: .....31.5 Mpa.

COUNTERWEIGHT

Single 8800kg fixed counterweight.
Length 3000mm
Width 1042mm
Heigth 510mm

OPERATOR CAB

full-vision operator cab designed for maximum comfort. All steel fabrication with acoustical lining and safety glass throughout. The cab has a sliding door on the left and a sliding window on the right with a swing-up skylight with retractable shade and wiper motor. Fully adjustable deluxe seat with tilt.Foot controls for boom telescope, service brake and engine throttle, Tilt steering.

Temperature control is provided by a hydraulically driven air conditioning unit. Easy view dashboard with gauges for all engine sensors and rocker switch outrigger controls. Standard amenities also include bubble level, dome light, left-side rearview mirror, seat belt, trave swing lock and signal horn.

MAX. BOOM LENGTH WITH JIB EXTENSION

2 stage swing around boom extention swing around type withtriple offset (tilt type).
Single sheave at jib head.
Stows alongside base boom section.
Length ..... 9.5m, 16 m
Offset..... 0°, 15°, 30°
Max.tip height with 9.5m+6.5m fixed jib is 65.7m.

LOAD MOMENT INDICATOR (LMI)

WIDE MCS-670 LMI control system.Microguard graphic display load moment and anti-two block system with audiovisual warning and function limiter.

System displays the following information: crane configuration, boom length, boom angle, load radius, allowed capacity, actual load, and load percentage of allowed capacity.

System includes settable work parameters: min./max. boom length, min./max. boom angle, defined swing area.

TRANSMISSION

Dana powershift transmission - 6 speeds forward and 3 speeds reverse.
Front axle disconnection offering both 4x4 and 4x2 operation.
Max. speed .....36km/hr .

CAMERAS

The crane comes equipped with two cameras-a winch camera for viewing hoist operation and a rear camera for viewing the rear of the crane.The monitor is located in the cab and one can easily toggle between both camera views.

MAIN BOOM

5 section U-shape full power partially synchronized telescoping boom of round box construction with 6 sheaves at boom head.The synchronization system consists of 2 telescope cylinder,extension cables and retraction cables. Hydraulic cylinder fitted with holding valve. 2 easily removable wire rope guards, rope dead end provided on both sides of boom head.
Full extended boom length 47m
Full retracted boom length 12.1m
Max.tip height,main boom 49.8m
Boom angle range(min./max.).....2° /+80°
Boom rasing/lowering time.....46sec/105sec
Boom extension/retraction time.....120sec/130sec

BRAKES

470 millimeters (18.5 in) diameter disc brakes on all wheels hydraulically operated.

HOKK BLOCK AND HOOK BALL

85 ton,6 sheave(steel).....optional
Hook block weight.....620kg
70 ton,5 sheave(steel),.....standard
Hook block weight.....589kg
60 ton,6 sheave(steel).....optional
Hook block weight.....563kg
35 ton,6 sheave(steel).....optional
Hook block weight.....380kg
6.5 ton ball hook.....standard
Ball hook weight.....150kg

MAIN AND AUXILIARY WINCHES

Standard two speed main and auxiliary hoists, each with planetary reduction and spring applied multi-disc wet brake.
Each hoist features
Grooved drum lagging.
Hoist drum cable followers.
Max. permissible line pull: ..... 6500kg.
Winch speed: ..... 0-130m/min .
Power up / power down
Electronic drum rotation indicators.

Rope construction: ..... 20mm rotation-resistant compacted strand.

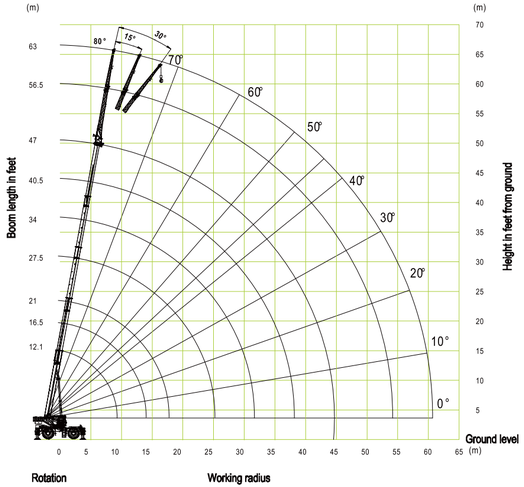
CRANE AND COMPONENT WEIGHTS

CRANE OPERATING WEIGHTS			
	GROSS Vehicle Weight	Front Axle Load	Rear Axle Load
	Kg	Kg	Kg
CRANE WITH CTWT.	52000	27000	25000

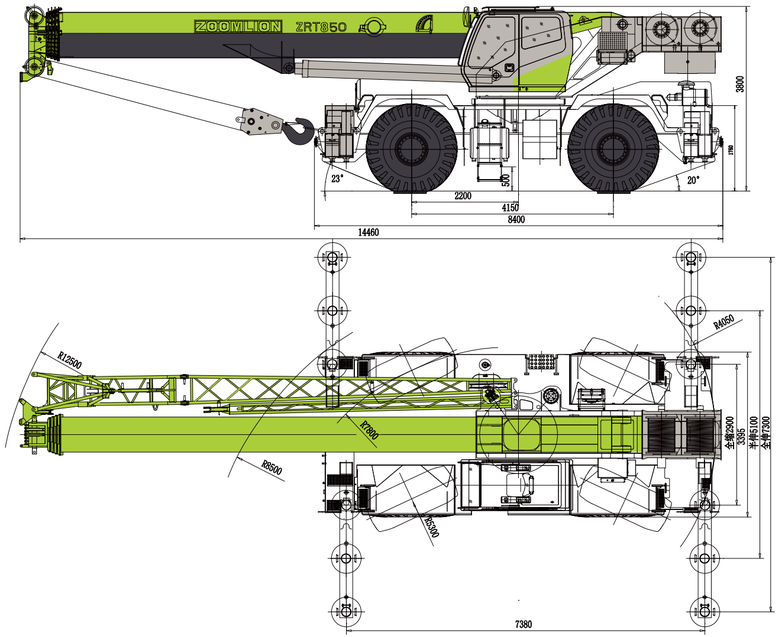
DEDUCTIONS FOR LOAD HANDLING				
	JIB STOWED	AXUE LARY HEAD	6 Sheave 70-ton hook block	6.5-ton ball hook
Kg	840	41.59	589	150

Front WHEEL(4×2)STEERING	METRIC
WALL TO WALL OVER CARRIER	11.6m
ALL WHEEL(4×4)STEERING	METRIC
WALL TO WALL OVER CARRIER	7.0m
TAIL SWING	METRIC
WALL TO WALL OVER BOOM ATTACHED	4.05m

WORKING RANGE DIAGRM



CRANE DIMENSIONS



LIFTING CAPACITY TABLES

Telescoping cylinder | fully extended & outrigger beams fully extended

8800kg.ctwt 75% 360° (UNIT:KG)

Working Radius (mm)	12100	16500	21000	27500	34000	40500	47000
2500	85000						
3000	70000	55000					
3500	67000	53000	43500				
4000	57000	52000	43500				
4500	54000	49000	42000	31000			
5000	50000	46000	41000	31000			
5500	48000	44000	39000	30000			
6000	45000	41000	37000	29000	23000		
7000	37000	36000	33000	27000	22000		
8000	31000	30000	27000	24500	20000	16500	
9000	22000	24000	24000	22000	19000	15500	
10000		19700	19200	18500	17200	14500	11500
11000		16200	15900	16000	16000	13500	11000
12000		13500	13000	14600	14000	12500	10000
14000		9600	9500	10700	11500	10600	9000
16000				8000	9000	8400	8000
18000				6300	7200	7500	7000
20000				4800	5600	6000	6100
22000				3700	4500	5000	5200
24000				2800	3500	4000	4300
26000					2800	3200	3500
28000					2100	2500	2900
30000					1600	2000	2300
32000						1500	1800
34000						1100	1400
I	0	4400	8900	8900	8900	8900	8900
II	0	0	0	6500	13000	19500	26000
Reeving	12	10	8	6	5	4	3
Hook	70t						

Telescoping cylinder | half extended & outrigger beams fully extended

8800kg.ctwt 75% 360° (UNIT:KG)

Working Radius (mm)	12100	16500	23000	29500	36000	42500
2500	85000					
3000	70000	55000				
3500	67000	53000	31000			
4000	57000	52000	31000			
4500	54000	49000	31000			
5000	50000	46000	31000	23000		
5500	48000	44000	30000	23000		
6000	45000	41000	29000	23000		
7000	37000	36000	27000	22000	16500	
8000	31000	30000	26000	21000	16500	12000
9000	22000	24000	24500	19500	15500	11500
10000		19700	20000	19000	14500	11500
11000		16200	17500	17100	13500	11000
12000		13500	14800	14600	12500	10500
14000		9600	10700	11000	10600	9300
16000			8000	8600	9100	8100
18000			6200	6800	7300	7300
20000				5400	5900	6300
22000				4400	4800	5500
24000				3500	4000	4500
26000					3200	3800
28000					2600	3100
30000					2100	2600
32000						2100
34000						1700
I	0	4400	4400	4400	4400	4400
II	0	0	6500	13000	19500	26000
Reeving	12	10	6	6	4	3
Hook	70t					

LIFTING CAPACITY TABLES

Telescoping cylinder | fully retracted & outrigger beams fully extended

8800kg.ctwt 75% 360° (UNIT:KG)

Working Radius (mm)	12100	18600	25100	31600	38100
2500	85000				
3000	70000	31000			
3500	67000	31000			
4000	57000	31000	23000		
4500	54000	31000	23000		
5000	50000	31000	23000		
5500	48000	30000	23000	16500	
6000	45000	29000	23000	16500	
7000	37000	27000	22000	16000	12500
8000	31000	26000	21000	14500	12000
9000	22000	24000	19500	13500	11500
10000		20000	18000	12500	11500
11000		16800	17100	11500	10500
12000		14300	15200	10700	9700
14000		10800	11600	9300	8400
16000			9100	8200	7300
18000			7300	7300	6400
20000			6000	6400	5800
22000				5300	5200
24000				4400	4600
26000				3700	4000
28000					3300
30000					2800
32000					2300
34000					
I	0	0	0	0	0
II	0	6500	13000	19500	26000
Reeving	12	10	8	4	3
Hook	70t				

Telescoping cylinder | fully extended & outrigger beams half extended

8800kg.ctwt 75% 360° (UNIT:KG)

Working Radius (mm)	12100	16500	21000	27500	34000	40500	47000
2500							
3000	62000	52000					
3500	52000	50000	42000				
4000	45000	48000	40000				
4500	40000	42000	37000	31000			
5000	38000	41000	34000	31000			
5500	34000	33500	31500	30000			
6000	28000	28000	25000	26000	23000		
7000	21000	20000	19500	21000	21500		
8000	16000	15500	15000	16700	17500	16500	
9000	12000	12000	11500	13200	14200	15000	
10000		9500	9300	10700	11500	12200	11500
11000		7700	7500	8700	9500	10200	10500
12000		6200	6000	7200	8000	8600	9000
14000			3800	5000	5700	6200	6600
16000				3400	4100	4600	5000
18000				2300	3000	3400	3800
20000				1400	2000	2500	2800
22000					1300	1800	2100
24000						1200	1500
26000							1000
28000							
30000							
32000							
34000							
I	0	4400	8900	8900	8900	8900	8900
II	0	0	0	6500	13000	19500	26000
Reeving	12	10	8	6	5	4	3
Hook	70t						

LIFTING CAPACITY TABLES

Telescoping cylinder I half extended & outrigger beams half extended 8800kg.ctwt 75% 360° (UNIT:KG)						
Working Radius (mm)	12100	16500	23000	29500	36000	42500
2500						
3000	62000	52000				
3500	52000	48000	31000			
4000	45000	43000	31000			
4500	40000	38000	31000			
5000	38000	36000	31000	23000		
5500	34000	33500	30000	23000		
6000	28000	27500	26000	23000		
7000	21000	20000	22000	22500	16500	
8000	16000	15500	17200	18200	16000	12000
9000	12000	12000	13700	14600	15000	11500
10000		9500	11200	12000	12600	11500
11000		7700	9200	10000	10500	11000
12000		6200	7700	8500	9000	9500
14000			5500	6200	6700	7100
16000			3800	4600	5000	5400
18000			2600	3300	3800	4100
20000				2400	2900	3200
22000				1600	2100	2400
24000					1500	1800
26000					1000	1300
28000						1000
30000						
32000						
34000						
I	0	4400	4400	4400	4400	4400
II	0	0	6500	13000	19500	26000
Reeving	12	10	6	6	4	3
Hook	70t					

Telescoping cylinder I fully retracted & outrigger beams half extended 8800kg.ctwt 75% 360° (UNIT:KG)					
Working Radius (mm)	12100	18600	25100	31600	38100
2500					
3000	62000	31000			
3500	52000	31000			
4000	45000	31000	23000		
4500	40000	31000	23000		
5000	38000	31000	23000		
5500	34000	30000	23000	16500	
6000	28000	29000	23000	16500	
7000	21000	23000	22500	16500	12500
8000	16000	18000	19000	14500	12000
9000	12000	14500	15300	13200	11500
10000		11800	12600	12300	11500
11000		9800	10500	11000	10500
12000		8300	9000	9600	9300
14000		6000	6700	7200	7500
16000			5100	5500	5800
18000			3900	4300	4500
20000			2900	3300	3600
22000				2600	2800
24000				2000	2200
26000				1400	1700
28000					1300
30000					1000
32000					
34000					
I	0	0	0	0	0
II	0	6500	13000	19500	26000
Reeving	12	10	8	4	3
Hook	70t				

LIFTING CAPACITY TABLES

Telescoping cylinder I fully extended & outrigger beams fully retracted 8800kg.ctwt 75% 360° (UNIT:KG)							
Working Radius (mm)	12100	16500	21000	27500	34000	40500	47000
2500							
3000	45000	42000					
3500	35000	32000	30000				
4000	28000	27000	25100	25000			
4500	22500	21000	20000	21200			
5000	17600	17000	17300	18200			
5500	15000	14500	14400	15400	16000		
6000	12500	12000	11900	12900	13500		
7000	10000	9500	9800	10000	10800	11400	
8000	8000	7800	7500	8100	8600	9300	
9000	6200	5900	5400	6400	6800	7700	8000
10000		4400	4000	5000	5300	6000	6600
11000		3200	3100	4200	4800	5200	5500
12000		2300	2200	3300	3700	4300	4700
14000		1000	900	2000	2300	3100	3300
16000				1000	1500	2000	2200
18000						1200	1500
20000							1000
22000							
24000							
26000							
28000							
30000							
32000							
34000							
I	0	4400	8900	8900	8900	8900	8900
II	0	0	0	6500	13000	19500	26000
Reeving	12	10	8	6	5	4	3
Hook	70t						

Telescoping cylinder I half extended & outrigger beams fully retracted 8800kg.ctwt 75% 360° (UNIT:KG)						
Working Radius (mm)	12100	16500	23000	29500	36000	42500
2500						
3000	45000	42000				
3500	35000	32000	32000			
4000	28000	27000	27000			
4500	22500	21000	21500	21000		
5000	17600	17000	19000	19000		
5500	15000	14500	16000	16300		
6000	12500	12000	13700	14500	14500	
7000	10000	9500	10000	10400	10800	
8000	8000	7800	8500	9200	9600	10000
9000	6200	5900	6600	7300	7800	8200
10000		4400	5500	5800	6500	7000
11000		3200	4500	5000	5300	5500
12000		2300	3500	4100	4500	4600
14000		1000	2000	2800	3000	3300
16000			1200	1700	2100	2500
18000				1200	1400	1700
20000					1000	1200
22000						
24000						
26000						
28000						
30000						
32000						
34000						
I	0	4400	4400	4400	4400	4400
II	0	0	6500	13000	19500	26000
Reeving	12	10	6	6	4	3
Hook	70t					

LIFTING CAPACITY TABLES

Telescoping cylinder I fully retracted & outrigger beams fully retracted 8800kg.ctwt 75% 360° (UNIT:KG)					
Working Radius (mm)	12100	18600	25100	31600	38100
2500					
3000	45000	31000			
3500	35000	31000	23000		
4000	28000	28200	22500		
4500	22500	23500	22000		
5000	17600	19600	20000		
5500	15000	17000	18200	16500	
6000	12500	14000	15300	15500	
7000	10000	10600	11500	12200	12500
8000	8000	8700	8800	9100	10000
9000	6200	7100	7900	8300	8700
10000		6200	6700	7000	7100
11000		5100	5500	5700	5900
12000		4200	4700	4900	5000
14000		2800	3200	3600	3800
16000			2300	2700	3000
18000			1600	2000	2100
20000			1100	1300	1600
22000					1000
24000					
26000					
28000					
30000					
32000					
34000					
I	0	0	0	0	0
II	0	6500	13000	19500	26000
Reeving	12	10	8	4	3
Hook	70t				

LIFTING CAPACITY TABLES

Lifting on tires 8800kg.ctwt 75% (UNIT:KG)										
Main boom (mm)	12100			18600			25100			
Working Radius (mm)	360°	Stationary over front	Pick&carry	360°	Stationary over front	Pick&carry	360°	Stationary over front	Pick&carry	
3000	20000	29500	18500	19300	27000	18000				
3500	17100	26000	16000	16800	25500	16000				
4000	15000	23300	14500	14500	22900	14000	14000	21500	14200	
4500	12300	20700	13000	12600	20400	12400	12000	20000	12800	
5000	10400	19300	11500	11000	18600	11100	11200	18600	11200	
5500	9100	17200	10300	9700	17000	10000	10500	16800	10000	
6000	8200	15800	9400	8800	14600	9100	9300	15400	8800	
7000	5800	11000	7700	6600	12500	7300	7600	13000	7700	
8000	3700	8600	6200	5300	9300	5700	5800	10100	5900	
9000	2600	5500	4300	4100	8000	4500	4500	8700	4600	
10000				3000	6200	3900	3500	6900	4100	
11000				2100	4900	3100	2600	5600	3400	
12000				1600	3800	2500	2200	4400	2600	
14000					2200	1400	1000	2800	1700	
16000								1600	1000	