

ZOOMLION

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ZOOMLION

4.0  
PRODUCTS



# ZRT850

85  
t

12.1-47  
m

65.7  
m

Max. capacity

Max. boom length

Max. tip height

# CONTENTS

FEATURES .....	2
KEY/SYMBOLS .....	3
TECHNICAL DESCRIPTION .....	4-6
CRANE AND COMPONENT WEIGHTS .....	7
WORKING RANGE DIAGRAM .....	7
CRANE DIMENSIONS .....	8
LIFTING CAPACITY TABLES .....	9-14

## 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.

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



The ZRT cranes from ZOOLION 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) .



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.

## STANDARD EQUIPMENT

- Formed boom
- Offsettable jib 0° -15° -30°
- Auxiliary winch
- Cameras
- Auxiliary lifting sheave
- 7ton 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 supstructure
- 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.  
Kilowatts 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.



### GRADEABILITY

75% max.gradeability.



### 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.



### TIRES AND WHEELS

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



### OUTRIGGER SYSTEM



### STEERING

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

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  
Height .....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, travel swing lock and signal horn.



### MAX. BOOM LENGTH WITH JIB EXTENSION

2 stage swing around boom extention swing around type with triple 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.



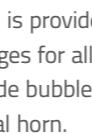
### TRANSMISSION

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



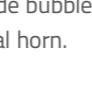
### BRAKES

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



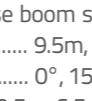
### HOOK BLOCK AND HOOK BALL

85 ton,6 sheave(steel).....	optional
Hook block weight.....	620kg
70 ton,6 sheave(steel),	standard
Hook block weight.....	589kg
60 ton,6 sheave(steel).....	optional
Hook block weight.....	563kg
35 ton,3 sheave(steel).....	optional
Hook block weight.....	380kg
6.5 ton ball hook.....	standard
Ball hook weight.....	150kg



### 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 raising/lowering time.....46sec/105sec  
Boom extension/retraction time.....120sec/130sec



### 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.

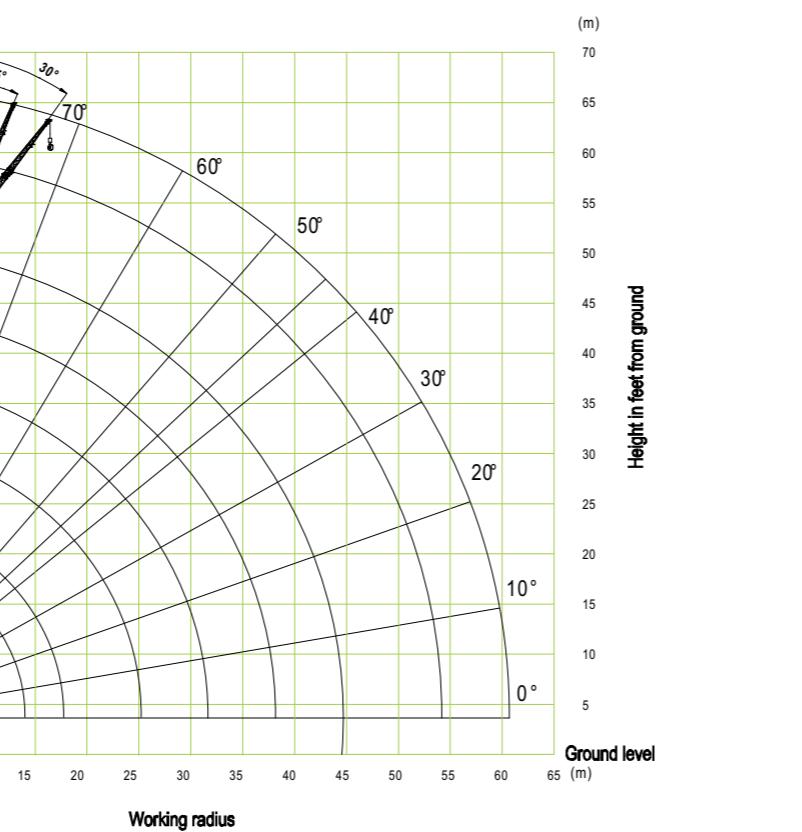
# CRANE AND COMPONENT WEIGHTS

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

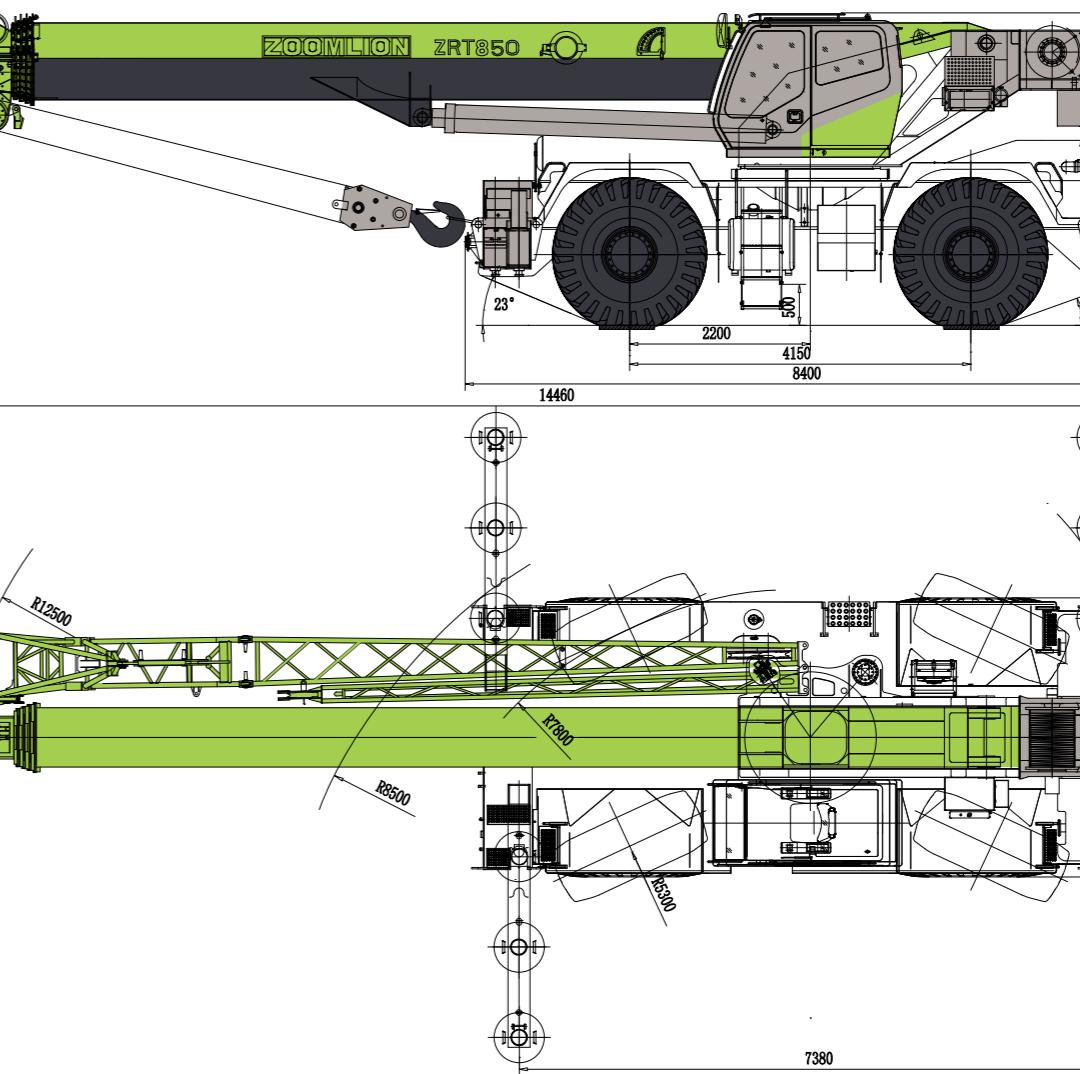
DEDUCTIONS FOR LOAD HANDLING					Boom length in feet
	JIB STOWED	AXLE LARY HEAD	6 Sheave 70-ton hook block	6.5-ton ball hook	
Kg	840	41.59	589	150	27.5 34 40.5

Front WHEEL(4x2)STEERING	METRIC	16.5
WALL TO WALL OVER CARRIER	11.6m	12.1
ALL WHEEL(4x4)STEERING	METRIC	
WALL TO WALL OVER CARRIER	7.0m	
TAIL SWING	METRIC	
WALL TO WALL OVER BOOM ATTACHED	4.05m	Bo

## **PIG RANGE DIAGRM**



# IMENSIONS



## LIFTING CAPACITY TABLES

Telescoping cylinder I fully extended & outrigger beams fully extended							
	8800kg.ctwt		75%		360° (UNIT:KG)		
Working Radius (mm)	12100	16500	21000	27500	34000	40500	47000
3000	85000	55000					
3500	70000	53000	43500				
4000	61500	52000	43500				
4500	55000	49000	42000	31000			
5000	51000	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	
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 extended							
	8800kg.ctwt		75%		360° (UNIT:KG)		
Working Radius (mm)	12100	16500	23000	29500	36000	42500	
3000	85000	55000					
3500	70000	53000	31000				
4000	61500	52000	31000				
4500	55000	49000	31000				
5000	51000	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			6300	6800	7300	7300	
20000			4800	5400	5900	6300	
22000			3700	4400	4800	5500	
24000			2800	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 I fully retracted & outrigger beams fully extended							
	8800kg.ctwt		75%		360° (UNIT:KG)		
Working Radius (mm)	12100	18600	25100	31600	38100		
3000	85000	31000					
3500	70000	31000					
4000	61500	31000	23000				
4500	55000	31000	23000				
5000	51000	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	0	
II	0	6500	13000	19500	26000		
Reeving	12	10	8	4	3		
Hook	70t						

Telescoping cylinder I fully extended & outrigger beams half extended							
	8800kg.ctwt						

## 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
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	
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	
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	
II	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
3000	45000	42000				
3500	35000	32000	32000			
4000	28000	27000	27000	27000		
4500	22500	21000	21000	21000	21000	
5000	17600	17000	17000	17000	17000	
5500	15000	14500	14500	14500	14500	
6000	12500	12000	12000	12000	12000	12000
7000	10000	9500	950			

## 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
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
3000	20000	29500	18500	19300	27000
3500	17100	26000	16000	16800	25500
4000	15000	23300	14500	14500	22900
4500	12300	20700	13000	12600	20400
5000	10400	19300	11500	11000	18600
5500	9100	17200	10300	9700	17000
6000	8200	15800	9400	8800	14600
7000	5800	11000	7700	6600	12500
8000	3700	8600	6200	5300	9300
9000	2600	5500	4300	4100	8000
10000				3000	6200
11000				2100	4900
12000				1600	3800
14000				2200	1400
16000					1600
					1000