

## TADANO CARGO CRANE

MODEL : **TM-ZE296HRS**

## CRANE SPECIFICATIONS

CRANE CAPACITY

3,030 kg at 1.4 m (4-part lines)

BOOM

Six-sectioned, fully powered partly synchronized telescoping boom of pentagonal box construction

Retracted length ----- 3.23 m

Extended length ----- 12.8 m

Extending speed ----- 9.57 m / 17 s

Elevation ----- Elevated by a double-acting hydraulic cylinder

Elevating speed ----- 1° to 76° / 6 s

Boom point ----- 2 sheaves

WINCH

Hydraulic motor driven Spur gear speed reduction, provided with mechanical brake and cable follower

Single line pull ----- 7.45 kN{760 kgf}

Single line speed ----- 68 m/min (at 4th layer)

Wire rope

Diameter x length ----- 8 mm x 75 m

Breaking strength ----- 43.1 kN{4.39 tf}

Construction ----- 7 x 7 + 6 x WS(26)

Hook block ----- 2 sheaves

HOOK STOWING DEVICE

Mechanically stowed beneath boom top portion

SWING

Hydraulic motor driven      Worm gear speed reduction  
 Continuous 360° full circle swing on ball bearing slew ring  
 Automatic swing lock  
 Swing speed ----- 2.5 min<sup>-1</sup>{rpm}

OUTRIGGERS

Manually extended sliders and hydraulically extended jacks  
 Integral with crane frame      Power up and down  
 Extension width ----- Min. 1,720 mm  
    Mid. 2,900 mm, 2,400 mm  
    Full 3,400 mm

REAR OUTRIGGERS (Locally provided)

Full extension width ---- Not less than 2,400 mm

HYDRAULICS

Hydraulic pump ----- Single gear pump  
 Hydraulic motors ----- Axial piston type for winch  
    Axial piston type for swing  
 Control valves ----- Multiple control valves with integral  
    safety valve  
 Oil tank capacity ----- approx. 22 L

RADIO CONTROLLER

Model : RCS-F  
 Control functions of boom telescoping, hoisting up and down,  
 boom elevating, swing, acceleration, speed mode selection,  
 working height limiting, Hook-in, Hook-out, horn and emergency  
 stop  
 Frequency ----- 40 frequencies in 433 MHz band  
 Operating power supply  
     Transmitter ----- 6V DC, Dry battery R6P(SUM-3) x 4  
     Control unit ----- 24V DC, Vehicle battery  
 Transmitter mass ---- Approx. 576 g (includes batteries)

SAFETY DEVICES

AML(Automatic Moment Limiter)  
 Load indication  
 Load moment ratio to rated load indication  
 Warning alarm  
 Over load limiter  
 WHL(Working Height Limiter)  
 Load meter  
 Radius indicator  
 Emergency stop switch on radio controller  
 Terminal for emergency stop switch  
 Over-winding alarm  
 Hoisting limiter  
 Jack interlock  
 P.T.O indicator lamp  
 Hook safety latch  
 Hydraulic safety valves, check valves and holding valves  
 Level gauge

CRANE MASS

Approx. 1,200 kg (with standardized mounting parts included)

NOTE : Operating speeds of the crane are guaranteed under the condition that the pump delivery is 53 L/min.

## RATED LIFTING CAPACITIES IN KILOGRAMS

### Crane Strength Rated Capacities

Load Radius	3.23 m / 5.17 m Boom		Load Radius	7.1 m Boom Extension width of outriggers	Load Radius	9.0 m Boom Extension width of outriggers	Load Radius	10.9 m Boom Extension width of outriggers	Load Radius	12.8 m Boom Extension width of outriggers						
	Extension width of outriggers										Full	Full	Full	Full	Full	Full
	Full	Minimum														
1.45m and below	3,030	1,580	2.2 m and below	1,880	3.0 m and below	980	4.0 m and below	580	5.3 m and below	280						
2.0 m	2,180	1,130	2.5 m	1,680	3.5 m	900	4.5 m	530	6.0 m	250						
2.5 m	1,730	730	3.0 m	1,430	4.0 m	830	5.0 m	480	7.0 m	220						
3.0 m	1,430	530	3.5 m	1,180	5.0 m	680	6.0 m	400	8.0 m	200						
3.5 m	1,230	380	4.0 m	1,030	6.0 m	580	7.0 m	330	9.0 m	180						
4.0 m	1,050	280	4.5 m	880	7.0 m	480	8.0 m	280	10.0m	160						
4.5 m	900	230	5.0 m	780	8.0 m	380	9.0 m	250	11.0m	140						
4.97m	800	180	5.5 m	680	8.8 m	330	10.0 m	230	12.6m	120						
			6.0 m	600			10.7 m	210								
			6.9 m	500												

- NOTES : 1.The mass of hook block (30kg), slings and all similarly used load handling devices must be added to the mass of load.  
 2. The above numerical values of total rated loads are based on crane strength only. The total rated loads based on stability may lower than those in the above table depending on the loading conditions and the types of the chassis.

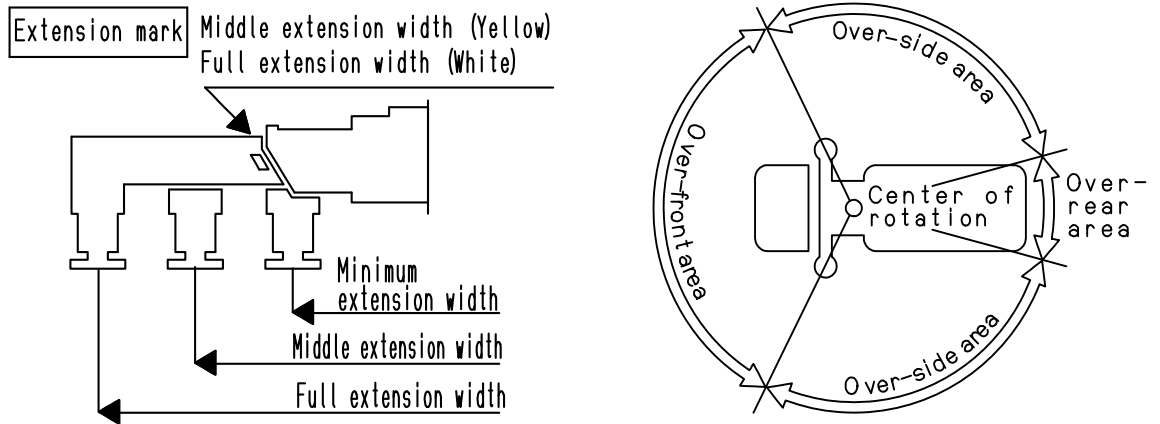
Table C Empty Chassis Rated Capacities

Load Radius	3.23 m / 5.17 m Boom		Load Radius	7.1 m Boom Extension width of outriggers	Load Radius	9.0 m Boom Extension width of outriggers	Load Radius	10.9 m Boom Extension width of outriggers	Load Radius	12.8 m Boom Extension width of outriggers						
	Extension width of outriggers										Full	Full	Full	Full	Full	Full
	Full	Minimum														
1.4 m and below	3,030	1,580	2.2 m and below	1,730	3.0 m and below	930	4.0 m and below	480	5.3 m and below	280						
2.0 m	2,130	1,130	2.5 m	1,530	3.5 m	830	4.5 m	430	6.0 m	240						
2.5 m	1,730	730	3.0 m	1,280	4.0 m	730	5.0 m	380	7.0 m	210						
3.0 m	1,430	530	3.5 m	1,080	5.0 m	580	6.0 m	300	8.0 m	180						
3.5 m	1,230	380	4.0 m	930	6.0 m	480	7.0 m	260	9.0 m	160						
4.0 m	1,030	280	4.5 m	780	7.0 m	380	8.0 m	230	10.0m	140						
4.5 m	830	230	5.0 m	680	8.0 m	280	9.0 m	200	11.0m	130						
4.97m	680	180	5.5 m	580	8.8 m	230	10.0 m	180	12.6m	100						
			6.0 m	480			10.7 m	150								
			6.9 m	380												

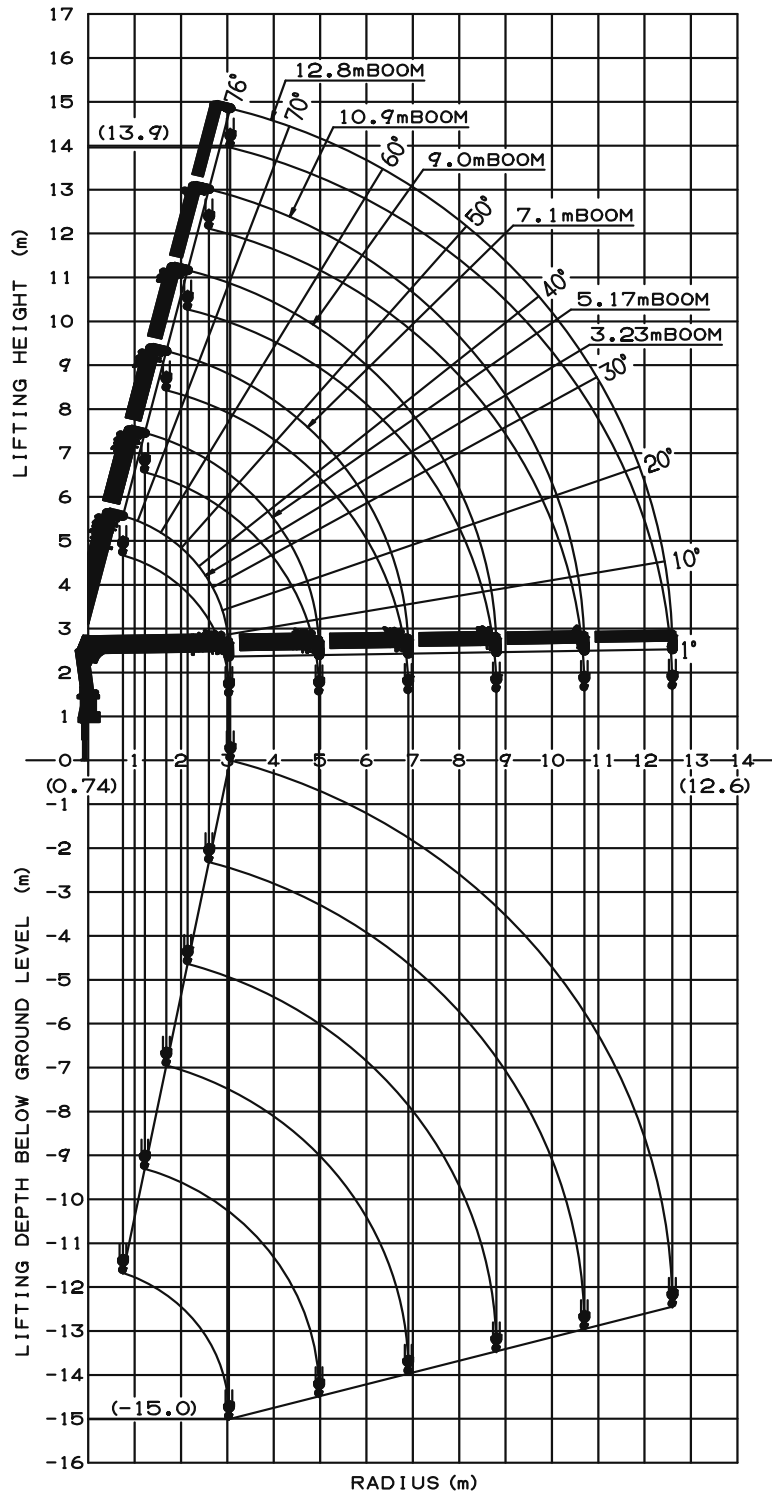
Table D

Load Radius	3.23 m / 5.17 m Boom		Load Radius	7.1 m Boom Extension width of outriggers	Load Radius	9.0 m Boom Extension width of outriggers	Load Radius	10.9 m Boom Extension width of outriggers	Load Radius	12.8 m Boom Extension width of outriggers						
	Extension width of outriggers										Full	Full	Full	Full	Full	Full
	Full	Minimum														
1.45m and below	3,030	1,580	2.2 m and below	1,880	3.0 m and below	980	4.0 m and below	580	5.3 m and below	280						
2.0 m	2,180	1,130	2.5 m	1,680	3.5 m	900	4.5 m	530	6.0 m	250						
2.5 m	1,730	730	3.0 m	1,430	4.0 m	830	5.0 m	480	7.0 m	220						
3.0 m	1,430	530	3.5 m	1,180	5.0 m	680	6.0 m	400	8.0 m	200						
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4.0 m	1,050	280	4.5 m	880	7.0 m	480	8.0 m	280	10.0m	160						
4.5 m	900	230	5.0 m	780	8.0 m	380	9.0 m	250	11.0m	140						
4.97m	800	180	5.5 m	680	8.8 m	330	10.0 m	230	12.6m	120						
			6.0 m	600			10.7 m	210								
			6.9 m	500												

- NOTES :
1. Empty Chassis Rated Capacities in these tables depend on condition that crane is set level on firm level ground.
  2. The mass of hook block (30 kg), slings and all similarly used load handling devices must be added to the mass of load.
  3. For boom lengths not shown, use the rated lifting capacity of next longer boom.
  4. When front outriggers are extended to middle extension width, use the rated lifting capacities for outriggers are extended to minimum extension width .
  5. For boom lengths longer than 5.17m, extend front outriggers and rear outriggers to full extension width.
  6. When the boom length is 9.0 m, a half of the first  $\square$  mark on lateral face of the 4th boom section is exposed out of the 3rd boom section.
  7. When the boom length is 10.9 m, a half of the second  $\square$  mark on lateral face of the 4th boom section is exposed out of the 3rd boom section.
  8. Empty Chassis Rated Capacities table C and D depend on the types of chassis.
  9. Empty Chassis Rated Capacities are shown for over-side areas and over-rear area. These capacities for over-front area may be lowered depending on the types of chassis.



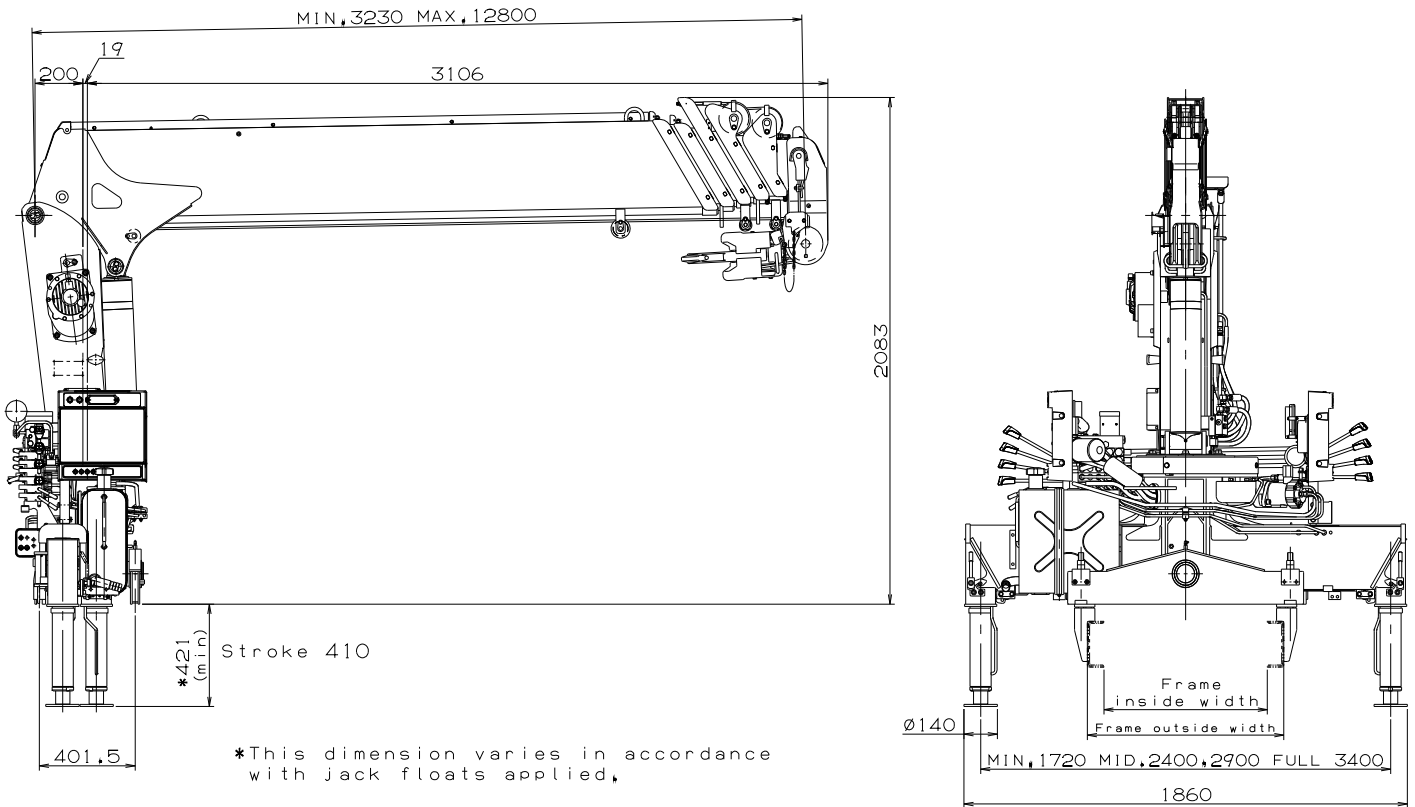
### WORKING RANGE



**NOTE:**

The above lifting heights and boom angles are based on a straight (unladen) boom, and allowance should be made for boom deflection obtained under laden conditions.

## DIMENSIONS



## GENERAL DATA FOR SUITABLE TRUCKS

- Gross vehicle mass (including crane mass) ----- 4,500 to 8,000 kg
  - P.T.O. torque -----140 N-m{14.3 kgf-m} min.
  - P.T.O. revolution ----- Approx. 300 to 1,700 min<sup>-1</sup>{rpm}
  - Width for crane mounting ----- Approx. 605 mm min.
  - Frame ----- Weight distribution and frame strength should be calculated for each truck
  - Frame width range (inside to outside) ----- Approx. 680 to 860 mm
  - Frame height (ground to frame top) ----- Approx. 1,010 mm max.
- (Height of crane mounting base can be changed by combination of jack floats and crane bases)