

## TADANO CARGO CRANE

MODEL : **TM-ZE306** series

MODEL	SPEC.	SPEC. No.
TM-ZE306HRS	Hook-in Radio controller Safety device (AML : Rated capacity indicator/limiter)	TM-30Z-6-03017
TM-ZE306HRS	Hook in Radio controller Safety device (AML : Rated capacity indicator)	TM-30Z-6-03027

Specifications are subject to change without notice.

## CRANE SPECIFICATIONS

### CRANE CAPACITY

3,030 kg at 2.4 m (4-part lines)

### BOOM

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

Fully retracted length ----- 3.65 m

Fully extended length ----- 14.6 m

Extending speed ----- 10.95 m in 19 s

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

Raising speed ----- 1° to 78° in 7.5 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 ----- 76 m/min (at 4th layer)

Wire rope

Diameter x length ----- 8 mm x 85 m

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

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

Hook block ----- 2 sheaves

### HOOK BLOCK STOWING DEVICE

Hook-in (Mechanically stowed beneath boom top portion)

### SLEWING

Hydraulic motor driven Worm gear speed reduction  
Continuous 360° full circle slewing on ball bearing slew ring  
Automatic slewing lock

Slewing speed ----- 2.5 min<sup>-1</sup> {rpm}

OUTRIGGERS

Manually operated beams and hydraulically operated jacks

Integral with crane frame

Extension width ----- Min. 2,000 mm center to center  
(2,150 mm outer to outer)Mid. 2,700 mm center to center  
(2,850 mm outer to outer)Max. 3,400 mm center to center  
(3,550 mm outer to outer)REAR OUTRIGGERS (Locally provided)HYDRAULIC SYSTEM

Hydraulic pump ----- Single gear pump

Hydraulic motors ----- Axial piston type for winch

Axial piston type for slewing

Control valves ----- Multiple control valves with integral  
safety valve

Oil tank capacity ----- Approx. 43.0 L

RADIO CONTROLLER

Model : RCS-F (with colored display)

Control functions of telescoping, hoisting up and down, elevating,  
slewing, acceleration, Hook-in, Hook-out, horn, stop operation  
outrigger operation and working height limit.

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. 670 g (includes batteries)

SAFETY DEVICES

Anti-two-block-device  
 AML (Automatic Moment Limiter)  
   Load indication  
   Load moment ratio indication  
   Warning alarm  
   Rated capacity indicator/limiter or Rated capacity indicator  
   Limit warning lamp  
   Outrigger length detector  
   Outrigger asymmetric extension width control  
 Limit warning lamp(three-color)  
 WHL (Working Height Limiter)  
 Boom angle indicator  
 Load indicator  
 Load meter  
 Over-unwinding prevention  
 Hook safety latch  
 Spirit level  
 Jack interlock  
 Boom/outrigger stowing reminder alarm  
 Emergency stop switch  
 Stop switch on radio controller  
 Hydraulic safety valves, check valves and holding valves

OPTIONAL EQUIPMENT

Emergency hydraulic pump  
 Outrigger pads  
 Oil cooler  
 Tilttable jack float  
 Rear outriggers (outrigger beam extension type)

CRANE MASS

Approx. 1,360 kg  
 (Except crane options and mounting parts.)

NOTE : Each operating speeds show the value when there is no load conditions and the pump delivery is the following conditions.

- 36 L/min (Slewing speed)
- 60 L/min (BOOM : Extending speed, Raising speed   WINCH : Single line speed)

**RATED LIFTING CAPACITIES (kg)**

Table A

LOAD RADIUS	3.65 m / 5.87 m BOOM			LOAD RADIUS	8.07 m BOOM	
	CRANE STRENGTH	EMPTY CHASSIS			CRANE STRENGTH	EMPTY CHASSIS
		extension width of outriggers				extension width of outriggers
		MAX.	MIN.		MAX.	
2.4 m and below	3,030	3,030	1,330	2.7 m and below	2,330	2,330
2.5 m	2,830	2,780	1,230	3.0 m	2,200	2,080
3.0 m	2,380	2,180	880	3.5 m	1,930	1,680
3.5 m	1,980	1,730	680	4.0 m	1,700	1,350
4.0 m	1,700	1,350	530	4.5 m	1,480	1,080
4.5 m	1,480	1,080	430	5.0 m	1,300	880
5.0 m	1,300	880	330	5.5 m	1,150	700
5.67 m	1,100	680	250	6.0 m	1,030	580
				6.5 m	930	500
				7.0 m	830	430
				7.87 m	700	350

LOAD RADIUS	10.25 m BOOM		LOAD RADIUS	12.4 m BOOM		LOAD RADIUS	14.6 m BOOM	
	CRANE STRENGTH	EMPTY CHASSIS		CRANE STRENGTH	EMPTY CHASSIS		CRANE STRENGTH	EMPTY CHASSIS
		extension width of outriggers			extension width of outriggers			extension width of outriggers
		MAX.			MAX.			MAX.
4.0 m and below	1,130	1,130	5.0 m and below	880	830	4.9 m and below	430	430
5.0 m	1,050	830	6.0 m	730	580	6.0 m	380	380
6.0 m	880	580	7.0 m	630	430	7.0 m	330	330
7.0 m	750	430	8.0 m	530	330	8.0 m	300	280
8.0 m	650	330	9.0 m	480	280	9.0 m	280	250
9.0 m	600	280	10.0 m	400	220	10.0 m	260	220
10.05 m	500	230	11.0 m	380	180	11.0 m	240	180
			12.2 m	330	150	12.0 m	220	150
						13.0 m	200	130
						14.4 m	180	100

Table C

LOAD RADIUS	3.65 m / 5.87 m BOOM			LOAD RADIUS	8.07 m BOOM	
	CRANE STRENGTH	EMPTY CHASSIS			CRANE STRENGTH	EMPTY CHASSIS
		extension width of outriggers				
		MAX.	MIN.			
2.4 m and below	3,030	3,030	1,580	2.7 m and below	2,330	2,330
2.5 m	2,830	2,830	1,480	3.0 m	2,200	2,130
3.0 m	2,380	2,380	1,050	3.5 m	1,930	1,830
3.5 m	1,980	1,980	780	4.0 m	1,700	1,530
4.0 m	1,700	1,650	600	4.5 m	1,480	1,280
4.5 m	1,480	1,380	480	5.0 m	1,300	1,080
5.0 m	1,300	1,130	380	5.5 m	1,150	930
5.67 m	1,100	930	280	6.0 m	1,030	800
				6.5 m	930	700
				7.0 m	830	630
				7.87 m	700	530

LOAD RADIUS	10.25 m BOOM		LOAD RADIUS	12.4 m BOOM		LOAD RADIUS	14.6 m BOOM	
	CRANE STRENGTH	EMPTY CHASSIS		CRANE STRENGTH	EMPTY CHASSIS		CRANE STRENGTH	EMPTY CHASSIS
		extension width of outriggers			extension width of outriggers			extension width of outriggers
		MAX.			MAX.			MAX.
4.0 m and below	1,130	1,130	5.0 m and below	880	880	4.9 m and below	430	430
5.0 m	1,050	930	6.0 m	730	730	6.0 m	380	380
6.0 m	880	780	7.0 m	630	580	7.0 m	330	330
7.0 m	750	630	8.0 m	530	480	8.0 m	300	300
8.0 m	650	480	9.0 m	480	380	9.0 m	280	280
9.0 m	600	400	10.0 m	400	300	10.0 m	260	260
10.05 m	500	330	11.0 m	380	250	11.0 m	240	240
			12.2 m	330	230	12.0 m	220	220
						13.0 m	200	200
						14.4 m	180	180

Table D

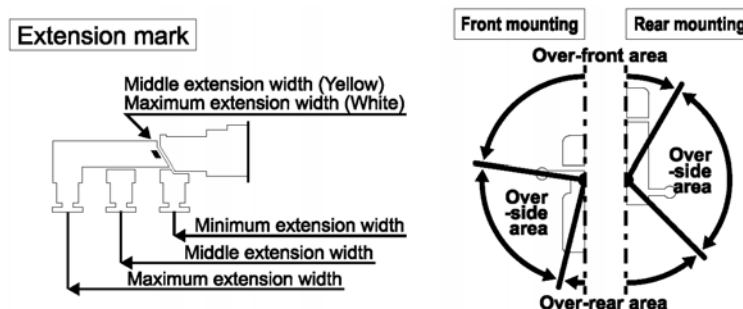
LOAD RADIUS	3.65 m / 5.87 m BOOM			LOAD RADIUS	8.07 m BOOM	
	CRANE STRENGTH	EMPTY CHASSIS			CRANE STRENGTH	EMPTY CHASSIS
		extension width of outriggers				
		MAX.	MIN.			
2.4 m and below	3,030	3,030	1,580	2.7 m and below	2,330	2,330
2.5 m	2,830	2,830	1,480	3.0 m	2,200	2,200
3.0 m	2,380	2,380	1,050	3.5 m	1,930	1,930
3.5 m	1,980	1,980	780	4.0 m	1,700	1,700
4.0 m	1,700	1,700	600	4.5 m	1,480	1,480
4.5 m	1,480	1,480	480	5.0 m	1,300	1,300
5.0 m	1,300	1,300	380	5.5 m	1,150	1,150
5.67 m	1,100	1,100	280	6.0 m	1,030	1,030
				6.5 m	930	930
				7.0 m	830	830
				7.87 m	700	700

LOAD RADIUS	10.25 m BOOM		LOAD RADIUS	12.4 m BOOM		LOAD RADIUS	14.6 m BOOM										
	CRANE STRENGTH	EMPTY CHASSIS extension width of outriggers MAX.		CRANE STRENGTH	EMPTY CHASSIS extension width of outriggers MAX.		CRANE STRENGTH	EMPTY CHASSIS extension width of outriggers MAX.									
									4.0 m and below	1,130	1,130	5.0 m and below	880	880	4.9 m and below	430	430
									5.0 m	1,050	1,050	6.0 m	730	730	6.0 m	380	380
6.0 m	880	880	7.0 m	630	630	7.0 m	330	330									
7.0 m	750	750	8.0 m	530	530	8.0 m	300	300									
8.0 m	650	650	9.0 m	480	480	9.0 m	280	280									
9.0 m	600	600	10.0 m	400	400	10.0 m	260	260									
10.05 m	500	500	11.0 m	380	380	11.0 m	240	240									
			12.2 m	330	330	12.0 m	220	220									
						13.0 m	200	200									
						14.4 m	180	180									

- NOTE :
1. Rated capacity indicator issues warning with the limit warning lamp and the buzzer when the working state approaches the stability limit or the strength limit.
  2. When the AML is equipped with the rated capacity limiter, an operation stops automatically if the rated lifting capacity is exceeded.
  3. When the crane is front mounted, set up the front and rear outriggers so that the front and rear wheels are slightly in contact with the ground. (If tire deformation is large, AML may activate earlier.)
  4. Empty Chassis Rated Capacities in these tables depend on condition that crane is set level on firm level ground.
  5. This value includes the mass of lifting devices such as hook block (30kg).
  6. When the front outriggers are extended to the middle width, read the capacities rated for the minimum extension width.
  7. This load radius shows actual load radius which includes boom deflection.
  8. Rated lifting capacity is in consideration of the loading on the truck bed, and is within the range from the empty chassis rated lifting capacity to the crane strength rated lifting capacity.
  9. If the boom length exceeds the table value even a little, the performance is limited to the performance of the next boom length.
  10. When the boom length is 10.25 m, a half of the first  $\sphericalangle$  mark on lateral face of the 4th boom section is exposed out of 3rd boom section.
  11. When the boom length is 12.4 m, a half of the second  $\sphericalangle$  mark on lateral face of the 4th boom section is exposed out of 3rd boom section.
  12. Empty chassis rated lifting capacity varies according to the working area.
    - Front mounting <over-side, over-rear area> : 100%  
 <over-front area> : 25% (\*1) or 60% (\*1) or 100% (\*1)
    - Rear mounting <over-front, over-rear area> : 100%  
 <over-side area> : 30%
  - \*1 : Depend on the types of chassis.
  13. Empty Chassis Rated Capacities table A, C and D depend on the types of chassis. (The following table shows guidelines for bodywork vehicles that can achieve the rated lifting capacity table A and C for vehicles. Be sure to carry out a stability inspection to determine which performance to apply.)

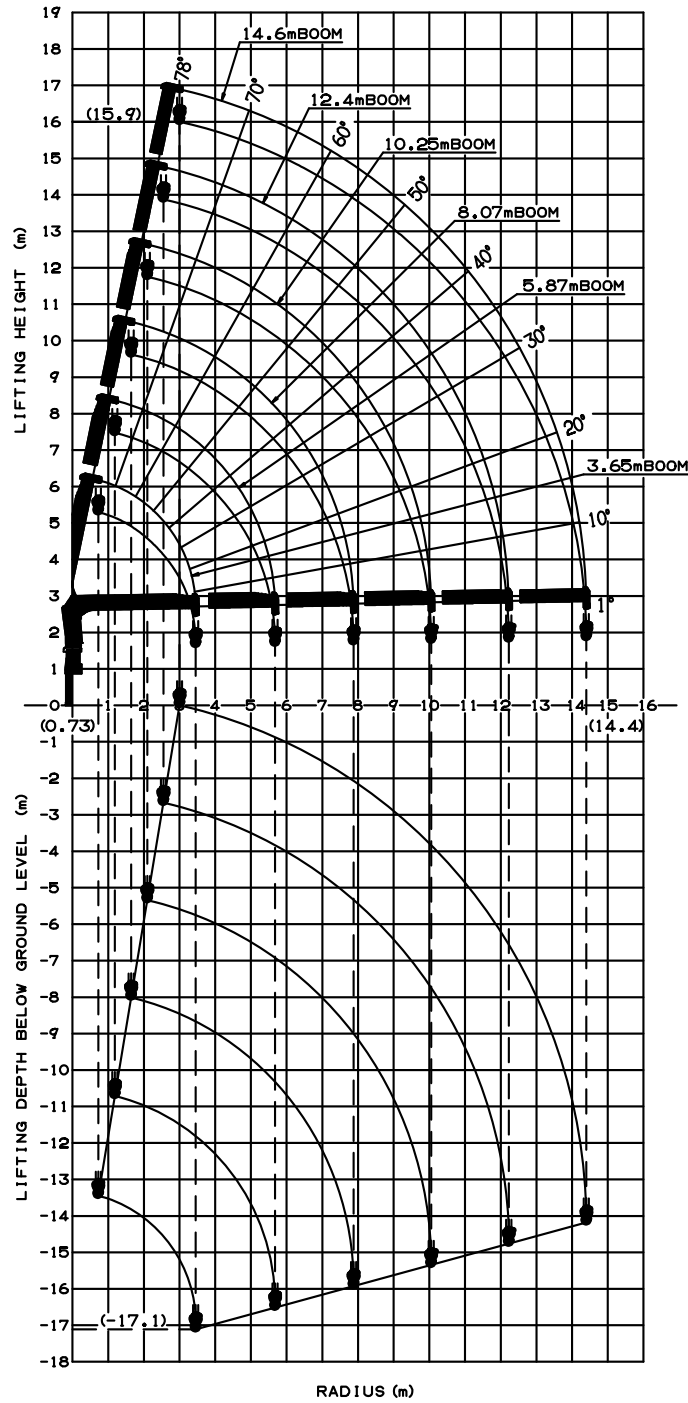
A	8.0 t ≤ GVW < 14.5 t (Must be set up the rear outrigger.)
C	11.0 t ≤ GVW < 14.5 t, 4200 mm ≤ WB (*2) (Must be set up the rear outrigger.)

\*2 : From the front axle to the farthest rear axle.



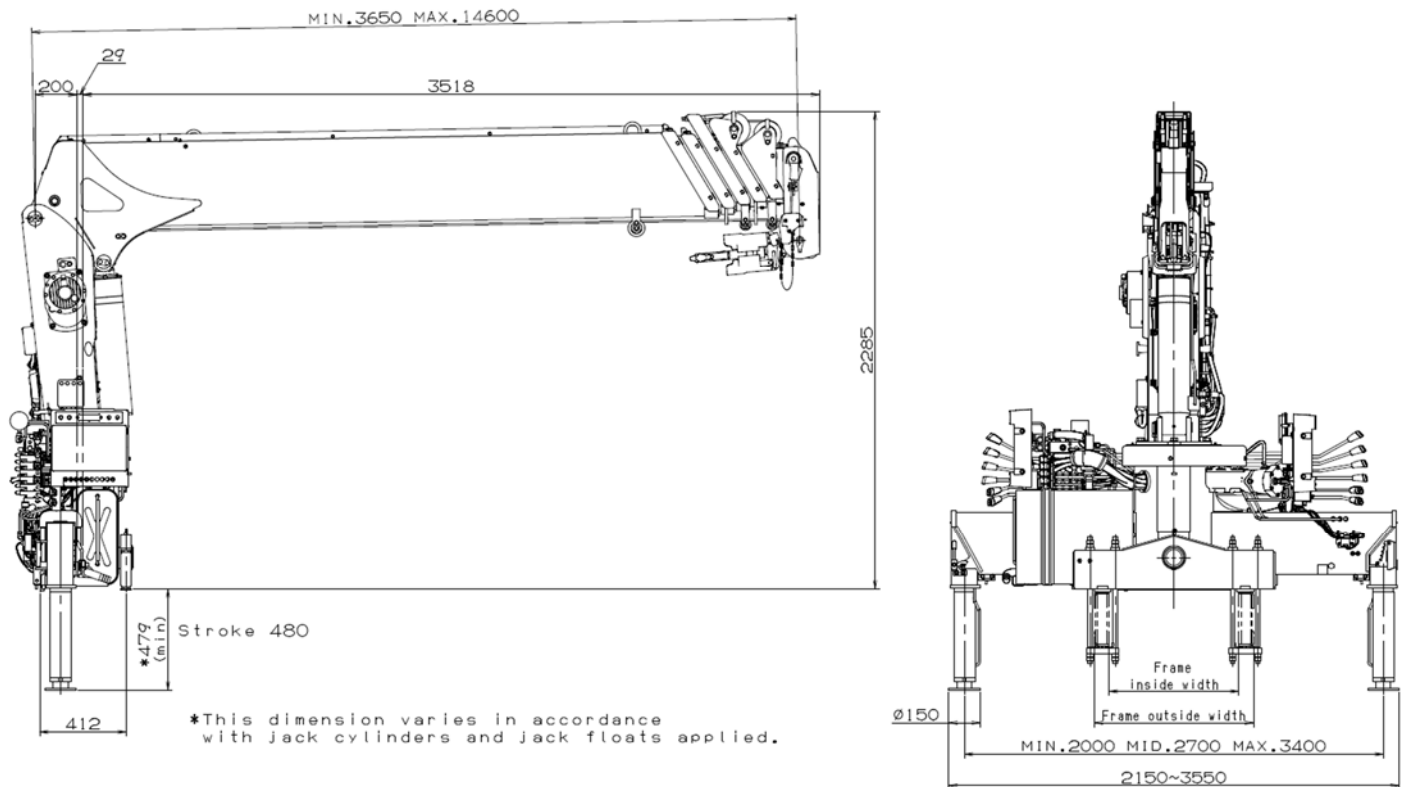


### WORKING RANGE



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 weight	8,000 to 14,500 kg
P.T.O. torque	190 N·m {19.4 kgf·m} min.
P.T.O. revolution range of use (min. to max.)	Approx. 350 to 1,300 min <sup>-1</sup> {rpm}
Width for crane mounting	Approx. 640 mm min.
Frame	Weight distribution and frame strength should be calculated for each truck
Frame width range (inside to outside)	Approx. 610 to 860 mm
Frame height (ground to chassis frame top) (*1)	Approx. 655 to 785 mm
Chassis frame section modulus (*2)	238 cm <sup>3</sup> min.

\*1 Height of crane mounting surface is changed by crane bases.

\*2 The chassis frame material must meet the following conditions at the crane mounting location.

—Yield point : 392 N/mm<sup>2</sup>

—Tensile strength : 540 N/mm<sup>2</sup>