

## TADANO CARGO CRANE

MODEL : **TM-ZE305MH**

## CRANE SPECIFICATIONS

CRANE CAPACITY

3,030 kg at 2.3 m (4-part lines)

BOOM

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

Fully retracted length ----- 3.52 m

Fully extended length ----- 12.3 m

Extending speed ----- 8.78 m in 18 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 74 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)HYDRAULIC SYSTEM

Hydraulic pump ----- Single gear pump

Hydraulic motors ----- Axial piston type for winch  
Axial piston type for slewingControl valves ----- Multiple control valves with integral  
safety valve

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

SAFETY DEVICES

Anti-two-block device

Boom angle indicator

Load indicator

Load meter

Hook safety latch

Spirit level

Hydraulic safety valves, check valves and holding valves

OPTIONAL EQUIPMENT

Emergency hydraulic pump

Outrigger pads

Oil cooler

Rear outriggers (outrigger beam extension type)

CRANE MASS

Approx. 1,290 kg

(Except crane options and munting 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)

### Crane Strength Rated Capacities

LOAD RADIUS	3.52 m / 5.75 m BOOM	LOAD RADIUS	7.95 m BOOM	LOAD RADIUS	10.1 m BOOM	LOAD RADIUS	12.3 m BOOM
2.3 m and below	3,030	2.7 m and below	2,330	4.0 m and below	1,030	4.5 m and below	760
2.5 m	2,830	3.0 m	2,130	5.0 m	880	5.0 m	700
3.0 m	2,430	3.5 m	1,830	6.0 m	730	6.0 m	580
3.5 m	2,030	4.0 m	1,630	7.0 m	630	7.0 m	500
4.0 m	1,730	4.5 m	1,480	8.0 m	580	8.0 m	430
4.5 m	1,480	5.0 m	1,330	9.0 m	510	9.0 m	380
5.0 m	1,330	5.5 m	1,150	9.92 m	480	10.0 m	330
5.55 m	1,150	6.0 m	1,050			11.0 m	300
		6.5 m	950			12.1 m	280
		7.0 m	850				
		7.75 m	730				

- NOTE :
1. 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.
  2. This value includes the mass of lifting devices such as hook block (30kg).
  3. This load radius shows actual load radius which includes boom deflection.
  4. If the boom length exceeds the table value even a little, the performance is limited to the performance of the next boom length.
  5. When the boom length is 10.1 m, a half of the  mark on lateral face of the 4th boom section is exposed out of 3rd boom section.

## Empty Chassis Rated Capacities

Table A

LOAD RADIUS	3.52 m / 5.75 m BOOM		LOAD RADIUS	7.95 m BOOM	LOAD RADIUS	10.1 m BOOM	LOAD RADIUS	12.3 m BOOM
	extension width of outriggers			extension width of outriggers		extension width of outriggers		extension width of outriggers
	MAX.	MIN.		MAX.		MAX.		MAX.
2.3 m and below	3,030	1,280	2.7 m and below	2,230	4.0 m and below	1,030	4.5 m and below	760
2.5 m	2,780	1,180	3.0 m	1,850	5.0 m	650	5.0 m	630
3.0 m	1,880	780	3.5 m	1,330	6.0 m	480	6.0 m	480
3.5 m	1,330	630	4.0 m	1,030	7.0 m	380	7.0 m	380
4.0 m	1,030	480	4.5 m	830	8.0 m	300	8.0 m	300
4.5 m	830	380	5.0 m	680	9.0 m	230	9.0 m	230
5.0 m	680	330	5.5 m	580	9.92 m	200	10.0 m	200
5.55 m	580	280	6.0 m	480			11.0 m	180
			6.5 m	430			12.1 m	130
			7.0 m	380				
			7.75 m	330				

Table C

LOAD RADIUS	3.52 m / 5.75 m BOOM		LOAD RADIUS	7.95 m BOOM	LOAD RADIUS	10.1 m BOOM	LOAD RADIUS	12.3 m BOOM
	extension width of outriggers			extension width of outriggers		extension width of outriggers		extension width of outriggers
	MAX.	MIN.		MAX.		MAX.		MAX.
2.3 m and below	3,030	1,380	2.7 m and below	2,230	4.0 m and below	1,030	4.5 m and below	760
2.5 m	2,780	1,230	3.0 m	2,030	5.0 m	780	5.0 m	630
3.0 m	2,080	880	3.5 m	1,530	6.0 m	580	6.0 m	480
3.5 m	1,530	680	4.0 m	1,180	7.0 m	430	7.0 m	400
4.0 m	1,180	530	4.5 m	980	8.0 m	350	8.0 m	350
4.5 m	980	430	5.0 m	780	9.0 m	300	9.0 m	280
5.0 m	830	380	5.5 m	680	9.92 m	280	10.0 m	250
5.55 m	680	280	6.0 m	580			11.0 m	230
			6.5 m	480			12.1 m	200
			7.0 m	430				
			7.75 m	380				

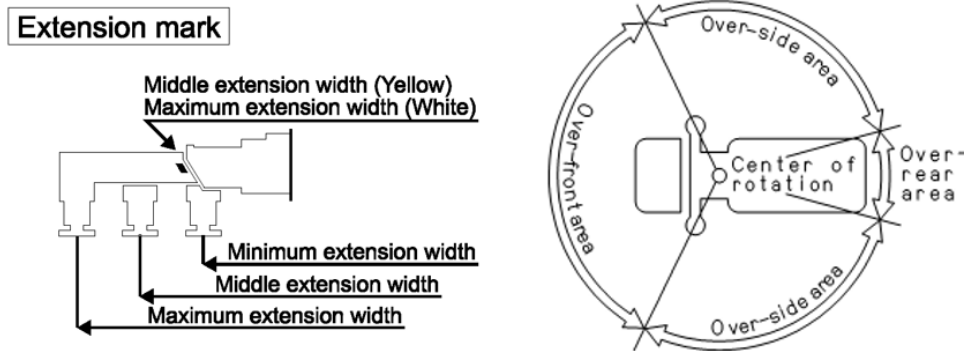
Table D

LOAD RADIUS	3.52 m / 5.75 m BOOM		LOAD RADIUS	7.95 m BOOM	LOAD RADIUS	10.1 m BOOM	LOAD RADIUS	12.3 m BOOM
	extension width of outriggers			extension width of outriggers		extension width of outriggers		extension width of outriggers
	MAX.	MIN.		MAX.		MAX.		MAX.
2.3 m and below	3,030	1,380	2.7 m and below	2,330	4.0 m and below	1,030	4.5 m and below	760
2.5 m	2,830	1,230	3.0 m	2,130	5.0 m	880	5.0 m	700
3.0 m	2,430	880	3.5 m	1,830	6.0 m	730	6.0 m	580
3.5 m	2,030	680	4.0 m	1,630	7.0 m	630	7.0 m	500
4.0 m	1,730	530	4.5 m	1,480	8.0 m	580	8.0 m	430
4.5 m	1,480	430	5.0 m	1,330	9.0 m	510	9.0 m	380
5.0 m	1,330	380	5.5 m	1,150	9.92 m	480	10.0 m	330
5.55 m	1,150	280	6.0 m	1,050			11.0 m	300
			6.5 m	950			12.1 m	280
			7.0 m	850				
			7.75 m	730				

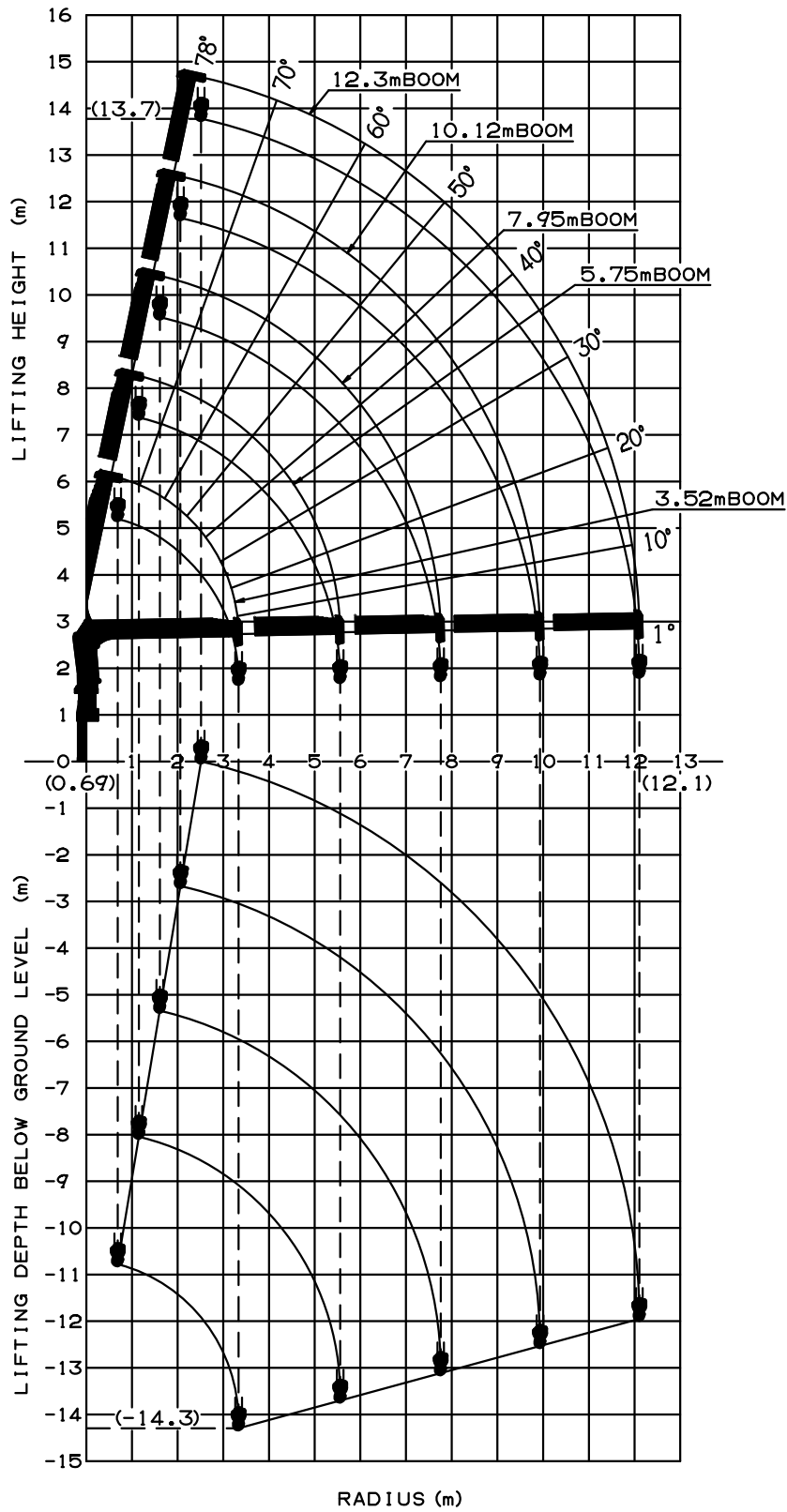
- NOTE :
1. Empty Chassis Rated Capacities in these tables depend on condition that crane is set level on firm level ground.
  2. This value includes the mass of lifting devices such as hook block (30kg).
  3. When the outriggers are extended to the middle width, read the capacities rated for the minimum extension width.
  4. This load radius shows actual load radius which includes boom deflection.
  5. If the boom length exceeds the table value even a little, the performance is limited to the performance of the next boom length.
  6. When the boom length is 10.1 m, a half of the  $\sphericalangle$  mark on lateral face of the 4th boom section is exposed out of 3rd boom section.
  7. Empty chassis rated lifting capacity varies according to the working area.
    - <over-side, over-rear area> : 100%
    - <over-front area> : 25%
  8. 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
C	11.0 t ≤ GVW < 14.5 t, 4200 mm ≤ WB (*1)

\*1 : From the front axle to the farthest rear axle.

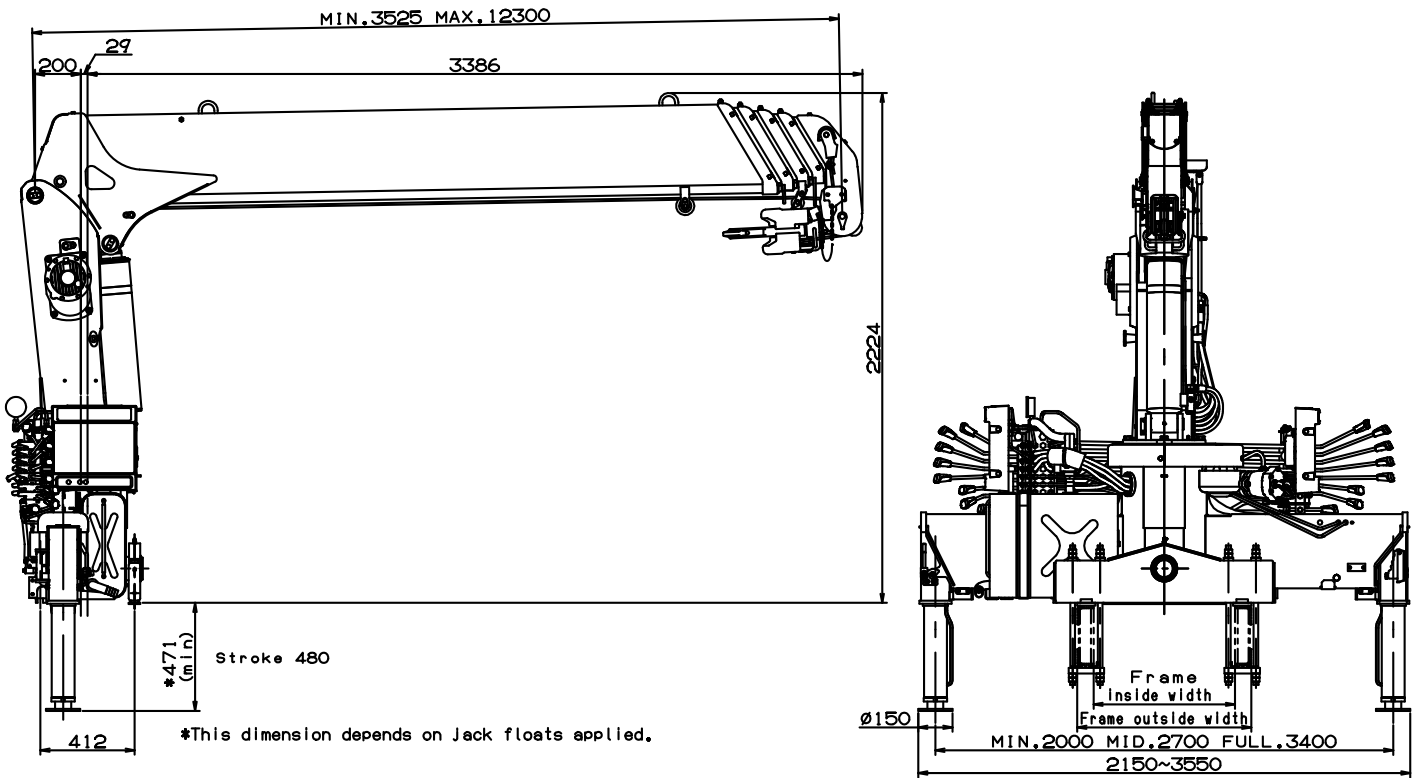


### WORKING RANGE



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. 560 to 1,060 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>