TADANO CARGO CRANE

MODEL : TM-ZE296MH

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

- Fully retracted length ---------- 3.23 m
- Fully extended length ---------- 12.8 m
- Extending speed ---------- 9.57 m in 17 s
- Elevation ---------- Elevated by a double-acting hydraulic cylinder
- Raising speed ---------- 1° to 76° in 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 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^{-1} {rpm}

Specifications are subject to change without notice.

OUTRIGGERS Manually operated beams and hydraulically operated jacks
Integral with crane frame
Extension width ---------- Min. 1,720 mm center to center
(1,860 mm outer to outer)
Mid. 2,400 mm center to center
(2,540 mm outer to outer)
Mid. 2,900 mm center to center
(3,040 mm outer to outer)
Max. 3,400 mm center to center
(3,540 mm outer to outer)

REAR OUTRIGGERS (Locally provided)
Minimum extension width ------- 1,750 mm or more

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. 28.7 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
Rear outriggers (outrigger beam extension type)

CRANE MASS Approx. 1,130 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.
・32 L/min (Slewing speed)
・53 L/min (BOOM：Extending speed, Raising speed　WINCH：Single line speed)

RATED LIFTING CAPACITIES (kg)

Crane Strength Rated Capacities

LOAD RADIUS	3.23 m / 5.17 m BOOM	LOAD RADIUS	7.1 m BOOM	LOAD RADIUS	9.0 m BOOM	LOAD RADIUS	10.9 m BOOM	LOAD RADIUS	12.8 m BOOM
1.45 m and below	3,030	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	2.5 m	1,680	3.5 m	900	4.5 m	530	6.0 m	250
2.5 m	1,730	3.0 m	1,430	4.0 m	830	5.0 m	480	7.0 m	220
3.0 m	1,430	3.5 m	1,180	5.0 m	680	6.0 m	400	8.0 m	200
3.5 m	1,230	4.0 m	1,030	6.0 m	580	7.0 m	330	9.0 m	180
4.0 m	1,050	4.5 m	880	7.0 m	480	8.0 m	280	10.0 m	160
4.5 m	900	5.0 m	780	8.0 m	380	9.0 m	250	11.0 m	140
4.97 m	800	5.5 m	680	8.8 m	330	10.0 m	230	12.6 m	120
		6.0 m	600			10.7 m	210		
		6.9 m	500						

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 9.0 m, a half of the first ▱ mark on lateral face of the 4th boom section is exposed out of 3rd boom section.
6. When the boom length is 10.9 m, a half of the second ▱ mark on lateral face of the 4th boom section is exposed out of 3rd boom section.

Empty Chassis Rated Capacities

Table C

LOAD RADIUS	3.23 m / 5.17 m BOOM extension width of outriggers		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
	MAX.	MIN.		MAX.		MAX.		MAX.		MAX.
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	10.0 m	140
4.5 m	830	230	5.0 m	680	8.0 m	280	9.0 m	200	11.0 m	130
4.97 m	680	180	5.5 m	580	8.8 m	230	10.0 m	180	12.6 m	100
			6.0 m	480			10.7 m	150		
			6.9 m	380						

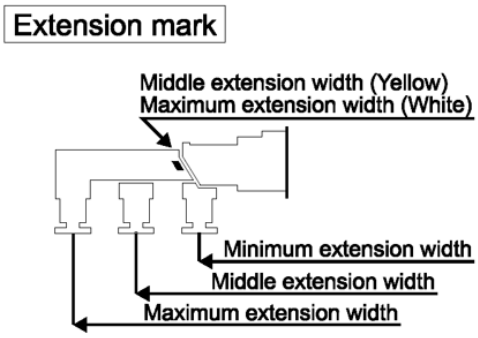
Table D

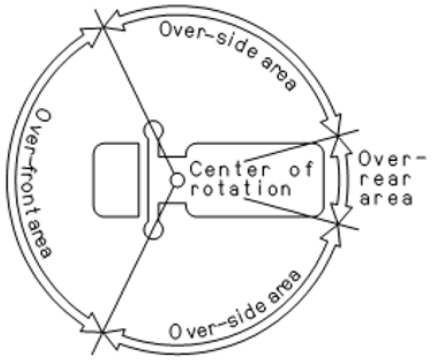
LOAD RADIUS	3.23 m / 5.17 m BOOM extension width of outriggers		LOAD RADIUS	7.1 m BOOM extension width of outriggers	LOAD RADIUS	9.0 m BOOM extension width of outriggers	LOAD RADIUS	10.9 m BOOM extension width of outriggers	LOAD RADIUS	12.8 m BOOM extension width of outriggers
	MAX.	MIN.		MAX.		MAX.		MAX.		MAX.
1.45 m 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	10.0 m	160
4.5 m	900	230	5.0 m	780	8.0 m	380	9.0 m	250	11.0 m	140
4.97 m	800	180	5.5 m	680	8.8 m	330	10.0 m	230	12.6 m	120
			6.0 m	600			10.7 m	210		
			6.9 m	500						

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 front 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 9.0 m, a half of the first ▱ mark on lateral face of the 4th boom section is exposed out of 3rd boom section.
7. When the boom length is 10.9 m, a half of the second ▱ mark on lateral face of the 4th boom section is exposed out of 3rd boom section.
8. Empty chassis rated lifting capacity varies according to the working area.
   <over-side, over-rear area> : 100%
   <over-front area> : 25%
9. Empty Chassis Rated Capacities table 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 C for vehicles. Be sure to carry out a stability inspection to determine which performance to apply.)

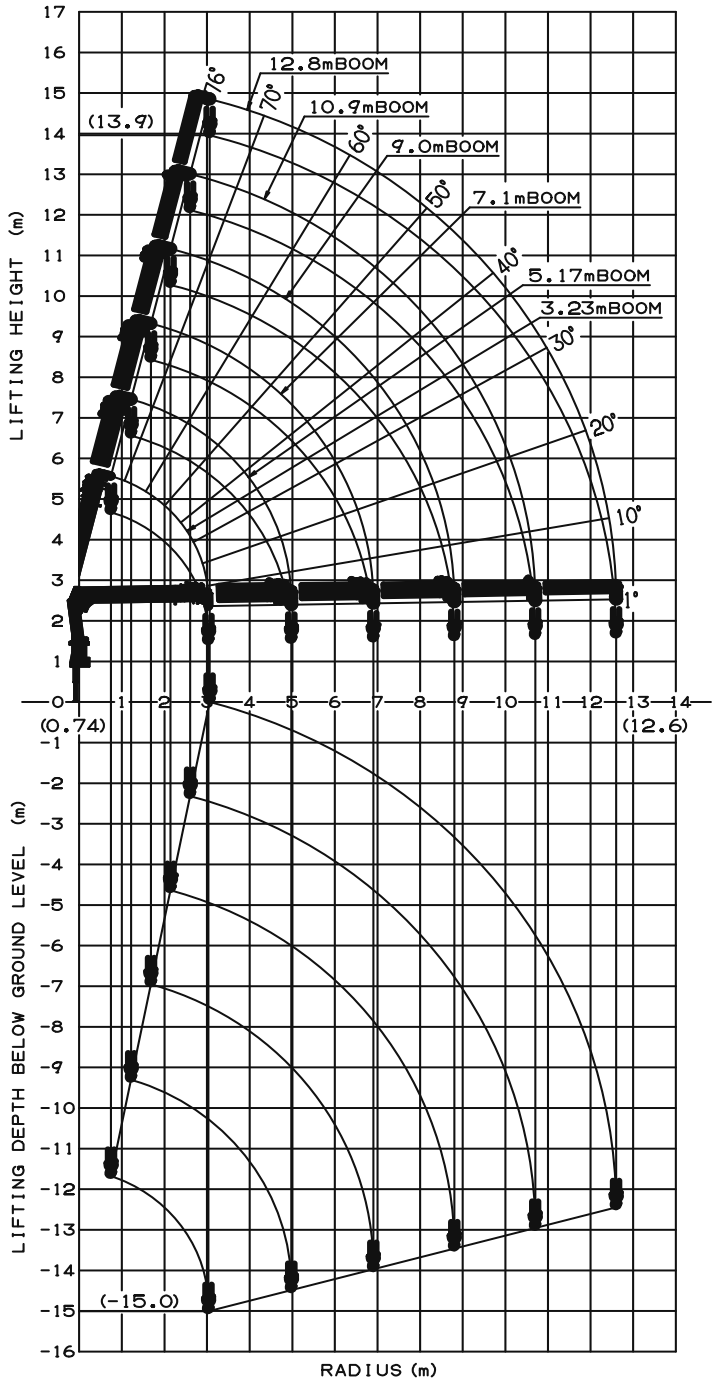
C	4.5 t ≤ GVW < 8.0 t, 3395 mm ≤ WB (*1), 1995 ≤ Vehicle width (Must be set up the rear outrigger.)

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



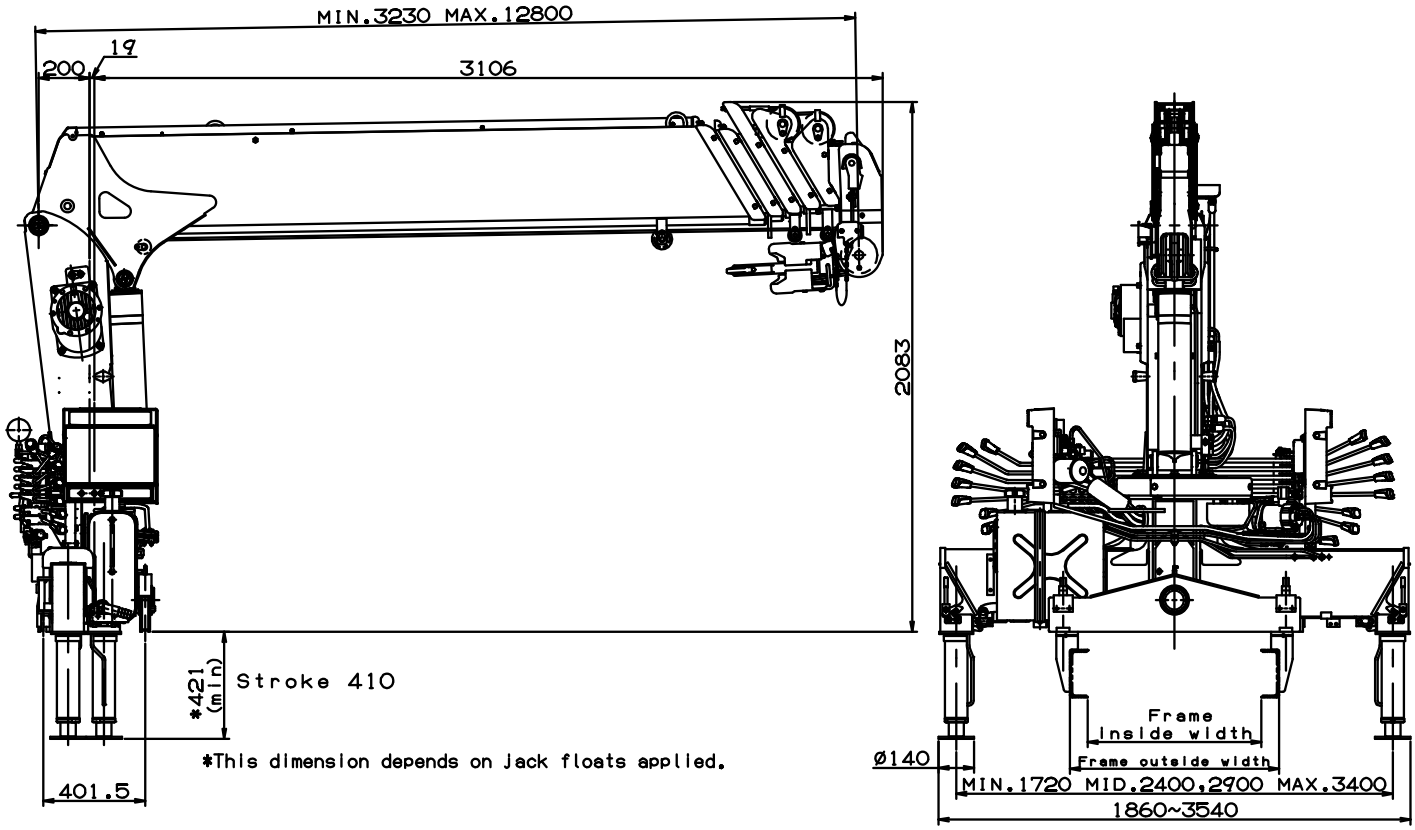


WORKING RANGE



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	4,500 to 8,000 kg
Wheel base (※1)	3,395 mm min.
P.T.O. torque	140 N·m {14.3 kgf·m} min.
P.T.O. revolution range of use (min. to max.)	Approx. 350 to 1,360 min^{-1} {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 chassis frame top) (※2)	Approx. 570 to 915 mm
Chassis frame section modulus (※3)	70 cm^3 min.

※1 From the front axle to the farthest rear axle.

※2 Height of crane mounting surface is changed by crane bases.

※3 The chassis frame material must meet the following conditions at the crane mounting location.

－Yield point：392 N/mm^2

－Tensile strength：540 N/mm^2