

TADANO CARGO CRANE

MODEL : **TM-ZE293MH**

CRANE SPECIFICATIONS

CRANE CAPACITY

3,030 kg at 1.5 m (4-part lines)

BOOM

Three-sectioned, fully hydraulic telescoping boom of pentagonal box construction

Fully retracted length ----- 2.85 m

Fully extended length ----- 6.6 m

Extending speed ----- 3.75 m in 10.5 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

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 45 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}

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)

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. 870 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	2.85 m / 4.74 m BOOM	LOAD RADIUS	6.6 m BOOM
1.5 m and below	3,030	2.2 m and below	1,880
2.0 m	2,330	2.5 m	1,680
2.5 m	1,880	3.0 m	1,430
3.0 m	1,500	3.5 m	1,230
3.5 m	1,250	4.0 m	1,080
4.0 m	1,080	4.5 m	950
4.54m	980	5.0 m	830
		5.5 m	730
		6.0 m	650
		6.4 m	580

- 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.

Empty Chassis Rated Capacities

Table A

LOAD RADIUS	2.85 m / 4.74 m BOOM		LOAD RADIUS	6.6 m BOOM
	EMPTY CHASSIS			EMPTY CHASSIS
	extension width of outriggers			extension width of outriggers
	MAX.	MIN.		MAX.
1.5 m and below	3,030	1,580	2.2 m and below	1,880
2.0 m	2,280	980	2.5 m	1,630
2.5 m	1,730	680	3.0 m	1,230
3.0 m	1,230	480	3.5 m	930
3.5 m	930	380	4.0 m	730
4.0 m	730	330	4.5 m	580
4.54 m	630	280	5.0 m	480
			5.5 m	430
			6.0 m	380
			6.4 m	350

Table C

LOAD RADIUS	2.85 m / 4.74 m BOOM		LOAD RADIUS	6.6 m BOOM
	EMPTY CHASSIS			EMPTY CHASSIS
	extension width of outriggers			extension width of outriggers
	MAX.	MIN.		MAX.
1.5 m and below	3,030	1,580	2.2 m and below	1,880
2.0 m	2,280	980	2.5 m	1,630
2.5 m	1,830	680	3.0 m	1,330
3.0 m	1,430	480	3.5 m	1,030
3.5 m	1,080	380	4.0 m	830
4.0 m	830	330	4.5 m	680
4.54 m	730	280	5.0 m	580
			5.5 m	530
			6.0 m	480
			6.4 m	430

Table D

LOAD RADIUS	2.85 m / 4.74 m BOOM		LOAD RADIUS	6.6 m BOOM
	EMPTY CHASSIS			EMPTY CHASSIS
	extension width of outriggers			extension width of outriggers
	MAX.	MIN.		MAX.
1.5 m and below	3,030	1,580	2.2 m and below	1,880
2.0 m	2,330	980	2.5 m	1,680
2.5 m	1,880	680	3.0 m	1,430
3.0 m	1,500	480	3.5 m	1,230
3.5 m	1,250	380	4.0 m	1,080
4.0 m	1,080	330	4.5 m	950
4.54 m	980	280	5.0 m	830
			5.5 m	730
			6.0 m	650
			6.4 m	580

- 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. Empty chassis rated lifting capacity varies according to the working area.

<over-side, over-rear area> : 100%

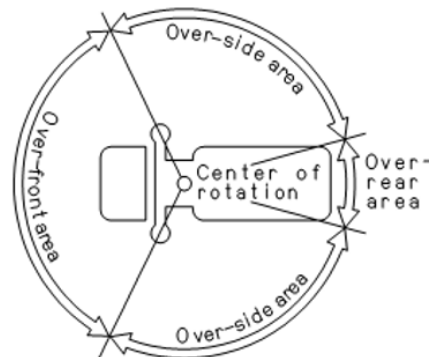
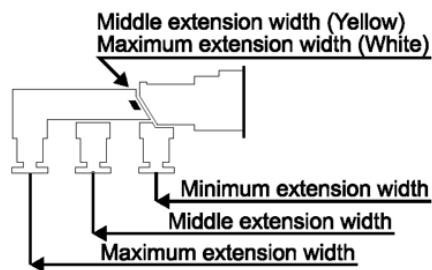
<over-front area> : 25%

7. 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 tables A and C for vehicles. Be sure to carry out a stability inspection to determine which performance to apply.)

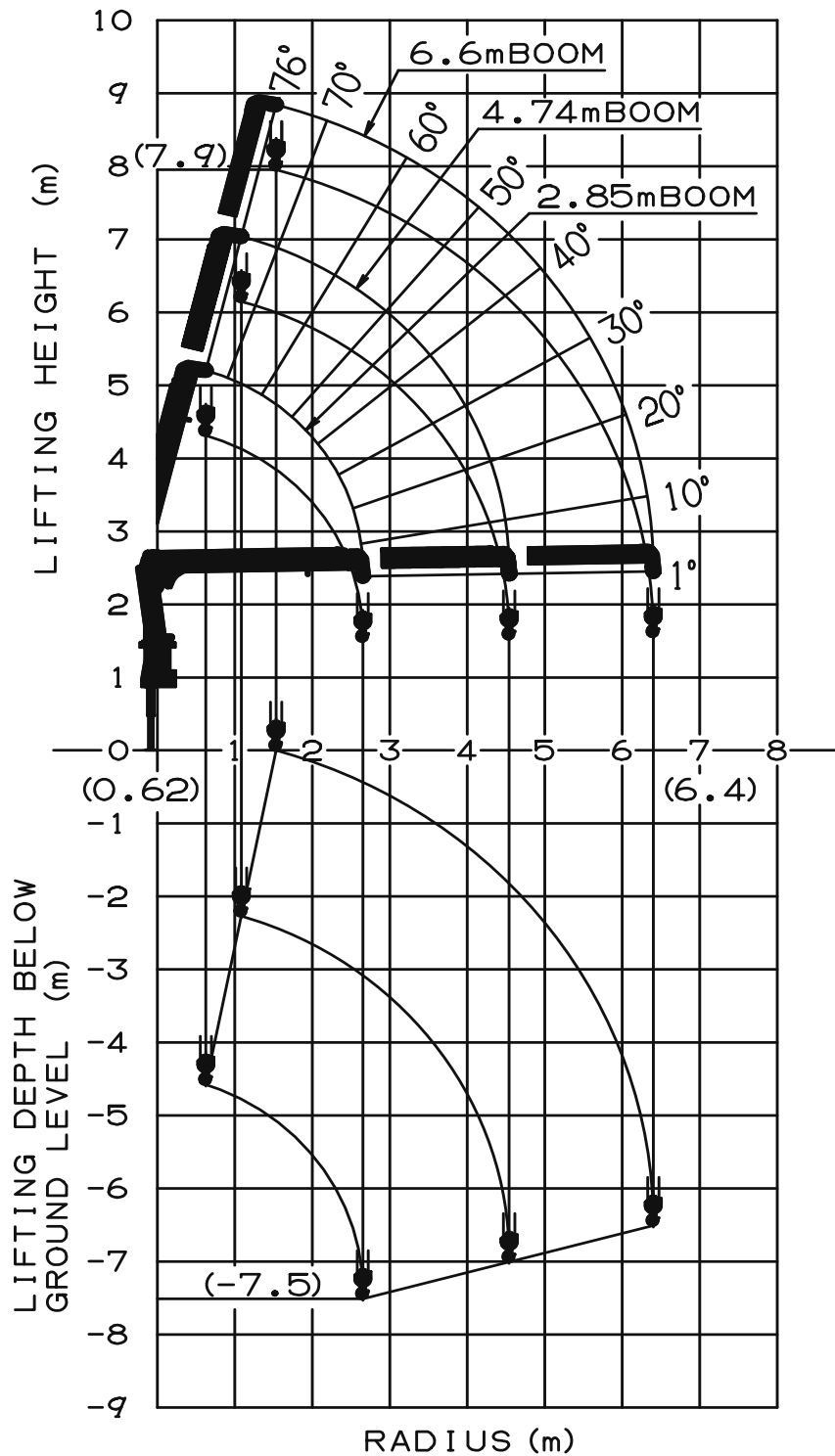
A	4.5 t ≤ GVW < 8.0 t, 2750 mm ≤ WB (*1)
C	4.5 t ≤ GVW < 8.0 t, 3395 mm ≤ WB (*1), 1995 mm ≤ Vehicle width

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

Extension mark

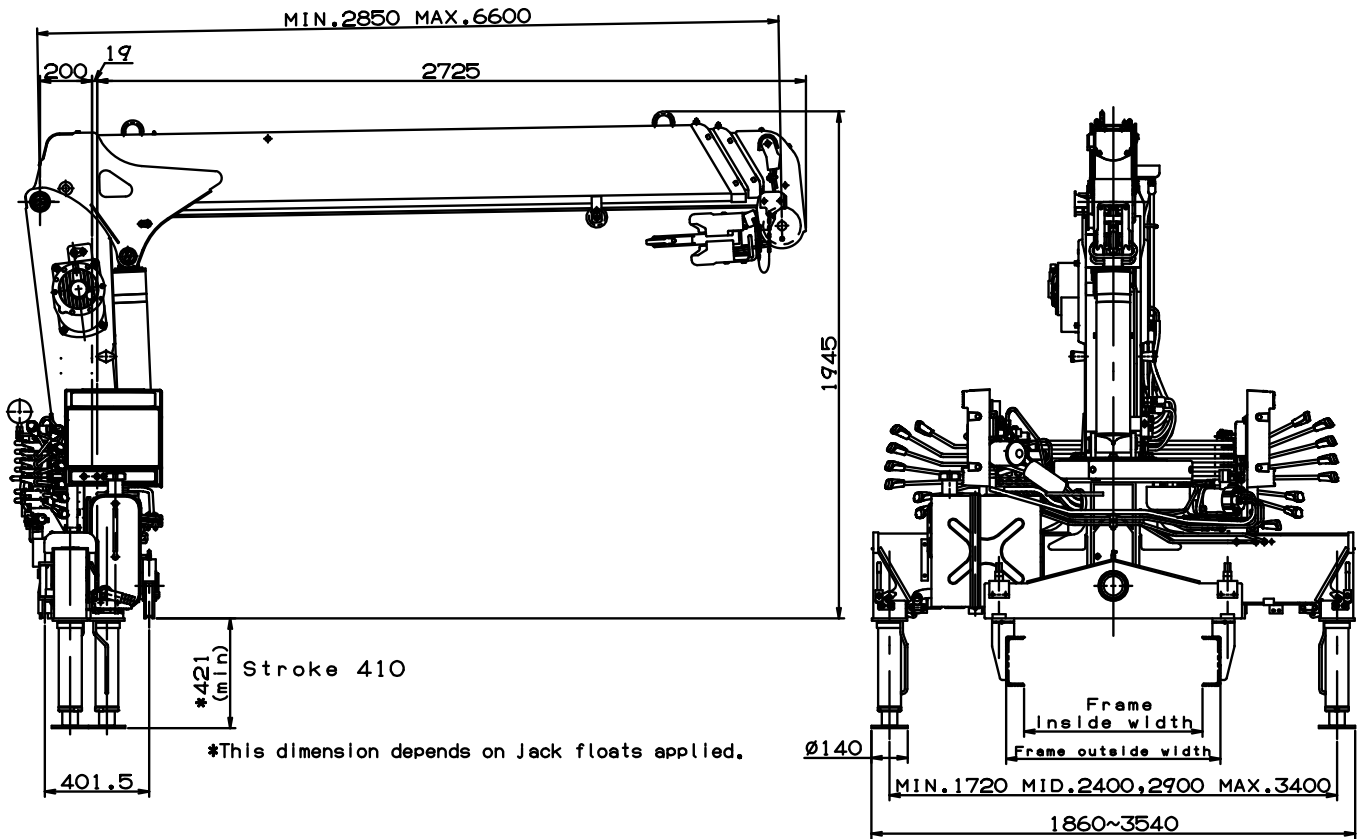


WORKING RANGE



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)	2,750 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/mm²

—Tensile strength : 540 N/mm²