

TM-ZE290MH

For Small Size Vehicles



IDEAL Cargo Crane, Tadano ZE

The ZE features all the Tadano Cargo Crane technologies that are recognized the world over.

The key development concepts remain:

EXCELLENT QUALITY, EASY OPERATION AND EASY MAINTENANCE.

The TM-ZE290MH series, with a lifting capacity of 3.03 tons, and a choice of 4 different lengths of the boom are available to meet your lifting requirements.

Centralized Control Panels

Installed on left and right side of the crane are the centralized control panels where operating switches and the lifting charts needed for crane operation are grouped together and arranged on a single panel.



Left-hand side

Right-hand side

Responding to Operator's Command

Equipped with an optimally matched, high-performance control valves, the operating levers provide improved responsiveness and fine-tuned control. Operation is fast or slow in accordance with operator's command. The stainless rods between left and right operation levers are provided as standard.

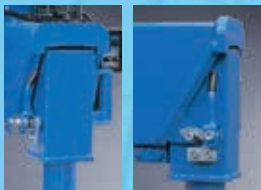


Control lever

Load meter

Quicker Work with Advanced Outrigger Mechanism

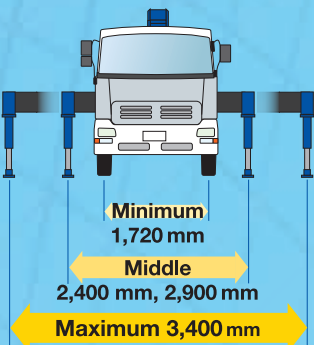
The outrigger beams can be easily operated, using a grip to lock/release and extend/retract them. The lock system prevents the outrigger beams from extending during traveling. A spirit level is provided as standard equipment.



Lock system



Spirit level



Powerful Heptagonal Boom

Tadano's unique heptagonal boom is made of high-tensile steel. The boom structure consists of a single piece of steel plate for lower boom weight and more powerful lifting capacity. Special valves enable smooth boom extension and retraction for smoother operation to reduce shock when telescoping the boom.



Hook in System

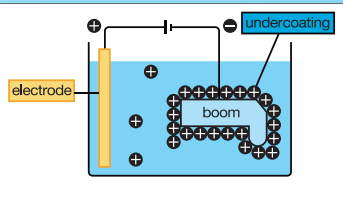
TM-ZE290 features the "Hook-In" system to further enhance work efficiency. A pull of a lever and the crane hook is stowed automatically. No more manual fixing.



Cationic Electro-Deposition Coating

The crane is undercoated by Cationic Electro-deposition method.

The parts are dipped in cationic solution, and even the narrow inner booms and frames are thoroughly undercoated.



Greater Winch

The advantages of the enlarged winch drum and plunger motor are evident during start-up when maximum power is required. Re-hoisting with a load on the hook can also be handled with ease. The winch reduction gear comes equipped with a failsafe automatic brake. From the pitch of the drum grooves to the fitting of the guide sheave, cable winding has been improved in every detail so as to prevent the cable from winding off position.



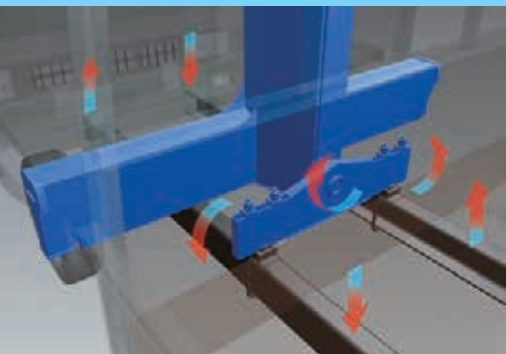
Full Circle, Continuous Slewing

The compact slewing post providing FULL CIRCLE, continuous rotation for more efficient operations. AUTOMATIC SLEWING LOCK: The boom is mechanically locked at the slewing post base which prevents boom rotation during traveling.



Three-Point Support System(Equalizer Crane Support)

Tadano's Equalizer Crane Support protects the truck frame from stress. The crane is mounted to the truck chassis with the Equalizer Crane Support that evenly distributes the load to prevent excessive stress concentration at any one point.



TM-ZE290MH series

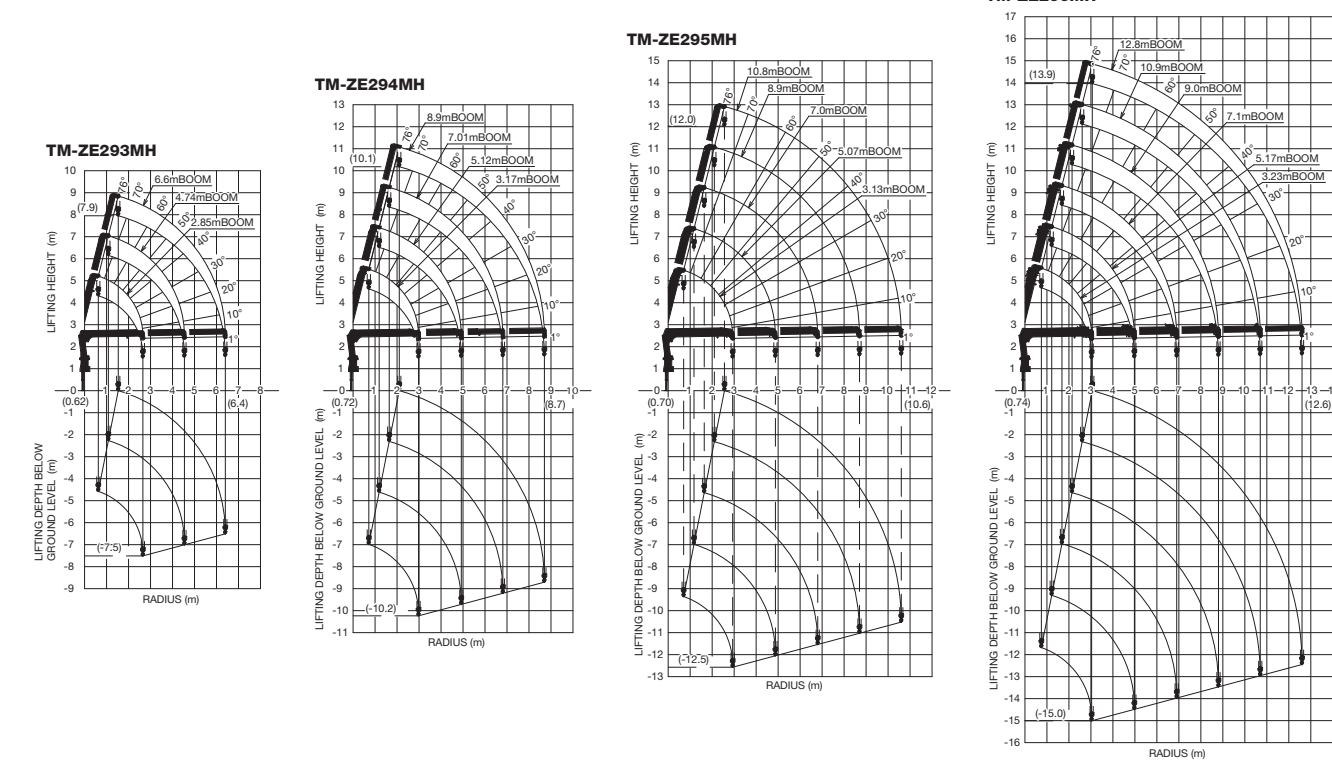
Technical Specifications

Model	TM-ZE293MH	TM-ZE294MH	TM-ZE295MH	TM-ZE296MH
CRANE CAPACITY	3,030 kg at 1.6 m (4-part lines)	3,030 kg at 1.6 m (4-part lines)	3,030 kg at 1.5 m (4-part lines)	3,030 kg at 1.5 m (4-part lines)
BOOM	Three-sectioned, fully hydraulic telescoping boom of heptagonal box construction	Four-sectioned, fully powered partly synchronized telescoping boom of heptagonal box construction	Five-sectioned, fully powered partly synchronized telescoping boom of heptagonal box construction	Six-sectioned, fully powered partly synchronized telescoping boom of heptagonal box construction
Retracted length	2.85 m	3.17 m	3.13 m	3.23 m
Extended length	6.6 m	8.9 m	10.8 m	12.8 m
Extending speed	3.75 m in 10.5 s	5.73 m in 13 s	7.67 m in 15.5 s	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 (TM-ZE295MH & 296MH: 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 45 m	8 mm x 56 m	8 mm x 66 m	8 mm x 75 m
Wire rope (Breaking strength)	43.1 kN (4.39 tf)			
Wire rope (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	Single gear pump			
Hydraulic pump	Axial piston type for winch, Axial piston type for slewing			
Hydraulic motors	Multiple control valves with integral safety valve			
Control valves	Approx. 28.7 L			
Oil tank capacity	•Anti-two-block-device •Boom angle indicator •Load indicator •Load meter			
SAFETY DEVICES	•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. 860 kg (Except crane options and mounting parts)	Approx. 970 kg (Except crane options and munting parts)	Approx. 1,060 kg (Except crane options and munting parts)	Approx. 1,120 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)

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.

Rated Lifting Capacities

Table A	Table C	Table D
TM-ZE293MH ● 2.85 m / 4.74 m Boom LOAD RADIUS (m) 1.6 ^{1st} 2.0 2.5 3.0 3.5 4.0 4.54 CRANE STRENGTH 3,030 2,330 1,880 1,500 1,250 1,080 980 EMPTY CHASSIS Extension width of outriggers MAX. 3,030 2,330 1,730 1,230 930 730 630 MIN. 1,580 980 680 480 380 330 280	TM-ZE293MH ● 2.85 m / 4.74 m Boom LOAD RADIUS (m) 1.6 ^{1st} 2.0 2.5 3.0 3.5 4.0 4.54 CRANE STRENGTH 3,030 2,330 1,880 1,500 1,250 1,080 980 EMPTY CHASSIS Extension width of outriggers MAX. 3,030 2,330 1,880 1,480 1,100 850 730 MIN. 1,580 980 680 480 380 330 280	TM-ZE293MH ● 2.85 m / 4.74 m Boom LOAD RADIUS (m) 1.6 ^{1st} 2.0 2.5 3.0 3.5 4.0 4.54 CRANE STRENGTH 3,030 2,330 1,880 1,500 1,250 1,080 980 EMPTY CHASSIS Extension width of outriggers MAX. 3,030 2,330 1,880 1,500 1,250 1,080 980 MIN. 1,580 980 680 480 380 330 280
TM-ZE294MH ● 3.17 m / 5.12 m Boom LOAD RADIUS (m) 2.2 ^{1st} 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0 6.4 CRANE STRENGTH 1,880 1,680 1,430 1,230 1,080 980 900 800 730 680 EMPTY CHASSIS Extension width of outriggers MAX. 1,880 1,680 1,430 1,230 1,080 980 900 800 730 680 MIN. 1,580 980 680 480 380 280 250 230	TM-ZE294MH ● 3.17 m / 5.12 m Boom LOAD RADIUS (m) 2.2 ^{1st} 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0 6.4 CRANE STRENGTH 1,880 1,680 1,430 1,230 1,080 980 900 800 730 680 EMPTY CHASSIS Extension width of outriggers MAX. 1,880 1,680 1,400 1,100 850 700 600 530 480 430 MIN. 1,580 980 680 480 380 300 250 230	TM-ZE294MH ● 3.17 m / 5.12 m Boom LOAD RADIUS (m) 2.2 ^{1st} 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0 6.4 CRANE STRENGTH 1,880 1,680 1,430 1,230 1,080 980 900 800 730 680 EMPTY CHASSIS Extension width of outriggers MAX. 1,880 1,680 1,430 1,230 1,080 980 900 800 730 680 MIN. 1,580 980 680 480 380 300 250 230
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TM-ZE296MH ● 9.0 m Boom LOAD RADIUS (m) 3.0 ^{1st} 3.5 4.0 5.0 6.0 7.0 8.0 8.8 CRANE STRENGTH 900 900 830 680 580 500 430 350 EMPTY CHASSIS Extension width of outriggers MAX. 900 900 800 600 480 380 280 230 MIN. 900 900 800 600 480 380 280 230	TM-ZE296MH ● 9.0 m Boom LOAD RADIUS (m) 3.0 ^{1st} 3.5 4.0 5.0 6.0 7.0 8.0 8.8 CRANE STRENGTH 900 900 830 680 580 500 430 350 EMPTY CHASSIS Extension width of outriggers MAX. 900 900 830 680 580 500 430 350 MIN. 900 900 830 680 580 500 430 350	TM-ZE296MH ● 9.0 m Boom LOAD RADIUS (m) 3.0 ^{1st} 3.5 4.0 5.0 6.0 7.0 8.0 8.8 CRANE STRENGTH 900 900 830 680 580 500 430 350 EMPTY CHASSIS Extension width of outriggers MAX. 900 900 830 680 580 500 430 350 MIN. 900 900 830 680 580 500 430 350
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Notes:

- Empty Chassis Rated Capacities in these tables depend on condition that crane is set level on firm level ground.
- This value includes the mass of lifting devices such as hook block (30kg).
- When the outriggers are extended to the middle width, read the capacities rated for the minimum extension width.
- Fully extend the front outrigger when working with a boom length exceeding the 2nd boom of length.
- This load radius shows actual load radius which includes boom deflection.
- 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 lifting capacity varies according to the working area.
 - Front mounting <cover-side, over-rear area> : 100%
 - <cover-front area> : 25%
- Empty Chassis Rated Capacities table A, C and D (*1) 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. The rated lifting capacity may not be applicable depending on vehicle specifications. Be sure to carry out a stability inspection to determine which rated lifting capacity tables to apply.)

*1: TM-ZE295 & ZE296 for C and D only

A	4.5 t ≤ GVW < 8.0 t, 2,750 mm ≤ WB (*2)
C	4.5 t ≤ GVW < 8.0 t, 3,395 mm ≤ WB (*2), 1,995 mm ≤ Vehicle width
TM-ZE296MH only	
C	4.5 t ≤ GVW < 8.0 t, 3,395 mm ≤ WB (*2), 1,995 mm ≤ Vehicle width (Must be set up the rear outrigger.)

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

Extension mark

