TADANO

SPEC. SHEET No. TM-50Z-5-03455/R-01
DATE November, 2010

TADANO CARGO CRANE

MODEL : TM-ZE505HS

CRANE SPECIFICATIONS

CRANE CAPACITY — 3,100 kg at 3.6 m (4-part line)

BOOM — Five-sectioned, fully powered partly synchronized telescoping boom of heptagonal box construction

- Retracted length --------- 3.77 m
- Extended length ----------13.34 m
- Extending speed --------- 9.57 m / 25 s
- Elevation ---------- Elevated by a double-acting hydraulic cylinder
- Elevating speed ---------- 1^{o} to 78^{o} / 12 s
- Boom point ---------- 2 sheaves

WINCH — Hydraulic motor driven Spur gear speed reduction, provided with mechanical brake and cable follower

- Single line pull ---------- 7.60 kN {775 kgf}
- Single line speed --------- 76 m/min (at 4th layer)
- Wire rope
  - Diameter x length --- 8 mm x 81 m
  - Breaking strength --- 43.1 kN {4.39 tf}
  - Construction ---------- 7 x 7 + 6 x WS(26)
- Hook block ---------- 2 sheaves

HOOK STOWING DEVICE — Mechanically stowed beneath boom top portion

Specifications are subject to change without notice.

SWING

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

Swing speed ---------- 2.5 min^{-1}{rpm}

OUTRIGGERS

Manually extended sliders and hydraulically extended jacks

Integral with crane frame Power up and down

Extended width ---------- Min. 2,200 mm

Mid. 3,000 mm

Full 3,800 mm

HYDRAULICS

Hydraulic pump ---------- Single gear pump

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

Axial piston type for swing

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

Oil tank capacity ---------- approx. 48 L

SAFETY DEVICES

AML(Automatic Moment Limiter)

Load indication

Load moment ratio to rated load indication

Warning alarm

Over load limiter

WHL(Working Height Limiter)

Load indicator

Over-unwinding prevention

Terminal for emergency stop switch

Over-winding alarm

Hoisting limiter

P.T.O. indicator lamp

Hook safety latch

Hydraulic safety valves, check valves and holding valves

Level gauge

CRANE MASS

Approx. 2,000 kg (includes standardized mounting parts)

NOTE : Operating speeds of the crane are guaranteed under the condition that the pump delivery is 60 L/min.

RATED LIFTING CAPACITIES IN KILOGRAMS

Crane Strength Rated Capacities

Load Radius	3.77 m / 6.21 m / 8.59m Boom		Load Radius	10.97 m Boom	Load Radius	13.34 m Boom
	Extension width of outriggers			Extension width of outriggers		Extension width of outriggers
	Full	Minimum		Full		Full
2.5 m and below	3,100	3,100	4.0 m and below	2,200	5.0 m and below	1,400
3.0 m	3,100	2,550	4.5 m	2,150	6.0 m	1,300
3.6 m	3,100	1,850	5.0 m	2,000	7.0 m	1,200
3.9 m	2,900	1,600	6.0 m	1,700	8.0 m	1,050
4.5 m	2,500	1,300	7.0 m	1,400	9.0 m	950
5.0 m	2,200	1,050	8.0 m	1,200	10.0 m	850
5.5 m	1,950	900	9.0 m	1,050	11.0 m	770
6.0 m	1,750	750	10.0 m	950	12.0 m	700
6.5 m	1,600	670	10.75 m	870	13.12 m	620
7.0 m	1,450	600				
7.5 m	1,350	520				
8.37 m	1,150	400				

NOTES 1. Capacities in these tables include slings and similarly used load handling devices, and they must be added to the mass of the load. They don't, however, include the mass of hook block (30kg).

2. 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.

Empty Chassis Rated Capacities

Table A

Load Radius	3.77 m / 6.21 m / 8.59m Boom		Load Radius	10.97 m Boom	Load Radius	13.34 m Boom
	Extension width of outriggers			Extension width of outriggers		Extension width of outriggers
	Full	Minimum		Full		Full
2.6 m and below	3,100	2,400	4.0 m and below	2,200	5.0 m and below	1,400
3.4 m	3,100	1,500	4.5 m	1,900	6.0 m	1,100
3.6 m	2,900	1,350	5.0 m	1,550	7.0 m	870
3.9 m	2,500	1,150	6.0 m	1,100	8.0 m	670
4.5 m	1,900	900	7.0 m	870	9.0 m	520
5.0 m	1,600	700	8.0 m	670	10.0 m	470
5.5 m	1,350	600	9.0 m	520	11.0 m	400
6.0 m	1,100	470	10.0 m	470	12.0 m	370
6.5 m	1,020	450	10.75 m	420	13.12 m	320
7.0 m	900	370				
7.5 m	800	320				
8.37 m	620	220				

Table B

Load Radius	3.77 m / 6.21 m / 8.59m Boom		Load Radius	10.97 m Boom	Load Radius	13.34 m Boom
	Extension width of outriggers			Extension width of outriggers		Extension width of outriggers
	Full	Minimum		Full		Full
2.3 m and below	3,100	3,100	4.0 m and below	2,200	5.0 m and below	1,400
3.0 m	3,100	2,250	4.5 m	2,150	6.0 m	1,300
3.6 m	3,100	1,650	5.0 m	1,900	7.0 m	1,100
3.9 m	2,900	1,400	6.0 m	1,400	8.0 m	850
4.5 m	2,400	1,100	7.0 m	1,100	9.0 m	700
5.0 m	1,950	900	8.0 m	850	10.0 m	620
5.5 m	1,650	750	9.0 m	700	11.0 m	520
6.0 m	1,400	620	10.0 m	620	12.0 m	470
6.5 m	1,300	600	10.75 m	550	13.12 m	400
7.0 m	1,100	500				
7.5 m	1,000	450				
8.37 m	800	320				

Table C

Load Radius	3.77 m / 6.21 m / 8.59m Boom		Load Radius	10.97 m Boom	Load Radius	13.34 m Boom
	Extension width of outriggers			Extension width of outriggers		Extension width of outriggers
	Full	Minimum		Full		Full
2.5 m and below	3,100	3,100	4.0 m and below	2,200	5.0 m and below	1,400
3.0 m	3,100	2,550	4.5 m	2,150	6.0 m	1,300
3.6 m	3,100	1,850	5.0 m	2,000	7.0 m	1,200
3.9 m	2,900	1,600	6.0 m	1,700	8.0 m	1,050
4.5 m	2,500	1,300	7.0 m	1,370	9.0 m	920
5.0 m	2,200	1,050	8.0 m	1,070	10.0 m	770
5.5 m	1,950	900	9.0 m	920	11.0 m	670
6.0 m	1,700	750	10.0 m	770	12.0 m	600
6.5 m	1,550	670	10.75 m	700	13.12 m	500
7.0 m	1,400	600				
7.5 m	1,220	520				
8.37 m	1,020	400				

Table D

Load Radius	3.77 m / 6.21 m / 8.59m Boom		Load Radius	10.97 m Boom	Load Radius	13.34 m Boom
	Extension width of outriggers			Extension width of outriggers		Extension width of outriggers
	Full	Minimum		Full		Full
2.5 m and below	3,100	3,100	4.0 m and below	2,200	5.0 m and below	1,400
3.0 m	3,100	2,550	4.5 m	2,150	6.0 m	1,300
3.6 m	3,100	1,850	5.0 m	2,000	7.0 m	1,200
3.9 m	2,900	1,600	6.0 m	1,700	8.0 m	1,050
4.5 m	2,500	1,300	7.0 m	1,400	9.0 m	950
5.0 m	2,200	1,050	8.0 m	1,200	10.0 m	850
5.5 m	1,950	900	9.0 m	1,050	11.0 m	770
6.0 m	1,750	750	10.0 m	950	12.0 m	700
6.5 m	1,600	670	10.75 m	870	13.12 m	620
7.0 m	1,450	600				
7.5 m	1,350	520				
8.37 m	1,150	400				

NOTES : 1. Empty Chassis Rated Capacities in these tables depend on condition that crane is set level on firm level ground.

2. Capacities in these tables include slings and similarly used load handling devices, and they must be added to the mass of the load. They don't , however, include the mass of hook block (30kg).

3. For boom lengths not shown, use the rated lifting capacity of next longer boom.

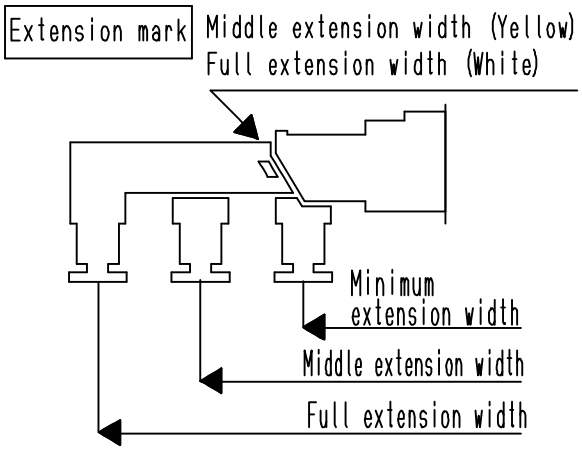
4. When outriggers are extended to middle extension width, use the rated lifting capacities for outriggers are extended to minimum extension width.

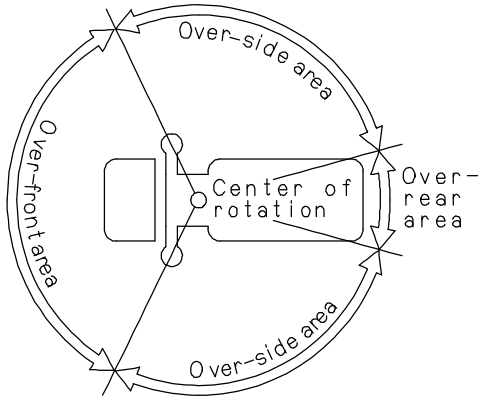
5. For boom lengths longer than 8.59m, extend outriggers to maximum.

6. 10.97m boom means ▱ mark on 4th boom section side plate is half seen.

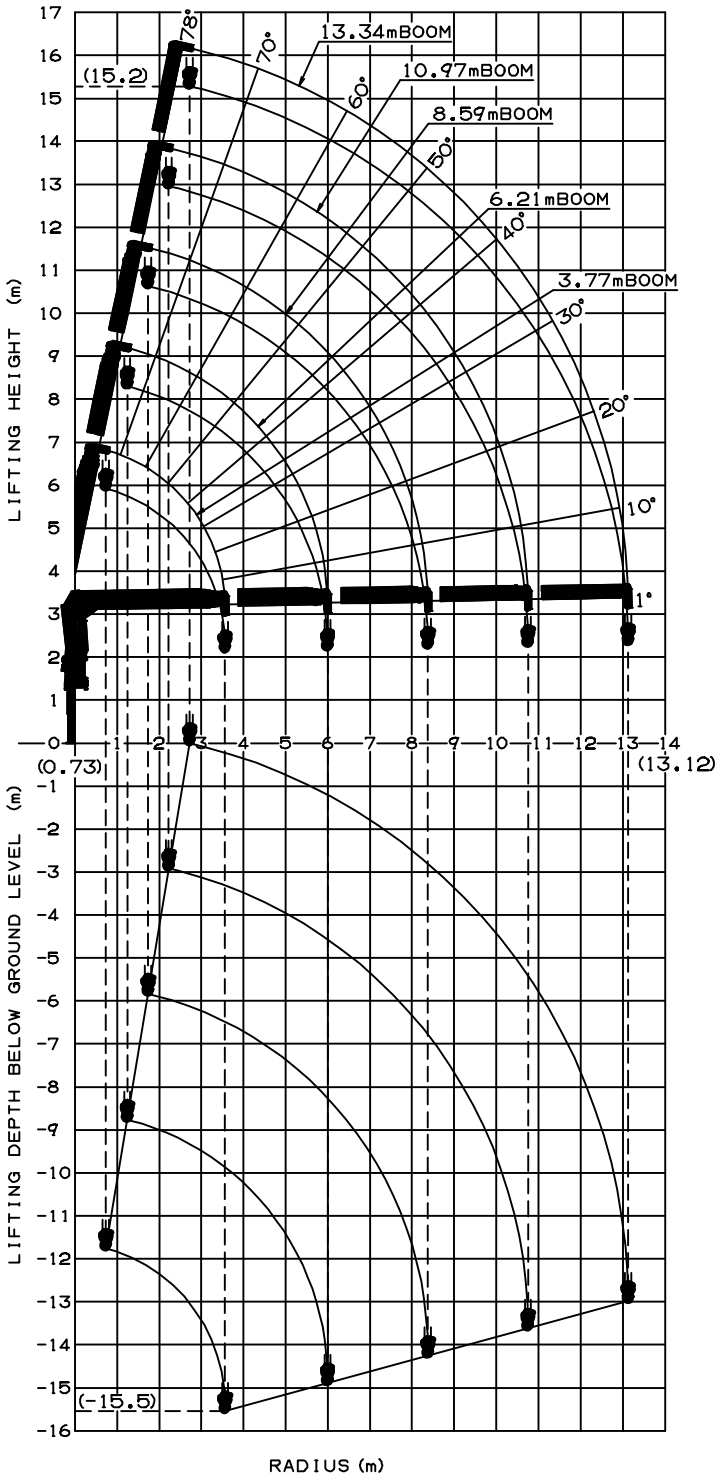
7. Empty Chassis Rated Capacities table A, B, C and D depend on the types of chassis.

8. Empty Chassis Rated Capacities are shown for over - side areas and over - rear area. These capacities for over - front area may lowered depending on the types of chassis.



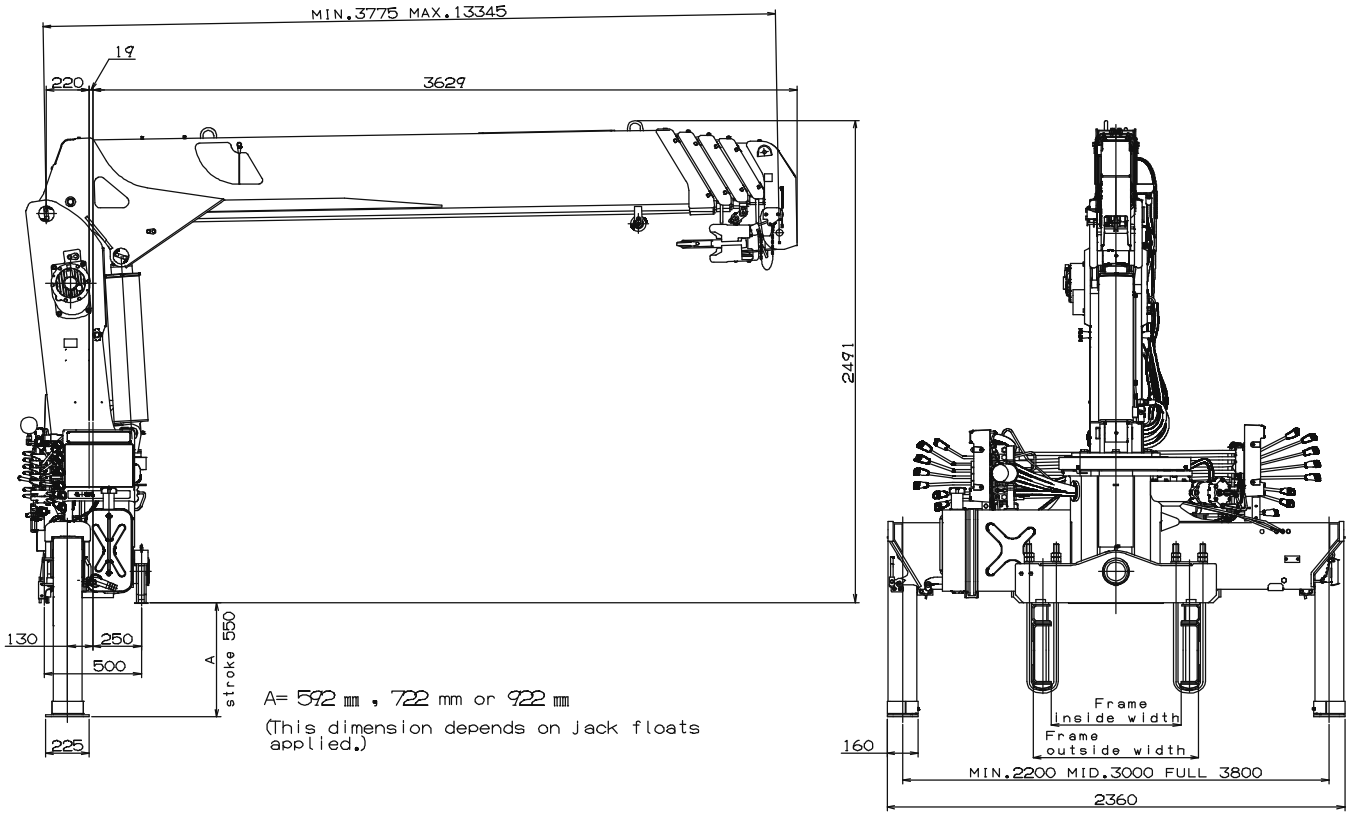


WORKING RANGE



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 mass (including crane mass) -------- 12,000 to 25,000 kg
P.T.O. torque ---------- 157 N-m{16 kgf-m} min.
P.T.O. revolution ---------- Approx. 270 to 2,800 min^{-1}{rpm}
Width for crane mounting ---------- Approx. 750 mm min.
Frame ---------- Weight distribution and frame strength should be calculated for each truck
Frame width range (inside to outside) ---------- Approx. 610 to 960 mm
Frame height (ground to frame top) ---------- Approx. 1,235 mm max.
(Height of crane mounting base can be changed by combination of jack floats and crane bases)