TADANO

SPEC. SHEET No. TM-29Z-5-03453/R-02
DATE September, 2010

TADANO CARGO CRANE

MODEL : TM-ZE293HS

CRANE SPECIFICATIONS

CRANE CAPACITY — 3,000 kg at 1.5 m (4-part lines)

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

- Retracted length ---------- 2.85 m
- Extended length ---------- 6.6 m
- Extending speed ---------- 3.75 m / 10.5 s
- Elevation ---------- Elevated by a double-acting hydraulic cylinder
- Elevating speed ---------- 1^{o} to 76^{o} / 6 s
- Boom point ---------- 2 sheaves

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

- Single line pull ---------- 7.35 kN {750 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 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
Extension width ----- Min. 1,720 mm
Mid. 2,400 mm, 2,900 mm
Full 3,400 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. 22 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 meter
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. 945 kg (includes standardized mounting parts)

NOTE : Operating speeds of the crane are guaranteed under the condition that the pump delivery is 53 L /min.

RATED LIFTING CAPACITIES IN KILOGRAMS

Crane Strength Rated Capacities

Load Radius	2.85 m / 4.74 m Boom		Load Radius	6.6 m Boom
	Extension width of outriggers			Extension width of outriggers
	Full	Minimum		Full
1.5 m and below	3,000	1,550	2.2 m and below	1,850
2.0 m	2,300	950	2.5 m	1,650
2.5 m	1,850	650	3.0 m	1,400
3.0 m	1,470	450	3.5 m	1,200
3.5 m	1,220	350	4.0 m	1,050
4.0 m	1,050	300	4.5 m	920
4.54m	950	250	5.0 m	800
			5.5 m	700
			6.0 m	620
			6.4 m	550

NOTES : 1. Capacities in above 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	2.85 m / 4.74 m Boom		Load Radius	6.6 m Boom
	Extension width of outriggers			Extension width of outriggers
	Full	Minimum		Full
1.5 m and below	3,000	1,550	2.2 m and below	1,850
2.0 m	2,250	950	2.5 m	1,600
2.5 m	1,700	650	3.0 m	1,200
3.0 m	1,200	450	3.5 m	900
3.5 m	900	350	4.0 m	700
4.0 m	700	300	4.5 m	550
4.54m	600	250	5.0 m	450
			5.5 m	400
			6.0 m	350
			6.4 m	320

Table C

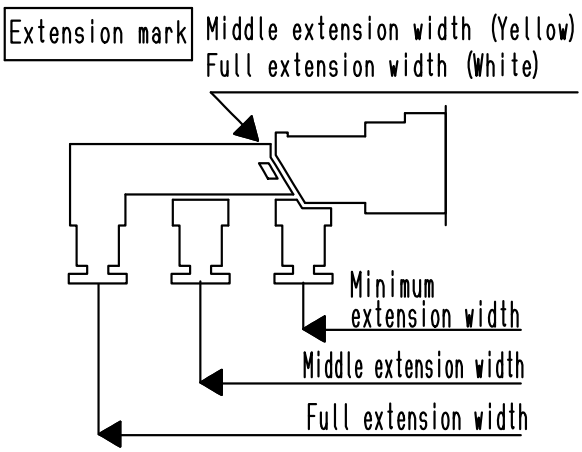
Load Radius	2.85 m / 4.74 m Boom		Load Radius	6.6 m Boom
	Extension width of outriggers			Extension width of outriggers
	Full	Minimum		Full
1.5 m and below	3,000	1,550	2.2 m and below	1,850
2.0 m	2,250	950	2.5 m	1,600
2.5 m	1,800	650	3.0 m	1,300
3.0 m	1,400	450	3.5 m	1,000
3.5 m	1,050	350	4.0 m	800
4.0 m	800	300	4.5 m	650
4.54m	700	250	5.0 m	550
			5.5 m	500
			6.0 m	450
			6.4 m	400

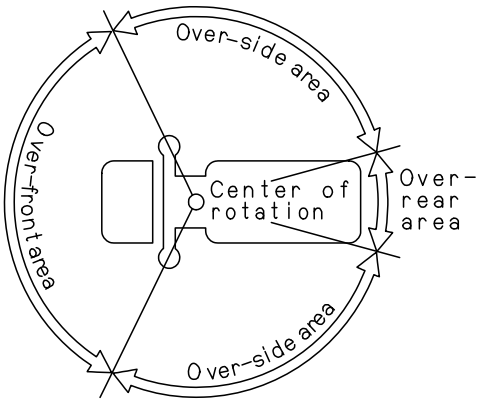
Table D

Load Radius	2.85 m / 4.74 m Boom		Load Radius	6.6 m Boom
	Extension width of outriggers			Extension width of outriggers
	Full	Minimum		Full
1.5 m and below	3,000	1,550	2.2 m and below	1,850
2.0 m	2,300	950	2.5 m	1,650
2.5 m	1,850	650	3.0 m	1,400
3.0 m	1,470	450	3.5 m	1,200
3.5 m	1,220	350	4.0 m	1,050
4.0 m	1,050	300	4.5 m	920
4.54m	950	250	5.0 m	800
			5.5 m	700
			6.0 m	620
			6.4 m	550

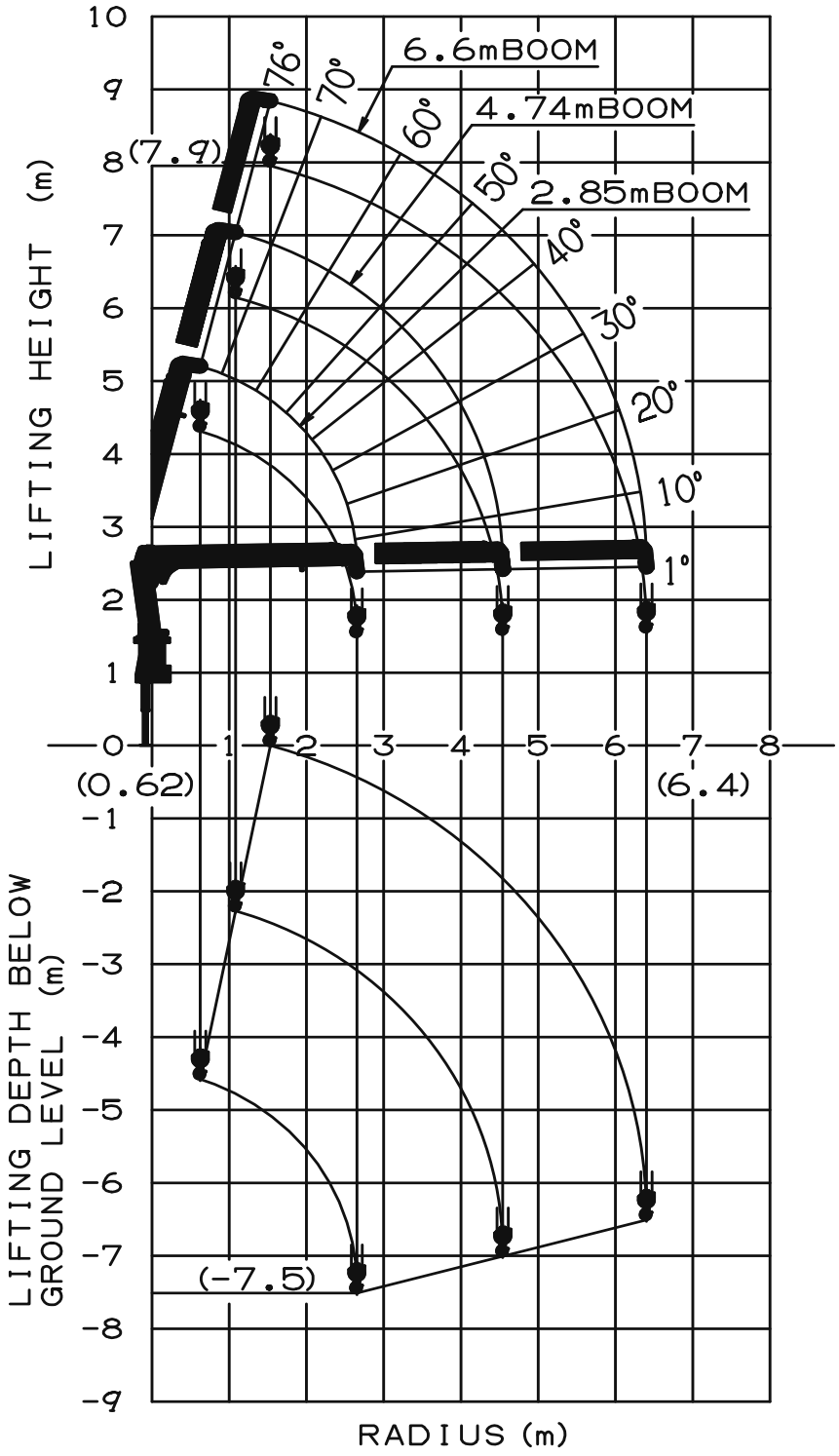
NOTES : 1. Empty Chassis Rated Capacities in these tables depend on condition that crane is set level on firm level ground.

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 4.74m, extend outriggers to full extension width.
6. Empty Chassis Rated Capacities table A, C and D depend on the types of chassis.
7. Empty Chassis Rated Capacities are shown for over-side areas and over-rear area. These capacities for over-front area may be lowered depending on the types of chassis.



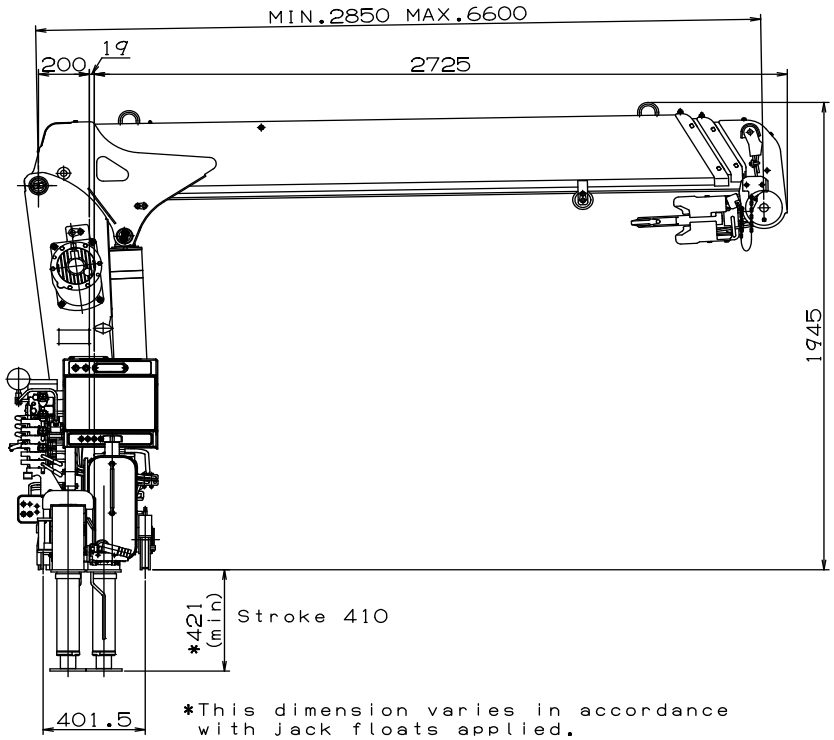


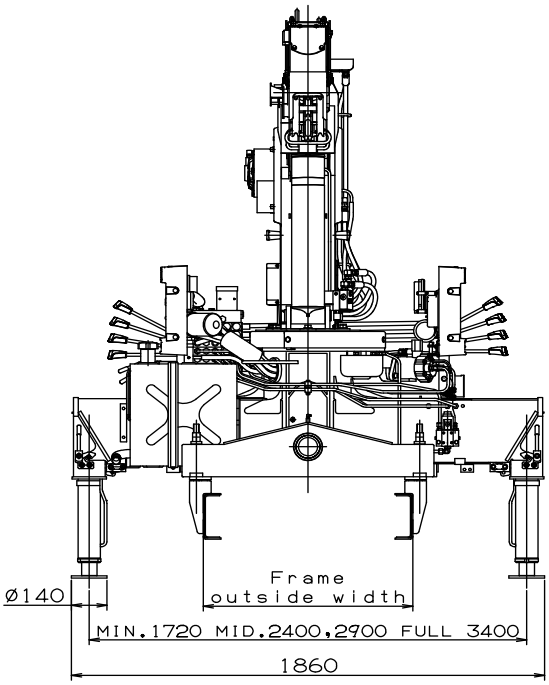
WORKING RANGE



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) ----- 4,500 to 8,000 kg
P.T.O. torque ----------140 N-m {14.3 kgf-m} min.
P.T.O. revolution ---------- Approx. 300 to 1,700 min^{-1} {rpm}
Width for crane mounting ---------- Approx. 605 mm min.
Frame ---------- Weight distribution and frame strength should be calculated for each truck
Frame outside width range ---------- Approx. 680 to 860 mm
Frame height (ground to frame top) ---------- Approx. 1010 mm max.
(Height of crane mounting base can be changed by combination of jack floats and crane bases)