

## TADANO CARGO CRANE

MODEL : **TM-ZE555** series

MODEL	SPEC.	SPEC. No.
TM-ZE555HRS	Hook-in Radio controller Safety device (AML : Rated capacity indicator/limiter)	TM-55Z-2-03815
TM-ZE555HRS	Hook-in Radio controller Safety device (AML : Rated capacity indicator)	TM-55Z-2-03825
TM-ZE555HS	Hook-in Safety device (AML : Rated capacity indicator/limiter)	TM-55Z-2-03855

## CRANE SPECIFICATIONS

### CRANE CAPACITY

5,050 kg at 2.5 m (5-part line)

### BOOM

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

Fully retracted length ----- 3.77 m

Fully extended length ----- 13.34 m

Extending speed ----- 9.57 m in 25 s

Elevation ----- Elevated by a double-acting hydraulic cylinder

Raising speed ----- 1° to 78° in 12 s

Boom point ----- 3 sheaves

### WINCH

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

Single line pull ----- 9.90 kN {1,010 kgf}

Single line speed ----- 66 m/min (at 4th layer)

Wire rope

Diameter x length ----- 8 mm x 97 m

Breaking strength ----- 50.1 kN {5.1 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<sup>-1</sup> {rpm}

OUTRIGGERS

Manually operated beams and hydraulically operated jacks

Integral with crane frame

Extended width ----- Min. 2,200 mm center to center  
(2,360 mm outer to outer)

Mid. 3,000 mm center to center  
(3,160 mm outer to outer)

Max. 3,800 mm center to center  
(3,960 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. 57.6 L

(\*1)RADIO CONTROLLER

Model : RCS-F (with colored display)

Control functions of telescoping, hoisting up and down, elevating,  
slewing, acceleration, Hook-in, Hook-out, horn, stop operation,  
outrigger operation and working height limit.

Frequency ----- 40 frequencies in 433 MHz band

Operating power supply

Transmitter ----- 6V DC, Dry battery R6P (SUM-3) x 4

Control unit ----- 24V DC, Vehicle battery

Transmitter mass ----- Approx. 670 g (includes batteries)

SAFETY DEVICES

Anti-two-block-device  
 AML (Automatic Moment Limiter)  
     Load indication  
     Load moment ratio indication  
     Warning alarm  
     Rated capacity indicator/limiter or Rated capacity indicator  
     Limit warning lamp  
     Outrigger length detector  
     Outrigger asymmetric extension width control  
 Limit warning lamp(three-color)  
 WHL (Working Height Limiter)  
 Boom angle indicator  
 Load indicator  
 Load meter  
 Over-unwinding prevention  
 Hook safety latch  
 Spirit level  
 Jack interlock  
 Boom/outrigger stowing reminder alarm  
 Emergency stop switch  
 (\*1) Stop switch on radio controller  
 Hydraulic safety valves, check valves and holding valves

OPTIONAL EQUIPMENT

Emergency hydraulic pump  
 Outrigger pads  
 Oil cooler  
 Tilttable jack float  
 Rear outriggers (outrigger beam non-extension type)

CRANE MASS

Approx. 1,810 kg  
 (Except crane options and mounting parts.)

- NOTE : 1. Each operating speeds show the value when there is no load conditions and the pump delivery is the following conditions.
- 36 L/min (Slewing speed)
  - 60 L/min (BOOM : Extending speed, Raising speed   WINCH : Single line speed)
2. \*1 mark applies only to HRS specifications.

**RATED LIFTING CAPACITIES (kg)**

Table A

LOAD RADIUS	3.77 m BOOM			LOAD RADIUS	6.21 m BOOM		
	CRANE STRENGTH	EMPTY CHASSIS			CRANE STRENGTH	EMPTY CHASSIS	
		extension width of outriggers				extension width of outriggers	
		MAX.	MIN.			MAX.	MIN.
2.5 m and below	5,050	5,050	2,580	2.5 m and below	4,050	4,050	2,580
2.8 m	4,050	4,050	2,200	2.8 m	4,050	4,050	2,200
3.55 m	3,150	2,950	1,430	3.6 m	3,130	2,930	1,380
				3.9 m	2,930	2,530	1,180
				4.5 m	2,530	1,930	930
				5.0 m	2,230	1,630	730
				5.5 m	1,980	1,380	630
				5.99 m	1,780	1,130	500

LOAD RADIUS	8.59 m BOOM			LOAD RADIUS	10.97 m BOOM			LOAD RADIUS	13.34 m BOOM		
	CRANE STRENGTH	EMPTY CHASSIS			CRANE STRENGTH	EMPTY CHASSIS			CRANE STRENGTH	EMPTY CHASSIS	
		extension width of outriggers				extension width of outriggers				extension width of outriggers	
		MAX.	MIN.			MAX.	MAX.			MAX.	
2.5 m and below	3,130	3,130	2,580	4.0 m and below	2,230	2,230	5.0 m and below	1,430	1,430		
3.0 m	3,130	3,130	1,980	4.5 m	2,180	1,930	6.0 m	1,330	1,130		
3.4 m	3,130	3,130	1,530	5.0 m	2,030	1,580	7.0 m	1,230	900		
3.6 m	3,130	2,930	1,380	6.0 m	1,730	1,130	8.0 m	1,080	700		
3.9 m	2,930	2,530	1,180	7.0 m	1,430	900	9.0 m	980	550		
4.5 m	2,530	1,930	930	8.0 m	1,230	700	10.0 m	880	500		
5.0 m	2,230	1,630	730	9.0 m	1,080	550	11.0 m	800	430		
5.5 m	1,980	1,380	630	10.0 m	980	500	12.0 m	730	400		
6.0 m	1,780	1,130	500	10.75 m	900	450	13.12 m	650	350		
6.5 m	1,630	1,080	480								
7.0 m	1,480	930	400								
7.5 m	1,380	830	340								
8.37 m	1,180	650	250								

Table B

LOAD RADIUS	3.77 m BOOM			LOAD RADIUS	6.21 m BOOM		
	CRANE STRENGTH	EMPTY CHASSIS			CRANE STRENGTH	EMPTY CHASSIS	
		extension width of outriggers				extension width of outriggers	
		MAX.	MIN.			MAX.	MIN.
2.5 m and below	5,050	5,050	3,130	2.5 m and below	4,050	4,050	3,130
2.8 m	4,050	4,050	2,600	2.8 m	4,050	4,050	2,600
3.55 m	3,150	3,150	1,730	3.6 m	3,130	3,130	1,680
				3.9 m	2,930	2,930	1,430
				4.5 m	2,530	2,430	1,130
				5.0 m	2,230	1,980	930
				5.5 m	1,980	1,680	780
				5.99 m	1,780	1,430	650

LOAD RADIUS	8.59 m BOOM			LOAD RADIUS	10.97 m BOOM			LOAD RADIUS	13.34 m BOOM		
	CRANE STRENGTH	EMPTY CHASSIS			CRANE STRENGTH	EMPTY CHASSIS			CRANE STRENGTH	EMPTY CHASSIS	
		extension width of outriggers				extension width of outriggers				extension width of outriggers	
		MAX.	MIN.			MAX.	MAX.			MAX.	
2.5 m and below	3,130	3,130	3,130	4.0 m and below	2,230	2,230	5.0 m and below	1,430	1,430		
3.0 m	3,130	3,130	2,280	4.5 m	2,180	2,180	6.0 m	1,330	1,330		
3.4 m	3,130	3,130	1,850	5.0 m	2,030	1,930	7.0 m	1,230	1,130		
3.6 m	3,130	3,130	1,680	6.0 m	1,730	1,430	8.0 m	1,080	880		
3.9 m	2,930	2,930	1,430	7.0 m	1,430	1,130	9.0 m	980	730		
4.5 m	2,530	2,430	1,130	8.0 m	1,230	880	10.0 m	880	650		
5.0 m	2,230	1,980	930	9.0 m	1,080	730	11.0 m	800	550		
5.5 m	1,980	1,680	780	10.0 m	980	650	12.0 m	730	500		
6.0 m	1,780	1,430	650	10.75 m	900	580	13.12 m	650	430		
6.5 m	1,630	1,280	630								
7.0 m	1,480	1,130	530								
7.5 m	1,380	1,030	480								
8.37 m	1,180	830	350								

Table C

LOAD RADIUS	3.77 m BOOM			LOAD RADIUS	6.21 m BOOM		
	CRANE STRENGTH	EMPTY CHASSIS			CRANE STRENGTH	EMPTY CHASSIS	
		extension width of outriggers				extension width of outriggers	
		MAX.	MIN.			MAX.	MIN.
2.5 m and below	5,050	5,050	3,130	2.5 m and below	4,050	4,050	3,130
2.8 m	4,050	4,050	2,800	2.8 m	4,050	4,050	2,800
3.55 m	3,150	3,150	1,930	3.6 m	3,130	3,130	1,880
				3.9 m	2,930	2,930	1,630
				4.5 m	2,530	2,530	1,330
				5.0 m	2,230	2,230	1,080
				5.5 m	1,980	1,980	930
				5.99 m	1,780	1,730	780

LOAD RADIUS	8.59 m BOOM			LOAD RADIUS	10.97 m BOOM		LOAD RADIUS	13.34 m BOOM		
	CRANE STRENGTH	EMPTY CHASSIS			CRANE STRENGTH	EMPTY CHASSIS		CRANE STRENGTH	EMPTY CHASSIS	
		extension width of outriggers				extension width of outriggers			extension width of outriggers	
		MAX.	MIN.			MAX.			MAX.	MAX.
2.5 m and below	3,130	3,130	3,130	4.0 m and below	2,230	2,230	5.0 m and below	1,430	1,430	
3.0 m	3,130	3,130	2,580	4.5 m	2,180	2,180	6.0 m	1,330	1,330	
3.4 m	3,130	3,130	2,100	5.0 m	2,030	2,030	7.0 m	1,230	1,230	
3.6 m	3,130	3,130	1,880	6.0 m	1,730	1,730	8.0 m	1,080	1,080	
3.9 m	2,930	2,930	1,630	7.0 m	1,430	1,400	9.0 m	980	950	
4.5 m	2,530	2,530	1,330	8.0 m	1,230	1,100	10.0 m	880	800	
5.0 m	2,230	2,230	1,080	9.0 m	1,080	950	11.0 m	800	700	
5.5 m	1,980	1,980	930	10.0 m	980	800	12.0 m	730	630	
6.0 m	1,780	1,730	780	10.75 m	900	730	13.12 m	650	530	
6.5 m	1,630	1,580	700							
7.0 m	1,480	1,430	630							
7.5 m	1,380	1,250	550							
8.37 m	1,180	1,050	430							

Table D

LOAD RADIUS	3.77 m BOOM			LOAD RADIUS	6.21 m BOOM		
	CRANE STRENGTH	EMPTY CHASSIS			CRANE STRENGTH	EMPTY CHASSIS	
		extension width of outriggers				extension width of outriggers	
		MAX.	MIN.			MAX.	MIN.
2.5 m and below	5,050	5,050	3,380	2.5 m and below	4,050	4,050	3,380
2.8 m	4,050	4,050	2,800	2.8 m	4,050	4,050	2,800
3.55 m	3,150	3,150	1,930	3.6 m	3,130	3,130	1,880
				3.9 m	2,930	2,930	1,630
				4.5 m	2,530	2,530	1,330
				5.0 m	2,230	2,230	1,080
				5.5 m	1,980	1,980	930
				5.99 m	1,780	1,780	780

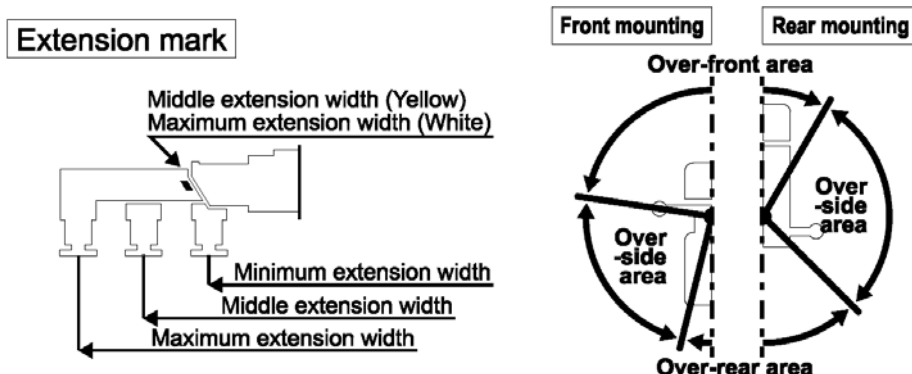
LOAD RADIUS	8.59 m BOOM			LOAD RADIUS	10.97 m BOOM		LOAD RADIUS	13.34 m BOOM		
	CRANE STRENGTH	EMPTY CHASSIS			CRANE STRENGTH	EMPTY CHASSIS		CRANE STRENGTH	EMPTY CHASSIS	
		extension width of outriggers				extension width of outriggers			extension width of outriggers	
		MAX.	MIN.			MAX.			MAX.	MAX.
2.5 m and below	3,130	3,130	3,130	4.0 m and below	2,230	2,230	5.0 m and below	1,430	1,430	
3.0 m	3,130	3,130	2,580	4.5 m	2,180	2,180	6.0 m	1,330	1,330	
3.4 m	3,130	3,130	2,100	5.0 m	2,030	2,030	7.0 m	1,230	1,230	
3.6 m	3,130	3,130	1,880	6.0 m	1,730	1,730	8.0 m	1,080	1,080	
3.9 m	2,930	2,930	1,630	7.0 m	1,430	1,430	9.0 m	980	980	
4.5 m	2,530	2,530	1,330	8.0 m	1,230	1,230	10.0 m	880	880	
5.0 m	2,230	2,230	1,080	9.0 m	1,080	1,080	11.0 m	800	800	
5.5 m	1,980	1,980	930	10.0 m	980	980	12.0 m	730	730	
6.0 m	1,780	1,780	780	10.75 m	900	900	13.12 m	650	650	
6.5 m	1,630	1,630	700							
7.0 m	1,480	1,480	630							
7.5 m	1,380	1,380	550							
8.37 m	1,180	1,180	430							



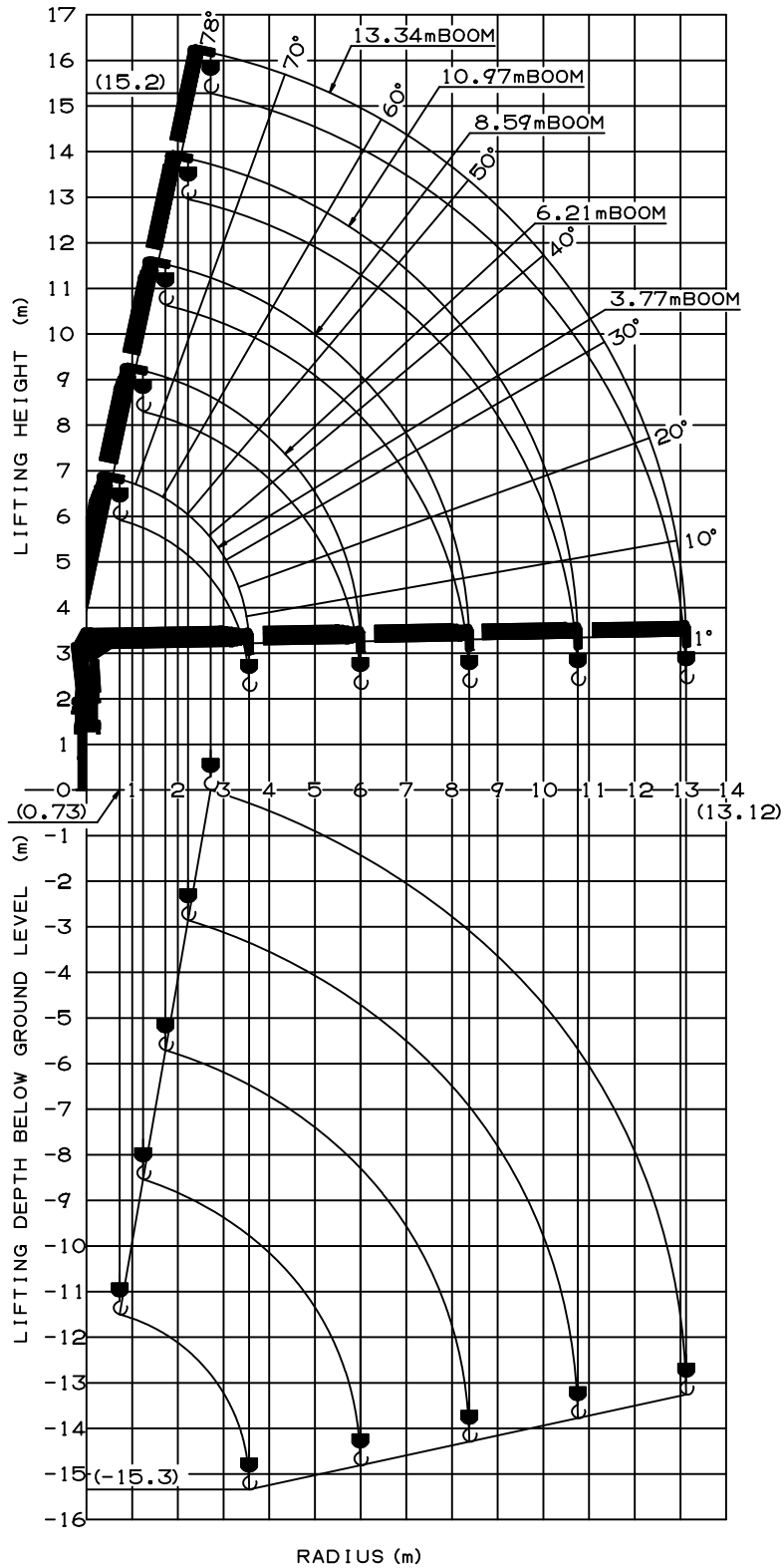
- NOTE :
1. Rated capacity indicator issues warning with the limit warning lamp and the buzzer when the working state approaches the stability limit or the strength limit.
  2. When the AML is equipped with the rated capacity limiter, an operation stops automatically if the rated lifting capacity is exceeded.
  3. When the crane is front mounted, set up the front outriggers so that the front wheels are slightly in contact with the ground. (If tire deformation is large, AML may activate earlier.)
  4. Empty Chassis Rated Capacities in these tables depend on condition that crane is set level on firm level ground.
  5. This value includes the mass of lifting devices such as hook block (45kg).
  6. When the outriggers are extended to the middle width, read the capacities rated for the minimum extension width.
  7. This load radius shows actual load radius which includes boom deflection.
  8. Rated lifting capacity is in consideration of the loading on the truck bed, and is within the range from the empty chassis rated lifting capacity to the crane strength rated lifting capacity.
  9. If the boom length exceeds the table value even a little, the performance is limited to the performance of the next boom length.
  10. When the boom length is 10.97 m, a half of the  $\sphericalangle$  mark on lateral face of the 4th boom section is exposed out of 3rd boom section.
  11. Empty chassis rated lifting capacity varies according to the working area.
    - Front mounting <over-side, over-rear area> : 100%  
     <over-front area> : 25% (\*1) or 60% (\*1) or 100% (\*1)
    - Rear mounting <over-front, over-rear area> : 100%  
     <over-side area> : 30%
  - \*1 : Depend on the types of chassis.
  12. Empty Chassis Rated Capacities table A, B, 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, B, C and D for vehicles. Be sure to carry out a stability inspection to determine which performance to apply.)

A	15 t ≤ GVW, 2.9 t ≤ CAWf (*2)
B	25 t ≤ GVW, 3.8 t ≤ CAWf (*2)
C	25 t ≤ GVW, 4.4 t ≤ CAWf (*2)
D	25 t ≤ GVW, 4.7 t ≤ CAWf (*2)

\*2 : Chassis front axle weight (excluding crane and mounting parts mass).

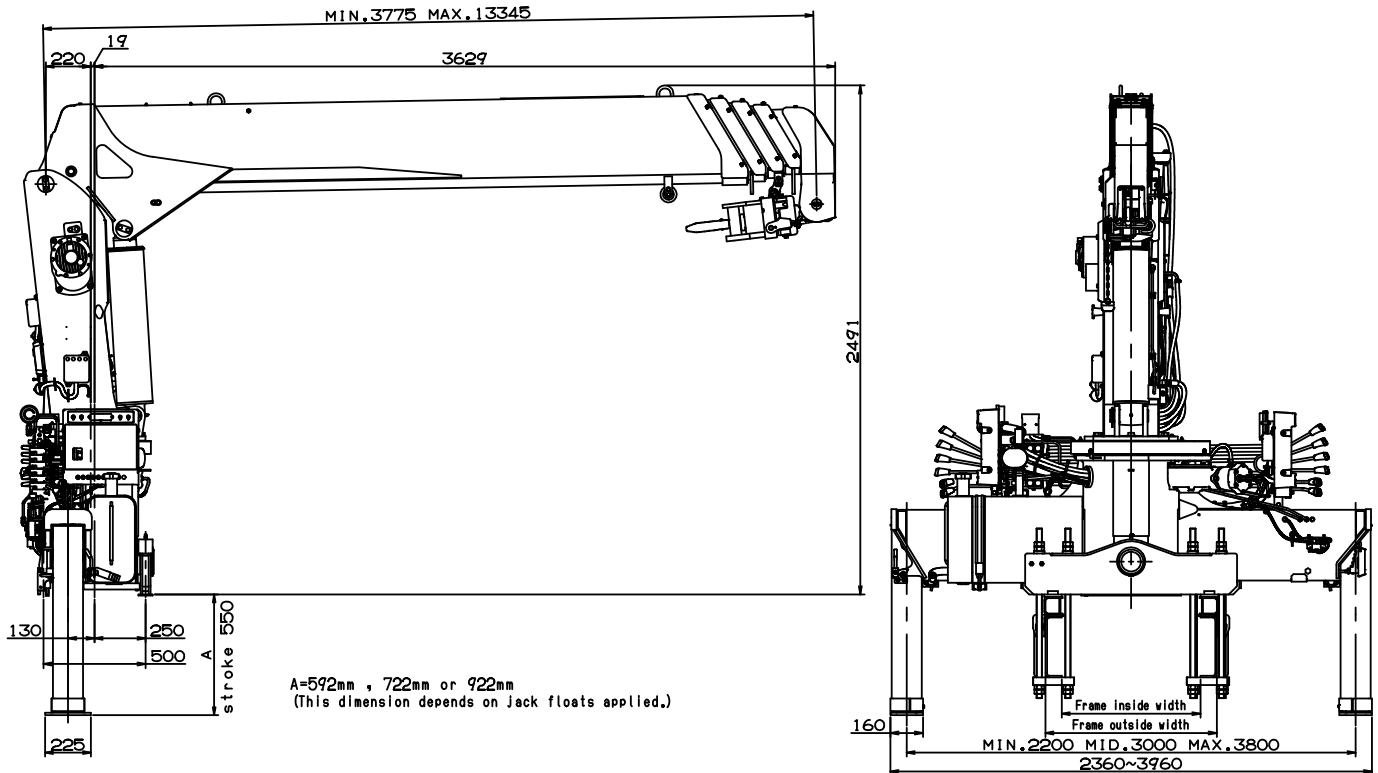


### WORKING RANGE



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 [TM-ZE555HRS]



## GENERAL DATA FOR SUITABLE TRUCKS

Gross vehicle weight	15,000 kg min.
Chassis front axle weight (excluding crane and mounting parts mass)	2,900 kg min.
P.T.O. torque	190 N·m {19.4 kgf·m} min.
P.T.O. revolution range of use (min. to max.)	Approx. 350 to 1,300 min <sup>-1</sup> {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 chassis frame top) (*1)	Approx. 880 to 1,145 mm
Chassis frame section modulus (*2)	485 cm <sup>3</sup> min.

\*1 Height of crane mounting surface is changed by crane bases.

\*2 The chassis frame material must meet the following conditions at the crane mounting location.

—Yield point : 392 N/mm<sup>2</sup>

—Tensile strength : 540 N/mm<sup>2</sup>