

## TADANO CARGO CRANE

MODEL: **TM-ZX1005HRS**

## CRANE SPECIFICATIONS

MAXIMUM LIFTING CAPACITY 10,000 kg at 1.4 m (8-part line)

CRANE CAPACITY 4,900 kg at 3.1 m (4-part line)

BOOM

Five-sectioned, fully powered partly synchronized telescoping boom of pentagonal box construction with 4 sheaves at boom head

Fully retracted length -----4.40 m

Fully extended length----- 15.92 m

Extension speed -----11.5 m in 38 s

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

Boom raising speed ----- 1° to 82° in 17 s

Boom point -----4 sheaves

WINCH

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

Single line pull ----- 14.72 kN {1,500 kgf}

Single line speed ----- 44 m/min (at 4th layer)

Wire rope

Diameter x length ----- 10 mm x 95 m

Breaking strength ----- 73.5 kN {7,500 kgf}

Construction ----- 7 x 7 + 6 x Fi (29)

Hook block ----- 4 sheaves

HOOK STOWING DEVICE 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 ----- 2.2 min<sup>-1</sup> {rpm}

## OUTRIGGERS

Hydraulically operated beams and jacks  
Integral with crane frame

Extended width	-----	Min. 2,300 mm
		Mid. 3,900 mm
		Max. 5,200 mm

## HYDRAULIC SYSTEM

Hydraulic pump	Single gear pump
Hydraulic motors	Axial piston type for winch and slewing
Control valves	Multiple control valves with integral safety valves
Oil tank capacity	approx. 90 liters

## RADIO CONTROLLER

Model : RCS-F (with colored display)

Control functions of boom telescoping, hoisting up and down, boom elevating, slewing, acceleration, speed mode selection, working height limiting, Hook-in, Hook-out, horn and emergency stop, Basket mode

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. 674 g (includes batteries)

## SAFETY DEVICES

- AML(Automatic Moment Limiter)
  - Load indication
  - Load moment ratio to rated load indication
  - Warning alarm
  - Over load limiter (stop) (safety eyes)
  - Limit warning lamp
  - Outrigger length detector
  - Outrigger asymmetric extension width control
- WHL(Working Height Limiter)
  - Emergency stop switch on radio controller
  - Emergency stop switch
  - Over-winding alarm
  - Anti-two-block device
  - Hook safety latch
  - Hydraulic safety valves, check valves and holding valves
  - Boom angle indicator
  - Level gauge

OPTIONAL EQUIPMENT

Rear outriggers (outrigger beam extension type)  
Rear outriggers (outrigger beam non-extension type)  
Oil cooler  
Limit warning lamp (three-color)  
Basket mounting support

CRANE MASS

Approx. 3,150 kg (except mounting parts)

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

## RATED LIFTING CAPACITIES (×1,000 kg)

< over-side , over-rear area > ( over-front area : 25% of empty chassis rated lifting capacity)

Table A

4.40 m BOOM								
LOAD RADIUS(m)			1.4 and below	1.85	2.25	3.1	3.5	4.15
CRANE STRENGTH			10.00	8.00	6.00	4.90	4.20	3.55
EMPTY CHASSIS	Extension width of outriggers	Max.	10.00	8.00	6.00	4.90	4.20	3.55
		Mid.	10.00	8.00	6.00	4.90	4.20	3.15
		Min.	10.00	7.15	4.55	2.40	1.90	1.30

7.28 m BOOM										
LOAD RADIUS(m)			2.25 and below	3.1	3.5	4.0	4.5	5.0	6.0	7.03
CRANE STRENGTH			6.00	4.90	4.20	3.70	3.30	2.90	2.20	1.75
EMPTY CHASSIS	Extension width of outriggers	Max.	6.00	4.90	4.20	3.70	3.30	2.90	2.20	1.60
		Mid.	6.00	4.90	4.20	3.35	2.60	2.10	1.45	1.00
		Min.	4.40	2.30	1.80	1.35	1.05	0.80	0.50	0.25

10.16 m BOOM									
LOAD RADIUS(m)			4.5 and below	5.0	6.0	7.0	8.0	9.0	9.91
CRANE STRENGTH			3.00	2.70	2.20	1.80	1.40	1.15	1.00
EMPTY CHASSIS	Extension width of outriggers	Max.	3.00	2.70	2.20	1.60	1.25	1.00	0.75
		Mid.	2.60	2.10	1.45	1.00	0.80	0.60	0.45
		Min.	1.05	0.80	0.50	0.25	0.20	-	-

13.04 m BOOM												
LOAD RADIUS(m)			4.5 and below	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0	12.7
CRANE STRENGTH			3.00	2.60	2.00	1.70	1.40	1.15	1.00	0.90	0.75	0.65
EMPTY CHASSIS	Extension width of outriggers	Max.	3.00	2.60	2.00	1.60	1.25	1.00	0.75	0.65	0.55	0.50
		Mid.	2.60	2.10	1.45	1.00	0.80	0.60	0.45	0.35	0.30	0.25

15.92 m BOOM													
LOAD RADIUS(m)			5.0 and below	6.0	7.0	8.0	9.0	10.0	11.0	12.0	13.0	14.0	15.67
CRANE STRENGTH			2.60	2.00	1.65	1.40	1.15	1.00	0.90	0.75	0.65	0.55	0.45
EMPTY CHASSIS	Extension width of outriggers	Max.	2.60	2.00	1.60	1.25	1.00	0.75	0.65	0.55	0.50	0.45	0.35
		Mid.	2.10	1.45	1.00	0.80	0.60	0.45	0.35	0.30	0.25	0.20	0.15

Table D

4.40 m BOOM								
LOAD RADIUS(m)			1.4 and below	1.85	2.25	3.1	3.5	4.15
CRANE STRENGTH			10.00	8.00	6.00	4.90	4.20	3.55
EMPTY CHASSIS	Extension width of outriggers	Max.	10.00	8.00	6.00	4.90	4.20	3.55
		Mid.	10.00	8.00	6.00	4.90	4.20	3.55
		Min.	10.00	8.00	5.65	3.00	2.40	1.70

7.28 m BOOM										
LOAD RADIUS(m)			2.25 and below	3.1	3.5	4.0	4.5	5.0	6.0	7.03
CRANE STRENGTH			6.00	4.90	4.20	3.70	3.30	2.90	2.20	1.75
EMPTY CHASSIS	Extension width of outriggers	Max.	6.00	4.90	4.20	3.70	3.30	2.90	2.20	1.75
		Mid.	6.00	4.90	4.20	3.70	3.30	2.80	1.95	1.40
		Min.	5.50	2.90	2.30	1.75	1.40	1.10	0.75	0.45

10.16 m BOOM									
LOAD RADIUS(m)			4.5 and below	5.0	6.0	7.0	8.0	9.0	9.91
CRANE STRENGTH			3.00	2.70	2.20	1.80	1.40	1.15	1.00
EMPTY CHASSIS	Extension width of outriggers	Max.	3.00	2.70	2.20	1.80	1.40	1.15	1.00
		Mid.	3.00	2.70	1.95	1.40	1.15	0.90	0.70
		Min.	1.40	1.10	0.75	0.45	0.35	0.20	-

13.04 m BOOM												
LOAD RADIUS(m)			4.5 and below	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0	12.7
CRANE STRENGTH			3.00	2.60	2.00	1.70	1.40	1.15	1.00	0.90	0.75	0.65
EMPTY CHASSIS	Extension width of outriggers	Max.	3.00	2.60	2.00	1.70	1.40	1.15	1.00	0.90	0.75	0.65
		Mid.	3.00	2.60	1.95	1.40	1.15	0.90	0.70	0.60	0.50	0.45

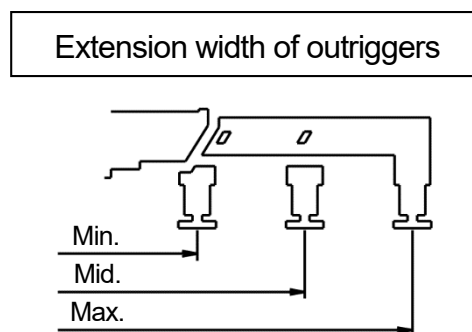
15.92 m BOOM													
LOAD RADIUS(m)			5.0 and below	6.0	7.0	8.0	9.0	10.0	11.0	12.0	13.0	14.0	15.67
CRANE STRENGTH			2.60	2.00	1.65	1.40	1.15	1.00	0.90	0.75	0.65	0.55	0.45
EMPTY CHASSIS	Extension width of outriggers	Max.	2.60	2.00	1.65	1.40	1.15	1.00	0.90	0.75	0.65	0.55	0.45
		Mid.	2.60	1.95	1.40	1.15	0.90	0.70	0.60	0.50	0.45	0.40	0.30

- NOTES :
1. When the working state approaches the stability limit or the strength limit, warns with the limit warning lamp and the buzzer. When the working state reaches the limit, the buzzer continues to sound.
  2. When the operation exceeding the rated lifting capacity is performed, the operation stops automatically.
  3. Set up the outriggers and make the front wheels in slight contact with the ground.  
( If the tire deformation is large, AML may operate early. )
  4. This value have been calculated on the basis of ISO 15442.
  5. This value includes the mass of lifting devices such as hook block ( 90 kg ).
  6. This load radius shows actual load radius which includes boom deflection.
  7. 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.
  8. If the boom length exceeds the table value even a little, the performance is limited to the performance of the next boom length.
  9. When the lifting load is heavier than 6,000 kg, number of part lines must be 8. In case of 6,000 kg or less, number of part lines must be 4. Load per line must not surpass 14.7 kN {1,500 kgf}.
  10. Empty Chassis Rated Capacities table A and D depend on the types of chassis.
  11. 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.

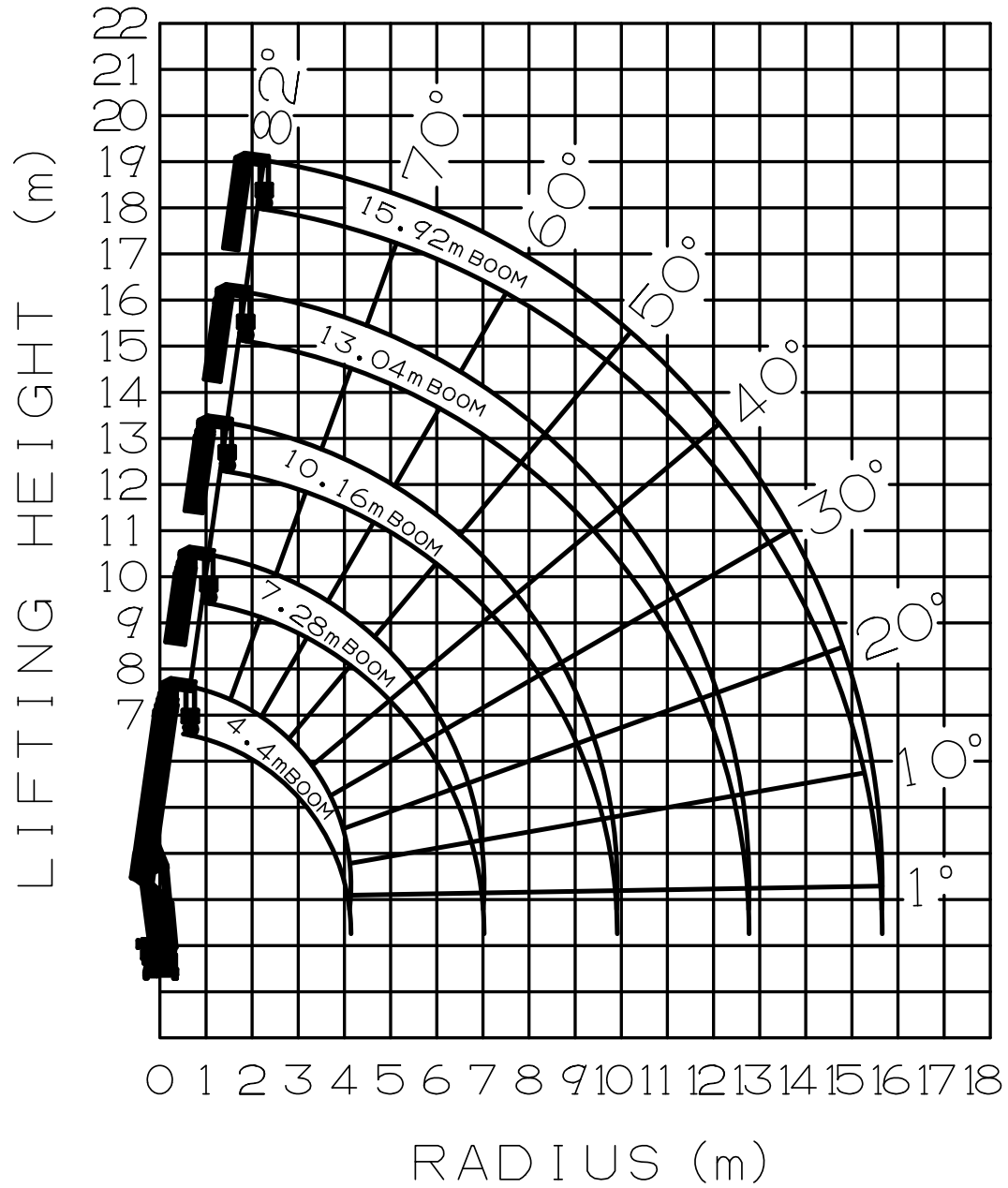
(The following table shows guidelines for bodywork vehicles that can achieve the rated lifting capacities tables A and D. Be sure to carry out a stability inspection to determine which performance to apply.)

A	WB : 5000mm over, GVW : 25t over, CAWf (*1) : 3.0t over
D	WB : 5000mm over, GVW : 25t over, CAWf (*1) : 4.0t over

\*1 Chassis front axle weight (excluding crane 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.

# WORKING RANGE (BASKET MODE)

Table A

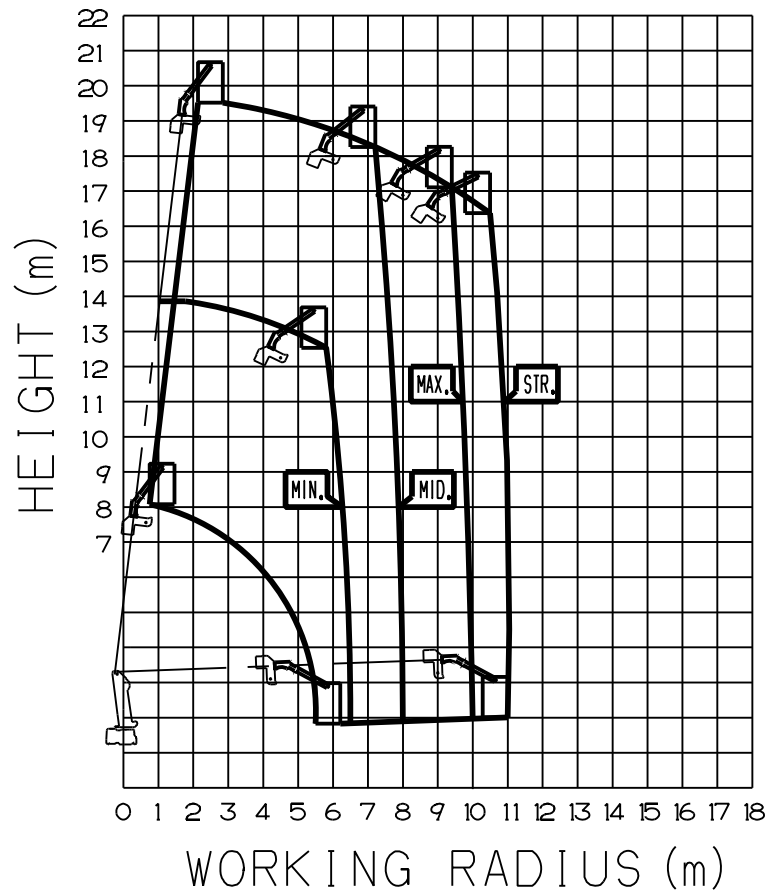
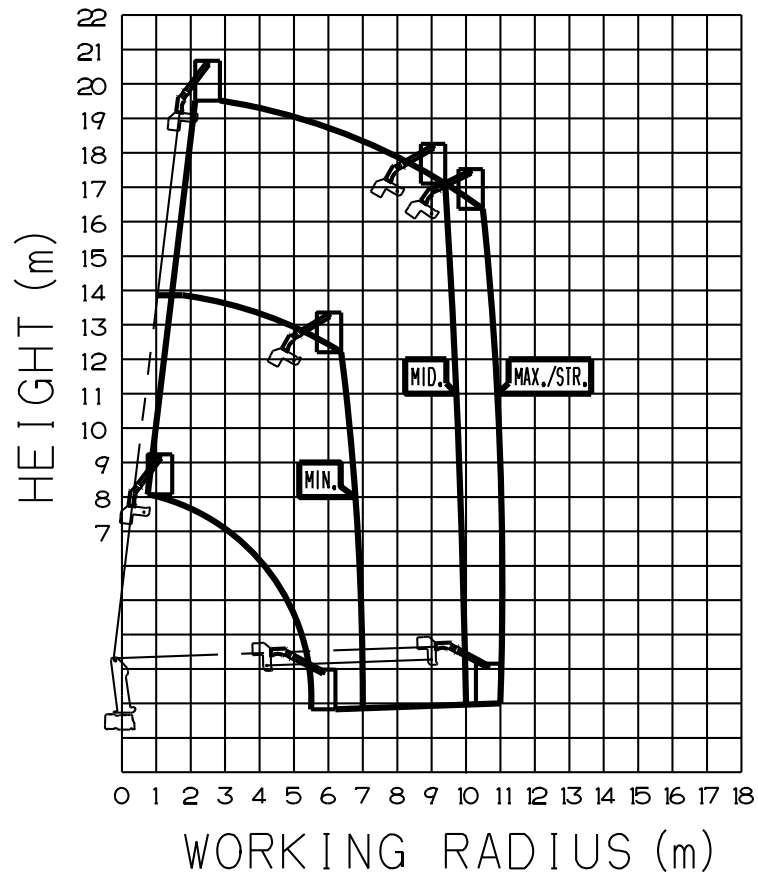


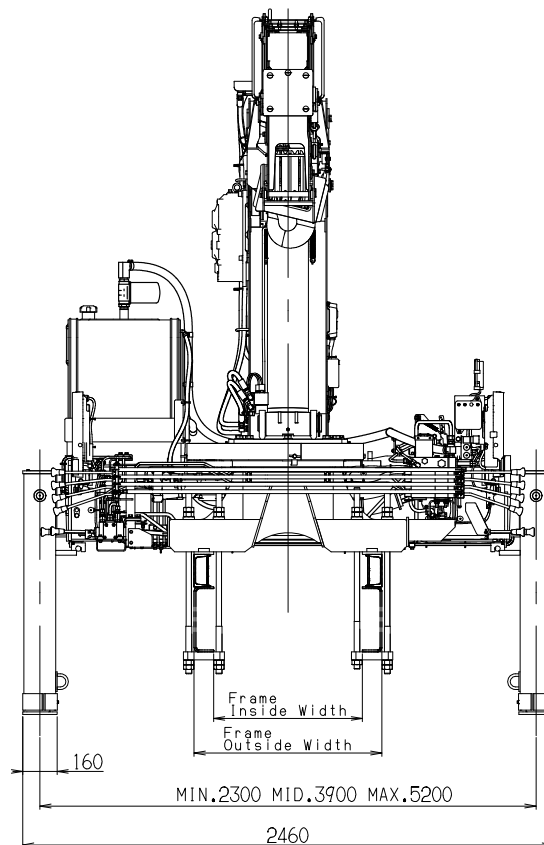
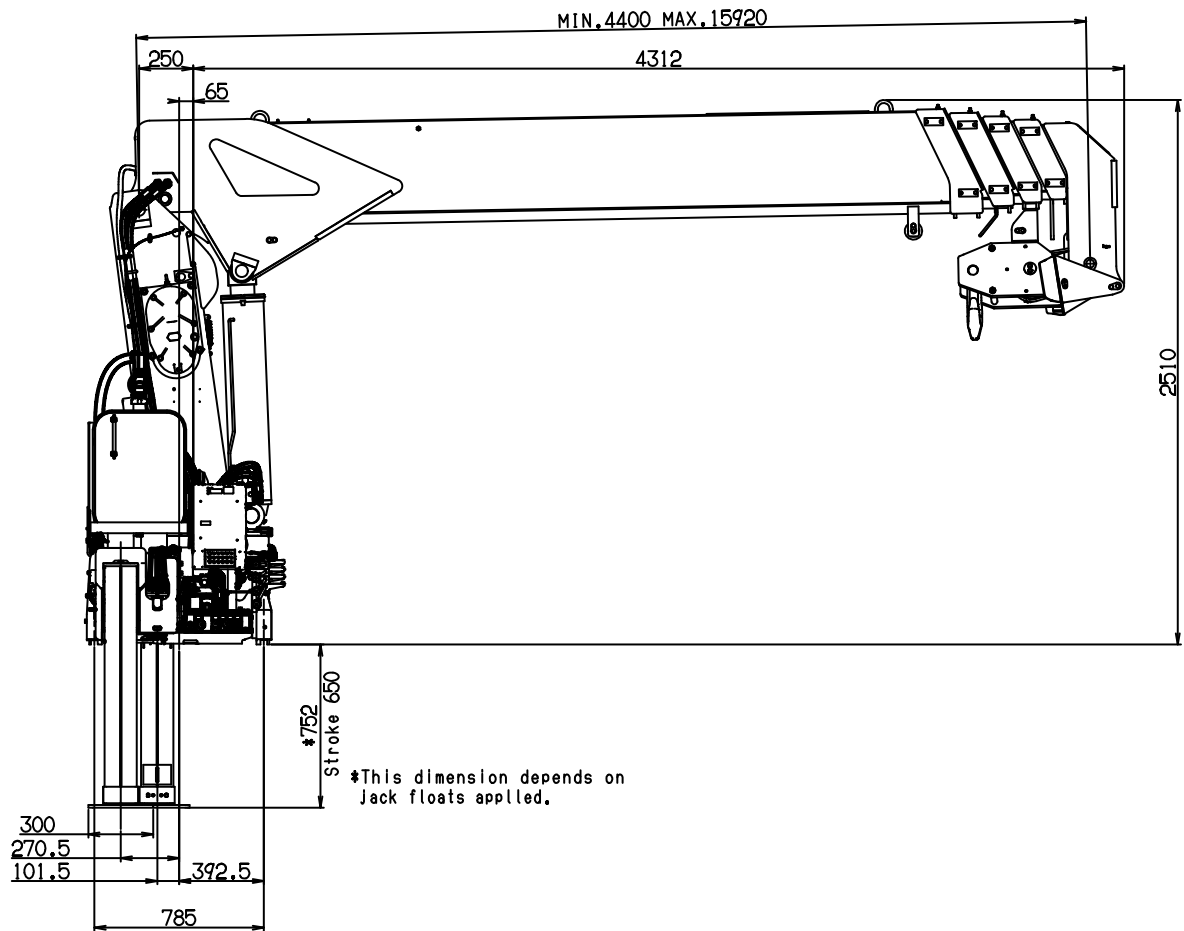
Table D





- NOTE :
- 1.The indicated working range assumes that the machine is set up on a firm and level ground, and does not include boom deflection.
  - 2.This working range chart shows the over-side and over-rear areas.  
(The working range is up to "STR." when the stability is maximum. When the stability is minimum, the working range is in accordance with the outrigger extension width during work.)
  - 3.The working range in the over-front area is smaller than the indication in the working range chart.
  - 4."MAX.", "MID.", and "MIN." indicates the outrigger extension widths.
  - 5.This working range chart is an example, and the actual work range varies depending on the shape of the basket.

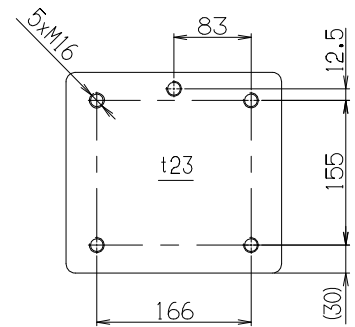
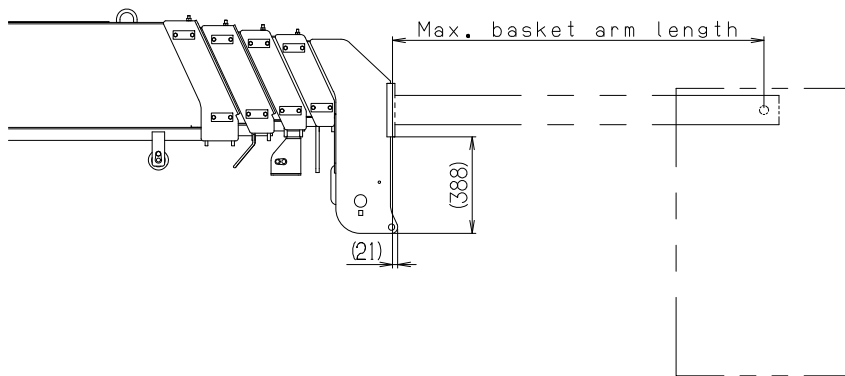
## DIMENSIONS



## MOUNTABLE BASKET SPECIFICATIONS

Max. basket weight	200 kg
Max. basket loading capacity	200 kg
Max. basket arm length	1700 mm

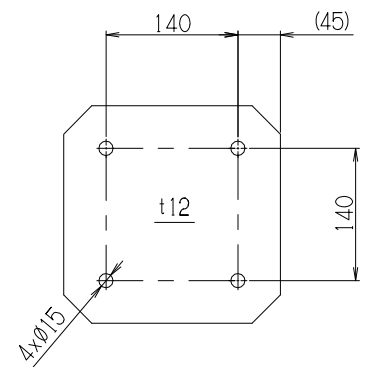
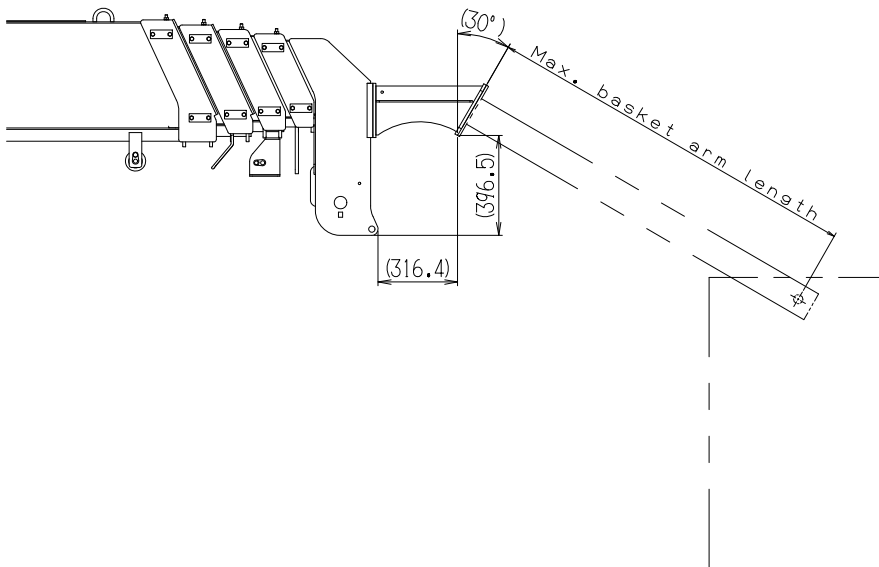
- The size of mounting bolt is M16x2.0, and the length should be selected so that the engagement allowance is 13mm or more and 24mm less.
- Use bolts with a strength classification of 10.9 or equivalent and washers suitable for the bolts.
- Tightening torque :  $147 \pm 8$  [N · m]



Basket monting plate

## MOUNTABLE BASKET SPECIFICATIONS (WHEN USING OPTIONAL BASKET MOUNTING SUPPORT)

Max. basket weight	200 kg
Max. basket loading capacity	200 kg
Max. basket arm length	1500 mm



Basket monting plate

## GENERAL DATA FOR SUITABLE TRUCKS

Gross vehicle weight (including crane mass)	25,000 kg min.
Chassis front axle weight (excluding crane mass)	3,000 kg min.
Wheel base	5,000 mm min. (*1)
P.T.O. torque	180 N·m {18.4 kgf·m} min.
P.T.O. revolution	Approx. 1,200 min <sup>-1</sup> {rpm} max.
Width for crane mounting	Approx. 1,000 mm min.
Frame	Weight distribution and frame strength should be calculated for each truck
Frame width range (inside to outside)	Approx. 610 to 940 mm
Frame height (ground to frame top)	Approx. 1,300 mm max. (Height of crane mounting base can be changed by combination of jack floats and crane bases)

\*1 From the center of the front axle to the center of 2 rear axles .