

CRANE SPECIFICATION

TADANO TG500E-3

COMPREHENSIVE LIFTING SOLUTIONS

We look forward to providing a full heavy lift engineering and crane solution for your next project. Our heavy lift engineers and on site personnel are experienced in managing and organising highly de-manding lift requirements.

Contact us to discuss your lifting requirements and a free quote.

BRISBANE (HQ)

07 3907 5800

37 Paringa Rd, Murarrie, QLD, 4172

GOLD COAST

07 5593 4688

9 Kimberley Rd, Burleigh Heads, QLD, 4220

GLADSTONE

07 4972 9326

7 Red Cover Rd, Gladstone, QLD, 4680

ROCKHAMPTON

07 4939 1095

371 Leichhardt St, Rockhampton QLD, 4700

ROMA

07 4622 5522

8 Wormwell Drive, Roma QLD 4455

SUNSHINE COAST

0409 595 618

562 Maroochydore Rd, Kunda Park, QLD, 4556

TOWNSVILLE

07 4779 4088

16 Mackley St, Garbutt QLD 4814

MACKAY

07 4952 6998

135 Diesel Drive, Paget QLD 4740



HYDRAULIC TRUCK CRANE

SPEC. SHEET NO. GT-550E-1-00102/EX-91

GT-550E

CARRIER: TC-4255

GENERAL DATA

CRANE CAPACITY 55,000 kg at 3.0 m 5-section, 11.1 m - 42.0m **BOOM DIMENSION** Overall length approx. 13,480 mm Overall width approx. 2,820 mm Overall height approx. 3,680 mm **MASS** 39,800 kg Gross vehicle mass approx. -front axle approx. 15,900 kg -rear axle approx. 23,900 kg **PERFORMANCE** Max. travelling speed computed 83 km/h Gradeability ($tan\theta$) computed 53 %

CRANE SPECIFICATIONS

MODEL

GT-550E

CAPACITY

55,000 kg at 3.0 m

BOOM

5-section full power partially synchronized telescoping boom of hexagonal box construction with 6 sheaves at boom head. The synchronization system consists of 2 telescope cylinders, extension cables and retraction cables. Hydraulic cylinders fitted with holding valves. Selection of 2 boom telescoping modes.

Fully retracted length......11.1 m
Fully extended length.....42.0 m
Extension speed........30.9 m in 123 s

JIB

2-staged boom extension type. Triple offset $(5^{\circ}/25^{\circ}/45^{\circ})$ type. Stored under base boom section. Single sheave at jib head.

Length..... 9.0 m and 14.6 m

SINGLE TOP(Auxiliary boom sheave)

Single sheave. Mounted to main boom head for single line work.

ELEVATION

By a double-acting hydraulic cylinder, fitted with holding valve. Automatic Speed Reduction and Soft Stop function.

Elevation speed.....- 2° to 80° in 68 s

HOIST-Main winch

Variable speed type with grooved drum driven by hydraulic axial piston motor through winch speed reducer. Power load lowering and hoisting. Equipped with automatic brake (Neutral brake) and counterbalance valve.

Controlled independently of auxiliary winch.

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Variable speed type with grooved drum driven by hydraulic axial piston motor through winch speed reducer. Power load lowering and hoisting. Equipped with automatic brake (Neutral brake) and counterbalance valve.

Controlled independently of main winch.

Single line pull	. 44.1 kN { 4,500kgf }
Single line speed	. 123 m/min (at the 2nd layer)
Wire rope	.Spin-resistant type
Diameter x length	. 19 mm x 127m

SWING

Hydraulic axial piston motor driven through planetary speed reducer. Continuous 360° full circle swing on ball bearing slew ring. Automatic Speed Reduction and Soft Stop function. Equipped with manually locked/released swing brake.

Swing speed......1.9 min⁻¹ { rpm }

HYDRAULIC SYSTEM

Pumps	. Quadruple gear pumps driven by
	carrier engine through P.T.O.
Control valves	Multiple valves actuated by pilot
	pressure with integral pressure
	relief valves.
Circuit	. Equipped with air cooled type oil
	cooler. Oil pressure appears on
	AML display for main circuit.
Hydraulic oil tank capacity	approx. 690 liters
Filters	Return line filter

CAB AND CONTROLS

By 4 control levers for swing, boom hoist, main winch, boom telescoping or auxiliary winch with 2 control pedals for boom hoist, boom telescoping based on ISO standard layout. Control lever stands can change neutral positions and tilt for easy access to cab.

One sided one-man type, steel construction with sliding door access and tinted safety glass windows opening at side.

Operator's 3 way adjustable seat with headrest and armrest.

OUTRIGGER

Hydraulically operated H-type outriggers. Each outrigger controlled simultaneously or independently from either side of carrier. Equipped with sight level gauge. Floats mounted integrally with the jacks retract to within vehicle width. All cylinders fitted with pilot check valves.

Crane operation with different extended length of each outrigger.

Equipped with extension width detector for each outrigger.

FRONT JACK

A fifth hydraulically operated outrigger jack. Mounted to the front frame of carrier to permit 360° lifting capabilities. Hydraulic cylinder fitted with pilot check valve.

Equipped with front jack extension detector.

Float size(Diameter)......350 mm

COUNTERWEIGHT

Integral with swing frame	
Mass	4,200 kg

TADANO Automatic Moment Limiter (Model:AML-L)

Main unit in crane cab gives audible and visual warning of approach to overload. Automatically cuts out crane motions before overload. With working range (load radius and / or boom angle and / or tip height and / or swing range) limit function.

Nine functions are constantly displayed.

Digital liquid crystal display:

Either boom angle or moment %

Either boom length or potential hook height

Either actual working radius or swing angle

Actual hook load

Permissible load

Either jib offset angle or number of parts line of rope

Boom position indicator

Outrigger position indicator

Bar graphical display:

Either moment as percentage or main hydraulic pressure (Display changes by alternation key)

NOTE:

Each crane motion speed is based on unladen conditions.

MANUFACTURER

TADANO LTD.

MODEL

TC-4255 (Left hand steering, 8 x 4)

ENGINE [EURO-2]

Model.....NISSAN PF6

Type...... 4 cycle, 6 cylinder in line, direct injection, water cooled diesel

engine with turbochager.

engine with tu

Piston displacement... 12,503 cm³
Bore x stroke............ 133 mm x 150 mm
Max. output (JIS)....... 257 kW{350PS/345hp}

at 2100 min⁻¹{rpm}

Max. torque (JIS)...... 1460 Nm{150 kgfm}

at 1200 min⁻¹{rpm}

TRANSMISSION

7 forward and 1 reverse speeds, synchromesh on 2nd - 7th gear and constant-mesh on 1st and reverse gear.

AXLES

Front...... Reverse - elliot type
Rear..... Full floating type

SUSPENSION

Front..... Leaf spring

Rear..... Equalizer beams and torque rods

STEERING

Recirculating ball screw type with linkage power assistance.

BRAKE SYSTEM

Service.....Full air brake with maltiprotection valve and auto slack adjuster on all wheels, dual air line system, internal expanding leading and trailing shoe type.

Parking.....Pneumatically controlled spring brake, acting on all rear axles.

Auxiliary.....Electro-pneumatic operated

exhaust brake.

Emergency.....Pneumatically controlled spring

brake, acting on all rear axles.

TIRES

CAB

Steel construction, one sided 2-man type

Driver's seat..... Adjustable suspension type

ELECTRIC SYSTEM

24 V DC. 2 batteries of 12 V (JIS)115F51, 96Ah at 5-hour rate Alternator 24V-50A

FUEL TANK CAPACITY

300 liters

EQUIPMENT

FOR CRANE

Standard Equipment

4.5 t capacity, hook block (swivel hook)

Control pedals for boom hoist and boom telescoping

3 working lights

External lamp(AML)

Cable follower

Winch drum mirror(Hoist mirror)

Electric fan

Sun visor

Sun shade

Cab floor mat

Optional Equipment

 \square 55 t capacity, hook block (6 sheaves)

 \square 35 t capacity, hook block (4 sheaves)

(* in combination with non-spin wire rope for main winch)

☐ 20 t capacity, hook block (2 sheaves)

☐ Drum rotation indicator for main and auxiliary winch

☐ Air conditioner (hot water heater and cooler)

FOR CARRIER

Standard Equipment

Fan clutch: Viscous-type

Intake air heater

Overheating warning buzzer Cooling water level warning buzzer Engine over-run alarm

PTO hour meter

Passenger seat

Seat belt: 3 point type for driver, 2point type for passenger

Tilting-telescoping steering wheel

Windshield wiper(with intermittent wiping)and washer

Window glass: Tinted, Infrared and Ultraviolet rays

absorption Tachometer

Low air pressure warning buzzer

AM/FM radio

Car cooler(Refrigerant:R134a)

Car heater(Hot water type) with defroster

Third differential gear lock
Speedometer(with odometer)

Sun visor

Spare tire carrier with lock key

Tool box with lock key

Fuel tank cap with lock key

Back-up light Back-up alarm

Air filter warning light(Instrument cluster)

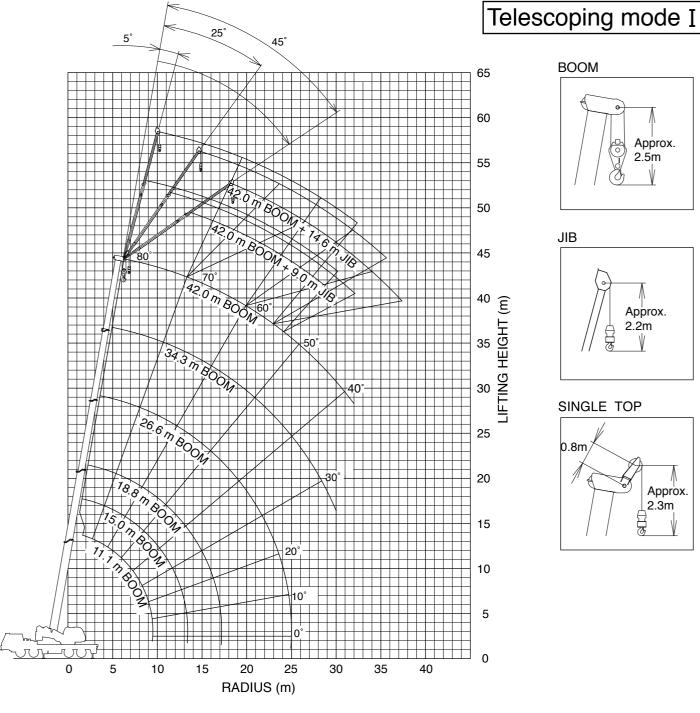
Towing hook(Front and rear, Eye type)

Ashtray

Cigarette lighter
Owner's tool set
Cab floor mat

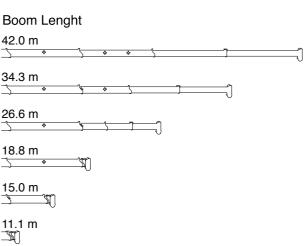
Front and Rear fog lamps Side marker lamps

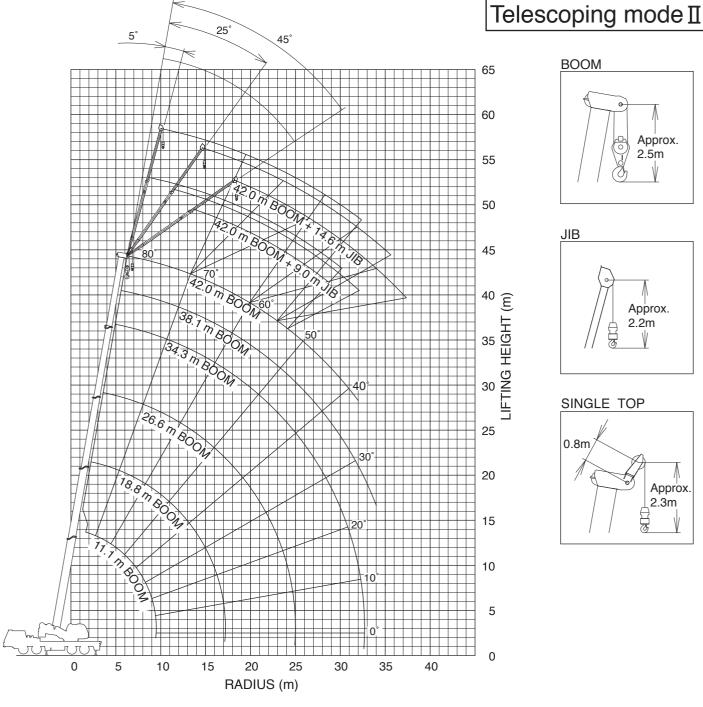
R2000 Side mirrors



NOTE:

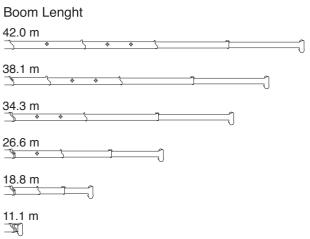
- Boom and jib geometry shown are for unloaded condition and machine standing level on firm supporting surface.
 - Boom deflection and subsequent radius and boom angle change must be accounted for when applying load to hook.
- 2. When the boom length is 11.1 12.0 m, Max boom angle is 76°





NOTE:

- Boom and jib geometry shown are for unloaded condition and machine standing level on firm supporting surface.
 - Boom deflection and subsequent radius and boom angle change must be accounted for when applying load to hook.
- 2. When the boom length is 11.1 12.0 m, Max boom angle is 76°



UNIT: kg CLASS OF CRANE; C3

				Outrigger	s fully extend	ded 6.8m				
Load radius (m)	11.1 m boom	15.0 m boom	18.8 m boom		26.6 m	6 m boom 34.3 m boom		boom	38.1 m boom	42.0 m boom
3.0	55,000	40,000	28,000	20,000						
3.5	43,700	40,000	28,000	20,000						
4.0	38,500	38,100	28,000	20,000						
4.5	34,200	33,800	28,000	19,800	20,000	14,000				
5.0	30,800	30,400	28,000	19,000	20,000	14,000				
5.5	27,800	27,400	27,200	18,200	20,000	13,600				
6.0	25,400	25,000	24,700	17,500	20,000	12,800	14,000	8,000		
6.5	23,200	22,800	22,500	16,800	18,900	12,000	14,000	8,000		
7.0	21,400	21,000	20,700	16,200	17,800	11,400	13,500	8,000	8,000	8,000
7.5	19,700	19,300	19,100	15,700	16,700	10,800	13,000	8,000	8,000	8,000
8.0	18,300	17,900	17,600	15,200	15,800	10,200	12,500	8,000	8,000	8,000
9.0	15,200	14,600	14,200	14,300	14,200	9,300	11,300	7,600	8,000	8,000
10.0		11,600	11,300	13,500	12,500	8,500	10,400	7,000	7,500	8,000
11.0		9,500	9,100	11,400	10,300	7,800	9,600	6,400	6,900	7,500
12.0		7,800	7,500	9,600	8,600	7,200	8,800	5,800	6,400	6,900
14.0			5,100	7,200	6,200	6,200	6,800	4,900	5,500	5,900
16.0			3,500	5,500	4,500	5,400	5,100	4,200	4,700	5,200
18.0					3,300	4,700	3,900	3,600	4,100	4,200
20.0					2,400	3,700	3,000	3,200	3,600	3,200
22.0					1,700	3,000	2,200	2,800	2,800	2,500
24.0					1,200	2,400	1,600	2,500	2,200	1,900
26.0							1,200	2,100	1,800	1,400
28.0							800	1,700	1,400	1,000
30.0							500	1,400	1,000	700
32.0								1,100	700	450
34.0									500	
	Telescoping conditions(%)									
Telescoping Mode	Ι, Π	I	I	П	I	П	I	П	П	Ι, Π
2nd boom	0	50	100	0	100	0	100	0	50	100
3rd boom	0	0	0	33	33	66	66	100	100	100
4th boom	0	0	0	33	33	66	66	100	100	100
Top boom	0	0	0	33	33	66	66	100	100	100

NOTES:

- 1. Rated lifting capacities shown in the table are based on the condition that the crane is set on firm ground horizontally. Those above bold line are based on crane strength and those below, it is stability.
- 2. Rated lifting capacities in the stability area comply with part 2 / ISO 4305.
- 3. The mass of load handling devices such as hook blocks {570 kg for *55 ton capacity, 410 kg for *35 ton capacity, 400 kg for *20 ton capacity and 130 kg for 4.5 ton capacity} and slings, shall be considered part of the load and must be deducted from rated lifting capacities.
- 4. Without front jack extended, when the boom is within the Over-front, Rated lifting capacities are different from those for the boom in the Over-side and Over-rear.
- 5. Standard number of parts of line for each boom length is as shown below. Load per-line should not surpass 42.2 kN {4,300 kgf} for main winch rope and 44.1 kN {4,500 kgf} for auxiliary winch rope.
 - *: Optional

Boom Length	11.1 m	15.0 m	18.8 m	26.6 m	34.3 m	38.1 m	42.0 m	Jib/Single top
Number of parts of line	**13/12	10	7	5	4	4	4	1

- **: With single top (When the lifting capacities is 55,000 kg)
- 6. Special weather caution: Refer to the operation and maintenance manual.
- 7. For rated lifting capacity of single top, subtract the main hook mass from the relevant boom rated lifting capacity. Rated lifting capacity of single top should not exceed 4,500 kg.
- 8. Load radius shown in the table includes the deflection of the boom. Therefore, perform it according to the load radius. However for the jib operation, perform it according to the boom angle regardless of the boom length. The load radius shows reference value when the jib is attached to the 42.0 m boom, 38.1 m boom (Telescoping mode II) and 34.3 m boom (Telescoping mode I).

RATED LIFTING CAPACITIES ISO 4305

UNIT: kg CLASS OF CRANE; C3

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				Outriggers 6	extended to r	niddle 4.6m				
Load radius (m)	11.1 m boom	15.0 m boom	18.8 m	boom	26.6 m	boom	34.3 m	boom	38.1 m boom	42.0 m boom
3.0	32,000	28,000	28,000	20,000						
3.5	32,000	28,000	28,000	20,000						
4.0	32,000	28,000	28,000	20,000						
4.5	26,300	25,500	24,900	19,700	20,000	14,000				
5.0	20,200	19,200	18,700	18,900	20,000	14,000				
5.5	15,800	15,100	14,600	17,700	16,400	13,500				
6.0	12,800	12,200	11,800	14,600	13,300	12,700	14,000	8,000		
6.5	10,600	10,000	9,600	12,300	11,100	12,000	11,900	8,000		
7.0	8,900	8,300	8,000	10,500	9,400	11,100	10,100	8,000	8,000	8,000
7.5	7,500	7,000	6,600	9,100	8,000	9,700	8,700	8,000	8,000	8,000
8.0	6,400	5,900	5,500	7,900	6,800	8,500	7,500	8,000	8,000	7,900
9.0	4,700	4,200	3,900	6,100	5,100	6,700	5,800	7,100	6,500	6,100
10.0		3,000	2,700	4,800	3,800	5,300	4,500	5,600	5,200	4,800
11.0		2,100	1,800	3,800	2,900	4,300	3,500	4,600	4,200	3,800
12.0		1,300	1,000	3,000	2,100	3,500	2,700	3,800	3,400	3,000
14.0				1,900	1,000	2,300	1,600	2,600	2,200	1,900
16.0				1,100		1,500		1,800	1,400	1,000
18.0								1,200		
				Teles	coping condi	tions(%)				
Telescoping Mode	Ι, Π	I	I	П	I	П	I	П	П	Ι, Π
2nd boom	0	50	100	0	100	0	100	0	50	100
3rd boom	0	0	0	33	33	66	66	100	100	100
4th boom	0	0	0	33	33	66	66	100	100	100
Top boom	0	0	0	33	33	66	66	100	100	100

UNIT: kg CLASS OF CRANE; C3

Outriggers extended to minimum 2.39m								
Load radius (m)	11.1 m boom	15.0 m boom	18.8 m	boom	26.6 m	boom		
3.0	22,800	22,100	21,700	20,000				
3.5	16,900	16,300	15,900	18,600				
4.0	13,100	12,500	12,100	14,600				
4.5	10,400	9,900	9,500	11,900	11,800	12,500		
5.0	8,400	7,900	7,600	9,800	8,800	10,400		
5.5	6,900	6,500	6,100	8,300	7,300	8,800		
6.0	5,700	5,300	5,000	7,000	6,100	7,600		
6.5	4,800	4,300	4,000	6,000	5,100	6,500		
7.0	4,000	3,500	3,200	5,200	4,300	5,700		
7.5	3,300	2,900	2,600	4,500	3,600	5,000		
8.0	2,700	2,300	2,000	3,900	3,000	4,400		
9.0	1,800	1,400	1,100	2,900	2,100	3,400		
10.0				2,200	1,400	2,700		
11.0				1,600		2,100		
12.0				1,100		1,600		
		Telesc	oping condit	ions(%)				
Telescoping Mode	Ι, Π	I	I	П	I	П		
2nd boom	0	50	100	0	100	0		
3rd boom	0	0	0	33	33	66		
4th boom	0	0	0	33	33	66		
Top boom	0	0	0	33	33	66		

RATED LIFTING CAPACITIES ISO 4305

UNIT: kg CLASS OF CRANE; C3

Outriggers fully extended 6.8m									
D			42.0 m	boom					
Boom angle		9.0 m jib			14.6 m jib				
arigio	5°offset	25°offset	45° offset	5°offset	25°offset	45°offset			
80°	3,500	2,300	1,300	2,500	1,200	700			
79°	3,500	2,300	1,300	2,500	1,200	700			
78°	3,500	2,300	1,300	2,500	1,200	700			
77°	3,400	2,300	1,280	2,350	1,170	690			
76°	3,250	2,240	1,260	2,220	1,140	680			
75°	3,100	2,160	1,240	2,100	1,120	670			
73°	2,840	2,020	1,200	1,890	1,070	650			
70°	2,430	1,850	1,150	1,640	1,000	630			
68°	2,200	1,730	1,120	1,500	950	620			
65°	1,950	1,580	1,070	1,330	910	590			
63°	1,780	1,450	1,030	1,220	850	580			
60°	1,350	1,180	1,000	1,080	800	570			
58°	1,050	920	850	800	750	560			
55°	680	590	550	500	480	420			
53°	470	410							

UNIT: kg CLASS OF CRANE; C3

Outriggers fully extended 6.8m									
B	;	38.1 m boom	(telescopin	g mode II) d	r less than th	nat			
Boom angle		9.0 m jib			14.6 m jib				
arigio	5°offset	25°offset	45° offset	5°offset	25°offset	45° offset			
80°	3,500	2,300	1,300	2,500	1,200	700			
79°	3,500	2,300	1,300	2,500	1,200	700			
78°	3,500	2,300	1,300	2,500	1,200	700			
77°	3,400	2,300	1,280	2,350	1,170	690			
76°	3,250	2,240	1,260	2,220	1,140	680			
75°	3,100	2,160	1,240	2,100	1,120	670			
73°	2,840	2,020	1,200	1,890	1,070	650			
70°	2,430	1,850	1,150	1,640	1,000	630			
68°	2,200	1,730	1,120	1,500	950	620			
65°	1,950	1,580	1,070	1,330	910	590			
63°	1,780	1,450	1,030	1,220	850	580			
60°	1,550	1,280	1,000	1,080	800	570			
58°	1,380	1,200	980	1,000	770	560			
55°	1,150	1,080	940	890	730	550			
53°	1,000	1,000	920	820	710	540			
50°	840								

UNIT: kg CLASS OF CRANE; C3

Outsigness fully outsigned C.O.									
Outriggers fully extended 6.8m									
B	;	34.3 m boom	(telescopin	g mode I) or	less than th	at			
Boom angle		9.0 m jib			14.6 m jib				
urigio	5°offset	25°offset	45° offset	5°offset	25° offset	45° offset			
80°	3,500	2,300	1,300	2,500	1,200	700			
79°	3,500	2,300	1,300	2,500	1,200	700			
78°	3,500	2,300	1,300	2,500	1,200	700			
77°	3,400	2,300	1,280	2,350	1,170	690			
76°	3,250	2,240	1,260	2,220	1,140	680			
75°	3,100	2,160	1,240	2,100	1,120	670			
73°	2,840	2,020	1,200	1,890	1,070	650			
70°	2,430	1,850	1,150	1,640	1,000	630			
68°	2,200	1,730	1,120	1,500	950	620			
65°	1,950	1,580	1,070	1,330	910	590			
63°	1,780	1,450	1,030	1,220	850	580			
60°	1,550	1,280	1,000	1,080	800	570			
58°	1,380	1,200	980	1,000	770	560			
55°	1,150	1,080	940	890	730	550			
53°	1,000	1,000	920	820	710	540			
50°	840								

UNIT: kg CLASS OF CRANE; C3

						•				
	Outriggers extended to middle 4.6m									
В			42.0 m	boom						
Boom angle		9.0 m jib			14.6 m jib					
arigio	5°offset	25°offset	45° offset	5°offset	25°offset	45° offset				
80°	3,500	2,300	1,300	2,500	1,200	700				
79°	3,500	2,300	1,300	2,500	1,200	700				
78°	3,080	2,280	1,300	2,500	1,200	700				
77°	2,550	1,910	1,280	2,190	1,170	690				
76°	2,090	1,580	1,260	1,800	1,140	680				
75°	1,700	1,300	1,070	1,470	1,010	670				
73°	1,070									

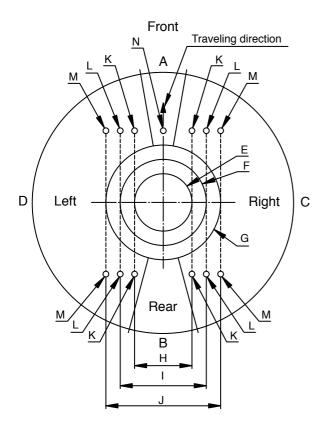
UNIT: kg CLASS OF CRANE; C3

Outriggers extended to middle 4.6m									
B	3	8.1 m boom	(telescoping	mode II) or	less than tha	at			
Boom angle		9.0 m jib			14.6 m jib				
arigio	5°offset	25°offset	45° offset	5°offset	25°offset	45° offset			
80°	3,500	2,300	1,300	2,500	1,200	700			
79°	3,500	2,300	1,300	2,500	1,200	700			
78°	3,500	2,300	1,300	2,500	1,200	700			
77°	3,400	2,300	1,280	2,350	1,170	690			
76°	2,910	2,200	1,260	2,220	1,140	680			
75°	2,480	1,900	1,240	2,100	1,120	670			
73°	1,780	1,390	1,160	1,520	1,070	650			
70°	1,010								

UNIT: kg CLASS OF CRANE; C3

Outriggers extended to middle 4.6m						
Boom angle	34.3 m boom (telescoping mode I) or less than that					
	9.0 m jib			14.6 m jib		
	5°offset	25°offset	45° offset	5°offset	25°offset	45° offset
80°	3,500	2,300	1,300	2,500	1,200	700
79°	3,500	2,300	1,300	2,500	1,200	700
78°	3,500	2,300	1,300	2,500	1,200	700
77°	3,400	2,300	1,280	2,350	1,170	690
76°	2,910	2,200	1,260	2,220	1,140	680
75°	2,480	1,900	1,240	2,100	1,120	670
73°	1,780	1,390	1,160	1,520	1,070	650
70°	1,010					

- 1. Applicable rated lifting capacities change as the ranges of the working area, depending on the outrigger extension width and whether the front jack is used.
- 2. When the swing automatic stop cancel switch is canceled, the swing does not automatically stop even if the crane becomes overloaded.



A: Over-front area

B: Over-rear area

C: Over-side area (right)

D : Over-side area (left)

E: Rated lifting capacity (capacity with outriggers at minimum extension)

F: Rated lifting capacity (capacity with outriggers at middle extension)

G : Rated lifting capacity (capacity with outriggers at full extension)

H: Minimum extension width of outriggers

I: Middle extension width of outriggers

J : Full extension width of outriggers

K: Position of outrigger jack with the beam not extended

L: Position of outrigger jack with the beam extended halfway

M: Position of outrigger jack with the beam extended fully

N : Front jack

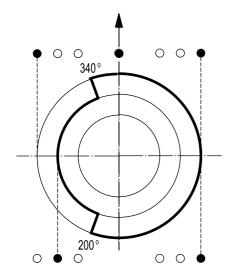
Reference

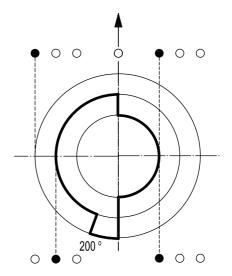
Front jack extended

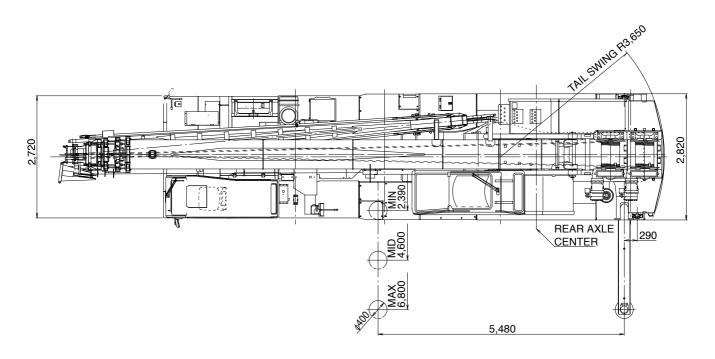
FL outrigger extended to fully, FR outrigger extended to fully RL outrigger extended to middle, RR outrigger extended to fully

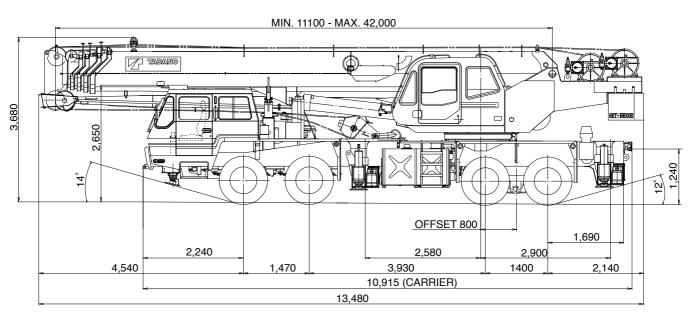
Front jack not extended

FL outrigger extended to fully, FR outrigger extended to minimum RL outrigger extended to middle, RR outrigger extended to minimum









Tread (track) - Front 2,250 mm

- Rear 2,110 mm

Min. ground clearance 230 mm

(rear equalizer beam)

Specifications are subject to change without notice.

