TADANO HYDRAULIC TRUCK CRANE

SPEC. SHEET No. TG-500E-3-10505/EX-152 (KG56TXL)
SPEC. SHEET No. TG-500E-3-10605/EX-162 (KG56TXN)

TG-500E

CARRIER : KG56TXL/KG56TXN

GENERAL DATA

CRANE CAPACITY		50,000 kg at 3.0 m
BOOM		5-section, 10.65 m - 40.0 m
DIMENSION		
Overall length	approx.	12,960 mm
Overall width	approx.	2,820 mm
Overall height	approx.	3,730 mm
MASS (Including hook block -50 ton, 4 ton capacity)		
Gross vehicle mass	approx.	38,800 kg
- front	approx.	15,100 kg
- rear	approx.	23,700 kg
PERFORMANCE		
Max. travelling speed	computed	68 km/h
Gradeability (tan θ)	computed	54 %

CRANE SPECIFICATIONS

MODEL
TG-500E

CAPACITY
50,000 kg at 3.0 m

BOOM
5-section full length power dual-synchronized telescoping boom of hexagonal box construction with 6 sheaves at boom head. The synchronization system consists of three telescope cylinders, an extension cable and a retraction cable.
Hydraulic cylinders fitted with holding valves.
Fully retracted length ·····10.65 m
Fully extended length ·····40.0 m
Extension speed·····29.35 m in 120 s

JIB
2-staged extension type. Triple offset (5°/25°/45°) 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.
Elevation speed ·····-3° to 80° in 63 s

TADANO LTD.

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CRANE SPECIFICATIONS

SPEC. SHEET No. TG-500E-3-10505/EX-152 (KG56TXL)
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HOIST - Main winch
2-speed type with grooved drum driven by hydraulic axial piston motor through planetary winch speed reducer. Power load lowering and hoisting.
Equipped with automatic fail-safe brake with free-fall device by foot brake operation and counterbalance valve.
Hoist lever is fitted with a high-speed switch. Controlled independently of auxiliary winch.

Single line pull	41.2 kN {4,200 kgf}
Single line speed	
High range	100 m/min. (at the 3rd layer)
Normal range	45 m/min. (at the 3rd layer)
Wire rope	Spin-resistant type
Diameter x length	18 mm x 215 m

HOOK BLOCK - 50 ton capacity
6 sheaves, swivel type hook with safety latch.

HOOK BLOCK - 20 ton capacity
2 sheaves, swivel type hook with safety latch.

HOIST - Auxiliary winch
2-speed type with grooved drum driven by hydraulic axial piston motor through planetary winch speed reducer. Power load lowering and hoisting.
Equipped with automatic fail-safe brake with free-fall device by foot brake operation and counterbalance valve.
Hoist lever is fitted with a high-speed switch.
Controlled independently of main winch.

Single line pull	39.2 kN {4,000 kgf}
Single line speed	
High range	93 m/min. (at the 2nd layer)
Normal range	42 m/min. (at the 2nd layer)
Wire rope	Spin-resistant type
Diameter x length	18 mm x 130 m

HOOK BLOCK - 4 ton capacity
Swivel hook with safety latch for single line use.

SWING
Hydraulic axial piston motor driven through planetary swing speed reducer. Continuous 360° full circle swing on ball bearing slew ring. TADANO Twin Swing System enable to select power-controlled or free swing. Swing lever is fitted with a horn switch.
Equipped with hand-operated swing brake.
Swing speed 2.0 min^{-1} {rpm}

HYDRAULIC SYSTEM

Pumps	Quadruple gear pumps driven by carrier engine through P.T.O.
Control valves	Multiple valves actuated by hand levers with integral pressure relief valves.
Circuit	Equipped with air cooled type oil cooler.
Hydraulic oil tank capacity	Approx. 615 liters
Filters	Return line filter

CRANE CONTROL
By 5 control levers based on ISO standard layout.

CAB
Steel construction with sliding door access and safety glass windows opening at sides, rear and roof. Cloth covered reclining seat with headrest is height-adjustable and back-and-forth adjustable.
Equipments
- Engine start and stop switch
- Accelerator lock button
- Electric windshield wiper and electric sky-light wiper

SAFETY DEVICES
Boom angle indicator
Pendant type over-winding cutout
Winch automatic fail-safe brake
Winch drum lock
Hook safety latch
Pilot check valves
Holding valves
Counterbalance valves
Hydraulic pressure relief valves
Front jack overload alarm
Spring center system (Control levers)
Winch lever lock

TADANO Automatic Moment Limiter (Model:AML-LC)
Main unit in crane cab gives audible and visual warning of approach to overload. Automatically cuts out crane motions before overload. With working range limit function.
Working area for each outrigger position is given separately.
Seven functions are constantly displayed.
Digital liquid crystal display:
- Boom angle
- Either boom length or potential hook height
- Actual working radius
- Actual hook load
- Permissible load
- Either jib offset angle or jib length
- Boom position indicator
- Outrigger position indicator

Bar graphical display :
- Either moment as percentage or main hydraulic pressure and accumulator pressure (Display changes by alternation key)

OUTRIGGERS
4 hydraulically operated outriggers. Each outrigger controlled simultaneously or independently from either side of carrier. Equipped with sight level gauges.
Floats mounted integrally with the jacks retract to within vehicle width. All cylinders fitted with pilot check valves.
Extended width

Fully	6,800 mm
Middle	4,600 mm
Minimum	2,390 mm
Float size (Diameter)	400 mm

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.
Float size (Diameter) 350mm

COUNTERWEIGHT
Integral with swing frame.

STANDARD EQUIPMENT
Control pedals for telescoping and auxiliary winch
3 working lights
Winch drum rotation indicator (Visual)
Winch drum mirror (Hoist mirror)
External lamp (AML)
Sun visor
Cab floor mat

OPTIONAL EQUIPMENT
Electric fan
Cab heater (Diesel fuel type)
Cab cooler (Refrigerant : R134a)

NOTE :
Each crane motion speed is based on unladen conditions.

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CARRIER SPECIFICATIONS

SPEC. SHEET No. TG-500E-3-10505/EX-152 (KG56TXL)
SPEC. SHEET No. TG-500E-3-10605/EX-162 (KG56TXN)

MANUFACTURER
NISSAN DIESEL MOTOR CO., LTD

MODEL

KG56TXL	Left hand steering, 8 x 4
KG56TXN	Right hand steering, 8 x 4

ENGINE

Model	NISSAN RF8
Type	4 cycle, 8 cylinder in 90°V, direct injection, water cooled diesel engine.
Piston displacement	16,991 cm^3
Bore x Stroke	138 mm x 142 mm
Max. output (JIS)	250 kW {340 ps} at 2,200 min^{-1} {rpm}
Max. torque (JIS)	1,176 N•m {120 kgf•m} at 1,400 min^{-1} {rpm}

CLUTCH
Dry single plate, hydraulically operated clutch release mechanism with air assisted booster.

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

AXLES

Front	Reverse-elliot type, I-beam
Rear	Full floating type

STEERING
Recirculating ball screw type with linkage power assistance.

SUSPENSION

Front	Semi-elliptic leaf springs
Rear	Equalizer beams and torque rods

BRAKE SYSTEM

Service	Full air brake on all wheels, dual air line system, internal expanding leading and trailing shoe type.
Parking	Mechanically operated by hand brake lever. Internal expanding duo-servo shoe type acting on drum at transmission case rear.
Auxiliary	Electro-pneumatic operated exhaust brake.
Emergency	Pneumatically controlled spring brake, acting on all rear axles.

ELECTRIC SYSTEM
24 V DC. 2 batteries of 12 V
(JIS) 115 F 51, 96 Ah at 5-hour rate
Alternator 24 V - 50 A

FUEL TANK CAPACITY
300 liters

CAB
Steel construction, one sided 2-man type.
Driver's seat Adjustable suspension type

TIRES

Front	12R22.5 152/148 K, Single x 4
Rear	12R22.5 152/148 K, Dual x 4
Spare	12R22.5 152/148 K, x 1

TURN RADIUS
Min. turning radius
(at center of extreme outer tire) 11.0 m

EQUIPMENT

STANDARD EQUIPMENT
Fan clutch : Viscous-type
Intake air heater
Overheating warning buzzer
Cooling water level warning buzzer
Engine over-run alarm
P.T.O. hour meter
Seat belt : 3 point type for driver, 2 point type for assistant
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 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)
Two towing hooks (Front and rear, Eye type)
Ashtray
Cigarette lighter
Front fog lamp
Owner's tool set
Cab floor mat

OPTIONAL EQUIPMENT
Car cooler (Refrigerant : R134a)
Tire inflator

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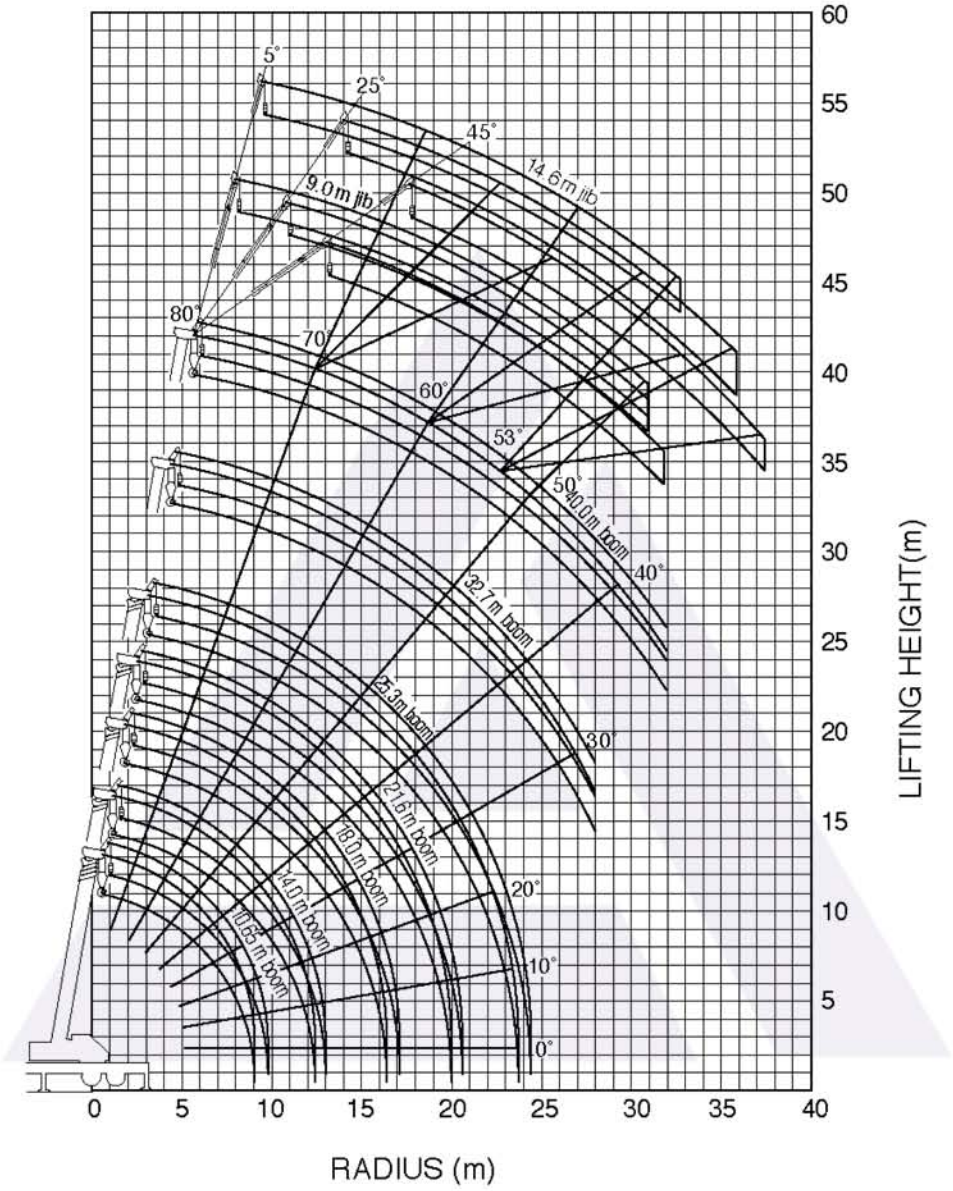
WORKING RANGE

SPEC. SHEET No. TG-500E-3-10505/EX-152 (KG56TXL)
SPEC. SHEET No. TG-500E-3-10605/EX-162 (KG56TXN)



NOTE :

The above lifting height and boom angle are based on a straight (unladen) boom, and allowance should be made for boom deflection obtained under laden conditions.

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RATED LIFTING CAPACITIES

SPEC. SHEET No. TG-500E-3-10505/EX-152 (KG56TXL)
SPEC. SHEET No. TG-500E-3-10605/EX-162 (KG56TXN)

Unit : kg

Outriggers fully extended 6.8 m Front jack extended (360°) Front jack not extended (Over sides and rear)							
B \ A	10.65 m	14.0 m	18.0 m	21.6 m	25.3 m	32.7 m	40.0 m
3.0 m	50,000	33,000	28,000	24,000			
3.5 m	43,000	33,000	28,000	24,000			
4.0 m	38,000	33,000	28,000	24,000	20,000		
4.5 m	34,000	30,500	28,000	24,000	20,000		
5.0 m	30,200	29,000	28,000	24,000	20,000		
5.5 m	27,500	26,500	25,600	23,200	20,000	14,000	
6.0 m	25,000	24,000	23,500	21,500	20,000	14,000	
6.5 m	22,700	22,300	21,800	19,900	18,600	14,000	8,000
7.0 m	20,700	20,300	20,000	18,400	17,300	13,500	8,000
7.5 m	18,900	18,600	18,500	17,100	16,200	13,000	8,000
8.0 m	17,400	17,100	17,000	15,900	15,300	12,500	8,000
9.0 m	14,400	14,200	14,100	13,600	13,600	11,300	8,000
10.0 m		11,700	11,600	11,450	11,400	10,300	7,500
11.0 m		9,800	9,600	9,500	9,450	9,400	6,950
12.0 m		8,200	8,100	8,000	8,000	8,600	6,450
14.0 m			5,900	5,800	5,700	6,500	5,600
16.0 m			4,250	4,200	4,100	5,000	4,850
18.0 m				3,000	2,950	3,750	4,250
20.0 m				2,100	2,050	2,850	3,300
22.0 m					1,300	2,100	2,550
24.0 m						1,500	2,000
26.0 m						1,050	1,500
28.0 m						650	1,100
30.0 m							750
32.0 m							450

Unit : kg

Outriggers fully extended 6.8m Front jack extended (360°) Front jack not extended (Over sides and rear)						
C	9.0 m			14.6 m		
E \ D	5°	25°	45°	5°	25°	45°
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°	1,300	1,200	980	1,000	770	560
55°	900	850	800	700	650	550
53°	700	650	600	550	500	500
50°	400					

A : Boom length
B : Load radius
C : Jib length
D : Jib offset
E : Boom angle

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RATED LIFTING CAPACITIES

SPEC. SHEET No. TG-500E-3-10505/EX-152 (KG56TXL)
SPEC. SHEET No. TG-500E-3-10605/EX-162 (KG56TXN)

Unit : kg

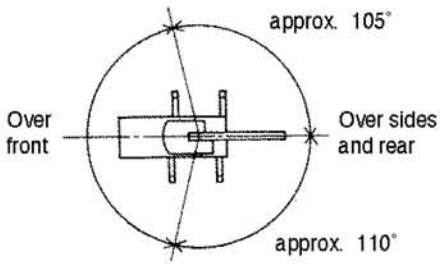
Outriggers fully extended 6.8 m (Over front) Outriggers extended to middle 4.6 m (360ß)								Outriggers extended to minimum 2.39 m (360ß)
B \ A	10.65 m	14.0 m	18.0 m	21.6 m	25.3 m	32.7 m	40.0 m	10.65 m
3.0 m	40,000	33,000	28,000	24,000				8,000
3.5 m	34,000	31,000	28,000	24,000				6,400
4.0 m	28,600	28,300	28,000	24,000	20,000			5,100
4.5 m	26,800	26,800	25,700	24,000	20,000			4,200
5.0 m	20,600	20,500	20,400	19,200	18,000			3,400
5.5 m	16,500	16,400	16,300	15,700	14,900	14,000		2,800
6.0 m	13,500	13,500	13,300	13,200	12,500	12,400		2,300
6.5 m	11,300	11,300	11,200	11,100	10,600	10,700	8,000	1,900
7.0 m	9,600	9,600	9,500	9,400	9,100	9,300	8,000	1,600
7.5 m	8,300	8,200	8,100	8,100	7,900	8,200	7,900	1,250
8.0 m	7,200	7,100	7,000	7,000	6,800	7,200	7,100	1,000
9.0 m	5,400	5,400	5,300	5,200	5,200	5,700	5,700	
10.0 m		4,100	4,000	3,900	3,900	4,500	4,600	
11.0 m		3,100	3,000	2,900	2,900	3,600	3,700	
12.0 m		2,300	2,200	2,100	2,100	2,900	3,000	
14.0 m						1,800	2,000	
16.0 m							1,200	

Unit : kg

Outriggers fully extended 6.8 m (Over front) Outriggers extended to middle 4.6 m (360ß)						
C \ E / D	9.0 m			14.6 m		
	5ß	25ß	45ß	5ß	25ß	45ß
80ß	3,500	2,300	1,300	2,500	1,200	700
79ß	3,500	2,300	1,300	2,500	1,200	700
78ß	3,300	2,300	1,300	2,500	1,200	700
77ß	2,810	2,240	1,280	2,180	1,170	690
76ß	2,360	1,910	1,260	1,840	1,140	680
75ß	1,970	1,610	1,240	1,530	1,120	
73ß	1,340					

A : Boom length
B : Load radius
C : Jib length
D : Jib offset
E : Boom angle

WORKING AREA



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RATED LIFTING CAPACITIES

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SPEC. SHEET No. TG-500E-3-10605/EX-162 (KG56TXN)

NOTES :
1. Rated lifting capacities shown in the table are based on condition that the crane is set on firm ground horizontally.
   Those above bold lines are based on crane strength and those below, on its stability.
2. Rated lifting capacities below bold lines do not exceed 75 % of tipping load.
3. Each rated lifting capacity includes mass of the hook (460 kg for 50 ton capacity, *350 kg for 35 ton capacity, 340 kg for 20 ton capacity, 100kg for 4 ton capacity) and slings.
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 part line for each boom length is as shown below. Load per line should not surpass 41.2 kN {4,200 kgf} for main winch and 39.2 kN {4,000 kgf} for auxiliary winch.

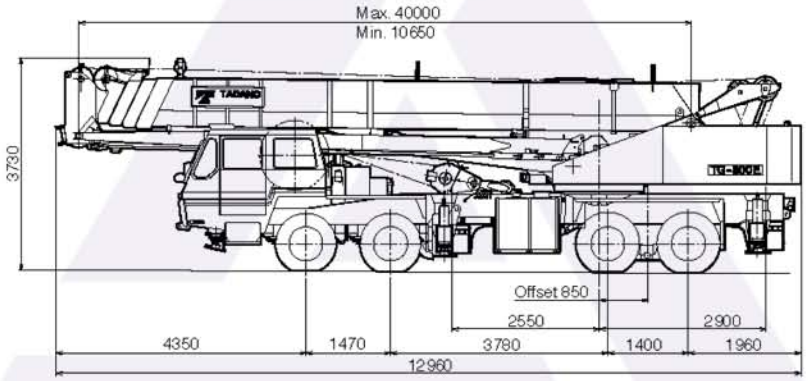
Boom length	10.65m	14.0m	18.0m	21.6m	25.3m	32.7m	40.0m	Jib/Single top
No. of part line	12	8	7	6	5	4	4	1

6. 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 4,000 kg.
7. Free-fall operation should be performed without any load on the hook.

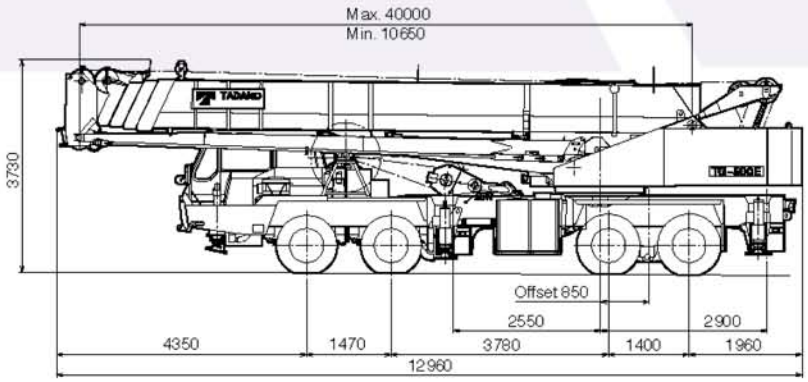
*Optional

DIMENSIONS

KG56TXL (LEFT HAND STEERING)



KG56TXL (RIGHT HAND STEERING)



Overall width ..... 2,820 mm
Tail swing radius ..... 3,580 mm
Tread (track) -Front ..... 2,050 mm
-Rear ..... 1,860 mm

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Specifications are subject to change without notice.

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