

# TG-500E

**CARRIER : KG53TXL / KG53TXN**  
(Left hand steering) (Right hand steering)

## GENERAL DATA

**CRANE CAPACITY** 50,500 kg at 3.0 m**BOOM** 5-section, 10.8 m—40.15 m**DIMENSIONS** (including optional equipments)

Overall length	approx.	13,620 mm
Overall width	approx.	2,820 mm
Overall height KG53TXL	approx.	3,750 mm
KG53TXN	approx.	3,600 mm

**WEIGHTS** (including optional equipments)

Gross vehicle weight		
—total	approx.	38,700 kg
—front	approx.	15,000 kg
—rear	approx.	23,700 kg

**PERFORMANCE**

Travelling speed (max.)	computed	71 km/h
Gradeability (tan $\theta$ )	computed	26%

## CRANE SPECIFICATIONS

**MODEL**  
TG-500E**CAPACITY**  
50,500 kg at 3.0 m**BOOM**  
5-section full power dual-synchronized telescoping boom of hexagonal box construction with 6 sheaves at boom head. The synchronization system consists of double-acting telescope cylinders, an extension cable and a retraction cable. Hydraulic cylinders fitted with holding valves.Fully retracted length . . . . 10.8 m  
Fully extended length . . . . 40.15 m  
Extension speed . . . . . 29.35 m in 115 s**JIB\*—2-stage**Box type top section telescopes from lattice type base section which stores alongside base boom section. 5° or 30° offset (tilt type). Single sheave at jib head.  
Length . . . . . 9.0 m and 16.0 m**SINGLE TOP\***Single sheave.  
Mounted to main boom head for single line work.**ELEVATION**By 2 double-acting hydraulic cylinders fitted with holding valve.  
Elevation speed . . . —2.5° to 82° in 58 s

\*optional

**TADANO LTD.**

# CRANE SPECIFICATIONS

SPEC. No. TG-500E-2-10101/EX-10/E (Left hand steering)  
SPEC. No. TG-500E-2-10201/EX-10/E (Right hand steering)

## HOIST – Main winch

2-speed type with grooved drum driven by hydraulic axial piston motor through 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. Controlled independently of auxiliary winch.\*

Single line pull . . . 4,200 kg  
Single line speed  
High range . . . . . 106 m/min.  
(at the 3rd layer)  
Normal range . . . 53 m/min.  
(at the 3rd layer)  
Wire rope . . . . . Spin-resistant type  
Diameter x length. . 18 mm x 185 m

## HOOK BLOCK – 50.5 ton capacity

6 sheaves, swivel type hook with safety latch.  
Weight . . . . . 460 kg

## HOOK BLOCK – 12 ton capacity

Single sheave, swivel type hook with safety latch.  
Weight . . . . . 190 kg

## HOIST – Auxiliary winch\*

Grooved drum driven by hydraulic axial piston motor through 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. Controlled independently of main winch.

Single line pull . . . 4,000 kg  
Single line speed . . 90 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.  
Weight . . . . . 100 kg

## SWING

Hydraulic axial piston motor driven through planetary swing speed reducer. Continuous 360° full circle swing on ball bearing slew ring.

Swing free/lock selection.

Equipped with hand-operated swing brake.  
Swing speed . . . . . 1.8 rpm

## HYDRAULIC SYSTEM

Pumps . . . . . Gear pumps  
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. 675 liters  
Filters . . . . . Return line filter

## CRANE CAB

Steel construction with sliding door access and safety glass windows opening at side, rear and roof. Reclining seat with headrest.

## SAFETY DEVICES

Boom angle indicator.  
Pendant type over-winding cut out device.  
Winch automatic fail-safe brake.  
Hook safety latch.  
Pilot check valves.  
Holding valves.  
Counterbalance valves.  
Hydraulic pressure relief valves.  
Front jack over load alarm\*.

## TADANO Automatic Moment Limiter (Model: AML-US)

Main unit in crane cab gives audible and visual warning of approach to overload.

Automatically cuts out crane motions before overload.

Digital Liquid Crystal Display:

Moment as percentage  
Boom angle  
Boom length  
Actual working radius  
Actual load lifted  
Permissible load  
Potential hook height

## 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 and retract to within vehicle width. All cylinders fitted with pilot check valves.

Extended width . . 6,800 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.

## NOTE:

Each crane motion speed is based on unladen conditions.

\* optional

# CARRIER SPECIFICATIONS

SPEC. No. TG-500E-2-10101/EX-10/E (Left hand steering)  
SPEC. No. TG-500E-2-10201/EX-10/E (Right hand steering)

## MANUFACTURER

NISSAN DIESEL MOTOR CO., LTD.

## MODEL

KG53TXL . . . . . Left hand steering, 8 x 4,  
KG53TXN . . . . . Right hand steering, 8 x 4

## ENGINE

Model . . . . . NISSAN RE8 DIESEL ENGINE  
Type . . . . . 4 cycle, 8 cylinders in 90° V,  
direct injection, water cooled  
diesel engine.

Piston displacement . . . 15,115 cc  
Max. output (JIS) . . . 315 ps at 2,300 rpm  
Max. torque (JIS) . . . 105 kgm at 1,400 rpm

## CLUTCH

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

## TRANSMISSION

5 forward and 1 reverse speeds, synchromesh on 2nd-5th gears, and constant mesh on 1st and reverse gears.

## AUXILIARY TRANSMISSION

2 speed.  
Total . . . . . 10 speeds forwards and 2 reverse.

## AXLES

Front . . . . . Tandem-weld axle ends, steel tube and forged steel. Reverse-elliot type steering knuckles.  
Rear . . . . . Fully floating, cast steel banjo type housing, inline tandem type.

## STEERING

Recirculating ball screw type with linkage power assistance.

## SUSPENSION

Front . . . . . Semi-elliptic leaf springs with anchor at front and sliding contactor at rear.  
Rear . . . . . Underhanging equalizer beams with self-adjusting spherical bearing at ends with torque rods.

## BRAKE SYSTEM

Service . . . . . Foot operated 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.

## ELECTRIC SYSTEM

24V DC. 2 batteries of 12V-120 AH capacity.

## FUEL TANK CAPACITY

300 liters

## CAB

Steel construction, one sided 2-man type. With heater and transistor radio.

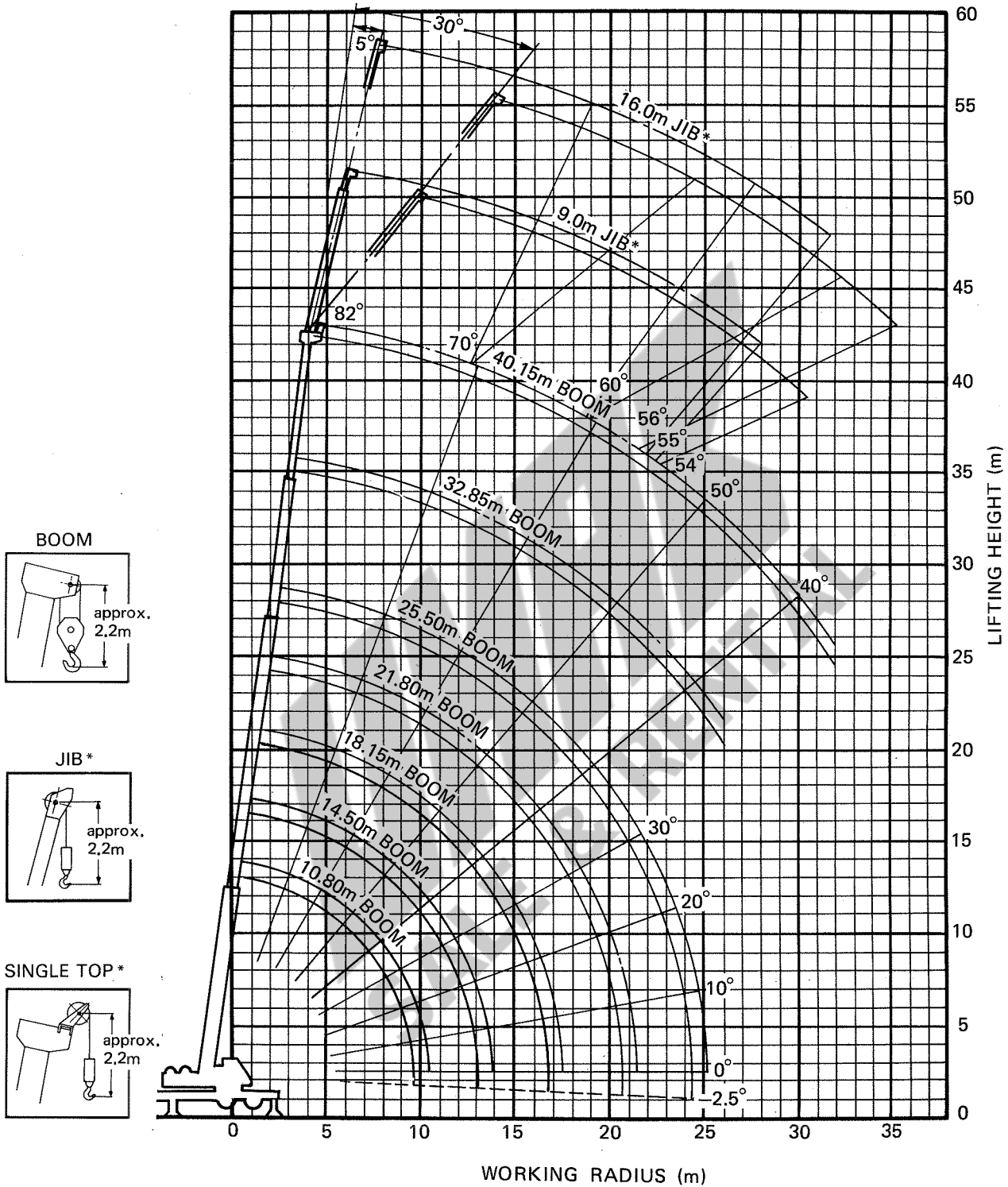
## TIRES

Front . . . . . Single x 4,  
12.00-20-18 PR  
Rear . . . . . Dual x 4  
12.00-20-18 PR  
Spare . . . . . 12.00-20-18 PR, x 1

## TURN RADIUS

Min. turning radius . . . 11.8m  
(at center of extreme outer tire)

# WORKING RADIUS - LIFTING HEIGHT



**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.

\* optional

# TOTAL RATED LOADS

SPEC. No. TG-500E-2-10101/EX-10/E (Left hand steering)  
 SPEC. No. TG-500E-2-10201/EX-10/E (Right hand steering)

Unit: kg

Outriggers fully extended													
Front jack* extended (360°)/Front jack* not extended (over sides and rear)													
B \ A	10.8m	14.5m	18.15m	21.8m	25.5m	32.85m	40.15m	E \ C \ D	9.0m		16.0m		
									5°	30°	5°	30°	
3.0m	50,500	33,000	28,000	24,000				82°	3,500	2,000	2,000	1,000	
3.5m	43,000	33,000	28,000	24,000				80°	3,500	2,000	2,000	1,000	
4.0m	38,000	33,000	28,000	24,000	20,000			79°	3,500	2,000	2,000	1,000	
4.5m	34,000	30,500	28,000	24,000	20,000			78°	3,500	1,960	2,000	1,000	
5.0m	30,200	29,000	28,000	24,000	20,000	13,000		77°	3,300	1,910	2,000	970	
5.5m	27,500	26,500	25,600	23,200	20,000	13,000		76°	3,120	1,860	2,000	950	
6.0m	25,000	24,000	23,500	21,500	20,000	13,000		75°	2,970	1,820	1,920	930	
6.5m	22,700	22,300	21,800	19,900	18,000	13,000	7,500	73°	2,680	1,730	1,760	890	
7.0m	20,700	20,300	20,000	18,400	16,800	13,000	7,500	70°	2,330	1,580	1,530	840	
7.5m	18,700	18,600	18,500	17,100	15,700	13,000	7,500	68°	2,150	1,490	1,400	810	
8.0m	17,300	17,100	17,000	15,900	14,800	12,300	7,500	65°	1,910	1,360	1,230	760	
9.0m	14,200	14,000	13,900	13,600	13,200	11,000	7,500	63°	1,700	1,290	1,140	730	
10.0m		11,300	11,200	11,200	11,100	10,000	7,300	60°	1,250	1,190	980	700	
11.0m		9,300	9,300	9,200	9,100	9,100	6,800	58°	1,000	960	770	610	
12.0m		7,800	7,700	7,600	7,600	8,300	6,300	56°	770	760	590	470	
14.0m			5,500	5,500	5,400	6,200	5,500	55°	670	660	500		
16.0m			4,000	3,900	3,800	4,700	4,700	54°	580	570			
18.0m				2,700	2,700	3,500	4,000						
20.0m				1,800	1,800	2,600	3,200						
22.0m					1,100	1,900	2,450						
24.0m						1,350	1,900						
26.0m						900	1,400						
28.0m							1,000						
30.0m							700						
32.0m							400						

DIN 15019.2-75%

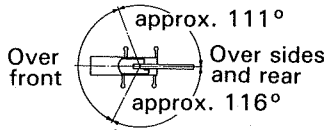
- A : Boom length
- B : Working radius
- C : Jib\* length
- D : Jib\* offset
- E : Boom angle

Outriggers fully extended								
Front jack* not extended (Over front)								
B \ A	10.8 m	14.5 m	18.15 m	21.80 m	25.50 m	32.85 m	40.15 m	Without outriggers (Over-rear)
3.0 m	33,000	22,000	19,000	16,000				8,000
3.5 m	33,000	22,000	19,000	16,000				6,400
4.0 m	33,000	22,000	19,000	16,000	13,500			5,100
4.5 m	28,000	22,000	19,000	16,000	13,500			4,200
5.0 m	21,000	20,800	19,000	16,000	13,500	9,000		3,400
5.5 m	16,800	16,500	16,000	15,500	13,500	9,000		2,800
6.0 m	13,600	13,500	13,000	13,000	13,000	9,000		2,300
6.5 m	11,400	11,200	11,000	10,800	10,800	9,000	5,000	1,900
7.0 m	9,600	9,400	9,300	9,200	9,200	9,000	5,000	1,600
7.5 m	8,200	8,100	7,900	7,800	7,800	8,600	5,000	1,250
8.0 m	7,100	6,900	6,800	6,700	6,700	7,500	5,000	1,000
9.0 m	5,300	5,200	5,100	5,000	5,000	5,900	5,000	
10.0 m		4,000	3,900	3,800	3,700	4,600	5,000	
11.0 m		2,950	2,900	2,800	2,700	3,600	4,100	
12.0 m		2,150	2,000	1,900	1,900	2,800	3,400	
14.0 m						1,600	2,200	
16.0 m							1,300	

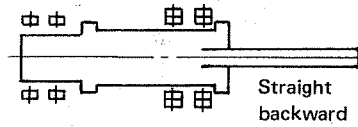
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to be continued.  
 \* optional

**WORKING AREA**



**WITHOUT OUTRIGGERS**



**NOTES**

1. Total rated loads shown in the table are based on the 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. When performing crane operation without outriggers, employ the ratings in the "Without outriggers" column with ground condition and other factors taken into consideration.
2. Total rated loads below bold lines do not exceed 75% of tipping load.
3. Each total rated loads includes weight of the hooks and slings.
4. Without front jack\* extended, when the boom is within the Over-front, total rated loads are different from those for the boom in the Over-side and Over-rear.

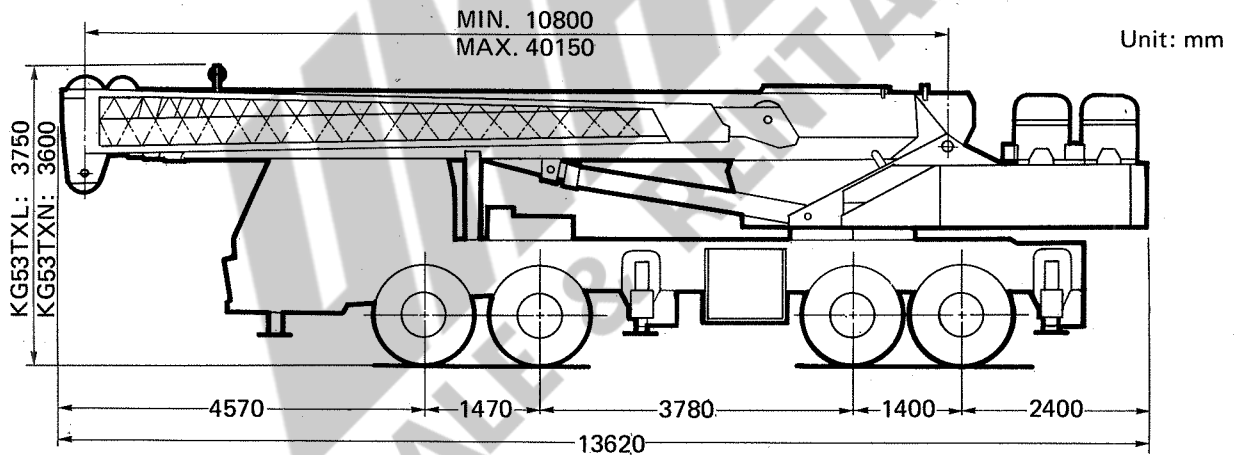
5. Standard number of part lines for each boom length is as shown below. Load per line should not surpass 4,200 kg for main winch and 4,000 kg for auxiliary winch.\*

Boom length	10.8m	14.5m	18.15m	21.8m	25.5m
No. of part lines	12	8	7	6	5
	32.85m	40.15m	JIB*	SINGLE TOP*	
	4	2	1	1	

6. For total rated load of single top\*, reduce the main hook weight from the relevant boom total rated load. Total rated load of single top\* should not exceed 4,000 kg.
7. Free-fall operation should be performed without any load on the hook.

\*optional

**DIMENSIONS**



Overall width . . . . . 2,820 mm  
 Tail swing radius . . . . . 3,700 mm

Tread (track) —front . . . . . 2,230 mm  
 —rear . . . . . 2,110 mm

An asterisk (\*) denotes optional equipments.  
 Specifications are subject to change without notice.  
 Indicated SPEC. No. means machine fitted  
 with all the optional equipments.



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