

**TADANO** HYDRAULIC TRUCK CRANE

SPEC. SHEET No. TL-250E-3-10605/EX-151

**TL-250E**

CARRIER : KW32MXL

**GENERAL DATA**

<b>CRANE CAPACITY</b>	25,000 kg at 3.0 m	
<b>BOOM</b>	4-section, 9.8 m –31.0 m	
<b>DIMENSION</b>		
Overall length	approx.	11,880 mm
Overall width	approx.	2,490 mm
Overall height	approx.	3,420 mm
<b>MASS</b>		
Gross vehicle mass	approx.	24,700 kg
- front	approx.	5,700 kg
- rear	approx.	19,000 kg
<b>PERFORMANCE</b>		
Max. travelling speed	computed	67 km/h
Gradeability (tan $\theta$ )	computed	33 %

**CRANE SPECIFICATIONS**

**MODEL**  
TL-250E

**CAPACITY**  
25,000 kg at 3.0 m

**BOOM**  
4-section full length power telescoping boom of box construction with 4-sheaves at boom head. 3rd boom and top boom telescope synchronously by means of a double-acting cylinder, an extension cable and a retraction cable. Hydraulic cylinders fitted with holding valves.  
Fully retracted length .....9.8 m  
Fully extended length .....31.0 m  
Extension speed .....21.2 m in 95 s

**JIB**  
Single staged. Dual offset (5°/30°) type. Stored under base boom section. Single sheave at jib head.  
Length .....8.0 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 48 s

**TADANO LTD.**

# CRANE SPECIFICATIONS

SPEC. SHEET No. TL-250E-3-10605/EX-151

## 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 . . . . . 30.9 kN { 3,150 kgf }

Single line speed

High range . . . . . 110 m/min. (at the 4th layer)

Normal range . . . . . 59 m/min. (at the 4th layer)

Wire rope . . . . . Spin-resistant type

Diameter × length . . . 16 mm × 170 m

## HOOK BLOCK –25 ton capacity

4 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 . . . . . 29.4 kN { 3,000 kgf }

Single line speed

High range . . . . . 95 m/min. (at the 2nd layer)

Normal range . . . . . 50 m/min. (at the 2nd layer)

Wire rope . . . . . Spin-resistant type

Diameter × length . . . 16 mm × 85 m

## HOOK BLOCK –3 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 . . . . . 2.4 r/min

## HYDRAULIC SYSTEM

Pumps . . . . . Quadruple gear pump 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. 306 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.

Equipment:

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. Eight 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

Bar graphical display:

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

Boom position indicator

## 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 . . . . . 6,100 mm

Middle . . . . . 4,000 mm

Minimum . . . . . 2,080 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) . . . . . 260 mm

## COUNTERWEIGHT

Integral with swing frame.

Mass . . . . . 2,600 kg

## STANDARD EQUIPMENT

Control pedals for telescoping and auxiliary winch.

Asbestos-free (Winch brake and clutch linings)

3 working lights

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)

Cable follower

Winch drum rotation indicator (Visual)

## NOTE :

Each crane motion speed is based on unladen conditions.

# CARRIER SPECIFICATIONS

SPEC. SHEET No. TL-250E-3-10605/EX-151

## MANUFACTURER

NISSAN DIESEL MOTOR CO., LTD.

## MODEL

KW32MXL . . . . . Left hand steering, 6 × 4

## ENGINE

Model . . . . NISSAN PE6  
Type . . . . 4 cycle, 6 cylinder in line, direct injection, water cooled diesel engine.  
Piston displacement . . . 11,670 cm<sup>3</sup>  
Bore × Stroke . . . . . 133 mm × 140 mm  
Max. output (JIS) . . . . 169 kW {230 PS} at 2,200 r/min  
Max. torque (JIS) . . . . 814 N·m {83 kgf·m} at 1,300 r/min

## CLUTCH

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

## TRANSMISSION

6 forward and 1 reverse speeds, synchromesh on 2nd - 6th 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 . . . . 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.  
Emergency . . . . Pneumatically controlled spring brake, acting on all rear axles.

## ELECTRIC SYSTEM

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

## FUEL TANK CAPACITY

200 liters

## CAB

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

## TIRES

Front . . . . . 10.00-20-16PR, Single × 2  
Rear . . . . . 10.00-20-16PR, Dual × 4  
Spare . . . . . 10.00-20-16PR, × 1

## TURN RADIUS

Min. turning radius (at center of extreme outer tire) . . . . . 9.2 m

## STANDARD EQUIPMENT

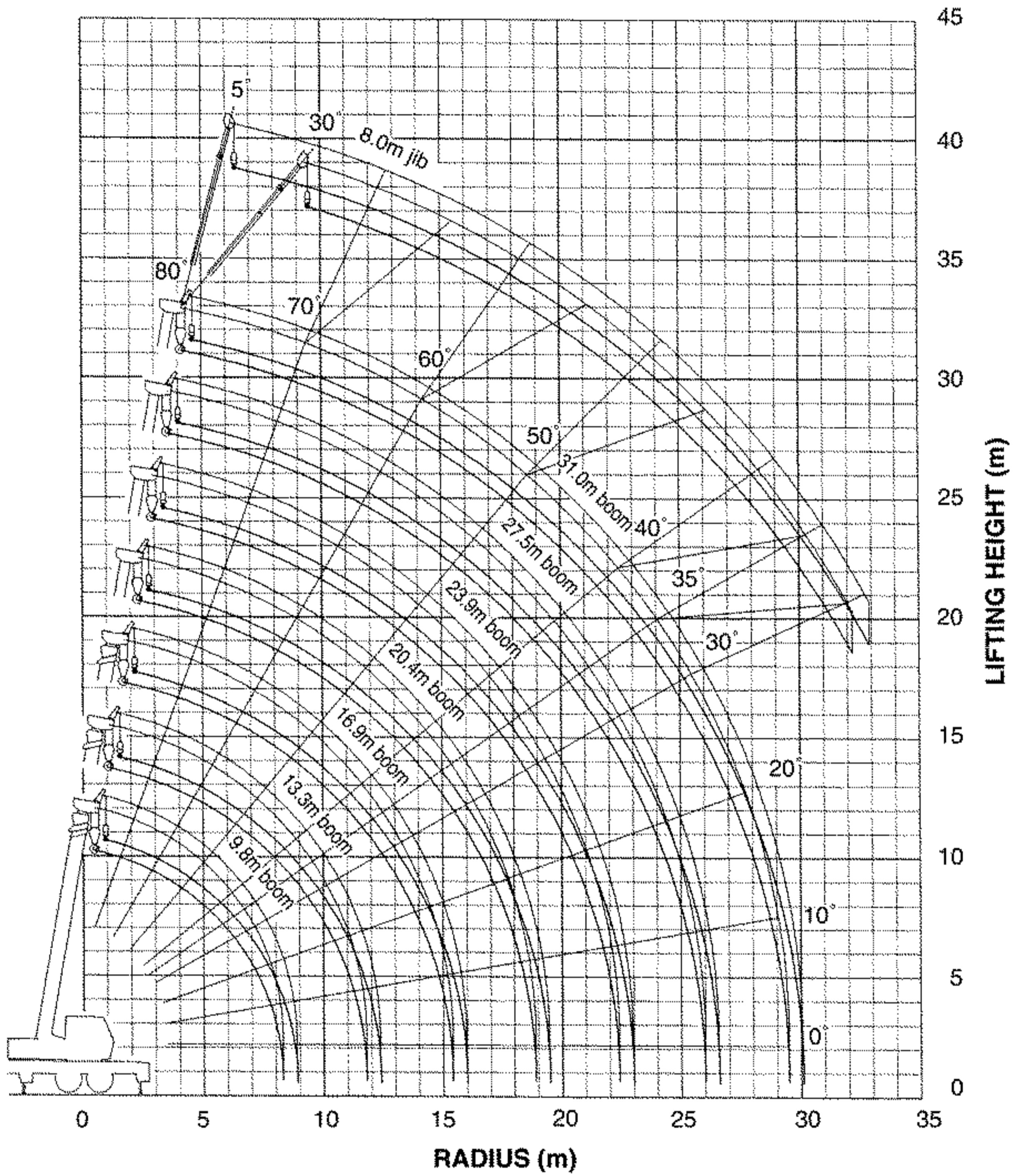
Fan clutch: Viscous-type  
Intake air heater  
Overheating warning buzzer  
Cooling water level warning buzzer  
Engine over-run alarm  
PTO hour meter  
Seat belt: 3 point type for driver, 2 point type for assistant  
Tilting-telescoping steering wheel  
Windshield wiper (with intermittent wiping) and 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: Eye type, Rear: Hook type)  
Ashtray  
Cigarette lighter  
Front fog lamp  
Owner's tool set  
Cab floor mat

## OPTIONAL EQUIPMENT

Car cooler (Refrigerant: R134a)  
Tire inflator

# WORKING RANGE

SPEC. SHEET No. TL-250E-3-10605/EX-151



## 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.



# RATED LIFTING CAPACITIES

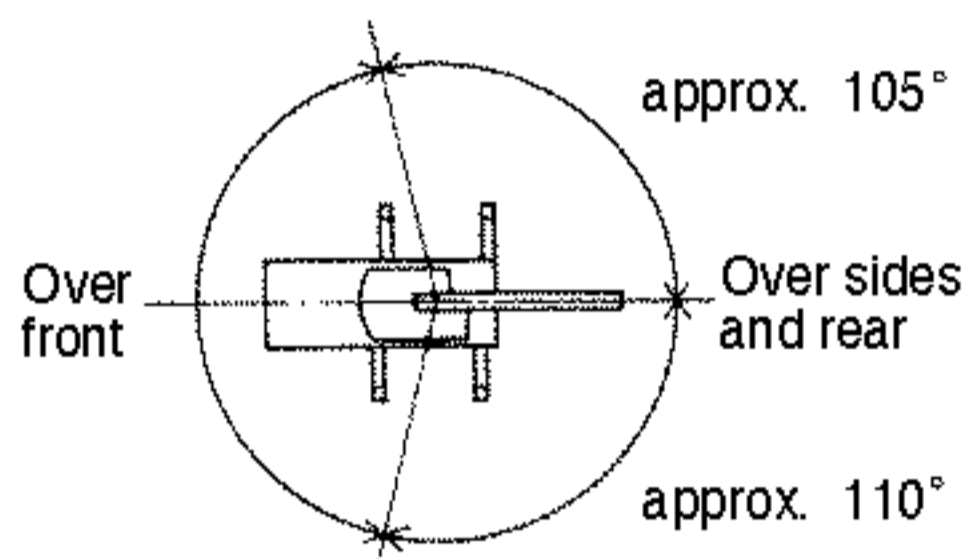
SPEC. SHEET No. TL-250E-3-10605/EX-151

Unit : kg

Outriggers fully extended 6.1m										
Front jack extended (360°)										
Front jack not extended (Over sides and rear)										
B \ A	9.8 m	13.3 m	16.9 m	20.4 m	23.9 m	27.5 m	31.0 m	E \ C \ D	8.0 m	
									5°	30°
3.0 m	25,000	17,500	14,500	9,500				80°	2,750	1,350
3.5 m	20,600	17,500	14,500	9,500				75°	2,750	1,350
4.0 m	18,000	17,500	14,500	9,500	7,500	6,500		70°	2,300	1,300
4.5 m	16,300	15,800	14,500	9,500	7,500	6,500		65°	2,000	1,250
5.0 m	14,850	14,400	13,250	9,500	7,500	6,500	6,000	60°	1,600	1,200
5.5 m	13,650	13,250	12,200	9,500	7,500	6,500	6,000	55°	1,300	1,000
6.0 m	12,300	12,200	11,300	9,500	7,500	6,500	6,000	50°	1,050	850
6.5 m	11,200	11,000	10,500	9,500	7,500	6,500	6,000	45°	750	700
7.0 m	10,250	10,000	9,800	8,850	7,500	6,500	6,000	40°	550	500
7.5 m	9,400	9,200	9,100	8,350	7,500	6,500	6,000	35°	400	350
8.0 m	8,650	8,450	8,350	7,900	7,200	6,250	5,700	30°	250	
9.0 m		7,200	7,100	7,000	6,650	5,750	5,200			
10.0 m		6,100	6,050	6,400	6,200	5,300	4,750			
12.0 m			4,150	4,500	4,700	4,500	4,000			
14.0 m			3,000	3,300	3,500	3,650	3,500			
16.0 m				2,450	2,650	2,800	2,850			
18.0 m				1,850	2,050	2,150	2,300			
20.0 m					1,550	1,700	1,800			
22.0 m					1,150	1,300	1,400			
24.0 m						1,050	1,100			
26.0 m							850			
28.0 m							600			
29.0 m							500			

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

### WORKING AREA



Unit : kg

Outriggers fully extended 6.1 m (Over front)										
Outriggers extended to middle 4.0 m (360°)										
B \ A	9.8 m	13.3 m	16.9 m	20.4 m	23.9 m	27.5 m	31.0 m	E \ C \ D	8.0 m	
									5°	30°
3.0 m	20,000	17,500	14,500	9,500				80°	2,750	1,350
3.5 m	17,800	17,500	14,500	9,500				75°	2,750	1,350
4.0 m	15,700	15,400	14,500	9,500	7,500	6,500		71°	1,700	1,300
4.5 m	13,800	13,600	13,200	9,500	7,500	6,500		70°	1,500	1,150
5.0 m	10,700	10,500	10,300	9,500	7,500	6,500	6,000	65°	800	650
6.0 m	7,100	6,900	6,700	7,200	7,450	6,500	6,000			
7.0 m	5,000	4,900	4,700	5,200	5,450	5,600	5,700			
8.0 m	3,800	3,700	3,500	3,900	4,100	4,250	4,350			
9.0 m		2,700	2,600	2,900	3,100	3,250	3,350			
10.0 m		2,100	2,000	2,300	2,500	2,650	2,750			
12.0 m			1,000	1,300	1,500	1,650	1,750			
14.0 m			450	750	900	1,050	1,150			
16.0 m					500	600	700			

Unit : kg

Outriggers extended to minimum 2.08 m (360°)	
B \ A	9.8 m
3.0 m	6,000
3.5 m	4,600
4.0 m	3,700
4.5 m	3,000
5.0 m	2,500
5.5 m	2,100
6.0 m	1,700
6.5 m	1,400
7.0 m	1,100
7.5 m	900
8.0 m	700

# RATED LIFTING CAPACITIES

SPEC. SHEET No. TL-250E-3-10605/EX-151

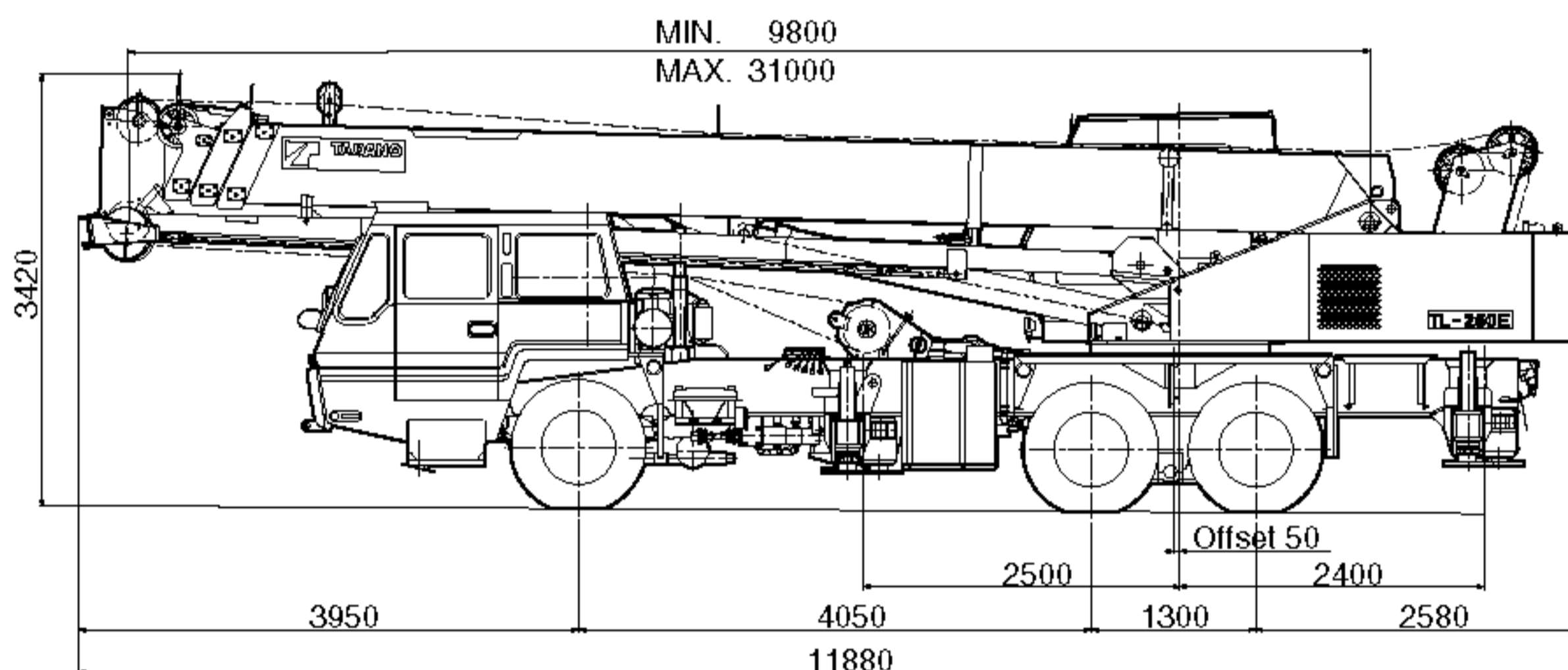
**NOTES :**

1. Rated lifting capacities shown in the table are based on condition that 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 (250 kg for 25 ton capacity, 60 kg for 3 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 30.9 kN {3,150 kgf} for main winch and 29.4 kN {3,000 kgf} for auxiliary winch.

Boom length (m)	9.8m	13.3m	16.9m	20.4m	23.9m	27.5m	31.0m	Jib/Single top
No. of part line	8	6	6	4	4	4	4	1

6. For rated lifting capacity of single top, reduce the main hook mass from the relevant boom rated lifting capacity. Rated lifting capacity of single top should not exceed 3,000 kg.
7. Free-fall operation should be performed without any load on the hook.

## DIMENSIONS



Overall width .....2,490 mm  
 Tail swing radius.....3,250 mm  
 Tread (track) Front .....2,050 mm  
 Rear .....1,860 mm

Specifications are subject to change without notice.

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