TADANO

TADANO ROUGH TERRAIN CRANE

MODEL : GR-300EX

(Left-hand steering)

GENERAL DATA

CRANE CAPACITY		30,000 kg at 3.0 m	
BOOM		4-section, 9.7 m - 31.0 m	
DIMENSION			
Overall length		approx.	11,245 mm
Overall width		approx.	2,620 mm
Overall height		approx.	3,535 mm
MASS			
Gross vehicle mass		approx.	26,975 kg
-front axle		approx.	13,150 kg
-rear axle		approx.	13,825 kg
PERFORMANCE			
Max. traveling speed		computed	50 km/h
Gradeability (tan θ)		computed	82% (at stall)
			*57%

*Machine should be operated within the limit of engine crankcase design (30° :Cummins QSB6.7).

Specifications are subject to change without notice.

CRANE SPECIFICATIONS

MODEL	GR-300EX
CAPACITY	30,000kg at 3.0m
BOOM	Four section full power partially synchronized telescoping boom of round hexagonal box construction with 3 sheaves at boom head. The synchronization system consists of 2 telescope cylinders, extension cables and retraction cables. Hydraulic cylinders fitted with holding valves. Fully retracted length..... 9.7m Fully extended length..... 31.0m Extension speed..... 21.3m in 91s
JIB	Two staged swingaround boom extension. Triple offset (5^o/25^o/45^o) type. Box type top section telescopes from lattice type base section which stows alongside base boom section. Single sheave at jib head. Length..... 7.2m and 12.8m
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. Boom angle..... 0^o to 81^o Boom raising speed..... 20^o to 60^o in 22s
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. Single line pull.....39.2kN {4,000kgf} Single line speed.....125m/min (at the 4th layer) Wire rope..... Non-spin type Diameter x length.....16mm x 175m
HOOK BLOCK(Optional) - 30 t capacity	4 sheaves, swivel type hook with safety latch.
HOOK BLOCK(Optional) - 20 t capacity	3 sheaves, swivel type hook with safety latch.

HOIST -
Auxiliary 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 main winch.
Single line pull..... 39.2kN {4,000kgf}
Single line speed.....125m/min (at the 4th layer)
Wire rope..... Non-spin type
Diameter x length.....16mm x 98m

HOOK BLOCK-
4.0 t capacity

Swivel hook with safety latch for single line use.

SWING

Hydraulic axial piston motor driven through planetary speed reducer. Continuous 360° full circle swing on ball bearing slew ring.
Equipped with manually locked/released swing brake.
Swing speed.....3.2min^{-1} {rpm}

HYDRAULIC SYSTEM

Pumps.....2 variable piston pumps for telescoping, elevating and winches.
Tandem gear pump for steering, swing and optional equipment.
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. 380 liters
Filters..... Return line filter

CRANE CONTROL

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

CAB

Both crane and drive operations can be performed from one cab mounted on rotating superstructure. One sided one-man type, steel construction with sliding door access and tinted safety glass windows opening at side. Door window is powered control.
Operator's 3 way adjustable seat with headrest and armrest.
Hot water cab heater and air conditioning.

TADANO Automatic Moment Limiter (Model:AML-C)

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.
Automatic Speed Reduction and Soft Stop function on boom elevation and swing.
Following functions are displayed.

- Load as percentage
- Number of parts of line of rope
- Boom angle
- Boom length
- Load radius
- Outriggers position
- On-tire indicator
- Actual hook load
- Permissible load
- Boom position indicator
- Potential hook height
- Swing angle
- Main hydraulic oil pressure
- Jib length and jib offset angle (only when jib operation)

OUTRIGGERS

Hydraulically operated H-type outriggers. Each outrigger controlled simultaneously or independently from the cab.
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.

Extended width
Fully 6,300mm
Middle 5,900mm
Middle 5,000mm
Minimum 2,200mm
Float size (Diameter) 400mm

COUNTERWEIGHT

Integral with swing frame
Mass 2,380kg

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

CARRIER SPECIFICATIONS

TYPE	Rear engine, left hand steering, driving axle 2-way selected type (by manual switch). 4 x 2 front drive 4 x 4 front and rear drive
FRAME	High-tensile steel, all welded mono-box construction.
ENGINE	Model..... Cummins QSB6.7 [EUROMOT Stage ⅢA] Type..... 4 cycle, turbo charged and after cooled, 6 cylinder in line, direct injection, water cooled diesel engine. Piston displacement.....6,700cm^3 Bore x stroke.....107mm x 124mm Max. output ..... 160kW {220 PS} at 2,500min^{-1}{rpm} Max. torque ..... 843N·m {86kgf·m} at 1,600min^{-1}{rpm}
TRANSMISSION	Electronically controlled full automatic transmission. Torque converter driving full powershift with driving axle selector. 6 forward and 2 reverse speeds. 2 speeds - High range - 2 wheel drive ; 4 wheel drive 4 speeds - Low range - 4 wheel drive
AXLES	Front .....Full floating type, steering and driving axle with planetary reduction. Rear..... Full floating type, steering and driving axle with planetary reduction. Non-spin differential.
STEERING	Hydraulic power steering controlled by steering wheel. Three steering modes available: 2-wheel front 4-wheel coordinated 4-wheel crab
SUSPENSION	Front.....Semi-elliptic leaf springs with hydraulic lockout device. Rear .....Semi-elliptic leaf springs with hydraulic lockout device.
BRAKE SYSTEM	Service.....Air over hydraulic disc brakes on all 4 wheels. Parking / Emergency..... Spring applied-air released brake acting on input shaft of front axle. Auxiliary...Electro-pneumatic operated exhaust brake.
ELECTRIC SYSTEM	24 V DC. 2 batteries of 12 V - 120 Ah capacity.
FUEL TANK CAPACITY	300 liters
TIRES	Front.....445 / 95 R 25(OR), Single x 2 Air pressure: 900kPa Rear .....445 / 95 R 25(OR), Single x 2 Air pressure: 900kPa
TURN RADIUS	Min. turning radius (at center of extreme outer tire) 2-wheel steering.....9.8m 4-wheel steering.....5.8m

E Q U I P M E N T

STANDARD EQUIPMENT

Pendant type over-winding cutout
External lamp (AML)
Winch drum mirror
Swing lock
Winch automatic fail-safe brake
Winch drum rotation indicator (Audible and Visual type)
Over-unwinding prevention
Cable follower
Hook safety latch
Pilot check valves
Holding valves
Counterbalance valves
Hydraulic pressure relief valves
Swing brake
Positive control
Hydraulic oil thermometer
Hydraulic oil cooler
Hot water cab heater, air conditioner and defroster
Electric windshield wiper and washer
Roof window wiper and washer
Power window (Cab door)
Tachometer/Speedometer
3 way adjustable cloth seat with seat belt, headrest and armrest
Cab floor mat
Sun visor (Front and roof)
Tilt-telescope steering wheel
Boom elevation foot pedal
Boom telescoping foot pedal
Parking braked travel warning
Automatic moment limiter (AML)
Boom angle indicator
Outrigger extension width detector
Sight level gauge
Automatic drive system
Transmission neutral position engine start
Overshift prevention
Back-up alarm
Air cleaner dust indicator
Air dryer
Water separator with filter
Hydraulic lockout suspension
Non-spin differential (Rear)
Towing eyes - front and rear
Outrigger control box(Both side of carrier)
Engine over-run alarm
Emergency engine stop system
Telematics (machine data logging and monitoring system)
with HELLO-NET via internet (availability depends on countries).
Fuel consumption monitor
Eco mode system
Beacon lamp

OPTIONAL EQUIPMENT

Anemometer
Radiator cover
Tire inflation kit
Air heater (Diesel fuel type)
Engine oil pan heater
Engine coolant heater
Fuel filter heater
Hook block - 30t capacity (4 sheaves, swivel type with safety latch. Mass : approx. 270 kg)
Hook block - 20t capacity (3sheaves, swivel type with safety latch. Mass : 270 kg)

RATED LIFTING CAPACITIES

ISO 4305

ON OUTRIGGERS FULLY EXTENDED 6.3m SPREAD 360° ROTATION (Unit: ×1000kg)								
A / B	9.7m		16.8m		24.4m		31.0m	
	C		C		C		C	
3.0	60.6	30.0	74.4	19.2	79.7	12.5		
3.5	57.0	27.2	72.5	19.2	78.5	12.5		
4.0	53.1	23.4	70.9	19.2	77.5	12.5	80.8	8.4
4.5	49.2	21.3	68.9	18.3	76.3	12.5	80.0	8.4
5.0	44.7	19.6	67.1	17.0	75.0	12.5	79.1	8.4
5.5	40.3	18.1	65.1	15.8	74.0	12.5	78.3	8.4
6.0	34.9	16.6	63.3	14.7	72.8	12.5	77.3	8.4
6.5	28.7	15.2	61.4	13.6	71.5	11.7	76.6	8.4
7.0	18.3	14.1	59.4	12.9	70.3	11.0	75.6	8.1
8.0			54.9	10.9	67.7	9.75	73.7	7.5
9.0			50.5	9.0	65.0	8.75	71.8	6.8
10.0			45.8	7.05	62.4	7.9	69.8	6.2
11.0			40.3	5.8	59.5	6.6	67.6	5.8
12.0			34.3	4.8	56.5	5.6	65.6	5.4
13.0			27.0	4.05	53.6	4.75	63.5	5.0
14.0			15.7	3.4	50.4	4.15	61.3	4.4
15.0					47.0	3.6	59.0	3.85
16.0					43.4	3.2	56.6	3.45
17.0					39.6	2.75	54.2	3.05
18.0					35.5	2.45	51.8	2.65
19.0					30.7	2.05	49.2	2.4
20.0					25.6	1.8	46.6	2.1
22.0							40.8	1.7
24.0							34.4	1.3
26.0							26.2	1.0
28.0							13.4	0.5
D	0°							

Unit: ×1000kg

LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE ON OUTRIGGERS FULLY EXTENDED 6.3m SPREAD 360° ROTATION								
A / C	9.7m		16.8m		24.4m		31.0m	
	B		B		B		B	
0°	7.2	13.4	14.3	3.2	21.9	1.2	28.5	0.5

A :Boom length (m)
B :Load radius (m)
C :Loaded boom angle (°)
D :Minimum boom angle (°) for indicated length (no load)

RATED LIFTING CAPACITIES

ISO 4305

ON OUTRIGGERS FULLY EXTENDED 6.3m SPREAD
360° ROTATION

C	31.0m Boom + 7.2m Jib					
	5°Tilt		25°Tilt		45°Tilt	
	R	W	R	W	R	W
80°	5.9	3.5	8.1	2.4	9.8	1.7
77.5°	7.7	3.5	9.8	2.3	11.4	1.65
75°	9.4	3.5	11.4	2.2	12.9	1.6
72.5°	11.2	3.23	13.0	2.1	14.4	1.55
70°	12.7	2.95	14.6	2.0	15.8	1.5
67.5°	14.3	2.75	16.1	1.93	17.2	1.45
65°	15.8	2.55	17.5	1.85	18.6	1.4
62.5°	17.3	2.35	19.0	1.8	19.9	1.38
60°	18.7	2.15	20.4	1.75	21.2	1.35
57.5°	20.0	1.95	21.6	1.65	22.4	1.33
55°	21.4	1.75	22.9	1.55	23.6	1.3
52.5°	22.6	1.55	24.0	1.38	24.7	1.23
50°	23.9	1.35	25.2	1.2	25.7	1.15
47.5°	25.0	1.18	26.3	1.1	26.7	1.1
45°	26.0	1.0	27.3	1.0	27.7	1.0
42.5°	27.1	0.9	28.2	0.9		
40°	28.1	0.8	29.1	0.8		
37.5°	29.0	0.7	30.0	0.7		
35°	30.0	0.6	30.8	0.6		
32.5°	30.8	0.53	31.5	0.53		
30°	31.6	0.45	32.2	0.45		
27.5°	32.3	0.4	32.8	0.38		
25°	33.0	0.35	33.4	0.3		

C	31.0m Boom + 12.8m Jib					
	5°Tilt		25°Tilt		45°Tilt	
	R	W	R	W	R	W
80°	7.7	2.2	11.7	1.2	14.6	0.8
77.5°	9.8	2.15	13.5	1.15	16.3	0.78
75°	11.8	2.1	15.3	1.1	17.9	0.75
72.5°	13.6	1.93	17.1	1.05	19.4	0.73
70°	15.5	1.75	18.8	1.0	21.0	0.7
67.5°	17.2	1.63	20.5	0.95	22.5	0.68
65°	18.9	1.5	22.0	0.9	23.9	0.65
62.5°	20.6	1.4	23.6	0.88	25.2	0.65
60°	22.3	1.3	25.1	0.85	26.6	0.65
57.5°	23.8	1.23	26.4	0.8	27.8	0.65
55°	25.4	1.15	27.9	0.75	29.0	0.65
52.5°	26.8	1.1	29.2	0.73	30.2	0.63
50°	28.3	1.05	30.5	0.7	31.4	0.6
47.5°	29.6	0.9	31.7	0.68	32.5	0.6
45°	30.8	0.75	32.8	0.65	33.5	0.6
42.5°	32.0	0.68	33.8	0.6		
40°	33.1	0.6	34.8	0.55		
37.5°	34.2	0.53	35.7	0.48		
35°	35.2	0.45	36.5	0.4		
32.5°	36.1	0.4				
30°	37.0	0.35				

C :Boom angle (°)
R :Load radius (m)
W :Rated lifting capacity (Unit:×1000kg)

RATED LIFTING CAPACITIES

ISO 4305

ON OUTRIGGERS MID EXTENDED 5.9m SPREAD 360° ROTATION (Unit: ×1000kg)								
A / B	9.7m		16.8m		24.4m		31.0m	
	C		C		C		C	
3.0	60.6	30.0	74.4	19.2	79.7	12.5		
3.5	57.0	27.2	72.5	19.2	78.5	12.5		
4.0	53.1	23.4	70.9	19.2	77.5	12.5	80.8	8.4
4.5	49.2	21.3	68.9	18.3	76.3	12.5	80.0	8.4
5.0	44.7	19.6	67.1	17.0	75.0	12.5	79.1	8.4
5.5	40.3	18.1	65.1	15.8	74.0	12.5	78.3	8.4
6.0	34.9	16.6	63.3	14.7	72.8	12.5	77.3	8.4
6.5	28.7	15.2	61.4	13.6	71.5	11.7	76.6	8.4
7.0	18.3	12.9	59.4	12.6	70.3	11.0	75.6	8.1
8.0			54.9	9.65	67.7	9.75	73.7	7.5
9.0			50.5	7.7	65.0	8.75	71.8	6.8
10.0			45.8	6.25	62.1	7.05	69.8	6.2
11.0			40.3	5.15	59.4	5.95	67.6	5.8
12.0			34.3	4.2	56.5	4.95	65.5	5.3
13.0			27.0	3.5	53.4	4.2	63.2	4.5
14.0			15.7	2.9	50.2	3.55	61.1	3.85
15.0					46.9	3.05	58.8	3.35
16.0					43.3	2.6	56.5	2.85
17.0					39.5	2.25	54.0	2.5
18.0					35.2	1.85	51.6	2.2
19.0					30.6	1.6	49.1	1.85
20.0					25.1	1.35	46.4	1.6
22.0							40.4	1.15
24.0							33.6	0.8
26.0							25.6	0.55
D	0°							

Unit: ×1000kg

LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE ON OUTRIGGERS MID EXTENDED 5.9m SPREAD 360° ROTATION								
A / C	9.7m		16.8m		24.4m		31.0m	
	B		B		B		B	
0°	7.2	12.0	14.3	2.7	21.9	0.9	28.5	0.3

A :Boom length (m)

B :Load radius (m)

C :Loaded boom angle (°)

D :Minimum boom angle (°) for indicated length (no load)

RATED LIFTING CAPACITIES

ISO 4305

ON OUTRIGGERS MID EXTENDED 5.9m SPREAD
360° ROTATION

C	31.0m Boom + 7.2m Jib					
	5°Tilt		25°Tilt		45°Tilt	
	R	**W**	**R**	**W**	**R**	**W**
80°	5.9	3.5	8.1	2.4	9.8	1.7
77.5°	7.7	3.5	9.8	2.3	11.4	1.65
75°	9.4	3.5	11.4	2.2	12.9	1.6
72.5°	11.2	3.23	13.0	2.1	14.4	1.55
70°	12.7	2.95	14.6	2.0	15.8	1.5
67.5°	14.3	2.75	16.1	1.93	17.2	1.45
65°	15.8	2.55	17.5	1.85	18.6	1.4
62.5°	17.3	2.35	19.0	1.8	19.9	1.38
60°	18.7	2.15	20.4	1.75	21.2	1.35
57.5°	20.0	1.88	21.6	1.6	22.4	1.33
55°	21.4	1.6	22.9	1.45	23.6	1.3
52.5°	22.6	1.35	24.0	1.25	24.7	1.15
50°	23.9	1.1	25.1	1.05	25.7	1.0
47.5°	25.0	0.95	26.1	0.9	26.7	0.88
45°	26.0	0.8	27.1	0.75	27.7	0.75
42.5°	27.1	0.68	28.1	0.63		
40°	28.1	0.55	29.0	0.5		
37.5°	29.0	0.48	29.8	0.43		
35°	30.0	0.4	30.7	0.35		

C	31.0m Boom + 12.8m Jib					
	5°Tilt		25°Tilt		45°Tilt	
	R	**W**	**R**	**W**	**R**	**W**
80°	7.7	2.2	11.7	1.2	14.6	0.8
77.5°	9.8	2.15	13.5	1.15	16.3	0.78
75°	11.8	2.1	15.3	1.1	17.9	0.75
72.5°	13.6	1.93	17.1	1.05	19.4	0.73
70°	15.5	1.75	18.8	1.0	21.0	0.7
67.5°	17.2	1.63	20.5	0.95	22.5	0.68
65°	18.9	1.5	22.0	0.9	23.9	0.65
62.5°	20.6	1.4	23.6	0.88	25.2	0.65
60°	22.3	1.3	25.1	0.85	26.6	0.65
57.5°	23.8	1.23	26.4	0.8	27.8	0.65
55°	25.4	1.15	27.9	0.75	29.0	0.65
52.5°	26.8	1.0	29.2	0.73	30.2	0.63
50°	28.2	0.85	30.4	0.7	31.3	0.6
47.5°	29.5	0.73	31.6	0.63	32.3	0.55
45°	30.7	0.6	32.7	0.55	33.3	0.5
42.5°	31.9	0.48	33.7	0.45		
40°	33.1	0.35	34.7	0.35		

C :Boom angle (°)
R :Load radius (m)
W :Rated lifting capacity (Unit:×1000kg)

RATED LIFTING CAPACITIES

ISO 4305

ON OUTRIGGERS MID EXTENDED 5.0m SPREAD 360° ROTATION (Unit: ×1000kg)								
A / B	9.7m		16.8m		24.4m		31.0m	
	C		C		C		C	
3.0	60.6	30.0	74.4	19.2	79.7	12.5		
3.5	57.0	27.2	72.5	19.2	78.5	12.5		
4.0	53.1	23.4	70.9	19.2	77.5	12.5	80.8	8.4
4.5	49.2	21.3	68.9	18.3	76.3	12.5	80.0	8.4
5.0	44.7	19.6	67.1	17.0	75.0	12.5	79.1	8.4
5.5	40.3	15.7	65.1	15.0	74.0	12.5	78.3	8.4
6.0	34.9	13.2	63.3	12.65	72.8	12.5	77.3	8.4
6.5	28.7	11.3	61.4	10.85	71.5	11.7	76.6	8.4
7.0	18.2	9.65	59.4	9.5	70.1	10.4	75.6	8.1
8.0			54.9	7.3	67.5	8.2	73.7	7.5
9.0			50.5	5.8	64.8	6.7	71.8	6.8
10.0			45.8	4.7	62.0	5.5	69.5	5.8
11.0			40.3	3.8	59.3	4.65	67.3	4.9
12.0			34.3	3.1	56.3	3.9	65.2	4.25
13.0			27.0	2.55	53.0	3.25	63.0	3.6
14.0			15.7	1.9	49.9	2.75	60.8	3.1
15.0					46.6	2.3	58.5	2.65
16.0					43.0	1.9	56.1	2.25
17.0					39.4	1.6	53.8	1.95
18.0					35.2	1.35	51.3	1.65
19.0					30.5	1.1	48.7	1.4
20.0					24.9	0.75	46.0	1.2
22.0							40.3	0.8
D	0°						26°	

Unit: ×1000kg

LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE ON OUTRIGGERS MID EXTENDED 5.0m SPREAD 360° ROTATION								
A / C	9.7m		16.8m		24.4m			
	B		B		B			
0°	7.2	9.0	14.3	1.8	21.9	0.5		

A :Boom length (m)

B :Load radius (m)

C :Loaded boom angle (°)

D :Minimum boom angle (°) for indicated length (no load)

RATED LIFTING CAPACITIES

ISO 4305

ON OUTRIGGERS MID EXTENDED 5.0m SPREAD
360° ROTATION

C	31.0m Boom + 7.2m Jib					
	5°Tilt		25°Tilt		45°Tilt	
	R	**W**	**R**	**W**	**R**	**W**
80°	5.9	3.5	8.1	2.4	9.8	1.7
77.5°	7.7	3.5	9.8	2.3	11.4	1.65
75°	9.4	3.5	11.4	2.2	12.9	1.6
72.5°	11.2	3.23	13.0	2.1	14.4	1.55
70°	12.7	2.95	14.6	2.0	15.8	1.5
67.5°	14.3	2.7	16.1	1.93	17.2	1.45
65°	15.8	2.45	17.5	1.85	18.6	1.4
62.5°	17.1	2.05	18.9	1.65	19.9	1.38
60°	18.6	1.65	20.2	1.45	21.1	1.35
57.5°	19.8	1.38	21.5	1.23	22.3	1.15
55°	21.1	1.1	22.7	1.0	23.4	0.95
52.5°	22.4	0.93	23.9	0.83	24.5	0.8
50°	23.6	0.75	25.0	0.65	25.5	0.65
47.5°	24.8	0.6	26.1	0.5	26.6	0.5
45°	25.9	0.45	27.1	0.35	27.5	0.35

C	31.0m Boom + 12.8m Jib					
	5°Tilt		25°Tilt		45°Tilt	
	R	**W**	**R**	**W**	**R**	**W**
80°	7.7	2.2	11.7	1.2	14.6	0.8
77.5°	9.8	2.15	13.5	1.15	16.3	0.78
75°	11.8	2.1	15.3	1.1	17.9	0.75
72.5°	13.6	1.93	17.1	1.05	19.4	0.73
70°	15.5	1.75	18.8	1.0	21.0	0.7
67.5°	17.2	1.63	20.5	0.95	22.5	0.68
65°	18.9	1.5	22.0	0.9	23.9	0.65
62.5°	20.6	1.38	23.6	0.88	25.2	0.65
60°	22.2	1.25	25.1	0.85	26.6	0.65
57.5°	23.7	1.03	26.5	0.75	27.8	0.65
55°	25.1	0.8	27.7	0.65	29.0	0.65
52.5°	26.5	0.65	29.0	0.55	30.2	0.55
50°	27.9	0.5	30.3	0.45	31.2	0.45

C :Boom angle (°)
R :Load radius (m)
W :Rated lifting capacity (Unit:×1000kg)

RATED LIFTING CAPACITIES

ISO 4305

ON OUTRIGGERS MIN EXTENDED 2.2m SPREAD 360° ROTATION (Unit: ×1000kg)								
A / B	9.7m		16.8m		24.4m		31.0m	
	C		C		C		C	
3.0	60.6	13.2	74.2	13.0	79.5	12.5		
3.5	57.0	10.25	72.2	9.8	78.4	10.9		
4.0	53.1	8.0	70.5	7.8	77.2	8.8	79.9	8.0
4.5	49.2	6.7	68.4	6.45	75.9	7.25	79.0	7.2
5.0	44.7	5.7	66.8	5.3	74.6	6.2	77.9	6.05
5.5	40.3	4.7	64.6	4.4	73.3	5.2	77.0	5.45
6.0	34.9	3.85	62.8	3.65	72.0	4.4	76.1	4.8
6.5	28.7	3.3	60.9	3.05	70.6	3.8	75.1	4.25
7.0	18.3	2.7	58.7	2.6	69.5	3.3	74.1	3.65
8.0			54.6	1.85	66.7	2.4	72.3	2.75
9.0			50.2	1.2	64.1	1.75	70.3	2.05
10.0			45.1	0.55	61.3	1.35	68.3	1.5
11.0					58.7	0.95	66.2	1.2
12.0					55.9	0.55	64.3	0.9
13.0							62.2	0.5
D	0°		40°		53°		60°	

Unit: ×1000kg

LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE ON OUTRIGGERS MIN EXTENDED 2.2m SPREAD 360° ROTATION								
A / C	9.7m							
	B							
0°	7.2	2.5						

A :Boom length (m)
B :Load radius (m)
C :Loaded boom angle (°)
D :Minimum boom angle (°) for indicated length (no load)

NOTES FOR "ON OUTRIGGERS" TABLE

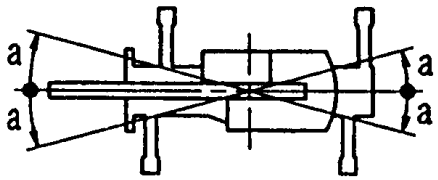
1. Rated lifting capacities shown in the table are based on condition that crane is set on firm level surface. Those above thick lines are based on crane strength and those below, on its stability.
2. Rated lifting capacities based on crane stability are according to ISO 4305.
3. The mass of the hook (270kg for 30t capacity,250kg for 20t capacity,100kg for 4.0t capacity),slings and all similarly used load handling devices must be considered as part of the load and must be deducted from the lifting capacities.
4. For rated lifting capacity of single top, reduce the rated lifting capacities of relevant boom according to a weight reduction for auxiliary load handling equipment. Capacities of single top shall not exceed 4,000kg including main boom hook mass and the net capacity must be so reduced.
5. Standard number of parts of line for each boom length is as shown below. Load per line should not surpass 39.2kN {4,000kgf} for main winch and auxiliary winch.

Boom length	9.7m	9.7m to 16.8m	16.8m to 31.0m	Single top Jib
Number of parts of line	8	6	4	1

The lifting capacity data stored in the AUTOMATIC MOMENT LIMITER (AML) is based on the standard number of parts of line listed in the chart.
Maximum lifting capacity is restricted by the number of parts of line of AUTOMATIC MOMENT LIMITER (AML).

6. The lifting capacity for over-side area differs depending on the outrigger extension width. Work with the capacity corresponding to the extension width. The lifting capacities for over-front and over-rear areas are for “outriggers fully extended”. However, the areas (angle **a**) differ depending on the outrigger extension width.

Outriggers extended width	5.9m (middle)	5.0m (middle)	2.2m (minimum)
Angle **a**^{o}	45	40	15



RATED LIFTING CAPACITIES

ISO 4305

ON RUBBER STATIONARY (Unit: ×1000kg)												
	Over Front						360° Rotation					
A	9.7m		16.8m		24.4m		9.7m		16.8m		24.4m	
B	C		C		C		C		C		C	
3.0	60.6	18.0					60.6	11.0				
3.5	56.8	17.0					57.1	9.0				
4.0	53.0	15.0					53.5	7.3				
4.5	49.2	12.7	68.8	11.0			49.7	5.7	68.5	5.5		
5.0	44.9	10.6	66.9	9.5			45.4	4.9	66.3	4.5		
5.5	39.9	9.0	64.9	8.0			40.8	4.0	64.6	3.7		
6.0	34.6	7.7	63.1	7.0			35.3	3.2	62.5	3.1		
6.5	27.7	6.6	61.1	6.1			28.9	2.75	60.9	2.5		
7.0	17.7	5.7	59.0	5.3			20.5	2.27	58.6	2.1		
8.0			54.6	4.25	67.2	5.0			54.6	1.4	66.9	2.2
9.0			50.0	3.45	64.3	3.9			49.9	0.85	64.3	1.6
10.0			45.2	2.65	61.6	3.15					61.6	1.1
11.0			40.1	2.1	58.8	2.55					58.7	0.8
12.0			33.8	1.6	55.9	2.1						
13.0			26.5	1.2	52.9	1.75						
14.0			15.7	0.75	49.7	1.4						
15.0					46.7	1.1						
16.0					43.1	0.85						
17.0					39.4	0.6						
D	0°				28°		0°		44°		56°	

Unit: ×1000kg

LIFTING CAPACITY AT ZERO DEGREE BOOM ANGLE ON RUBBER STATIONARY												
	Over Front						360° Rotation					
A	9.7m		16.8m				9.7m					
C	B		B				B					
0°	7.2	5.4	14.3	0.7			7.2	2.1				

A :Boom length (m)
B :Load radius (m)
C :Loaded boom angle (°)
D :Minimum boom angle (°) for indicated length (no load)

RATED LIFTING CAPACITIES

ISO 4305

ON RUBBER CREEP (Unit: ×1000kg)												
	Over Front						360° Rotation					
A / B	9.7m		16.8m		24.4m		9.7m		16.8m		24.4m	
	C		C		C		C		C		C	
3.0	60.6	18.0					60.6	10.0				
3.5	56.8	15.45					57.0	8.0				
4.0	53.0	13.0					53.3	6.5				
4.5	49.0	11.1	68.6	9.7			49.2	5.1	68.6	5.1		
5.0	44.7	9.3	66.6	8.4			44.4	4.3	66.6	4.2		
5.5	39.8	7.95	64.6	7.0			39.6	3.7	64.7	3.5		
6.0	34.7	6.7	62.8	6.0			34.0	3.0	62.7	2.7		
6.5	28.0	5.75	60.8	5.3			27.0	2.5	60.7	2.35		
7.0	18.2	5.0	58.7	4.65			18.1	1.95	58.9	1.85		
8.0			54.4	3.6	67.0	4.3			54.5	1.3	67.0	1.9
9.0			49.9	2.8	64.3	3.4			50.2	0.75	64.3	1.35
10.0			45.1	2.3	61.7	2.8					61.7	0.9
11.0			39.6	1.8	58.8	2.25					58.8	0.6
12.0			33.3	1.35	56.0	1.8						
13.0			26.0	1.0	52.9	1.5						
14.0			14.6	0.6	49.7	1.2						
15.0					46.4	0.95						
16.0					42.9	0.6						
D	0°				31°		0°		44°		56°	

Unit: ×1000kg

LIFTING CAPACITY AT ZERO DEGREE BOOM ANGLE ON RUBBER CREEP												
	Over Front						360° Rotation					
A / C	9.7m		16.8m				9.7m					
	B		B				B					
0°	7.2	4.7	14.3	0.5			7.2	1.8				

A :Boom length (m)

B :Load radius (m)

C :Loaded boom angle (°)

D :Minimum boom angle (°) for indicated length (no load)

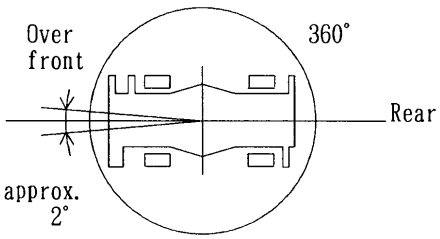
NOTES FOR "ON RUBBER" TABLES

1. Rated lifting capacities shown in the table are based on condition that crane is set on firm level surface, with suspension lock applied. Those above thick lines are based on tire capacity and those below, on crane stability. They are based on actual load radius increased by tire deformation and boom deflection.
2. Rated lifting capacities based on crane stability are according to ISO 4305.
3. The mass of the hook (270kg for 30t capacity, 250kg for 20t capacity,100kg for 4.0t capacity), slings and all similarly used load handling devices must be considered as part of the load and must be deducted from the lifting capacities.
4. For rated lifting capacity of single top, reduce the rated lifting capacities of relevant boom according to a weight reductions for auxiliary load handling equipment. Capacities of single top shall not exceed 4,000kg including main hook.
5. On rubber lifting with "jib" is not permitted. Maximum permissible boom length is 24.4 m.
6. CREEP is motion for crane not to travel more than 60 m in any 30 minute period and to travel at the speed of less than 1.6km/h.
7. During "CREEP" duties travel slowly and keep the lifting load as close to the ground as possible, and especially avoid any abrupt steering, accelerating or braking.
8. Do not operate the crane while carrying the load.
9. Tires should be inflated to their correct air pressure of 900kPa.
10. For CREEP operation, choose the drive mode and proper gear according to the road or working condition.
11. Standard number of parts of line for on rubber operation should be according to the following table.
    Load per line should not surpass 39.2kN {4,000kgf} for main winch and auxiliary winch.

Boom length	9.7m	9.7m to 24.4m	Single top
Number of parts of line	6	4	1

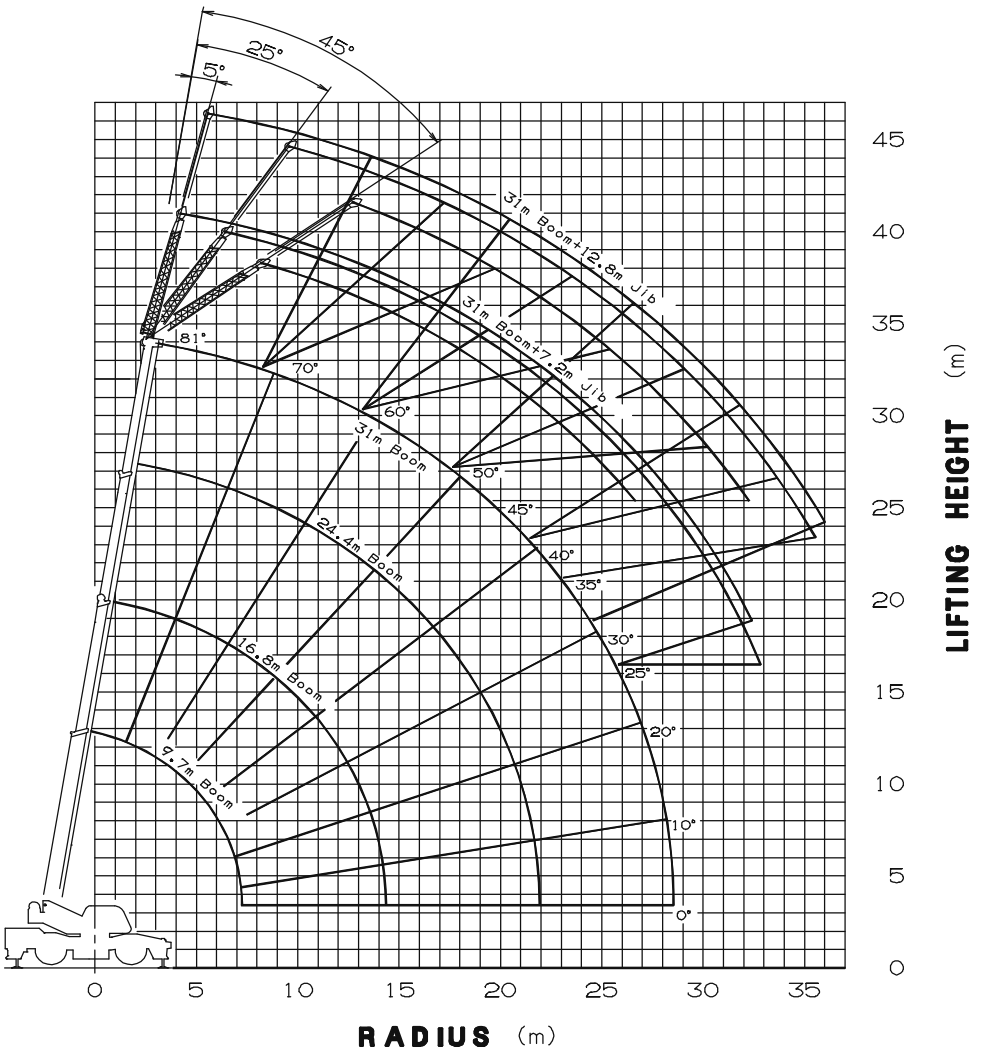
The lifting capacity data stored in the AUTOMATIC MOMENT LIMITER (AML) is based on the standard number of parts of line listed in the chart.
Maximum lifting capacity is restricted by the number of parts of line of AUTOMATIC MOMENT LIMITER (AML).

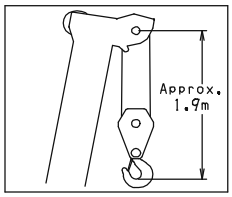
WORKING AREA

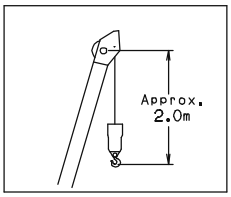


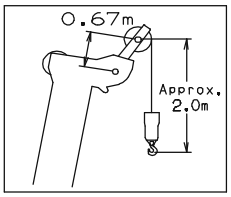
Without outriggers "Over front" operation should be performed within 2 degrees in front of chassis.

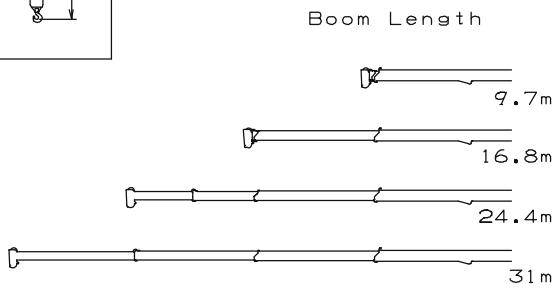
WORKING RANGE





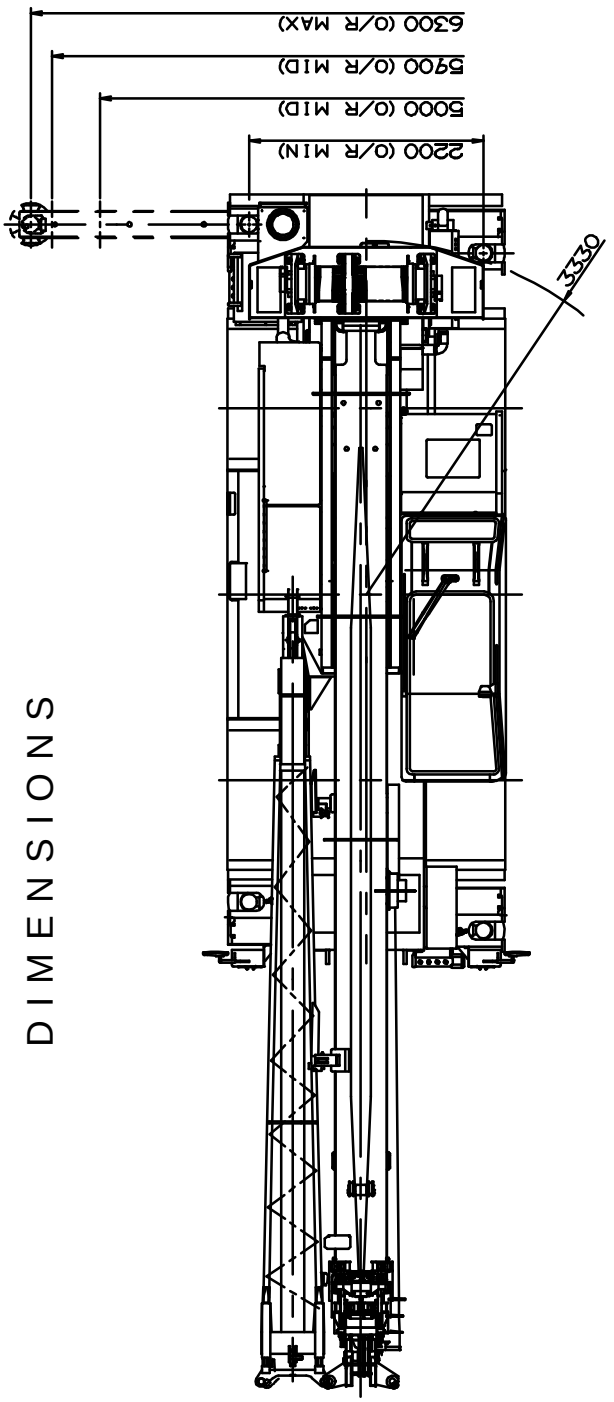


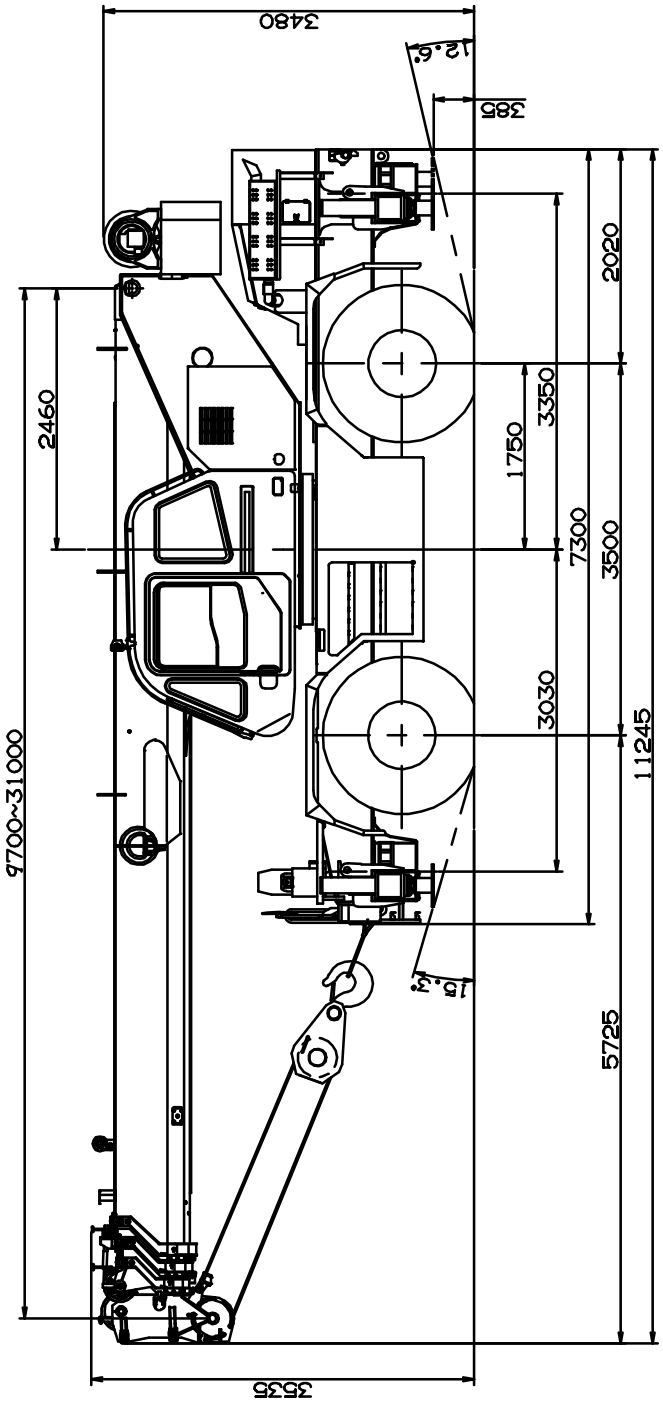


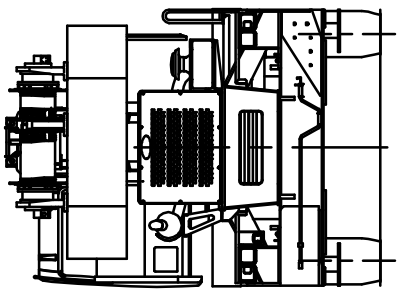


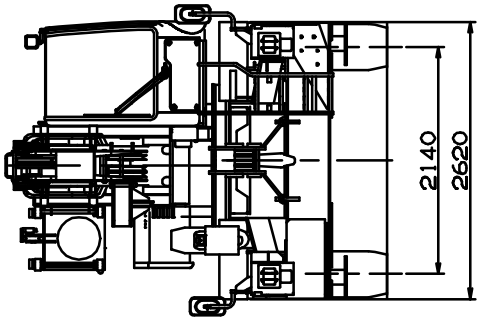
NOTE: The above lifting height and boom angle are based on a straight (unladen) boom, and allowance should be made for boom deflection obtained under laden conditions.
The above working range is shown on condition with outriggers fully(6.3m) extended.

DIMENSIONS









Note: Dimension is with boom angle at 0 degree.

GR-300EX　Axle Weight Distribution Chart

UNIT : kg

	GVW	Front	Rear
Basic standard machine includes: 4-section boom (9.7m - 31.0m) 2-stage jib (7.2m, 12.8m) Cummins QSB6.7 445 / 95 R 25　tires Single top 4.0ton hook block	26,975	13,150	13,825
Add: 1.　30ton 4 sheaves hook block 2.　20ton 3 sheaves hook block	 +270 +270	 +480 +480	 -210 -210
Remove: 1. 2-stage jib (7.2m, 12.8m) 2. 4.0ton hook block	 -630 -100	 -1,085 -140	 +455 +40