TADANO

TADANO ROUGH TERRAIN CRANE

MODEL : GR-500EX

(Left-hand steering)

GENERAL DATA

CRANE CAPACITY	50,000 kg at 2.5 m	
BOOM	4-section, 10.7 m — 34.7 m	
DIMENSION		
Overall length	approx.	13,055 mm
Overall width	approx.	2,980 mm
Overall height	approx.	3,765 mm
MASS		
Gross vehicle mass	approx.	33,420 kg
-front axle	approx.	16,440 kg
-rear axle	approx.	16,980 kg
PERFORMANCE		
Max. traveling speed	computed	50 km/h
Gradeability (tan θ)	computed	69 % (at stall)
		*30 %

* Machine should be operated within the limit of engine crankcase design (17° : MITSUBISHI 6M60-TL).

Specifications are subject to change without notice.

CRANE SPECIFICATIONS

MODEL	GR-500EX
CAPACITY	50,000 kg at 2.5 m
BOOM	Four section full power partially synchronized telescoping boom of round box construction with 4 sheaves at boom head. The synchronization system consists of a double acting telescope cylinder, extension cables and retraction cables. Hydraulic cylinder fitted with holding valves. Fully retracted length. . . . . 10.7 m Fully extended length. . . . . 34.7 m Extension speed. . . . . .24.0 m in 72 s
JIB	Two staged swingaround boom extension. Triple offset (5^o/25^o/45^o) type. Stows alongside base boom section. Assistant cylinders for mounting and stowing. Single sheave at jib head. Length. . . . . .8.8 m and 15.2 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 slow stop function. Boom angle . . . . . -0.8^o to 81^o Boom raising speed. . . . . 20^o to 60^o in 27 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. Single line pull. . . . . 54.9 kN {5,600 kgf} Single line speed. . . . . 128 m/min (at the 4th layer) Wire rope. . . . . Spin-resistant type Diameter x length. . . . . .19 mm x 193 m
HOOK BLOCK (Optional) - 50 t capacity	5 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. . . . . 54.9 kN {5,600 kgf}
Single line speed. . . . . 110 m/min (at the 2nd layer)
Wire rope. . . . . Spin-resistant type
Diameter x length. . . . . .19 mm x 110 m

HOOK BLOCK -
5.6 t capacity

Swivel type hook with safety latch for single line use.

SLEWING

Hydraulic axial piston motor driven through planetary speed reducer.
Continuous 360^{o} full circle slewing on ball bearing slew ring.
Equipped with manually locked/released slewing brake.

Slewing speed. . . . . 2.7 min^{-1} {rpm}

HYDRAULIC SYSTEM

Pumps. . . . . 2 variable piston pumps for telescoping, elevating and winches.
Tandem gear pump for steering, slewing 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. 560 liters
Filters. . . . . Return line filter

CRANE CONTROL

By 4 control levers for slewing, 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.
Air conditioner (Hot water heater and cooler).

TADANO Automatic Moment Limiter With (Model: AML-C)

Main unit in crane cab gives audible and visual warning of approach to overload. Automatically cuts out crane motions before overload.
It also has the limit function of working range (load radius and/or boom angle and/or tip height and/or slewing range).
Automatic Speed Reduction and Slow Stop function on boom elevation and slewing.
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 lifting height
- Slewing 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
Maximum.. . . . . 7,000 mm
Middle. . . . . 6,500 mm
Middle. . . . . 5,000 mm
Minimum. . . . . 2,480 mm
Float size (Diameter). . . . . 500 mm

COUNTERWEIGHT

Integral with swing frame
Mass. . . . . 2,900 kg

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. . . . MITSUBISHI 6M60-TL
Type. . . . . 4 cycle, turbo charged and after cooled, 6 cylinder in line, direct injection, water cooled diesel engine.
Piston displacement. . . . . 7,545 cm^3
Bore x stroke. . . . . 118 mm x 115 mm
Max. output. . . . . 200 kW at 2,600 min^{-1} {rpm}
Max. torque. . . . . 785 N-m at 1,400 min^{-1} {rpm}

TRANSMISSION

Electronically controlled full automatic transmission.
Torque converter driving full powershift with driving axle selector.
6 forward and 2 reverse speeds.
4 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.....23.5–25 (OR), Single x 2 Air pressure: 450 kPa
Rear.....23.5–25 (OR), Single x 2 Air pressure: 450 kPa

TURN RADIUS

Min. turning radius (at center of extreme outer tire)
2-wheel steering. . . . . 11.7 m
4-wheel steering. . . . . 6.7 m

EQUIPMENT

STANDARD EQUIPMENT

Automatic moment limiter (AML)
External lamp (AML)
Pendant type over-winding cutout
Winch automatic fail-safe brake
Winch drum rotation indicator (Audible and Visual type)
Winch drum mirror
Hook safety latch
Pilot check valves
Holding valves
Counterbalance valves
Hydraulic pressure relief valves
Slewing brake
Slewing lock
Boom angle indicator
Boom elevation foot pedal
Boom telescoping foot pedal
Outrigger extension width detector
Air conditioner (Hot water heater and cooler)
Sight level gauge
Hydraulic oil cooler
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)
Automatic drive system
Transmission neutral position engine start
Overshift prevention
Parking braked travel warning
Tilt-telescope steering wheel
Back-up alarm
Air cleaner dust indicator
Air dryer
Water separator with filter
Engine over-run alarm
Hydraulic lockout suspension
Non-spin differential (Rear)
Towing eyes - front and rear
Telematics (machine data logging and monitoring system) with - HELLO-NET via internet (availability depends on countries)
Fuel consumption monitor
Eco mode system
Positive control

OPTIONAL EQUIPMENT

Anemometer
Over-unwinding prevention
Cable follower
Emergency steering
Tire inflation kit
Engine coolant heater (Diesel fuel type)
Hook block – 50 t capacity (5 sheaves, swivel type with safety latch. Mass : approx. 500 kg)

HOISTING PERFORMANCE

Main or auxiliary hoist 0.362 m drum 19 mm wire rope		
Layer	Line pulls	drum grooved lagging
	Available	Total wire rope
	N (kgf)	Meters
1st	73,300 (7,480)	34.2
2nd	67,620 (6,900)	71.5
3rd	61,300 (6,260)	111.8
4th	56,400 (5,760)	155.2
5th	52,900 (5,400)	201.6
6th	48,900 (4,990)	251.1
7th[1]	45,800 (4,670)	303.7

[1]Seventh layer of wire rope are not recommended for hoisting operations.

RATED LIFTING CAPACITIES

ISO 4305

ON OUTRIGGERS FULLY EXTENDED 7.0 m SPREAD 360° ROTATION (Unit: × 1000 kg)								
A / B	10.7m		18.7m		26.7m		34.7m	
	C		C		C		C	
2.5	69.3	50.0						
3.0	66.4	46.2	76.9	21.6				
3.5	63.6	41.3	75.4	21.6	80.8	18.7		
4.0	60.2	37.2	73.8	21.6	79.8	18.7		
4.5	56.9	33.7	72.2	21.6	78.8	18.3		
5.0	53.5	29.2	70.7	21.6	77.7	17.8		
5.5	49.9	26.7	69.0	21.6	76.7	17.1		
6.0	45.8	24.6	67.3	21.6	75.6	16.4	79.7	11.4
6.5	41.6	22.7	65.6	21.6	74.5	15.7	79.0	11.4
7.0	36.9	21.0	64.0	21.5	73.4	15.1	78.3	11.3
8.0	24.8	16.0	60.4	17.8	71.2	14.4	76.7	10.5
9.0			56.7	14.8	68.9	13.2	75.0	9.9
10.0			52.9	12.4	66.5	12.1	73.3	9.3
11.0			48.8	10.6	64.0	10.3	71.6	9.05
12.0			44.3	9.05	61.4	9.0	69.9	8.75
13.0			39.4	7.8	58.9	7.75	68.1	7.6
14.0			33.8	6.75	56.1	6.85	66.0	6.85
15.0			27.2	5.85	53.4	6.05	64.1	6.05
16.0			18.0	5.15	50.4	5.3	62.1	5.35
17.0					47.4	4.75	60.0	4.75
18.0					44.2	4.2	57.8	4.25
19.0					40.8	3.75	55.7	3.8
20.0					37.1	3.35	53.5	3.4
22.0					28.2	2.7	49.0	2.75
24.0					14.4	2.2	44.2	2.25
26.0							38.8	1.8
28.0							32.6	1.45
30.0							25.0	1.2
32.0							12.2	0.95
D	0°							

Unit: × 1000 kg

LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE ON OUTRIGGERS FULLY EXTENDED 7.0m SPREAD 360° ROTATION								
A / C	10.7m		18.7m		26.7m		34.7m	
	B		B		B		B	
0°	8.6	7.5	16.6	3.2	24.4	1.5	32.1	0.6

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 7.0 m SPREAD

360° ROTATION

C	34.7m Boom + 8.8m Jib					
	5°Tilt		25°Tilt		45°Tilt	
	R	**W**	**R**	**W**	**R**	**W**
80°	7.6	5.6	10.5	3.8	12.5	2.75
77.5°	9.8	5.18	12.5	3.63	14.3	2.65
75°	11.8	4.78	14.3	3.48	16.1	2.58
72.5°	13.7	4.38	16.2	3.33	17.7	2.5
70°	15.5	4.03	17.9	3.2	19.3	2.45
67.5°	17.3	3.73	19.7	3.05	20.9	2.4
65°	19.1	3.5	21.3	2.93	22.4	2.35
62.5°	20.7	3.2	22.8	2.75	23.9	2.33
60°	22.3	2.9	24.3	2.58	25.4	2.3
57.5°	23.7	2.5	25.8	2.25	26.7	2.05
55°	25.2	2.15	27.1	1.95	27.9	1.85
52.5°	26.7	1.88	28.4	1.7	29.0	1.63
50°	28.0	1.63	29.7	1.5	30.2	1.45
47.5°	29.3	1.4	30.9	1.3	31.2	1.28
45°	30.6	1.23	32.0	1.15	32.3	1.13
42.5°	31.8	1.08	33.1	1.0		
40°	33.0	0.95	34.1	0.9		
37.5°	34.1	0.83	35.0	0.78		
35°	35.0	0.73	35.9	0.68		
32.5°	35.9	0.63	36.7	0.6		
30°	36.8	0.55	37.4	0.53		
27.5°	37.6	0.48	38.1	0.45		
25°	38.3	0.43	38.7	0.4		

C	34.7m Boom + 15.2m Jib					
	5°Tilt		25°Tilt		45°Tilt	
	R	**W**	**R**	**W**	**R**	**W**
80°	9.7	2.88	14.4	1.85	17.8	1.25
77.5°	12.2	2.8	16.6	1.75	19.7	1.2
75°	14.7	2.75	18.7	1.68	21.7	1.18
72.5°	16.9	2.53	20.7	1.6	23.4	1.15
70°	19.0	2.35	22.6	1.53	25.2	1.13
67.5°	21.0	2.2	24.5	1.45	26.8	1.1
65°	23.0	2.08	26.3	1.4	28.4	1.1
62.5°	24.9	1.98	28.0	1.35	30.0	1.08
60°	26.7	1.88	29.7	1.3	31.4	1.05
57.5°	28.4	1.7	31.3	1.25	32.9	1.03
55°	30.1	1.55	33.0	1.23	34.2	1.03
52.5°	31.7	1.33	34.3	1.1	35.4	0.98
50°	33.2	1.13	35.6	0.98	36.5	0.93
47.5°	34.6	0.95	36.9	0.85	37.5	0.8
45°	35.9	0.8	38.0	0.73	38.5	0.68
42.5°	37.2	0.68	39.1	0.6		
40°	38.4	0.58	40.1	0.5		
37.5°	39.6	0.48	41.1	0.43		
35°	40.7	0.4	42.0	0.35		

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

RATED LIFTING CAPACITIES

ISO 4305

ON OUTRIGGERS MID EXTENDED 6.5m SPREAD 360° ROTATION (Unit: ×1000 kg)								
A / B	10.7m		18.7m		26.7m		34.7m	
	C		C		C		C	
2.5	69.3	50.0						
3.0	66.4	46.2	76.9	21.6				
3.5	63.6	41.3	75.4	21.6	80.8	18.7		
4.0	60.2	37.2	73.8	21.6	79.8	18.7		
4.5	56.9	33.7	72.2	21.6	78.8	18.3		
5.0	53.5	29.2	70.7	21.6	77.7	17.8		
5.5	49.9	26.7	69.0	21.6	76.7	17.1		
6.0	45.8	24.6	67.3	21.6	75.6	16.4	79.7	11.4
6.5	41.6	22.7	65.6	21.6	74.5	15.7	79.0	11.4
7.0	36.9	20.9	63.9	19.6	73.4	15.1	78.3	11.3
8.0	24.8	15.8	60.4	16.0	71.2	14.4	76.7	10.5
9.0			56.7	13.4	68.9	12.3	75.0	9.9
10.0			52.9	10.9	66.4	10.6	73.3	9.3
11.0			48.7	9.15	63.9	9.2	71.6	8.6
12.0			44.3	7.8	61.3	8.1	69.7	7.6
13.0			39.4	6.7	58.7	6.95	67.8	6.8
14.0			33.8	5.8	56.0	6.05	65.8	6.15
15.0			27.2	5.05	53.3	5.3	63.9	5.4
16.0			18.0	4.45	50.3	4.7	61.9	4.75
17.0					47.3	4.15	59.8	4.2
18.0					44.1	3.7	57.7	3.75
19.0					40.7	3.3	55.6	3.35
20.0					37.0	2.9	53.4	3.0
22.0					28.1	2.35	48.8	2.4
24.0					14.4	1.85	44.0	1.9
26.0							38.6	1.5
28.0							32.5	1.2
30.0							24.9	0.95
32.0							12.0	0.7
D	0°							

Unit: ×1000kg

LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE ON OUTRIGGERS MID EXTENDED 6.5m SPREAD 360° ROTATION								
A / C	10.7m		18.7m		26.7m		34.7m	
	B		B		B		B	
0°	8.6	7.5	16.6	3.2	24.4	1.5	32.1	0.6

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 6.5 m SPREAD
360° ROTATION

C	34.7m Boom + 8.8m Jib					
	5°Tilt		25°Tilt		45°Tilt	
	R	**W**	**R**	**W**	**R**	**W**
80°	7.6	5.6	10.5	3.8	12.5	2.75
77.5°	9.8	5.18	12.5	3.63	14.3	2.65
75°	11.8	4.78	14.3	3.48	16.1	2.58
72.5°	13.7	4.38	16.2	3.33	17.7	2.5
70°	15.5	4.03	17.9	3.2	19.3	2.45
67.5°	17.3	3.73	19.7	3.05	20.9	2.4
65°	19.1	3.5	21.3	2.93	22.4	2.35
62.5°	20.6	3.0	22.8	2.6	23.8	2.25
60°	22.1	2.55	24.2	2.3	25.3	2.15
57.5°	23.6	2.2	25.6	1.98	26.6	1.88
55°	25.1	1.88	27.0	1.7	27.8	1.63
52.5°	26.5	1.6	28.3	1.48	28.9	1.4
50°	27.9	1.38	29.6	1.28	30.1	1.23
47.5°	29.2	1.2	30.8	1.1	31.2	1.05
45°	30.5	1.03	31.9	0.95	32.3	0.93
42.5°	31.7	0.88	33.0	0.8		
40°	32.9	0.75	34.0	0.7		
37.5°	33.9	0.63	35.0	0.6		
35°	34.9	0.55	35.9	0.5		

C	34.7m Boom + 15.2m Jib					
	5°Tilt		25°Tilt		45°Tilt	
	R	**W**	**R**	**W**	**R**	**W**
80°	9.7	2.88	14.4	1.85	17.8	1.25
77.5°	12.2	2.8	16.6	1.75	19.7	1.2
75°	14.7	2.75	18.7	1.68	21.7	1.18
72.5°	16.9	2.53	20.7	1.6	23.4	1.15
70°	19.0	2.35	22.6	1.53	25.2	1.13
67.5°	21.0	2.2	24.5	1.45	26.8	1.1
65°	23.0	2.08	26.3	1.4	28.4	1.1
62.5°	24.9	1.98	28.0	1.35	30.0	1.08
60°	26.7	1.88	29.7	1.3	31.4	1.05
57.5°	28.3	1.58	31.4	1.2	32.9	1.03
55°	29.9	1.33	32.9	1.15	34.2	1.03
52.5°	31.4	1.1	34.2	0.95	35.3	0.88
50°	33.0	0.93	35.5	0.8	36.4	0.75
47.5°	34.4	0.78	36.8	0.65	37.5	0.63
45°	35.8	0.65	37.9	0.55	38.5	0.53

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

RATED LIFTING CAPACITIES

ISO 4305

ON OUTRIGGERS MID EXTENDED 5.0 m SPREAD 360° ROTATION (Unit: ×1000 kg)								
A / B	10.7m		18.7m		26.7m		34.7m	
	C		C		C		C	
2.5	69.3	50.0						
3.0	66.4	46.2	76.9	21.6				
3.5	63.6	41.3	75.4	21.6	80.8	18.7		
4.0	60.2	36.4	73.8	21.6	79.8	18.7		
4.5	56.9	29.7	72.2	21.6	78.8	18.3		
5.0	53.4	24.9	70.7	21.6	77.7	17.8		
5.5	49.7	21.3	69.0	18.3	76.6	16.0		
6.0	45.7	18.4	67.3	16.1	75.5	14.3	79.7	11.4
6.5	41.5	15.7	65.6	14.4	74.3	12.9	79.0	11.4
7.0	36.7	13.6	63.9	13.0	73.2	11.7	78.2	10.5
8.0	24.4	10.6	60.3	10.8	70.8	9.6	76.5	8.9
9.0			56.6	8.95	68.5	8.3	74.6	7.6
10.0			52.8	7.35	66.1	7.1	72.8	6.5
11.0			48.6	6.25	63.6	6.3	71.0	5.8
12.0			44.2	5.2	61.1	5.5	69.1	5.1
13.0			39.3	4.45	58.4	4.75	67.2	4.5
14.0			33.8	3.8	55.8	4.05	65.2	4.0
15.0			27.2	3.2	53.0	3.5	63.4	3.55
16.0			18.0	2.8	50.2	3.05	61.3	3.1
17.0					47.1	2.6	59.3	2.65
18.0					43.9	2.3	57.3	2.35
19.0					40.5	1.95	55.1	2.0
20.0					36.8	1.75	52.9	1.75
22.0					28.0	1.25	48.5	1.3
24.0					14.4	0.9	43.6	0.9
26.0							38.3	0.6
D	0°						25°	

Unit: × 1000 kg

LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE ON OUTRIGGERS MID EXTENDED 5.0m SPREAD 360° ROTATION								
A / C	10.7m		18.7m		26.7m			
	B		B		B			
0°	8.6	7.5	16.6	2.5	24.5	0.8		

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 5.0 m SPREAD
360° ROTATION

C	34.7m Boom + 8.8m Jib					
	5°Tilt		25°Tilt		45°Tilt	
	R	**W**	**R**	**W**	**R**	**W**
80°	7.6	5.6	10.5	3.8	12.5	2.75
77.5°	9.8	5.18	12.5	3.63	14.3	2.65
75°	11.8	4.78	14.3	3.48	16.1	2.58
72.5°	13.6	4.0	16.2	3.16	17.7	2.5
70°	15.3	3.3	17.8	2.85	19.3	2.45
67.5°	16.9	2.73	19.4	2.38	20.8	2.1
65°	18.7	2.2	20.9	1.95	22.2	1.78
62.5°	20.2	1.8	22.4	1.6	23.6	1.48
60°	21.8	1.48	23.8	1.3	25.0	1.23
57.5°	23.3	1.18	25.3	1.05	26.3	1.0
55°	24.7	0.95	26.7	0.85	27.5	0.8
52.5°	26.2	0.75	28.0	0.68	28.8	0.63
50°	27.6	0.58	29.3	0.53	29.9	0.5

C	34.7m Boom + 15.2m Jib					
	5°Tilt		25°Tilt		45°Tilt	
	R	**W**	**R**	**W**	**R**	**W**
80°	9.7	2.88	14.4	1.85	17.8	1.25
77.5°	12.2	2.8	16.6	1.75	19.7	1.2
75°	14.7	2.75	18.7	1.68	21.7	1.18
72.5°	16.8	2.5	20.7	1.6	23.4	1.15
70°	18.9	2.3	22.5	1.53	25.2	1.13
67.5°	20.7	1.85	24.6	1.38	26.8	1.1
65°	22.5	1.48	26.2	1.25	28.4	1.1
62.5°	24.3	1.18	27.8	1.0	29.9	0.9
60°	25.9	0.93	29.4	0.8	31.2	0.73
57.5°	27.7	0.7	30.9	0.6	32.6	0.55
55°	29.3	0.55	32.4	0.45	33.8	0.4

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

RATED LIFTING CAPACITIES

ISO 4305

ON OUTRIGGERS MIN EXTENDED 2.48 m SPREAD
360° ROTATION (Unit: × 1000 kg)

A / B	10.7m		18.7m		26.7m		34.7m	
	C		C		C		C	
2.5	69.1	23.0						
3.0	66.2	18.2	76.9	14.9				
3.5	63.1	14.8	75.3	12.5	80.5	10.7		
4.0	59.9	12.4	73.8	10.7	79.3	9.3		
4.5	56.6	10.3	72.2	9.3	78.2	8.2		
5.0	53.2	8.5	70.6	8.2	77.1	7.3		
5.5	49.5	7.05	68.9	7.1	76.1	6.5		
6.0	45.5	5.95	67.2	6.4	74.9	5.8	78.9	5.2
6.5	41.2	5.05	65.5	5.7	73.8	5.2	78.0	4.7
7.0	36.4	4.3	63.8	5.1	72.7	4.7	77.2	4.2
8.0	24.1	3.15	60.2	3.9	70.3	3.8	75.4	3.5
9.0			56.5	3.0	68.0	3.2	73.6	2.9
10.0			52.6	2.3	65.6	2.5	71.8	2.4
11.0			48.5	1.75	63.1	2.05	70.0	1.9
12.0			44.0	1.35	60.7	1.6	68.2	1.5
13.0			39.1	0.95	58.1	1.2	66.3	1.15
14.0			33.6	0.65	55.4	0.9	64.4	0.9
15.0					52.7	0.65	62.5	0.65
D	0°		18°		44°		57°	

Unit: × 1000 kg

LIFTING CAPACITIES AT ZERO DEGREE BOOM ANGLE
ON OUTRIGGERS MIN EXTENDED 2.48m SPREAD 360° ROTATION

A / C	10.7m							
	B							
0°	8.6	2.6						

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

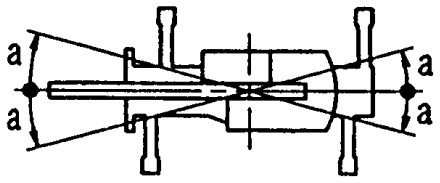
1. Rated lifting capacities shown in the table are based on condition that crane is set on firm level surface. Those above bold lines are based on crane strength and those below, on its stability.
2. Rated lifting capacities based on crane stability are according to ISO 4305.
3. The mass of the hook (500 kg for 50 t capacity, 150 kg for 5.6 t 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 5,600 kg 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 54.9 kN {5,600 kgf} for main winch and auxiliary winch.

Boom length	10.7 m	10.7 m to 18.7 m	18.7 m to 34.7 m	Single top Jib
Number of parts of line	10	6	4	1

The lifting capacity data stowed 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	6.5 m (middle)	5.0 m (middle)	2.48 m (minimum)
Angle **a**^{o}	45	25	5



RATED LIFTING CAPACITIES

ISO 4305

ON RUBBER STATIONARY (Unit: ×1000kg)												
	Over Front						360° Rotation					
A	10.7m		18.7m		26.7m		10.7m		18.7m		26.7m	
B	C		C		C		C		C		C	
3.0	66.2	22.1					66.1	12.6				
3.5	63.2	19.7					63.1	10.4				
4.0	60.0	17.5	73.8	15.6			59.9	7.95	73.8	8.65		
4.5	56.7	15.8	72.2	14.0			56.5	6.25	72.1	7.15		
5.0	53.2	14.3	70.6	12.5			53.1	5.15	70.5	5.85		
5.5	49.6	13.0	69.0	11.6			49.4	4.25	68.9	4.95		
6.0	45.6	11.9	67.3	10.7			45.5	3.5	67.2	4.25		
6.5	41.4	11.0	65.6	9.95	73.9	7.4	41.2	2.85	65.5	3.65	73.6	3.95
7.0	36.6	9.65	63.9	9.15	72.7	6.8	36.4	2.3	63.8	3.05	72.5	3.35
8.0	24.3	7.4	60.3	7.85	70.5	5.8	24.1	1.5	60.2	2.15	70.2	2.45
9.0			56.5	6.7	68.1	5.05			56.5	1.55	67.9	1.8
10.0			52.7	5.55	65.7	4.45			52.6	1.1	65.5	1.35
11.0			48.6	4.5	63.3	4.0			48.4	0.7	63.0	0.95
12.0			44.1	3.75	60.8	3.7					60.5	0.6
13.0			39.2	3.15	58.4	3.4						
14.0			33.7	2.65	55.6	2.9						
15.0			27.1	2.25	52.9	2.5						
16.0			17.6	1.9	50.1	2.15						
17.0					47.0	1.85						
18.0					43.8	1.55						
19.0					40.4	1.3						
20.0					36.7	1.1						
22.0					27.9	0.75						
D	0°								39°		55°	

Unit: ×1000kg

LIFTING CAPACITY AT ZERO DEGREE BOOM ANGLE ON RUBBER STATIONARY												
	Over Front						360° Rotation					
A	10.7m		18.7m		26.7m		10.7m					
C	B		B		B		B					
0°	8.6	6.7	16.6	1.7	24.5	0.4	8.6	1.2				

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: × 1000k g)												
	Over Front						360° Rotation					
A	10.7m		18.7m		26.7m		10.7m		18.7m		26.7m	
B	C		C		C		C		C		C	
3.0	66.2	16.4					66.1	9.55				
3.5	63.1	14.4					63.0	8.0				
4.0	59.9	12.7	73.7	13.4			59.8	6.7	73.7	7.5		
4.5	56.6	11.4	72.1	12.1			56.5	5.35	72.1	6.35		
5.0	53.2	10.3	70.5	10.9			53.1	4.5	70.5	5.2		
5.5	49.5	9.4	68.9	9.95			49.4	3.65	68.9	4.25		
6.0	45.6	8.5	67.2	9.05			45.5	3.0	67.2	3.5		
6.5	41.3	7.75	65.5	8.25	73.9	7.4	41.2	2.4	65.5	2.95	73.6	3.4
7.0	36.5	7.05	63.8	7.6	72.7	6.8	36.4	1.95	63.8	2.55	72.5	2.85
8.0	24.2	5.95	60.3	6.5	70.5	5.7	24.1	1.25	60.2	1.9	70.2	2.05
9.0			56.5	5.6	68.1	4.75			56.5	1.35	67.8	1.55
10.0			52.7	4.65	65.7	4.2			52.6	0.9	65.4	1.15
11.0			48.5	3.8	63.3	3.65			48.4	0.55	63.0	0.8
12.0			44.1	3.15	60.8	3.15					60.5	0.5
13.0			39.2	2.65	58.3	2.75						
14.0			33.7	2.2	55.6	2.45						
15.0			27.1	1.85	52.9	2.05						
16.0			17.6	1.55	50.1	1.75						
17.0					47.0	1.5						
18.0					43.8	1.3						
19.0					40.4	1.05						
20.0					36.7	0.9						
22.0					27.8	0.55						
D	0°				14°		0°		44°		58°	

Unit: × 1000 kg

LIFTING CAPACITY AT ZERO DEGREE BOOM ANGLE ON RUBBER CREEP												
	Over Front						360° Rotation					
A	10.7m		18.7m				10.7m					
C	B		B				B					
0°	8.6	5.4	16.6	1.4			8.6	0.9				

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

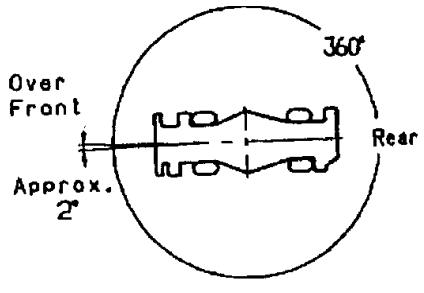
NOTES FOR "ON RUBBER" TABLES

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 bold lines are based on tire capacity and those below, on crane stability. They are based on actual working radii 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 (500 kg for 50 t capacity,150 kg for 5.6 t 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 5,600 kg including main hook.
5. On tires lifting with "jib" is not permitted. Maximum permissible boom length is 26.7 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 1.6 km/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 450 kPa.
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 tires operation should be according to the following table.
    Load per line should not surpass 54.9 kN {5,600 kgf} for main winch and auxiliary winch.

Boom length	10.7 m	18.7 m to 26.7 m	Single top
Number of parts of line	6	4	1

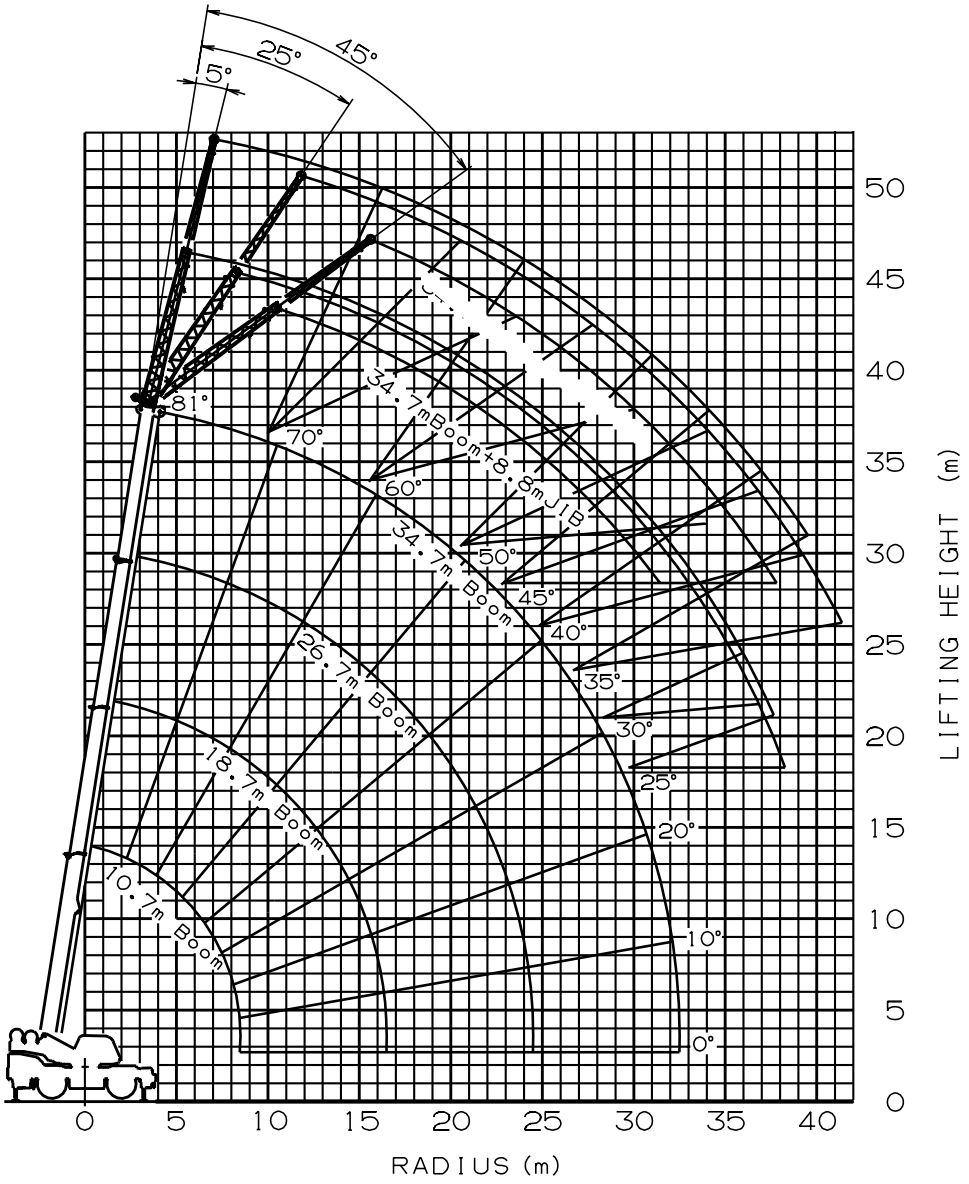
The lifting capacity data stowed in the AUTOMATIC MOMENT LIMITER (AML) is based on the standard number of parts of line listed in the chart.
Maximum lifting capacity is restricted by the number of parts of line of AUTOMATIC MOMENT LIMITER (AML).

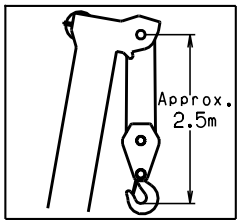
WORKING AREA

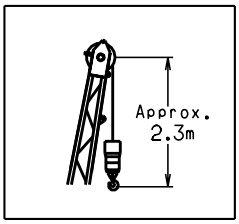


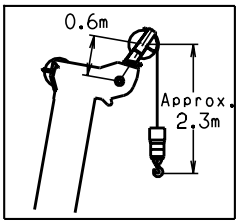
Without outriggers "Over front" operation should be performed within 2 degrees in front of chassis.

WORKING RANGE CHART

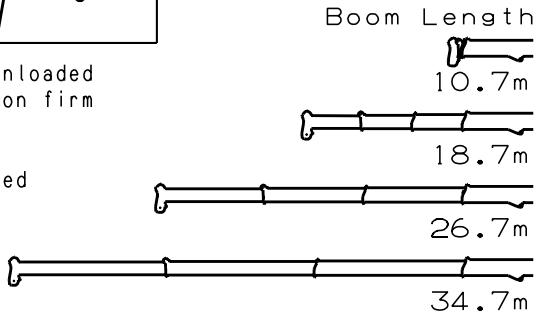




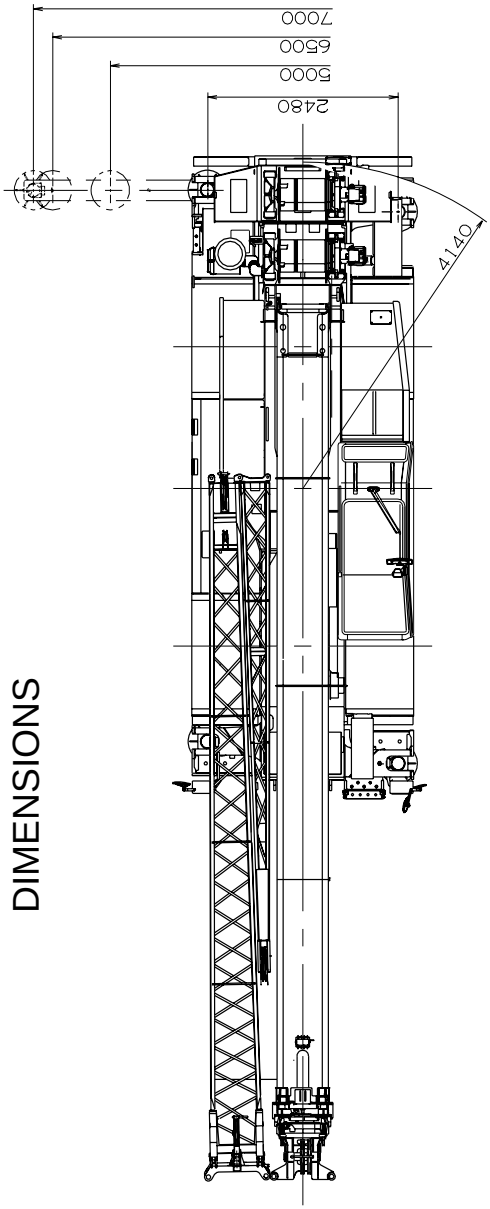


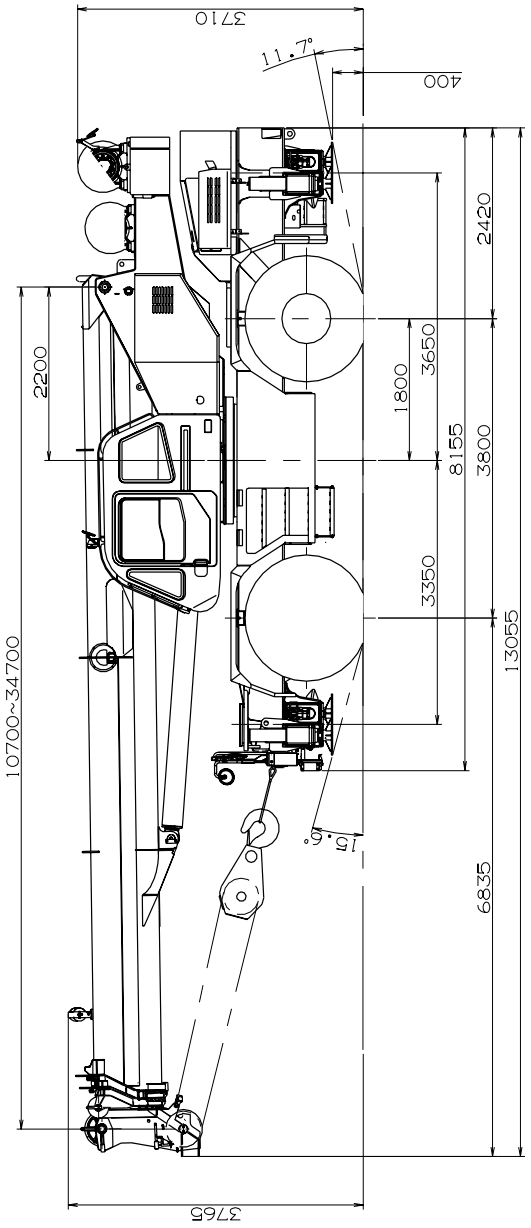


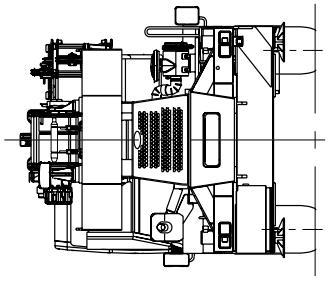
NOTE: Boom and jib geometry shown are for unloaded condition and machine standing level on firm supporting surface.
Boom deflection and subsequent radius and boom angle change must be accounted for when applying load to hook.

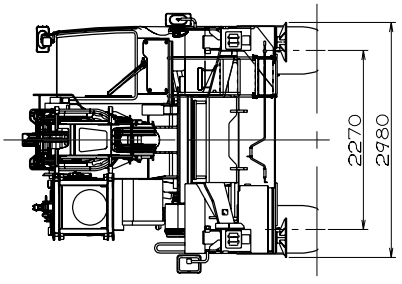


DIMENSIONS









Note : Dimension is with boom angle at -0.8°

GR-500EX Axle Weight Distribution Chart

UNIT : kg

	GVW	Front	Rear
Basic standard machine includes: 4-section boom (10.7 m - 34.7 m) 2-stage jib (8.8 m, 15.2 m) Single top 5.6 ton hook block	33,420	16,440	16,980
Add: 50 ton 5 sheaves hook block	+500	+920	-420
Remove: 1. 5.6 ton hook block 2. Top jib 3. Base jib	 -150 -225 -625	 -210 -285 -1,140	 +60 +60 +515