



TADANO ROUGH TERRAIN CRANE

MODEL : GR-1450EX

- Hydraulic offset jib model -

(Left-hand steering)

GENERAL DATA

<u>CRANE CAPACITY</u>		145,000 kg at 2.5 m	
<u>BOOM</u>		6-section,	13.1 m — 61.0 m
<u>DIMENSION</u>			
Overall length	approx.		16,190 mm
Overall width	approx.		3,315 mm
Overall height	approx.		3,785 mm
<u>MASS</u>			
Gross vehicle mass	approx.		91,154 kg
-1st axle	approx.		29,398 kg
-2nd axle	approx.		30,640 kg
-3rd axle	approx.		31,116 kg
<u>PERFORMANCE</u>			
Max. traveling speed (with counterweight)	computed		15 km/h
Gradeability (tan θ) (with 18.2t counterweight)	computed		52 % (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

<u>MODEL</u>	GR-1450EX
<u>CAPACITY</u>	145,000 kg at 2.5 m
<u>BOOM</u>	<p>6 sections extended by single telescoping cylinder, 13.1m~61.0m, of round box construction with 7 sheaves at boom head. Boom telescope sections are supported by wear pads both vertically and horizontally. Hydraulic cylinders fitted with holding valves.</p> <p>Fully retracted length. 13.1 m</p> <p>Fully extended length. 61.0 m</p> <p>Extension speed. 47.9 m in 450 s</p>
<u>JIB</u>	<p>2 staged bi-fold lattice type, offset ANGLE (5°-40°) by tilt cylinder. Stowed alongside base boom section. Assistant cylinders for mounting and stowing, controlled at right side of superstructure. Self stowing jib mounting pins.</p> <p>Length. 10.3 m and 18.0 m</p>
<u>SINGLE TOP (AUXILIARY BOOM SHEAVE)</u>	<p>Single sheave.</p> <p>Mounted to main boom head for single line work.</p>
<u>ELEVATION</u>	<p>By a double acting hydraulic cylinder with holding valve.</p> <p>Elevation -1.5°~81.5°, combination controls for hand or foot operation.</p> <p>Boom angle indicator.</p> <p>Automatic speed reduction and slow stop function.</p> <p>Boom angle -1.5° to 81.5°</p> <p>Boom raising speed 20° to 60° in 28 s</p>
<u>HOIST - Main winch</u>	<p>Variable speed type with grooved drum driven by hydraulic axial piston motor through speed reducer. Power load lowering and raising. Equipped with automatic brake (neutral brake) and counterbalance valve. Controlled independently of auxiliary hoist. Equipped with cable follower and drum rotation indicator.</p> <p>Single line pull. 70.6 kN {7,200 kgf}</p> <p>Single line speed(High). 136 m/min (at the 4th layer)</p> <p>Single line speed(Low) 97 m/min (at the 4th layer)</p> <p>Wire rope. No-spin type</p> <p>Diameter x length. 19 mm x 320 m</p>

<u>HOOK BLOCK(Optional) - 100 t capacity</u>	8 sheaves, swivel type hook with safety latch.
<u>HOOK BLOCK(Optional) - 45 t capacity</u>	3 sheaves, swivel type hook with safety latch.
<u>HOIST - Auxiliary winch</u>	<p>Variable speed type with grooved drum driven by hydraulic axial piston motor through winch speed reducer. Power load lowering and raising. Equipped with automatic brake (neutral brake) and counterbalance valve. Controlled independently of main hoist. Equipped with cable follower and drum rotation indicator.</p> <p>Single line pull. 70.6 kN {7,200 kgf}</p> <p>Single line speed(High). 136 m/min (at the 4th layer)</p> <p>Single line speed(Low) 97 m/min (at the 4th layer)</p> <p>Wire rope. No-spin type</p> <p>Diameter x length. 19 mm x 225 m</p>
<u>HOOK BLOCK - 7.2 t capacity</u>	Weighted hook with swivel and safety latch, for 19mm wire rope.
<u>SWING</u>	<p>Hydraulic axial piston motor through planetary swing speed reducer. Continuous 360° full circle swing on ball bearing slew ring. Equipped with manually locked/released swing brake. Front/rear positive swing lock manually engaged in cab. Twin swing system: Free swing or lock swing controlled by selector switch on front console.</p> <p>Swing speed. 1.3 min⁻¹ {rpm}</p>
<u>HYDRAULIC SYSTEM</u>	<p>Pumps. Two variable piston pumps for crane functions. Tandem gear pump for steering, swing and optional equipment. Powered by carrier engine. Pump disconnect for crane is engaged/ disengaged by rotary switch from operator's cab.</p> <p>Control valves. . . . Multiple valves actuated by pilot pressure with integral pressure relief valves.</p> <p>Circuit. Equipped with air cooled type oil cooler. Oil pressure appears on AML display for main circuit.</p> <p>Hydraulic oil tank capacity. . . approx. 763 liters</p> <p>Filters. Return line filter</p>

CRANE CONTROL

By 4 control levers for swing, boom elevation, 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. 15° tilt, Left side, 1 man type, steel construction with sliding door access and safety glass windows opening at side. Door window is powered control. 3 way adjustable operator's seat with high back, 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 Slow 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

Four hydraulic, beam and jack outriggers. Vertical jack cylinders equipped with integral holding valve. Each outrigger beam and jack is controlled independently from cab. Beams extend to 8.2 m center-line and retract to within 3.315 m overall width with floats. Outrigger boxes are self-removable for ease of transportation. Outrigger jack floats are attached thus eliminating the need of manually attaching and detaching them. Controls and sight bubble located in superstructure cab. Four outrigger extension lengths are provided with corresponding "RATED LIFTING CAPACITIES" for crane duty in confined areas.

- Extended width
 - Fully. 8,200 mm
 - Middle. 7,300 mm
 - Middle. 5,500 mm
 - Minimum. 2,990 mm
- Float size (Diameter). 570 mm

COUNTERWEIGHT

TOTAL..... 29.3 t

Hydraulically installed and removed counterweight (18.2 t and 11.1 t)

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

CARRIER SPECIFICATIONS

<u>TYPE</u>	Rear engine, left hand steering, driving axle 2-way selected type by manual switch. 6x2 1st drive 6x4 1st and 3rd drive
<u>FRAME</u>	High-tensile steel, all welded mono-box construction.
<u>ENGINE</u>	Model. . . . Mitsubishi 6M60-TL Type. . . . 4 cycle, turbo charged and after cooled, 6 cylinder in line, direct injection, water cooled diesel engine. Piston displacement. . . . 7,540 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}
<u>TRANSMISSION</u>	Electronically controlled full automatic transmission. Torque converter driving full powershift with driving axle selector. 5 forward and 2 reverse speeds, constant mesh. 2 speeds - High range - 2 wheel drive ; 4 wheel drive 3 speeds - Low range - 4 wheel drive
<u>AXLES</u>	1st. Full floating type, steering and driving axle with planetary reduction and open differential. 2nd. Steering and not driving axle. 3rd. Full floating type, steering and driving axle with planetary reduction and open differential.
<u>STEERING</u>	Hydraulic power steering controlled by steering wheel. Four steering modes available: 2-wheel front 4-wheel rear 6-wheel coordinated 6-wheel crab
<u>SUSPENSION</u>	1st. Rigid mounted to frame. 2nd,3rd. . "Hydro-Pneumatic suspension cylinders" with levering adjustment and oscillation.
<u>BRAKE SYSTEM</u>	Service. . . Air over hydraulic disc brakes on all 6 wheels. Parking / Emergency. . . Spring applied-air released brake acting on input shaft of 1st and 3rd axle. Auxiliary. . . Electro-pneumatic operated exhaust brake.
<u>ELECTRIC SYSTEM</u>	24 V DC. 2 batteries of 12 V - 120 Ah capacity.
<u>FUEL TANK CAPACITY</u>	300 liters
<u>TIRES</u>	26.5R25☆☆ ,Air pressure:650kPa
<u>TURN RADIUS</u>	Min. turning radius (at center of extreme outer tire) 2-wheel steering. 14.9 m 6-wheel steering. 9.9 m

EQUIPMENT

STANDARD EQUIPMENT

Automatic moment limiter (AML)
 External lamp (AML)
 Anti-Two block device (overwind cutout)
 Cable follower
 7.2 t capacity hook block (swivel hook)
 Hook safety latch
 Hook block tie down (front bumper)
 Boom angle indicator
 Control pedals for boom elevating and boom telescoping
 Outrigger extension length detector
 Work lights
 Auxiliary lifting sheave (single top) stowable
 Tadano twin swing system and front/rear positive swing lock
 15° tilt cab
 Air conditioner (hot water heater and cooler)
 Hydraulic oil cooler
 Front windshield wiper and washer
 Roof window wiper and washer
 Power window (cab door)
 Cigarette lighter and ashtray
 3 way adjustable cloth seat with armrests, high back and seat belt
 15° tilt cab
 Cab floor mat
 Tinted safety glass and sun visor
 Pump disconnect in operator's cab
 Full instrumentation package
 Self centering finger control levers with pilot control
 Low oil pressure/high water temp. warning device (visual)
 2nd and 3rd steer centering light
 Tare function
 Rear view mirrors (right and left side)
 Towing hooks-Front and rear
 Self-removable outrigger boxes
 Four outrigger extension positions
 Self-storing outrigger pads
 Electronic controlled automatic transmission driven by torque converter
 Automatic rear axle oscillation lockout system
 Disc brakes
 Tilt-telescoping steering wheel
 Emergency steering
 Back-up alarm
 Tool storage compartment
 Air cleaner dust indicator
 Air dryer
 Water separator with filter(high filtration)
 Engine over-run alarm
 Telematics(machine data logging and monitoring system) with HELLO-NET via internet (availability depends on countries)
 Winch drum rotation indicator (audible,visible and thumper type)
 Winch drum mirror
 2-speed hoist
 Self-removable counterweight
 Additional counterweight 11.1t
 Anemometer
 Boom and jib mounted aircraft warning lamp
 Removable boom system

Fuel consumption monitor
 Positive control
 Eco mode system

OPTIONAL EQUIPMENT

- 100 t capacity hook block (8 sheaves)
- Additional 100 t capacity hook block (8 sheaves) with sheaves
 < Used at lifting more than 100 t >
- 45 t capacity hook block (3 sheaves)
- Over-unwinding prevention
- Tire inflation kit

HOISTING PERFORMANCE

Layer	Main or auxiliary hoist 0.362m drum 19mm wire rope	
	Line pulls	drum grooved lagging
	Low	Total wire rope
	N(kgf)	Meters
1st	97,000(9,900)	44.8
2nd	88,300(9,010)	93.4
3rd	81,100(8,270)	145.9
4th	74,900(7,640)	202.2
5th	69,500(7,090)	262.3
6th	64,900(6,620)	326.2
7th ¹	60,800(6,210)	393.9

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

GR-1450EX RATED LIFTING CAPACITIES(IN METRIC TON)

COUNTERWEIGHT 29.3t ON OUTRIGGERS FULLY EXTENDED 8.2m SPREAD 360° ROTATION (Unit:×1,000kg)												
A \ B	13.1m	17.4m	21.8m	26.2m	30.6m	35.0m	39.4m	43.8m	48.2m	52.6m	57.0m	61.0m
2.50	*145.0	90.7	79.0									
3.00	110.6	90.7	79.0	37.0								
3.50	101.5	90.7	79.0	66.0								
4.00	93.6	90.1	79.0	66.0	37.0							
4.50	85.9	83.7	79.0	66.0	48.2							
5.00	79.3	78.1	75.8	66.0	48.2	35.2						
5.50	73.5	73.2	71.0	66.0	48.2	35.2						
6.00	68.3	68.3	66.7	63.5	48.2	38.7						
6.50	63.7	64.1	63.6	60.5	48.2	37.5	30.1					
7.00	59.6	60.0	60.2	57.8	48.2	35.9	30.1					
7.50	56.0	56.4	56.5	55.3	48.2	35.2	30.1	22.1				
8.00	52.7	53.1	53.2	52.9	48.0	35.2	29.5	23.9				
9.00	46.8	47.3	47.5	47.2	44.8	35.2	27.9	23.9	17.2			
10.00	37.3	41.7	41.9	41.6	41.6	35.2	26.2	22.9	18.9	13.5		
11.00		37.1	37.3	37.5	37.7	33.2	24.4	22.0	18.9	15.0		
12.00		33.4	33.5	34.3	33.9	31.5	22.7	21.0	18.4	15.0	12.0	
14.00		27.8	27.6	28.4	28.0	28.4	20.9	19.2	16.9	15.0	12.0	10.4
16.00			23.3	24.0	24.3	24.3	19.3	17.1	15.5	14.1	12.0	10.4
18.00			21.2	20.2	21.3	20.7	17.8	15.4	14.3	13.1	12.0	10.4
20.00				18.1	17.8	17.3	16.5	14.0	12.9	12.1	11.2	10.2
22.00				15.4	15.2	14.6	15.2	12.7	11.8	11.2	10.4	9.6
24.00					13.0	13.6	13.1	11.7	10.8	10.4	9.8	9.0
26.00					11.3	11.9	11.4	10.8	10.1	9.6	9.1	8.4
28.00					8.2	10.5	9.9	9.6	9.4	8.8	8.5	7.8
30.00						9.3	8.7	9.1	8.6	8.2	8.0	7.3
32.00						8.3	7.7	8.0	7.5	7.7	7.4	6.7
34.00							6.8	7.1	6.9	7.0	6.6	6.2
36.00							6.1	6.3	6.5	6.2	5.8	5.8
38.00								5.9	5.8	5.5	5.1	5.1
40.00								5.5	5.2	4.9	4.5	4.5
42.00									4.6	4.4	3.9	3.9
44.00									4.2	3.9	3.4	3.4
46.00										3.4	3.0	3.0
48.00										3.1	2.6	2.6
50.00										2.7	2.2	2.2
52.00											1.9	1.9
54.00											1.7	1.6
56.00												1.3

*Over front with special Equipment

- A :Boom length (m)
- B :Load radius (m)

NOTE: The lifting capacity data stowed in the LOAD MOMENT INDICATOR (AML-C) is based on the standard number of parts of line listed in the chart. (p.13)

GR-1450EX RATED LIFTING CAPACITIES

COUNTERWEIGHT 29.3t ON OUTRIGGERS FULLY EXTENDED 8.2m SPREAD 360° ROTATION							COUNTERWEIGHT 29.3t ON OUTRIGGERS FULLY EXTENDED 8.2m SPREAD 360° ROTATION						
C	61.0m Boom + 10.3m Hydraulic offset jib						C	57.0m Boom + 10.3m Hydraulic offset jib					
	5° Tilt		20° Tilt		40° Tilt			5° Tilt		20° Tilt		40° Tilt	
	R	W	R	W	R	W		R	W	R	W	R	W
81.5	14.7	5.5	17.4	5.5	20.4	5.1	81.5	12.9	6.2	15.7	6.2	18.7	5.8
81	15.6	5.5	18.6	5.5	21.1	5.0	81	13.7	6.2	16.5	6.2	19.3	5.7
80	17.2	5.5	19.9	5.4	22.6	4.9	80	15.2	6.2	17.9	6.1	20.6	5.5
79	18.8	5.5	21.2	5.2	24.0	4.7	79	16.7	6.2	19.3	5.9	21.9	5.4
78	20.5	5.5	22.6	5.0	25.2	4.6	78	18.2	6.2	20.6	5.7	23.0	5.2
77	21.9	5.4	24.4	4.9	26.5	4.5	77	19.6	6.2	21.9	5.6	24.3	5.1
76	23.3	5.2	25.3	4.7	27.8	4.4	76	20.8	6.0	23.2	5.4	25.4	4.9
75	27.3	5.0	26.7	4.6	28.9	4.2	75	22.1	5.8	24.3	5.2	26.6	4.8
73	31.0	4.8	29.3	4.4	31.3	4.0	73	24.6	5.4	26.8	4.9	28.9	4.6
70	33.5	4.3	33.0	4.0	34.8	3.8	70	28.2	5.0	30.3	4.6	32.1	4.3
68	37.2	4.1	35.4	3.8	37.0	3.6	68	30.6	4.7	32.4	4.3	34.2	4.1
65	37.0	3.8	38.8	3.6	40.1	3.4	65	33.8	4.3	35.6	4.0	37.1	3.8
63	39.2	3.6	40.9	3.4	42.2	3.3	63	36.1	4.2	37.7	3.9	39.0	3.7
60	42.5	3.3	43.8	3.1	45.1	3.0	60	39.1	3.9	40.6	3.7	41.9	3.5
58	44.5	3.1	46.0	3.0	47.0	2.9	58	41.2	3.7	42.5	3.5	43.7	3.4
55	47.2	2.8	48.6	2.7	49.6	2.7	55	43.9	3.5	45.2	3.3	46.1	3.2
53	49.2	2.7	50.4	2.6	51.1	2.5	53	45.6	3.3	46.9	3.2	47.7	3.1
50	51.3	2.3	52.7	2.2	53.1	2.1	50	47.9	3.0	49.2	2.9	49.6	2.8
48	52.8	2.0	54.1	1.9	54.5	1.9	48	49.3	2.7	50.6	2.6	50.8	2.5
45	55.0	1.7	56.1	1.6	56.3	1.5	45	51.4	2.3	52.5	2.2	52.6	2.1
43	56.3	1.4	57.4	1.4			43	52.6	2.0	53.6	1.9		
40	58.3	1.2	59.2	1.1			40	54.5	1.7	55.4	1.6		
38	59.5	1.0	60.3	0.9			38	55.7	1.5	56.5	1.5		
35	61.3	0.8					35	57.5	1.3	58.0	1.2		
33							33	58.5	1.1	59.0	1.1		
30							30	60.0	1.0	60.2	0.9		
28							28	60.8	0.8	61.1	0.8		
25							25						
23							23						
20							20						

COUNTERWEIGHT 29.3t ON OUTRIGGERS FULLY EXTENDED 8.2m SPREAD 360° ROTATION							COUNTERWEIGHT 29.3t ON OUTRIGGERS FULLY EXTENDED 8.2m SPREAD 360° ROTATION						
C	52.6m Boom + 10.3m Hydraulic offset jib						C	35.0m Boom + 10.3m Hydraulic offset jib					
	5° Tilt		20° Tilt		40° Tilt			5° Tilt		20° Tilt		40° Tilt	
	R	W	R	W	R	W		R	W	R	W	R	W
81.5	11.3	7.2	14.3	7.2	17.4	6.8	81.5			8.9	10.6	11.3	7.3
81	12.0	7.2	15.0	7.2	18.0	6.7	81			9.3	10.5	11.7	7.2
80	13.4	7.2	16.3	7.2	19.2	6.5	80			10.1	10.2	12.5	7.1
79	14.8	7.2	17.6	7.0	20.3	6.3	79			10.9	10.0	13.2	7.0
78	16.1	7.2	18.8	6.8	21.4	6.1	78			11.9	9.7	14.0	6.9
77	17.5	7.2	19.9	6.6	22.5	5.9	77			12.6	9.5	14.8	6.9
76	18.8	7.2	21.1	6.4	23.6	5.8	76			13.3	9.3	15.5	6.8
75	19.6	6.9	22.3	6.2	24.6	5.6	75	11.8	12.8	14.1	9.1	16.2	6.7
73	22.0	6.5	24.4	5.8	26.7	5.4	73	13.4	12.2	15.6	8.7	17.6	6.5
70	25.7	5.9	27.6	5.4	29.6	5.0	70	15.6	11.3	17.9	8.2	19.7	6.3
68	27.9	5.6	29.8	5.2	31.6	4.8	68	17.2	10.8	19.3	7.9	21.0	6.2
65	31.0	5.2	32.7	4.8	34.3	4.5	65	19.3	10.1	21.4	7.6	22.9	6.1
63	33.2	5.0	34.6	4.6	36.1	4.4	63	20.7	9.6	22.8	7.4	24.2	6.0
60	36.0	4.6	37.5	4.4	38.8	4.2	60	22.8	9.0	24.8	7.1	26.0	5.9
58	37.8	4.4	39.2	4.2	40.4	4.0	58	24.1	8.7	26.0	6.9	27.2	5.8
55	40.4	4.1	41.7	3.9	42.7	3.8	55	26.0	8.2	27.9	6.7	28.9	5.7
53	42.0	3.9	43.3	3.8	44.1	3.6	53	27.2	7.9	29.0	6.5	29.9	5.7
50	44.4	3.6	45.5	3.4	46.1	3.3	50	29.0	7.6	30.7	6.4	31.4	5.7
48	45.8	3.3	46.8	3.1	47.4	3.0	48	30.1	7.4	31.7	6.3	32.4	5.6
45	47.7	2.8	48.6	2.7	49.1	2.6	45	31.7	7.1	33.2	6.1	33.8	5.6
43	49.0	2.5	49.8	2.4			43	32.7	7.0	34.2	6.1		
40	50.8	2.2	51.5	2.1			40	34.1	6.8	35.4	6.0		
38	51.8	1.9	52.6	1.9			38	35.1	6.6	36.3	5.9		
35	53.5	1.7	54.0	1.6			35	36.4	6.2	37.5	5.9		
33	54.4	1.5	54.9	1.4			33	37.2	5.9	38.2	5.7		
30	55.7	1.3	56.1	1.2			30	38.3	5.5	39.2	5.4		
28	56.6	1.2	56.8	1.1			28	39.0	5.3	39.7	5.2		
25	57.7	1.0	57.8	1.0			25	39.9	5.0	40.4	4.9		
23	58.3	0.9					23	40.4	4.9				
20	59.1	0.8					20	41.1	4.7				

C : Loaded boom angle (°)
R : Load radius (m)
W : Rated lifting capacity (Unit:×1,000kg)

GR-1450EX RATED LIFTING CAPACITIES

COUNTERWEIGHT 29.3t ON OUTRIGGERS FULLY EXTENDED 8.2m SPREAD 360° ROTATION													
C	61.0m Boom + 18.0m Hydraulic offset jib						C	57.0m Boom + 18.0m Hydraulic offset jib					
	5° Tilt		20° Tilt		40° Tilt			5° Tilt		20° Tilt		40° Tilt	
	R	W	R	W	R	W		R	W	R	W	R	W
81.5	17.1	3.7	22.0	3.7	27.1	3.2	81.5	14.6	4.0	20.0	4.0	24.7	3.3
81	18.0	3.7	22.7	3.7	28.0	3.2	81	15.0	4.0	20.8	4.0	25.5	3.3
80	19.9	3.7	24.7	3.7	29.6	3.1	80	17.2	4.0	22.5	4.0	27.0	3.2
79	21.6	3.7	26.3	3.7	31.1	3.1	79	18.8	4.0	23.8	3.9	28.3	3.2
78	23.4	3.7	27.9	3.6	32.5	3.0	78	20.3	4.0	25.4	3.8	29.7	3.2
77	25.0	3.7	29.3	3.5	34.0	3.0	77	21.9	4.0	26.7	3.7	31.0	3.1
76	26.8	3.7	30.9	3.4	35.3	3.0	76	23.5	4.0	28.2	3.6	32.3	3.1
75	28.5	3.7	32.3	3.3	36.4	2.9	75	25.0	4.0	29.6	3.6	33.4	3.0
73	31.4	3.5	35.0	3.1	39.2	2.8	73	28.1	4.0	32.3	3.5	35.9	3.0
70	35.6	3.2	39.0	2.9	42.6	2.6	70	32.2	3.7	36.2	3.3	39.4	2.9
68	38.4	3.1	41.3	2.7	44.9	2.5	68	34.8	3.5	38.6	3.2	41.8	2.8
65	42.1	2.8	45.3	2.6	48.1	2.4	65	38.5	3.3	42.1	3.0	44.7	2.8
63	44.7	2.7	47.5	2.5	50.3	2.3	63	41.0	3.2	44.4	2.9	46.8	2.7
60	48.4	2.5	50.8	2.3	53.3	2.2	60	44.5	3.0	47.5	2.7	49.7	2.6
58	50.5	2.3	52.9	2.2	55.1	2.1	58	46.6	2.9	49.6	2.6	51.5	2.5
55	53.7	2.1	55.8	2.0	57.6	1.9	55	49.7	2.7	52.5	2.5	54.1	2.4
53	55.6	1.9	57.5	1.8	58.9	1.6	53	51.5	2.5	54.1	2.3	55.4	2.2
50	58.2	1.6	59.7	1.4	60.9	1.3	50	54.1	2.2	56.3	1.9	57.4	1.8
48	59.7	1.3	61.3	1.2	62.2	1.1	48	55.6	1.9	57.8	1.7	58.6	1.6
45	62.0	1.0	63.3	0.9	64.0	0.8	45	57.8	1.5	59.8	1.4	60.4	1.3
43	63.4	0.8					43	59.2	1.3	61.1	1.2		
40							40	61.4	1.1	62.9	1.0		
38							38	62.6	0.9	64.0	0.8		
35							35						
33							33						
30							30						
28							28						
25							25						
23							23						
20							20						

COUNTERWEIGHT 29.3t ON OUTRIGGERS FULLY EXTENDED 8.2m SPREAD 360° ROTATION													
C	52.6m Boom + 18.0m Hydraulic offset jib						C	35.0m Boom + 18.0m Hydraulic offset jib					
	5° Tilt		20° Tilt		40° Tilt			5° Tilt		20° Tilt		40° Tilt	
	R	W	R	W	R	W		R	W	R	W	R	W
81.5	13.7	4.7	18.8	4.4	23.2	3.4	81.5	9.2	6.4	13.6	5.4	17.9	3.7
81	14.5	4.7	19.6	4.4	23.9	3.4	81	9.6	6.4	14.0	5.3	18.4	3.7
80	16.1	4.7	21.1	4.3	25.2	3.4	80	10.7	6.4	15.0	5.2	19.3	3.6
79	17.6	4.7	22.4	4.2	26.4	3.3	79	11.7	6.4	16.0	5.1	20.1	3.6
78	19.2	4.7	23.8	4.1	27.7	3.3	78	12.7	6.4	16.9	5.0	20.9	3.6
77	20.5	4.7	25.0	4.0	28.9	3.3	77	13.6	6.4	17.8	4.8	21.7	3.5
76	22.0	4.7	26.3	3.9	29.9	3.2	76	14.6	6.4	18.6	4.7	22.5	3.5
75	23.4	4.7	27.7	3.9	31.2	3.2	75	15.6	6.4	19.5	4.6	23.3	3.5
73	26.4	4.6	30.1	3.7	33.4	3.1	73	17.4	6.0	21.4	4.5	24.9	3.4
70	30.0	4.3	33.7	3.5	36.6	3.0	70	20.1	5.6	23.8	4.2	27.1	3.3
68	34.6	4.2	36.0	3.4	38.7	3.0	68	21.8	5.3	25.5	4.1	28.5	3.2
65	36.2	4.0	39.4	3.3	41.5	2.9	65	24.4	5.0	27.9	3.9	30.6	3.2
63	38.4	3.8	41.3	3.2	43.5	2.9	63	26.0	4.8	29.4	3.8	32.0	3.2
60	41.6	3.6	44.5	3.1	46.2	2.8	60	28.4	4.6	31.6	3.6	34.0	3.1
58	43.7	3.4	46.5	3.1	48.0	2.8	58	29.9	4.4	33.1	3.6	35.3	3.1
55	46.5	3.2	49.5	3.0	50.3	2.8	55	32.1	4.2	35.1	3.4	37.1	3.1
53	48.4	3.0	50.8	2.8	51.5	2.6	53	33.6	4.1	36.5	3.4	38.1	3.0
50	50.9	2.6	53.0	2.4	53.4	2.2	50	35.6	3.9	38.3	3.3	39.7	3.0
48	52.4	2.3	54.4	2.1	54.6	2.0	48	37.0	3.8	39.6	3.3	40.7	3.0
45	54.7	2.0	56.3	1.8	56.4	1.6	45	38.8	3.7	41.2	3.2	42.0	3.0
43	56.0	1.7	57.6	1.6			43	40.0	3.6	42.2	3.2		
40	58.0	1.4	59.4	1.3			40	41.6	3.5	43.6	3.1		
38	59.4	1.3	60.5	1.1			38	43.7	3.4	44.5	3.1		
35	61.3	1.0	62.0	0.9			35	44.2	3.3	45.8	3.1		
33	62.4	0.9	62.9	0.8			33	45.1	3.3	46.5	3.1		
30							30	46.4	3.2	47.5	3.1		
28							28	47.2	3.2	48.1	3.1		
25							25	48.2	3.1	48.8	3.1		
23							23	48.8	3.1				
20							20	49.6	3.1				

C : Loaded boom angle (°)
R : Load radius (m)
W : Rated lifting capacity (Unit: x1,000kg)

GR-1450EX RATED LIFTING CAPACITIES

COUNTERWEIGHT 18.2t ON OUTRIGGERS FULLY EXTENDED 8.2m SPREAD 360° ROTATION							COUNTERWEIGHT 18.2t ON OUTRIGGERS FULLY EXTENDED 8.2m SPREAD 360° ROTATION						
C	61.0m Boom + 10.3m Hydraulic offset jib						C	57.0m Boom + 10.3m Hydraulic offset jib					
	5° Tilt		20° Tilt		40° Tilt			5° Tilt		20° Tilt		40° Tilt	
	R	W	R	W	R	W		R	W	R	W	R	W
81.5	14.7	5.5	17.4	5.5	20.4	5.1	81.5	12.9	6.2	15.7	6.2	18.7	5.8
81	15.6	5.5	18.6	5.5	21.1	5.0	81	13.7	6.2	16.5	6.2	19.3	5.7
80	17.2	5.5	19.9	5.4	22.6	4.9	80	15.2	6.2	17.9	6.1	20.6	5.5
79	18.8	5.5	21.2	5.2	24.0	4.7	79	16.7	6.2	19.3	5.9	21.9	5.4
78	20.5	5.5	22.6	5.0	25.2	4.6	78	18.2	6.2	20.6	5.7	23.0	5.2
77	21.9	5.4	24.4	4.9	26.5	4.5	77	19.6	6.2	21.9	5.6	24.3	5.1
76	23.3	5.2	25.3	4.7	27.8	4.4	76	20.8	6.0	23.2	5.4	25.4	4.9
75	27.3	5.0	26.7	4.6	28.9	4.2	75	22.1	5.8	24.3	5.2	26.6	4.8
73	31.0	4.8	29.3	4.4	31.3	4.0	73	24.6	5.4	26.8	4.9	28.9	4.6
70	33.5	4.3	33.0	4.0	34.8	3.8	70	28.2	5.0	30.3	4.6	32.1	4.3
68	37.2	4.1	35.4	3.8	37.0	3.6	68	30.6	4.7	32.4	4.3	34.2	4.1
65	37.0	3.8	38.8	3.6	40.1	3.4	65	33.8	4.3	35.6	4.0	37.1	3.8
63	39.2	3.4	40.9	3.1	42.2	2.9	63	36.1	4.2	37.7	3.9	38.9	3.6
60	41.5	2.6	43.2	2.4	44.2	2.2	60	38.7	3.4	40.2	3.1	41.3	2.9
58	43.1	2.1	44.8	2.0	45.9	1.9	58	40.3	2.9	41.9	2.7	42.8	2.5
55	45.8	1.6	47.3	1.5	48.3	1.4	55	42.8	2.2	44.2	2.1	45.1	2.0
53	47.4	1.3	48.9	1.2	49.8	1.1	53	44.4	1.9	45.8	1.8	46.6	1.7
50	49.9	0.9	51.2	0.8			50	46.6	1.4	48.0	1.3	48.6	1.3
48							48	48.2	1.2	49.4	1.1	49.9	1.0
45							45	50.3	0.8	51.5	0.8		
43							43						
40							40						
38							38						
35							35						
33							33						
30							30						
28							28						
25							25						
23							23						
20							20						

COUNTERWEIGHT 18.2t ON OUTRIGGERS FULLY EXTENDED 8.2m SPREAD 360° ROTATION							COUNTERWEIGHT 18.2t ON OUTRIGGERS FULLY EXTENDED 8.2m SPREAD 360° ROTATION						
C	52.6m Boom + 10.3m Hydraulic offset jib						C	35.0m Boom + 10.3m Hydraulic offset jib					
	5° Tilt		20° Tilt		40° Tilt			5° Tilt		20° Tilt		40° Tilt	
	R	W	R	W	R	W		R	W	R	W	R	W
81.5	11.3	7.2	14.3	7.2	17.4	6.8	81.5			8.9	10.6	11.3	7.3
81	12.0	7.2	15.0	7.2	18.0	6.7	81			9.3	10.5	11.7	7.2
80	13.4	7.2	16.3	7.2	19.2	6.5	80			10.1	10.2	12.5	7.1
79	14.8	7.2	17.6	7.0	20.3	6.3	79			10.9	10.0	13.2	7.0
78	16.1	7.2	18.8	6.8	21.4	6.1	78			11.9	9.7	14.0	6.9
77	17.5	7.2	19.9	6.6	22.5	5.9	77			12.6	9.5	14.8	6.9
76	18.8	7.2	21.1	6.4	23.6	5.8	76			13.3	9.3	15.5	6.8
75	19.6	6.9	22.3	6.2	24.6	5.6	75	11.8	12.8	14.1	9.1	16.2	6.7
73	22.0	6.5	24.4	5.8	26.7	5.4	73	13.4	12.2	15.6	8.7	17.6	6.5
70	25.7	5.9	27.6	5.4	29.6	5.0	70	15.6	11.3	17.9	8.2	19.7	6.3
68	27.9	5.6	29.8	5.2	31.6	4.8	68	17.2	10.8	19.3	7.9	21.0	6.2
65	31.0	5.2	32.7	4.8	34.3	4.5	65	19.3	10.1	21.4	7.6	22.9	6.1
63	33.2	5.0	34.6	4.6	36.1	4.3	63	20.7	9.6	22.8	7.4	24.2	6.0
60	35.6	4.1	37.1	3.7	38.4	3.5	60	22.8	9.0	24.8	7.1	26.0	5.9
58	37.1	3.5	38.6	3.2	39.8	3.0	58	24.1	8.7	26.0	6.9	27.2	5.8
55	39.5	2.8	40.9	2.6	42.0	2.5	55	26.0	8.2	27.9	6.7	28.9	5.7
53	41.0	2.4	42.4	2.2	43.3	2.1	53	27.2	7.9	29.0	6.5	29.9	5.7
50	43.2	1.9	44.6	1.8	45.3	1.7	50	28.9	7.0	30.7	6.4	31.4	5.7
48	44.6	1.6	45.9	1.5	46.6	1.4	48	30.0	6.4	31.7	6.0	32.4	5.6
45	46.7	1.2	47.8	1.1	48.4	1.0	45	31.6	5.7	33.2	5.4	33.7	5.2
43	48.0	1.0	49.1	0.9			43	32.6	5.3	34.1	5.0		
40							40	34.0	4.8	35.4	4.5		
38							38	34.9	4.4	36.2	4.3		
35							35	36.2	4.0	37.3	3.9		
33							33	37.0	3.8	38.0	3.7		
30							30	38.1	3.5	39.0	3.4		
28							28	38.8	3.3	39.5	3.2		
25							25	39.7	3.1	40.2	3.0		
23							23	40.3	3.0				
20							20	41.0	2.8				

C :Loaded boom angle (°)
R :Load radius (m)
W :Rated lifting capacity (Unit:×1,000kg)

GR-1450EX RATED LIFTING CAPACITIES

COUNTERWEIGHT 18.2t ON OUTRIGGERS FULLY EXTENDED 8.2m SPREAD 360° ROTATION							COUNTERWEIGHT 18.2t ON OUTRIGGERS FULLY EXTENDED 8.2m SPREAD 360° ROTATION						
C	61.0m Boom + 18.0m Hydraulic offset jib						C	57.0m Boom + 18.0m Hydraulic offset jib					
	5° Tilt		20° Tilt		40° Tilt			5° Tilt		20° Tilt		40° Tilt	
	R	W	R	W	R	W		R	W	R	W	R	W
81.5	17.1	3.7	22.0	3.7	27.1	3.2	81.5	14.6	4.0	20.0	4.0	24.7	3.3
81	18.0	3.7	22.7	3.7	28.0	3.2	81	15.0	4.0	20.8	4.0	25.5	3.3
80	19.9	3.7	24.7	3.7	29.6	3.1	80	17.2	4.0	22.5	4.0	27.0	3.2
79	21.6	3.7	26.3	3.7	31.1	3.1	79	18.8	4.0	23.8	3.9	28.3	3.2
78	23.4	3.7	27.9	3.6	32.5	3.0	78	20.3	4.0	25.4	3.8	29.7	3.2
77	25.0	3.7	29.3	3.5	34.0	3.0	77	21.9	4.0	26.7	3.7	31.0	3.1
76	26.8	3.7	30.9	3.4	35.3	3.0	76	23.5	4.0	28.2	3.6	32.3	3.1
75	28.5	3.7	32.3	3.3	36.4	2.9	75	25.0	4.0	29.6	3.6	33.4	3.0
73	31.4	3.5	35.0	3.1	39.2	2.8	73	28.1	4.0	32.3	3.5	35.9	3.0
70	35.6	3.2	39.0	2.9	42.6	2.6	70	32.2	3.7	36.2	3.3	39.4	2.9
68	38.4	3.1	41.3	2.7	44.9	2.5	68	34.8	3.5	38.6	3.2	41.8	2.8
65	42.1	2.8	45.0	2.5	47.9	2.2	65	38.5	3.3	42.1	3.0	41.8	2.8
63	44.3	2.4	46.9	2.1	49.3	1.8	63	41.0	3.1	44.0	2.7	46.3	2.3
60	46.9	1.7	49.5	1.5	51.8	1.3	60	43.7	2.4	46.7	2.1	48.8	1.8
58	48.9	1.4	51.3	1.2	53.4	1.0	58	45.5	2.0	48.4	1.7	50.4	1.5
55	51.7	0.9	54.0	0.8			55	48.0	1.4	50.9	1.3	52.7	1.1
53							53	49.9	1.2	52.6	1.0	54.1	0.9
50							50	52.3	0.8				
48							48						
45							45						
43							43						
40							40						
38							38						
35							35						
33							33						
30							30						
28							28						
25							25						
23							23						
20							20						

COUNTERWEIGHT 18.2t ON OUTRIGGERS FULLY EXTENDED 8.2m SPREAD 360° ROTATION							COUNTERWEIGHT 18.2t ON OUTRIGGERS FULLY EXTENDED 8.2m SPREAD 360° ROTATION						
C	52.6m Boom + 18.0m Hydraulic offset jib						C	35.0m Boom + 18.0m Hydraulic offset jib					
	5° Tilt		20° Tilt		40° Tilt			5° Tilt		20° Tilt		40° Tilt	
	R	W	R	W	R	W		R	W	R	W	R	W
81.5	13.7	4.7	18.8	4.4	23.2	3.4	81.5	9.2	6.4	13.6	5.4	17.9	3.7
81	14.5	4.7	19.6	4.4	23.9	3.4	81	9.6	6.4	14.0	5.3	18.4	3.7
80	16.1	4.7	21.1	4.3	25.2	3.4	80	10.7	6.4	15.0	5.2	19.3	3.6
79	17.6	4.7	22.4	4.2	26.4	3.3	79	11.7	6.4	16.0	5.1	20.1	3.6
78	19.2	4.7	23.8	4.1	27.7	3.3	78	12.7	6.4	16.9	5.0	20.9	3.6
77	20.5	4.7	25.0	4.0	28.9	3.3	77	13.6	6.4	17.8	4.8	21.7	3.5
76	22.0	4.7	26.3	3.9	29.9	3.2	76	14.6	6.4	18.6	4.7	22.5	3.5
75	23.4	4.7	27.7	3.9	31.2	3.2	75	15.6	6.4	19.5	4.6	23.3	3.5
73	26.4	4.6	30.1	3.7	33.4	3.1	73	17.4	6.0	21.4	4.5	24.9	3.4
70	30.0	4.3	33.7	3.5	36.6	3.0	70	20.1	5.6	23.8	4.2	27.1	3.3
68	34.6	4.2	36.0	3.4	38.7	3.0	68	21.8	5.3	25.5	4.1	28.5	3.2
65	36.2	4.0	39.4	3.3	41.5	2.9	65	24.4	5.0	27.9	3.9	30.6	3.2
63	38.3	3.7	41.3	3.2	43.4	2.8	63	26.0	4.8	29.4	3.8	32.0	3.2
60	40.8	2.9	43.9	2.5	45.7	2.2	60	28.4	4.6	31.6	3.6	34.0	3.1
58	42.8	2.5	45.6	2.2	47.2	1.9	58	29.9	4.4	33.1	3.6	35.3	3.1
55	45.3	1.9	48.1	1.7	49.4	1.5	55	32.1	4.2	35.1	3.4	37.1	3.1
53	47.1	1.6	49.6	1.4	50.8	1.2	53	33.6	4.1	36.5	3.4	38.1	3.0
50	49.6	1.1	52.0	1.0	52.7	0.8	50	35.6	3.9	38.3	3.3	39.7	3.0
48	51.4	0.9	53.4	0.8			48	37.0	3.8	39.6	3.3	40.7	3.0
45							45	38.8	3.7	41.2	3.2	42.0	3.0
43							43	40.0	3.6	42.2	3.2		
40							40	41.6	3.5	43.6	3.1		
38							38	42.3	3.3	44.5	3.1		
35							35	44.1	3.0	45.7	2.8		
33							33	45.0	2.8	46.4	2.6		
30							30	46.2	2.5	47.4	2.4		
28							28	47.0	2.4	47.9	2.3		
25							25	48.0	2.2	48.6	2.1		
23							23	48.6	2.1				
20							20	49.4	2.0				

C :Loaded boom angle (°)
R :Load radius (m)
W :Rated lifting capacity (Unit:×1,000kg)

NOTES FOR "ON OUTRIGGERS" TABLE

1. Rated lifting capacities based on crane stability are according to ISO4305.
2. The mass of the hook (1,080 kg for 100t capacity, 610 kg for 45t capacity, 300 kg for 7.2 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.
3. 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 7,200 kg including main boom hook mass and the net capacity must be so reduced.
4. Standard number of parts of line for each boom length is as shown below. Load per line should not surpass 70.6 kN {7,200 kgf} for main winch and auxiliary winch.

Boom length	13.1m	17.4m				21.8m				26.2m			
Telescoping conditions (%)													
2nd boom	0	0	0	0	0	0	45	0	0	0	45	0	
3rd boom	0	0	45	0	0	0	45	45	0	0	45	45	
4th boom	0	0	0	45	0	0	0	45	0	45	45	45	
5th boom	0	0	0	0	0	45	0	0	45	45	0	45	
Top boom	0	45	0	0	90	45	0	0	90	45	0	0	
Number of parts of line	22	6	14	14	6	6	12	12	6	6	10	9	

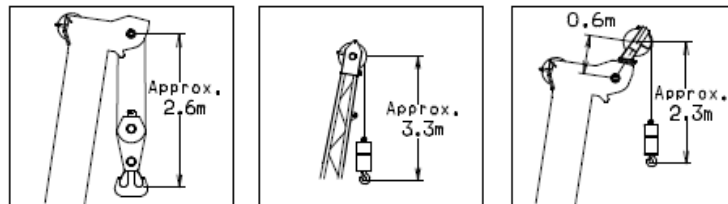
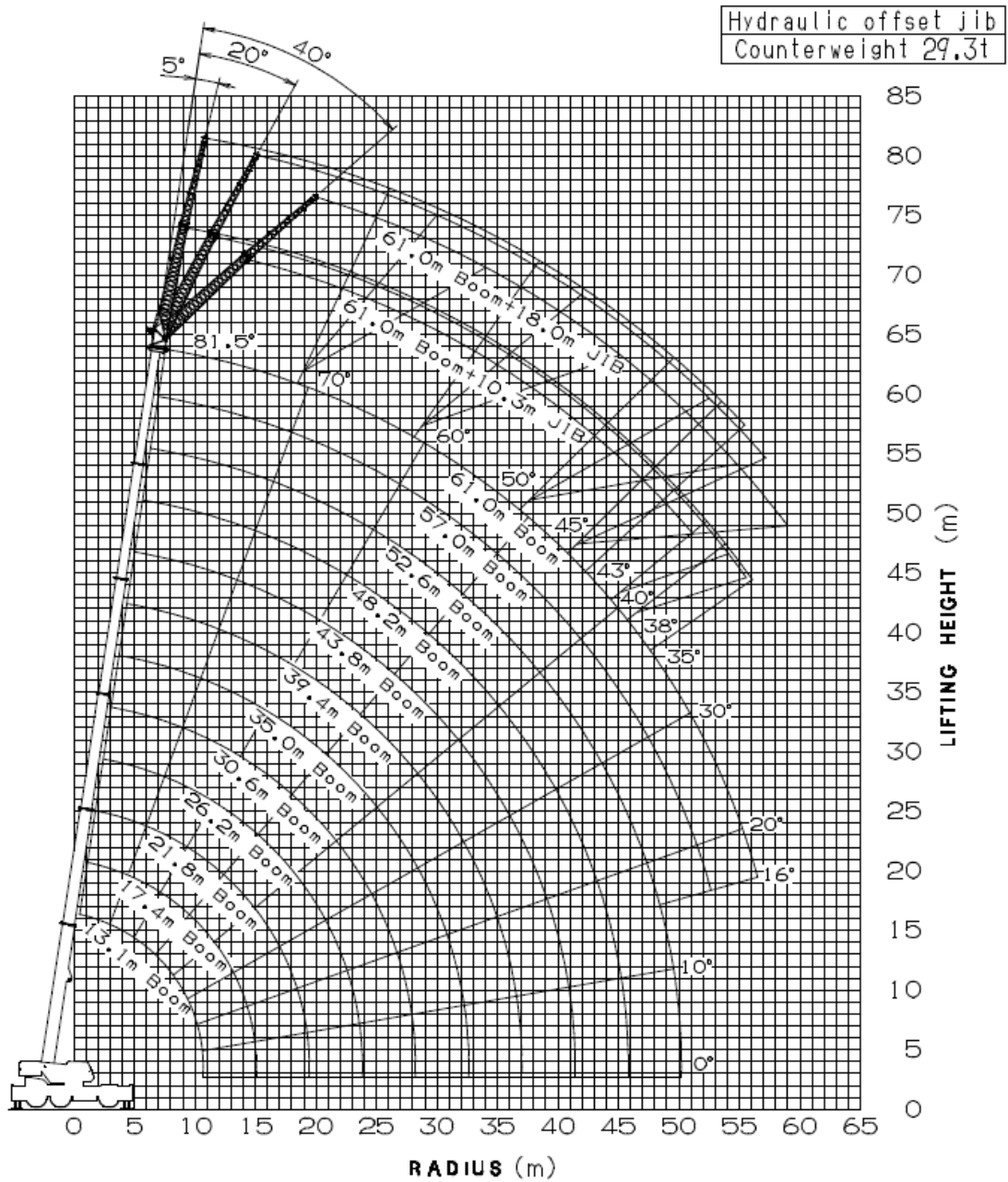
Boom length	30.6m				35.0m				39.4m			
Telescoping conditions (%)												
2nd boom	0	0	90	45	0	45	90	0	0	90	45	
3rd boom	0	45	45	45	0	45	45	45	0	45	45	
4th boom	0	45	45	45	45	45	45	45	90	45	45	
5th boom	90	45	0	45	90	45	45	45	90	45	45	
Top boom	90	45	0	0	90	45	0	90	90	45	90	
Number of parts of line	6	6	8	8	6	6	7	6	4	6	6	

Boom length	43.8m				48.2m				52.6m	57.0m	61.0m
Telescoping conditions (%)											
2nd boom	0	45	90	90	0	90	45	45	90	90	100
3rd boom	45	45	90	45	90	90	90	90	90	90	100
4th boom	90	45	45	45	90	90	90	90	90	90	100
5th boom	90	90	45	45	90	45	90	90	90	90	100
Top boom	90	90	45	90	90	45	45	90	45	90	100
Number of parts of line	4	4	4	4	4	4	4	4	4	4	4

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.

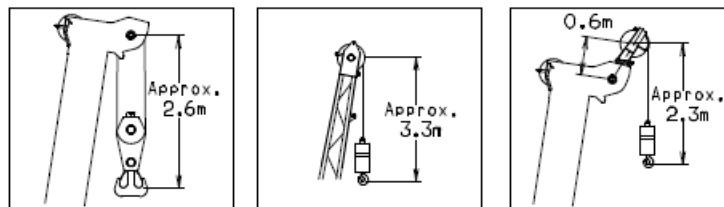
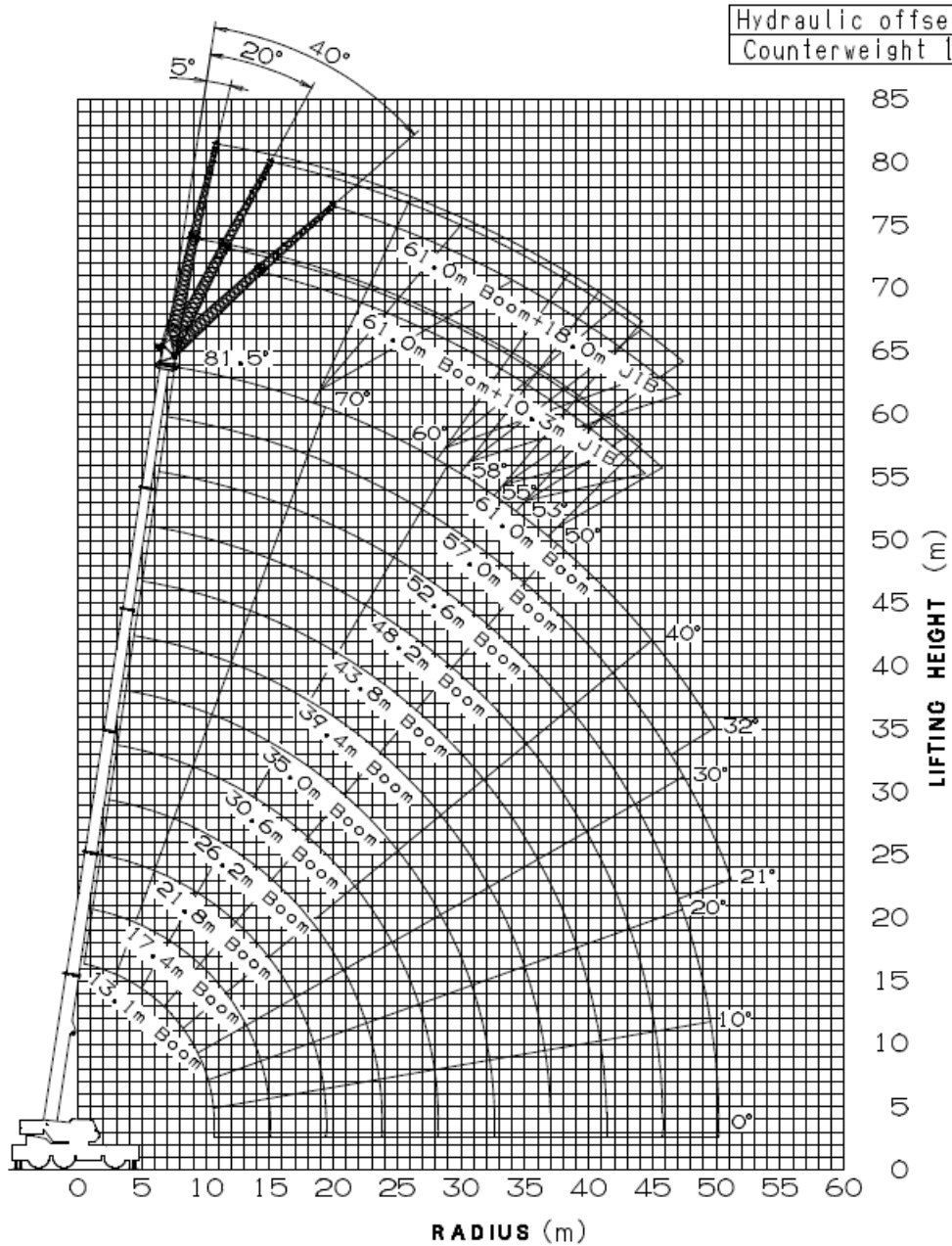
Maximum lifting capacity is restricted by the number of parts of line of AUTOMATIC MOMENT LIMITER (AML).

WORKING RANGE CHART



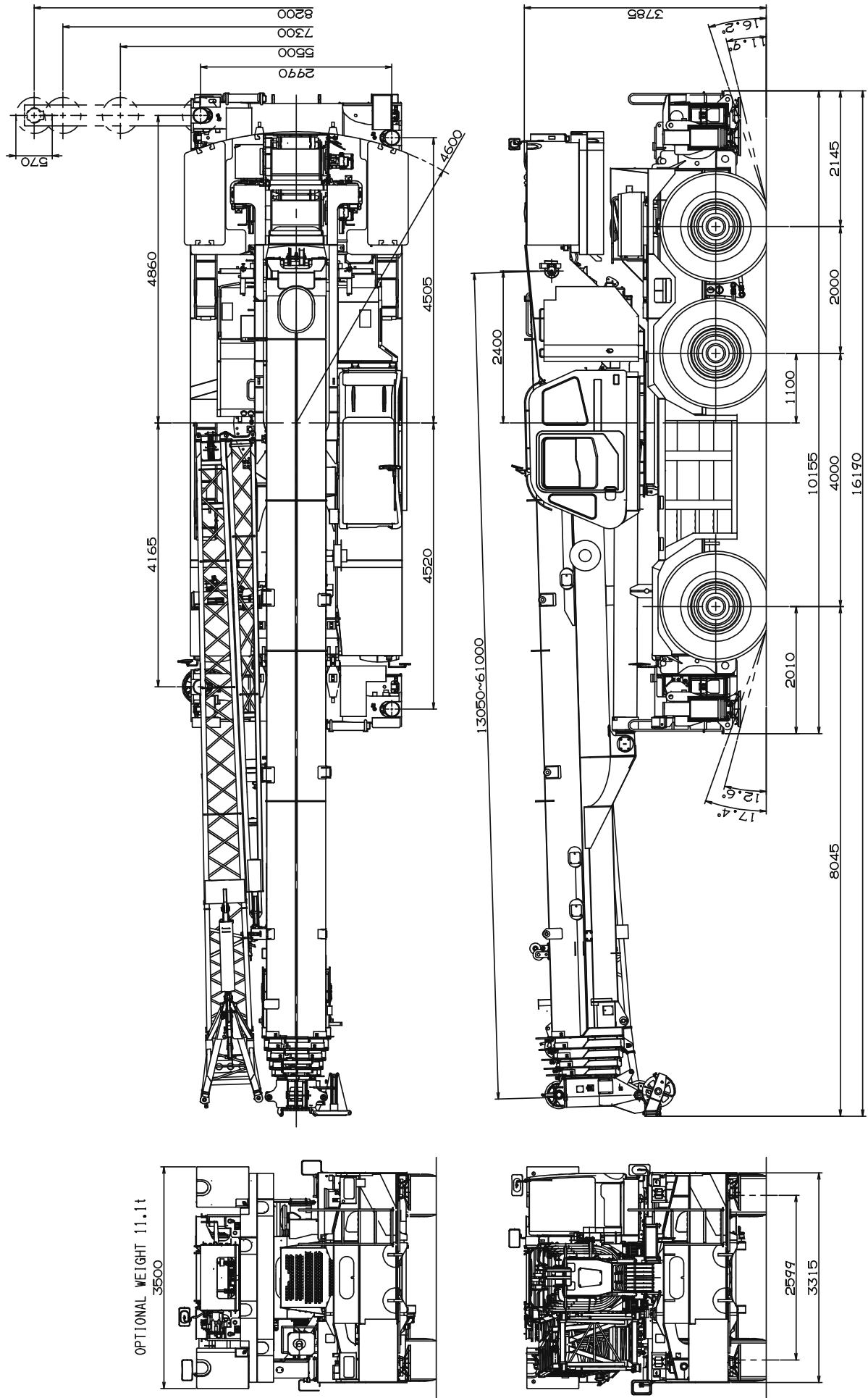
NOTE: 1. Boom and jib geometry shown are for unloaded condition and machine standing level on firm supporting surface.
 Boom deflection and subsequent radius and boom angle change must be accounted for when applying load to hook.

WORKING RANGE CHART



NOTE: 1. 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 -1.5 degree.

GR-1450EX Axle Weight Distribution Chart

UNIT : kg

		Kilograms			
		GVW	1st	2nd	3rd
Base machine		91,154	29,398	30,640	31,116
Remove:	1.7.9ton (7.2metric ton) hook block	-300	-421	61	61
	2.110ton (100metric ton) hook block	-1,080	-1,771	346	346
	3.Counterweight 24,500lbs (11,100kg)	-11,120	3,351	-7,236	-7,236
	4.Counterweight 40,100lbs (18,200kg)	-18,160	5,473	-11,816	-11,816
	5.Front and rear outrigger boxes and beams	-8,962	-3,463	-2,750	-2,750
	6.Auxiliary Winch&wire rope	-1,202	490	-846	-846
	7.Boom and jib	-17,424	-22,543	2,559	2,559