

GR-700N (I)

6-section boom
3-section fully-automatic jib
H-type outrigger



SPECIFICATIONS

● CRANE

CRANE CAPACITY	9.8-m boom	70,000 kg × 2.1m (8 parts of line × 2)
	16.6-m boom	32,000 kg × 5.5 m (8 parts of line)
	23.5-m boom	24,000 kg × 5.5 m (6 parts of line)
	30.3-m boom	12,500 kg × 10.0 m (4 parts of line)
	37.2-m boom	12,000 kg × 10.0 m (4 parts of line)
	41.2-m boom	10,000 kg × 11.0 m (4 parts of line)
	44.0-m boom	8,200 kg × 12.0 m (4 parts of line)
	8.4-m jib	4,000 kg × 77° (1 part of line)
	13.1-m jib	2,800 kg × 74° (1 part of line)
	17.7-m jib	1,500 kg × 84° (1 part of line)
Single top	5,000 kg (1 part of line)	
MAXIMUM LIFTING HEIGHT	Boom	45.2 m
	Jib	63.0 m
MAXIMUM LOAD RADIUS	Boom	34.0 m (standard capability), 40.0 m (front special capability)
	Jib	39.8 m (standard capability), 45.5 m (front special capability)
BOOM LENGTH		9.8 m-44.0 m
BOOM TELESCOPING LENGTH		34.2 m
BOOM EXTENSION SPEED		34.2 m/124 s
JIB LENGTH		8.4 m-17.7 m
WINDING SPEED (Rope speed)	Main winch	131 m/min (5 layers)
	Auxiliary winch	114 m/min (3 layers)
HOOK WINDING SPEED	Main winch	16.3 m/min (8 parts of line)
	Auxiliary winch	114 m/min (1 part of line)
UNWINDING SPEED (Rope speed) [Reference]	Main winch	Standard: 131 m/min (5 layers), high speed: 201 m/min (5 layers)
	Auxiliary winch	Standard: 114 m/min (3 layers), high speed: 174 m/min (3 layers)
BOOM ELEVATION ANGLE		0°-84°
BOOM ELEVATION SPEED		0°-84°/58 s
SLEWING ANGLE		360° continuous
SLEWING SPEED		2.1 min ⁻¹ {rpm}
WIRE ROPE	Main winch	Dia. 18 mm × length 238 m rotation-resistant wire rope
	Auxiliary winch	Dia. 18 mm × length 133 m rotation-resistant wire rope
BOOM		Round-construction, 6-section, hydraulic telescoping type (2nd and 3rd sections synchronized, 4th, 5th and 6th sections synchronized)
BOOM TELESCOPING SYSTEM		3 double-acting hydraulic cylinders, 2 wire rope boom telescoping systems
JIB		Quick-turn type (stored alongside and below boom) 3-section (hydraulically telescoping 3rd section), offset (5°-60°) Hydraulic stepless tilt type
SINGLE TOP		Fixed on top boom section
HOISTING SYSTEM		Driven by hydraulic motor and via bevel gear reducer, automatic brake, high-speed unwind function, 2 single winches, pressure compensated flow control valve
BOOM ELEVATING SYSTEM		2 double-acting hydraulic cylinder, pressure compensated flow control valve
SLEWING SYSTEM		Driven by hydraulic motor and via bevel gear reducer, ball bearing type, free slewing/lock switchable type, negative brake
OUTRIGGER		Fully hydraulic H-type (floats mounted integrally), slides and jacks each provided with independent operation device Extension width: maximum: 7.6 m, middle: 7.2 m, 5.28 m, 4.28 m, minimum: 2.36 m
OPERATION METHOD		Hydraulic pilot operation type
MAXIMUM LOAD OF OUTRIGGER		42.3 t
POWER TAKE OFF		PTO wet multiplate clutch type
HYDRAULIC PUMP		Tandem variable piston pump, tandem gear pump
SAFETY DEVICES		Automatic moment limiter (AML), slewing automatic stop device, elevation slow down and stop device, over-winding cutout device, working area control device, outrigger extension width detector, boom telescoping cylinder hydraulic lock device, boom elevating cylinder hydraulic lock device, power tilt cylinder hydraulic lock device, level gauge, hydraulic safety valve, jack cylinder hydraulic lock device, slewing lock device, jib telescoping cylinder hydraulic lock device, hook safety latch
STANDARD EQUIPMENT		Air conditioner with dehumidifier function, hydraulic oil temperature display lamp, AM/FM radio, oil cooler, visual drum indicator Operation pedals ... ISO arrangement: for telescoping and for auxiliary winch Tadano arrangement: for elevating and for telescoping Mobile communication device (HELLO-NET Owner's Site), fuel consumption monitor, eco mode
ACCESSORIES		Wood blocks (4), aluminum base blocks (4), loudspeaker

● CARRIER

NAME AND MODEL		Tadano UDS-T008
ENGINE	Name	Cummins QSL9-4A (with turbocharger and air cooling)
	Model	Water-cooled, 4-cycle, 6-cylinder, direct injection diesel engine
	Piston displacement	8,849 L
	Maximum output	276kW {375PS}/1,900 min ⁻¹ {rpm}
	Maximum torque	1,491N·m {152kgf·m}/1,500 min ⁻¹ {rpm}
TORQUE CONVERTER		3-element, 1-section (with automatic lock-up mechanism)
TRANSMISSION		Automatic and manual transmission, power shift type (wet multiplate clutch) 4 forward and 1 reverse speeds (with Hi/Low settings)
SPEED REDUCER		Axle two-stage deceleration (2, 3, 4 axles)
DRIVING METHOD		4WD (8×4)/6WD (8×6) switchable type
AXLE (All axles)		Full-floating type
SUSPENSION (All axles)		Hydraulic pneumatic suspension (with hydraulic lock cylinder)
STEERING		Fully hydraulic power steering
BRAKE	Service brake	Hydro-pneumatic disc brake
	Parking brake	Mechanical drive shaft internal expanding type (2, 4 axles)
	Auxiliary brake	Permanent magnetic retarder, engine retarder, auxiliary braking device for operations
FRAME		Welded box-shaped structure
BATTERY		Two 12 V, 120 Ah (24 V)
FUEL TANK CAPACITY		400 L
TIRES	Front	385/95 R25 170E ROAD
	Rear	385/95 R25 170E ROAD
CAB		Crew capacity: 1 person, with interior fittings, liquid-sealed rubber mounted type, fully adjustable folding seat (with head rest, arm rest and seat belt), adjustable handle (tilt, telescoping), intermittent front and ceiling wipers (with washers), power windows, side visor
SAFETY DEVICES		Emergency steering device, suspension lock unit, rear wheel steering lock device, engine over-run alarm, over-shift prevention device, parking brake alarm, boom left/right side monitor TV
STANDARD EQUIPMENT		Power retractable mirror, tire chocks

● OPTIONS

Winch drum monitor camera, rear monitor camera, AML external warning lamp, road shoulder lamp, marker lamp, external voice alarm, discharge head lamp

● DIMENSIONS WHEN TRAVELING

Overall length	12,765 mm	
Overall width	2,780 mm	
Overall height	3,750 mm	
Wheel base	1,500 mm + 4,000 mm + 1,500 mm	
Track	Front	2,330 mm
	Rear	2,330 mm

● TRAVELING CAPABILITY

Maximum traveling speed	49 km/h
Gradeability (tan θ)	0.46
Minimum turning radius	7.5 m (eight-wheel steering mode)
	11.5 m (front four-wheel steering mode)

● WEIGHT

Gross vehicle weight	41,295 kg
Front-front axle load	10,240 kg
Front-rear axle load	10,500 kg
Rear-front axle load	10,320 kg
Rear-rear axle load	10,235 kg

[JIB] (44.0-m boom) FRONT SPECIAL CAPABILITY

Jib length	44.0-m boom + 8.4-m jib								44.0-m boom + 13.1-m jib								44.0-m boom + 17.7-m jib							
	5°		25°		45°		60°		5°		25°		45°		60°		5°		25°		45°		60°	
Boom angle	Load radius (m)	Rated lifting capacity (t)	Load radius (m)	Rated lifting capacity (t)	Load radius (m)	Rated lifting capacity (t)	Load radius (m)	Rated lifting capacity (t)	Load radius (m)	Rated lifting capacity (t)	Load radius (m)	Rated lifting capacity (t)	Load radius (m)	Rated lifting capacity (t)	Load radius (m)	Rated lifting capacity (t)	Load radius (m)	Rated lifting capacity (t)	Load radius (m)	Rated lifting capacity (t)	Load radius (m)	Rated lifting capacity (t)	Load radius (m)	Rated lifting capacity (t)
84°	6.5	4.0	9.6	3.5	10.8	2.2	11.6	1.4	7.6	2.8	13.1	2.5	14.7	1.5	15.8	0.7	7.8	1.5	13.7	1.0	18.4	0.7	20.6	0.4
80°	10.7	4.0	13.9	3.5	14.8	2.2	15.3	1.4	12.2	2.8	17.7	2.3	18.8	1.4	19.7	0.7	13.0	1.4	18.7	0.95	22.8	0.65	24.3	0.4
77°	13.8	4.0	16.9	3.3	17.7	2.15	17.9	1.4	15.6	2.8	20.9	2.15	21.6	1.35	22.3	0.7	16.7	1.3	22.0	0.9	25.7	0.6	26.9	0.4
74°	16.7	3.55	19.6	2.9	20.4	2.1	20.3	1.4	18.9	2.8	23.9	2.0	24.3	1.3	24.7	0.7	20.1	1.2	25.1	0.85	28.5	0.6	29.4	0.4
72°	18.5	3.3	21.3	2.65	22.1	2.05	21.8	1.4	20.9	2.65	25.7	1.9	26.0	1.3	26.4	0.7	22.3	1.15	27.1	0.8	30.3	0.6	31.0	0.4
70°	20.3	3.05	23.0	2.45	23.8	2.0	23.5	1.4	22.8	2.4	27.6	1.8	27.7	1.25	27.9	0.7	24.4	1.1	29.0	0.8	31.9	0.55	32.6	0.4
68°	22.0	2.85	24.6	2.25	25.4	1.95	25.0	1.4	24.7	2.2	29.3	1.65	29.3	1.25	29.5	0.7	26.5	1.1	30.9	0.75	33.6	0.55	34.2	0.4
65°	24.6	2.5	26.9	2.0	27.6	1.8	27.3	1.4	27.4	1.9	31.8	1.45	31.7	1.2	31.7	0.7	29.7	1.05	33.7	0.7	36.1	0.55	36.4	0.4
63°	26.1	2.3	28.4	1.8	29.0	1.65	28.7	1.4	29.1	1.7	33.4	1.35	33.3	1.15	33.2	0.7	31.6	1.0	35.5	0.7	37.6	0.55	37.9	0.4
60°	28.4	2.0	30.7	1.65	31.0	1.5	30.8	1.4	31.5	1.5	35.6	1.2	35.4	1.1	35.2	0.7	34.6	1.0	38.0	0.65	39.8	0.5	39.9	0.4
55°	31.9	1.55	34.0	1.35	34.2	1.3			35.4	1.2	39.2	1.0	38.7	0.95			39.0	0.9	42.0	0.6	43.3	0.5		
53°	33.2	1.35	35.3	1.25	35.3	1.15			36.9	1.1	40.5	0.9	39.9	0.85			40.6	0.85	43.4	0.6	44.5	0.5		
51°	34.4	1.1	36.3	0.95	36.3	0.95			38.3	0.85	41.7	0.7	41.0	0.7			41.9	0.65	44.7	0.5	45.5	0.45		
49°	35.6	0.85	37.4	0.75	37.3	0.7			39.6	0.65	42.9	0.55	42.1	0.5			43.1	0.45						
46°	37.3	0.5	38.9	0.45	38.7	0.45																		
45°	37.8	0.4																						
A (°)	44-84		45-84				59-84		48-84				59-84				48-84		50-84				59-84	

A: boom angle range (with no load)

[JIB] (41.2-m boom) FRONT SPECIAL CAPABILITY

Jib length	41.2-m boom + 8.4-m jib								41.2-m boom + 13.1-m jib								41.2-m boom + 17.7-m jib									
	5°		25°		45°		60°		5°		25°		45°		60°		5°		25°		45°		60°			
Boom angle	Load radius (m)	Rated lifting capacity (t)	Load radius (m)	Rated lifting capacity (t)	Load radius (m)	Rated lifting capacity (t)	Load radius (m)	Rated lifting capacity (t)	Load radius (m)	Rated lifting capacity (t)	Load radius (m)	Rated lifting capacity (t)	Load radius (m)	Rated lifting capacity (t)	Load radius (m)	Rated lifting capacity (t)	Load radius (m)	Rated lifting capacity (t)	Load radius (m)	Rated lifting capacity (t)	Load radius (m)	Rated lifting capacity (t)	Load radius (m)	Rated lifting capacity (t)		
84°	5.7	4.0	8.9	3.5	10.4	2.2	11.3	1.4	6.0	2.8	11.6	2.5	13.8	1.5	16.3	0.7	7.3	1.5	13.2	1.0	17.7	0.7	20.1	0.4		
80°	9.6	4.0	12.9	3.5	14.1	2.2	14.6	1.4	10.2	2.8	15.9	2.3	17.6	1.4	19.8	0.7	12.2	1.4	17.9	0.95	21.9	0.65	23.5	0.4		
77°	12.5	4.0	15.7	3.3	16.7	2.15	17.0	1.4	13.2	2.8	18.9	2.15	20.3	1.35	22.4	0.7	15.6	1.3	21.0	0.9	24.6	0.6	26.0	0.4		
74°	15.4	4.0	18.3	3.15	19.2	2.1	19.3	1.4	16.3	2.8	21.7	2.0	22.8	1.3	24.7	0.7	18.9	1.2	24.0	0.85	27.3	0.6	28.4	0.4		
72°	17.1	3.65	20.0	2.9	20.8	2.05	20.8	1.4	18.1	2.7	23.4	1.9	24.4	1.3	26.3	0.7	21.0	1.15	25.9	0.8	28.9	0.6	29.9	0.4		
70°	18.7	3.3	21.5	2.7	22.3	2.0	22.3	1.4	20.0	2.6	25.2	1.8	26.0	1.25	27.8	0.7	23.1	1.1	27.8	0.8	30.6	0.55	31.4	0.4		
68°	20.3	3.05	23.1	2.5	23.7	2.0	23.7	1.4	21.7	2.4	26.9	1.75	27.4	1.25	29.3	0.7	25.0	1.1	29.5	0.75	32.1	0.55	32.9	0.4		
65°	22.8	2.7	25.3	2.25	25.9	1.95	25.9	1.4	24.3	2.1	29.3	1.65	29.6	1.2	31.4	0.7	28.0	1.05	32.1	0.7	34.5	0.55	35.0	0.4		
63°	24.4	2.5	26.7	2.1	27.2	1.9	27.1	1.4	25.9	1.9	30.8	1.55	31.1	1.15	32.8	0.7	29.8	1.0	33.8	0.7	35.9	0.55	36.3	0.4		
60°	26.6	2.2	28.5	1.9	29.2	1.8	29.0	1.4	28.3	1.7	33.0	1.4	33.1	1.15	34.6	0.7	32.5	1.0	36.2	0.65	37.9	0.5	38.2	0.4		
55°	30.2	1.85	32.2	1.65	32.3	1.55			32.1	1.4	36.3	1.2	36.2	1.1			36.6	0.9	37.6	0.6	39.3	0.5				
53°	31.6	1.65	33.5	1.55	33.4	1.5			33.5	1.3	37.6	1.15	37.3	1.1			38.2	0.85	41.2	0.6	42.3	0.5				
51°	32.8	1.5	34.6	1.4	34.4	1.35			34.9	1.2	38.8	1.1	38.4	1.0			39.6	0.8	42.5	0.6	43.4	0.5				
49°	33.9	1.25	35.5	1.15	35.3	1.1			36.2	1.0	39.8	0.85	39.3	0.8			41.1	0.75	43.8	0.55	44.4	0.5				
46°	35.4	0.9	36.8	0.8	36.6	0.8			37.9	0.7	41.3	0.6	40.7	0.55			42.9	0.55								
45°	35.9	0.8	37.3	0.7	37.0	0.7			38.5	0.6	41.7	0.5	41.2	0.5												
43°	36.8	0.6	38.2	0.55					39.6	0.45																
41°	37.8	0.45	39.0	0.4																						
A (°)	40-84		44-84				59-84		42-84		44-84				59-84				45-84		48-84				59-84	

A: boom angle range (with no load)

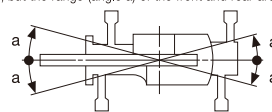
① Points to remember when using the outriggers

- The rated lifting capacities are shown for when the crane is set horizontally on firm ground, and include the weight of the slings and main winch hook (340 kg) when working with the boom, and the weight of the slings and auxiliary winch hook (100 kg) when working with the jib. The values above the bold line are based on the crane strength while those below are based on the crane stability factor.
- The load radius is based on the actual figure including the boom deflection, so always use this as the standard when working with the boom.
- The jib rated lifting capacity is different when the boom length is 41.2 m or less and when it exceeds 41.2 m.
- Use the boom angle as the standard when working with the jib. The reference load radii shown are those when the jib is mounted to a 41.2-m and 44.0-m boom.
- The rated lifting capacity for the single top is the value obtained by subtracting 240 kg from the boom rated lifting capacity, and includes the weight of the slings and auxiliary winch hook (100 kg), but must not exceed 5.0 t.
- High-speed unwinding should only be used when only the hook is being lowered. Also, sudden lever operations should be avoided at this time.
- The table below shows the hook wire rope standard number of parts of line for each boom length.
However, when using other number of parts of line, the load per line should not exceed 4.38 t for the main winch or 5.0 t for the auxiliary winch.

Boom length	9.8 m	16.6 m	23.5 m	30.3 m	37.2 m	41.2 m	44.0 m	Jib, single top
Number of parts of line	8×2	8	6	4	4	4	4	1

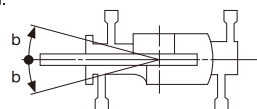
- It should be 1 part of line for the hook wire rope on the jib.
- The over-side lifting capability depends on the extension width of the outriggers.
Perform work within the capability according to the extension width.
The lifting capability for the front and rear areas is the rated lifting capacity of the "outrigger maximum extension", but the range (angle a) of the front and rear areas depends on the outrigger extension width.

Extension width	Middle extension (7.2 m)	Middle extension (5.28 m)	Middle extension (4.28 m)	Minimum extension (2.36 m)
Angle a°	45	30	25	10



- The front special capability can be set when the front outrigger is at maximum extension (7.6 m) and rear outrigger is at middle extension (5.28 m) or more.
The front range (angle b) at which operation can be performed with front special capability depends on the rear outrigger extension width.
Also, the lifting capability at the side and rear is the standard capability according to the outrigger extension width.

Rear outrigger extension width	Maximum extension (7.6 m)	Middle extension (7.2 m)	Middle extension (5.28 m)
Angle b°	45	45	40



2 Not using outriggers

Unit: (t)

Boom length	When stopped				When traveling (1.6 km/h or slower)			
	9.8 m		16.6 m		9.8 m		16.6 m	
Load radius	Front	360°	Front	360°	Front	360°	Front	360°
3.5 m	8.95	3.9	8.7	3.6	7.45	3.2	7.25	3.0
4.0 m	7.75	3.0	7.5	2.65	6.45	2.45	6.25	2.2
4.5 m	6.7	2.2	6.45	1.9	5.6	1.8	5.4	1.55
5.0 m	5.85	1.6	5.6	1.3	4.85	1.3	4.65	1.05
5.5 m	5.1	1.05	4.85	0.75	4.2	0.85	4.0	0.6
6.0 m	4.4	0.6	4.15	0.5	3.65	0.5	3.45	
6.5 m	3.85		3.6		3.15		2.95	
7.0 m			3.05				2.55	
8.0 m			2.2				1.8	
9.0 m			1.45				1.2	
10.0 m			0.85				0.7	
A (°)	0-73	20-60	35-73	60-73	0-73	20-60	35-73	60-73
Standard hook	35-t hook				35-t hook			

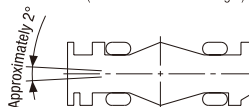
A: boom angle range (with no load)

2 Points to remember when not using the outriggers

- The rated lifting capacities are shown for when the crane is set horizontally on firm ground, the tires are at the standard pressure (900 kPa (9.00 kgf/cm²)), the suspension cylinder is fully retracted, and include the weight of the slings and main winch hook (340 kg) when working with the boom.
The values above the bold line are based on the crane strength while those below are based on the crane stability factor.
When performing actual work, use after considering the ground and operating conditions, etc
- The load radius is based on the actual figure including the boom and tire deflection, so always use this as the standard.
- The table below shows the hook wire rope standard number of parts of line for each boom length. However, when using other number of parts of line, the load per line should not exceed 4.38 t for the main winch or 5.0 t for the auxiliary winch.

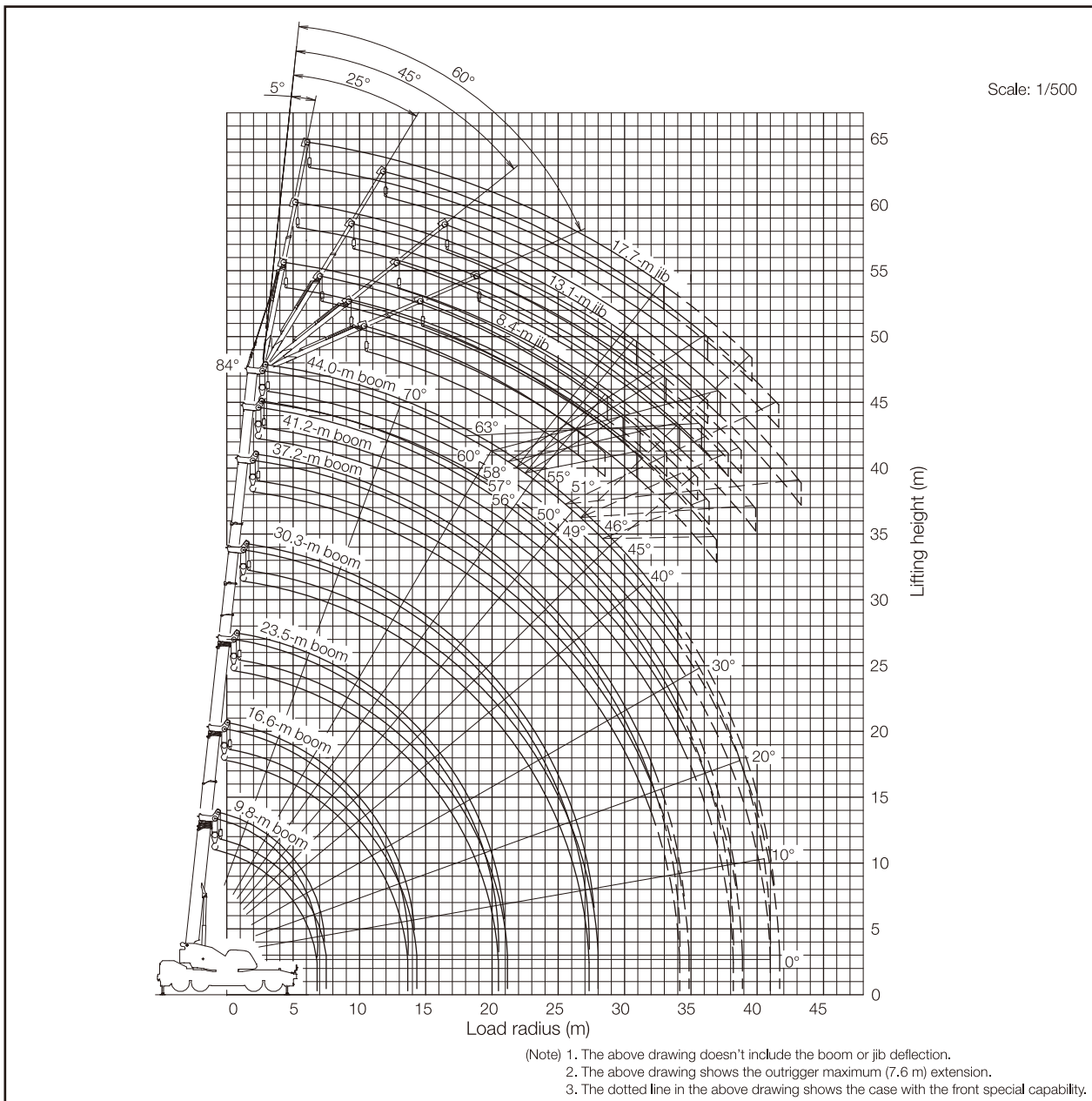
Boom length	9,8m	16,6m	Single top
Number of parts of line	4	4	1

- Do not perform high-speed unwinding with a boom longer than 16.6 m or a jib.
- Only perform "front" crane operations while the AML "front position symbol" is lit.
The front range is when the boom is within 2° (1° to either the left or right) of the front of the carrier.

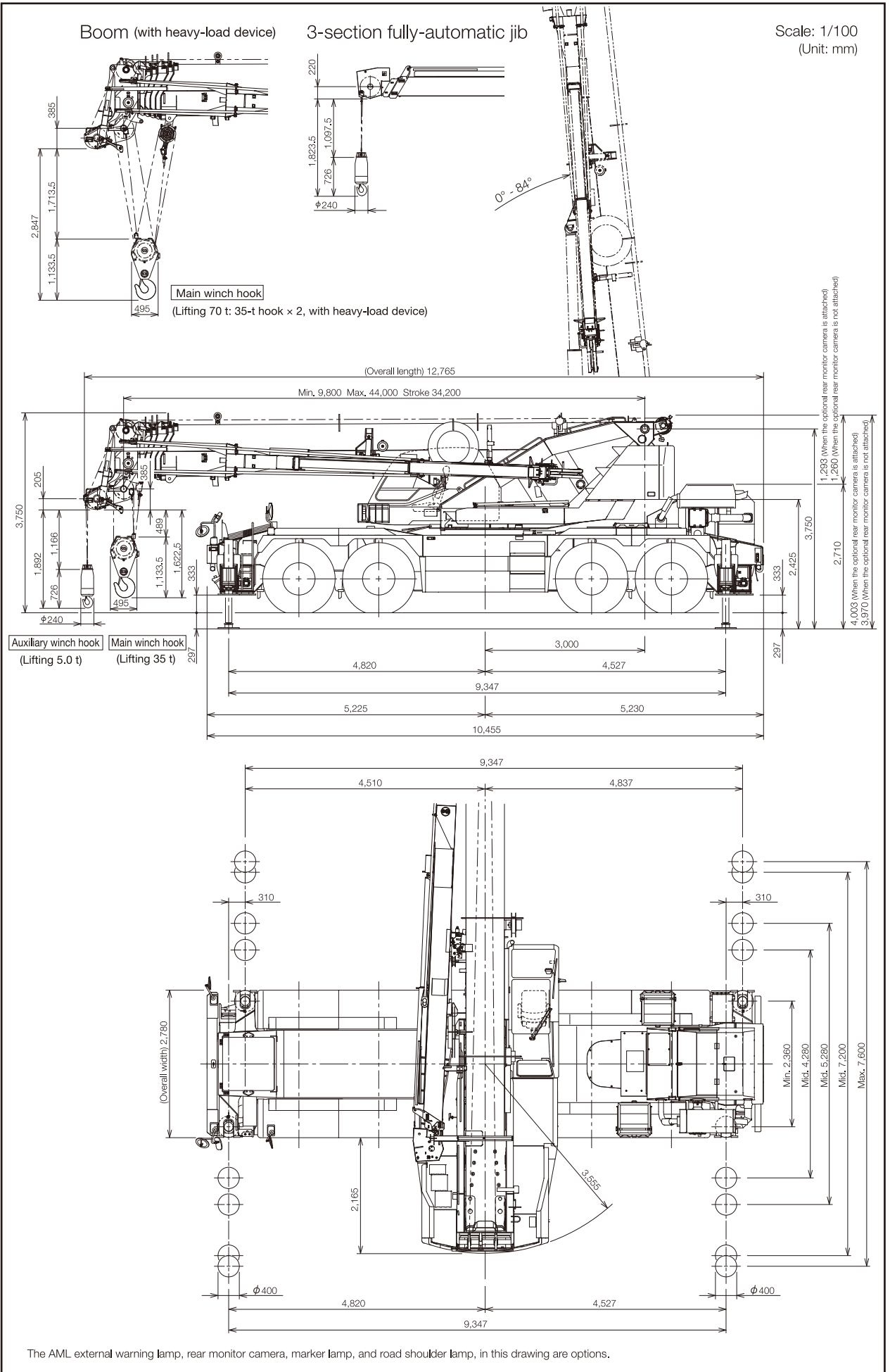


- The rated lifting capacity for the single top is the value obtained by subtracting 240 kg from the boom rated lifting capacity, and includes the weight of the slings and auxiliary winch hook (100 kg), but must not exceed 5.0 t.
- Perform pick and carry with the "drive select" switch set to "L/6D" and the shift lever set to first gear.
- Perform pick and carry with the slewing brake on, the load close to the ground so it will not swing, and at a speed of 1.6 km/h or lower. In particular, abrupt steering, starting or braking must be avoided.
- Do not perform crane operations while performing pick and carry.

WORKING RANGE



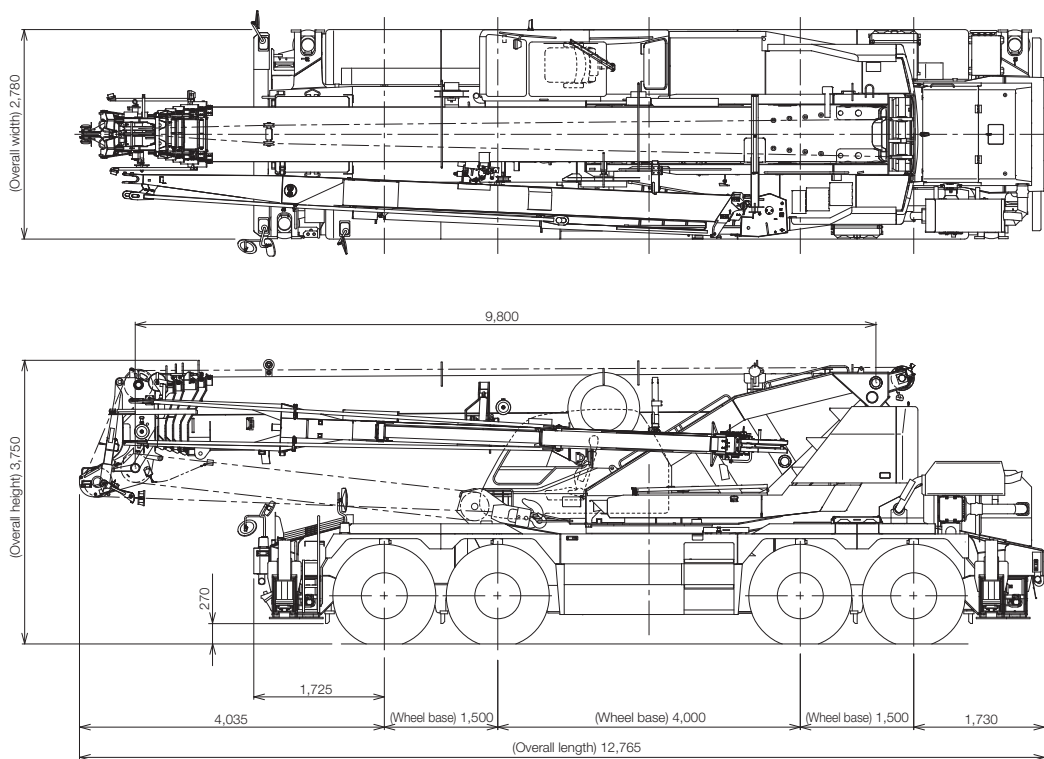
DIMENSIONS



The AML external warning lamp, rear monitor camera, marker lamp, and road shoulder lamp, in this drawing are options.

DIMENSIONS

Scale: 1/100
(Unit: mm)



The AML external warning lamp, rear monitor camera, marker lamp, and road shoulder lamp, in this drawing are options.

- This model has received a "Basic running conditions - weight: D" certificate of conformance under the Newly Developed Vehicle Certificate System, but the actual running conditions will be decided based on the calculations of the road administrator for each route.

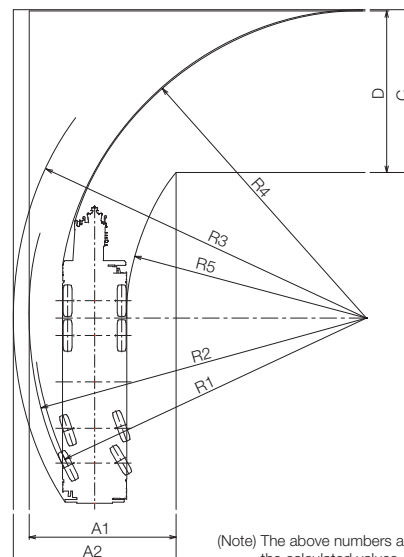
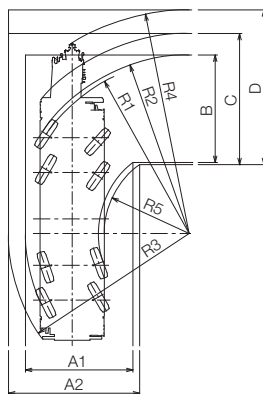
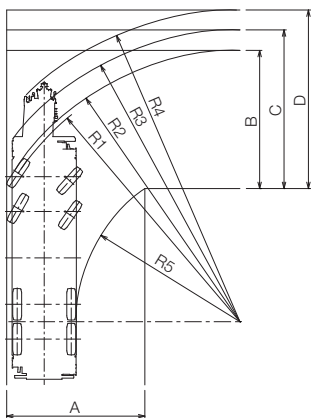
MINIMUM RIGHT-ANGLE PASSAGE WIDTH

- While turning right in the front four-wheel steering mode
- While turning right in the eight-wheel coordinated steering mode
- While turning right in the rear four-wheel steering mode

R1 = 11.50 m (minimum turning radius)
R2 = 11.70 m (outside tire edge turning radius)
R3 = 12.58 m (vehicle turning radius)
R4 = 13.44 m (boom edge turning radius)
R5 = 7.06 m (vehicle inside turning radius)
A = 5.96 m (entrance passage width)
B = 5.96 m (tire exit passage width)
C = 6.84 m (vehicle exit passage width)
D = 7.70 m (boom edge exit passage width)

R1 = 7.50 m (minimum turning radius)
R2 = 7.70 m (outside tire edge turning radius)
R3 = 7.79 m (vehicle turning radius)
R4 = 9.64 m (boom edge turning radius)
R5 = 3.66 m (vehicle inside turning radius)
A1 = 4.64 m (tire entrance passage width)
A2 = 5.66 m (vehicle entrance passage width)
B = 4.64 m (tire exit passage width)
C = 5.66 m (vehicle exit passage width)
D = 6.67 m (boom edge exit passage width)

R1 = 14.34 m (minimum turning radius)
R2 = 14.54 m (outside tire edge turning radius)
R3 = 15.22 m (vehicle turning radius)
R4 = 13.24 m (boom edge turning radius)
R5 = 10.33 m (vehicle inside turning radius)
A1 = 6.34 m (tire entrance passage width)
A2 = 7.02 m (vehicle entrance passage width)
C = 7.02 m (vehicle exit passage width)
D = 6.97 m (boom edge exit passage width)



(Note) The above numbers are the calculated values.

Model name	Specifications	Specification no.
GR-700N	Lifting 70 t, 6-section boom, 3-section fully-automatic jib, H-type outrigger	GR-700N-1-00101

Note: Due to improvements, the delivered product may have specifications different from these.