

# ALL TERRAIN CRANE

**AR-1000M**

## *JAPANESE SPECIFICATIONS*

CARRIER MODEL	SPEC. NO.
FAUN RTF100-4	AR-1000M-1-90101

**AR**

# AR-1000M

## CRANE SPECIFICATIONS

### CRANE CAPACITY

11.7m	Boom	100,000kg	at 2.8m	(17 part-line)
20.0m	Boom	45,000kg	at 5.5m	( 7 part-line)
28.3m	Boom	30,000kg	at 5.0m	( 5 part-line)
36.7m	Boom	17,000kg	at 9.0m	( 4 part-line)
45.0m	Boom	11,500kg	at 11.0m	( 4 part-line)
9.0m	Jib	6,500kg	at 78°	( 1 part-line)
14.0m	Jib	3,500kg	at 73°	( 1 part-line)
19.0m	Jib	2,500kg	at 79°	( 1 part-line)

### MAX. LIFTING HEIGHT

Boom	45.5m
Jib	64.0m

### MAX. WORKING RADIUS

Boom	42.0m
Jib	47.0m

### BOOM LENGTH

11.7m - 45.0m

### BOOM EXTENSION

33.3m

### BOOM EXTENSION SPEED

33.3m / 85s

### JIB LENGTH

9.0 - 19.0m

### MAIN WINCH SINGLE LINE SPEED

High range:	106m/min	(4th layer)
Low range:	53m/min	(4th layer)

### MAIN WINCH HOOK SPEED

High range:	6.2m/min	(17part-line)
Low range:	2.9m/min	(17part-line)

### AUXILIARY WINCH SINGLE LINE SPEED

High range:	106m/min	(4th layer)
Low range:	53m/min	(4th layer)

### AUXILIARY WINCH HOOK SPEED

High range:	106m/min	(1part-line)
Low range:	53m/min	(1part-line)

### BOOM ELEVATION ANGLE

-2° - 82°

### BOOM ELEVATION SPEED

-2° - 82° / 45s

### SWING ANGLE

360° continue

### SWING SPEED

2.0 rpm

### WIRE ROPE

Main Winch

20mm × 245m (Diameter×Length)  
Spin-resistant wire rope

Auxiliary Winch

20mm × 140m (Diameter×Length)  
Spin-resistant wire rope

### HOOK

100t hook	(17 part-line)
45t hook	(7 part-line)
6.5t hook	(1 part-line)

### BOOM

5-section hydraulically telescoping boom of box  
2-telescoping method changeover type

Telescoping method I  
stages 2, 3: synchronized,  
stages 4, 5: synchronized

Telescoping method II  
stages 2 - 5: synchronized

### BOOM EXTENSION

3 double-acting hydraulic cylinders  
1 wire rope type telescoping device

With flow regulator valve with pressure compensation

### JIB

Staged swing-around boom extensions.

3-section hydraulically synchronously telescoping boom  
Hydraulic non - stage offset (5° - 45°) type

### SINGLE TOP

Single sheave. Mounted to main boom head for single line work.

### HOIST

Hydraulic motor driven planetary gear reducer

Automatic brake

2 single winches

With flow regulator valve with pressure compensation

### BOOM ELEVATION

1 double-acting hydraulic cylinders

With flow regulator valve with pressure compensation

### SWING

Hydraulic motor driven planetary gear reducer

Swing bearing

Manual switch brake

Swing free/lock changeover type

### OUTRIGGERS

Fully hydraulic H-type

Slides and jacks each provided with independent operation device.

Full extended width 7.2m

Middle extended width 6.36m, 4.9m, 3.6m

Slide storing float

### MAX. OUTRIGGER LOAD

80t

### ENGINE FOR CRANE

Model NISSAN DIESEL NE6T

Type 4-cycle, 6 in-line cylinder, direct-injection,  
water-cooled diesel engine.

Piston Displacement 7,412cc

Max. Output 180PS at 2,200rpm

Max. Torque 69kg·m at 1,500rpm

### HYDRAULIC PUMPS

2 variable high pressure piston pumps and 2 high pressure gear pumps

### HYDRAULIC OIL TANK CAPACITY

820 liters

### SAFETY DEVICES

Automatic moment limiter (AML)

Multiple display

With working range limiting function

Outrigger extension width automatic detector (individual detection)

Weight combination automatic detector

Swing range controller

Swing automatic stop device

Boom elevation slow down and stop device

Over-winding cutout

Level gauge

Hook safety latch

Cable follower

Winch drum lock

Hydraulic safety valve

Telescopic counterbalance valve

Elevation counterbalance valve

Jack pilot check valve

### EQUIPMENTS

Counterweight dismount device

Jib extension device

Hook movement amount indicator

Swing frame dismount device

AML external indication lamp

Boom angle indicator

Oil cooler

Crane cab air conditioner

FM radio

Hot and cool boxes

Lunch table

### OPTIONAL EQUIPMENT

Swing alarm

Drum monitor

**CARRIER SPECIFICATIONS****MANUFACTURER**

FAUN GmbH

**CARRIER MODEL**

RTF 100-4

**ENGINE**

Model OM402LA (Benz)

Type 4-cycle V8-cylinder, direct-injection,  
turbo diesel engine with inter cooler

Piston displacement 12,763cc

Max. output 381PS at 2,100rpm

Max. torque 173kg·m at 1,000 - 1,500rpm

**TRANSMISSION**

Power shift type

6-forward and 1-reverse speeds

Sub reducer provided.

**CLUTCH**

Torque converter provided.

Automatic lock-up mechanism provided.

**REDUCER**

8×4

8×8 ... Off load (with defrock mechanism)

**AXLE (all axles)**

Full floating

**SUSPENSION (all axles)**

Hydraulic pneumatic suspension

Stroke: +150mm/-120mm

**STEERING**

Type: Left-side handle

Fully hydraulic power steering

2 circuits

Emergency power steering

Mode: Normal (4 front wheels)

Clamp (8 wheels)

Crab (8 wheels)

Rear steering (4 rear wheels)

**BRAKE SYSTEM**

Service Brake

Air brake on all wheels

2 circuits

Parking Brake

Spring brake, acting on the 2nd, 3rd, 4th axles (6  
wheels)

Emergency Brake

Works by applying the parking brake

Auxiliary Brake

Electrical retarder

**ELECTRIC SYSTEM**

24V DC 2 batteries of 12V-170Ah

**FUEL TANK CAPACITY**

400 liters

**CAB**

Two-man type

**TIRES**

Front 16.00 R25 (all wheels)

Rear 11.00-25 (all wheels)

**STANDARD EQUIPMENTS**

Car air conditioner

FM radio

Mad guard

Centralized lubrication unit

**OPTIONAL EQUIPMENT**

Bed for napping

**GENERAL DATA****DIMENSIONS (CARRIER ONLY)**

Overall length 10,635mm

Overall width 2,780mm

Overall height 2,765mm

Wheel base 1,990mm + 2,305mm + 1,700mm = 5,995mm

Tread 2,315mm

**WEIGHTS (CARRIER ONLY)**

Gross vehicle weight

Total 28,100kg (Cab two-man type)

Front 16,100kg

Rear 12,000kg

**PERFORMANCE (CARRIER ONLY)**

Max. traveling speed 70.0km/h

Gradeability (tan θ) 0.52

Min. turning radius

4-wheel steering 11.3m

8-wheel steering 7.0m

# TOTAL RATED LOADS

[BOOM]

Performance A

Unit:ton

A B (m)	11.7m	20.0m	28.3m	36.7m	45.0m			
2.8	100.0	45.0	17.0					
3.0	93.0	45.0	17.0					
3.5	80.0	45.0	17.0	30.0	17.0			
4.0	70.0	45.0	17.0	30.0	17.0			
4.5	61.6	45.0	17.0	30.0	17.0	17.0	17.0	
5.0	55.2	45.0	17.0	30.0	17.0	17.0	17.0	11.5
5.5	49.3	45.0	17.0	28.5	17.0	17.0	17.0	11.5
6.0	45.1	43.8	17.0	26.9	17.0	17.0	17.0	11.5
6.5	41.0	40.7	17.0	25.5	17.0	17.0	17.0	11.5
7.0	37.8	38.0	17.0	24.0	17.0	17.0	16.6	11.5
8.0	32.2	32.5	17.0	21.3	17.0	17.0	15.3	11.5
9.0	27.8	28.1	17.0	19.1	17.0	17.0	14.2	11.5
10.0		24.5	17.0	17.2	17.0	15.4	13.2	11.5
11.0		21.5	17.0	15.5	16.2	14.1	12.2	11.5
12.0		18.4	17.0	14.2	15.4	13.1	11.4	11.0
14.0		13.9	15.1	12.0	13.6	11.2	10.0	9.7
16.0		10.8	11.9	10.2	12.1	9.6	8.9	8.4
18.0				8.6	10.1	8.2	8.0	7.4
20.0				6.8	8.3	7.1	7.3	6.5
22.0				5.2	6.9	6.2	6.5	5.7
24.0				4.0	5.8	5.4	5.8	5.1
26.0				3.0	4.8	4.3	5.0	4.6
28.0						3.4	4.1	4.0
30.0						2.7	3.4	3.5
32.0						2.1	2.8	2.9
34.0						1.6	2.2	2.3
36.0								1.8
38.0								1.4
40.0								1.1
42.0								0.8
$\theta$ (°)	0~82	0~82	0~82	0~82	0~82	0~82	0~82	10~82
<b>Boom stage telescoping condition (%)</b>								
Telescoping method	I, II	I, II	I, II	I, II	I, II	I, II	I, II	I, II
2nd boom	0	50	25	100	50	100	75	100
3rd boom	0	50	25	100	50	100	75	100
4th boom	0	0	25	0	50	50	75	100
5th boom	0	0	25	0	50	50	75	100

A = Boom length

B = Working radius

$\theta$  = Boom angle range (for the unladen condition)

**[JIB]**  
**Performance A**

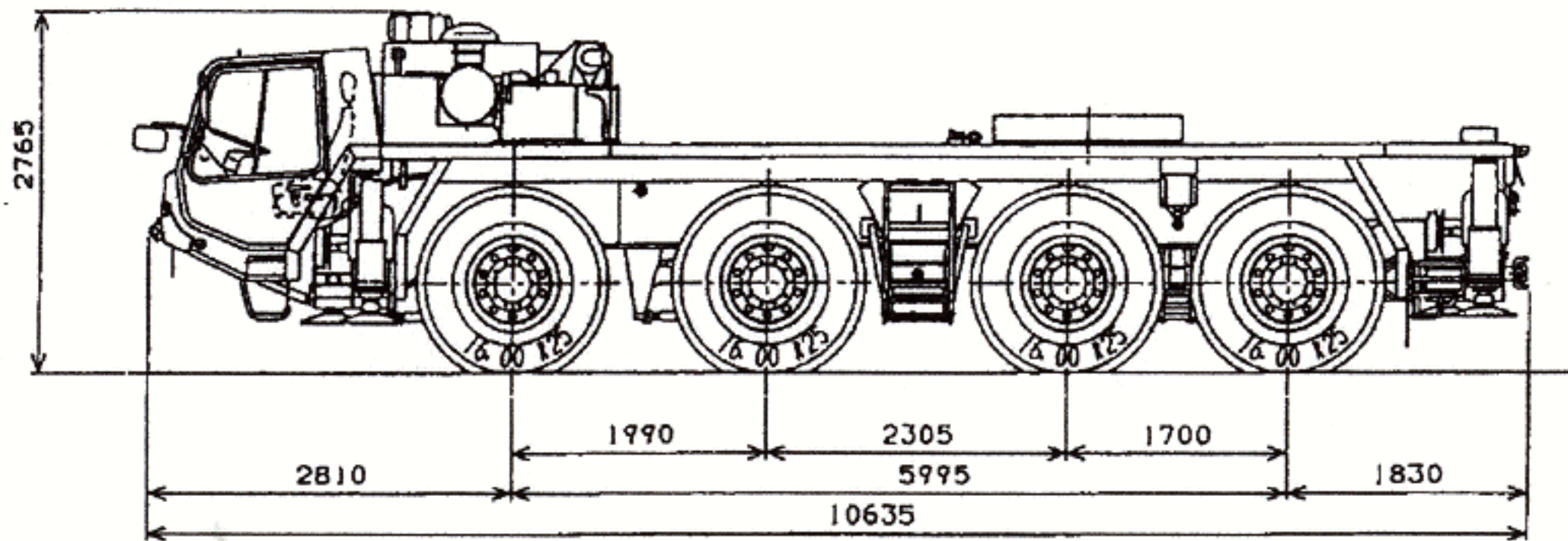
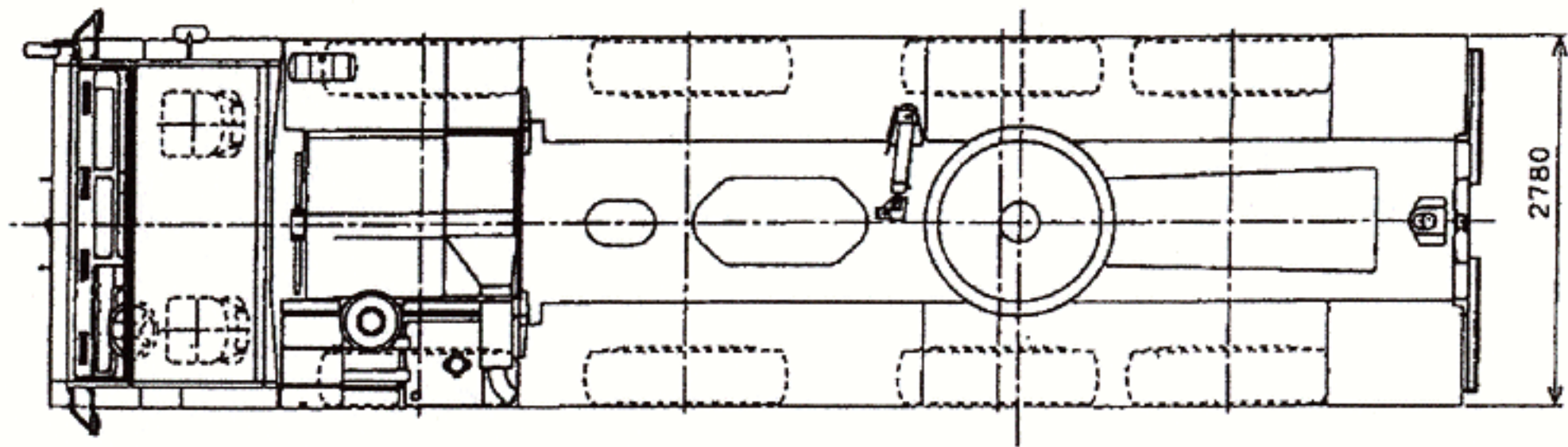
Unit:ton

C	9.0 m						14.0 m						19.0 m					
	5°		25°		45°		5°		25°		45°		5°		25°		45°	
D	B (m)	M	B (m)	M	B (m)	M	B (m)	M	B (m)	M	B (m)	M	B (m)	M	B (m)	M	B (m)	M
E (°)	B (m)	M	B (m)	M	B (m)	M	B (m)	M	B (m)	M	B (m)	M	B (m)	M	B (m)	M	B (m)	M
82	7.6	6.5	10.1	4.2	11.9	3.0	8.7	3.5	13.0	2.4	16.0	1.5	10.1	2.5	15.7	1.1	20.1	0.7
80	9.8	6.5	12.1	4.2	13.8	3.0	11.0	3.5	15.1	2.4	18.0	1.5	12.7	2.5	18.0	1.1	22.1	0.7
79	10.8	6.5	13.1	4.2	14.8	3.0	12.2	3.5	16.2	2.4	19.0	1.5	13.9	2.5	19.1	1.1	23.2	0.7
78	11.9	6.5	14.1	4.2	15.7	3.0	13.3	3.5	17.2	2.4	19.9	1.5	15.1	2.45	20.3	1.1	24.2	0.7
75	14.8	5.7	17.0	4.0	18.5	2.95	16.6	3.5	20.3	2.25	22.8	1.5	18.5	2.1	23.5	1.0	27.1	0.68
73	16.7	5.2	18.8	3.85	20.3	2.9	18.8	3.5	22.3	2.15	24.7	1.5	20.7	1.9	25.6	0.97	29.1	0.67
70	19.4	4.35	21.5	3.55	22.9	2.8	22.0	3.3	25.2	2.0	27.4	1.5	24.1	1.7	28.7	0.91	31.9	0.66
68	21.2	3.85	23.2	3.2	24.5	2.75	23.9	3.0	27.0	1.9	29.1	1.47	26.2	1.55	30.7	0.88	33.7	0.65
65	23.8	3.3	25.7	2.75	26.9	2.5	26.7	2.5	29.8	1.8	31.6	1.42	29.3	1.4	33.6	0.84	36.3	0.64
63	25.4	2.95	27.3	2.5	28.5	2.3	28.5	2.25	31.5	1.75	33.3	1.4	31.3	1.3	35.5	0.81	37.9	0.63
60	27.9	2.55	29.7	2.2	30.7	2.05	31.2	1.95	34.1	1.6	35.6	1.35	34.3	1.2	38.2	0.78	40.3	0.62
58	29.4	2.3	31.2	2.0	32.1	1.85	32.9	1.75	35.6	1.45	37.1	1.34	36.2	1.15	39.9	0.76	41.8	0.62
55	31.7	1.85	33.3	1.7	34.2	1.65	35.3	1.5	37.9	1.25	39.1	1.2	39.0	1.05	42.4	0.73	44.0	0.62
53	33.1	1.6	34.7	1.5	35.4	1.45	36.9	1.35	39.4	1.15	40.5	1.1	40.7	1.0	44.0	0.72	45.2	0.62
50	35.2	1.2	36.6	1.1	37.2	1.05	39.2	1.05	41.5	0.95	42.3	0.85	43.2	0.9	45.9	0.7	47.0	0.62
48	36.5	0.9	37.8	0.8	38.4	0.75	40.5	0.75	42.7	0.65			44.7	0.7	46.8	0.55		
45	38.3	0.5																
$\theta$ (°)	44~82		47~82		47~82		47~82		47~82		49~82		47~82		47~82		49~82	

**B = Working radius C = Jib length D = Jib offset E = Boom angle M = Total rated loads**  
 **$\theta$  = Boom angle range (for the unladen condition)**

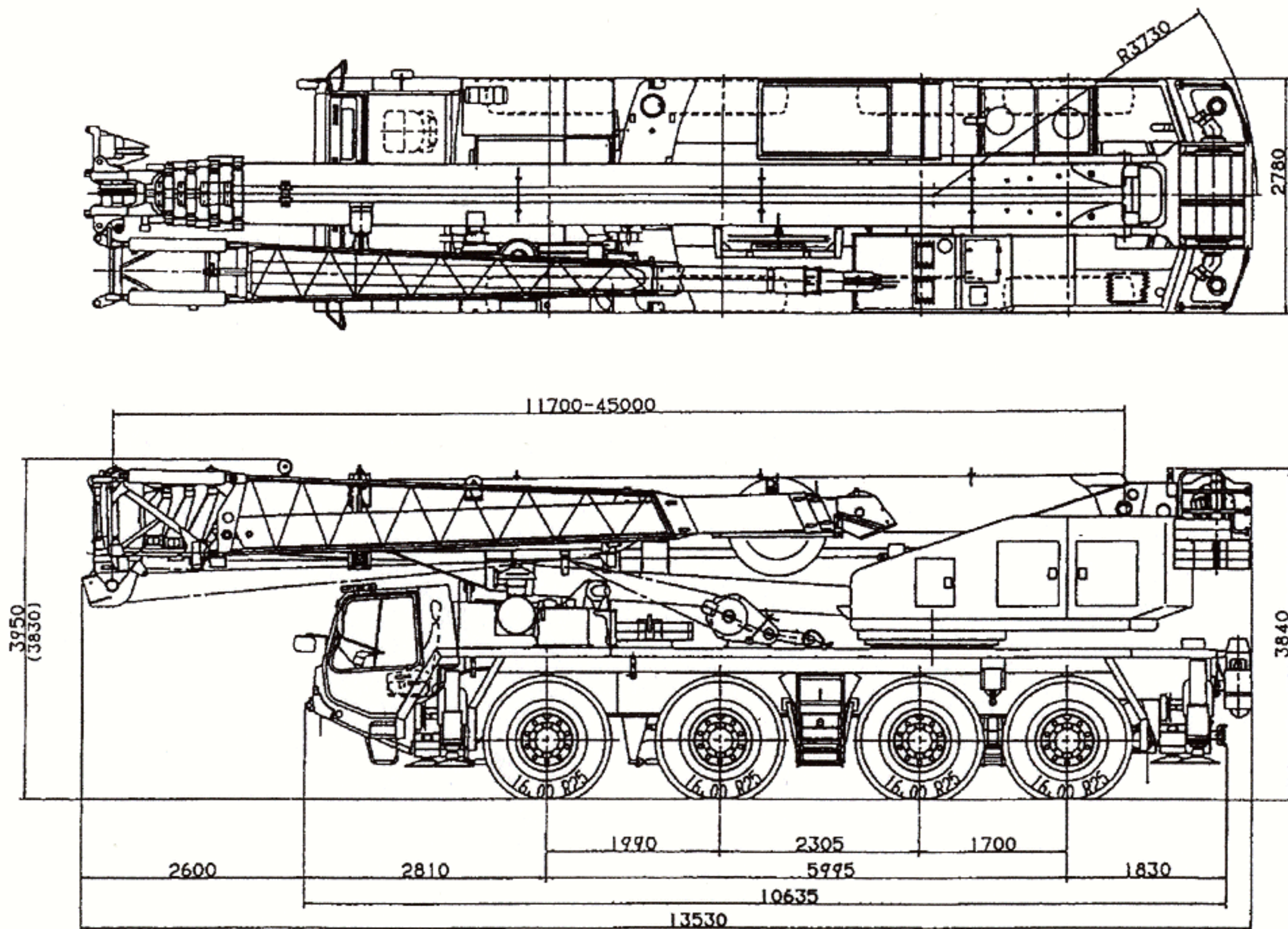
# DIMENSIONS (1/100)

[On public thoroughfare traveling condition]



# DIMENSIONS (1/100)

[On-site traveling condition]



**(NOTE)** The total height figures are for the standard traveling condition and those in brackets are for when the vehicle height has been lowered.