



**VANGUARD**

# Grove GTK1100

Product guide



95 t



76,5 m



60 m



143 m

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Established in 1975, Vanguard is a leading South African heavy lifting and plant relocation company. Offering professional mechanical and engineering services for the relocation, installation and commissioning of plant and large equipment, Vanguard is renowned for its expertise in the handling of complex, heavy loads. The company has in-depth knowledge, extensive experience and the most advanced equipment to take on any project anywhere in the world.

Vanguard has a fully implemented Safety, Health, Environment and Quality (SHEQ) management programme. All projects are executed according to stringent quality and safety control standards, with environmental considerations assuming top priority.

With offices in Johannesburg, Cape Town and Durban, Vanguard incorporates various specialised divisions that allow the company to offer total strategic solutions to South Africa, sub-Saharan Africa and beyond.

## Carrier

### Transport unit

Semi-trailer design (Scheuerle) with integrated welded cup design made of high strength fine-grain steel and welded-attached carrier elements for the transport and erection of the tower.

### Outriggers

Four single-stage beams, 12,7 m long, to be transported separately, with vertical cylinders and outrigger pads, including tensioning rods for bracing the crane. Outrigger base 18 m x 18 m.

### Drive/Steer/axle lines/suspension/tyres/brakes

Scheuerle specification

## Power pack

### Engine

Mercedes-Benz OM904LA, 4-cylinder Diesel, water-cooled, turbocharged, 130 kW (177 hp) at 2 200 min<sup>-1</sup> (80/1269/EEC fan rigid). Max. Torque: 580 Nm at 1 200 - 1 600 min<sup>-1</sup>. Fuel tank capacity: 400 l. Engine emission: EUROMOT/EPA/CARB (non road).

### Hydraulic system

One axial variable displacement pump (load-sensing) for erecting and telescoping of the tower. One gear pump for the outrigger and pinning systems. Tank capacity: 2 000 l.

## Tower unit

### Tower

19,4 m to 76,5 m six section telescopic tower. Extended by means of a single-stage telescopic cylinder with 4-fold locking arrangement. Telescoping time approx. 2 400 seconds.

### Bracing

Four spreaders made up of tubular lattice design for bracing at the head of the tower, with one tensioning cylinder and vibration damper each. Tensioning force maximum 1000 kN.

## Superstructure

### Boom

16,0 m to 60,0 m five section TWIN-LOCK™ boom. Maximum tip height 140 m with tower extended.

### Boom elevation

2 cylinders with safety valve, boom angle from -1,2° to +82°.

### Slewing

3 slewing gears with axial piston motors, planetary gear, automatic brake, release by ECOS

### Engine

**Main engine:** Mercedes-Benz OM906LA, 6-cylinder Diesel, water-cooled, turbocharged, 190 kW (258 hp) at 1 800 min<sup>-1</sup> (80/1269/EEC fan rigid). Max. torque 1 100 Nm at 1 300 min<sup>-1</sup>. Fuel tank capacity: 850 l. Engine emission: EUROMOT/EPA/CARB (non road).  
**Emergency engine:** Lombardini LDW1404, 4 cylinder, diesel, watercooled, 22,5 kW (30,6 hp), 84 Nm at 2000 min<sup>-1</sup>. Fuel tank capacity : 29 l.

### Hydraulic system

7 pumps; 4 piston pumps and 3 gear pumps for all crane functions, and for tensioning the bracing rods. Thermostatically controlled oil cooler. Tank capacity: 1 620 l.

### Control system

ECOS electronic control of all movements by means of cable-connected control console or, alternatively, by remote control. Connected to the LMI and engine management system by CAN-BUS.



# Data

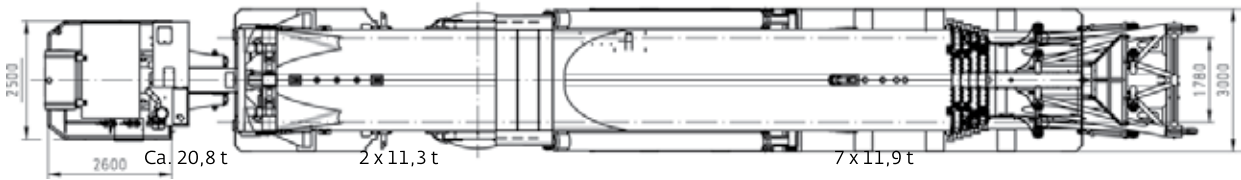
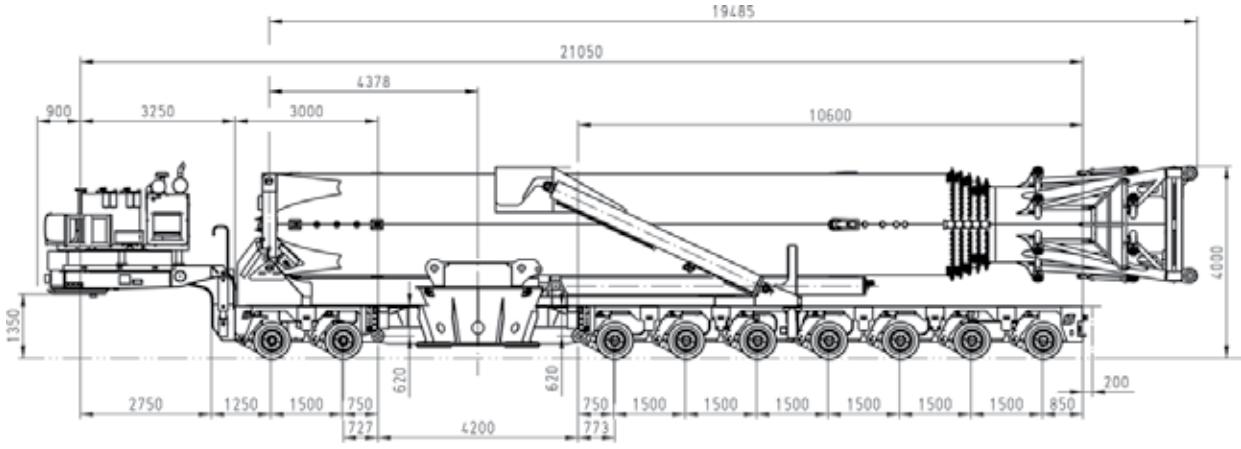


	Infinitely variable		Rope	Max. Single line pull
	0-130 m/min	Single line	24 mm/1070 m	120 kN
	0-130 m/min	Single line	24 mm/750 m	120 kN
	0-0,25 min <sup>-1</sup>			
	-1,2° to +82°	approx. 260s		
	16 m to 60 m	approx. 420s		
	24 m to 81,5 m	approx. 2400 s		



Lifting Capacity	Sheaves	Weight	Parts of line	Possible of load with the crane	
200 t D	7	2 400 kg	2-15	150 t	3 650 mm
160 t D	5	1 800 kg	2-9	95 t	3 650 mm
100 t D/E	3	1 650 kg	2-7	84 t	3 300 mm
40 t D/E	1	850 kg	1-3	36 t	3 200 mm
16 t H/B	H/B	450 kg	1	12 t	2 600 mm

# Dimensions



Tower A+B

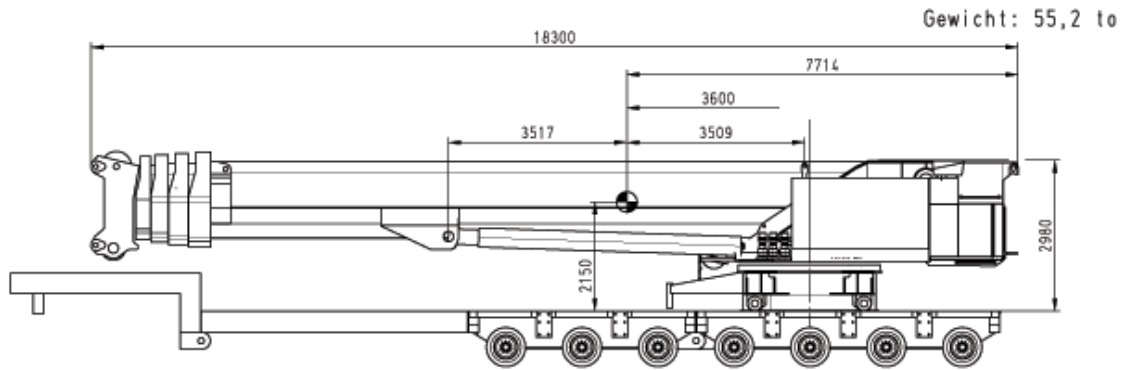
Loading  
Low-loader

89,0 t  
37,5 t  
126,5 t

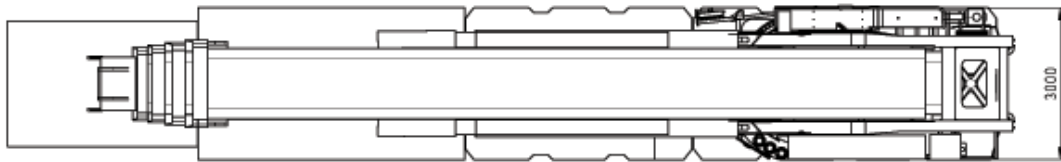




# Dimensions



Gewicht: 55,2 to

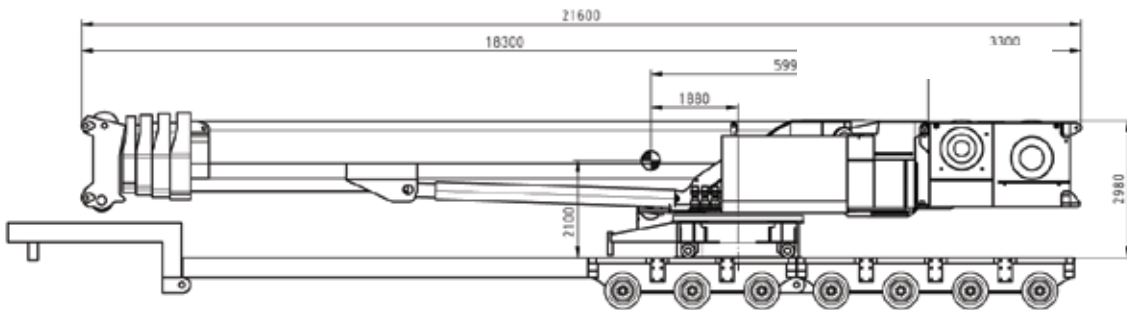


Boom C

Loading

55,2t

Gewicht: 67,7 to



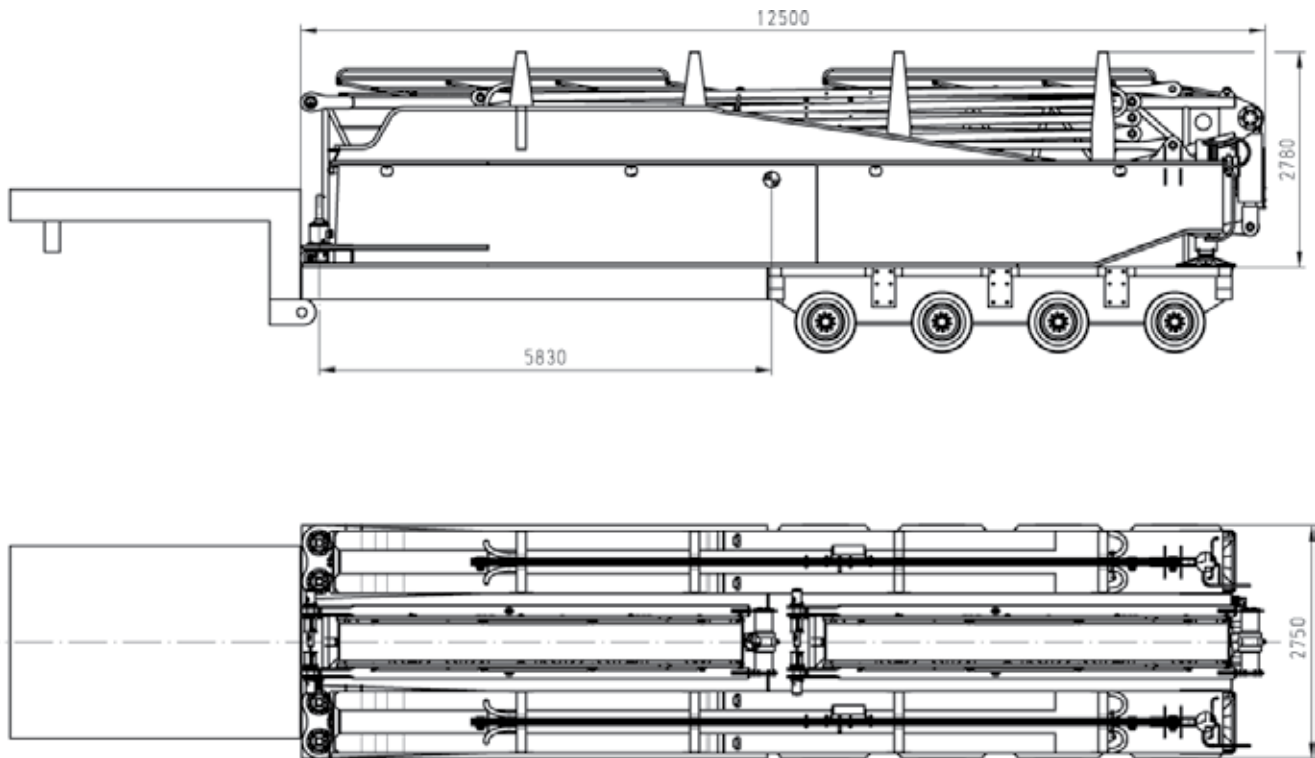
Boom C + hoist box

Loading

67,7t



## Dimensions



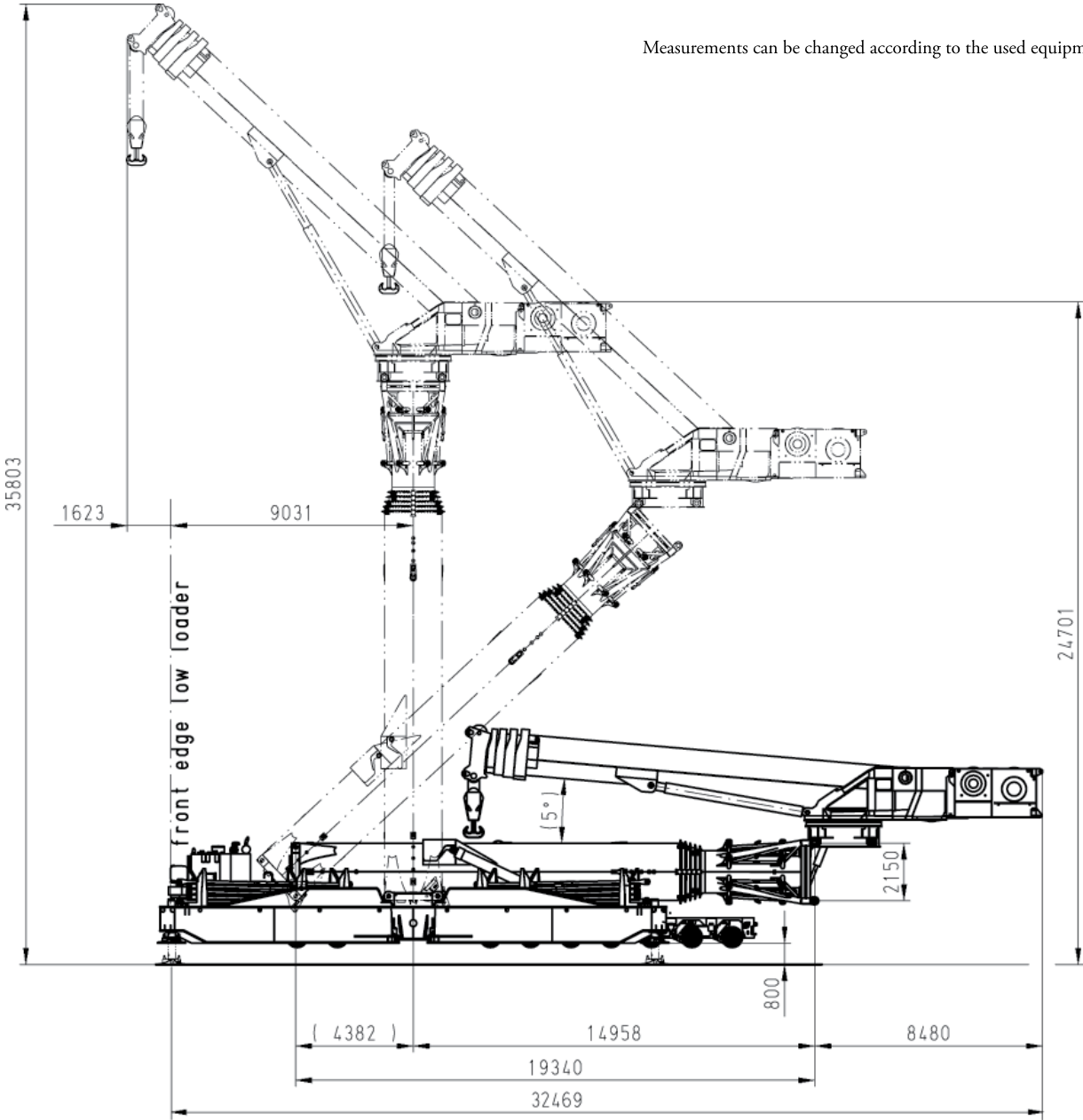
Outrigger (2x)	36,0 t
Spreader (2x)	5,0 t
<hr/>	
Loading	41,0 t
Trailer width m	3 m / 2,75



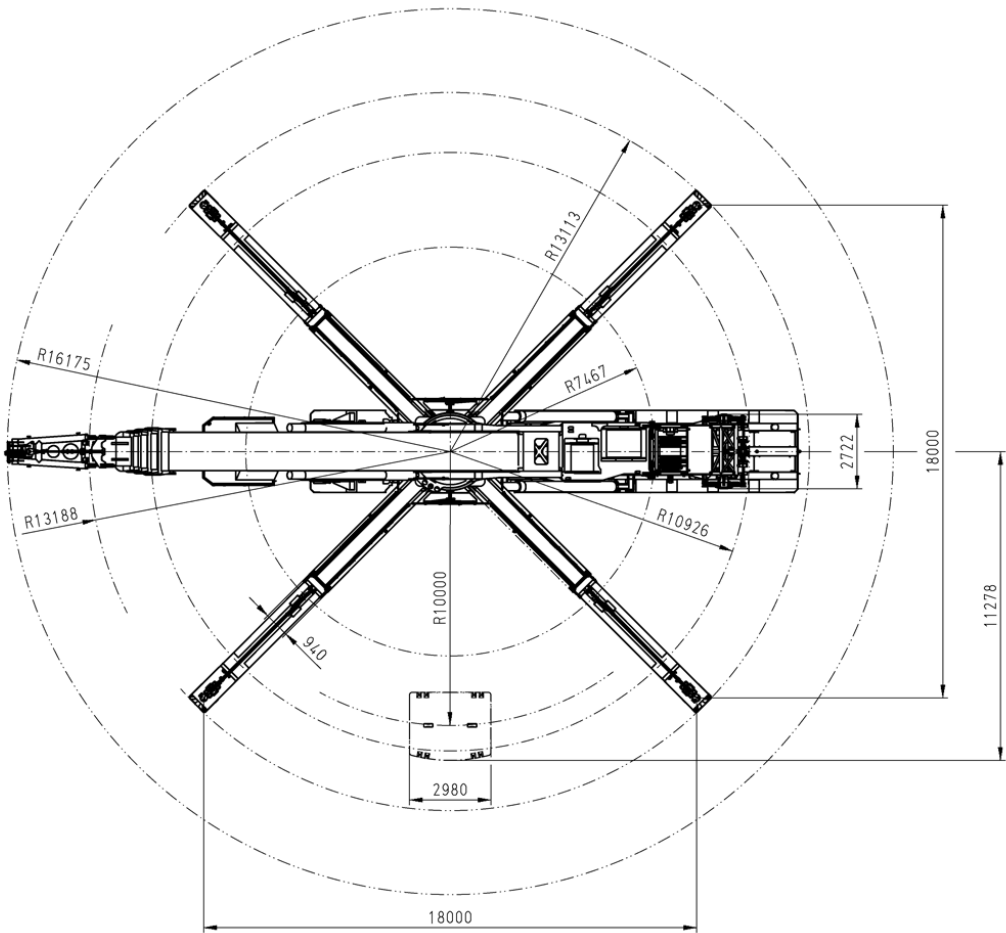


# Dimensions

Measurements can be changed according to the used equipment.



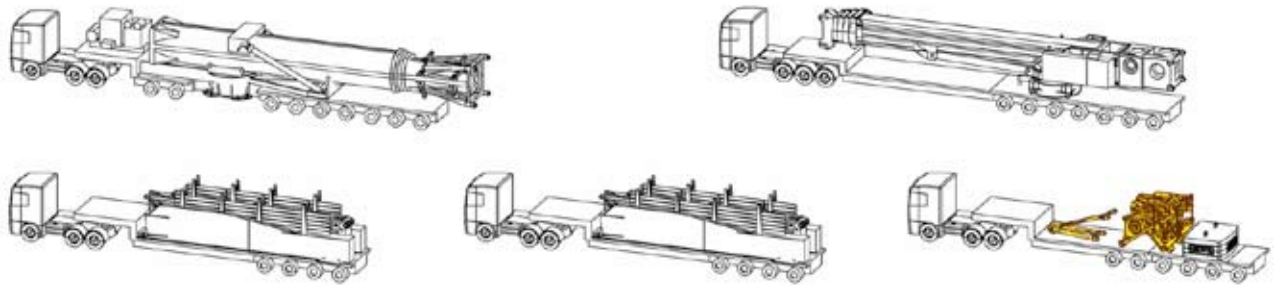
# Dimensions



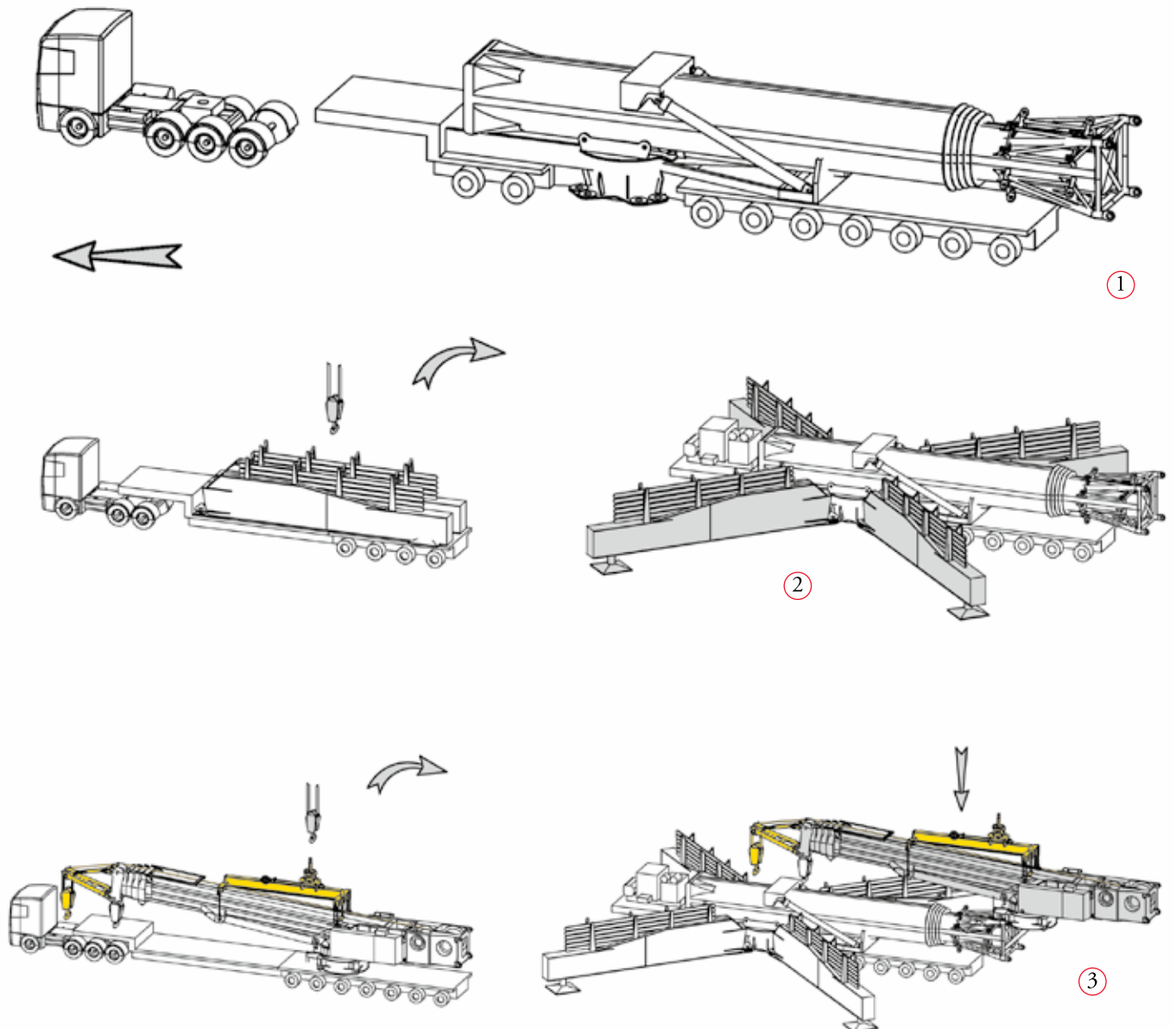
Max. possible radii during rigging



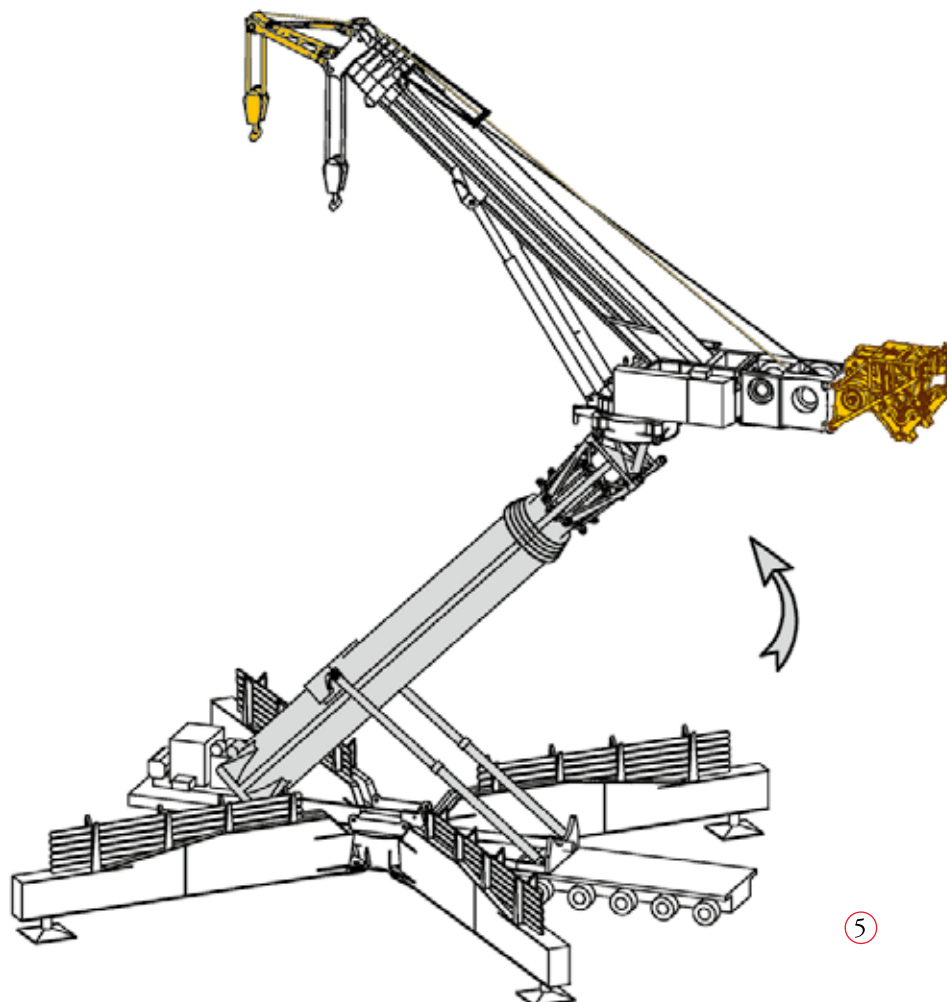
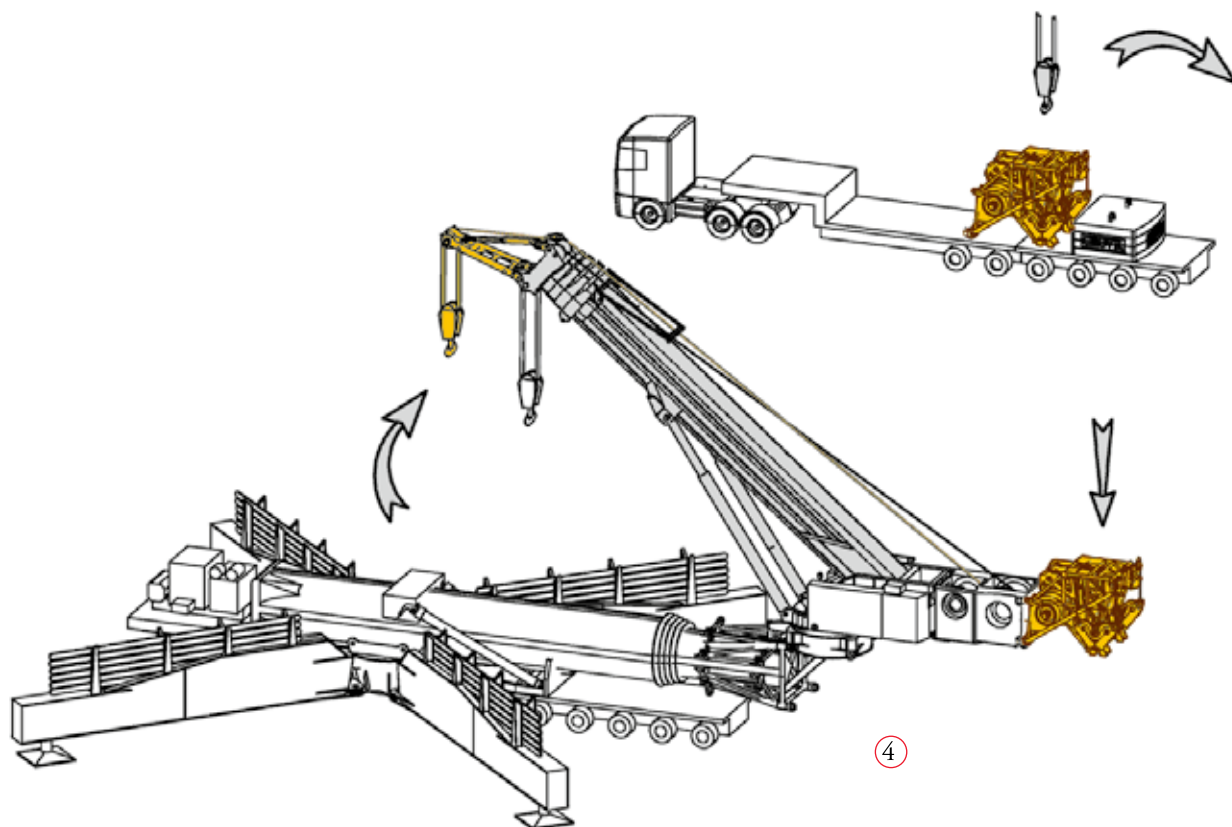
## Transport

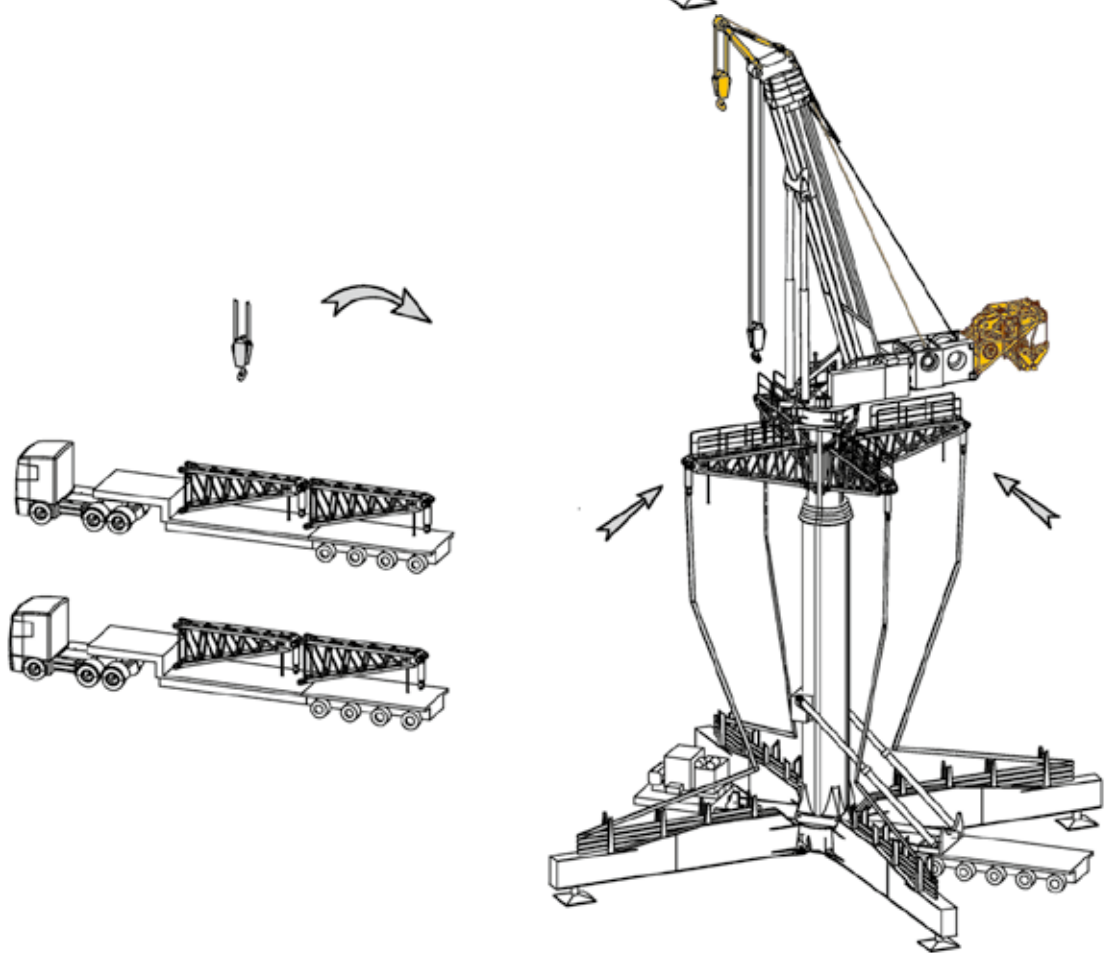
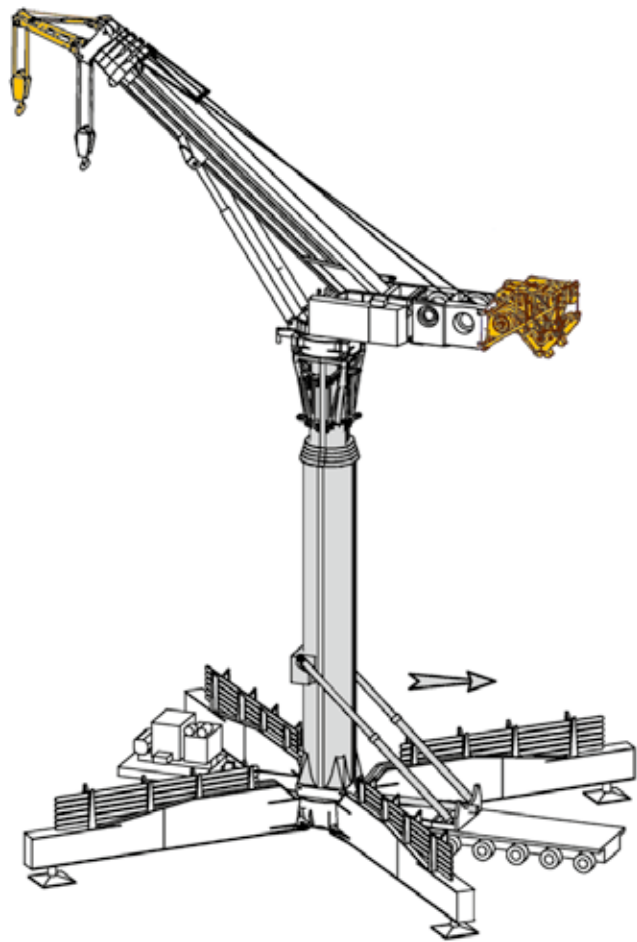


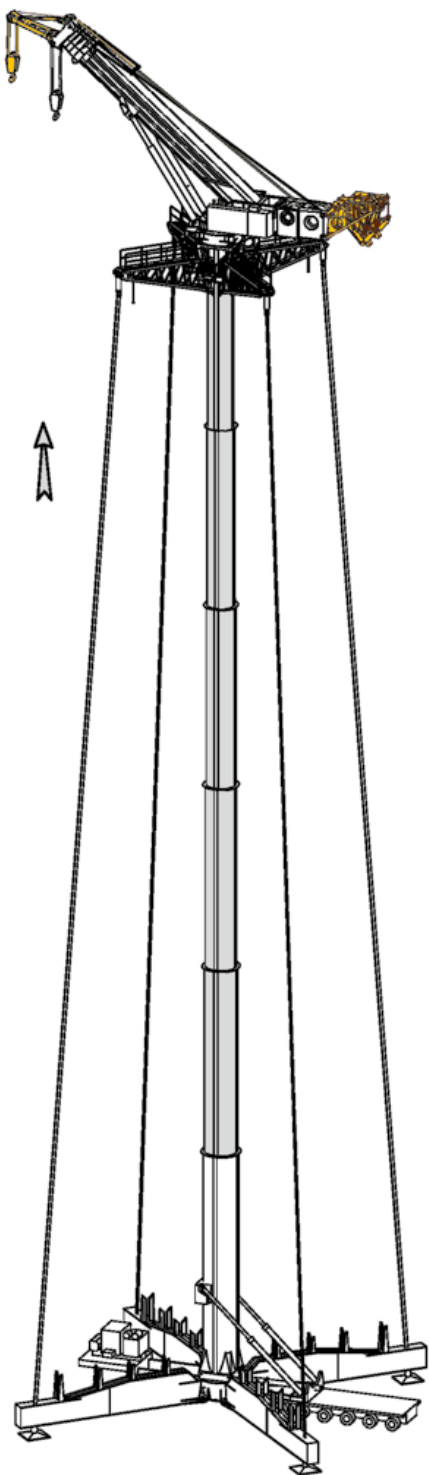
## Assembly on jobsite



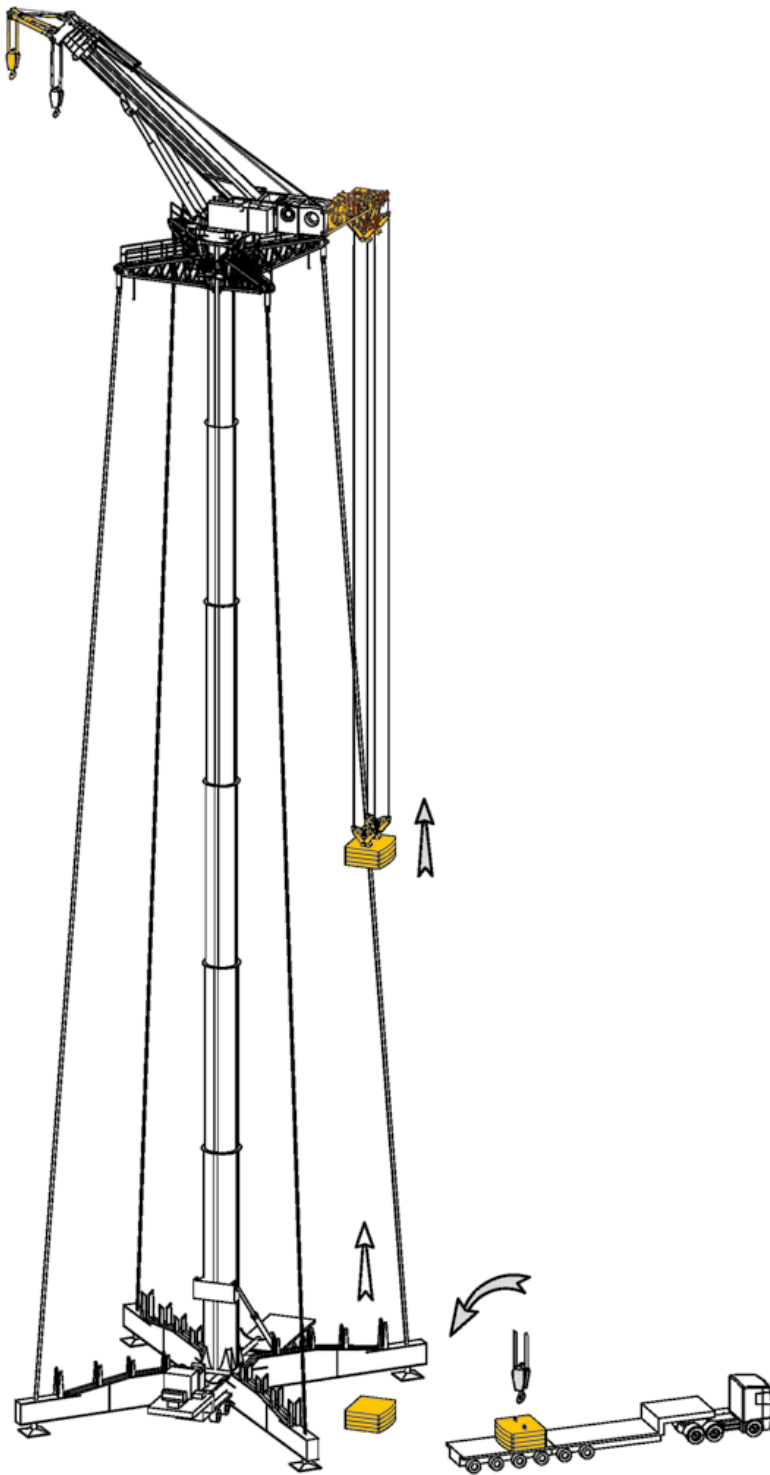
# Assembly





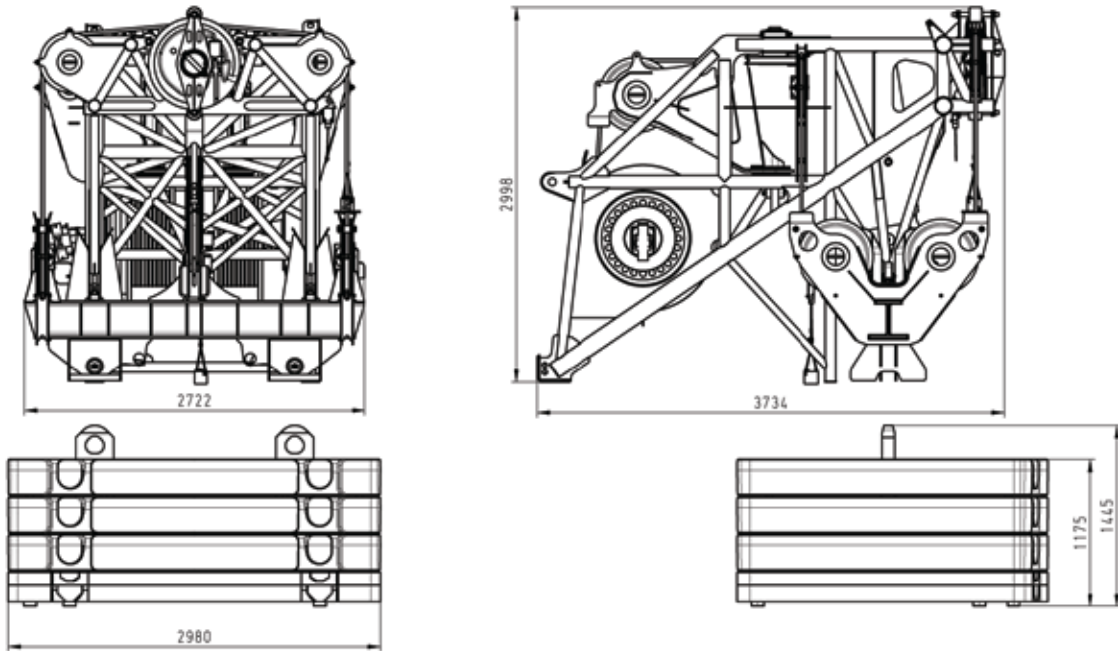


8



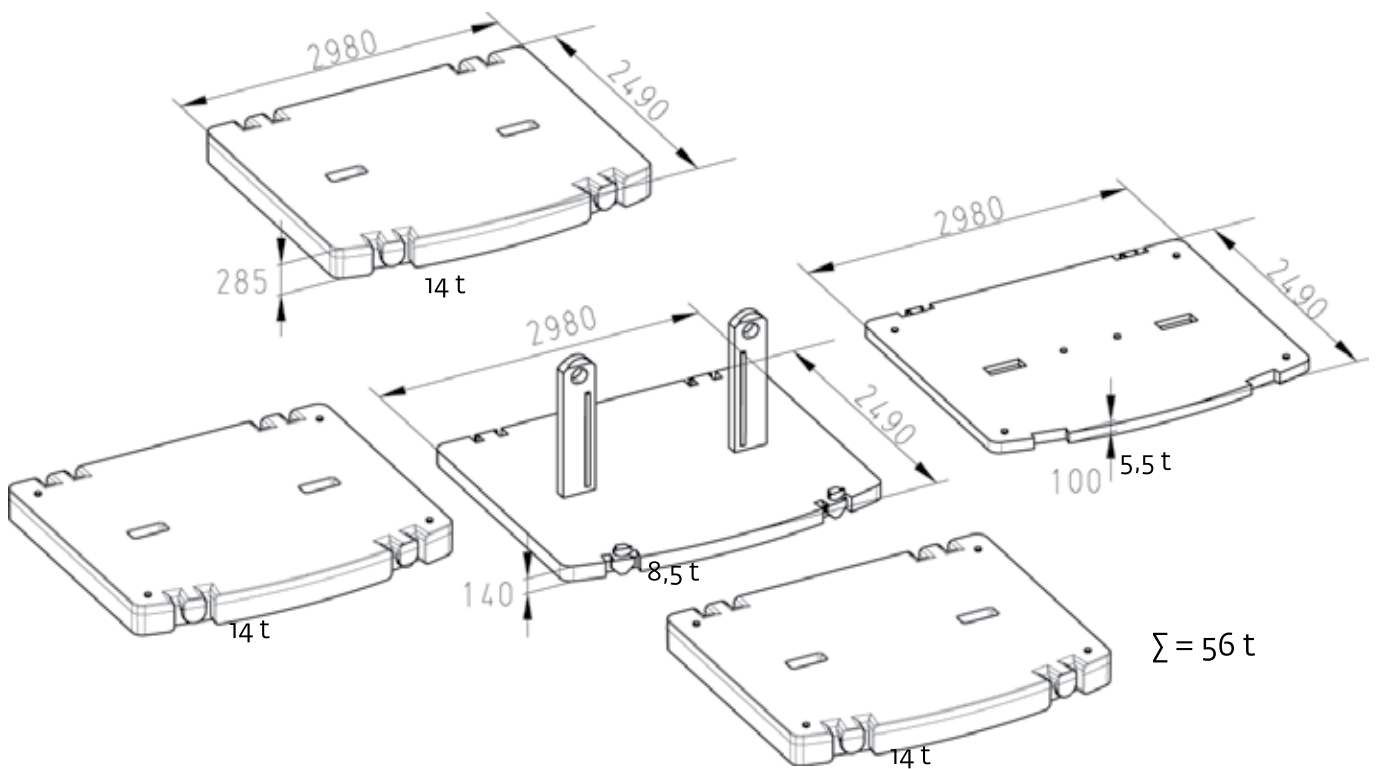
9

Megalift 1500



Counterweight frame

7,0 t



# Load charts

## Working range



16,0 - 60,0 m



18,0x18,0 m



360°



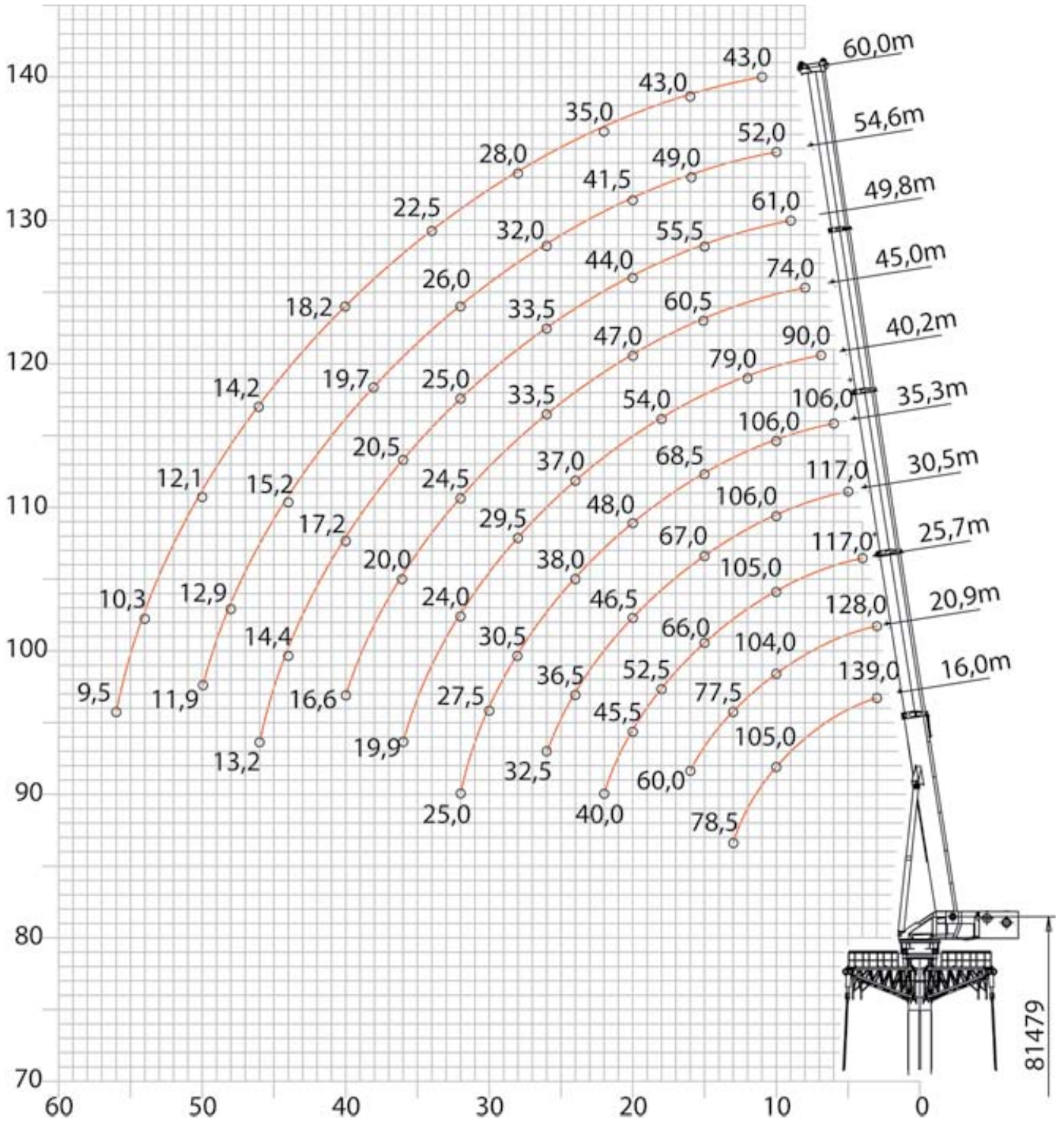
76,5 m



0 t



3650 mm





Telescopic boom



16,0 - 60,0 m



18,0x18,0 m



360°



76,5 m



0 t

m	EN 13000									
	16,02	20,85	25,68	30,50	35,33	40,15	44,98	49,80	54,63	60,00
3,0	139,0	128,0	-	-	-	-	-	-	-	-
4,0	139,0	128,0	117,0	-	-	-	-	-	-	-
5,0	139,0	128,0	117,0	117,0	-	-	-	-	-	-
6,0	139,0	128,0	117,0	117,0	106,0	-	-	-	-	-
7,0	139,0	128,0	117,0	117,0	106,0	90,0	-	-	-	-
8,0	128,0	127,0	117,0	117,0	106,0	90,0	74,0	-	-	-
9,0	117,0	116,0	117,0	117,0	106,0	90,0	74,0	61,0	-	-
10,0	105,0	104,0	105,0	106,0	106,0	89,0	74,0	61,0	52,0	-
11,0	94,5	93,5	94,5	95,5	97,0	84,0	73,5	61,0	52,0	43,0
12,0	86,0	85,0	85,5	87,0	88,0	79,0	70,5	61,0	52,0	43,0
13,0	78,5	77,5	78,5	79,5	81,0	74,5	67,0	61,0	52,0	43,0
14,0	-	71,0	72,0	73,0	74,5	70,5	63,5	58,0	52,0	43,0
15,0	-	65,0	66,0	67,0	68,5	67,0	60,5	55,5	51,5	43,0
16,0	-	60,0	61,0	62,0	63,5	63,0	57,5	53,0	49,0	43,0
18,0	-	-	52,5	53,5	55,0	54,0	51,5	47,5	45,0	41,5
20,0	-	-	45,5	46,5	48,0	47,5	47,0	44,0	41,5	38,5
22,0	-	-	40,0	41,0	42,5	41,5	42,0	40,0	38,0	35,0
24,0	-	-	-	36,5	38,0	37,0	37,0	36,5	35,0	32,5
26,0	-	-	-	32,5	34,0	33,0	33,5	33,5	32,0	30,0
28,0	-	-	-	-	30,5	29,5	30,0	30,5	30,0	28,0
30,0	-	-	-	-	27,5	27,0	27,0	27,5	27,5	26,0
32,0	-	-	-	-	25,0	24,0	24,5	25,0	26,0	24,0
34,0	-	-	-	-	-	22,0	22,0	22,5	23,5	22,5
36,0	-	-	-	-	-	19,9	20,0	20,5	21,5	20,5
38,0	-	-	-	-	-	-	18,2	18,8	19,7	19,5
40,0	-	-	-	-	-	-	16,6	17,2	18,1	18,2
42,0	-	-	-	-	-	-	-	15,7	16,6	16,8
44,0	-	-	-	-	-	-	-	14,4	15,2	15,5
46,0	-	-	-	-	-	-	-	13,2	14,0	14,2
48,0	-	-	-	-	-	-	-	-	12,9	13,1
50,0	-	-	-	-	-	-	-	-	11,9	12,1
52,0	-	-	-	-	-	-	-	-	-	11,2
54,0	-	-	-	-	-	-	-	-	-	10,3
56,0	-	-	-	-	-	-	-	-	-	9,5
Windspeed	12 m/s	11 m/s	10 m/s	9 m/s	8 m/s	7 m/s				



# Load charts

## Working range



16,0 - 60,0 m



18,0 x 18,0 m



360°



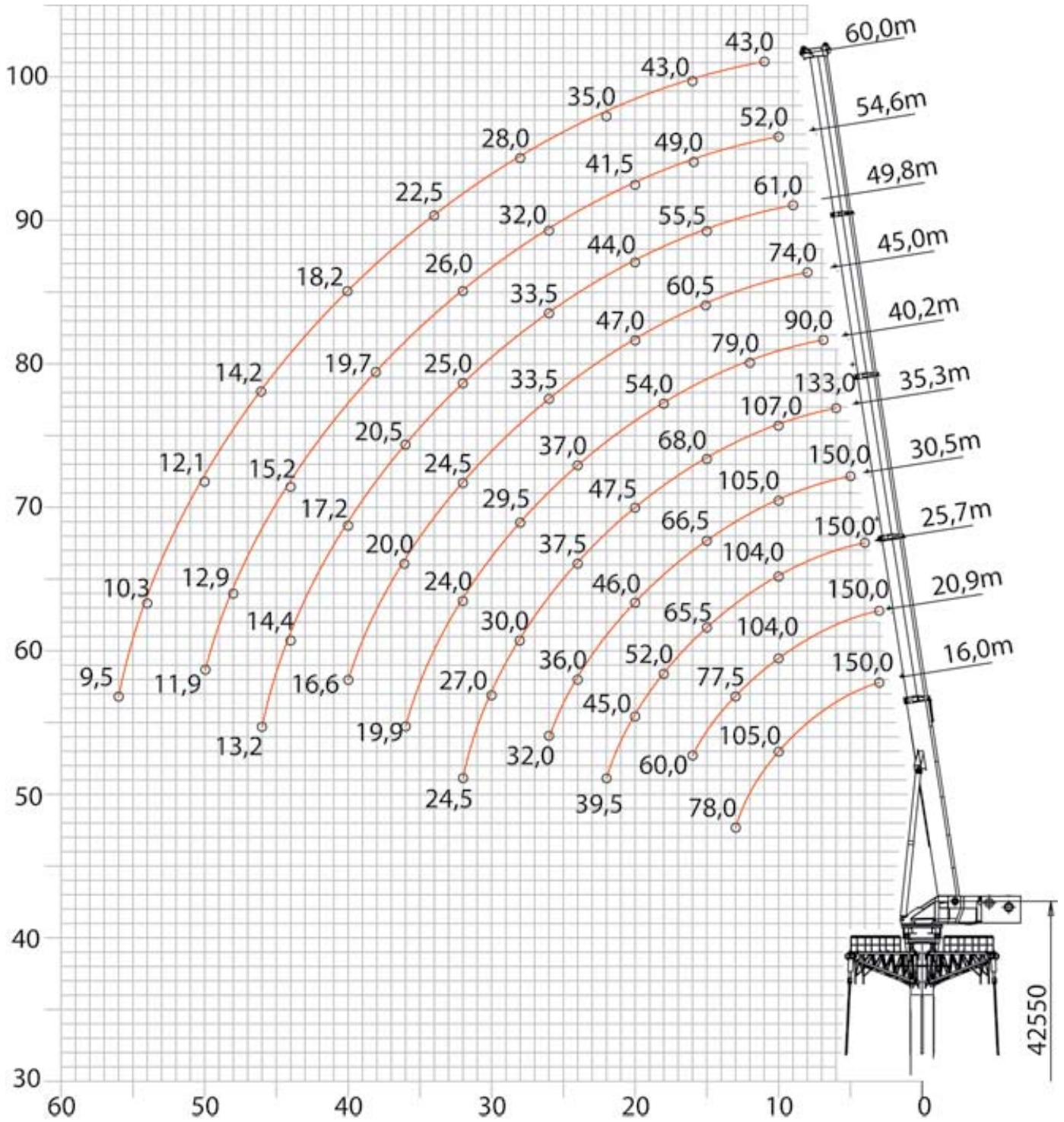
42,5 m



0 t



3650 mm



Telescopic boom



16,0 - 60,0 m



18,0x18,0 m



360°



42,5 m



0 t

		EN 13000									
		16,02	20,85	25,68	30,50	35,33	40,15	44,98	49,80	54,63	60,00
m		16,02	20,85	25,68	30,50	35,33	40,15	44,98	49,80	54,63	60,00
3,0		150,0	150,0	-	-	-	-	-	-	-	-
4,0		150,0	150,0	150,0	-	-	-	-	-	-	-
5,0		150,0	150,0	150,0	150,0	-	-	-	-	-	-
6,0		150,0	150,0	150,0	150,0	133,0	-	-	-	-	-
7,0		139,0	138,0	138,0	139,0	133,0	90,0	-	-	-	-
8,0		128,0	127,0	127,0	128,0	129,0	90,0	74,0	-	-	-
9,0		117,0	116,0	117,0	118,0	119,0	90,0	74,0	61,0	-	-
10,0		105,0	104,0	104,0	105,0	107,0	89,0	74,0	61,0	52,0	-
11,0		94,5	93,5	94,5	95,5	96,5	84,0	73,5	61,0	52,0	43,0
12,0		85,5	85,0	85,5	86,5	88,0	79,0	70,5	61,0	52,0	43,0
13,0		78,5	77,5	78,0	79,0	80,5	74,5	67,0	61,0	52,0	43,0
14,0		-	71,0	71,5	72,5	74,0	70,5	63,5	58,0	52,0	43,0
15,0		-	65,0	65,5	66,5	68,0	67,0	60,5	55,5	51,5	43,0
16,0		-	60,0	60,5	61,5	63,0	63,0	57,5	53,0	49,0	43,0
18,0		-	-	52,0	53,0	54,5	54,0	51,5	47,5	45,0	41,5
20,0		-	-	45,0	46,0	47,5	47,5	47,0	44,0	41,5	38,5
22,0		-	-	39,5	40,5	42,0	41,5	42,0	40,0	38,0	35,0
24,0		-	-	-	36,0	37,5	37,0	37,0	36,5	35,0	32,5
26,0		-	-	-	32,0	33,5	33,0	33,5	33,5	32,0	30,0
28,0		-	-	-	-	30,0	29,5	30,0	30,5	30,0	28,0
30,0		-	-	-	-	27,0	27,0	27,0	27,5	27,5	26,0
32,0		-	-	-	-	24,5	24,0	24,5	25,0	26,0	24,0
34,0		-	-	-	-	-	22,0	22,0	22,5	23,5	22,5
36,0		-	-	-	-	-	19,9	20,0	20,5	21,5	20,5
38,0		-	-	-	-	-	-	18,2	18,8	19,7	19,5
40,0		-	-	-	-	-	-	16,6	17,2	18,1	18,2
42,0		-	-	-	-	-	-	-	15,7	16,6	16,8
44,0		-	-	-	-	-	-	-	14,4	15,2	15,5
46,0		-	-	-	-	-	-	-	13,2	14,0	14,2
48,0		-	-	-	-	-	-	-	-	12,9	13,1
50,0		-	-	-	-	-	-	-	-	11,9	12,1
52,0		-	-	-	-	-	-	-	-	-	11,2
54,0		-	-	-	-	-	-	-	-	-	10,3
56,0		-	-	-	-	-	-	-	-	-	9,5
Windspeed		12 m/s	11 m/s	10 m/s	10 m/s	9 m/s	9 m/s	8 m/s	8 m/s	7 m/s	7 m/s



# Load charts

## Telescopic boom



16,0 - 60,0 m



18,0 x 18,0 m



360°



76,0 m / 42,5 m























56,0 t

m	Megalift 1500					EN 13000				
	16,02	20,85	25,68	30,50	35,33	40,15	44,98	49,80	54,63	60,00
3,0	95,0	95,0	-	-	-	-	-	-	-	-
4,0	95,0	95,0	95,0	-	-	-	-	-	-	-
5,0	95,0	95,0	95,0	95,0	-	-	-	-	-	-
6,0	95,0	95,0	95,0	95,0	95,0	-	-	-	-	-
7,0	95,0	95,0	95,0	95,0	95,0	90,0	-	-	-	-
8,0	95,0	95,0	95,0	95,0	95,0	90,0	74,0	-	-	-
9,0	95,0	95,0	95,0	95,0	95,0	90,0	74,0	61,0	-	-
10,0	95,0	95,0	95,0	95,0	95,0	89,0	74,0	61,0	52,0	-
11,0	95,0	95,0	95,0	95,0	95,0	84,0	73,5	61,0	52,0	43,0
12,0	95,0	95,0	95,0	95,0	95,0	79,0	70,5	61,0	52,0	43,0
13,0	95,0	95,0	95,0	95,0	95,0	74,5	67,0	61,0	52,0	43,0
14,0	-	95,0	95,0	95,0	95,0	70,5	63,5	58,0	52,0	43,0
15,0	-	89,5	90,5	91,0	92,5	67,0	60,5	55,5	51,5	43,0
16,0	-	84,5	85,0	86,0	87,5	63,5	57,5	53,0	49,0	43,0
18,0	-	-	76,5	77,5	78,5	57,0	51,5	47,5	45,0	41,5
20,0	-	-	68,5	70,0	71,0	52,0	47,0	44,0	41,5	38,5
22,0	-	-	53,0	62,0	63,5	47,0	42,5	40,0	38,0	35,0
24,0	-	-	-	56,0	57,5	43,5	39,0	36,5	35,0	32,5
26,0	-	-	-	46,0	52,0	40,0	35,5	33,5	32,0	30,0
28,0	-	-	-	-	47,5	37,0	33,0	31,0	30,0	28,0
30,0	-	-	-	-	41,0	34,0	30,5	28,5	27,5	26,0
32,0	-	-	-	-	29,0	31,5	28,5	26,5	26,0	24,0
34,0	-	-	-	-	-	29,5	27,0	24,5	24,0	22,5
36,0	-	-	-	-	-	26,5	25,0	23,0	22,0	20,5
38,0	-	-	-	-	-	-	23,5	21,5	21,0	19,5
40,0	-	-	-	-	-	-	21,5	20,0	19,5	18,2
42,0	-	-	-	-	-	-	-	19,1	18,4	17,2
44,0	-	-	-	-	-	-	-	18,0	17,4	16,2
46,0	-	-	-	-	-	-	-	16,0	16,4	15,2
48,0	-	-	-	-	-	-	-	-	15,6	14,4
50,0	-	-	-	-	-	-	-	-	14,8	13,5
52,0	-	-	-	-	-	-	-	-	-	12,7
54,0	-	-	-	-	-	-	-	-	-	11,8
56,0	-	-	-	-	-	-	-	-	-	11,0
Windspeed	13 m/s	11 m/s	10 m/s	9 m/s	12 m/s	10 m/s				8 m/s





# Symbols

Boom		Main hoist	
Boom elevation		Auxiliary hoist	
Boom telescoping		Hookblock/Capacity	
Slewing/Working range		Hydraulic system	
Bracing		Outriggers	
Crane functions		Radius	
Drive/Steer		Speed	
Engine		Positioning	
Carrier frame		Driveability	
Tower		Narrow track	







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The Road Freight Association

