

 **6113 R**

**SENEBOGEN**

**PRELIMINARY**  
10 / 2014



**164<sub>kW</sub> / 168<sub>kW</sub>**



**120<sub>t</sub>**



**40<sub>m</sub>**



**MAXCAB**

**6113 E**

Telescopic Crawler Crane

TIER IVf

# 6113E Technical data - equipment

## MACHINE TYPE

Model (type) 6113

## ENGINE

Model	Cummins diesel engine QSB 6.7 <b>164 kW / 223 HP at 2000 rpm</b> Emission in accordance with emission stage 3a
	Cummins diesel engine QSB 6.7 <b>168 kW / 228 HP at 2000 rpm</b> Emission in accordance with emission stage 4f
	Direct injection, turbo-charged, charge air cooling, emission reduced
Cooling	Water-cooled
Diesel filter	with water separator and heater
Air filter	Dry filter with integrated pre-separator, automatic dust discharge, main element and safety element, contamination indicator
Fuel tank	<b>540l</b>
AdBlue tank	<b>38 l</b>
Electr. system	<b>24 V</b>
Batteries	<b>2 x 155 AH</b> battery disconnect switch
Options	<ul style="list-style-type: none"> <li>■ Low-temperature package with engine pre-heating and heated diesel filter to enable operating temperatures under -20 °C</li> <li>■ Electric fuel pump</li> </ul>

## UPPERCARRIAGE

Design	Torsion-resistant box design, precision crafted, steel bushings for boom bearing arrangement. Service-friendly concept, engine installed in the longitudinal direction
Electrical	Central electrical distributor, battery disconnect switch
Cooling system	3-circuit cooling system with high cooling output, thermostatically regulated fan drive for oil cooler, electronically regulated water and charge air cooler
Safety	Camera monitoring of rear area and right side Lighting package with LED Uppercarriage railing
Options	<ul style="list-style-type: none"> <li>■ Supplemental LED headlights</li> <li>■ Up to 2 additional cameras</li> <li>■ Maritime varnishing as corrosion protection</li> <li>■ Low-temperature package for work deployments at temperatures under -20°C</li> </ul>

## Options

- Automatic central lubrication for boom pivot point, luffing cylinder, slewing gear raceway, and winch drum bearing
- Pinion lubrication for slewing ring

## HYDRAULIC SYSTEM

	Load sensing / LUDV hydraulic system, hydraulically pilot-controlled work functions, load limit sensing control
Pump type	Variable-displacement piston pump in swashplate design, load pressure-independent flow distribution for simultaneous, independent control of work functions
Pump control	Zero-stroke control, on-demand flow-control - the pumps only pump as much oil as will actually be used, pressure purging, load limit sensing control
Operating pressure	to <b>330 bar</b>
Filtration	High-performance filtration with long-term change interval
Hydraulic tank	<b>1225 l</b>
Control system	Proportional, precision hydraulic activation of work movements, 2 hydraulic servo joysticks for work functions, including winch movement indicator via vibration transducer, supplemental functions via switches and foot pedals
Safety	Hydraulic circuits with safety valves pipe fracture safety valve for luffing cylinder and telescoping cylinders
Options	<ul style="list-style-type: none"> <li>■ Bio-degradable-oil filling - ecologically worthwhile</li> <li>■ 3 µm hydraulic micro-filter SENNEBOGEN HydroClean</li> <li>■ Electrical hydraulic tank pre-warming at temperatures under -20°</li> </ul>

## SLEWING DRIVE

Gearbox	Compact planetary gear with axial piston hydraulic motor, integrated brake valves
Parking brake	Spring-loaded disk brake
Slewing ring	Externally geared slewing ring, sealed
Slewing speed	<b>0-2 rpm, variable</b>

# 6113E Technical data - equipment

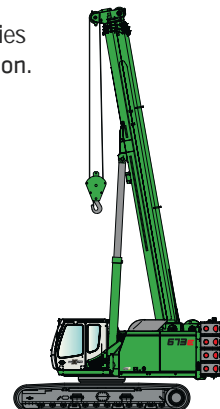
CAB <small>MAXCAB</small>	
Cab type	Spacious Maxcab, 20° tiltable
Cab equipment	Sliding door, excellent ergonomics, climate automation, seat heater, air-suspension comfort seat, fresh air filter / circulating air filter, 12 V / 24 V connections, SENCON, sun-screen for roof window
Options	<ul style="list-style-type: none"> <li>Hydraulically elevating cab E270, can be elevated by 2.70 m and tilted 30°</li> <li>Auxiliary heating system with timer</li> <li>Cab active charcoal filter</li> <li>Sliding window in the operator door</li> <li>Armored glass windshield</li> <li>Armored glass roof window</li> <li>Protective roof grating</li> <li>FOPS protective roof grating</li> <li>Radio with CD player</li> </ul>

ATTACHMENTS	
Design	Decades of experience, state-of-the-art computer simulation, highest level of stability, longest service life, large-dimensioned, low-maintenance bearing points, sealed special bearing bushes, precision-crafted
Telescopic boom	4-piece with roller head, hydraulic continuously telescopic from 12.6 - 40.2 m
Hoisting winch	Drive via axial piston hydraulic motor with compact planetary gear, pulling force 125 kN (4th layer), rope speed 0 - 115 m/min, rope diameter 26 mm, 175 m rope length. Winch movement display via vibration transducers in the joysticks
Safety brake	Spring-loaded disk brake
Crane safety	Latest generation of load moment monitoring, clearly organized panel with display of all important data via SENCON display, lifting limit switch, cable exit protection, excess pressure valves, and pipe fracture safety device with Eventrecorder
Cylinders	Hydraulic cylinders with high-quality sealing and guide elements
Options	<ul style="list-style-type: none"> <li>Fly jib 8 m, safe working load 18 t, tiltable (0°, 20°, 40°) set-up is extremely fast and easy without auxiliary devices, locked on the basic boom when not in use</li> <li>Fly jib extension to 15 m (7 m extension), safe working load 5 t, tiltable (0°, 20°, 40°), must be dismantled for transport</li> <li>Auxiliary jib: 12 t safe working load, 1-strand</li> </ul>

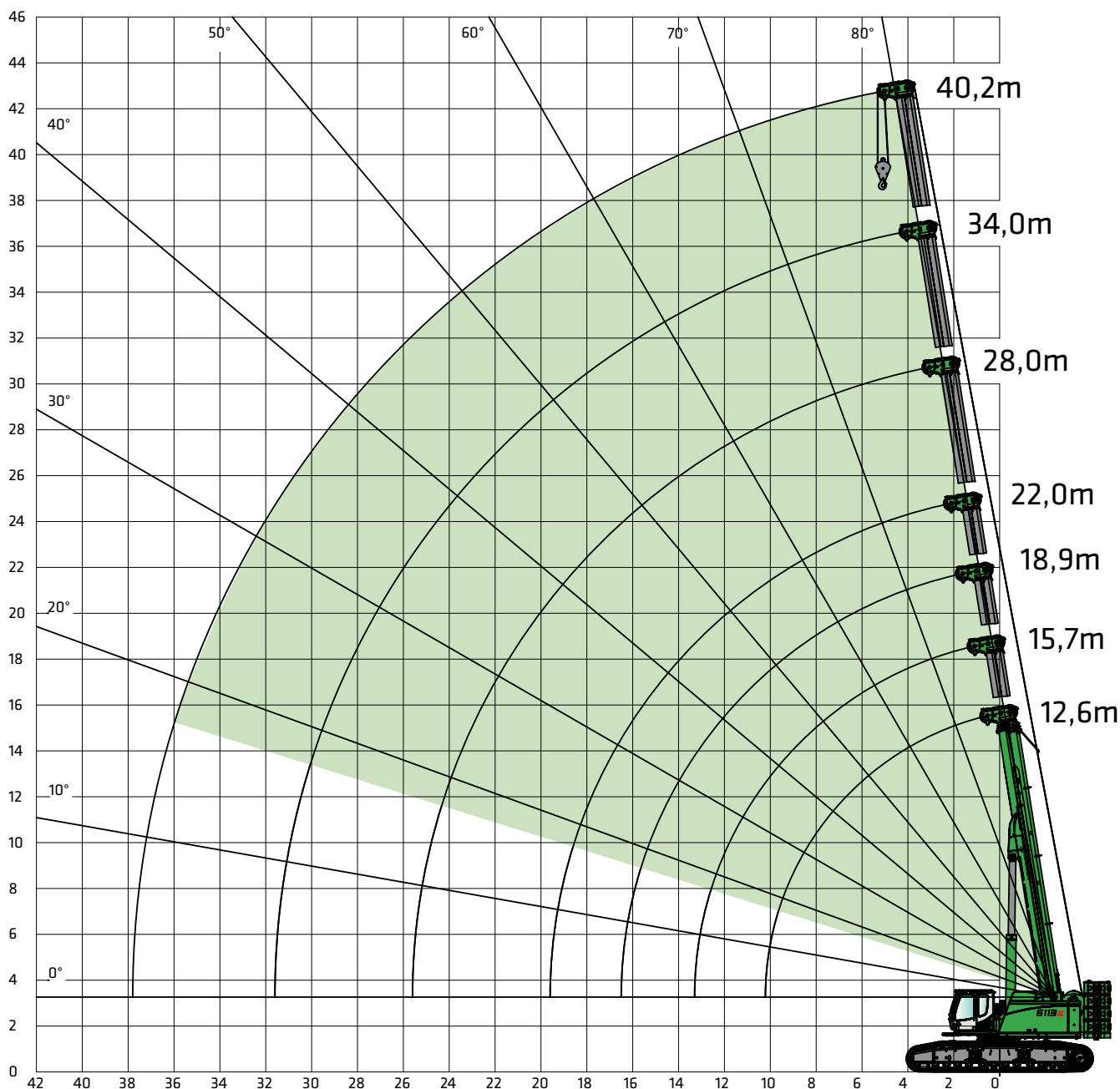
Options	<ul style="list-style-type: none"> <li>2nd crane winch: Pulling force 125 kN (4th layer), rope speed 0 - 115 m/min, rope diameter 26 mm, 175 m rope length</li> <li>Supplemental crane test of load charts with 2°/4° incline position</li> <li>Operation with elevating work platform with up to 4 m width and 1,000 kg payload</li> <li>Electro-hydraulic emergency unit 3 kW Remote radio control</li> </ul>
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UNDERCARRIAGE	
Design	Crawler undercarriage <b>T119/540</b> with hydraulically extendable track width. Stable welded construction.
Drive	Independent acting travel drives for each side, 2-stage hydraulic traction motors
Parking brake	Spring-loaded, hydraulically releasable multiple disk brake, activated via foot pedal
Travelling gear	900 mm 3-grouser base plates, maintenance-free crawler B8b
Speed	<b>0 - 2.5 km/h</b>
Options	Base plates with the following equipment: <ul style="list-style-type: none"> <li>800 mm triple bar shoes</li> <li>900 mm triple bar shoes</li> <li>800 mm flat shoes</li> </ul>

OPERATING WEIGHT	
Mass	<b>approximately 112,000 kg</b> with telescopic boom 40,2 m, fly boom 8 m, 80 t hook, triple bar shoes 900 mm, 2 hoisting winches, hydraulically telescoping undercarriage, ballast 33 t
Note	The operating weight varies depending on configuration.



# 6113E Crane Equipment Main boom



1. The rated loads shown are based on the machine on firm level ground ( $\pm 0,3^\circ$ ) without travelling.
2. The rated loads shown are in metric tons valid for 360 degrees swing.
3. The rated loads are according to EN 13000.
4. The rated loads shown include the weight of all lifting attachments, such as hook and bucket.
5. The rated loads shown are valid for maximum undercarriage track width (5,4 m).
6. The users must derate or limit lifted loads to allow for adverse conditions such as soft or uneven ground, out of level conditions, wind, side loads, inexperience of personnel and travelling with a load.
7. Max. single line pull for crane operation for rope diameter 26 mm - 12.500 kg.
8. The lifting capacities above are for reference only. For actual lifting capacities please refer to load chart in operator's manual.

4 Subject to technical modification.

# 6113E Lift capacities

Main boom - counterweight 33,0 t - carbody counterweight 0,0 t

Radius [m]	boom length [m]						
	12,6	15,7	18,9	22,0	28,0	34,0	40,2
2,0							
2,5	120,0						
3,0	100,0						
4,0	84,0	69,0	66,0	52,0			
5,0	75,0	69,0	61,4	52,0	37,0	30,0	
6,0	70,0	67,0	54,0	48,4	37,0	29,8	21,0
7,0	60,0	59,0	48,3	43,3	36,2	28,5	21,0
8,0	52,0	50,0	43,4	38,8	33,7	27,0	20,0
9,0	45,0	45,0	39,3	35,2	31,0	25,2	19,4
10,0	40,0	39,9	36,0	32,1	28,2	23,4	18,6
12,0		30,8	30,5	27,1	24,4	20,4	16,6
14,0			23,9	23,2	21,1	17,9	14,8
16,0			19,3	19,1	18,4	15,9	13,3
18,0				15,7	16,2	14,3	12,0
20,0					14,0	12,9	10,8
22,0					12,0	11,6	9,8
24,0					10,3	10,7	9,0
26,0						9,4	8,2
28,0						8,2	7,6
30,0						7,2	7,0
32,0							6,4
34,0							5,7
36,0							5,1
38,0							
40,0							
<b>Parts reeving</b>	<b>10</b>	<b>8</b>	<b>8</b>	<b>7</b>	<b>5</b>	<b>4</b>	<b>3</b>
I	0%	33%	66%	100%	100%	100%	100%
II	0%	0%	0%	0%	33%	66%	100%
III	0%	0%	0%	0%	33%	66%	100%
When the jib is mounted at the basic mainboom the rated loads have to be reduced.							
Reduction of load [kg]	<b>770</b>	<b>610</b>	<b>510</b>	<b>430</b>	<b>340</b>	<b>280</b>	<b>240</b>

1. The rated loads shown are based on the machine on firm level ground ( $\pm 0,3^\circ$ ) without travelling.
2. The rated loads shown are in metric tons valid for 360 degrees swing.
3. The rated loads are according to EN 13000.
4. The rated loads shown include the weight of all lifting attachments, such as hook and bucket.
5. The rated loads shown are valid for maximum undercarriage track width (5,4 m).
6. The users must derate or limit lifted loads to allow for adverse conditions such as soft or uneven ground, out of level conditions, wind, side loads, inexperience of personnel and travelling with a load.
7. Max. single line pull for crane operation for rope diameter 26 mm - 12.500 kg.
8. The lifting capacities above are for reference only. For actual lifting capacities please refer to load chart in operator's manual.

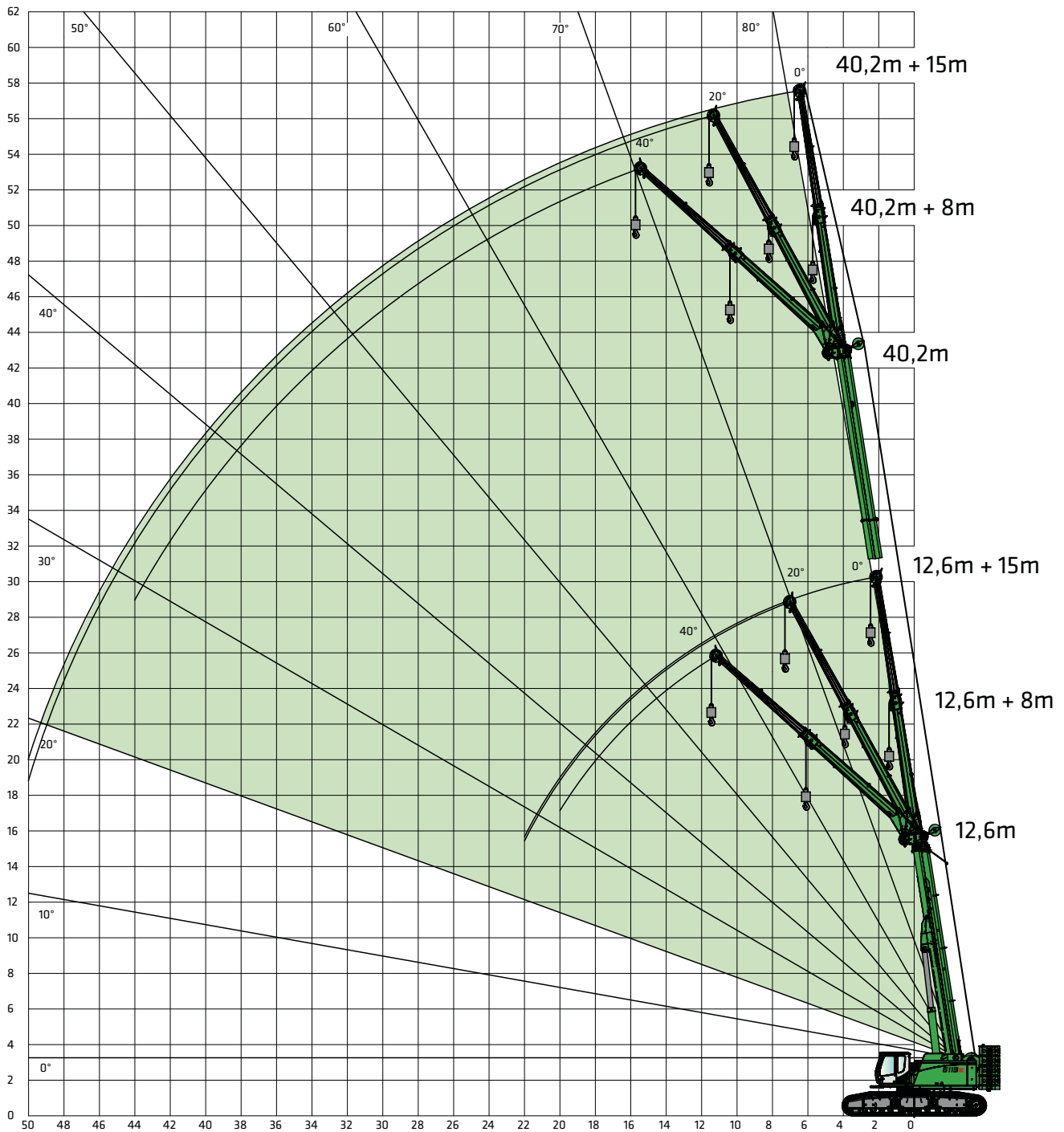
# 6113E Lift capacities

Auxiliary jib - counterweight 33,0 t - carbody counterweight 0,0 t

Radius [m]	boom length [m]						
	12,6	15,7	18,9	22,0	28,0	34,0	40,2
2,0							
2,5							
3,0	12,5	12,5					
4,0	12,5	12,5	12,5	12,5			
5,0	12,5	12,5	12,5	12,5	12,5	12,5	
6,0	12,5	12,5	12,5	12,5	12,5	12,3	
7,0	12,5	12,5	12,5	12,5	12,5	12,2	11,8
8,0	12,5	12,5	12,5	12,5	12,5	12,1	11,7
9,0	12,5	12,5	12,5	12,5	12,4	12,0	11,5
10,0	12,5	12,5	12,5	12,5	12,3	11,9	11,4
12,0		12,5	12,5	12,5	12,3	11,8	11,3
14,0			12,5	12,5	12,3	11,8	11,1
16,0			12,5	12,5	12,3	11,7	10,8
18,0				12,5	12,3	11,7	10,3
20,0					12,3	11,5	9,5
22,0					12,1	10,6	8,7
24,0					10,4	9,8	8,0
26,0						9,0	7,4
28,0						8,3	6,9
30,0						7,2	6,4
32,0							5,9
34,0							5,5
36,0							5,1
38,0							
40,0							
Parts reeving	1	1	1	1	1	1	1
I	0%	33%	66%	100%	100%	100%	100%
II	0%	0%	0%	0%	33%	66%	100%
III	0%	0%	0%	0%	33%	66%	100%
When the jib is mounted at the basic mainboom the rated loads have to be reduced.							
Reduction of load [kg]	770	610	510	430	340	280	240

1. The rated loads shown are based on the machine on firm level ground ( $\pm 0,3^\circ$ ) without travelling.
2. The rated loads shown are in metric tons valid for 360 degrees swing.
3. The rated loads are according to EN 13000.
4. The rated loads shown include the weight of all lifting attachments, such as hook and bucket.
5. The rated loads shown are valid for maximum undercarriage track width (5,4 m).
6. The users must derate or limit lifted loads to allow for adverse conditions such as soft or uneven ground, out of level conditions, wind, side loads, inexperience of personnel and travelling with a load.
7. Max. single line pull for crane operation for rope diameter 26 mm - 12.500 kg.
8. The lifting capacities above are for reference only. For actual lifting capacities please refer to load chart in operator's manual.

# 6113E Crane equipment Fly jib



1. The rated loads shown are based on the machine on firm level ground ( $\pm 0,3^\circ$ ) without travelling.
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8. The lifting capacities above are for reference only. For actual lifting capacities please refer to load chart in operator's manual.

# 6113E Lift capacities

Fly jib 8 m - counterweight 33,0 t - carbody counterweight 0,0 t

Radius [m]	main boom length [m]														
	12,6			22,0			28,0			34,2			40,2		
	8,0			8,0			8,0			8,0			8,0		
	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°
5,0	15,4	10,9		18,0			17,5								
6,0	14,0	10,2	8,1	16,5			16,5								
7,0	12,8	9,7	7,8	15,5	10,5		15,6	10,3		14,2					
8,0	11,8	9,2	7,5	14,5	10,1	7,8	14,7	10,1		13,7					
9,0	10,9	8,7	7,2	13,6	9,7	7,6	14,0	9,8	7,6	13,1	9,5		11,8		
10,0	10,2	8,3	6,9	12,8	9,3	7,4	13,3	9,5	7,4	12,6	9,3	7,3	11,4		
12,0	9,0	7,5	6,4	11,5	8,7	7,0	12,1	8,9	7,1	11,7	8,8	7,0	10,8	8,4	
14,0	8,0	7,1	6,1	10,4	8,2	6,6	11,0	8,4	6,7	10,9	8,3	6,7	10,2	8,0	6,5
16,0	7,2	6,7		9,5	7,7	6,3	10,2	8,0	6,5	10,2	8,0	6,4	9,6	7,7	6,3
18,0				8,7	7,3	6,1	9,5	7,6	6,3	9,5	7,6	6,2	9,1	7,4	6,1
20,0				8,1	7,0	5,9	8,8	7,3	6,0	9,0	7,3	6,0	8,5	7,1	5,9
22,0				7,5	6,7		8,2	7,0	5,8	8,4	7,0	5,8	8,0	6,9	5,8
24,0				7,0	6,5		7,7	6,7	5,7	8,0	6,8	5,7	7,4	6,6	5,6
26,0							7,3	6,5	5,6	7,5	6,6	5,5	6,8	6,4	5,5
28,0							6,9	6,4		7,2	6,4	5,4	6,3	6,2	5,3
30,0							6,6	6,2		6,8	6,2	5,3	5,8	5,8	5,2
32,0							6,4			6,5	6,1		5,4	5,5	5,2
34,0										5,9	6,0		5,0	5,1	5,1
36,0										5,2	5,4		4,7	4,7	4,8
38,0										4,6			4,3	4,4	
40,0													4,0	4,1	
42,0													3,6	3,7	
44,0													3,2		
46,0															
48,0															
50,0															
52,0															
54,0															
Parts reeving	2	2	1	2	2	1	2	2	1	2	2	1	2	2	1
I	0%			100%			100%			100%			100%		
II	0%			0%			33%			66%			100%		
III	0%			0%			33%			66%			100%		

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- Max. single line pull for crane operation for rope diameter 26 mm - 12.500 kg.
- The lifting capacities above are for reference only. For actual lifting capacities please refer to load chart in operator's manual.

8 Subject to technical modification.



# 6113E Lift capacities

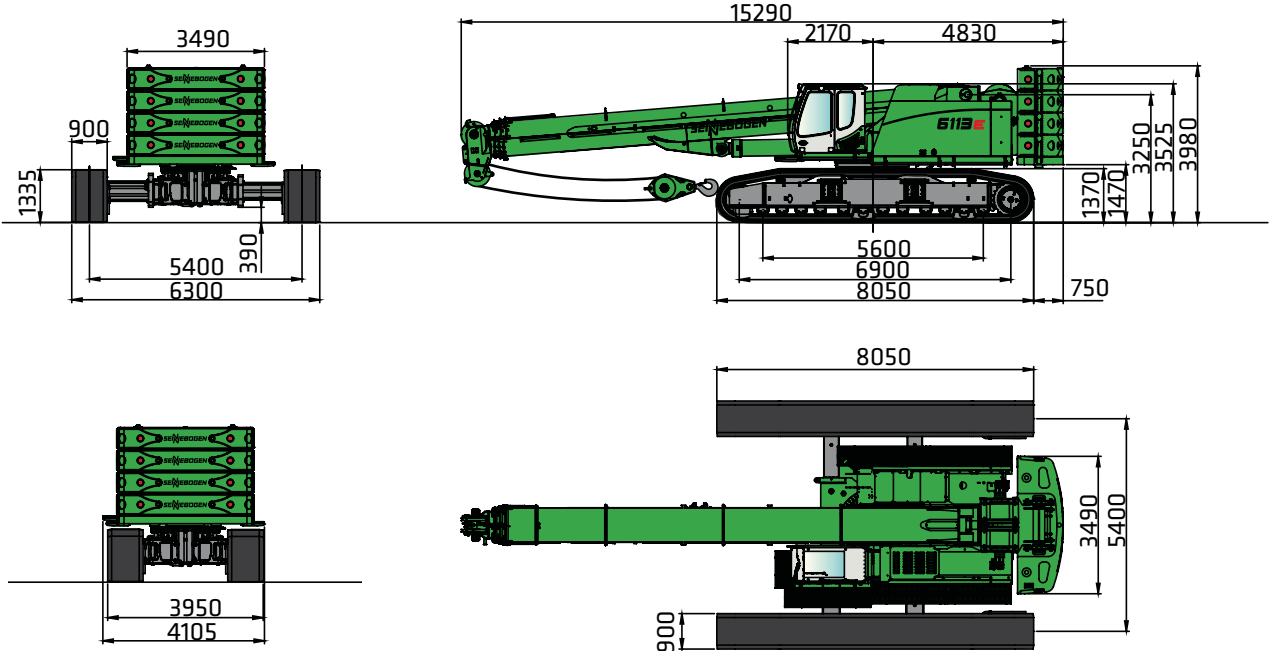
Fly Jib 15 m - Counterweight 33,0 t - Carbody counterweight 0,0 t

Radius [m]	main boom length [m]														
	12,6			22,0			28,0			34,2			40,2		
	15,0			15,0			15,0			15,0			15,0		
	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°
5,0	5,7			5,5											
6,0	5,5			5,4			5,2								
7,0	5,4			5,3			5,1								
8,0	5,3			5,3			5,0			4,6					
9,0	5,2	4,1		5,2			5,0			4,5			4,1		
10,0	5,0	4,0		5,1	4,1		4,9			4,5			4,0		
12,0	4,8	3,8		4,9	3,9		4,8	3,9		4,4			4,0		
14,0	4,4	3,6	3,0	4,7	3,7		4,6	3,7		4,3	3,7		3,9		
16,0	4,1	3,4	2,9	4,5	3,6	2,9	4,5	3,6	2,9	4,2	3,5		3,8	3,3	
18,0	3,8	3,2	2,8	4,3	3,4	2,9	4,3	3,4	2,9	4,1	3,4	2,8	3,7	3,2	
20,0	3,5	3,0	2,7	4,0	3,2	2,8	4,1	3,3	2,8	3,9	3,3	2,7	3,6	3,2	2,7
22,0	3,3	2,9	2,6	3,8	3,1	2,7	3,9	3,2	2,7	3,8	3,2	2,7	3,5	3,1	2,6
24,0	3,1	2,8	2,6	3,6	3,0	2,6	3,7	3,1	2,7	3,7	3,1	2,6	3,4	3,0	2,6
26,0	2,9	2,7	2,5	3,4	2,9	2,6	3,5	3,0	2,6	3,5	3,0	2,6	3,3	2,9	2,5
28,0	2,8	2,6		3,2	2,8	2,5	3,4	2,9	2,5	3,4	2,9	2,5	3,2	2,8	2,5
30,0				3,1	2,7	2,5	3,2	2,8	2,5	3,3	2,8	2,5	3,1	2,7	2,4
32,0				2,9	2,6	2,4	3,1	2,7	2,4	3,1	2,7	2,4	3,0	2,7	2,4
34,0				2,8	2,6	2,4	3,0	2,6	2,4	3,0	2,6	2,4	2,9	2,6	2,3
36,0				2,7	2,5		2,9	2,6	2,4	2,9	2,6	2,3	2,9	2,5	2,3
38,0				2,6	2,5		2,8	2,5	2,3	2,8	2,5	2,3	2,8	2,5	2,2
40,0							2,7	2,5		2,7	2,5	2,3	2,7	2,4	2,2
42,0							2,6	2,5		2,6	2,4	2,2	2,6	2,4	2,2
44,0							2,5	2,5		2,6	2,4	2,2	2,6	2,3	2,2
46,0										2,5	2,4		2,5	2,3	2,2
48,0										2,4	2,4		2,4	2,3	2,2
50,0													1,8	2,1	
52,0													1,5	1,7	
54,0															
Parts reeving	2	2	1	2	2	1	2	2	1	2	2	1	2	2	1
I	0%			100%			100%			100%			100%		
II	0%			0%			33%			66%			100%		
III	0%			0%			33%			66%			100%		

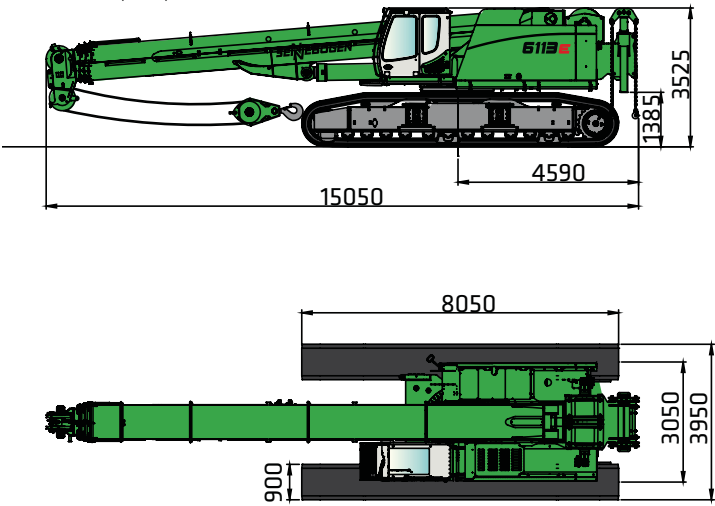
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# 6113E Transport dimensions and weights

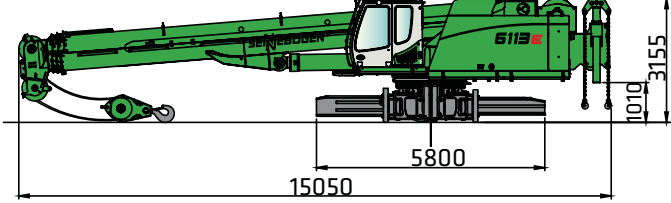
Weight: approx. 112 t (2 winches, 8 m fly jib, 80 t hook, 33 t counterweight, 900 mm triple-bar-shoes)  
Transport width: 4 m



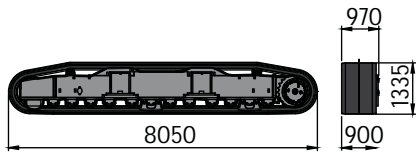
Weight: approx. 78,6 t (2 winches, 8 m fly jib, 80 t hook, without counterweight, 900 mm triple-bar-shoes)  
Transport width: 4 m



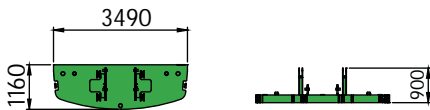
Weight: approx. 46,5 t (2 winches, 8 m fly jib, 80 t hook)  
Transport width: 3m



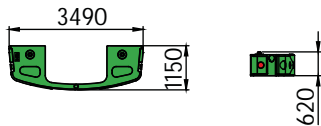
# 6113E Transport dimensions and weights



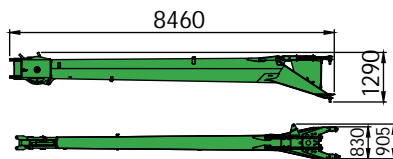
Crawler 2x  
Weight: 15600 kg



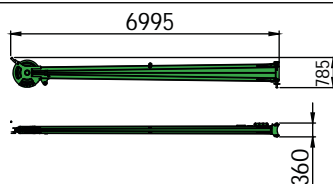
Base plate for cour  
Weight: 5400 kg



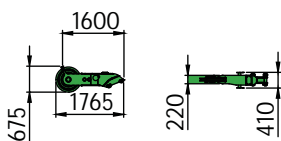
Counterweight 4x  
Weight: 6980 kg



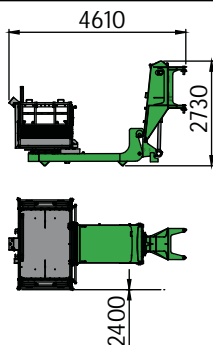
Fly jib 8m  
Weight: 900 kg



Fly jib extension 7m  
Weight: 300 kg

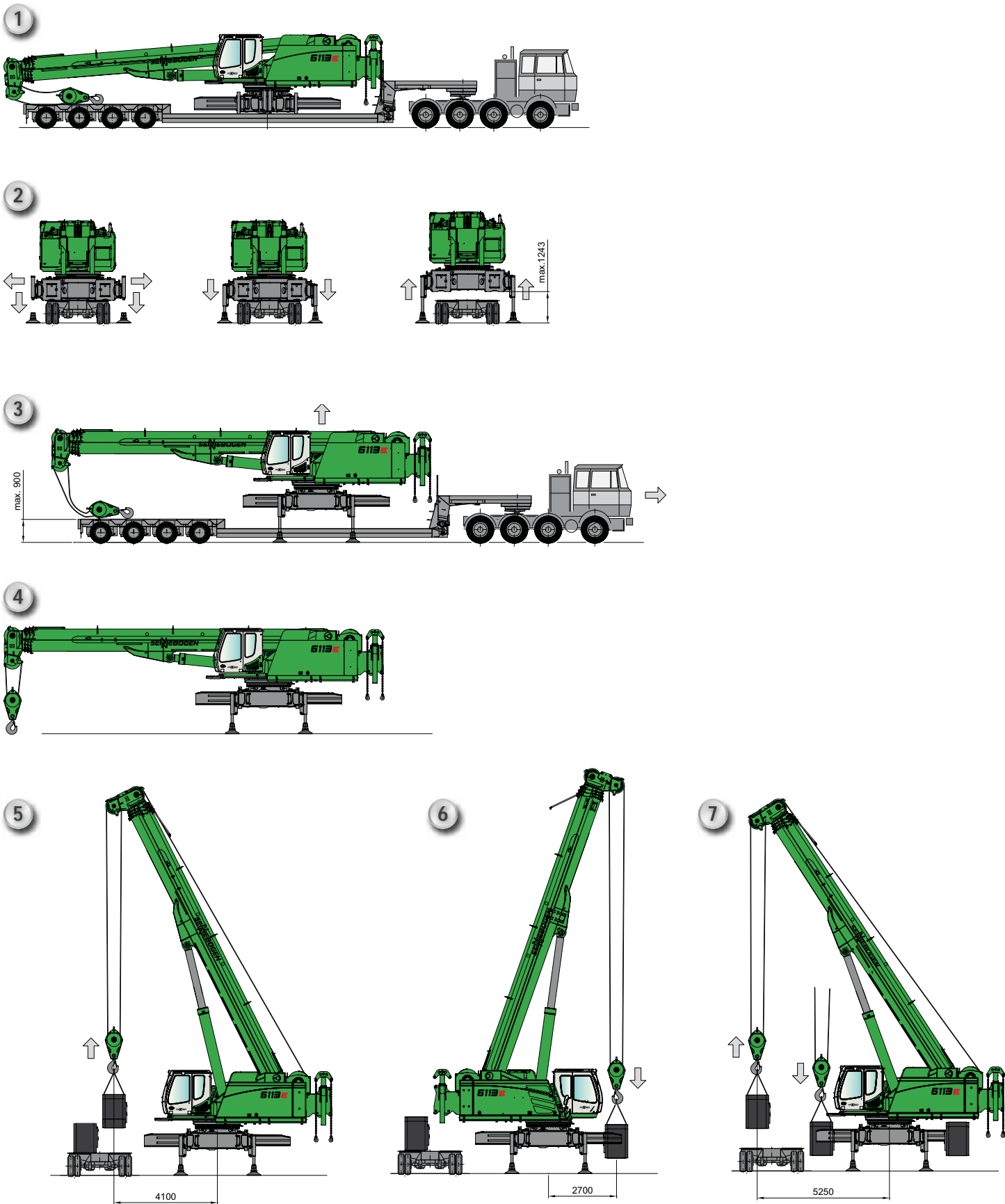


Auxiliary jib  
Weight: 160 kg

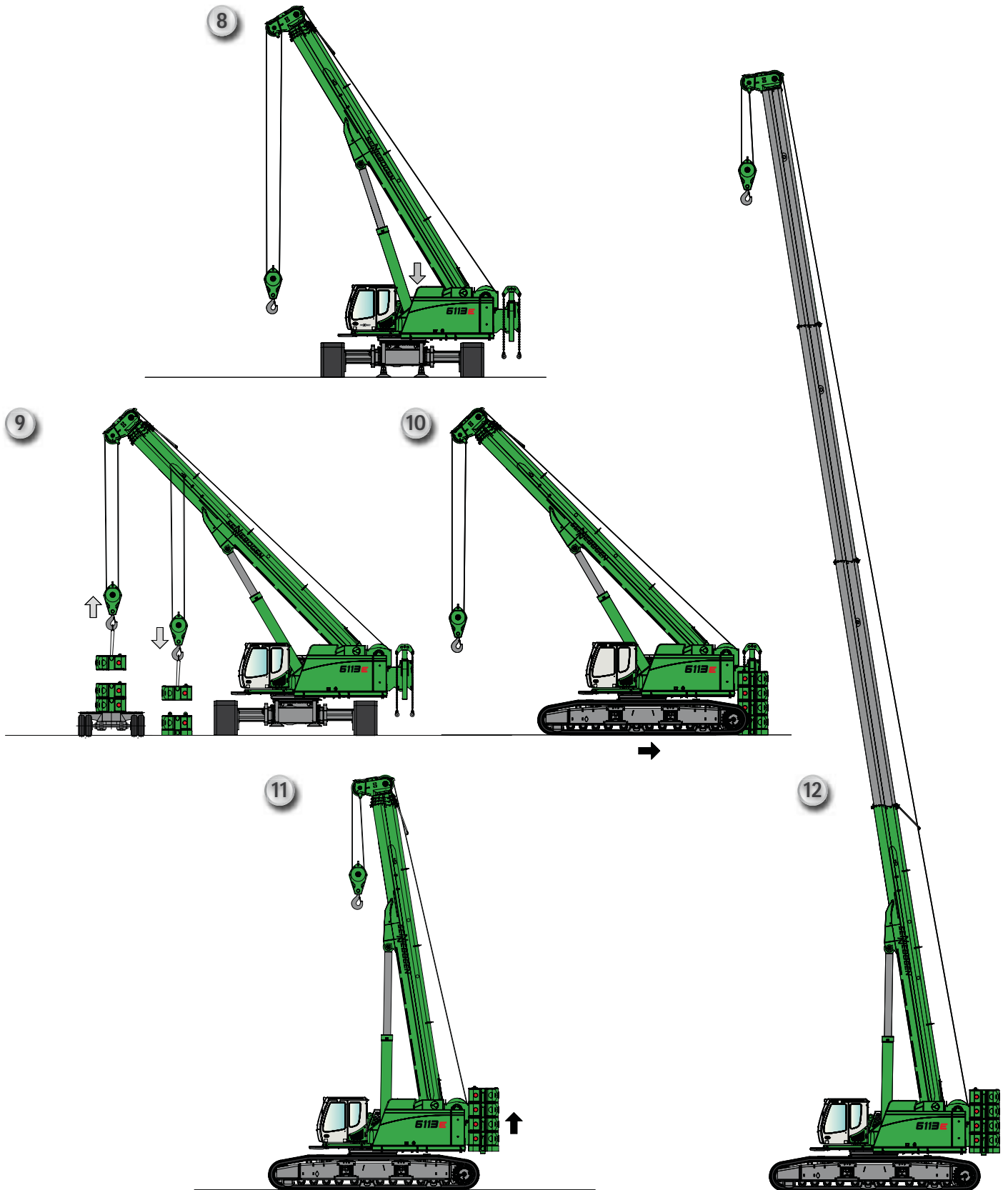


Working platform  
Weight: 2460 kg

# 6113E Self assembly system

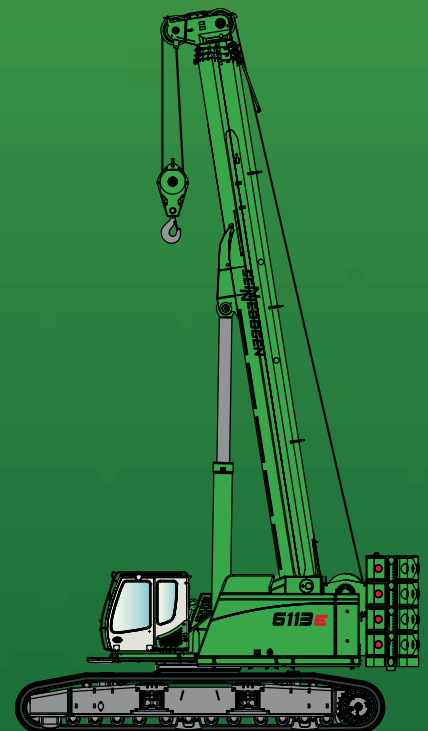


# 6113E Self assembly system



# 6113 E

# R



*This catalog describes machine models, the scope of equipment of individual models and configuration possibilities (standard equipment and special equipment) of the machines delivered by SENNEBOGEN Maschinenfabrik. Device illustrations can contain special equipment and supplemental equipment. Depending on the country where the machines are delivered, deviations from the equipment can be possible, particularly relative to the standard equipment and special equipment.*

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