

SENEBOGEN

PRELIMINARY



321 kW



70 t



56.9 m



MAXCAB

670E

Heavy duty cycle crawler crane

Emissions level IV

670E Advanced. Versatile – dynamic – robust



1969: First full hydraulic
duty cycle crawler crane worldwide, SK 15

What makes up the E-Series

- 60 years of experience in the design and construction of duty cycle crawler cranes
- Uncompromisingly high performance in all areas
- Technology that can be mastered: High-quality components without over-engineering
- Long product service life and high value retention

Your top benefits:

1

Green Efficiency

Save fuel – reduce operating costs
Work quietly – protect operator and environment



2

Peak performance

Durable mechanical systems – stressed parts optimized
High speeds – high load capacities

3

Maximum operating comfort

Comfortable Maxcab operator cab – relaxed work
SENCON – SENNEBOGEN Control System



4

Flexibility in use

Driving under load – low space requirement
Strong undercarriage traction – good all-terrain mobility

5

Easy transport

Telescopic undercarriage – quickly ready for use
Ballast support system – short set-up time

6

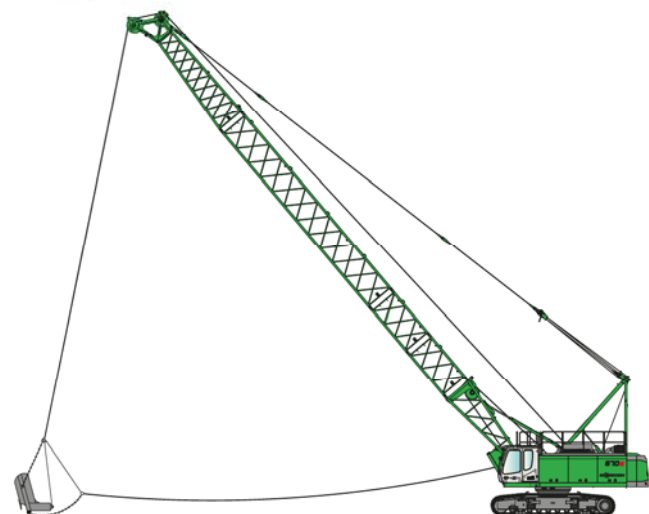
Maintenance and service made easy

Easy fault diagnosis – central measuring points
Easy maintenance – clear labeling

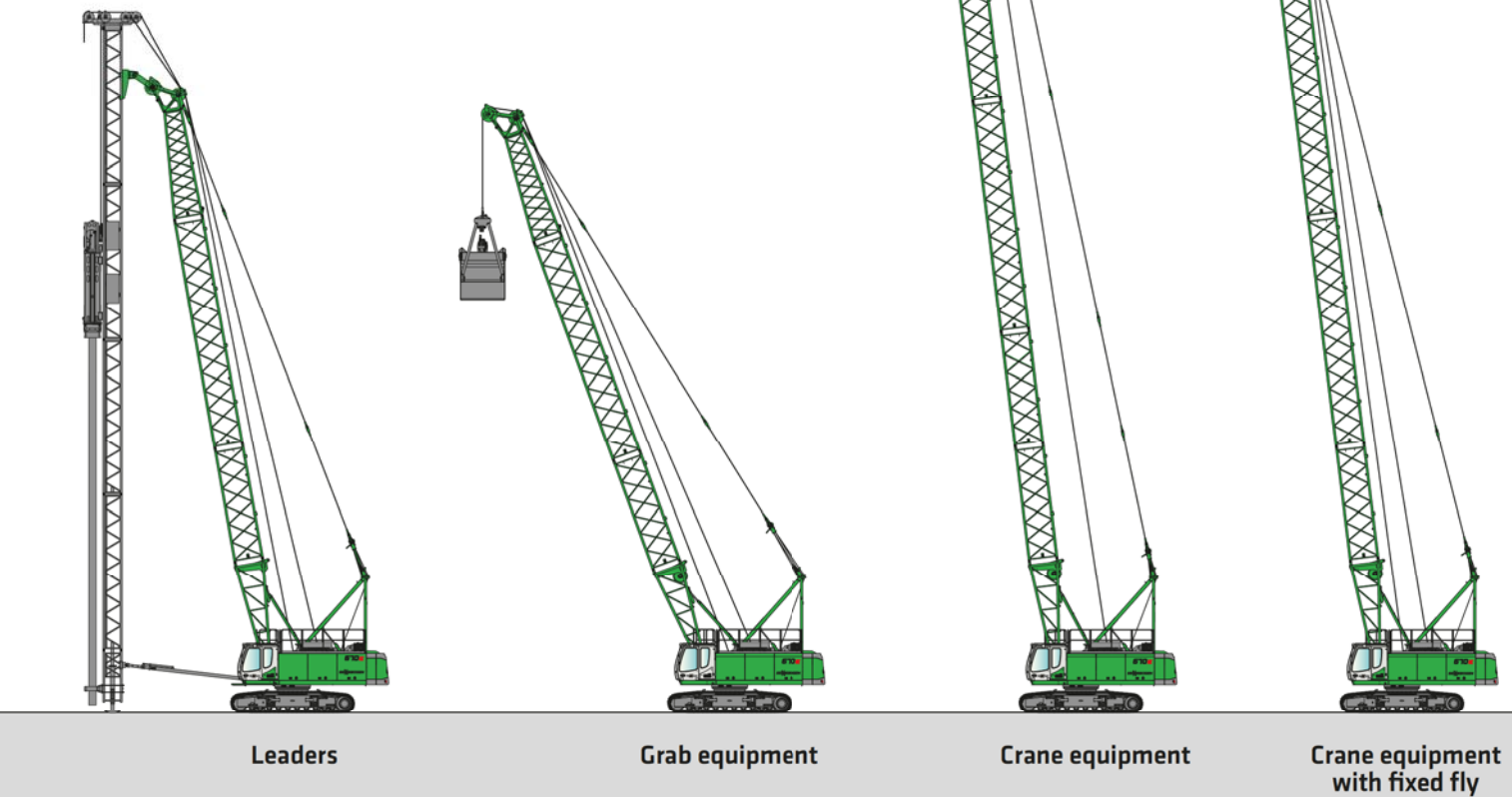
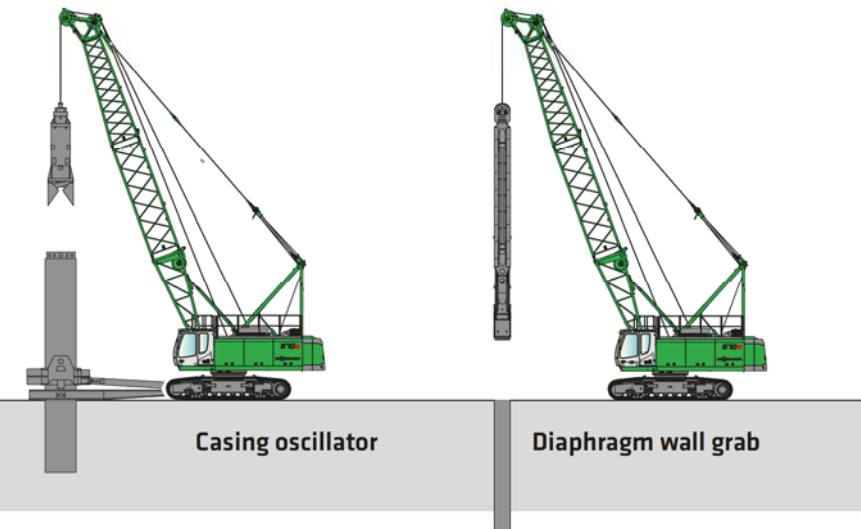
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Consultation and support

3 production sites – 2 subsidiaries
120 sales partners – over 300 service stations



Dragline bucket
equipment



MACHINE TYPE

Model (type) **670**

ENGINE

Power	Cummins QSM 298 kW / 405 hp at 1800 min⁻¹ (TIER IIIa) Cummins QSG12 261 kW / 355 hp at 1800 min⁻¹ (TIER IVf) Cummins QSG12 321 kW / 436 hp at 1800 min⁻¹ (TIER IVf) Direct injection, turbo-charged, charge air cooling, reduced emissions
Cooling	Water-cooled
Air filter	Dry filter with pre-separator, automatic dust discharge, main element and safety element, contamination indicator
Fuel tank	690 l
Electr. system	24 V
Batteries	2 x 180 Ah , main switch
Options	Idle/Stop Automatic

UPPERCARRIAGE

Design	Torsion-resistant box design, precision crafted, bronze bushings for boom bearing arrangement Clear, service-friendly concept, engine installed in the longitudinal direction
Lighting	LED headlights for optimal illumination of the work area
Safety	Camera monitoring of the rear area and right side
Options	- Low-temperature package for use at temperatures below -20 °C - Ballast support fixture - Pinion tooth lubrication for slewing ring, outer - Automatic central lubrication system for equipment and slewing ring, inner - Walkways left and right on the uppercarriage - Maritime climate varnishing

HYDRAULIC SYSTEM

Multi-circuit hydraulic system for optimal function and capacity, all movements can be run simultaneously. The hydraulic pumps are variable displacement piston pumps with individual control and energy-saving flow-on-demand control. The pumps only supply as much oil as is actually consumed. Pressure cut-off, load limit sensing control

Operating pressure **max. 330 bar**

Filtration	High-performance filtration with long-term change interval, contamination level indicator
Hydraulic tank	790 l (680 l to the middle of the sight glass)
Control system	Proportional, precision hydraulic servo control of the movements, 2 servo joysticks for work functions, supplemental functions via switches and foot pedals – arranged clearly and ergonomically
Options	- Bio-oil – environmentally friendly - SENNEBOGEN HydroClean micro-filter system with water separator - Potentiometer for casing machine and other attachments - Grapple fill automation - Supplemental hydraulic system with 1 x 220 l/min

SLEWING DRIVE

Gearbox	2x compact planetary gears with slant axis hydraulic motor, integrated brake valves - precision slewing gear brake
Parking brake	Spring-loaded multi-disk brake
Slewing ring	Ball bearing rotary connection with exterior gearing
Slewing speed	0-4.0 rpm, 3 adjustable rotation speeds
Options	Reinforced slewing ring for heavy, dynamic inserts

CAB MAX CAB

Cab type	Maxcab rigid
Cab equipment	Sliding door, excellent ergonomics, climate automation, seat heater, air-suspension comfort seat, fresh air filter / circulating air filter, joystick steering, 12 V / 24 V connections, SENCON, roof window
Options	- Cab type E270, can be elevated 270 cm - Cab can be tilted 15° - Auxiliary heating system with timer - Cabs with active carbon filter inside/outside air - Sliding window in operator door - Armored-glass windshield - Armored-glass sunroof - Safety side window and rear window - Sunblind for windshield - Protective roof grating - FOPS protective roof grating - Protective front grating - Radio with speakers



ATTACHMENTS

Design	Decades of experience and the latest computer simulations guarantee the greatest degree of stability and longest service life
Boom adjustment winch	Drive via slant axis hydraulic motor with compact planetary gear, pulling force 52 kN, rope diameter 14 mm, adjustment speed 15° to 81° in approx. 48 seconds.
Safety brake	Spring-loaded multi-disk brake
Boom	Boom length to 56.9 m
Options	■ Auxiliary jib, for load ratings to 12 t ■ Fixed fly to 18 m ■ Steel rope sheaves ■ Jib sheaves for grapple implementation ■ HD sheaves for working with optimal rope guide ■ Load moment limitation for hoisting implementation: latest generation of load moment monitoring, display shows all important data, lifting limit switch, pressure relief valves, rope run-out safeguard



UNDERCARRIAGE

Design	Extremely strong crawler undercarriage, type T83/390 with hydraulically extensible track width. Stable welded construction.
Drive	Strong travel drive with axial piston hydraulic motor and directly attached automatically functioning brake valve and compact planetary gear on each running gear side; protected drive transmission
Parking brake	Spring-loaded multi-disk brake
Traveling gear	Maintenance-free tractor running gear B7 with hydraulic chain tension, 700 mm 3-grouser base plates,
Speed	0 - 1.9 km/h
Options	■ 700 mm flat base plates (transport width 3000 mm) ■ 800 mm 3-grouser base plates (transport width 3200 mm)



WINCH

The winches are driven via high-pressure-regulated adjustable hydraulic motors, thus there is always optimal pulling force speed control. Hydraulic lowering brake valves for sensitive, wear-free braking. Strong oil-bath planetary gear, low-maintenance.

Crane and free fall brakes are spring-loaded, maintenance-free, low-wear disc brakes running in the oil bath, oil-cooled. The driver is assisted by the special, continuously-variable free fall brake that also helps to protect the machine.

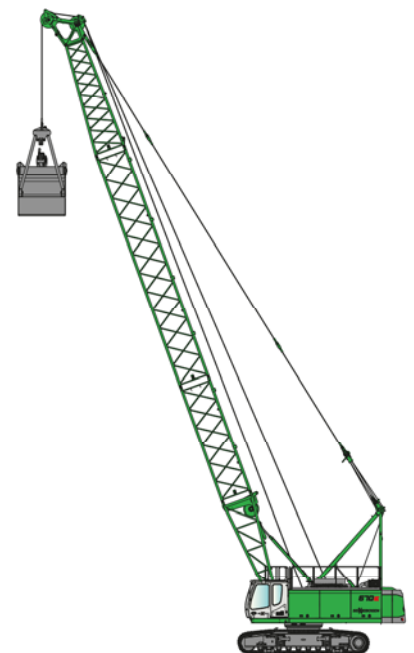
	Series production	Option
Winches	16 t	20 t
Rope winch (rated load) 1st layer	160 kN	200 kN
Rope diameter	26 mm	28 mm
Rope speed	0-125 m/min	0-110 m/min

Options	■ Grapple steadying winch 9 kN ■ Grapple steadying winch 18 kN ■ Grapple steadying winch 30 kN ■ Rope tensioning pulley
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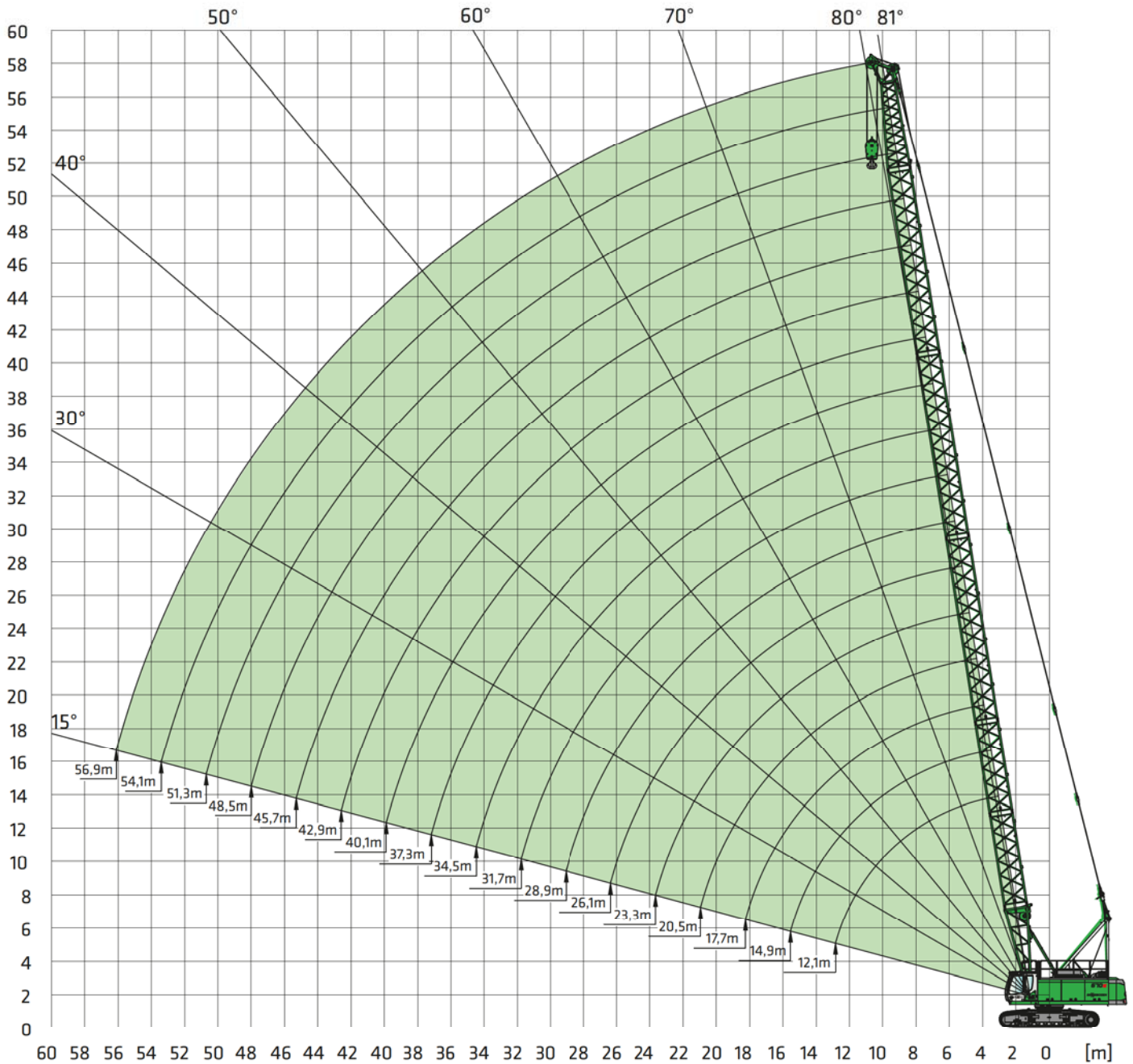
OPERATING WEIGHT

Mass	approx. 70 t
Notice	670 R with 2 x 16 t freefall winches, basic boom 12.1 m, counterweight 22 t, 60 t bottom hook block, 700 mm 3-grouser base plates, 150 m hoisting rope The operating weight varies depending on the version and equipment.



670E Main boom

HD



		Boom configuration																
	Boom length	12.1	14.9	17.7	20.5	23.3	26.1	28.9	31.7	34.5	37.3	40.1	42.9	45.7	48.5	51.3	54.1	56.9
Lower boom section type 1442	5.5 j/m	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Boom section type 1442	2.8 j/m	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0
Boom section type 1442	5.6 j/m	0	0	1	1	2	2	1	1	2	2	1	1	2	2	1	1	2
Boom section type 1442	11.2 j/m	0	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3
Head piece type 1442	6.6 j/m	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Auxiliary jib S12.4 (option)	12.0 t	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x



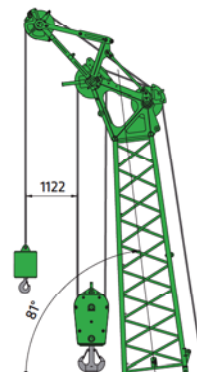
22 t	Boom length [m]																
Outreach [m]	12.1	14.9	17.7	20.5	23.3	26.1	28.9	31.7	34.5	37.3	40.1	42.9	45.7	48.5	51.3	54.1	56.9
3.6	70.0 *																
4.0	67.0 *	67.0 *	56.0/4.5														
5.0	52.0 *	52.0	50.0	47.0	41.7/5.4	37.0/5.8											
6.0	42.6	42.0	40.0	38.5	37.1	35.5	33.0/6.3	29.7/6.7									
7.0	33.8	33.7	33.6	32.5	31.5	30.0	29.4	28.0	27.0/7.1	24.5/7.6							
8.0	27.9	27.8	27.7	27.6	27.2	26.0	25.5	24.5	24.0	23.0	22.5	20.5/8.5					
9.0	23.6	23.5	23.5	23.3	23.3	23.0	22.5	21.5	21.2	20.5	20.0	19.3	18.9	17.6/9.3	16.3/9.8		
10.0	20.5	20.4	20.3	20.2	20.1	20.0	19.9	19.4	18.9	18.3	17.9	17.3	16.9	16.4	16.0	15.2/10.2	13.4/10.6
11.0	18.0	17.9	17.8	17.7	17.6	17.5	17.4	17.3	17.0	16.5	16.2	15.6	15.3	14.8	14.5	13.9	13.2
12.0	16.1	15.9	15.9	15.7	15.6	15.5	15.5	15.3	15.3	15.0	14.7	14.2	13.9	13.5	13.2	12.7	12.3
13.0	12.2	14.3	14.2	14.1	14.0	13.9	13.8	13.7	13.7	13.5	13.4	13.0	12.7	12.3	12.0	11.6	11.2
14.0		13.0	12.9	12.7	12.7	12.5	12.5	12.3	12.3	12.2	12.1	11.9	11.6	11.3	11.0	10.7	10.3
15.0		11.9	11.8	11.6	11.5	11.4	11.3	11.2	11.1	11.0	10.9	10.8	10.7	10.4	10.1	9.8	9.5
16.0		10.1/15.7	10.8	10.6	10.6	10.4	10.4	10.2	10.2	10.0	9.9	9.8	9.7	9.5	9.4	9.1	8.8
17.0			10.0	9.8	9.7	9.6	9.5	9.4	9.3	9.2	9.1	9.0	8.8	8.7	8.6	8.4	8.1
18.0			9.2	9.1	9.0	8.8	8.8	8.6	8.6	8.4	8.3	8.2	8.1	7.9	7.8	7.7	7.5
19.0			8.5/18.4	8.4	8.3	8.2	8.1	8.0	7.9	7.8	7.7	7.5	7.4	7.3	7.2	7.0	6.9
20.0				7.9	7.7	7.6	7.5	7.4	7.3	7.2	7.1	7.0	6.8	6.7	6.6	6.4	6.3
22.0				7.3/21.1	6.8	6.6	6.5	6.4	6.3	6.2	6.1	6.0	5.8	5.7	5.6	5.4	5.3
24.0					6.1/23.8	5.8	5.8	5.6	5.5	5.4	5.3	5.1	5.0	4.9	4.8	4.6	4.5
26.0						5.2	5.1	4.9	4.9	4.7	4.6	4.5	4.3	4.2	4.1	3.9	3.8
28.0						5.0/26.5	4.6	4.4	4.3	4.1	4.1	3.9	3.8	3.6	3.5	3.4	3.2
30.0							4.3/29.2	3.9	3.8	3.6	3.6	3.4	3.3	3.1	3.0	2.9	2.7
32.0								3.5/31.9	3.4	3.2	3.2	3.0	2.9	2.7	2.6	2.5	2.3
34.0									3.1	2.9	2.8	2.6	2.5	2.3	2.2	2.1	1.9
36.0									2.9/34.6	2.6	2.5	2.3	2.2	2.0	1.9	1.8	1.6
38.0										2.4/37.3	2.2	2.0	1.9	1.7	1.6	1.5	1.3
40.0											2.0	1.8	1.6	1.5	1.4	1.2	1.1
42.0												1.6	1.4	1.3	1.2	1.0	0.9
44.0													1.5/42.7	1.2	1.1	1.0	0.7
46.0														1.1/45.4	0.9	0.8	0.6
48.0															0.7	0.6	
50.0	Table no. 670R-80/1985/22.0/01.17 SH																
Number of strands																	
ø 28mm	5	5	5	4	3	3	3	3	2	2	2	2	2	2	2	2	1
ø 26mm	6	6	5	4	4	4	3	3	3	3	2	2	2	2	2	2	2

Comments:

- The specified safe working load values apply to ensure level and firm standing of the machine.
- The safe working load values are specified in tons (t) and apply for 360 degrees.
- The safe working loads take the standards ISO 4305 Tab. 1+2 and the tilt angle method (tilt angle 4°) into account
- Deduct the weight of the load handling devices (hook, suspension gear) from the safe working loads.
- The safe working load values apply for the maximum undercarriage track width of 3800 mm.
- Load ratings must be limited or reduced when conditions are unfavorable, such as soft or uneven ground, slopes, wind, lateral loads, swinging loads, jerking or sudden stopping of the load, operator inexperience, driving with load.
- Permissible rope tension per strand in crane operation for rope diameter with 26 mm - 12,000 kg with rope diameter 28 mm - 14,000 kg
- Safe working load values apply for the SH boom (boom assembly in accordance with the operating manual)
- Safe working load values apply for optimum boom assembly and a pulley head with plastic pulleys.
- The specified safe working load values are only for orientation. See the operating manual for the respectively valid safe working loads.

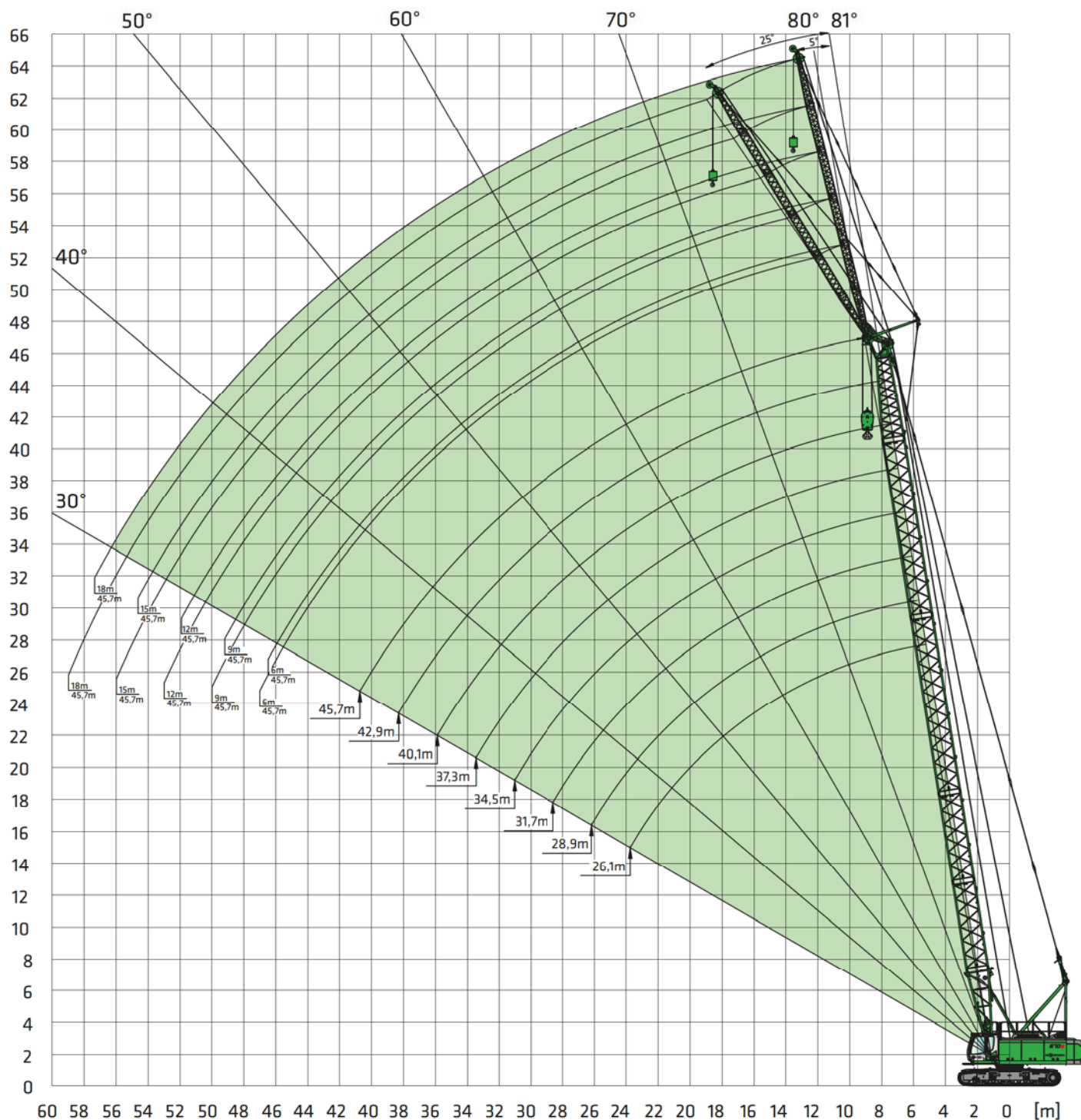
Auxiliary jib S12.4

Max. load capacity 12.0 t



670E Fixed fly boom

HD



670E Working loads SHFS - fixed fly boom

HD



Differential angle fly jib 25°

 22 t	Main boom length [m]																																									
 25°	26.1				28.9				31.7				34.5				37.3				40.1				42.9				45.7													
Outreach [m]	Fly boom length [m]																																									
	6.0	9.0	12.0	15.0	18.0	6.0	9.0	12.0	15.0	18.0	6.0	9.0	12.0	15.0	18.0	6.0	9.0	12.0	15.0	18.0	6.0	9.0	12.0	15.0	18.0	6.0	9.0	12.0	15.0	18.0	6.0	9.0	12.0	15.0	18.0							
10.0	11.6					11.6																																				
11.0	11.4					11.4					11.4					11.4																										
12.0	11.2	8.1				11.3	8.2				11.2					11.2					11.2					11.2																
13.0	11.1	8.0	6.4			11.1	8.1				11.1	8.0				11.1	8.0				11.0					11.0					11.0				10.9							
14.0	11.0	7.9	6.3			11.0	8.0	6.2			11.0	7.9	6.3			11.0	7.9				10.9	7.9				10.9	7.8			11.0	7.8			10.9								
15.0	10.8	7.8	6.2	6.1		10.9	7.9	6.1	6.2		10.9	7.8	6.2			10.9	7.8	6.1			10.8	7.8	6.2			10.8	7.8			10.9	7.7			10.7	7.6							
16.0	10.8	7.7	6.0	5.9	3.9	10.8	7.8	6.0	5.9	3.9	10.7	7.7	6.1	4.9		10.6	7.7	6.0	4.9		10.5	7.7	6.1			10.4	7.7	6.0			10.2	7.6	6.0			9.9	7.6	5.9				
17.0	10.0	7.7	6.0	5.7	3.8	10.0	7.7	6.0	5.7	3.8	9.9	7.6	6.0	4.8	3.8	9.8	7.6	6.0	4.8	3.8	9.6	7.6	6.0	4.8		9.6	7.6	6.0	4.8		9.5	7.6	5.9	4.8		9.2	7.5	5.8				
18.0	9.2	7.5	5.9	5.5	3.7	9.2	7.6	5.9	5.5	3.7	9.1	7.6	5.9	4.8	3.7	9.0	7.6	5.9	4.7	3.7	8.9	7.6	5.9	4.8	3.8	8.8	7.6	5.9	4.7	3.7	8.7	7.5	5.8	4.7		8.5	7.5	5.8	4.6			
19.0	8.5	7.2	5.8	5.3	3.7	8.5	7.5	5.8	5.4	3.7	8.4	7.5	5.8	4.7	3.6	8.3	7.5	5.8	4.7	3.7	8.2	7.5	5.9	4.7	3.7	8.1	7.5	5.8	4.7	3.6	8.0	7.4	5.8	4.7	3.6	7.9	7.4	5.7	4.5	3.7		
20.0	7.9	7.0	5.7	5.1	3.6	7.9	7.2	5.8	5.2	3.6	7.8	7.4	5.8	4.6	3.6	7.7	7.4	5.8	4.6	3.6	7.6	7.4	5.8	4.6	3.6	7.5	7.5	5.8	4.6	3.6	7.4	7.4	5.7	4.6	3.6	7.3	7.3	5.7	4.5	3.6		
22.0	6.9	6.6	5.4	4.7	3.5	6.9	6.8	5.6	4.9	3.5	6.7	7.0	5.7	4.5	3.5	6.6	6.9	5.7	4.5	3.5	6.5	6.7	5.7	4.5	3.5	6.5	6.7	5.7	4.5	3.5	6.3	6.6	5.6	4.5	3.5	6.2	6.5	5.6	4.4	3.5		
24.0	6.1	6.3	5.1	4.4	3.4	6.0	6.2	5.3	4.6	3.4	5.9	6.1	5.5	4.4	3.4	5.8	6.0	5.6	4.4	3.4	5.7	5.9	5.6	4.4	3.5	5.6	5.8	5.6	4.4	3.4	5.5	5.7	5.5	4.4	3.4	5.4	5.6	5.5	4.3	3.5		
26.0	5.3	5.5	4.9	4.2	3.3	5.3	5.5	5.0	4.4	3.3	5.2	5.4	5.2	4.3	3.3	5.1	5.3	5.3	4.3	3.3	5.0	5.1	5.3	4.3	3.4	4.9	5.1	5.3	4.4	3.4	4.8	5.0	5.1	4.4	3.4	4.7	4.9	5.0	4.3	3.4		
28.0	4.7	4.9	4.6	4.0	3.2	4.7	4.9	4.8	4.1	3.2	4.6	4.8	4.9	4.2	3.2	4.5	4.7	4.8	4.2	3.3	4.4	4.5	4.7	4.3	3.3	4.3	4.5	4.6	4.3	3.3	4.2	4.4	4.5	4.3	3.3	4.1	4.2	4.4	4.2	3.3		
30.0	4.2	4.4	4.4	3.8	3.1	4.2	4.4	4.5	3.9	3.1	4.1	4.2	4.4	4.1	3.2	4.0	4.1	4.3	4.2	3.2	3.8	4.0	4.2	4.2	3.2	3.8	3.9	4.1	4.2	3.2	3.6	3.8	4.0	4.1	3.2	3.5	3.7	3.9	4.0	3.2		
32.0		3.9	4.1	3.6	3.1	3.8	3.9	4.0	3.8	3.0	3.6	3.8	3.9	3.9	3.1	3.5	3.7	3.8	3.9	3.1	3.4	3.5	3.7	3.8	3.2	3.3	3.5	3.6	3.7	3.2	3.2	3.4	3.5	3.6	3.2	3.1	3.3	3.4	3.5	3.2		
34.0			3.6	3.5	3.0		3.5	3.6	3.6	3.0	3.2	3.4	3.5	3.6	3.0	3.1	3.3	3.4	3.5	3.1	3.0	3.1	3.3	3.4	3.1	2.9	3.1	3.2	3.3	3.1	2.8	3.0	3.1	3.2	3.1	2.7	2.8	3.0	3.1	3.1		
36.0			3.3	3.4	2.9		3.2	3.3	2.9		3.0	3.1	3.2	3.0	2.8	2.9	3.0	3.1	3.0	2.6	2.8	2.9	3.0	3.1	2.6	2.7	2.8	3.0	3.0	2.5	2.6	2.7	2.8	2.9	2.3	2.5	2.6	2.7	2.8			
38.0				3.1	2.7		2.9	3.0	2.9		2.7	2.8	2.9	3.0		2.6	2.7	2.8	2.9	2.3	2.5	2.6	2.7	2.8	2.3	2.4	2.5	2.6	2.7	2.2	2.3	2.4	2.5	2.6	2.0	2.2	2.3	2.4	2.5			
40.0					2.7			2.7	2.8			2.5	2.6	2.7		2.3	2.4	2.5	2.6	2.1	2.2	2.3	2.4	2.5	2.0	2.1	2.2	2.3	2.4	1.9	2.0	2.1	2.2	2.3	1.8	1.9	2.0	2.1	2.2			
42.0					2.6				2.5				2.3	2.4			2.2	2.2	2.3		1.9	2.0	2.1	2.2	1.8	1.9	2.0	2.1	2.1	1.6	1.7	1.9	1.9	2.0	1.5	1.6	1.7	1.8	1.9			
44.0										2.3				2.1	2.2				2.0	2.1				1.8	1.9	2.0		1.6	1.7	1.8	1.9	1.4	1.5	1.6	1.7	1.8	1.3	1.4	1.5	1.6	1.7	
46.0															2.0				1.8	1.9				1.6	1.7	1.7			1.5	1.6	1.7		1.3	1.4	1.5	1.6	1.1	1.2	1.3	1.4	1.5	
48.0																			1.7					1.5	1.5			1.3	1.4	1.5			1.2	1.3	1.4		1.0	1.1	1.2	1.2		
50.0																										1.3				1.2	1.3			1.0	1.1	1.2		0.8	0.9	1.0	1.1	
52.0																										1.2					1.1				0.9	1.0			0.7	0.8	0.9	
54.0																															1.0					0.8				0.7	0.7	
56.0																																				0.7				0.5	0.6	
58.0	Table no. 670R-80/1985/22.0/04.16 SHFS 25																																							0.4		
Number of strands	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		

Comments:

- The specified safe working load values apply to ensure level and firm standing of the machine.
- The safe working load values are specified in tons (t) and apply for 360 degrees.
- The safe working loads take the standards ISO 4305 Tab. 1+2 and the tilt angle method (tilt angle 4°) into account
- Deduct the weight of the load handling devices (hook, suspension gear) from the safe working loads.
- The safe working load values apply for the maximum undercarriage track width of 3840 mm.

- Load ratings must be limited or reduced to take into account unfavorable conditions, such as soft or uneven ground, slopes, wind, lateral loads, swinging loads, jerking or sudden stopping of the load, operator inexperience, driving with load.
- Permissible rope tension per strand in crane operation for rope diameter with 26 mm - 12,000 kg (working load 12.0 t) with rope diameter 28 mm - 14,000 kg
- Safe working load values apply for the SH boom (boom assembly in accordance with the operating manual)
- Safe working load values apply for optimum boom assembly and a pulley head with plastic pulleys.

670E Working loads SHFS - fixed fly boom

HD



Differential angle fly jib 5°

 22 t	Main boom length [m]																																														
 5°	26.1					28.9					31.7					34.5					37.3					40.1					42.9					45.7											
Outreach [m]	Fly boom length [m]																																														
	6.0	9.0	12.0	15.0	18.0	6.0	9.0	12.0	15.0	18.0	6.0	9.0	12.0	15.0	18.0	6.0	9.0	12.0	15.0	18.0	6.0	9.0	12.0	15.0	18.0	6.0	9.0	12.0	15.0	18.0	6.0	9.0	12.0	15.0	18.0	6.0	9.0	12.0	15.0	18.0							
7.0																																															
8.0	14.0					14.0																																									
9.0	14.0	11.2				14.0					14.0					14.0																															
10.0	14.0	10.9	8.4			14.0	11.0	8.4			14.0	10.9				14.0	10.7				14.0					14.0																					
11.0	14.0	10.7	8.2	6.6	5.2	14.0	10.8	8.2	6.6	5.3	14.0	10.7	8.2	6.7		14.0	10.6	8.1			14.0	10.6				13.9	10.3				13.9					13.5											
12.0	13.8	10.4	8.1	6.4	5.1	14.0	10.6	8.1	6.5	5.2	14.0	10.5	8.0	6.5	5.1	14.0	10.4	8.0	6.4	5.1	13.9	10.4	8.0	6.4		13.7	10.2	7.8			13.7	9.9				13.3	9.6										
13.0	13.5	10.2	7.9	6.3	5.0	13.7	10.4	7.9	6.4	5.1	13.8	10.3	7.9	6.4	5.0	13.5	10.2	7.9	6.3	5.0	13.2	10.3	7.9	6.3	4.9	12.9	10.0	7.7	6.1	5.0	12.6	9.8	7.6	6.1		12.2	9.5	7.3									
14.0	12.7	10.0	7.8	6.2	5.0	12.7	10.1	7.8	6.3	5.0	12.6	10.1	7.8	6.3	5.0	12.4	10.0	7.8	6.2	4.9	12.2	10.1	7.7	6.2	4.9	11.8	9.9	7.6	6.0	4.9	11.5	9.6	7.5	6.0	4.8	11.2	9.4	7.3	5.9	4.8							
15.0	11.6	9.8	7.7	6.1	4.9	11.5	10.0	7.7	6.2	4.9	11.4	9.9	7.7	6.2	4.9	11.3	9.9	7.6	6.1	4.9	11.2	9.9	7.6	6.1	4.8	11.0	9.8	7.5	6.0	4.8	10.7	9.5	7.4	5.9	4.8	10.4	9.3	7.2	5.9	4.7							
16.0	10.6	9.6	7.5	6.0	4.8	10.5	9.8	7.5	6.1	4.9	10.4	9.7	7.6	6.1	4.8	10.3	9.7	7.5	6.0	4.8	10.2	9.8	7.5	6.0	4.7	10.1	9.6	7.4	5.9	4.7	9.9	9.4	7.3	5.8	4.7	9.6	9.2	7.1	5.8	4.6							
17.0	9.7	9.5	7.4	5.9	4.7	9.7	9.6	7.4	6.0	4.8	9.5	9.6	7.4	6.0	4.7	9.4	9.5	7.4	5.9	4.7	9.3	9.5	7.4	5.9	4.7	9.2	9.4	7.3	5.8	4.7	9.1	9.1	7.2	5.8	4.6	8.9	8.9	7.0	5.7	4.6							
18.0	9.0	9.1	7.3	5.8	4.6	8.9	9.1	7.3	5.9	4.7	8.8	8.9	7.3	5.9	4.7	8.7	8.8	7.3	5.8	4.7	8.5	8.7	7.3	5.8	4.6	8.5	8.6	7.2	5.8	4.6	8.3	8.5	7.2	5.7	4.6	8.2	8.3	6.9	5.7	4.5							
19.0	8.3	8.5	7.2	5.7	4.6	8.3	8.4	7.2	5.8	4.6	8.1	8.3	7.2	5.8	4.6	8.0	8.1	7.2	5.8	4.6	7.9	8.0	7.2	5.8	4.5	7.8	7.9	7.1	5.7	4.5	7.7	7.8	7.1	5.6	4.5	7.5	7.7	6.9	5.6	4.5							
20.0	7.7	7.9	7.1	5.6	4.5	7.7	7.8	7.1	5.7	4.6	7.5	7.7	7.1	5.7	4.5	7.4	7.5	7.1	5.7	4.5	7.3	7.4	7.1	5.7	4.5	7.2	7.3	7.1	5.6	4.5	7.1	7.2	7.0	5.6	4.5	6.9	7.1	6.8	5.5	4.4							
22.0	6.7	6.9	6.9	5.5	4.3	6.7	6.8	6.9	5.5	4.4	6.5	6.7	6.7	5.6	4.4	6.4	6.5	6.6	5.5	4.4	6.3	6.4	6.5	5.5	4.4	6.2	6.3	6.4	5.5	4.4	6.1	6.2	6.3	5.5	4.4	5.9	6.1	6.2	5.4	4.3							
24.0	5.9	6.0	6.1	5.3	4.2	5.8	6.0	6.0	5.4	4.3	5.7	5.8	5.9	5.4	4.3	5.6	5.7	5.8	5.4	4.3	5.4	5.6	5.7	5.4	4.2	5.4	5.5	5.6	5.4	4.2	5.2	5.4	5.4	5.3	4.3	5.1	5.2	5.3	5.3	4.2							
26.0	5.2	5.3	5.4	5.2	4.1	5.2	5.3	5.3	5.3	4.2	5.0	5.1	5.2	5.3	4.1	4.9	5.0	5.1	5.1	4.2	4.8	4.9	5.0	5.0	4.1	4.7	4.8	4.9	4.9	4.1	4.5	4.7	4.7	4.8	4.2	4.4	4.5	4.6	4.7	4.1							
28.0	4.7	4.8	4.8	4.9	4.0	4.6	4.7	4.8	4.8	4.0	4.4	4.6	4.6	4.7	4.0	4.3	4.4	4.5	4.5	4.1	4.2	4.3	4.4	4.4	4.0	4.1	4.2	4.3	4.3	4.0	4.0	4.1	4.1	4.2	4.1	3.8	3.9	4.0	4.1	4.0							
30.0		4.3	4.3	4.4	3.8	4.1	4.2	4.3	4.3	3.9	4.0	4.1	4.1	4.2	3.9	3.8	3.9	4.0	4.0	4.0	3.7	3.8	3.9	3.9	3.9	3.6	3.7	3.8	3.8	3.8	3.5	3.6	3.6	3.7	3.7	3.3	3.4	3.5	3.6	3.6							
32.0		3.8	3.9	3.9	3.7	3.7	3.8	3.8	3.9	3.8	3.5	3.6	3.7	3.7	3.7	3.4	3.5	3.6	3.6	3.6	3.2	3.3	3.4	3.5	3.5	3.2	3.3	3.3	3.4	3.4	3.0	3.1	3.2	3.2	3.2	2.9	3.0	3.1	3.1	3.1							
34.0			3.5	3.6	3.5		3.4	3.4	3.5	3.5	3.2	3.2	3.3	3.3	3.4	3.0	3.1	3.2	3.2	3.2	2.9	3.0	3.0	3.1	3.1	2.8	2.9	3.0	3.0	3.0	2.7	2.7	2.8	2.9	2.9	2.5	2.6	2.7	2.7	2.7							
36.0				3.2	3.2			3.1	3.2	3.2		2.9	3.0	3.0	3.0	2.7	2.8	2.8	2.9	2.9	2.5	2.6	2.7	2.7	2.8	2.5	2.6	2.6	2.7	2.7	2.3	2.4	2.5	2.5	2.5	2.2	2.3	2.4	2.4	2.4							
38.0				2.9	3.0			2.9	2.9			2.7	2.7	2.7		2.5	2.5	2.6	2.6	2.3	2.3	2.4	2.4	2.5	2.2	2.3	2.3	2.4	2.4	2.0	2.1	2.2	2.2	2.2	1.9	2.0	2.0	2.1	2.1								
40.0					2.7			2.6	2.6			2.4	2.4	2.5		2.2	2.3	2.3	2.3		2.1	2.1	2.2	2.2	1.9	2.0	2.0	2.1	2.1	1.8	1.8	1.9	1.9	2.0	1.6	1.7	1.8	1.8	1.8								
42.0											2.4			2.2	2.2		2.0	2.1	2.1		1.8	1.9	1.9	1.9		1.8	1.8	1.8	1.9	1.5	1.6	1.7	1.7	1.7	1.4	1.5	1.5	1.6	1.6								
44.0														2.0			1.9	1.9			1.7	1.7	1.7		1.5	1.6	1.6	1.6	1.3	1.4	1.5	1.5	1.5	1.2	1.3	1.3	1.4	1.4									
46.0																			1.7				1.5	1.5			1.4	1.4	1.4		1.2	1.3	1.3	1.3	1.0	1.1	1.1	1.2	1.2								
48.0																			1.5					1.4				1.3	1.3			1.1	1.1	1.1		0.9	0.9	1.0	1.0								
50.0																								1.2				1.1	1.1			0.9	0.9	1.0			0.8	0.8	0.8								
52.0																														1.0				0.8	0.8				0.7	0.7							
54.0	Table no. 670R-80/1985/22.0/01.17 SHFS 5																																		0.7						0.5	0.5					
Number of strands	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	

Comments:

- The specified safe working load values apply to ensure level and firm standing of the machine.
- The safe working load values are specified in tons (t) and apply for 360 degrees.
- The safe working loads take the standards ISO 4305 Tab. 1+2 and the tilt angle method (tilt angle 4°) into account
- Deduct the weight of the load handling devices (hook, suspension gear) from the safe working loads.
- The safe working load values apply for the maximum undercarriage track width of 3840 mm.

- Load ratings must be limited or reduced to take into account unfavorable conditions, such as soft or uneven ground, slopes, wind, lateral loads, swinging loads, jerking or sudden stopping of the load, operator inexperience, driving with load.
- Permissible rope tension per strand in crane operation for rope diameter with 26 mm - 12,000 kg (working load 12.0 t) with rope diameter 28 mm - 14,000 kg
- Safe working load values apply for the SH boom (boom assembly in accordance with the operating manual)
- Safe working load values apply for optimum boom assembly and a pulley head with plastic pulleys.



Main boom with fixed fly SHFS

		Boom configuration												
	Boom length	Main boom								Fixed fly jib				
		26.1	28.9	31.7	34.5	37.3	40.1	42.9	45.7	6.0	9.0	12.0	15.0	18.0
Lower boom section, type 1442	5.5 j/m	1	1	1	1	1	1	1	1					
Intermediate boom section, type 1442	2.8 j/m	1	0	1	0	1	0	1	0					
Intermediate boom section, type 1442	5.6 j/m	2	1	1	2	2	1	1	2					
Intermediate boom section, type 1442	11.2 j/m	0	1	1	1	1	2	2	2					
Boom headpiece, type 1442	5.9 j/m	1	1	1	1	1	1	1	1					
Fly boom lower section type 598	3.0 j/m									1	1	1	1	1
Fly boom intermediate section, type 598	3.0 j/m									0	1	2	3	4
Fly boom head piece, type 598	3.0 j/m									1	1	1	1	1

Combination possibilities SHFS

		Boom configuration							
Fixed fly jib length		Main boom							
		26.1	28.9	31.7	34.5	37.3	40.1	42.9	45.7
6.0 j/m		x	x	x	x	x	x	x	x
9.0 j/m		x	x	x	x	x	x	x	x
12.0 j/m		x	x	x	x	x	x	x	x
15.0 j/m		x	x	x	x	x	x	x	x
18.0 j/m		x	x	x	x	x	x	x	x

X = possible configuration



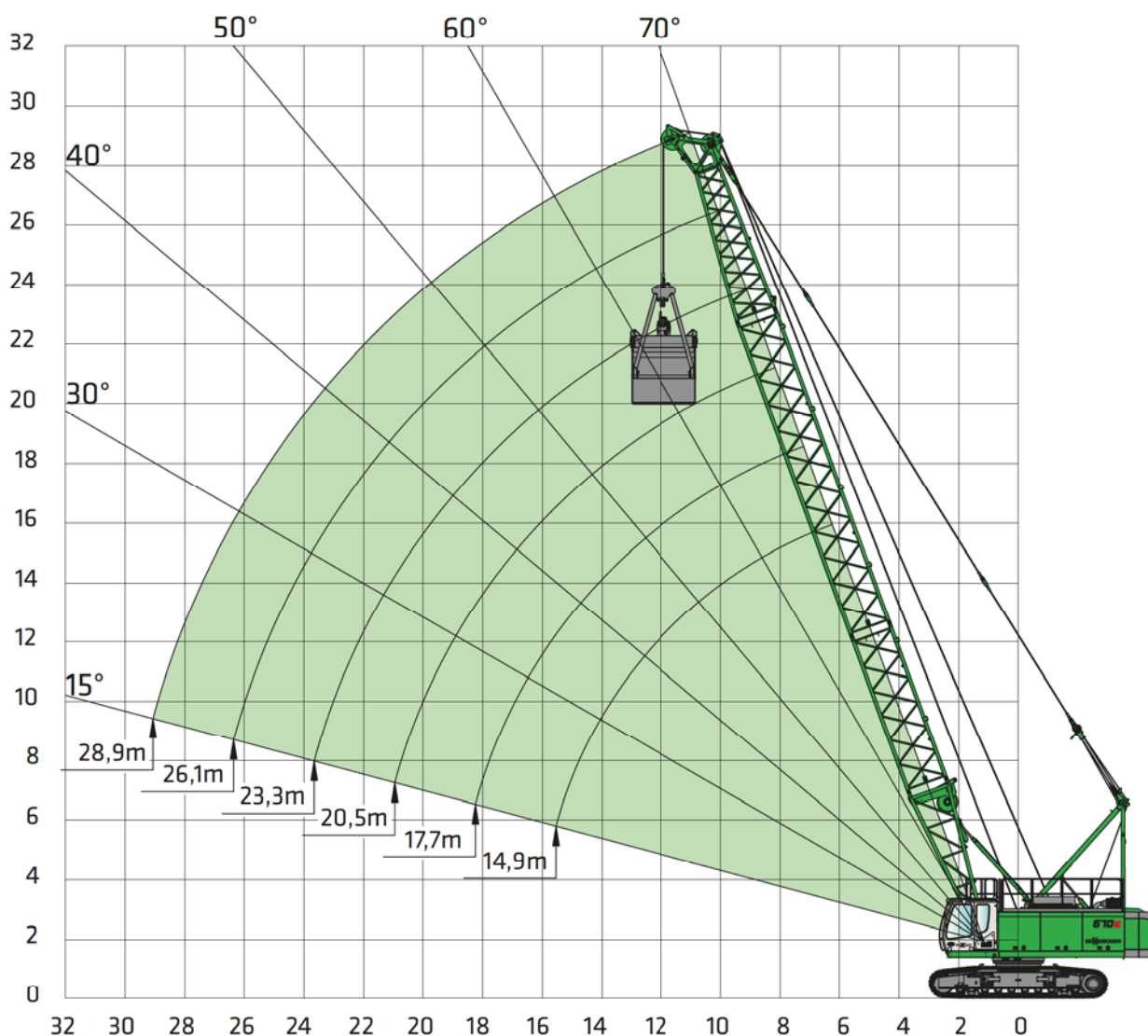
Hook

For 160 kN winches with 26 mm rope diameter

Capacity	Weight	Rope strands and maximum load rating [kg]					
		6	5	4	3	2	1
15 t	300 kg						12,000
40 t 1-pulley	500 kg				36,000	24,000	12,000
60 t 2-pulley	600 kg		60,000	48,000	36,000	24,000	12,000
80 t 3-pulley	1000 kg	70,000	60,000	48,000	36,000	24,000	12,000

For 200 kN winches with 28 mm rope diameter

Capacity	Weight	Rope strands and maximum load rating [kg]					
		6	5	4	3	2	1
15 t	350 kg						14,000
40 t 1-pulley	550 kg				40,000	28,000	14,000
70 t 2-pulley	900 kg		70,000	56,000	42,000	28,000	14,000



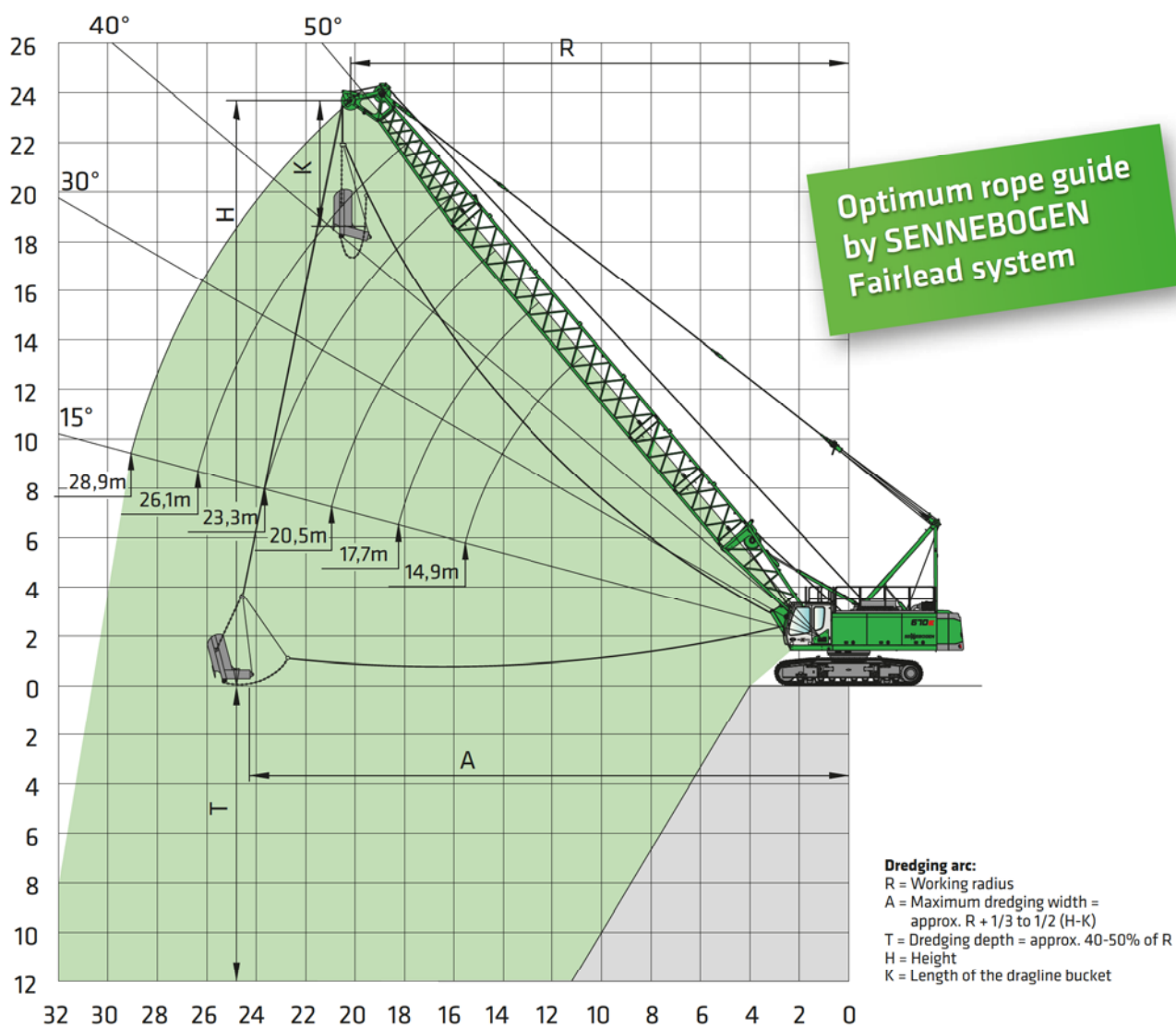
Comments:

1. The specified safe working load values apply to ensure level and firm standing of the machine.
2. The safe working load values are specified in tons (t) and apply for 360 degrees.
3. The safe working loads apply for the maximum outrigger width/undercarriage track width of 3840 mm
4. The specified safe working loads include the grapple weight and do not exceed 66.7 % of the tipping load

5. For operation with a mechanical two-rope grapple and even load distribution on the closing and holding ropes, the safe working load is limited by the permissible rope tension or the maximum winch pulling force of a winch:

Winch pulling force [kN]	160	200
Rope diameter [mm]	26	28
Minimum tensile strength [kN]	568	710
Maximum safe working load in single-winch operation [t]	16.0	20.0
Maximum safe working load in two-winch operation [t]	24.2	30.3

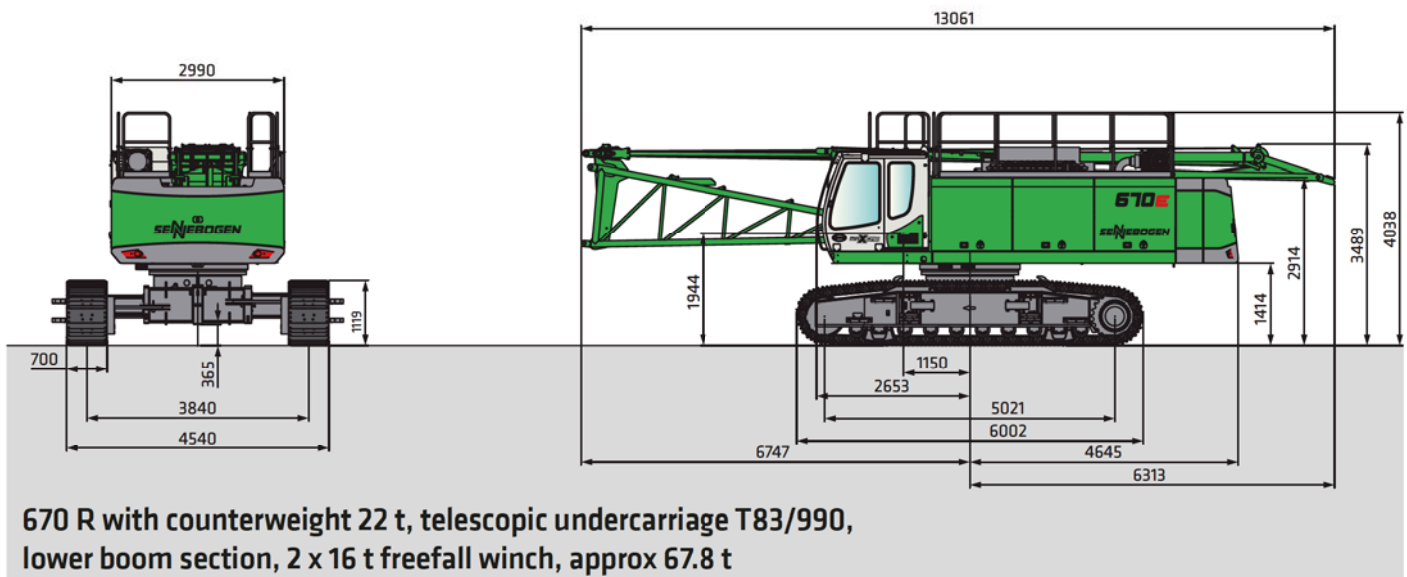
 22 t	Boom length [m]																	
	14.9			17.7			20.5			23.3			26.1			28.9		
	R			R			R			R			R			R		
	m	m	t	m	m	t	m	m	t	m	m	t	m	m	t	m	m	t
70	6.8	15.7	29.5	7.8	18.4	24.3	8.7	21.0	20.5	9.7	23.6	17.7	10.6	26.3	15.4	11.6	28.9	13.7
65	8.0	15.2	23.4	9.2	17.7	19.2	10.4	20.3	16.2	11.5	22.8	13.9	12.7	25.3	12.1	13.9	27.9	10.7
60	9.1	14.5	19.5	10.5	17.0	16.0	11.9	19.4	13.4	13.3	21.8	11.4	14.7	24.2	9.9	16.1	26.7	8.7
55	10.2	13.8	16.7	11.8	16.1	13.7	13.4	18.4	11.4	15.0	20.7	9.7	16.6	23.0	8.4	18.2	25.3	7.3
50	11.2	13.0	14.7	13.0	15.1	12.0	14.8	17.3	10.0	16.6	19.4	8.5	18.4	21.6	7.2	20.2	23.7	6.3
45	12.1	12.1	13.3	14.1	14.0	10.8	16.1	16.0	8.9	18.0	18.0	7.6	20.0	20.0	6.4	22.0	22.0	5.6
40	12.9	11.1	12.1	15.1	12.9	9.8	17.2	14.7	8.1	19.4	16.5	6.8	21.5	18.3	5.8	23.7	20.1	5.0
35	13.7	10.0	11.3	16.0	11.6	9.1	18.3	13.2	7.5	20.6	14.8	6.3	22.9	16.4	5.3	25.2	18.0	4.6
30	14.4	8.9	10.6	16.8	10.3	8.6	19.2	11.7	7.0	21.6	13.1	5.9	24.1	14.5	4.9	26.5	15.9	4.2
25	14.9	7.7	10.1	17.4	8.9	8.1	20.0	10.1	6.7	22.5	11.2	5.5	25.1	12.4	4.6	27.6	13.6	4.0
20	15.4	6.5	9.7	18.0	7.4	7.8	20.6	8.4	6.4	23.3	9.3	5.3	25.9	10.3	4.4	28.5	11.3	3.8
15	15.7	5.2	9.4	18.4	5.9	7.6	21.1	6.7	6.2	23.8	7.4	5.1	26.5	8.1	4.3	29.2	8.8	3.6



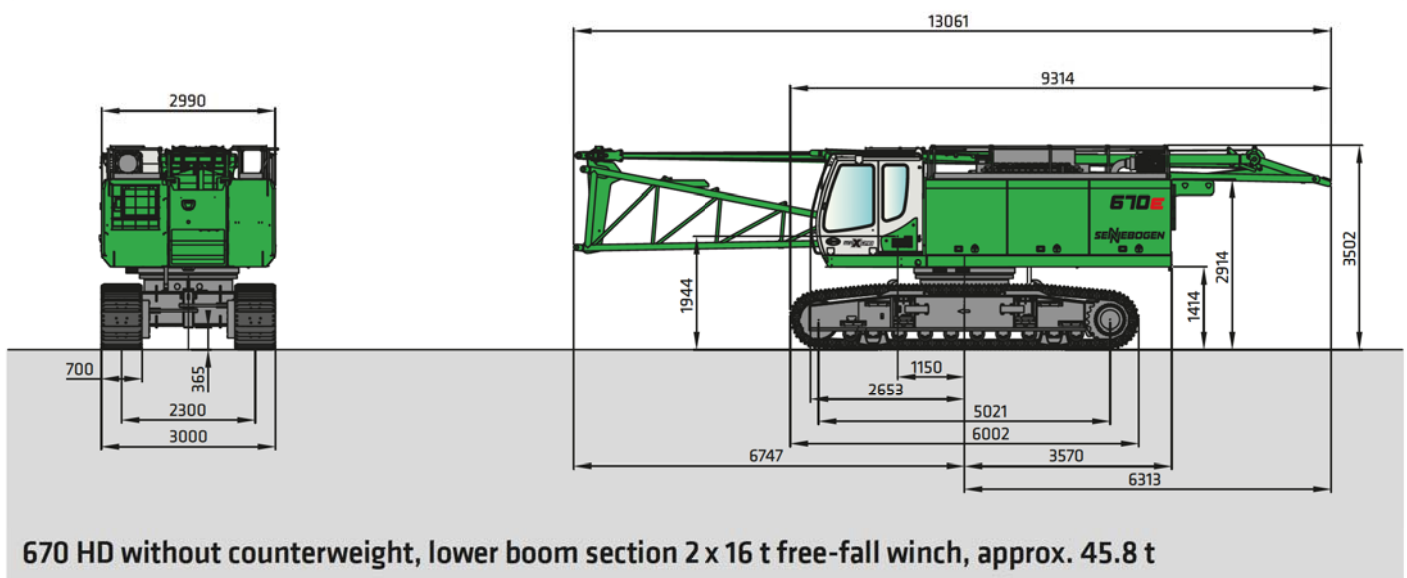
Comments:

1. The specified safe working load values apply to ensure level and firm standing of the machine.
2. The safe working load values are specified in tons (t) and apply for 360 degrees.
3. The safe working loads apply for the maximum outrigger width / undercarriage track width of 3840 mm.
4. The specified safe working loads include the weight of the dragline bucket and do not exceed 75% of the tipping load.
5. The safe working load is limited by the maximum rope winch or by the maximum winch pulling force of a winch

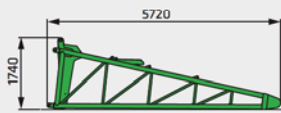
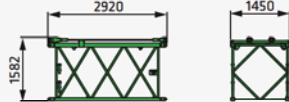
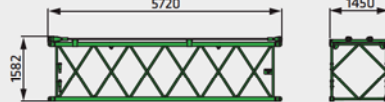
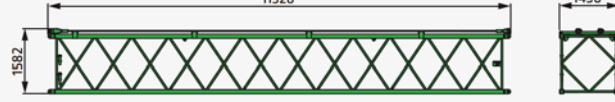
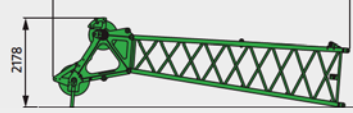
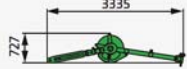
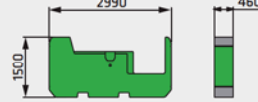
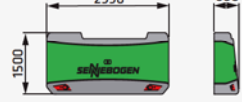
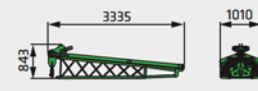
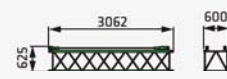
 22 t	Boom length [m]																	
	14.9			17.7			20.5			23.3			26.1			28.9		
	R	H	t	R	H	t	R	H	t	R	H	t	R	H	t	R	H	t
Boom angle alpha [°]	m	m	t	m	m	t	m	m	t	m	m	t	m	m	t	m	m	t
70	6.8	15.7	33.2	7.8	18.4	27.3	8.7	21.0	23.1	9.7	23.6	19.9	10.6	26.3	17.4	11.6	28.9	15.4
65	8.0	15.2	26.3	9.2	17.7	21.6	10.4	20.3	18.2	11.5	22.8	15.6	12.7	25.3	13.6	13.9	27.9	12.0
60	9.1	14.5	21.9	10.5	17.0	17.9	11.9	19.4	15.1	13.3	21.8	12.9	14.7	24.2	11.1	16.1	26.7	9.8
55	10.2	13.8	18.8	11.8	16.1	15.4	13.4	18.4	12.9	15.0	20.7	10.9	16.6	23.0	9.4	18.2	25.3	8.2
50	11.2	13.0	16.6	13.0	15.1	13.5	14.8	17.3	11.3	16.6	19.4	9.5	18.4	21.6	8.2	20.2	23.7	7.1
45	12.1	12.1	14.9	14.1	14.0	12.1	16.1	16.0	10.1	18.0	18.0	8.5	20.0	20.0	7.2	22.0	22.0	6.3
40	12.9	11.1	13.7	15.1	12.9	11.1	17.2	14.7	9.2	19.4	16.5	7.7	21.5	18.3	6.5	23.7	20.1	5.6
35	13.7	10.0	12.7	16.0	11.6	10.3	18.3	13.2	8.4	20.6	14.8	7.1	22.9	16.4	6.0	25.2	18.0	5.1
30	14.4	8.9	11.9	16.8	10.3	9.6	19.2	11.7	7.9	21.6	13.1	6.6	24.1	14.5	5.5	26.5	15.9	4.8
25	14.9	7.7	11.3	17.4	8.9	9.1	20.0	10.1	7.5	22.5	11.2	6.2	25.1	12.4	5.2	27.6	13.6	4.5
20	15.4	6.5	10.9	18.0	7.4	8.8	20.6	8.4	7.2	23.3	9.3	6.0	25.9	10.3	5.0	28.5	11.3	4.3
15	15.7	5.2	10.6	18.4	5.9	8.5	21.1	6.7	6.9	23.8	7.4	5.8	26.5	8.1	4.8	29.2	8.8	4.1



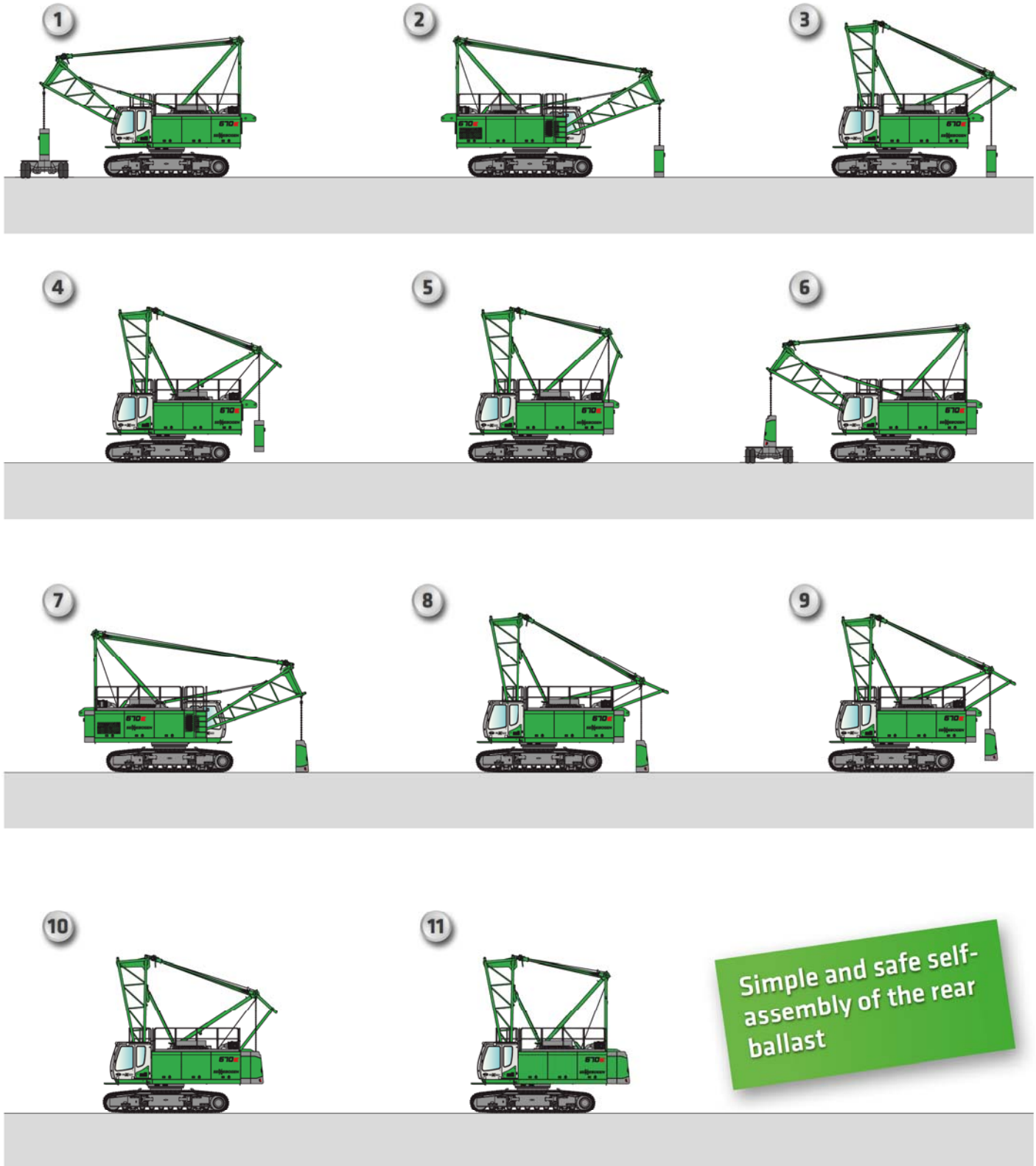
670 R with counterweight 22 t, telescopic undercarriage T83/990, lower boom section, 2 x 16 t freefall winch, approx 67.8 t



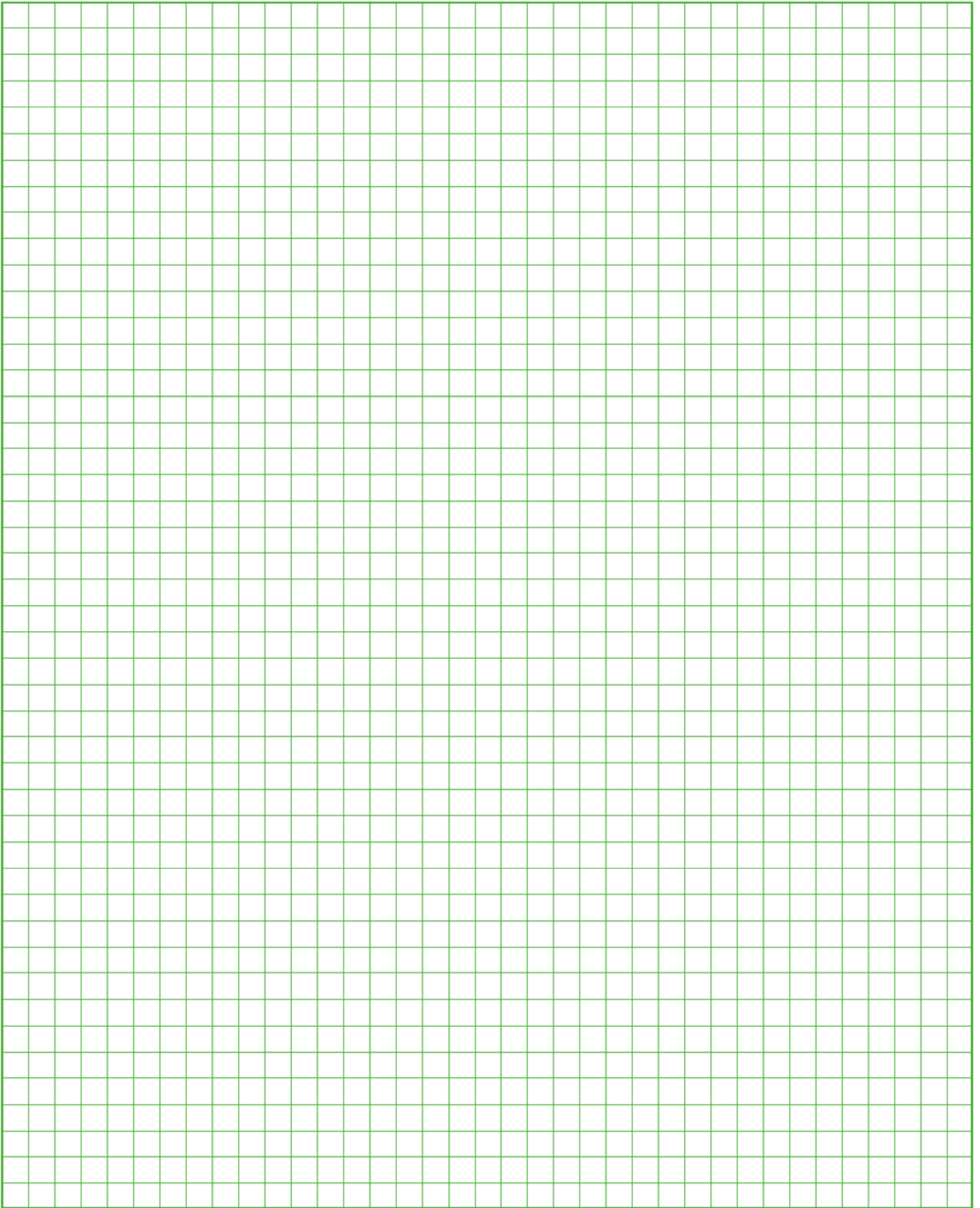
670 HD without counterweight, lower boom section 2 x 16 t free-fall winch, approx. 45.8 t

	Lower boom section 5.5 m, type 1442 Weight: 2,000 kg (can vary due to supplementary equipment)
	Intermediate boom section 2.8 m, type 1442 Weight: 400 kg
	Intermediate boom section 5.6 m, type 1442 Weight: 650 kg
	Intermediate boom section 11.2 m, type 1442 Weight: 1130 kg
	Boom headpiece 6.6 m, type 1442 Weight: 1600 kg
	Auxiliary jib S 12.4 Weight: 410 kg
	Counterweight Weight: 10,000 kg
	Counterweight Weight: 12,000 kg
	Fly boom lower section 3m, type 598 Weight: 330 kg
	Fly boom intermediate section 3m, type 598 Weight: 120 kg
	Fly boom head piece 3m, type 598 Weight: 210 kg

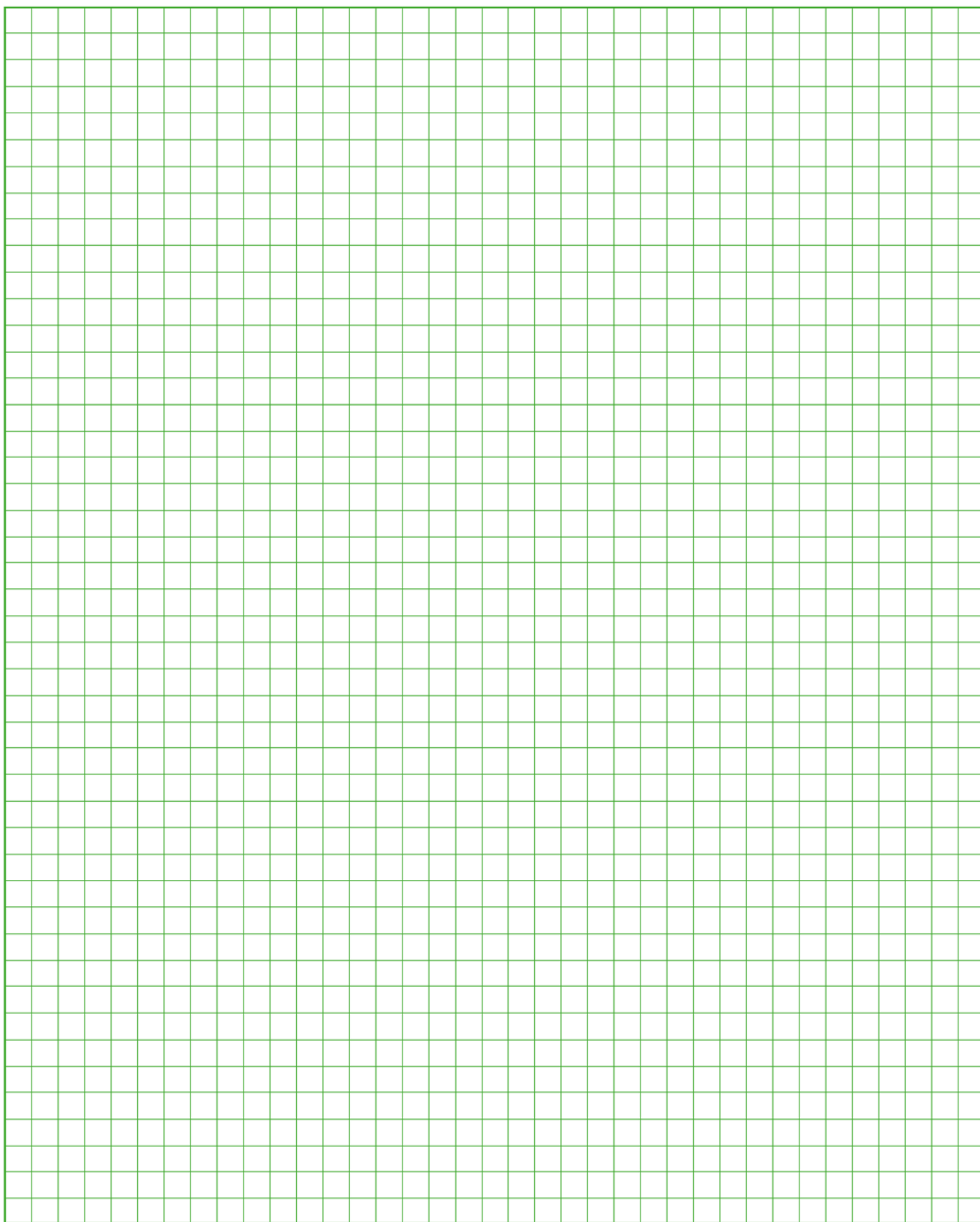
670E Ballast installation system

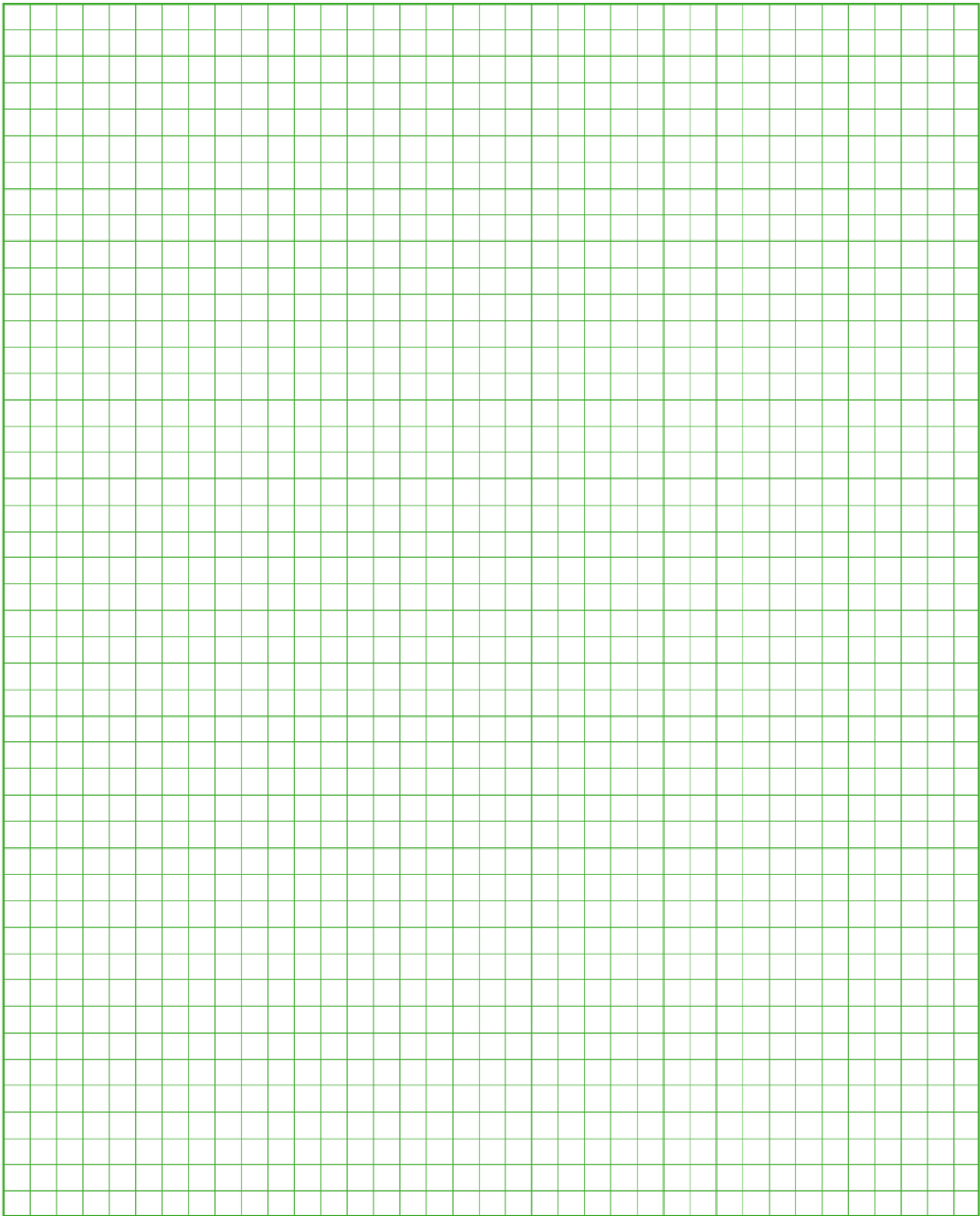


Simple and safe self-assembly of the rear ballast

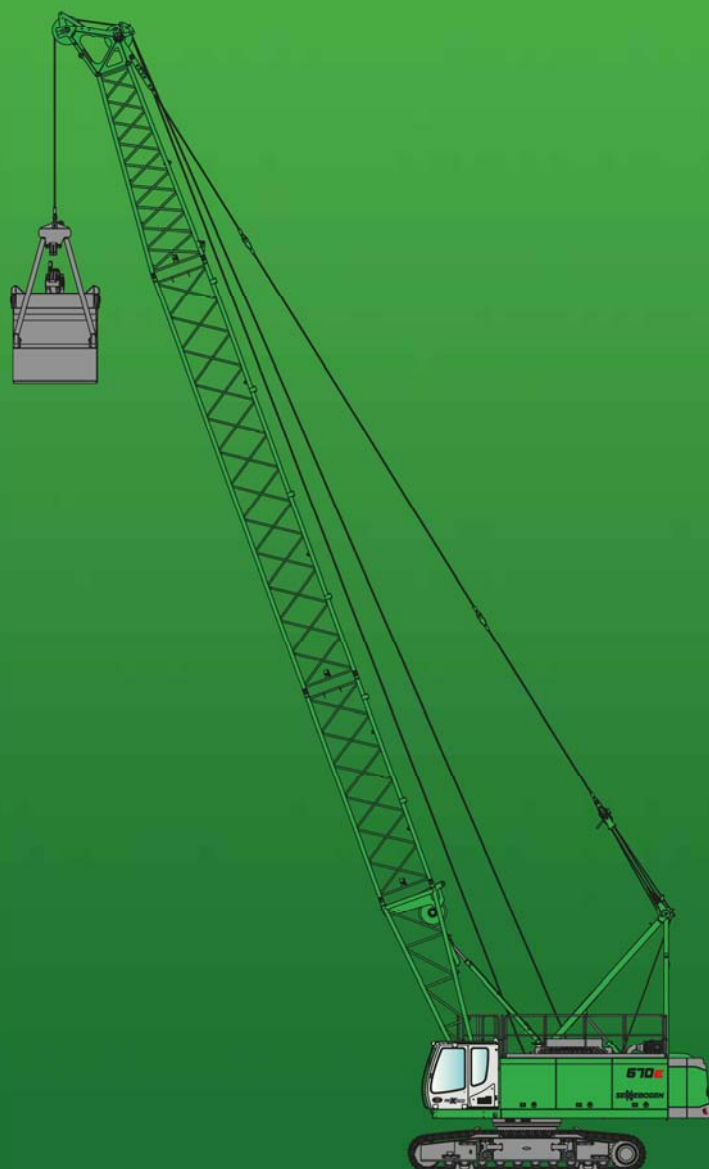


670E Notes





670E



This catalog describes machine models, scopes of equipment of individual models, and configuration options (standard equipment and optional equipment) of the machines supplied by SENNEBOGEN Maschinenfabrik. Machine illustrations can contain optional equipment and supplemental equipment. Actual equipment may vary depending on the country to which the machines are delivered, especially in regard to standard and optional equipment.

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SENNEBOGEN

SENNEBOGEN
Maschinenfabrik GmbH
Sennebogenstraße 10
94315 Straubing, Germany

Tel. +49 9421 540-144/146
Fax +49 9421 43 882
marketing@sennebogen.de

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