

PRELIMINARY



 261 kW / 268 kW

 102-135 t

 25 m

 **MAXCAB**
MASTERCAB

870E

Material handling machine

TIER IVf emission standards

870E Technical data, equipment

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MACHINE TYPE

Model (type) **870**

ENGINE

Power	261 kW/355 hp at 1,800 rpm (TIER IVf) 268 kW/364 hp at 1,500 rpm (TIER IIIa)
Model	Cummins QSL 12-C350 Stage IV Direct injection, turbocharged, charge-air cooler, reduced emissions, EcoMode, automatic idle, auto-stop, fuel preheating
Cooling	Water-cooled, cooler fan reversal
Diesel filter	With water separator and heating system
Air filter	Dry filter with integrated pre-separator, automatic dust discharge, main element and safety element, contamination indicator
Fuel tank	1000 l
DEF tank	100 l
Electrical system	24 V
Batteries	2 x 180 Ah , battery disconnect switch
Options	<ul style="list-style-type: none"> ■ Engine block heater ■ Electric fuel pump

UPPERCARRIAGE

Design	Torsion-resistant box design, precision crafted, steel boom bushings Very service-friendly design, longitudinal engine
Central lubrication	Automatic central lubrication for equipment and slewing gear raceway
Electrical system	Central electrical distributor, battery disconnect switch
Cooling system	3-circuit cooling system with high cooling output, thermostatically regulated fan drive for oil cooler and water cooler, fan reversal for cleaning
Options	<ul style="list-style-type: none"> ■ Slewing gear brake via foot pedal ■ Peripheral uppercarriage railing for additional safety ■ LED lighting package ■ Fire extinguisher ■ Maritime climate varnish as corrosion protection ■ Electric heater for hydraulic tank ■ Low-temperature package for use at temperatures below -20 °C ■ Hydraulically driven magnetic generator 15 kW/20 kW

HYDRAULIC SYSTEM

Load sensing/LUDV hydraulic system, hydraulic pilot-controlled work functions, load limit sensing control	
Pump type	Swashplate-type variable-displacement piston pump, 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	max. 350 bar
Filtration	High-performance filtration with long change interval
Hydraulic tank	900 l
Control system	Proportional, precision hydraulic actuation of work movements, 2 hydraulic servo joysticks for the work functions, additional functions via switches and foot pedals
Safety	Hydraulic circuits with safety valves, secured emergency lowering of the equipment at engine standstill, pipe fracture safety valves for lift cylinder and stick cylinder
Options	<ul style="list-style-type: none"> ■ Bio-oil – environmentally friendly ■ ToolControl for programming the pressure/rate for up to 10 tools ■ Additional hydraulic circuit for shear attachment ■ Load moment warning with capacity utilization indicator ■ Overload safeguard with shutdown ■ 60 µm pressure filter for attachments ■ 3 µm hydraulic micro-filter - SENNEBOGEN HydroClean

SLEWING DRIVE

Gearbox	Compact planetary gear with slant-axis hydraulic motor, integrated brake valves
Parking brake	Spring-loaded multi-disk brake
Slewing ring	External gear slewing ring with 360° protection and pinion gear lubrication
Slewing speed	0–5 rpm, variable

870E Technical data, equipment

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CAB **MAX** CFB

Cab type	Hydraulically elevating cab E270
Cab equipment	Sliding door, excellent ergonomics, automatic climate control, heated, air-suspension comfort seat, fresh/circulating air filter, joystick control, 12 V/24 V connections, SENCON
Options	<ul style="list-style-type: none"> ■ Cab E300/260 can be elevated 300 cm and moved forward 260 mm hydraulically ■ Auxiliary heating system with timer ■ Active charcoal cab filter for fresh/recirculating air ideal for waste recycling applications ■ Steering wheel with adjustable steering column ■ Sliding window in operator door ■ Armored glass windshield, additional safety ■ Armored glass roof window, additional safety ■ Safety side window and rear window ■ Floor window for a better view ■ Rolling shade for roof window and windshield ■ Protective roof grating ■ FOPS protective roof grating ■ Protective front grating ■ Radio and CD player with speakers ■ Enlarged industrial cab with undivided armored glass windshield

ATTACHMENTS

Design	Decades of experience, state-of-the-art computer simulation, highest level of stability, longest service life, large-dimensioned and low-maintenance bearing points, sealed special bearing bushes, precision-crafted, quick-release couplings on the connections - open/close/rotate grapple
Cylinders	Hydraulic cylinders with high-quality sealing and guide elements, end position damping, sealed bearing points
Options	<ul style="list-style-type: none"> ■ Ball valves in the hydraulic lines for quick and easy grapple switching ■ Kinematics position II for greater working depth ■ Maritime climate varnishing ■ Maritime climate coating of all cylinders, nickel-plated and chrome-plated ■ Float position of the equipment ■ Hoisting limiter / stick limitation adjustable for stop settings, e.g. in the hall

UNDERCARRIAGE

Design	Wide-gauge crawler undercarriage in a stable, torsion-resistant box design.
Drive	Hydraulic traction drive for each crawler integrated in the chassis and connected by a compact planetary gear to an axial piston motor.
Parking brake	Spring-loaded, hydraulically ventilated disk brakes. Hydraulic brake valves protect the traction motors when going downhill.
Traveling gear	R83-450 telescopic crawler undercarriage with 2.8–4.5 m mechanical track adjustment and maintenance-free B8b C63 crawler track, 7,000 mm long, with canted 800 mm triple grouser track shoes.
Speed	0 - 1.6 km/h Level I: 0 - 3 km/h Level II
Options	<ul style="list-style-type: none"> ■ Maintenance-free B8b crawler track with rounded 900 mm flat track shoes ■ Maintenance-free B8b crawler track with canted 900 mm triple grouser track shoes ■ R90-550 special undercarriage with integrated 2 m pylon ■ P136-585 crawler gantry with 5 m clearance

ELECTRIC DRIVE **eGREEN**

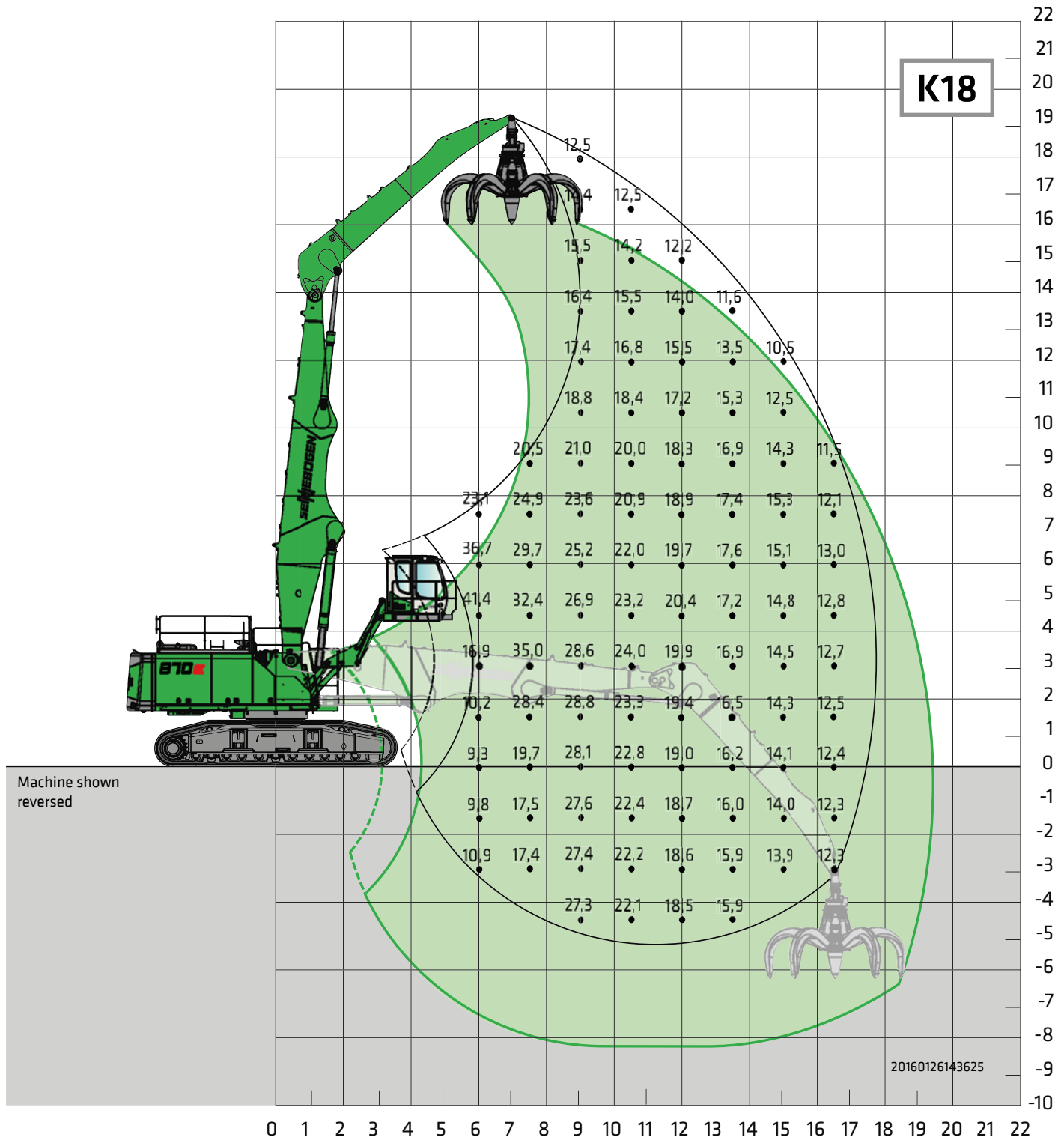
Option	<ul style="list-style-type: none"> ■ Power: 250 kW, 400 V, 50 Hz Total connected load: 270 kVA, 355 A fuse not included (alternatively 400 A with magnet system) for 400 V – star-delta motor starter ■ Advantages: Lowest operating costs, quiet and virtually vibration-free work, long service life of hydraulic components
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OPERATING WEIGHT

Mass	approx. 93,500 kg 870 R basic machine with K18 equipment and 3,000 l multi-shell grab
Notice	Operating weight varies by design.

870E Load ratings

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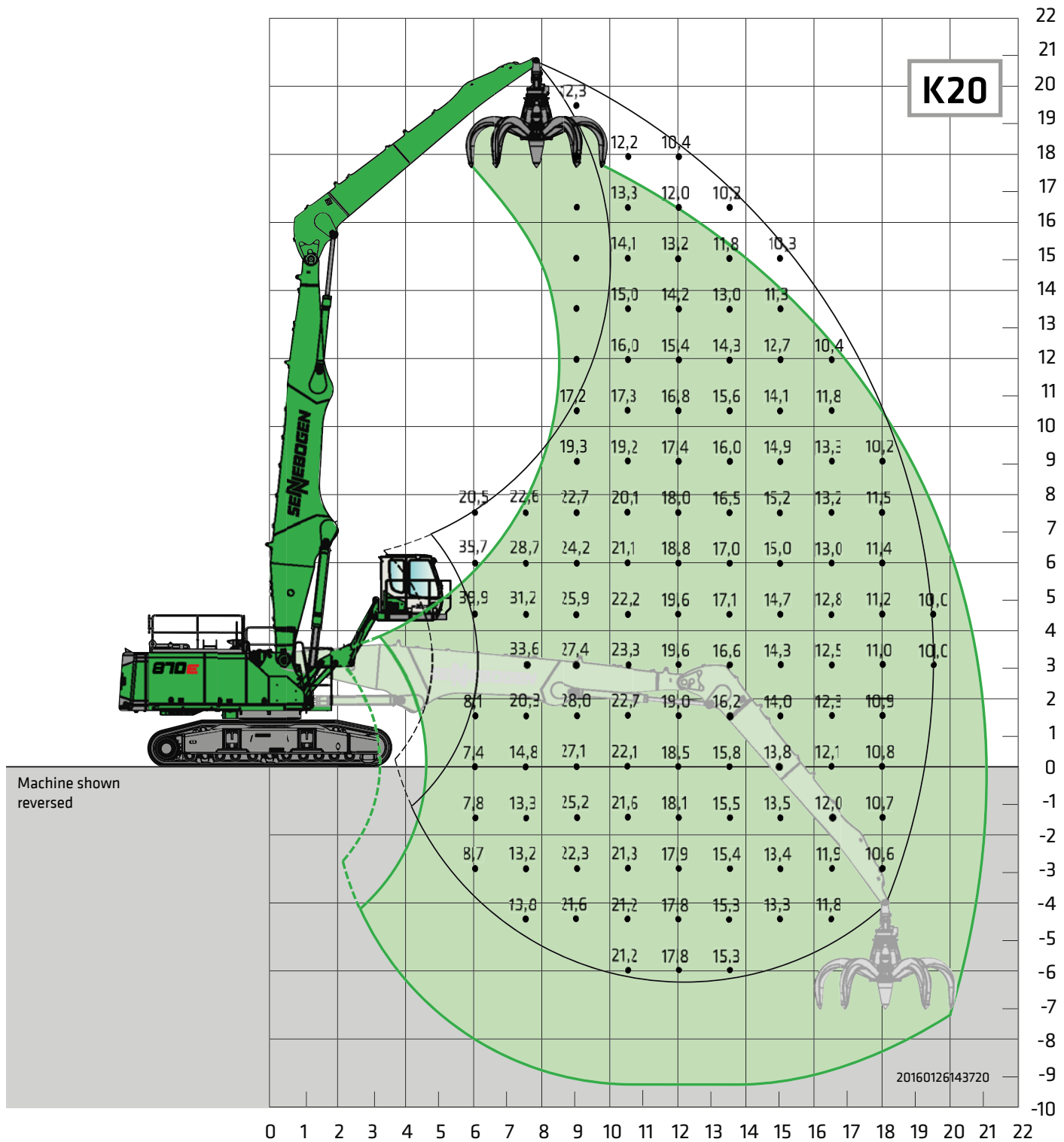
Undercarriage	R83-450	Compact boom Loading stick	10.8 m 7.8 m	Cab	Maxcab E300/260, hydraulic elevation and tilt feature
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All values are in tons (t) and are 75% of the static tipping load or 87% of the hydraulic lifting force in accordance with ISO 10567, and apply at the required operating temperature in the Green Hybrid system. They apply 360° on solid, level ground. Safe working loads include attachments such as multi-shell grapples, magnets, etc. According to harmonized EU standard EN 474-5, hydraulic excavators used for lifting must be equipped with pipe fracture safety devices on the hoist cylinders and an overload warning device.



870E Load ratings

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Machine shown reversed

K20

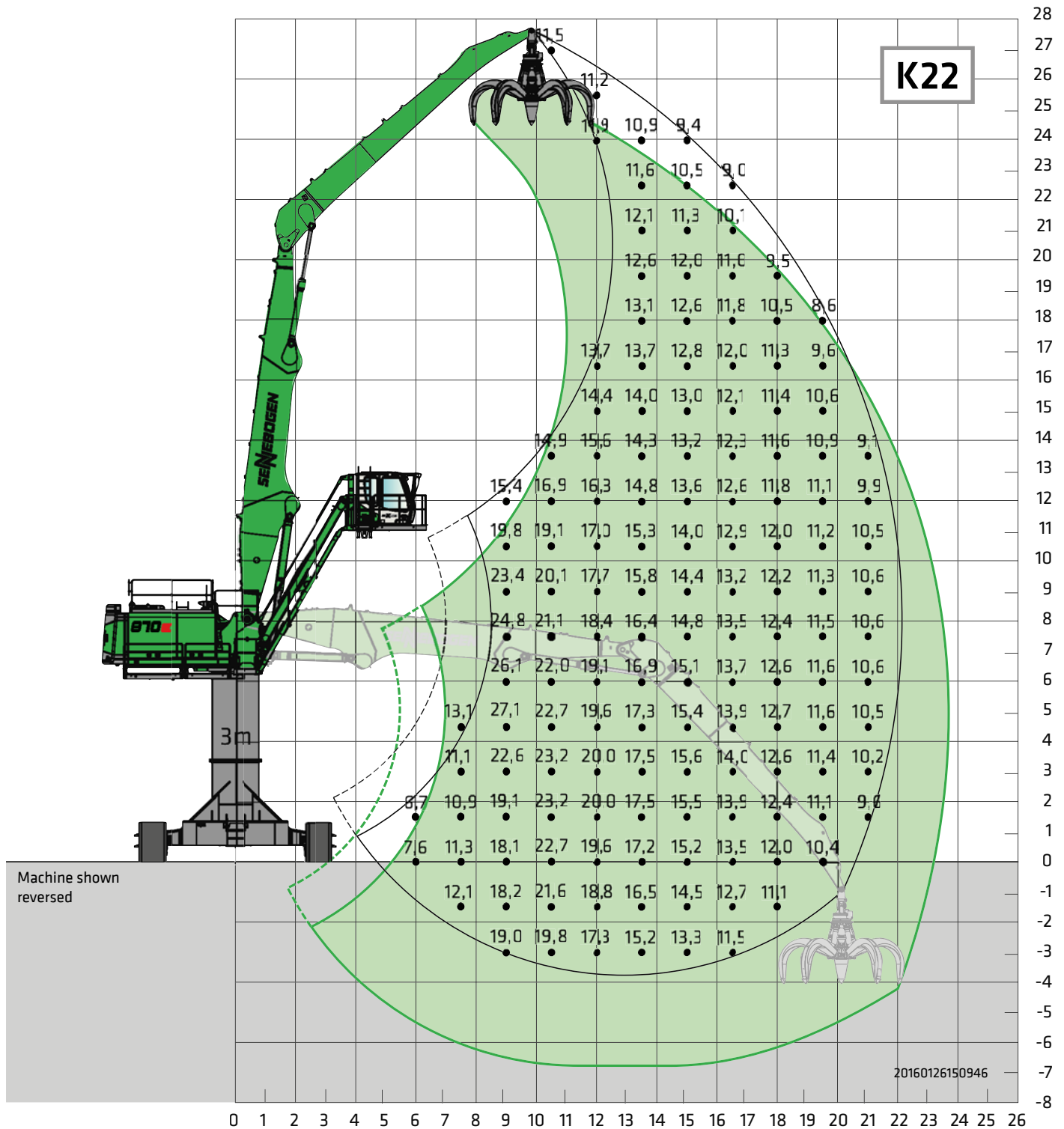
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Undercarriage	R83-450	Compact boom Loading stick	11.8 m 8.8 m	Cab	Maxcab E300/260, hydraulic elevation and tilt feature
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870E Load ratings

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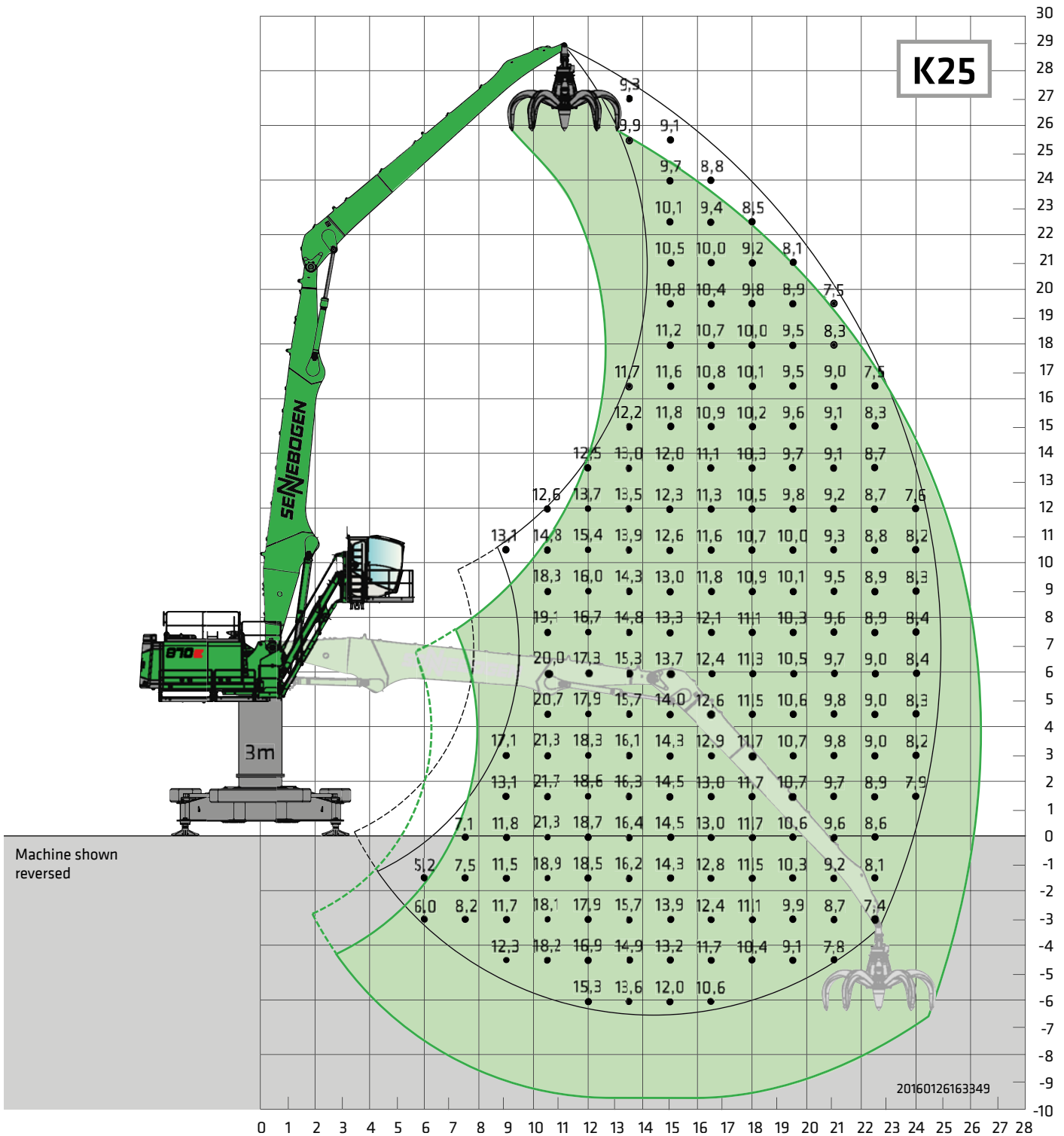
Undercarriage Pylon	R90-550 3.0 m	Compact boom Loading stick	12.5 m 10.8 m	Cab	Skylift 900 with Maxcab Industry, cab with hydraulic elevation feature (option)
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All values are in tons (t) and are 75% of the static tipping load or 87% of the hydraulic lifting force in accordance with ISO 10567, and apply at the required operating temperature in the Green Hybrid system. They apply 360° on solid, level ground. Safe working loads include attachments such as multi-shell grapples, magnets, etc. According to harmonized EU standard EN 474-5, hydraulic excavators used for lifting must be equipped with pipe fracture safety devices on the hoist cylinders and an overload warning device.



870E Load ratings

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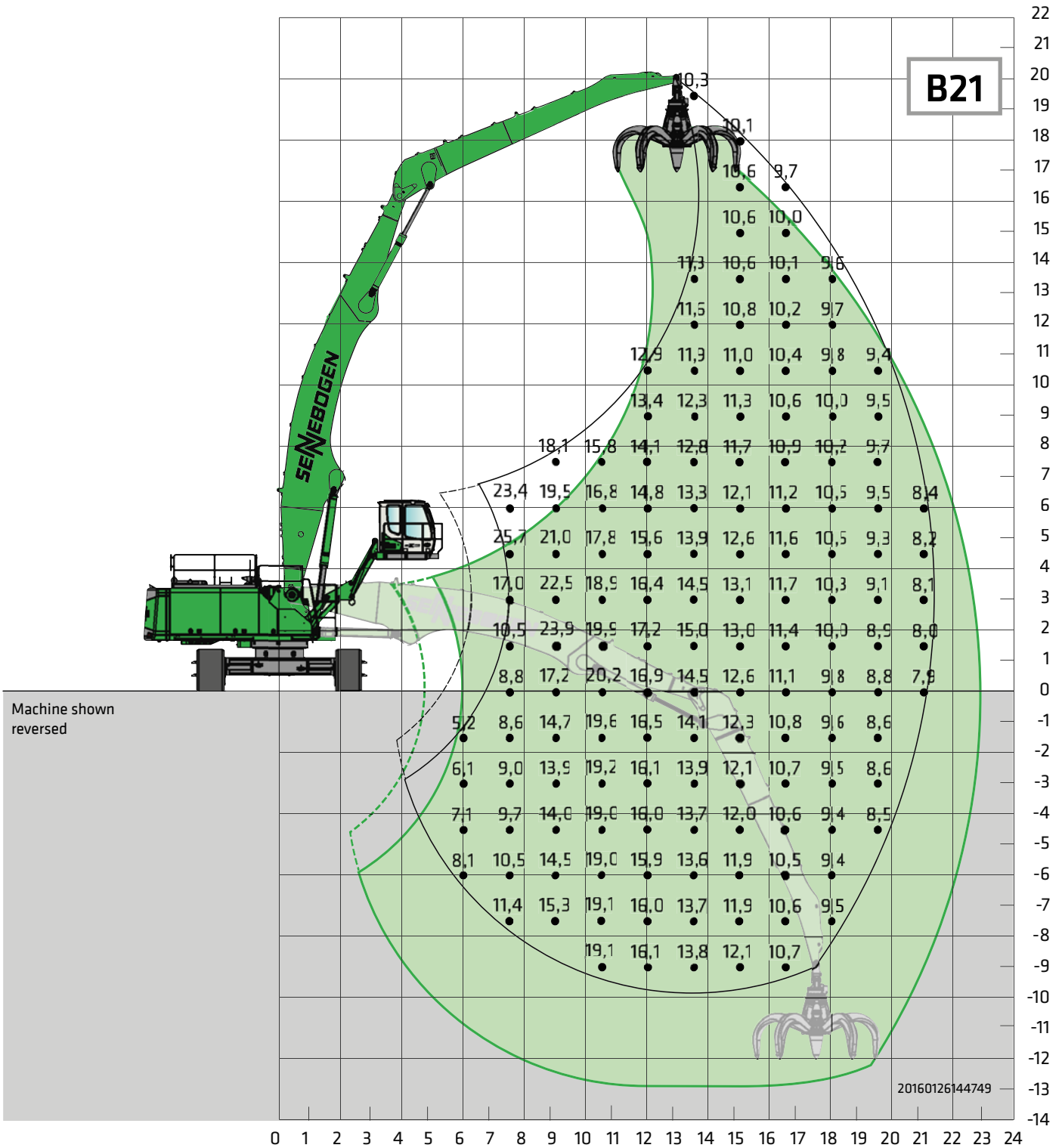


Undercarriage Pylon	ST88 3.0 m	Compact boom Loading stick	14.0 m 12.3 m	Cab	Skylift 700 with Mastercab, cab with hydraulic elevation feature (option)
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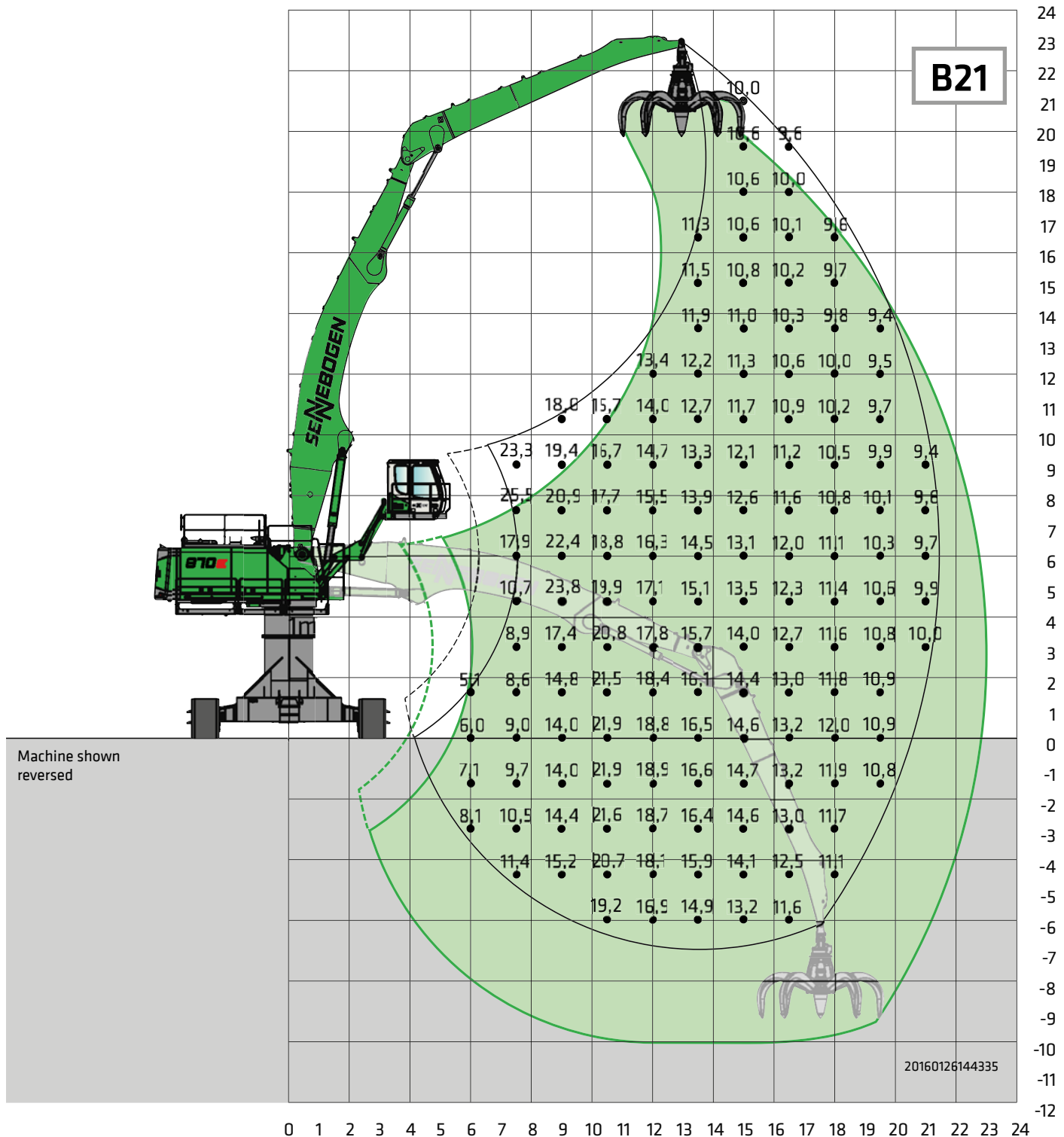


Undercarriage	R83-450	Compact boom Loading stick	13.5 m 9.8 m	Cab	Maxcab E300/260, hydraulic elevation and tilt feature
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870E Load ratings

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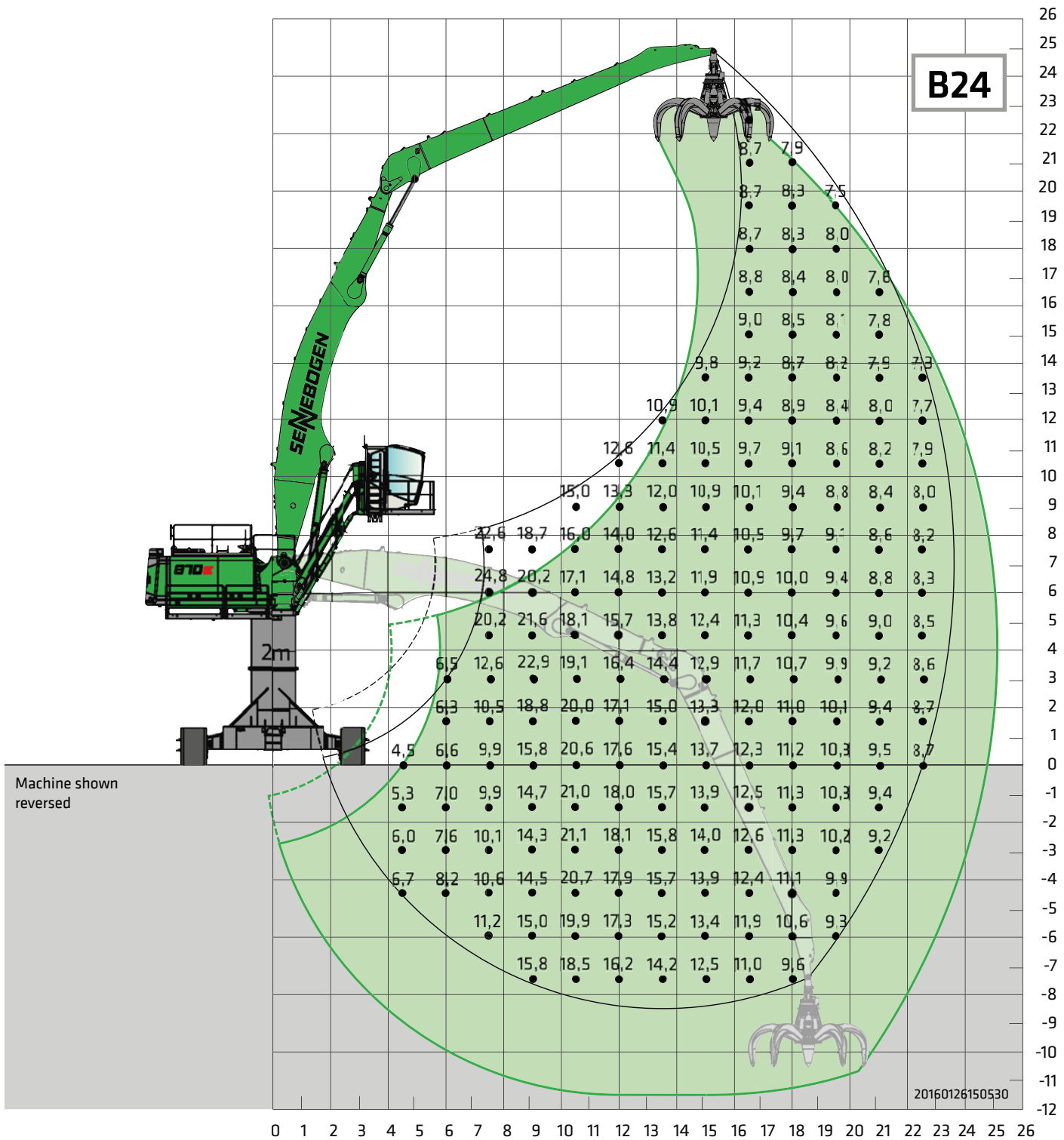


Undercarriage Pylon	R90-550 1.0 m	Compact boom Loading stick	13.5 m 9.8 m	Cab	Maxcab E300/260, hydraulic elevation and tilt feature
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870E Load ratings

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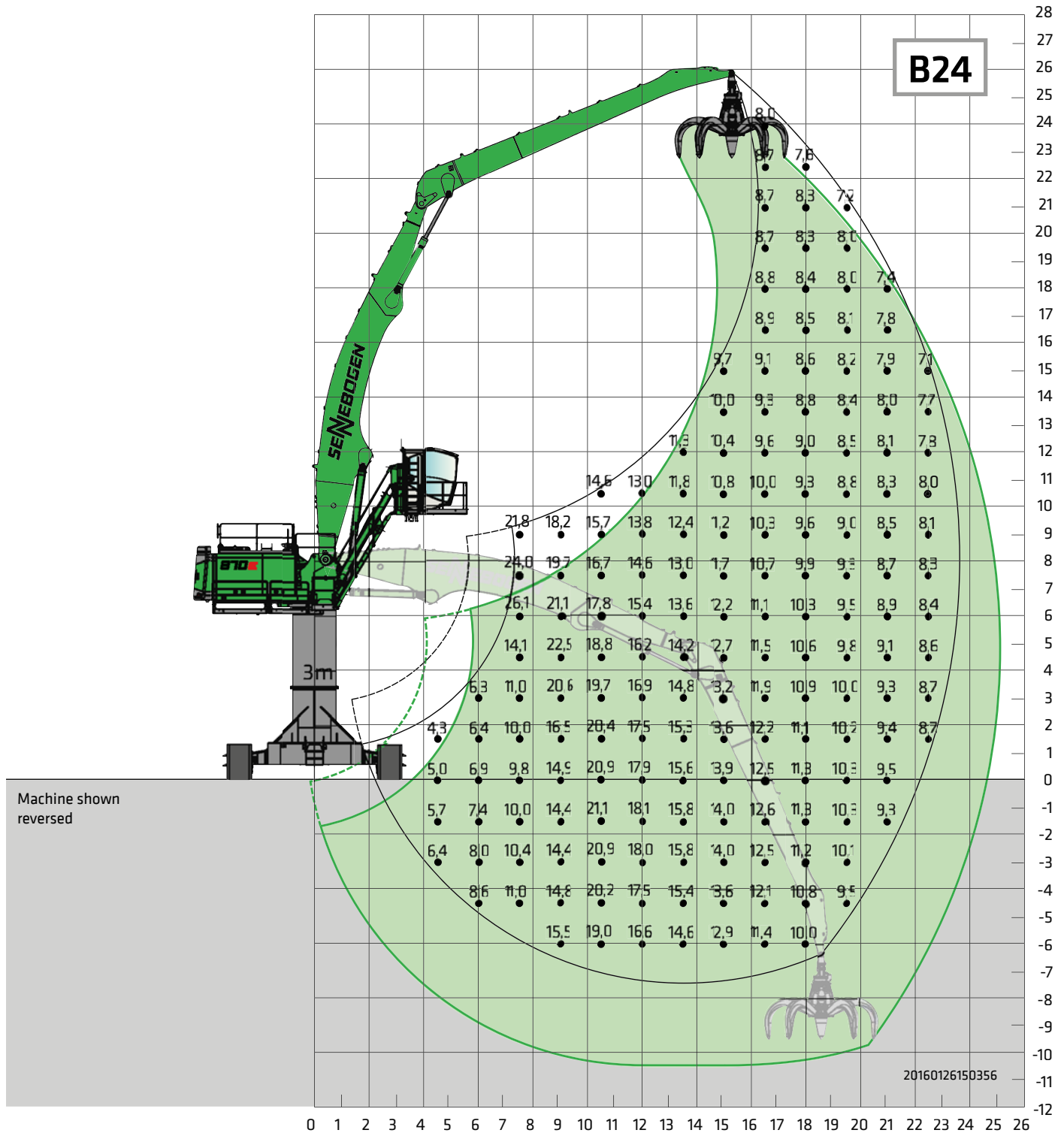


Undercarriage Pylon	R90-550 2.0 m	Compact boom Loading stick	13.5 m 12.3 m	Cab	Skylift 700 with Mastercab, cab with hydraulic elevation feature (option)
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All values are in tons (t) and are 75% of the static tipping load or 87% of the hydraulic lifting force in accordance with ISO 10567, and apply at the required operating temperature in the Green Hybrid system. They apply 360° on solid, level ground. Safe working loads include attachments such as multi-shell grapples, magnets, etc. According to harmonized EU standard EN 474-5, hydraulic excavators used for lifting must be equipped with pipe fracture safety devices on the hoist cylinders and an overload warning device.

870E Load ratings

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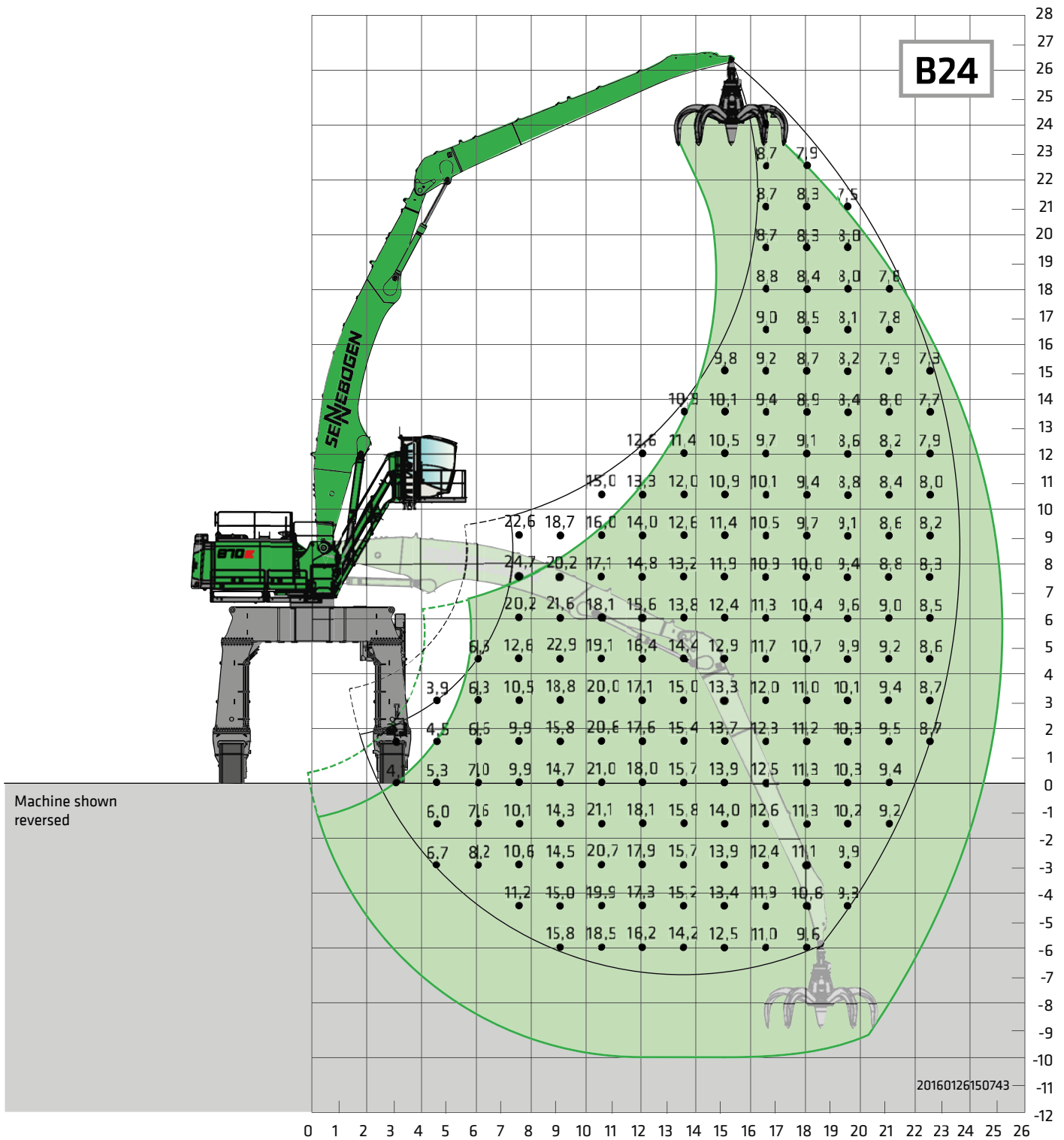


Undercarriage Pylon	R90-550 3.0 m	Compact boom Loading stick	13.5 m 12.3 m	Cab	Skylift 700 with Mastercab, cab with hydraulic elevation feature (option)
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All values are in tons (t) and are 75% of the static tipping load or 87% of the hydraulic lifting force in accordance with ISO 10567, and apply at the required operating temperature in the Green Hybrid system. They apply 360° on solid, level ground. Safe working loads include attachments such as multi-shell grapples, magnets, etc. According to harmonized EU standard EN 474-5, hydraulic excavators used for lifting must be equipped with pipe fracture safety devices on the hoist cylinders and an overload warning device.

870E Load ratings

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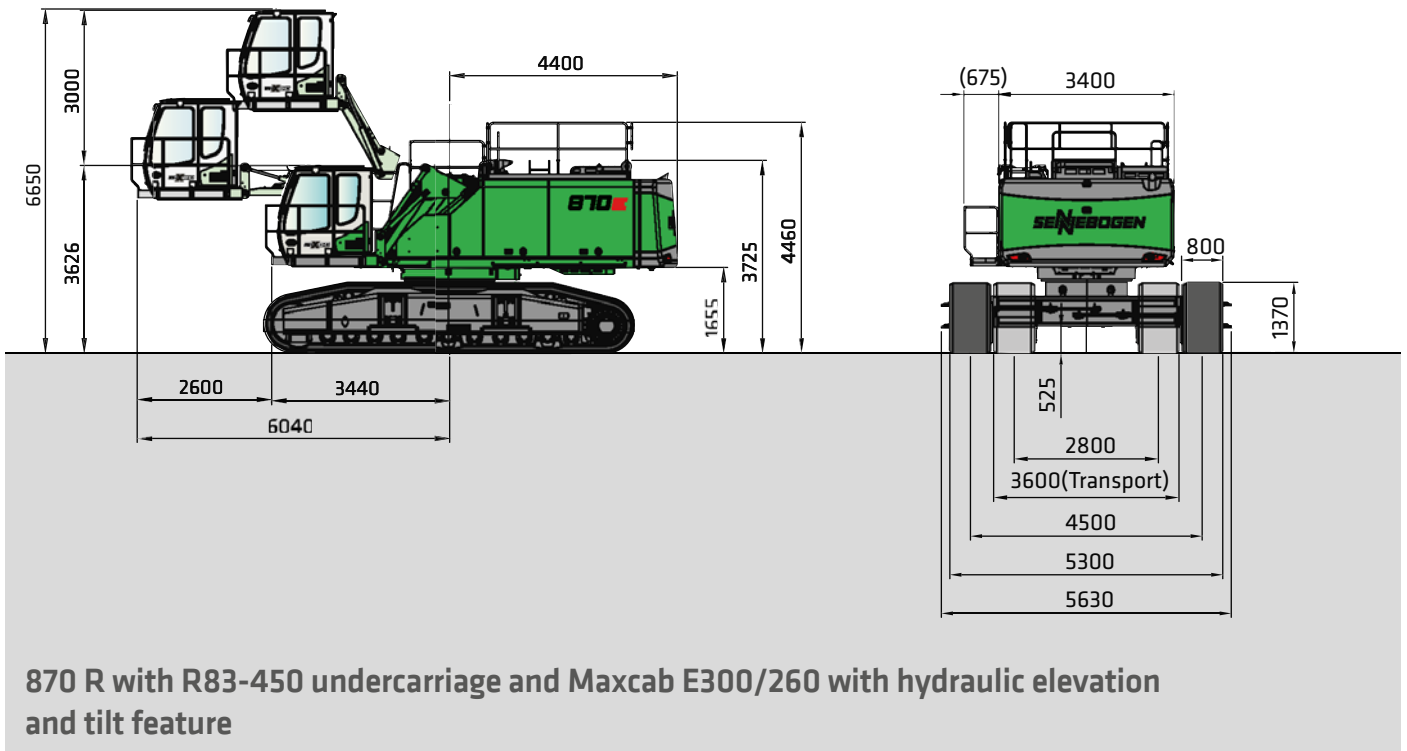
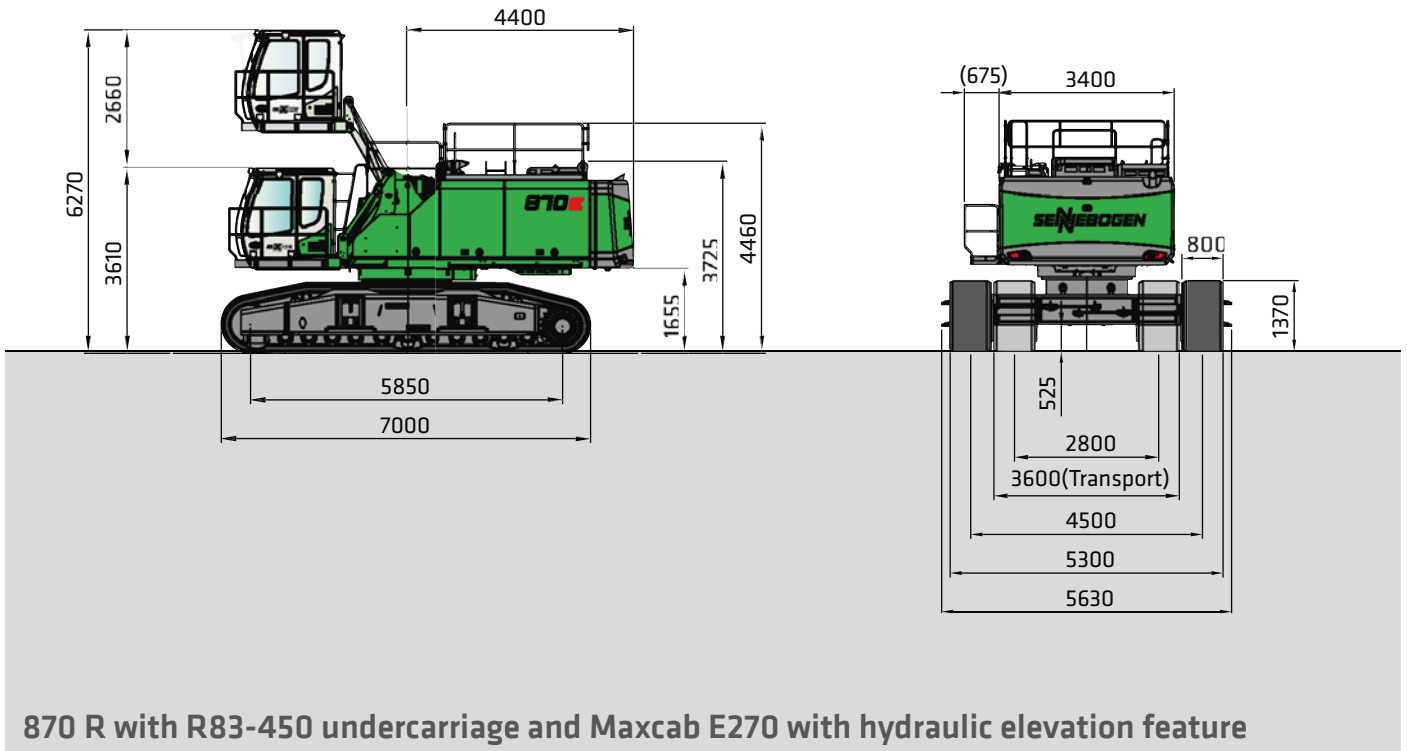
Undercarriage	P136-585	Compact boom	13.5 m	Cab	Skylift 700 with Mastercab,
		Loading stick	12.3 m		cab with hydraulic elevation feature (option)

All values are in tons (t) and are 75% of the static tipping load or 87% of the hydraulic lifting force in accordance with ISO 10567, and apply at the required operating temperature in the Green Hybrid system. They apply 360° on solid, level ground. Safe working loads include attachments such as multi-shell grapples, magnets, etc. According to harmonized EU standard EN 474-5, hydraulic excavators used for lifting must be equipped with pipe fracture safety devices on the hoist cylinders and an overload warning device.



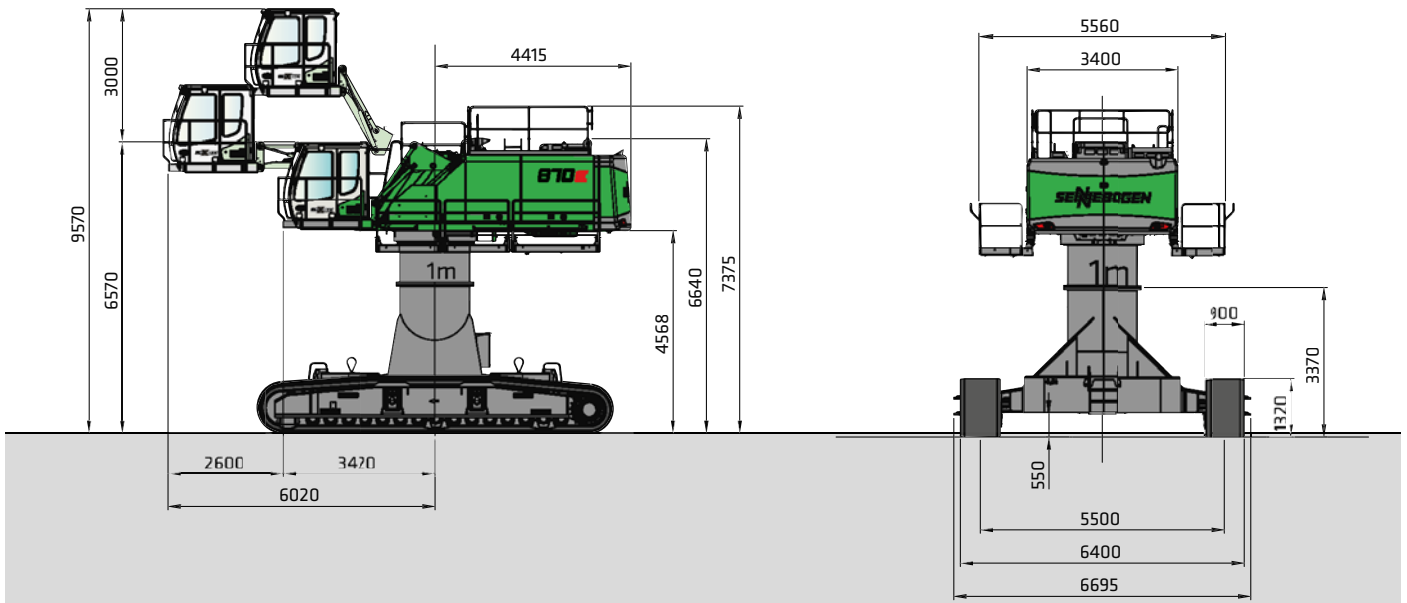
870E Dimensions

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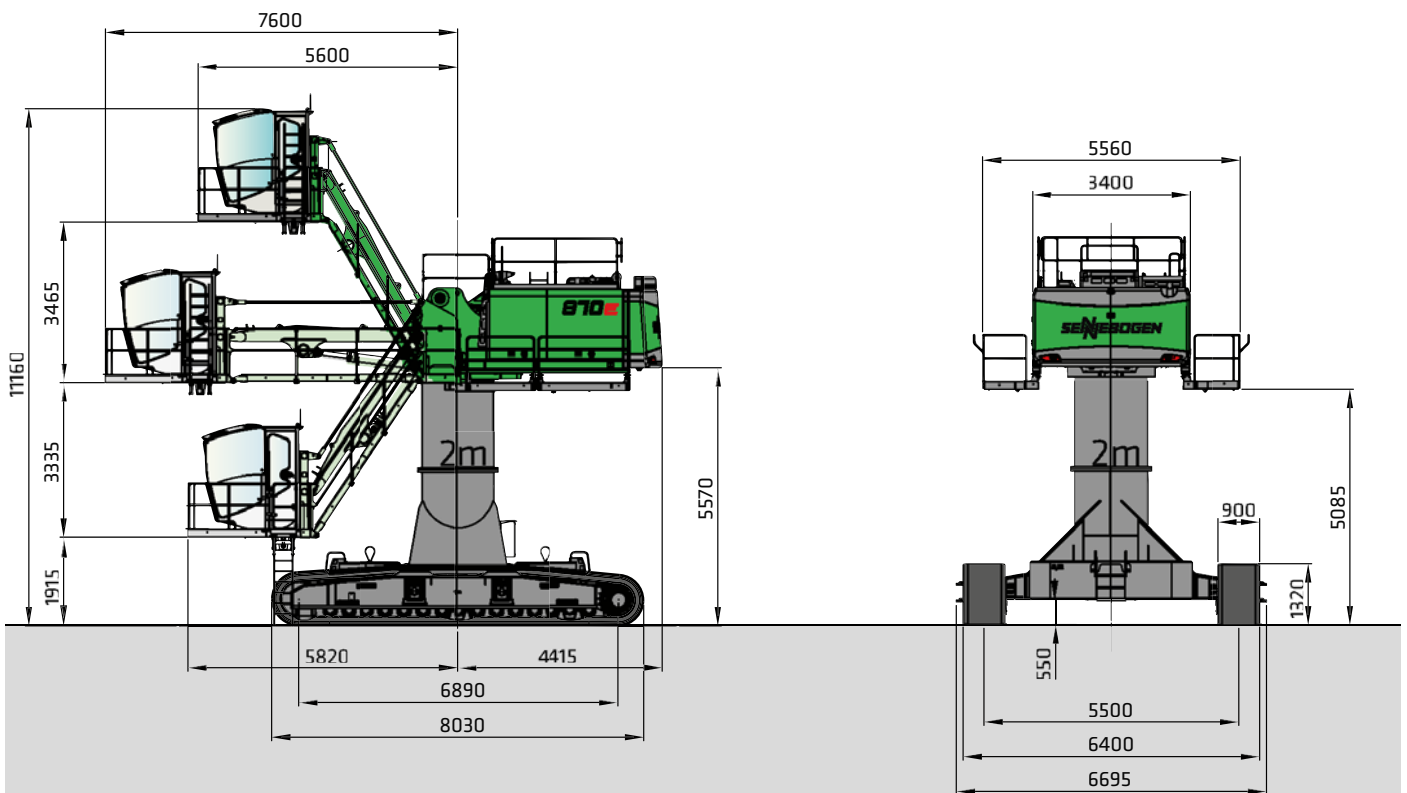


870E Dimensions

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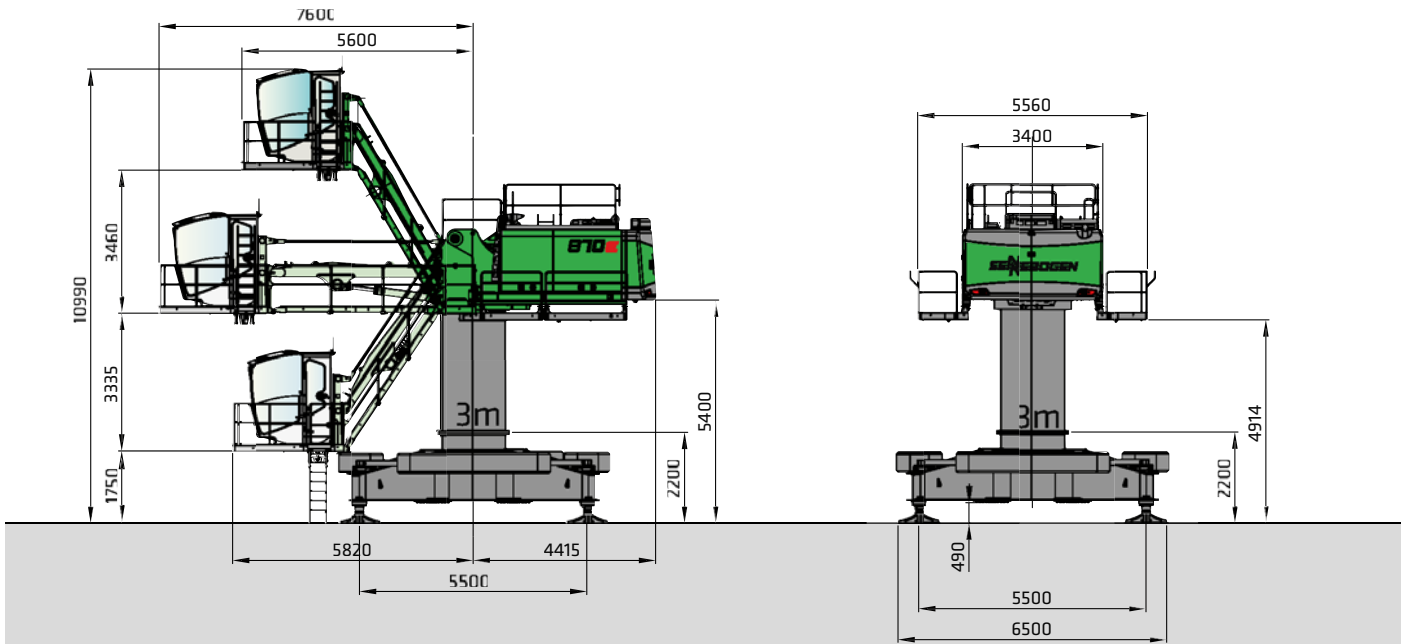
870 R with R90-550 undercarriage, Maxcab E300/260 with hydraulic elevation and tilt feature, and 1.0 m pylon



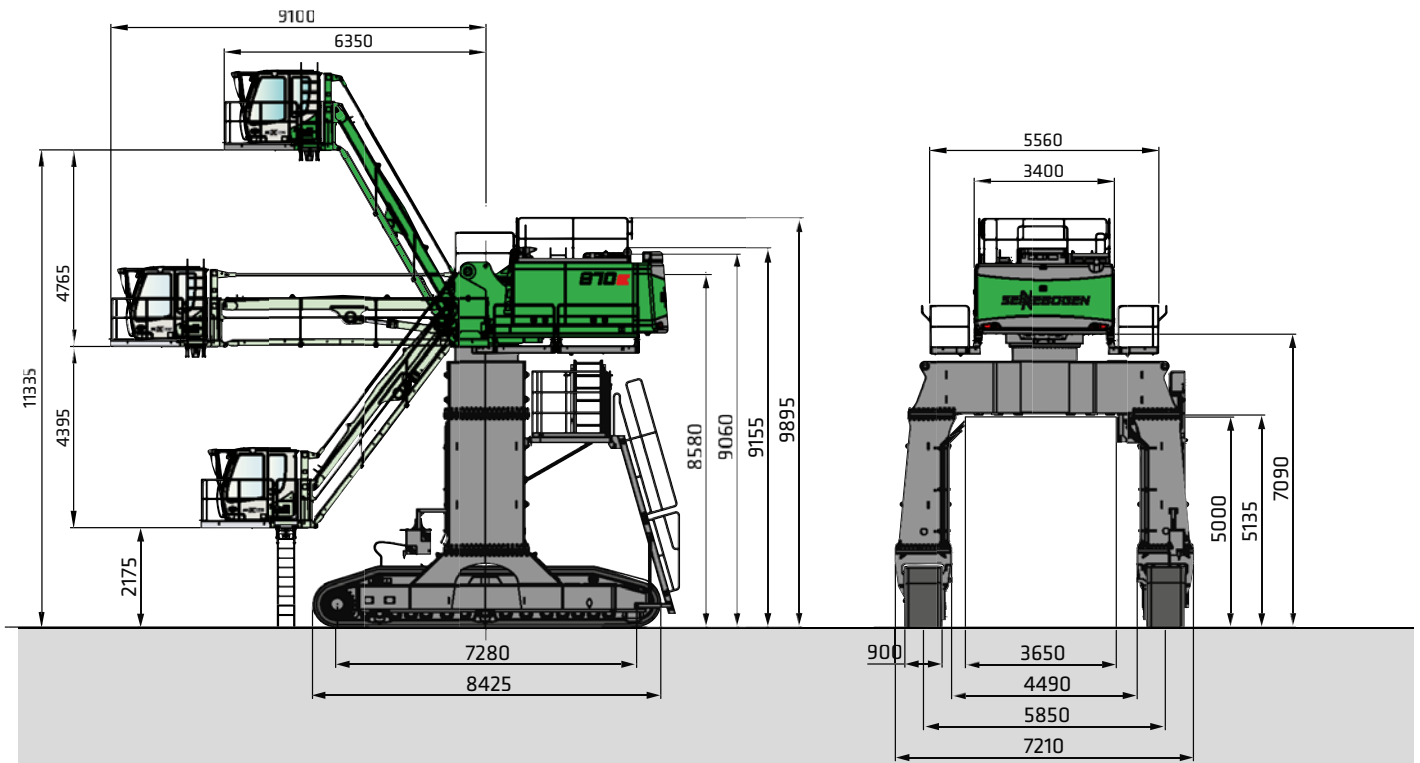
870 R with R90-550 undercarriage, Skylift 700, Mastercab with hydraulic elevation feature, and 2.0 m pylon

870E Dimensions

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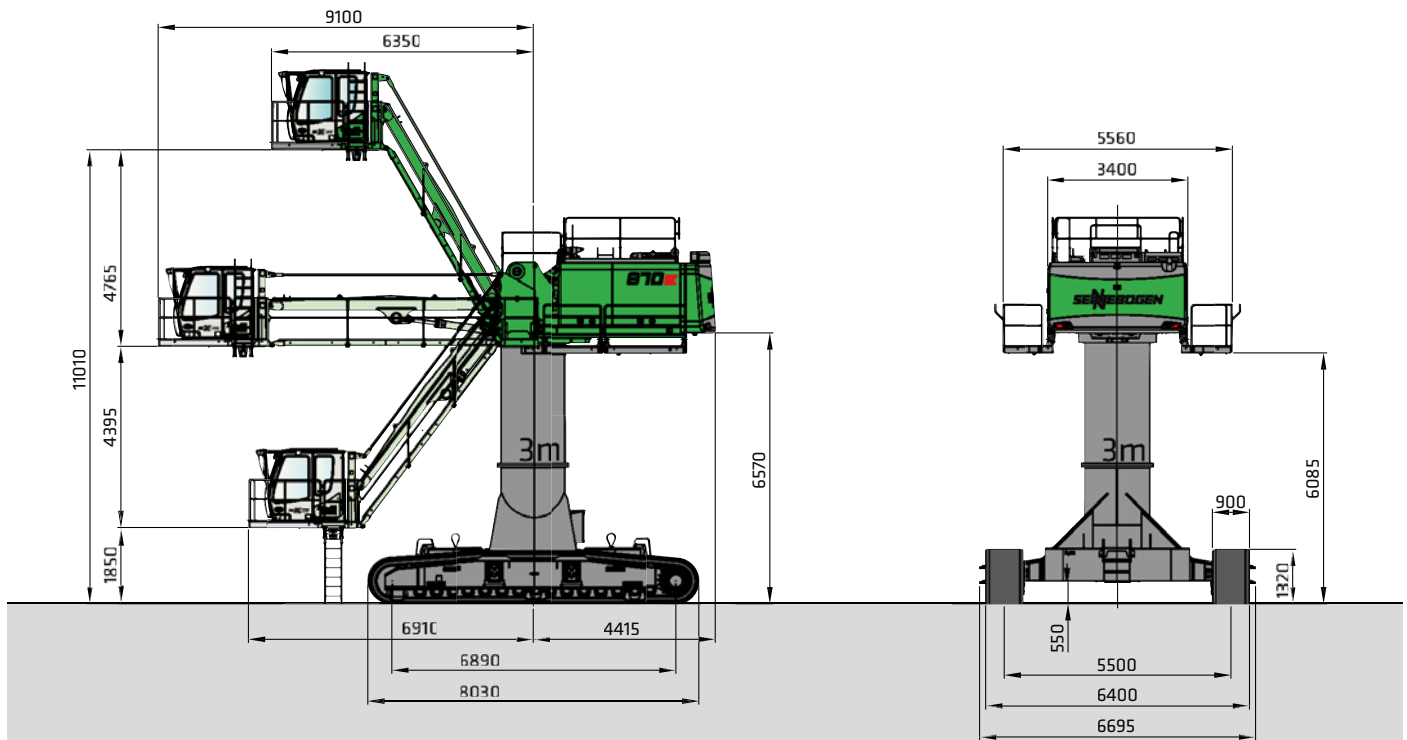
870 R with ST88 undercarriage, Skylift 700, Mastercab with hydraulic elevation feature, and 3.0 m pylon



870 R with P136-585 undercarriage, Skylift 900 and Maxcab Industry cab with hydraulic elevation feature

870E Dimensions

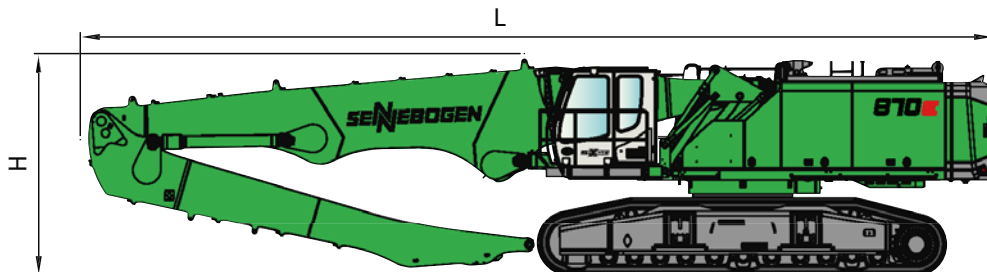
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870 R with R90-550 undercarriage, Skylift 900 and Maxcab Industry cab with hydraulic elevation feature

870E Transport dimensions

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	Load boom	Grapple stick	Transport length (L)	Transport height (H)
K18	10.8 m	7.8 m	15.85 m	3.90 m
K20	11.8 m	8.8 m	16.9 m	4.00 m
21b	13.5 m	9.8 m	18.3 m	3.95 m*

* Stick removed

870E Recommended grapples

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SGM multi-shell grab (4 shells)



Design / size	Grapple capacity	Weight ¹		Maximum load capacity
		Shell shape		
		HO	G	
SGM	l	kg	kg	t
800.50-4	800	2245	2490	10.0
1000.50-4	1000	2345	2585	
1500.50-4	1500	2475	2830	
2000.50-4	2000	2660	3075	

SGM multi-shell grab (5 shells)



Design / size	Grapple capacity	Weight ¹		Maximum load capacity
		Shell shape ²		
		HO	G	
SGM	l	kg	kg	t
800.50	800	2420	2610	10.0
1000.50	1000	2480	2655	
1500.50	1500	2645	2930	
2000.50	2000	2800	3160	
2500.50	2500	3130	3615	
3000.50	3000	3250	3875	
3500.50	3500	3420	4140	

Double-shell grab SGZ



Design / size	Grapple capacity	Weight ¹	Maximum load capacity
SGZ	l	kg	t
2500.60	2500	3350	12.0
3000.60	3000	3530	
3500.60	3500	3720	
4000.60	4000	3920	

Magnetic plates



Type series / model	Power	Deadweight	Breakaway force	Load-bearing capacity in kg
WOKO	kW	kg	kN	Slab (safety factor 2)
S-RLB 15	11.7	2400	380	19000
S-RLB 17	17.8	3300	640	32000
S-RLB 19	22.0	5090	790	39500
Recommended magnetic generator: 20-25 kW				

*) Available upon request

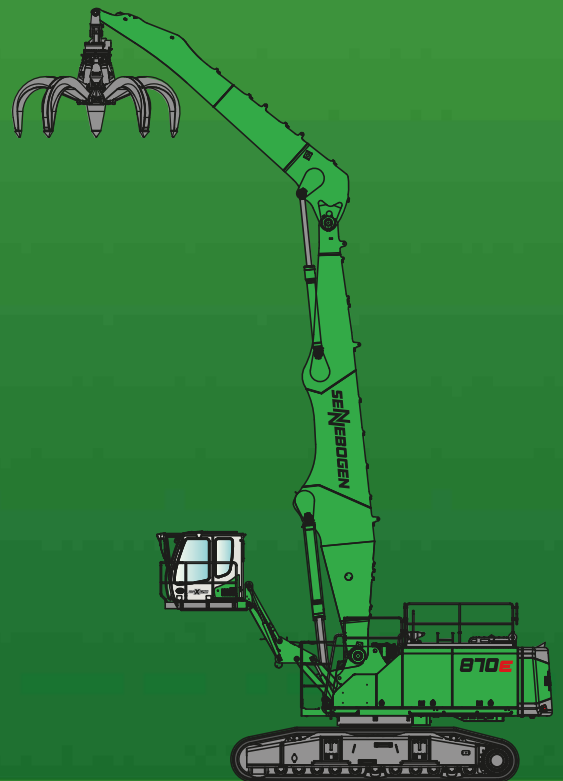
¹) Weight information without grapple suspension, stick bolts, hose system

²) Half-open shells: shell sheet steel width 400 mm, 500 mm wide for 1250 l capacity and higher

870E



870E



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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