

 **850 M**

SENEBOGEN

PRELIMINARY



268 kW (Stage IIIa)
298 kW (Stage V)
250 kW (Electro)



62-95 t



21 m



MAX CAB

850E

Mobile material handling machine

Stage V

850E Advanced. The E-Series



1962: rope-driven S833 with elevated operator cab

What makes up the E-Series

- 65 years of experience in designing and constructing hydraulic material handling machines
- Uncompromisingly high performance in all areas: Focus on material handling
- Technology that can be mastered: High-quality components without over-engineering
- Long service life and high value retention

Your top benefits:

1

Green Efficiency

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



2

Top-level performance

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

3

Maximum usability

Maxcab comfort cab - work in comfort
SENCON - work program selection made easy



4

Maximum safety

Safe entry and exit - non-slip steps
State-of-the-art cameras - entire work area in view

5

Maintenance and service made easy

SENNEBOGEN Control System - easy fault diagnosis
Simple maintenance - clear labeling

6

Consultation and support in your area

3 production locations - 2 subsidiaries
150 sales partners - more than 350 service stations





Subject to change. Additional options available upon request.

850E The E-Series. At a glance.



Four ways to save fuel

- Up to 20 % savings: Work in EcoMode with reduced engine speed
- Automatic idle reduces engine speed to 40 % of the operating speed
- Stop automation switches the engine off when not needed
- Optimized engine settings, specific fuel consumption lowered, state-of-the-art exhaust after treatment



Quiet operation 2

- Consistently quiet operation thanks to decoupled engine mounts and soundproofing in the doors
- Sound power level according to 2000/14/EC up to 2 dB lower than required

High-capacity cooling 3

- Constant, reliable performance thanks to large-dimensioned and robust fans and coolers
- Water and oil coolers with top-notch efficiency thanks to axial-piston pumps, motor control, and on-demand thermostatic control
- Fan reversal for cleaning in series



Powerful hydraulic system ⁴

- Strong pumps with power reserves
- Top efficiency thanks to large hydraulic valves and lines
- Extra-long change intervals of 4,000 operating hours through initial fill-up with special oil with extended service life when using SENNEBOGEN Hydro Clean*

Maximum safety

- No-slip work surfaces
- Hand rails* ¹
- 2 cameras to the right and rear
- Platform with railing next to sliding cab door

* Option



The premium cab.

Panoramic view

Features

- optimum cab climate with automatic air conditioning system, partial tinted glass
- pleasant and equal temperature dispersion by means of 9 nozzles
- panoramic view
- comfort seat with air suspension
- very quiet through optimized noise insulation
- highest safety & comfort with sliding door, wide door opening
- ergonomically arranged operating controls for fatigue-free and relaxed working
- 12 V, 24 V, and USB charging sockets, hands-free telephone preparation, document box
- various options: electric cool box behind driver's seat, seat air conditioning

SENNEBOGEN-Joysticks

- consoles and ergonomic joysticks that move with the seat
- pleasant grip through ergonomic design
- precise control of all movements through direct and sensitive function activation
- quick access to all operating controls through optimized design of all push-buttons and switches

850E Maintenance and service made easy.



Optimized for maintenance

- Fast and easy diagnosis thanks to the clearly labeled electrical distributor
- Easy accessibility to all service points of the machine
- Automatic central lubrication for equipment and slewing gear raceway



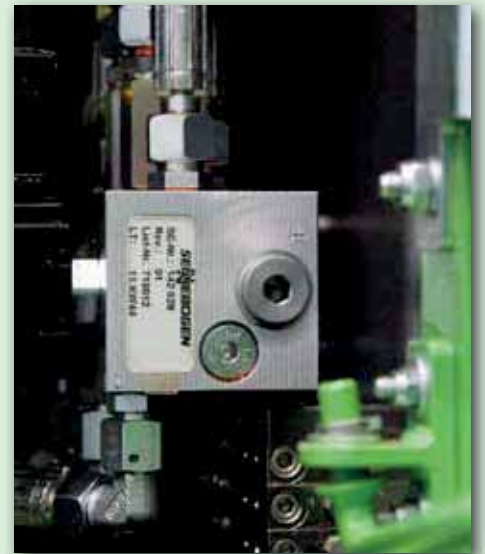
SENNEBOGEN HydroClean*

- Optimal protection of hydraulic components thanks to 3 μm micro-filter
- Cleaner hydraulic oil, longer oil service life



Central measuring points

- Easily accessible
- Inspect the entire hydraulic system quickly



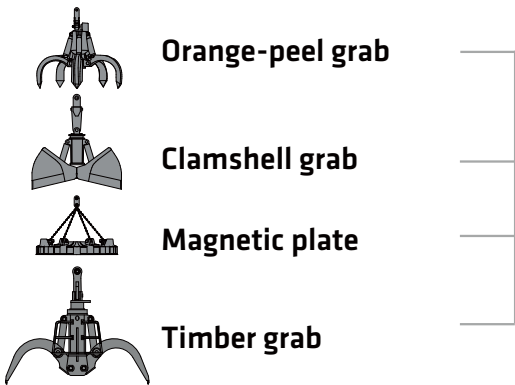
Clear labeling

- All parts labeled with a unique part number
- Easy and reliable spare parts ordering

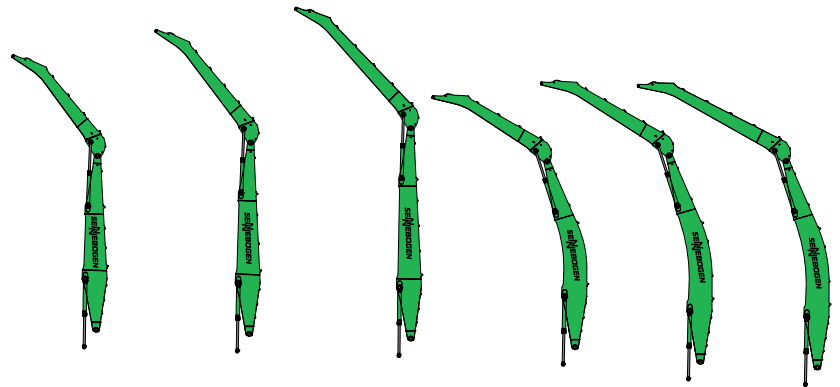
* Option

850E Modular design - versatile solutions

Attachments



Equipment options (others available upon request)



Cabs

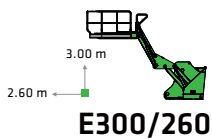


Maxcab



Maxcab Industry

Cab elevation



K17

K19

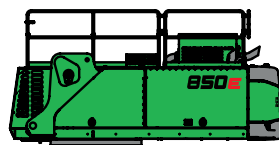
K21

B17

B19

B20

Uppercarriage



Diesel-hydraulic drive



Electrohydraulic drive

Options

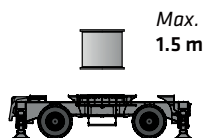


Motorized cable reel

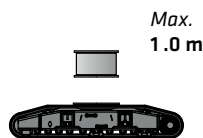


Transformer

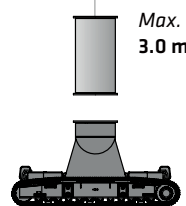
Undercarriage variants



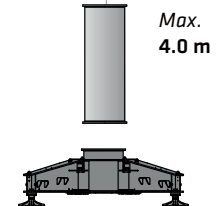
Mobile E
MP50



Crawler*
R73/420



Crawler*
R70/490



4-point pedestal*
ST78/550

850E Advantages at a glance

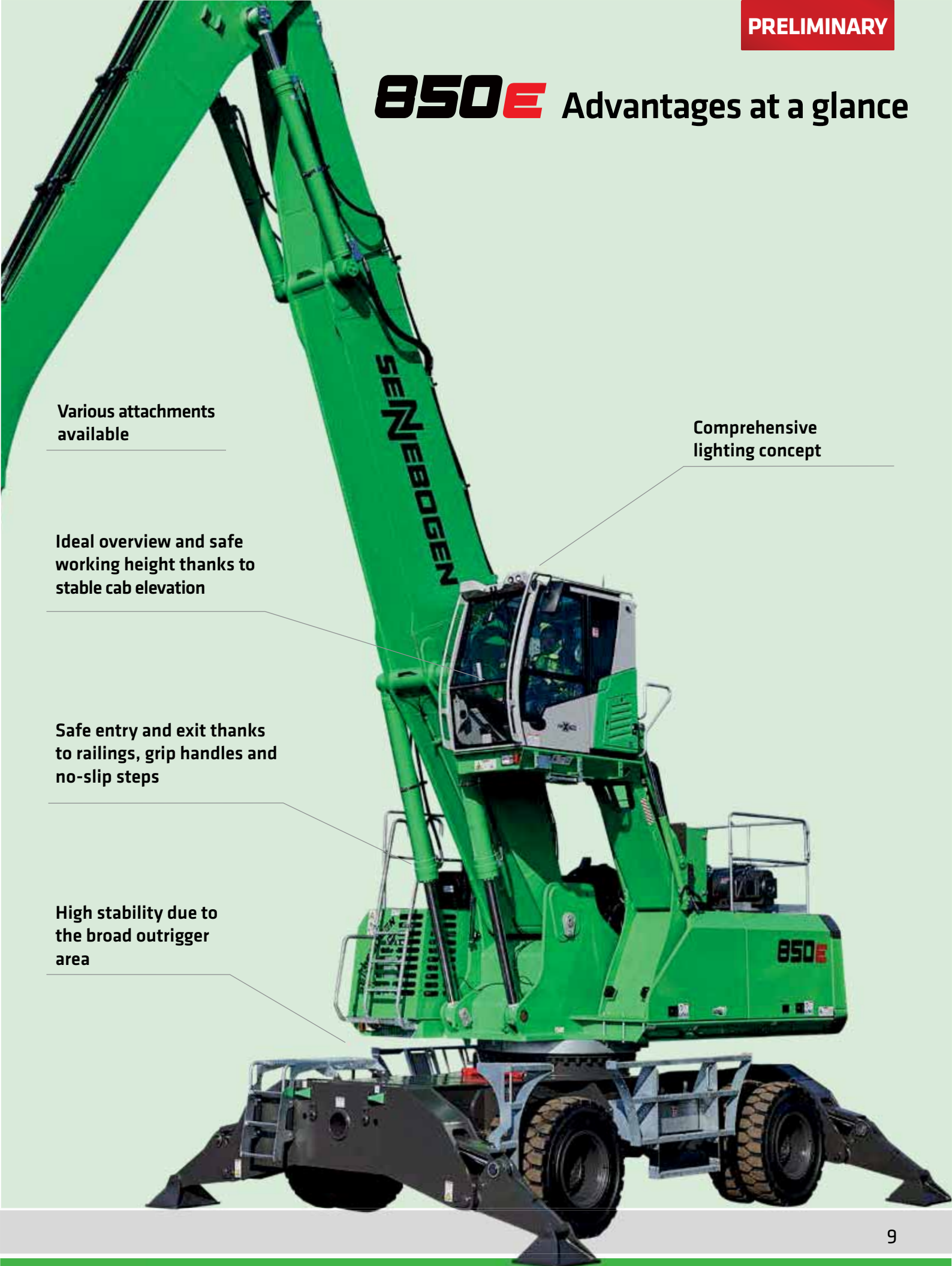
Various attachments available

Comprehensive lighting concept

Ideal overview and safe working height thanks to stable cab elevation

Safe entry and exit thanks to railings, grip handles and no-slip steps

High stability due to the broad outrigger area



850E Technical data, equipment

M

MACHINE TYPE

Model (type) **850**

ENGINE

Power **298 kW at 1800 rpm (Stage V)**
268 kW at 1800 rpm (Stage IIIa)

Model **Cummins X12 - Stage V**
Cummins QSM 11 - Stage IIIa
Direct injection, turbo charged, charge air cooler, reduced emissions, Eco Mode, idle automation, stop automation

Cooling Water-cooled

Air filter Dry filter with pre-separator, automatic dust discharge, main element and safety element, contamination indicator

Fuel tank **810 l**

DEF tank **110 l**

Electr. system **24 V**

Batteries **2 x 150 Ah**, battery disconnect switch

Options

- Engine block heater
- Electric fuel pump

UPPERCARRIAGE

Design Torsion-resistant box design, precision crafted, steel bushings for boom mounting, clean, service-friendly design, longitudinal engine

Central lubrication Automatic central lubrication system

Electrical system Central electrical distributor, battery disconnect switch

Cooling system 3-circuit cooling system with high cooling capacity, thermostatically regulated fan drive reduces energy consumption and noise pollution

Options

- Slewing gear brake via foot pedal
- 360° uppercarriage railing for additional safety
- LED lighting package
- Fire extinguisher
- Sea climate resistant coating as corrosion protection
- Electric heater for hydraulic tank
- Low temperature packages
- Hydraulically-driven magnetic generator 20 kW / 25 kW
- SENtrack DS telematics system

HYDRAULIC SYSTEM

Load-sensing/LUDV hydraulic system for work and travel functions

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 **330 bar**

Filtration High-performance filtration with long change interval
SENNEBOGEN HydroClean-hydraulic microfilter system water separation, optional

Hydraulic tank **700 l**

Flow rate max. 2x 450 l/min
Up to 280 l/min for rotary drive in the closed circuit

Control system Proportional, additional precision hydraulic actuation of work movements, 2 hydraulic servo joysticks for the work functions, additional functions via switches and foot pedals

Cooling Very large-dimensioned cooler unit with thermostatically controlled fan drive

Safety All hydraulic systems are protected with safety valves. High energy efficiency due to large-dimensioned hydraulic valves and lines. Hydraulic accumulator for emergency lowering of the equipment in the case of engine failure. Central measurement connections for hydraulic testing. Burst pipe safety valve for the hub and stick cylinder.

Options

- Bio-oil - environmentally friendly
- Tool Control for the programming of up to

SLEWING DRIVE

Gearbox 2 piece compact planetary gear with slant axis hydraulic motor in a closed hydraulic system ensures powerful rotary drive.


Parking brake Spring-loaded multi-disk brake


Slewing ring Very strong slewing ring sealed with pinion gear lubrication


Slewing speed 0-6 min¹, continuous


850E Technical data, equipment


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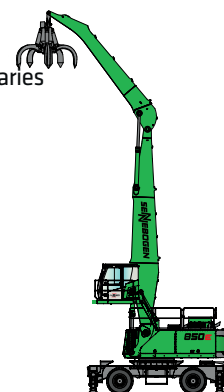
CAB 	
Cab elevation	E270, hydraulically elevating cab
Cab equipment	Sliding door inc. sliding pane, vibration damped, tinted safety glass, front pane can be openend, roof window, windscreen wiper for front pane, radio preparation, air-suspended comfort seat, joystick steering, SENNEBOGEN SENCON control & diagnosis system
Options	<ul style="list-style-type: none"> ■ Tilttable cab, 30 ° ■ Cab elevation E300/260, can be elevated and moved forward hydraulically ■ Maxcab Industry ■ Armored-glass windshield ■ Armored-glass sunroof ■ Safety side window and rear window ■ Windscreen wiper for front window/skylight ■ Rolling shade for roof window and windshield ■ FOPS protective roof guard ■ Protective front guard ■ Charcoal filter for circulating and outside air ■ Auxiliary heating ■ Climatic seat ■ Radio ■ Electric cool box

EQUIPMENT 	
Design	Decades of experience and the latest computer simulations guarantee the greatest degree of stability and life-span. Oversized bearing points with low-maintenance, sealed special bushings, precision-crafted.
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 grab switching ■ Sea climate resistant coating ■ Sea climate resistant coating of all cylinders, nickel-plated and chrome-plated ■ Float position of the equipment ■ Hoist limit / stick limitation adjustable for stop settings, e.g. in the hall

UNDERCARRIAGE 	
Design	Strong MP50 mobile undercarriage with 4 point outrigger support steering axle as hydraulically lockable floating axle. Floating axle cylinder with burst pipe safety valves, individual outrigger control for stability on uneven ground
Drive	All-wheel drive powered by variable-displacement hydraulic motors with direct-mounted, automatically actuated brake valve. Strong planetary axles, 2-circuit servo brake system with additional safety parking brake
Parking brake	Spring-loaded multi-disk brake
Tires	8 x 14.00-24 , solid rubber
Speed	0-14 km/h variable
Options	<ul style="list-style-type: none"> ■ Tires: 8 x 16.00-25 ■ Protection for travel drive ■ Shunting coupler

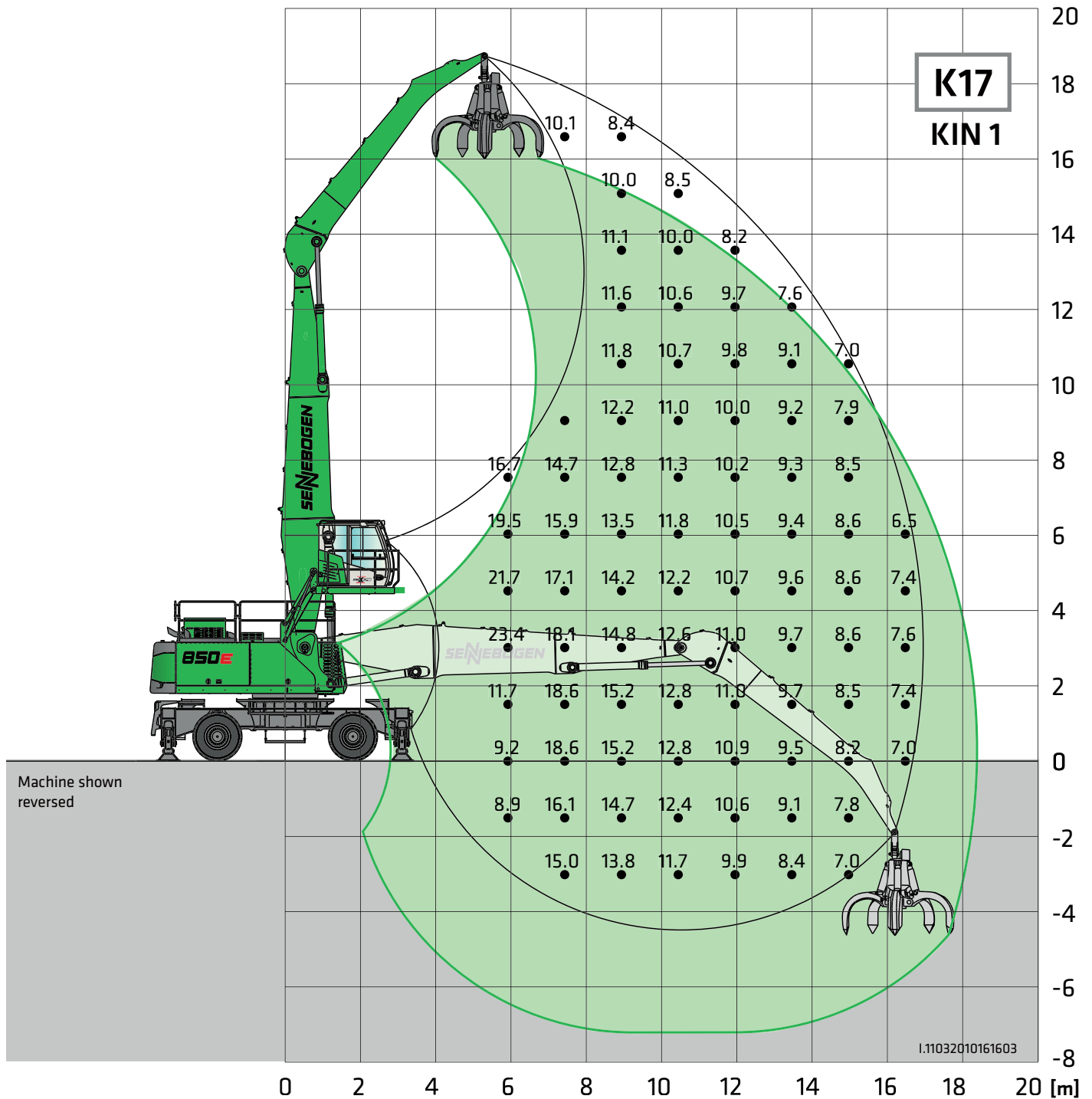
ELECTRIC DRIVE 	
Option	<ul style="list-style-type: none"> ■ Power: 250 kW / 400 Volt / 50 Hz Total connected load 410 kVA, machine side fuse 500 A (alternatively 630 A with magnet system) for 400 V - star-delta connection motor start ■ Advantages: Lowest operating costs, low-noise and virtually vibration-free work, long service life of the hydraulic components

OPERATING WEIGHT 	
Mass	approx. 62,000 kg Basic 850 M machine with MP50 undercarriage, K17 with grab
Note	Operating weight varies by model and equipment.



850E Load ratings

M



Undercarriage: MP50

Compact boom: 10 m

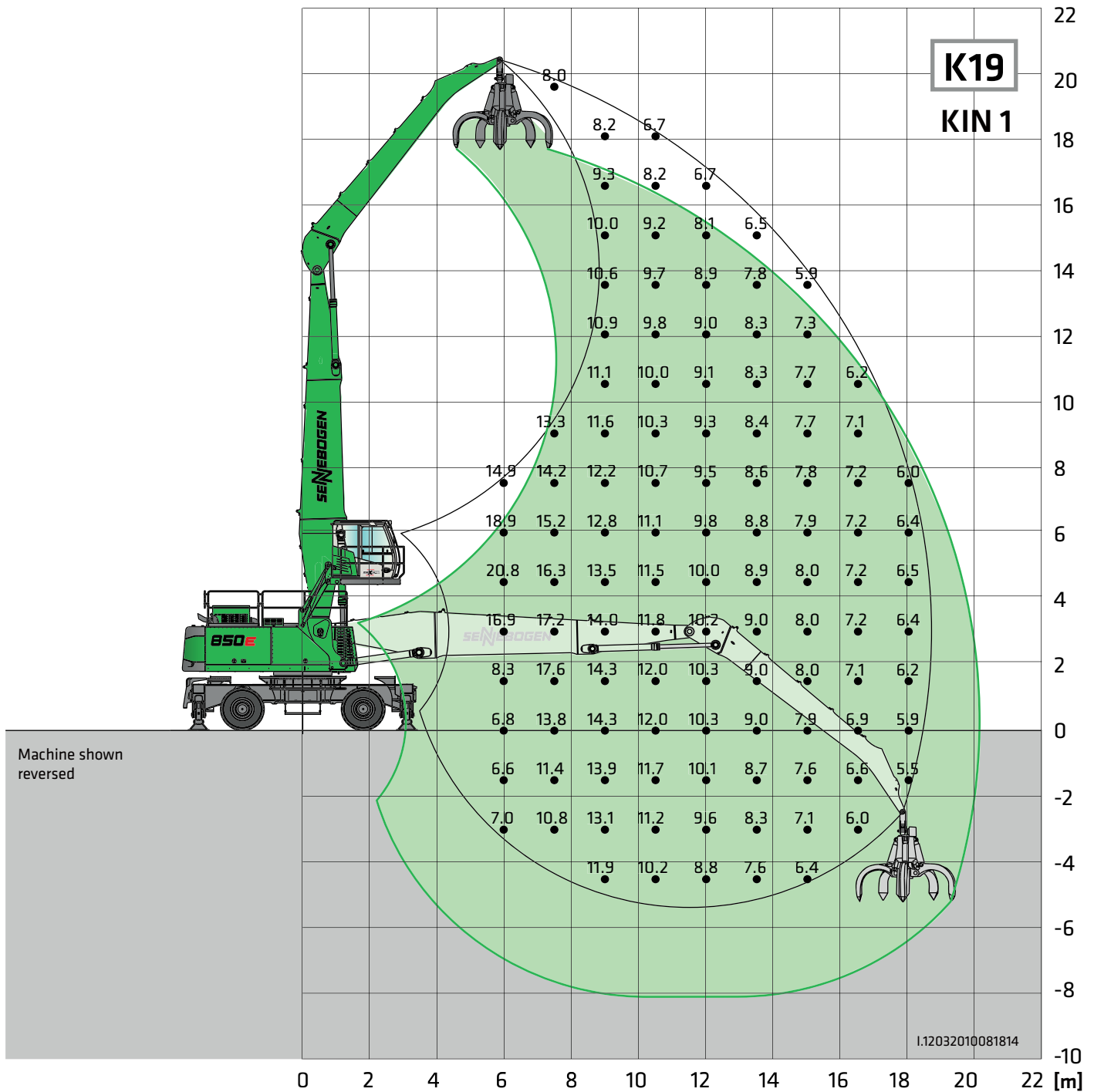
Cab: Maxcab E270,
hydraulic elevation

Grab stick: 7.5 m

All load ratings are specified in tons (t) and apply at the end of the stick, without attachment, on solid, level ground. Attachments such as grabs, magnets, load hooks, etc. are part of the specified load ratings. The specified values are 75% of the static tipping load or 87% of the hydraulic lifting force in accordance with ISO 10567. In accordance with EU standard EN 474 / 5, hydraulic material handling machines used for hoisting must be equipped with pipe fracture safety devices on the hoist and stick cylinders and an overload warning device. Loads rating apply to a machine with deployed 4-point outrigger support and 360° slewing.

850E Load ratings

M



Undercarriage: MP50

Compact boom: 11 m

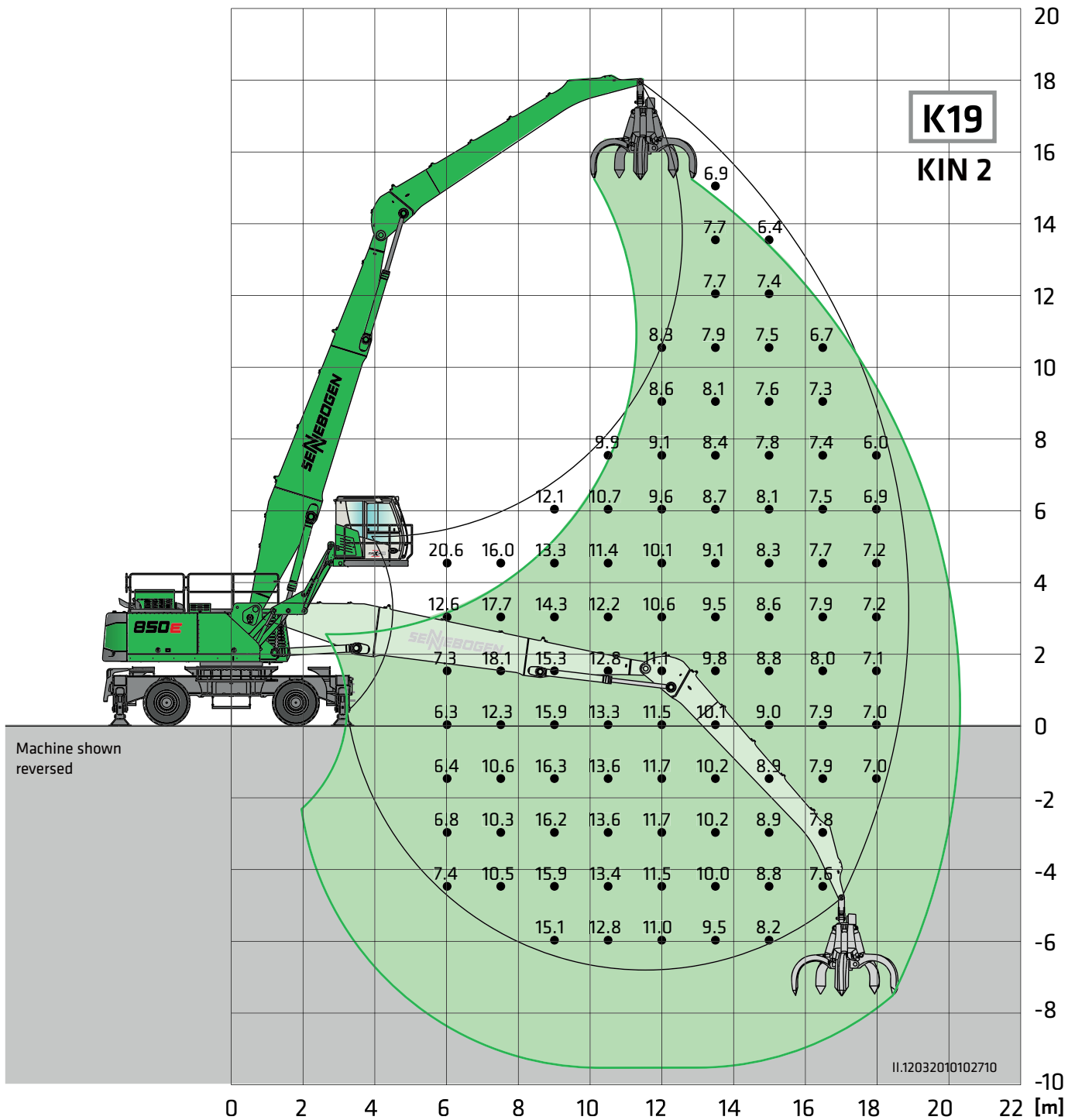
Cab: Maxcab E270, hydraulic elevation

Grab stick: 8.4 m

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850E Load ratings

M



Undercarriage: MP50

Compact boom: 11 m

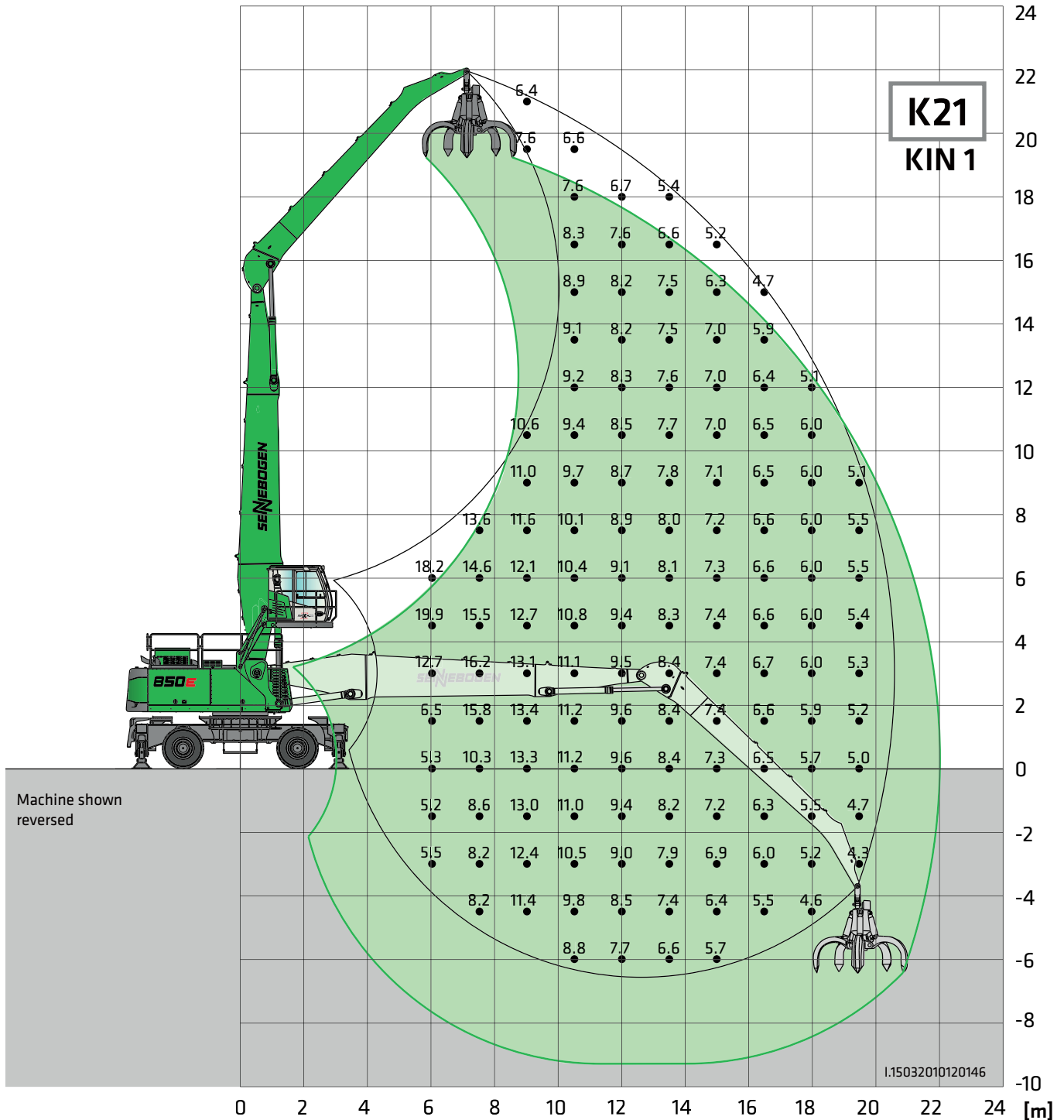
Cab: Maxcab E300/260, can be elevated and moved forward hydraulically

Grab stick: 8.4 m

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850E Load ratings

M

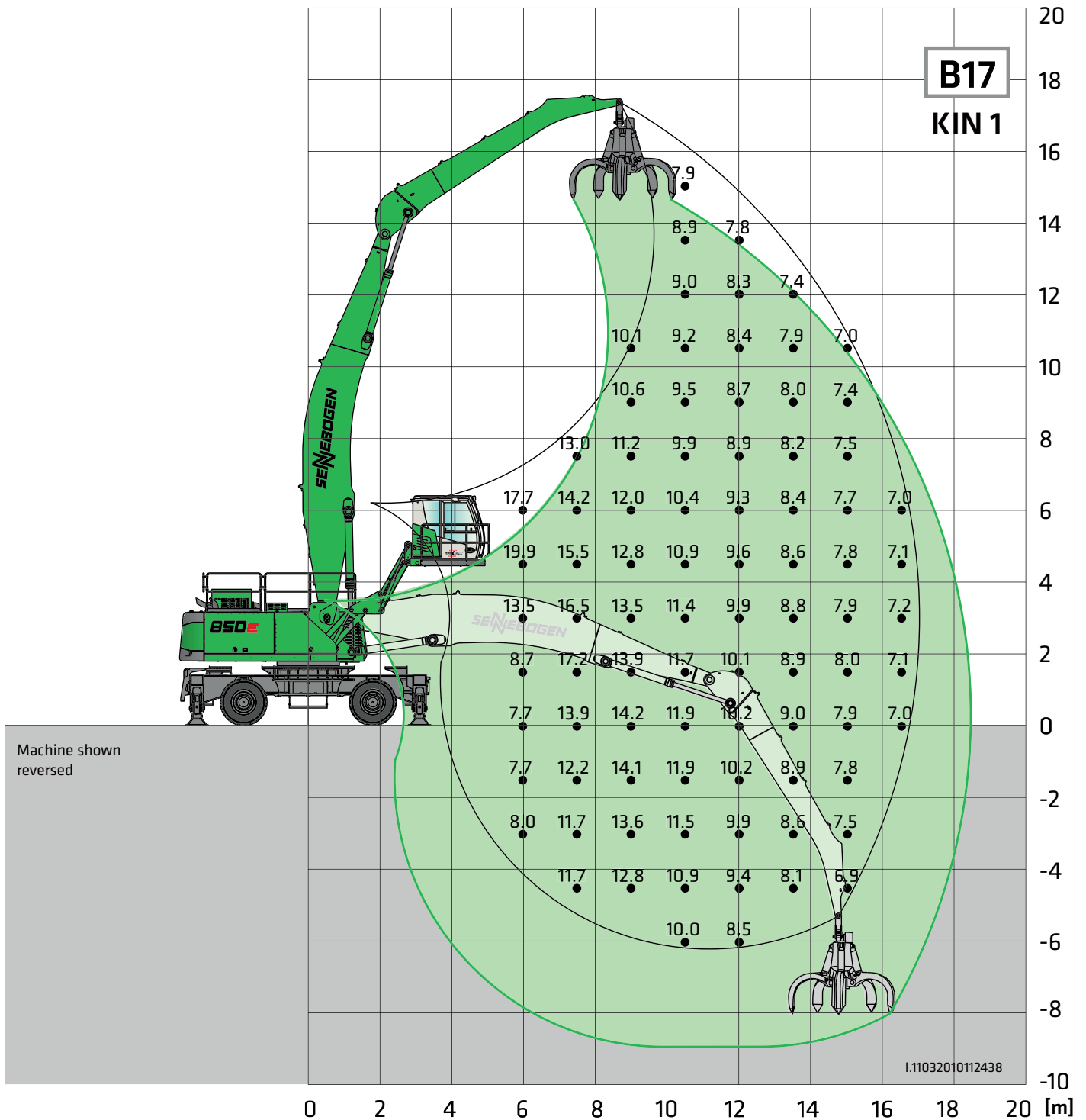


Undercarriage: MP50	Compact boom: 12.1 m	Cab: Maxcab E270, hydraulic elevation
	Grab stick: 9.5 m	

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850E Load ratings

M



Undercarriage: MP50

Compact boom: 10.8 m

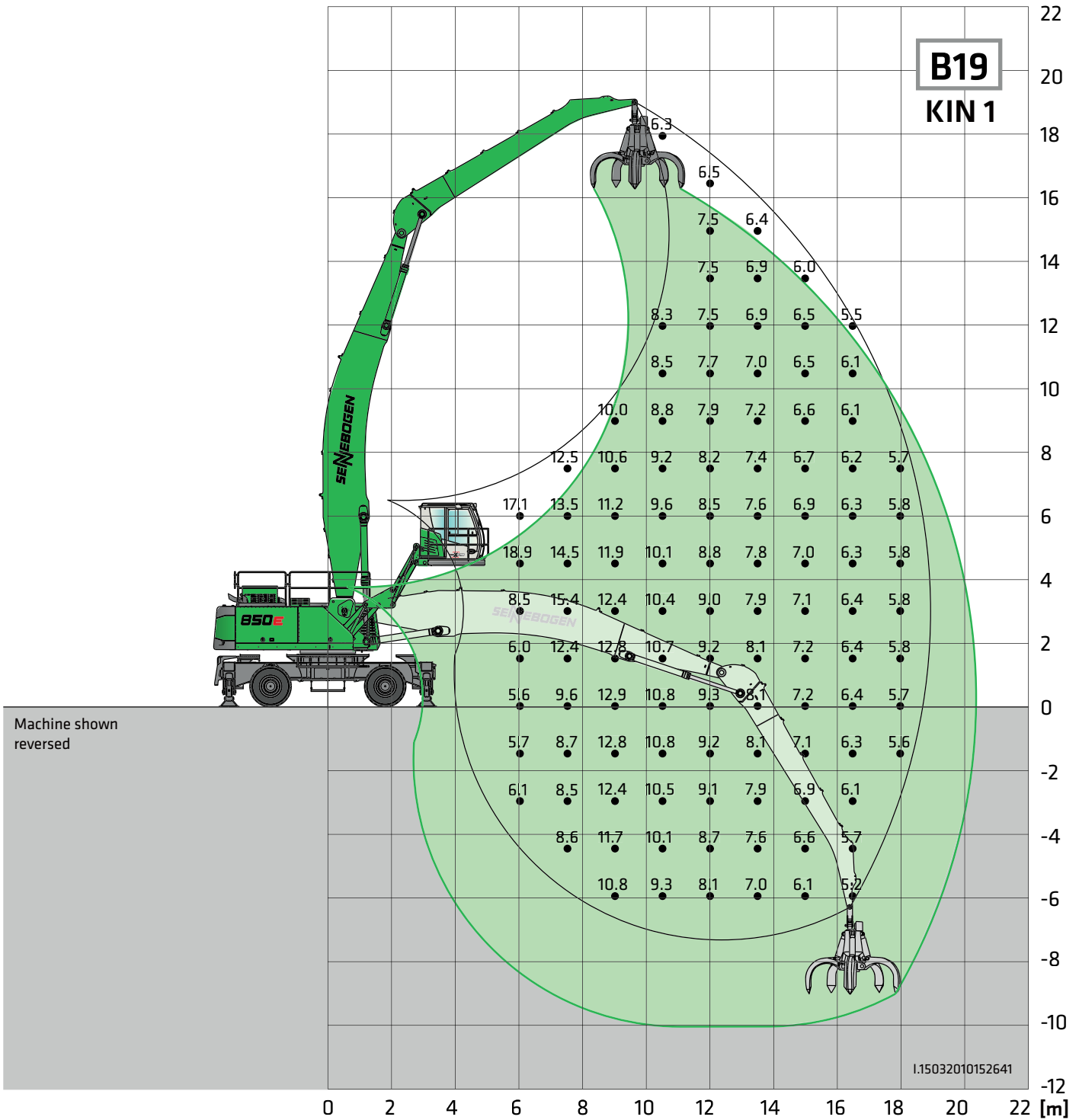
Cab: Maxcab E300/260, can be elevated and moved forward hydraulically

Grab stick: 7.5 m

All load ratings are specified in tons (t) and apply at the end of the stick, without attachment, on solid, level ground. Attachments such as grabs, magnets, load hooks, etc. are part of the specified load ratings. The specified values are 75% of the static tipping load or 87% of the hydraulic lifting force in accordance with ISO 10567. In accordance with EU standard EN 474 / 5, hydraulic material handling machines used for hoisting must be equipped with pipe fracture safety devices on the hoist and stick cylinders and an overload warning device. Loads rating apply to a machine with deployed 4-point outrigger support and 360° slewing.

850E Load ratings

M

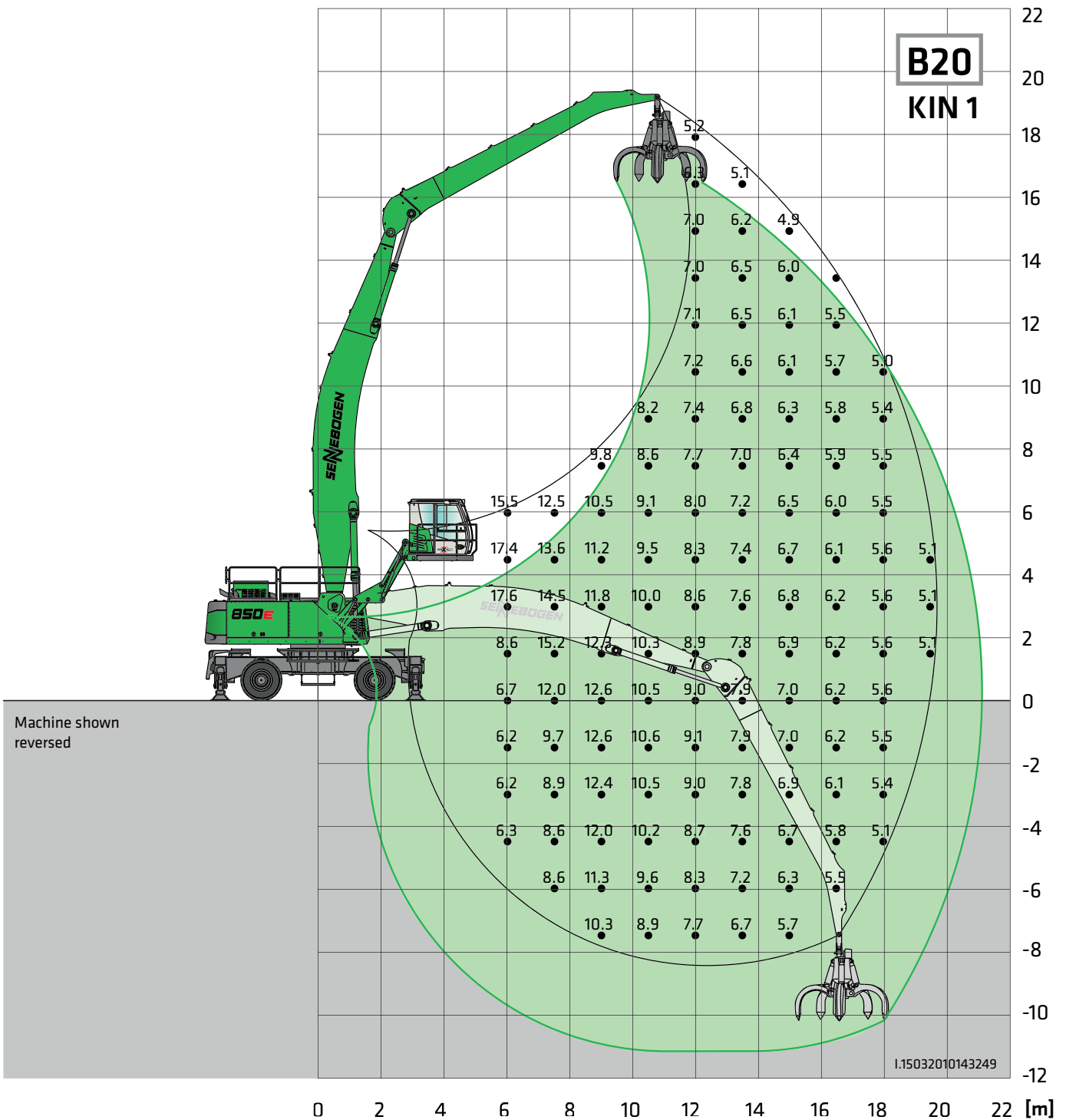


Undercarriage: MP50	Compact boom: 12 m	Cab: Maxcab E300/260, can be elevated and moved forward hydraulically
	Grab stick: 8.4 m	

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850E Load ratings

M



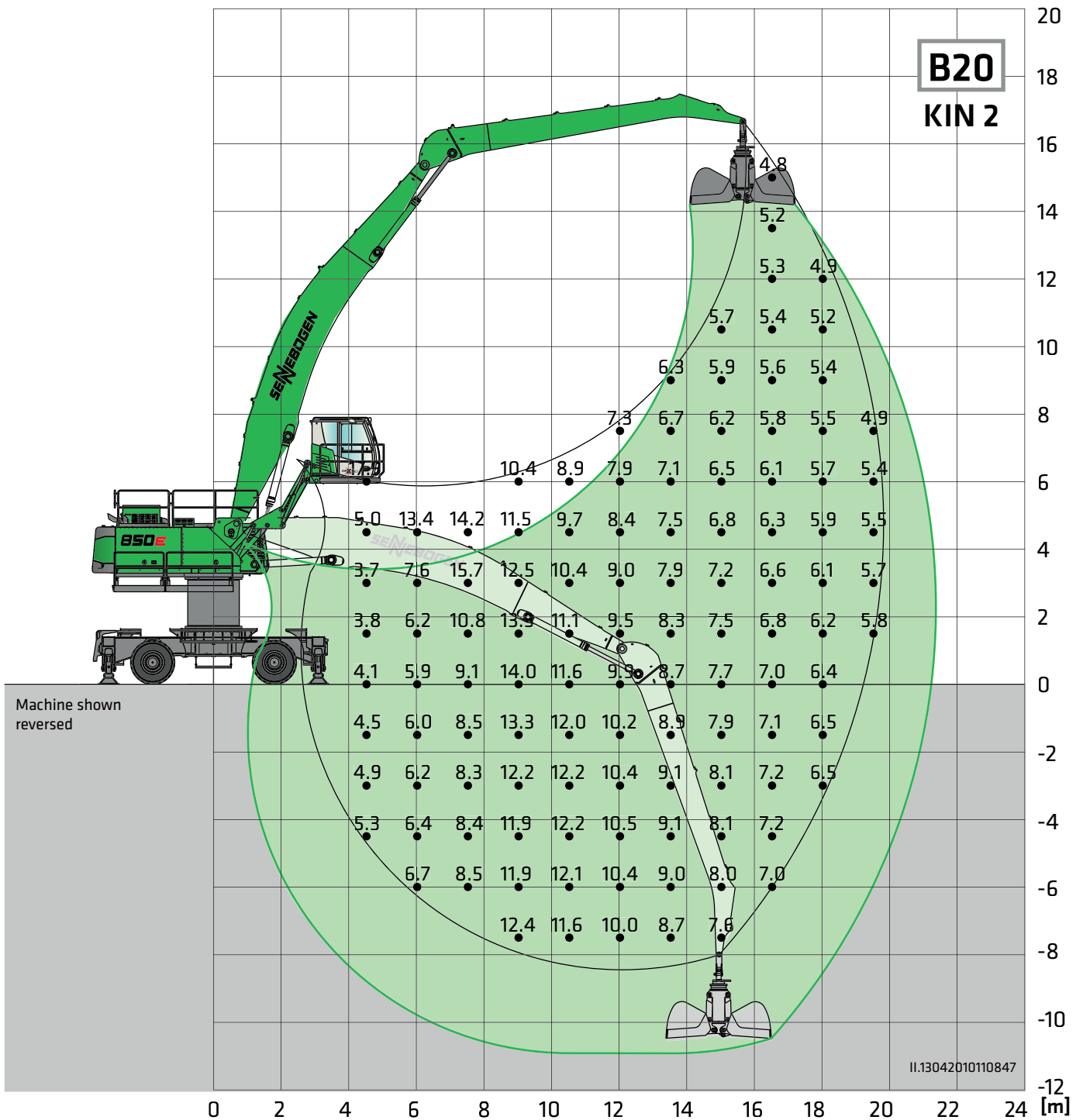
Undercarriage: MP50	Compact boom: 12 m	Cab: Maxcab E300/260, can be elevated and moved forward hydraulically
	Grab stick: 9.5 m	

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850E Load ratings

M

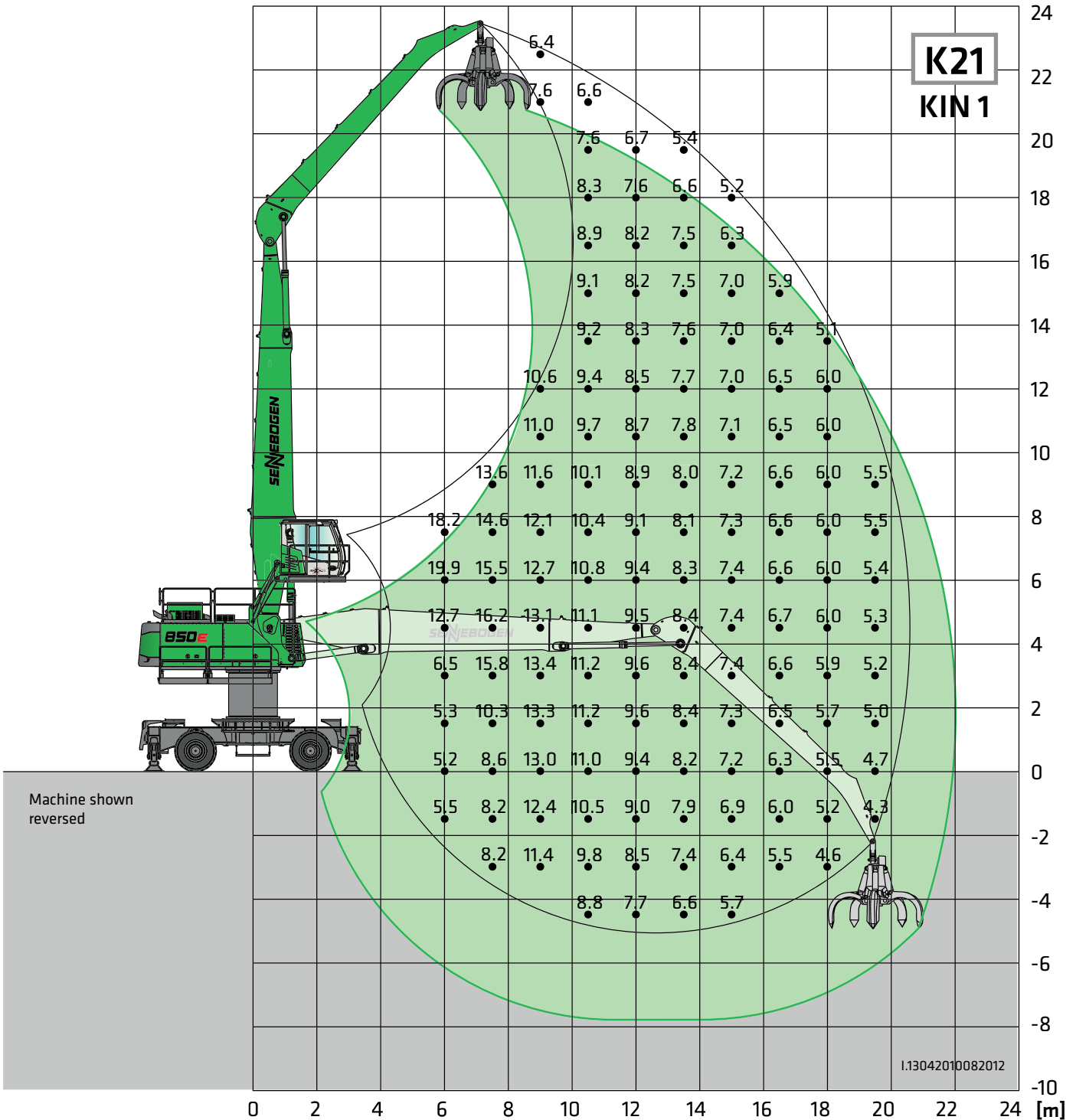


Undercarriage: MP50	Compact boom: 12 m	Cab: Maxcab E300/260, can be elevated and moved forward hydraulically
Pylon: 1.5 m	Grab stick: 9.5 m	

All load ratings are specified in tons (t) and apply at the end of the stick, without attachment, on solid, level ground. Attachments such as grabs, magnets, load hooks, etc. are part of the specified load ratings. The specified values are 75% of the static tipping load or 87% of the hydraulic lifting force in accordance with ISO 10567. In accordance with EU standard EN 474 / 5, hydraulic material handling machines used for hoisting must be equipped with pipe fracture safety devices on the hoist and stick cylinders and an overload warning device. Loads rating apply to a machine with deployed 4-point outrigger support and 360° slewing.

850E Load ratings

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Undercarriage: MP50

Compact boom: 12.1 m

Cab: Maxcab E270, hydraulic elevation

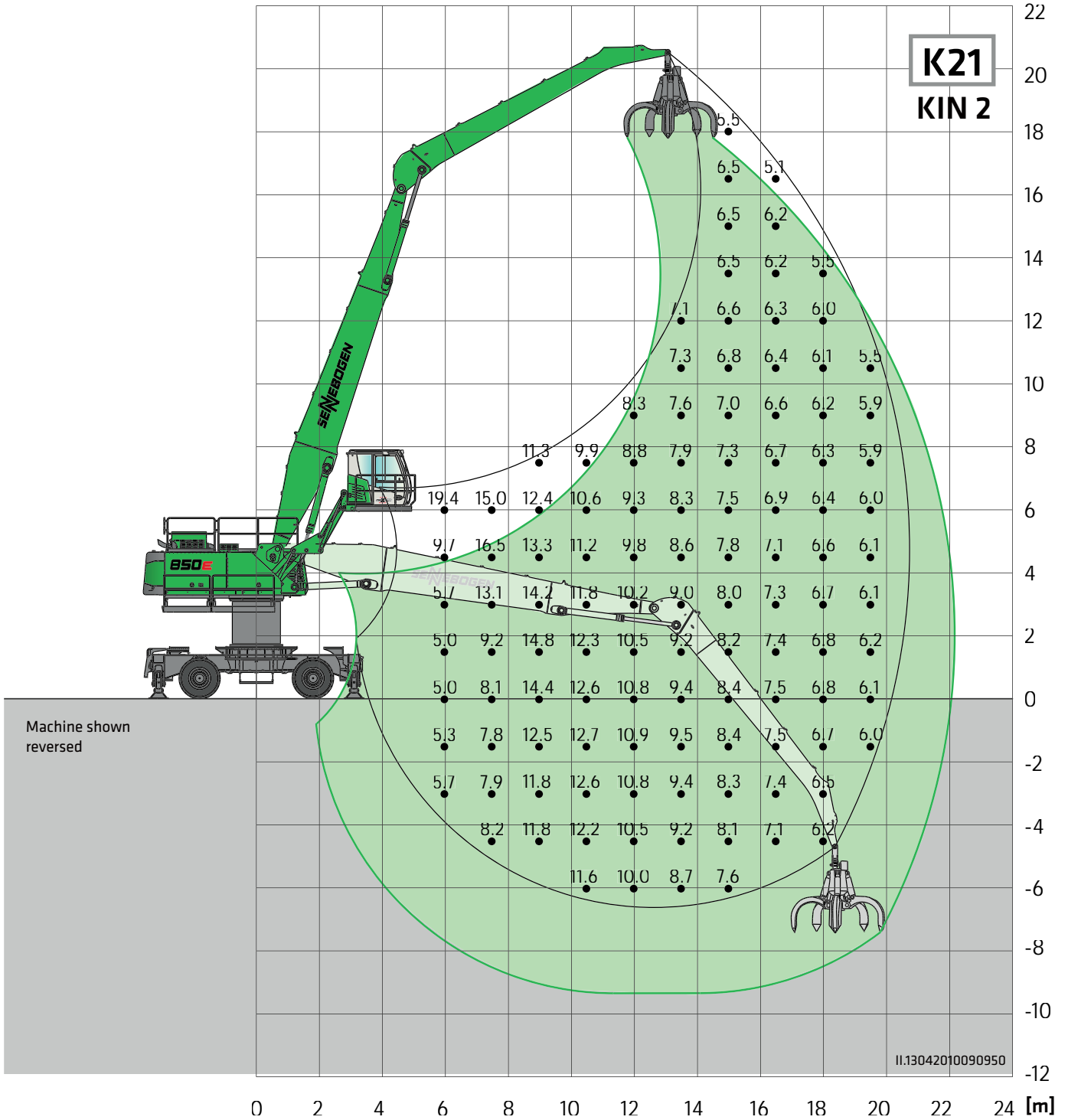
Pylon: 1.5 m

Grab stick: 9.5 m

All load ratings are specified in tons (t) and apply at the end of the stick, without attachment, on solid, level ground. Attachments such as grabs, magnets, load hooks, etc. are part of the specified load ratings. The specified values are 75% of the static tipping load or 87% of the hydraulic lifting force in accordance with ISO 10567. In accordance with EU standard EN 474 / 5, hydraulic material handling machines used for hoisting must be equipped with pipe fracture safety devices on the hoist and stick cylinders and an overload warning device. Loads rating apply to a machine with deployed 4-point outrigger support and 360° slewing.

850E Load ratings

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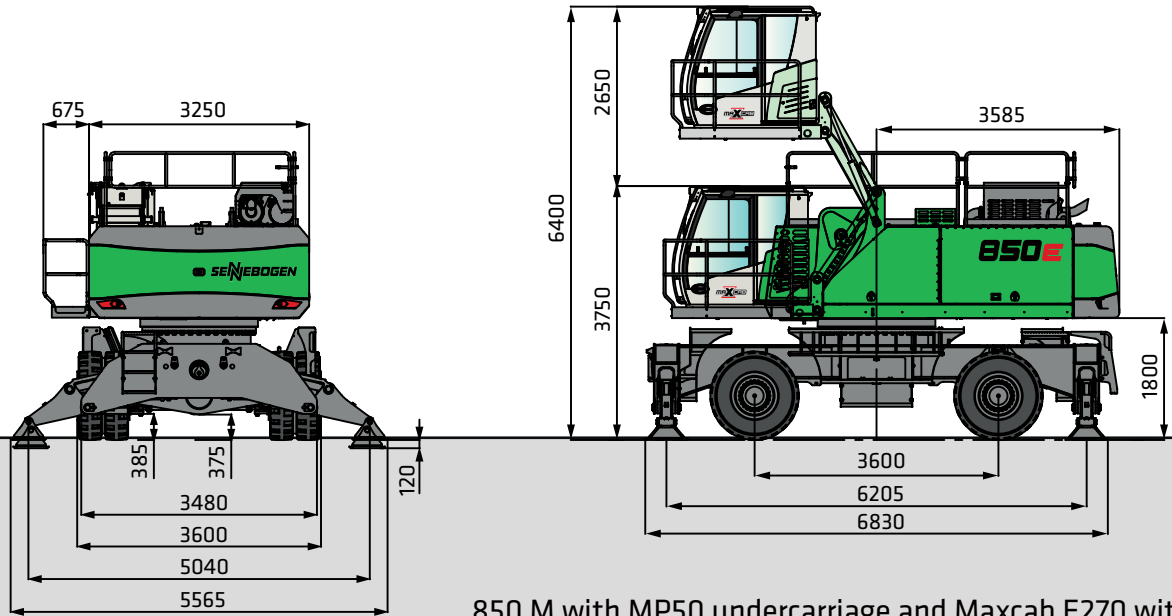


Undercarriage: MP50	Compact boom: 12.1 m	Cab: Maxcab E300/260, can be elevated and moved forward hydraulically
Pylon: 1.5 m	Grab stick: 9.5 m	

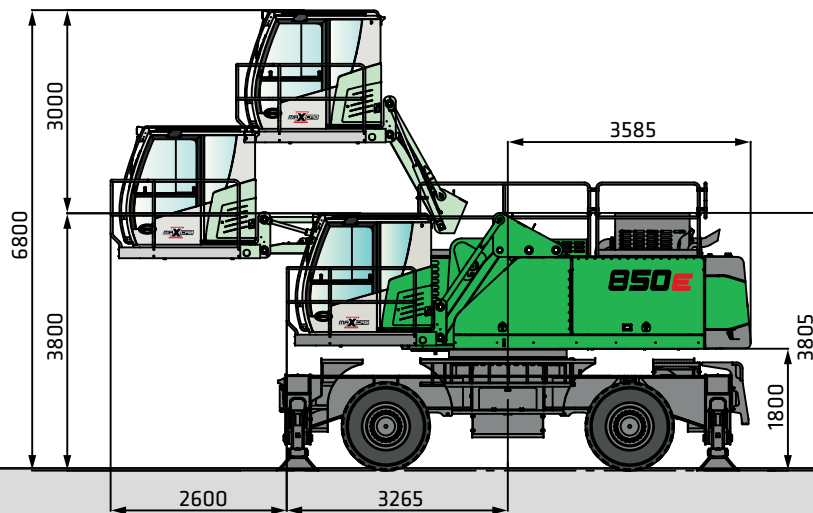
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850E Dimensions

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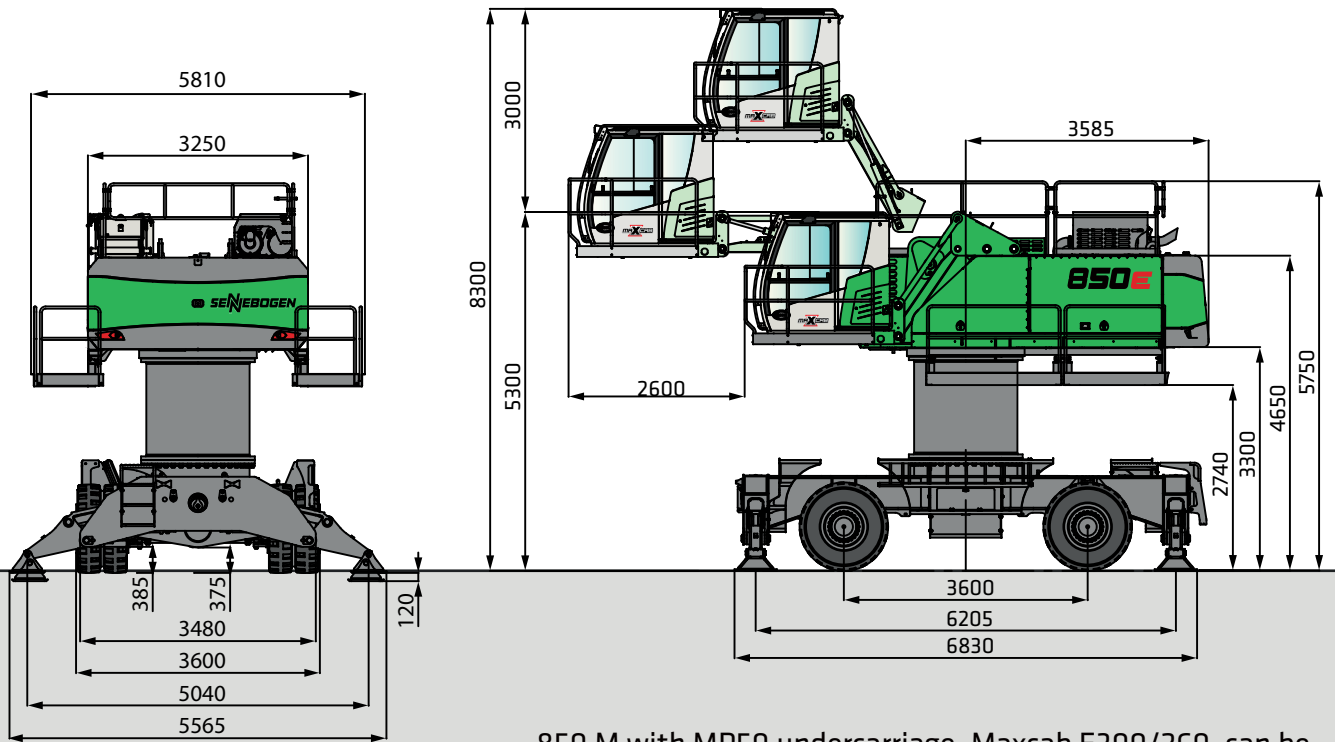
850 M with MP50 undercarriage and Maxcab E270 with hydraulic elevation feature



850 M with MP50 undercarriage Maxcab E300/260, can be elevated and moved forward hydraulically

850E Dimensions

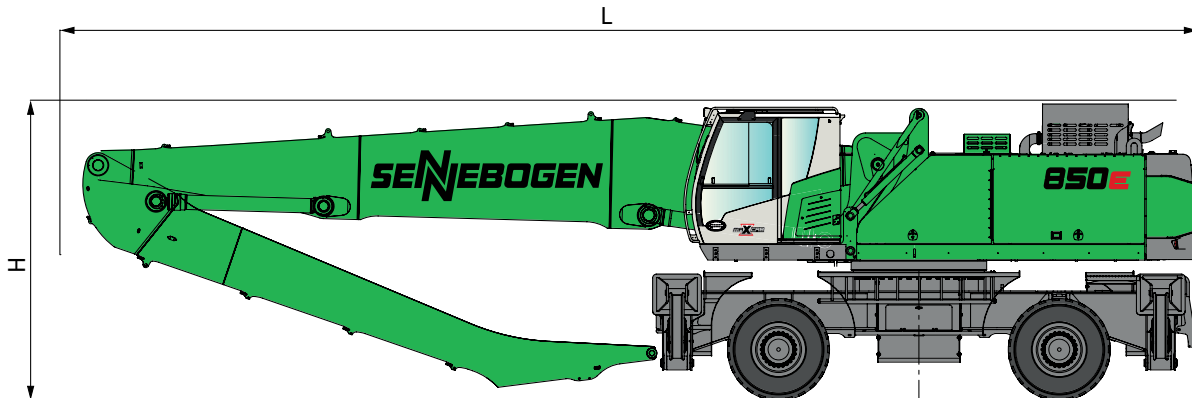
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850 M with MP50 undercarriage, Maxcab E300/260, can be elevated and moved forward hydraulically, Pylon 1.5 m

850E Transport dimensions

M



	Load boom	Grab stick	Transport length (L)	Transport height (H)
K17	10.0 m	7.5 m	14.6 m	3.85 m
K19	11.0 m	8.4 m	15.6 m	3.85 m
K21	12.1 m	9.5 m	16.7 m	3.85 m
B17	10.8 m banana	7.5 m	15.2 m	3.85 m
B19	12.0 m banana	8.4 m	16.4 m	3.85 m
B20	12.0 m banana	9.5 m	16.4 m	3.85 m

Note:

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 GmbH.

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 and tolerances.

850E Recommended grabs

SGM orange peel grab (4 shells)



Design/size	Grab capacity	Weight ¹		Max. piled density
		Shell		
		HO	G	
SGM	l	kg	kg	t/m ³
800.50-4	800	2245	2490	2.0
1000.50-4	1000	2345	2585	
1500.50-4	1500	2475	2830	
2000.50-4	2000	2660	3075	

SGM orange peel grab (5 shells)



Design/size	Grab capacity	Weight ¹		Max. piled density
		Shell shape ²		
		HO	G	
SGM	l	kg	kg	t/m ³
800.50	800	2580	2740	2.0
1000.50	1000	2710	2870	
1500.50	1500	2860	3100	
2000.50	2000	3060	3370	
2500.50	2500	3130	3615	
3000.50	3000	3250	3875	
3500.50	3500	3420	4140	

SGZ clamshell grab



Design/size	Grab capacity	Weight ¹	max. piled density
SGZ	l	kg	t
1500.50	1500	1950	2.6
2000.50	2000	2200	
2500.50	2500	2300	2.0
3000.50	3000	2490	
4000.50	4000	2880	1.6

Magnetic plates

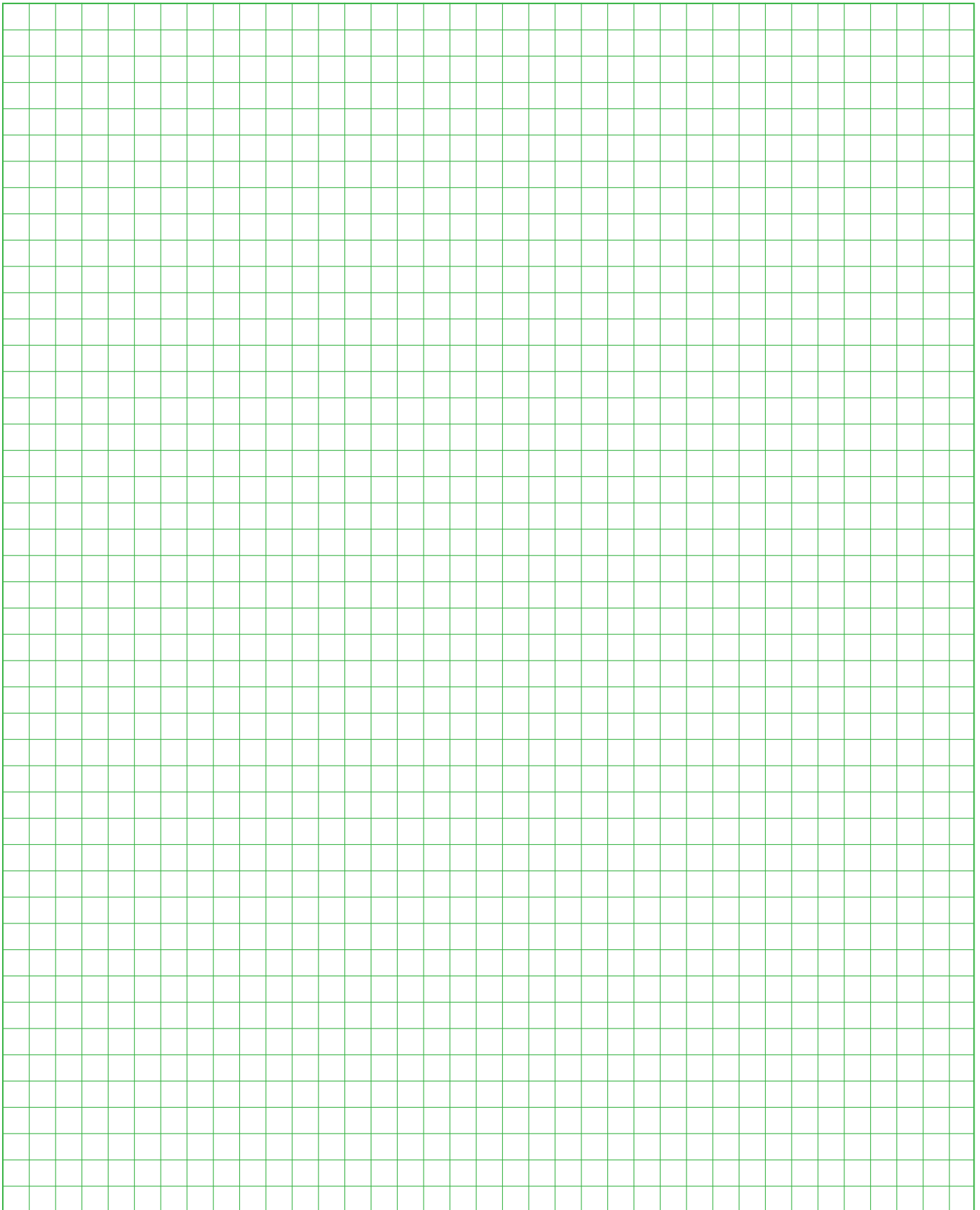


Type series/model	Power	Deadweight	Breakaway force	load capacity in kg
WOKO	kW	kg	kN	Slab (safety factor 2)
S-RLB 15	11.7	2400	380	19000
S-RLB 17	17.8	3300	640	32000
S-RLB 19	22.0	5090	790	39500
Recommended magnetic generator: 20 - 25 kW				

*) Available upon request ¹⁾ Weight information does not include grab suspension, stick bolts or hose system ²⁾ Half-open shells: shell sheet steel width 400 mm, 500 mm for 1,250 l capacity and higher

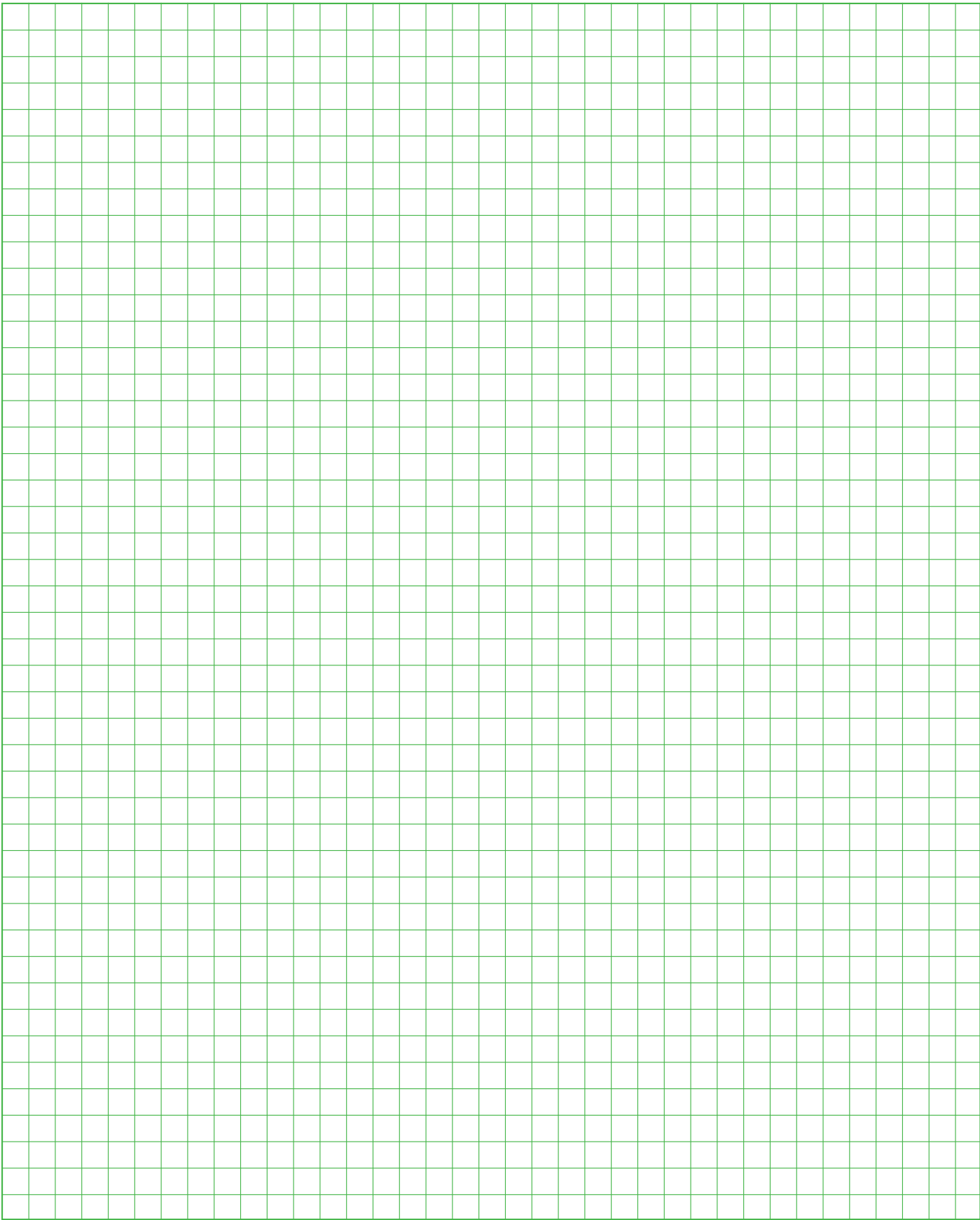
850E Notes

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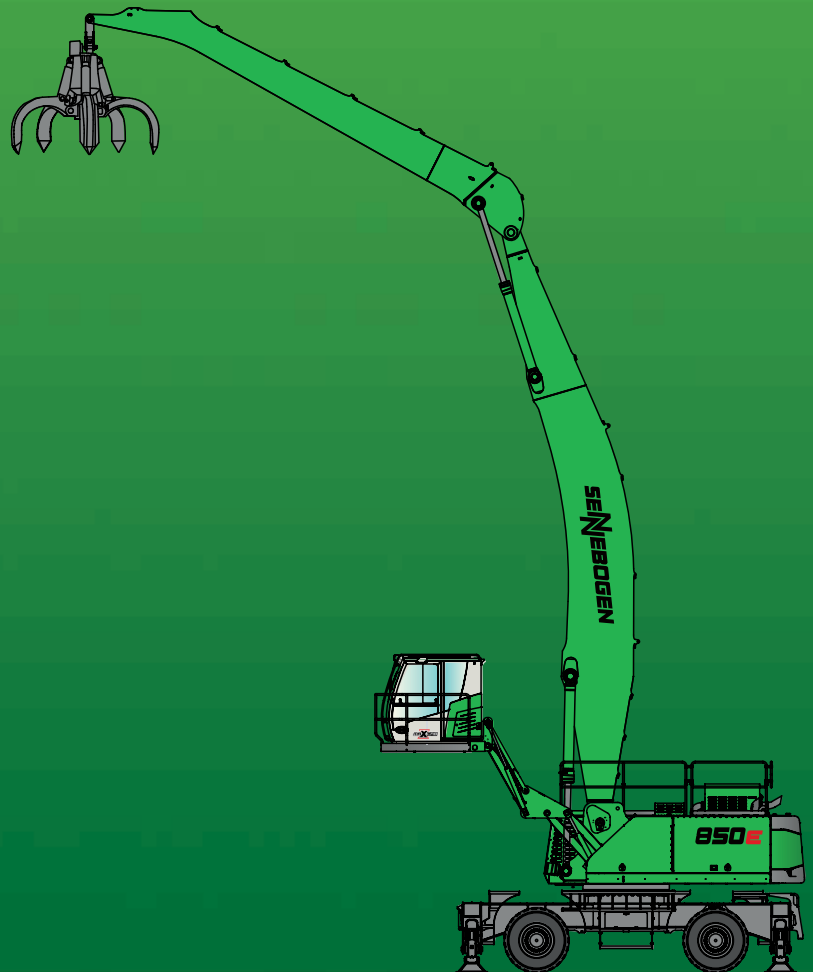
850E Notes

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850E

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The Sennebogen logo, consisting of the word 'SENNEBOGEN' in a bold, stylized, sans-serif font. The letters are white with a dark outline, and the 'S' and 'B' are particularly prominent.

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