



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



**68.5** t



**21** m



**MAXCAB**

# 850E

Crawler material handler

# 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 - no-slip steps  
State-of-the-art cameras - entire work area in view

5

### Maintenance and service made easy

SENNEBOGEN control system - easy error diagnostics  
Simple maintenance - clear labeling

6

### Consultation and support in your area

3 production sites - 2 subsidiaries  
150 sales partners - over 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
- Idle automation reduces speed to 40 % of operating speed
- Stop automation switches the engine off when not needed
- Optimized engine settings, reduced specific fuel consumption, state-of-the-art exhaust after treatment



## Quiet operation 2

- Consistently quiet operation thanks to decoupled engine mounts and sound proofing in the doors
- Sound pressure level in accordance with 2000/14/EC as much as 2 dB lower than required

## High-capacity cooling 3

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



Illustration shows mobile version

## 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 HydroClean\*

## Maximum safety

- No-slip work surfaces
- Hand rails\* **1**
- 2 cameras to the right and rear
- Step grid with railing next to cab sliding 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 straightforward and clearly labeled electrical distributor
- Easy access to all service points on the machine
- Automatic central lubrication for equipment and slewing gear raceway



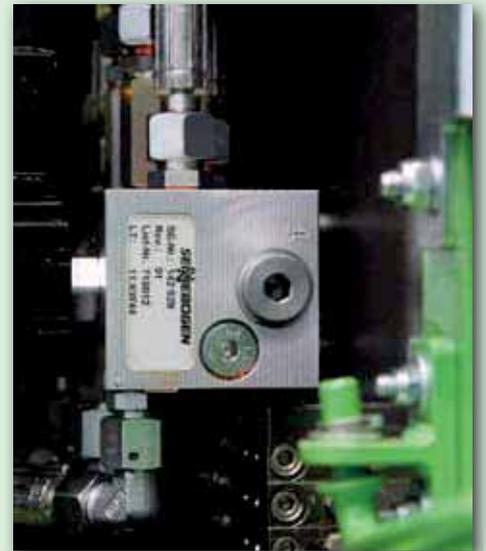
## SENNEBOGEN-Hydro Clean\*

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



## Central measuring points

- Easily accessible
- Quickly inspect entire hydraulic system



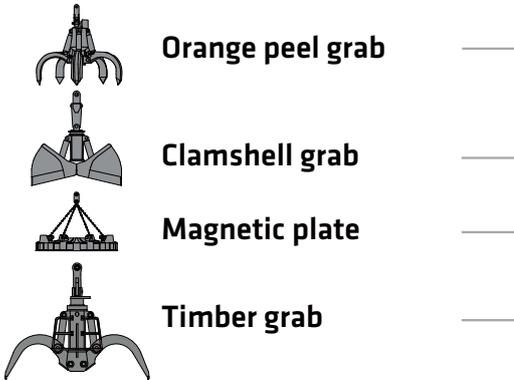
## Clear labeling

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

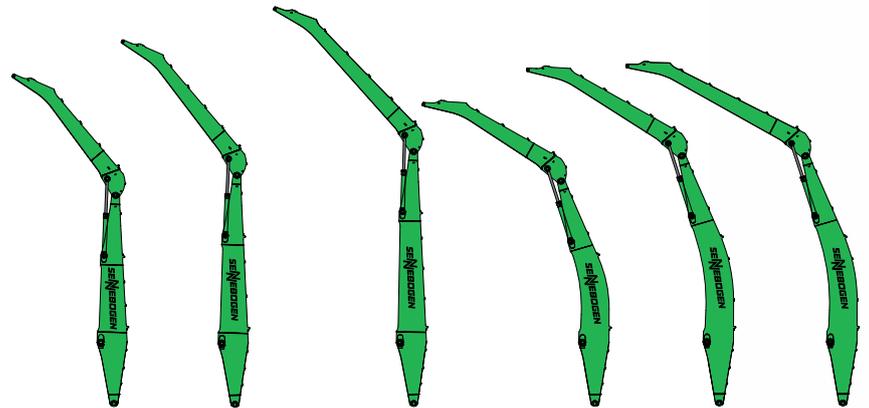
\* Option

# 850E Modular design - versatile solutions

## Attachments



## Equipment options (others available upon request)



## Cabs

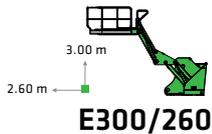


Maxcab



Maxcab Industry

### Cab elevation



K17

K19

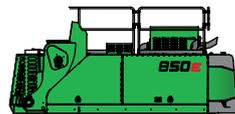
K21

B17

B19

B20

## Uppercarriage



Diesel-hydraulic drive



Electrohydraulic drive

### Options

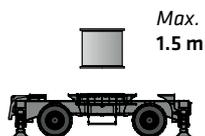


Motorized cable reel

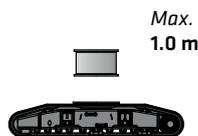


Transformer

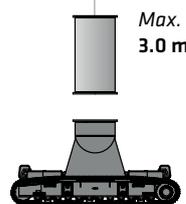
## Undercarriage variants



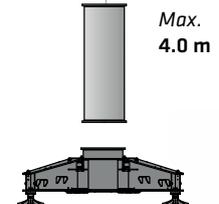
Mobile E\*  
MP50



R73/420  
crawler



R70/490  
crawler



4-point pedestal  
ST78/550

# 850E Advantages at a glance

- decade-long experience
- most advanced computer simulation
- the greatest degree of stability and longest service life

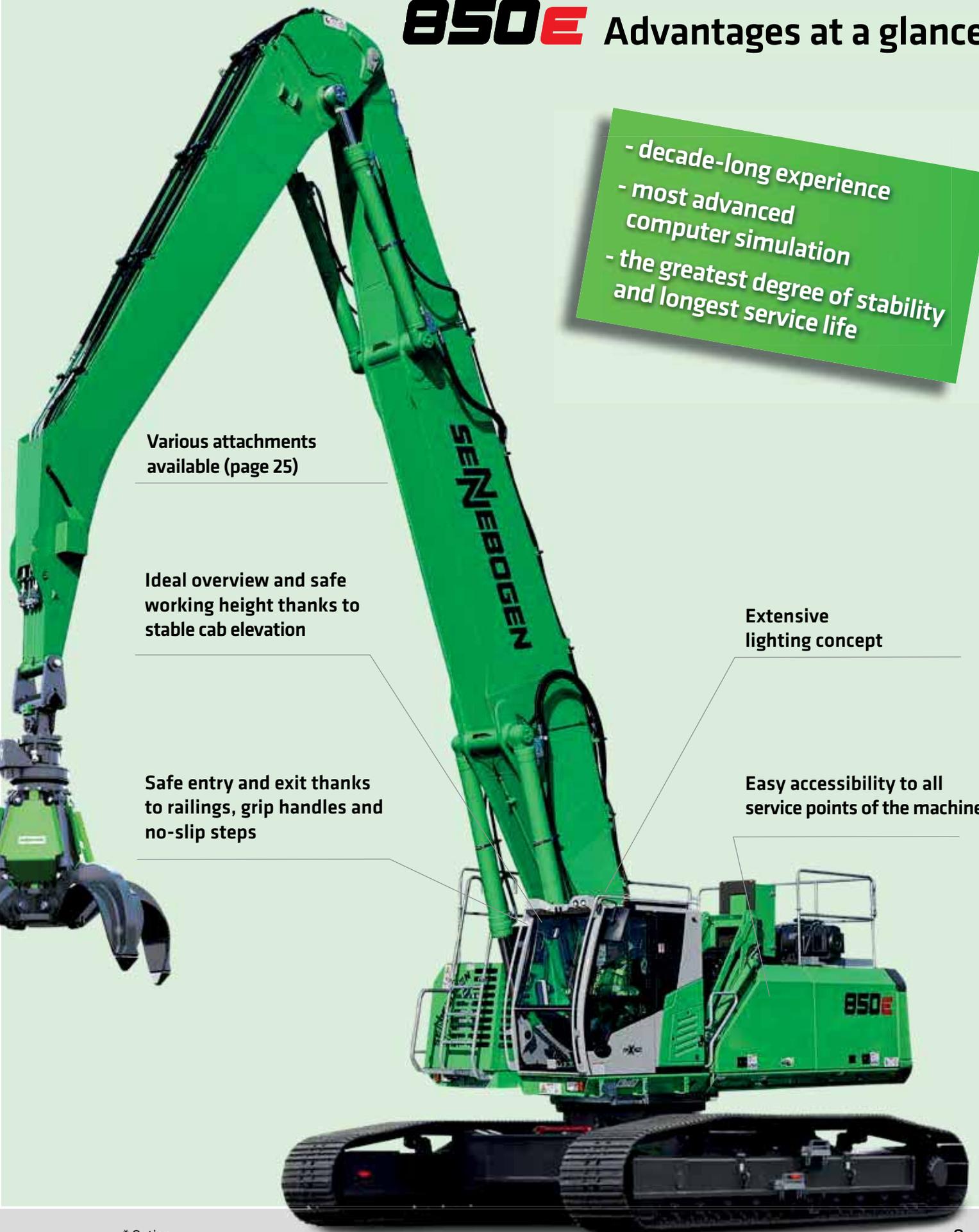
Various attachments available (page 25)

Ideal overview and safe working height thanks to stable cab elevation

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

Extensive lighting concept

Easy accessibility to all service points of the machine



\* Option

## MACHINE TYPE

Model (type) **850**

## ENGINE

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

Model **Cummins QSM 11 - Stage IIIa**  
**Cummins X 12 - Stage V**  
Direct injection, turbo charged, intercooling, reduced-emission, ECO mode, idle 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, crafted, steel bushings for boom bearings. Clear, service-friendly concept, engine installed in the longitudinal direction

Central lubrication Automatic central lubrication system

Electrical system Central electrical distributor, battery disconnect switch

Cooling system Compact 3-circuit cooler unit with high cooling output, thermostatically controlled fan drive to reduce energy consumption and noise emissions

Options

- Slewing gear brake via foot pedal
- Hand rail at the upper structure
- LED lighting packages
- 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
- Telematic system SENtrack DS

## HYDRAULIC SYSTEM

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

Pump type Swash plate-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 limiting, sensing control

Operating pressure **330 bar**

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

Hydraulic tank **700 l**

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

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

Cooling Very oversized cooler unit with thermostatically controlled fan drive

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

- Bio-oil - environmentally friendly
- Tool Control for programming pressure/rate of up to 10 tools
- Supplemental hydraulic circuit for shear attachment
- Load torque warning with capacity display
- Overload safeguard with shutdown
- 60 µm pressure filter for attachments
- 3 µm hydraulic micro-filter - SENNEBOGEN HydroClean

## SLEWING DRIVE

Gearbox 2-part compact planetary gear with slant-axis hydraulic motor in a closed hydraulic circuit ensures powerful rotary drive.

Parking brake Spring-loaded multi-disk brake

Slewing ring Very strong slewing ring sealed with pinion lubrication

Slewing speed 0-6 min<sup>-1</sup>, variable

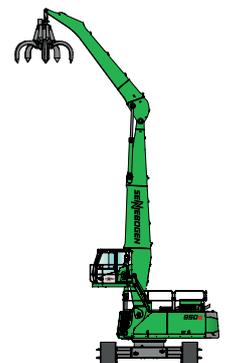
 <b>CAB</b> 	
Cab elevation	E270, hydraulically elevating cab
Cab equipment	Sliding door inc. sliding pane, vibration damped, tinted safety glass, front pane can be openend, roof window, windscreen wiper for front pane, radio preparation, air-suspended comfort seat, joystick steering, SENNEBOGEN SENCON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

 <b>EQUIPMENT</b>	
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"> <li>■ Ball valves in the hydraulic lines for quick and easy grab switching</li> <li>■ Sea climate resistant coating</li> <li>■ Sea climate resistant coating of all cylinders, nickel-plated and chrome-plated</li> <li>■ Float position of the equipment</li> <li>■ Hoisting limiter / stick limitation adjustable for stop settings, e.g. in the hall</li> </ul>

 <b>UNDERCARRIAGE</b>	
Design	Wide-gauge crawler undercarriage in stable, torsionally rigid box construction
Drive	Hydraulic travel drive, integrated in the traveling gear frame for each traveling gear side through an axial piston motor via compact planetary gear.
Parking brake	Spring-loaded, hydraulically ventilated disk brakes. Hydraulic brake valves protect the drive engines when moving downhill.
Traveling gear	R73-420 telescopic crawler undercarriage with 2.65 – 4.2 m mechanical track adjustment and maintenance-free B7 crawler track (64 links, 6,650 mm long) with canted 800 mm triple grouser track shoes
Speed	<b>0 - 1.6 km/h</b> Stage I, <b>0 - 3 km/h</b> Stage II
Options	<ul style="list-style-type: none"> <li>■ R70-490 special undercarriage with integrated 2 m pylon</li> <li>■ Maintenance-free B7 crawler track with 900 mm flat track shoes</li> </ul>

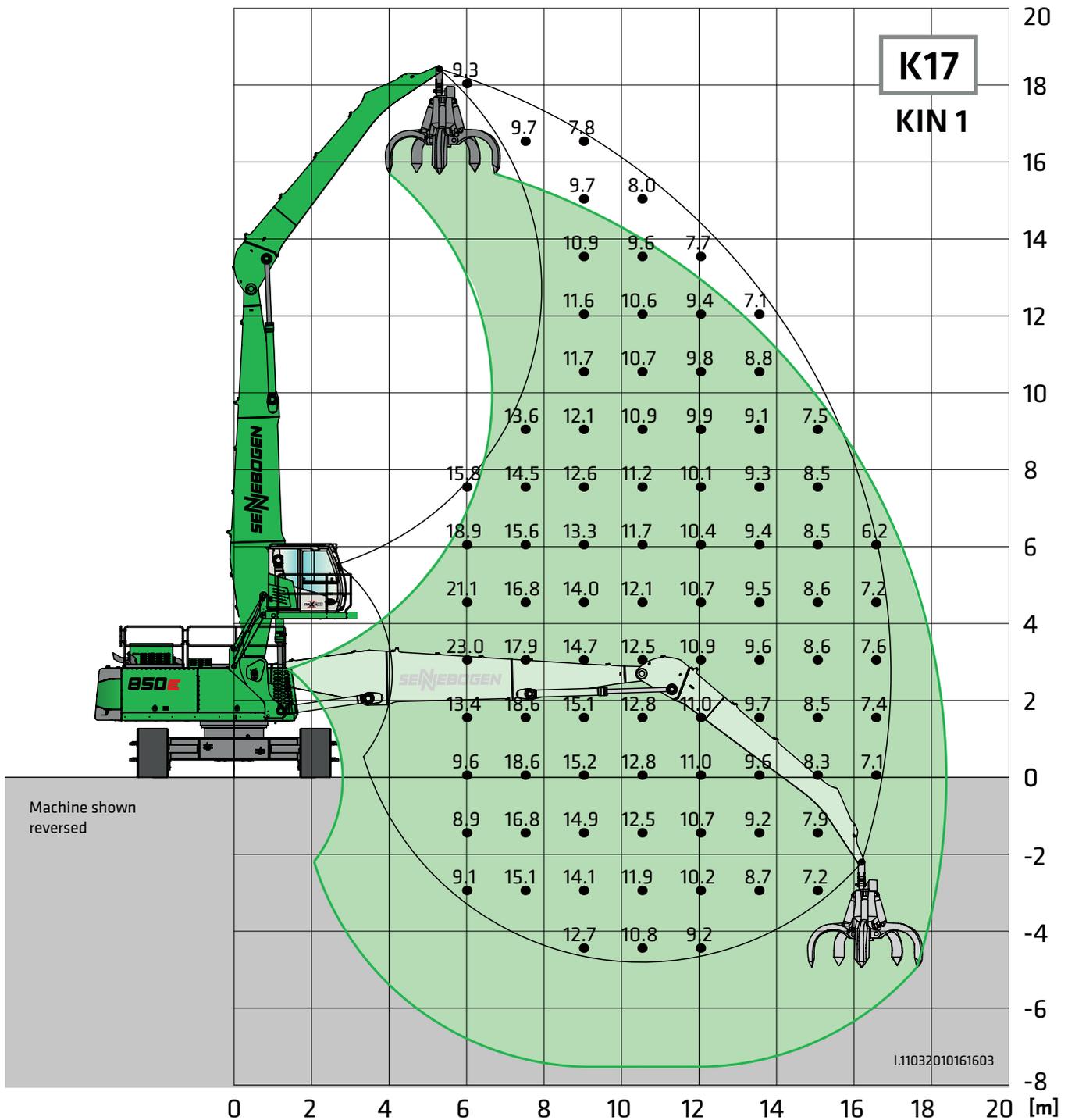
 <b>ELECTRIC DRIVE</b> 	
Option	<ul style="list-style-type: none"> <li>■ Power: <b>250 kW / 400 V / 50 Hz</b> Total connected load 410 kVA, machine side fuse 500 A (alternatively 630 A with magnet system) for 400 V - star-delta connection motor start</li> <li>■ Advantages: lowest operating costs, low-noise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

 <b>OPERATING WEIGHT</b>	
Mass	<b>approx. 68,500 kg</b> basic 850 R machine with R73/420 undercarriage, K17 with grab
Note	Operating weight varies by model and equipment.



# 850E Load ratings

# R



**Undercarriage:** R73/420

**Compact boom:** 10 m

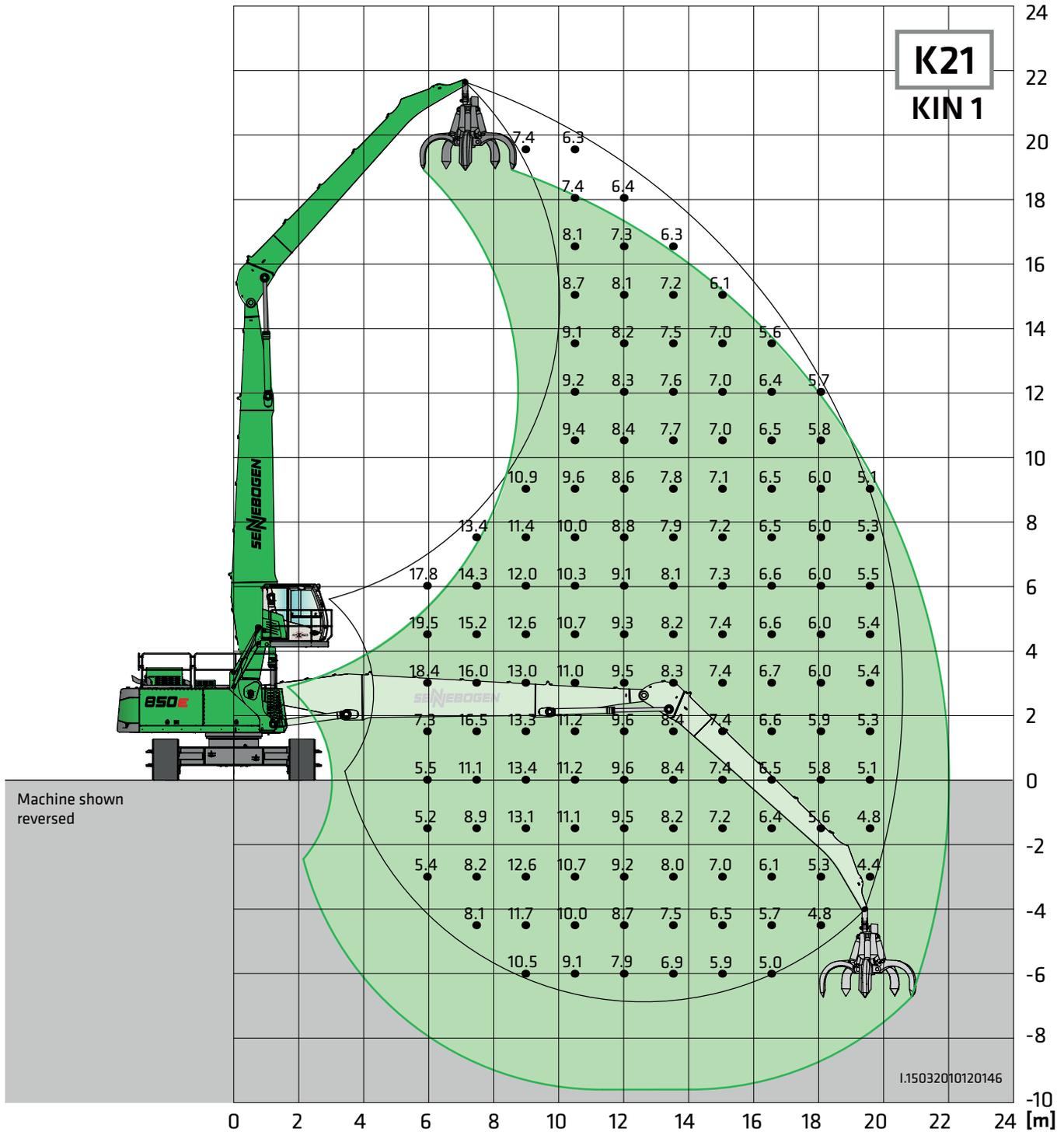
**Cab:** Maxcab E270,  
can be elevated hydraulically

**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.

# 850E Load ratings

# R

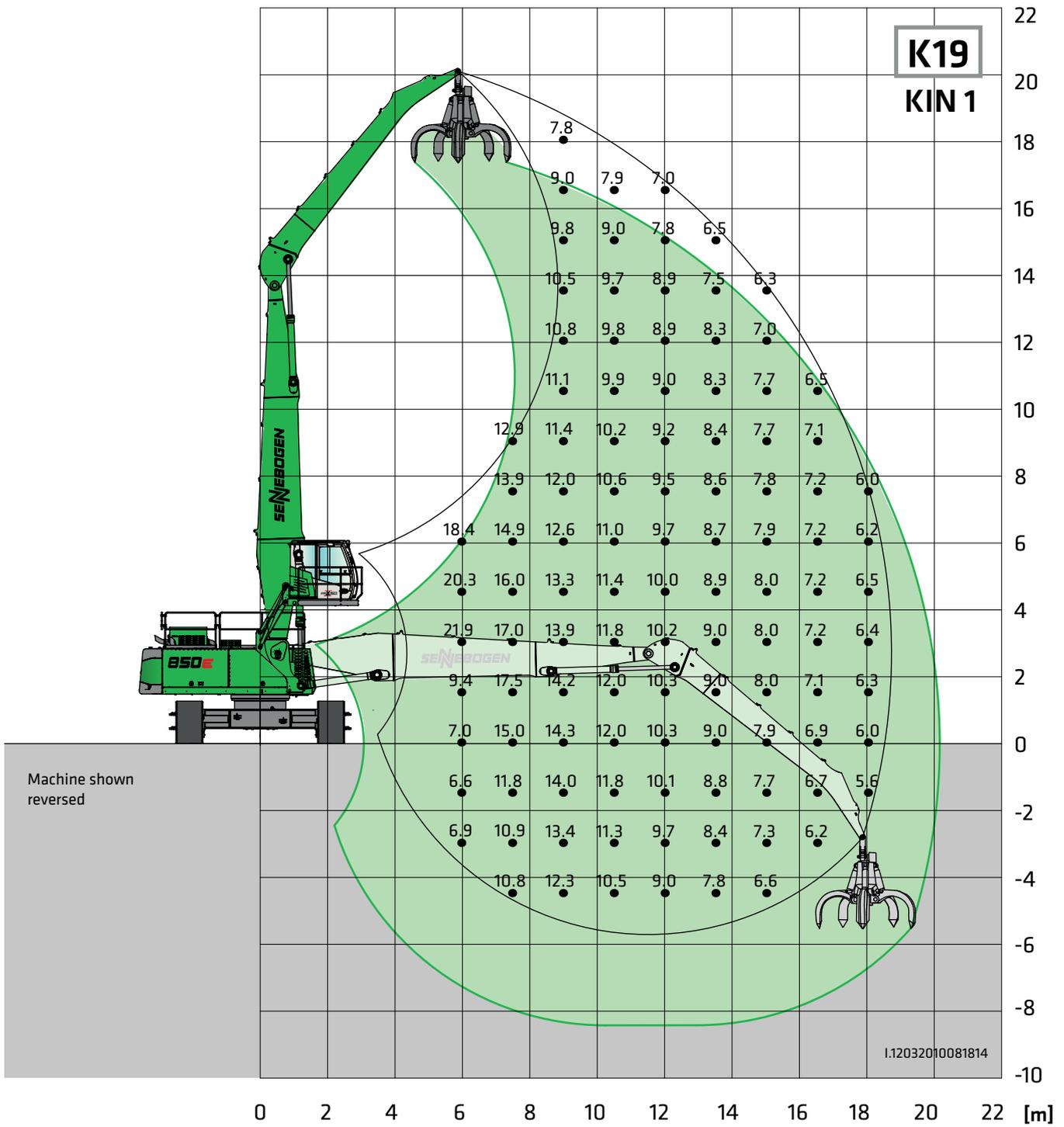


**Undercarriage:** R73/420    **Compact boom:** 12.1 m    **Cab:** Maxcab E270, can be elevated hydraulically  
**Grab stick:** 9.5 m

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.

# 850E Load ratings

# R



**Undercarriage:** R73/420

**Compact boom:** 11 m

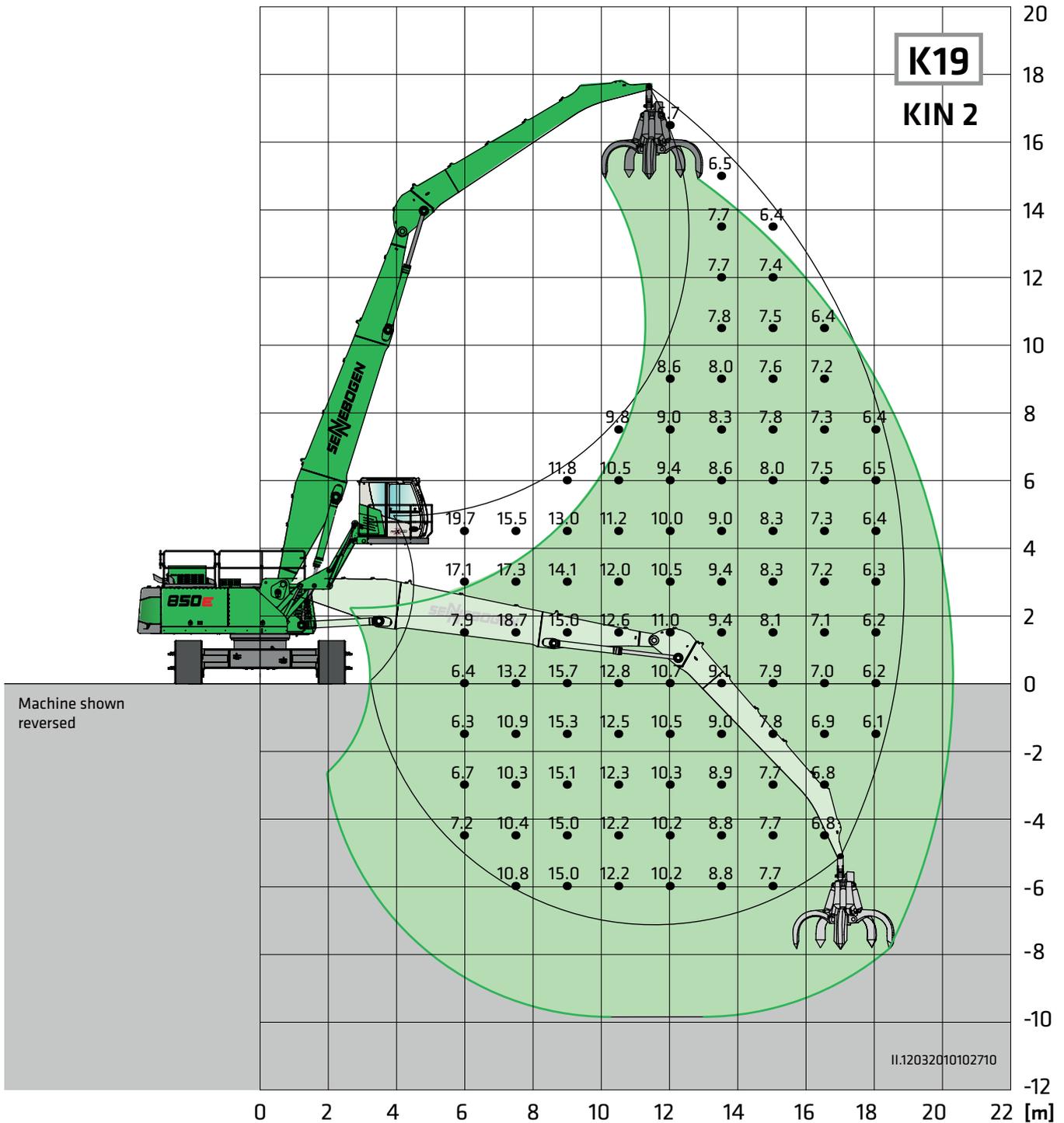
**Cab:** Maxcab E270,  
can be elevated hydraulically

**Grab stick:** 8.4 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.

# 850E Load ratings

# R

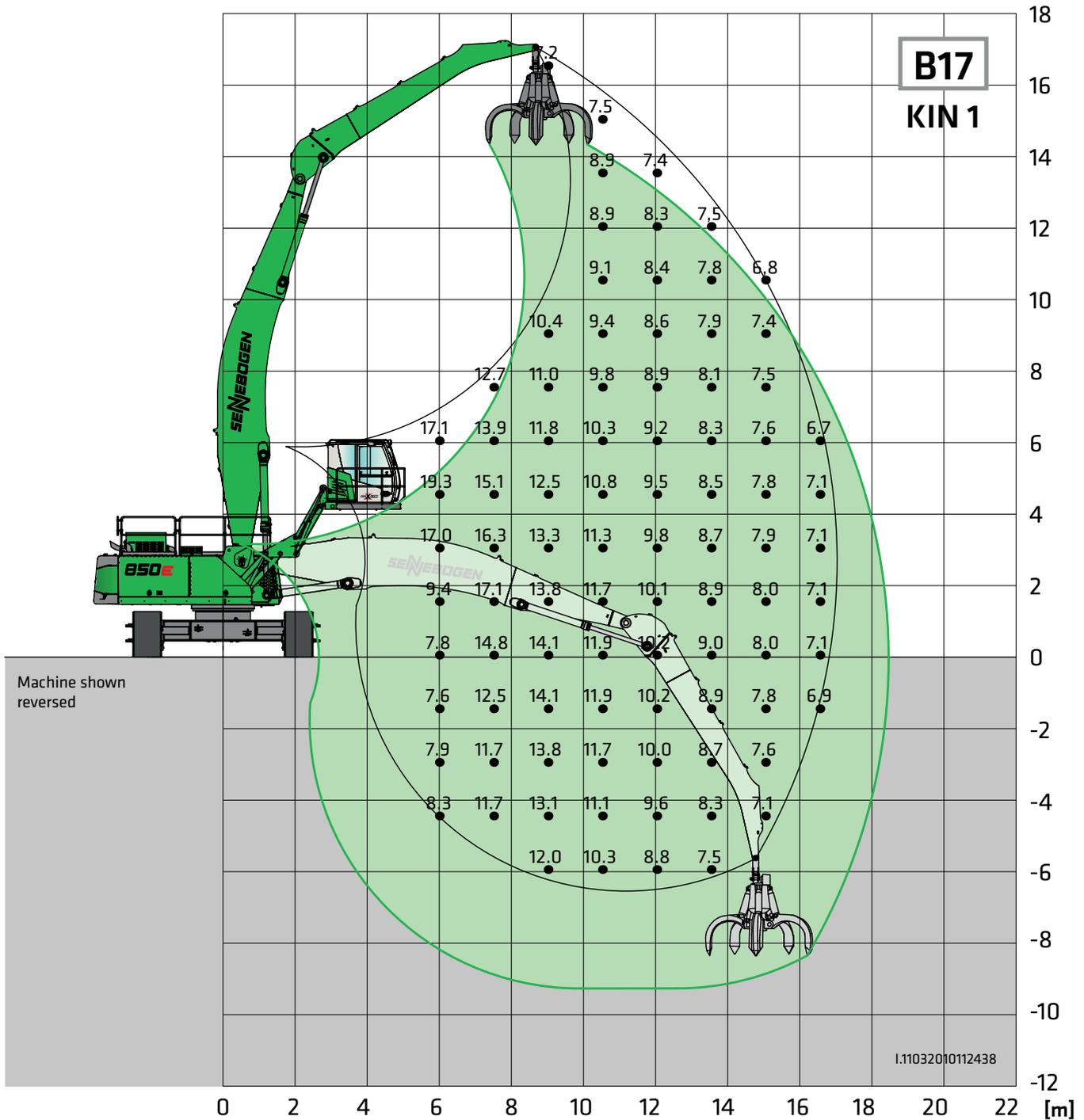


**Undercarriage:** R73/420      **Compact boom:** 11 m      **Cab:** Maxcab E300/260, can be elevated and moved forward hydraulically  
**Grab stick:** 8.4 m

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.

# 850E Load ratings

# R



**Undercarriage:** R73/420

**Compact boom:** 10.8 m Banana

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

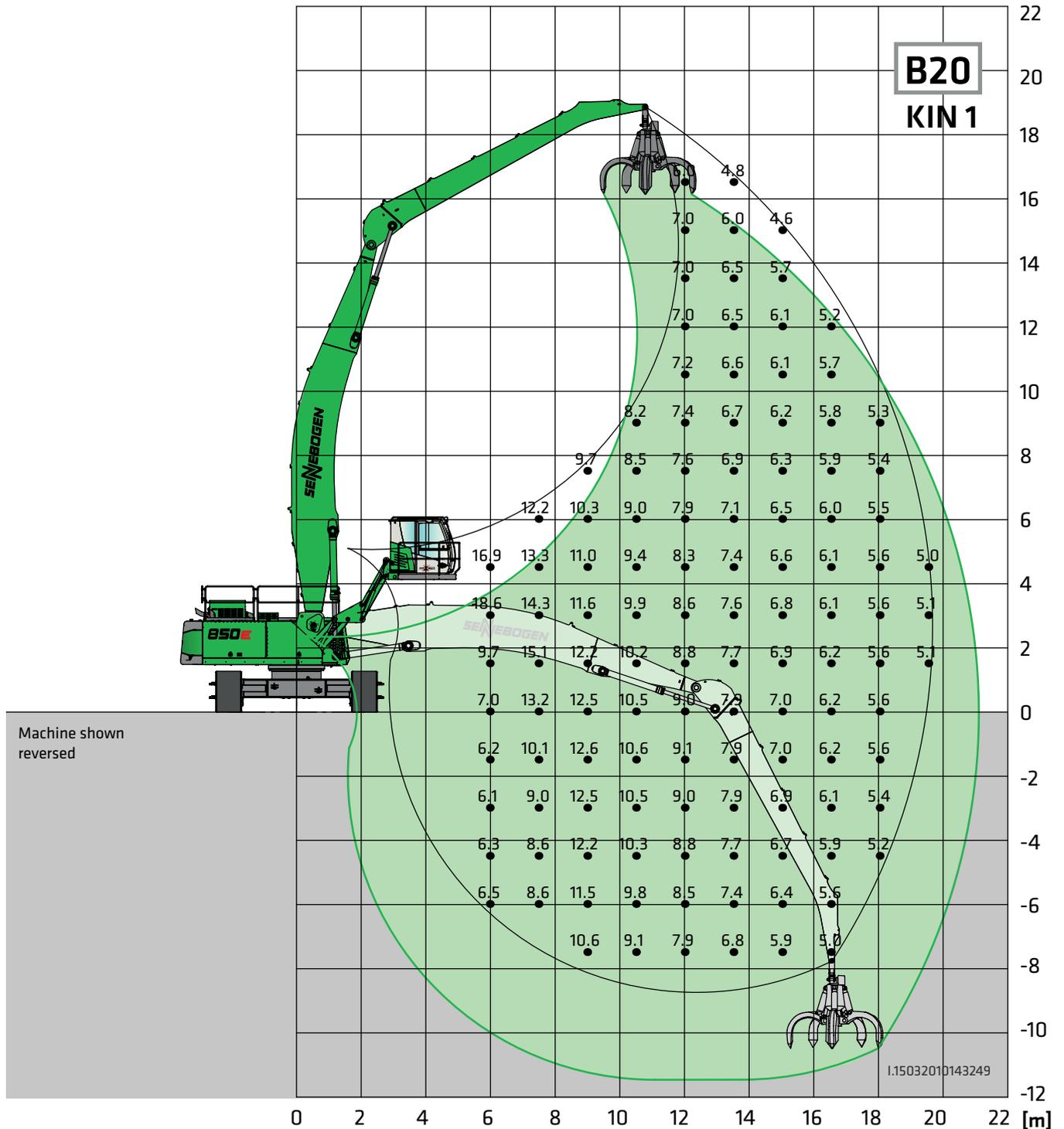
**Grab stick:** 7.5 m

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.



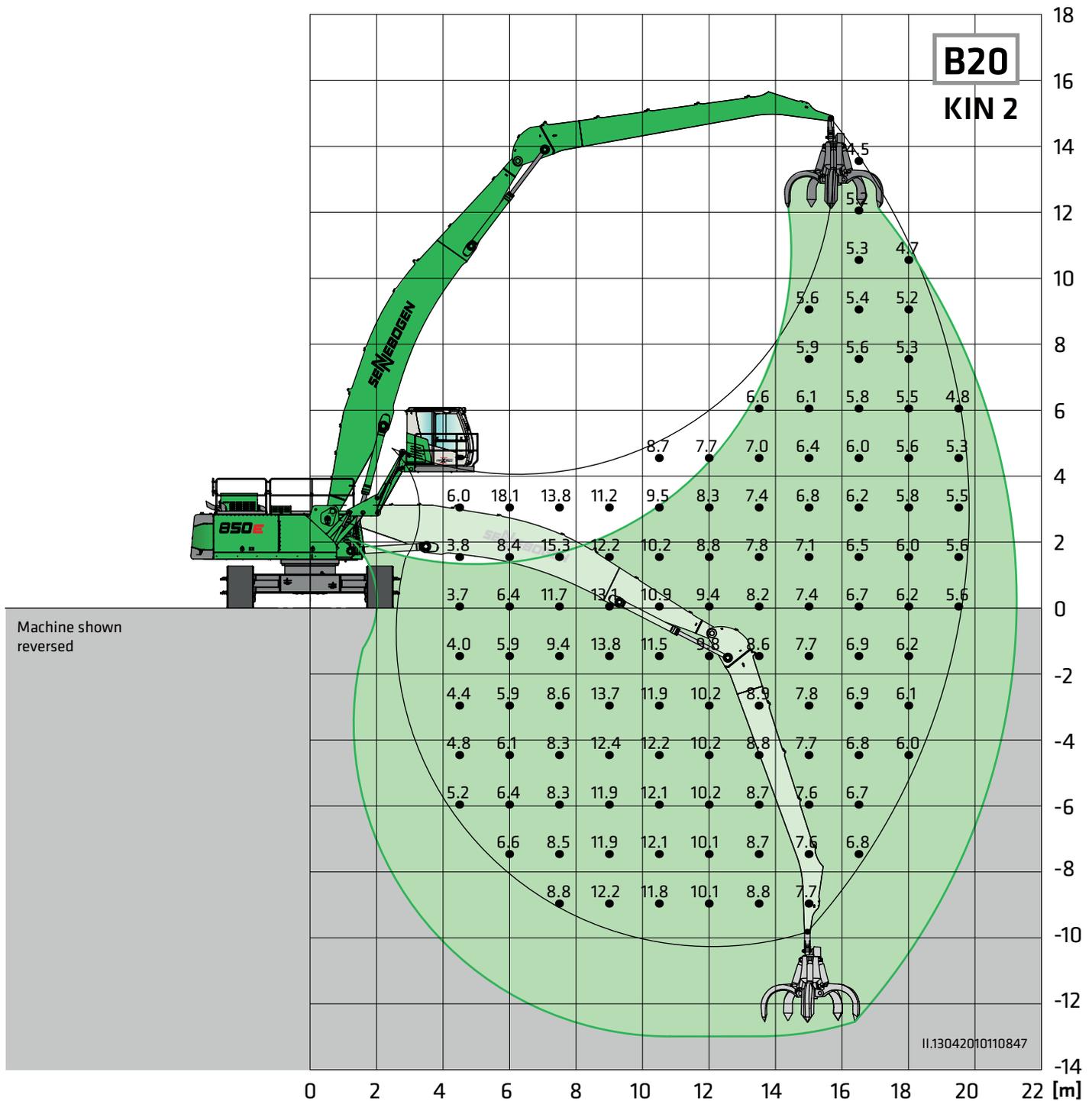
# 850E Load ratings

# R



**Undercarriage:** R73/420    **Compact boom:** 12 m Banana    **Cab:** Maxcab E300/260, can be elevated and moved forward hydraulically  
**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.

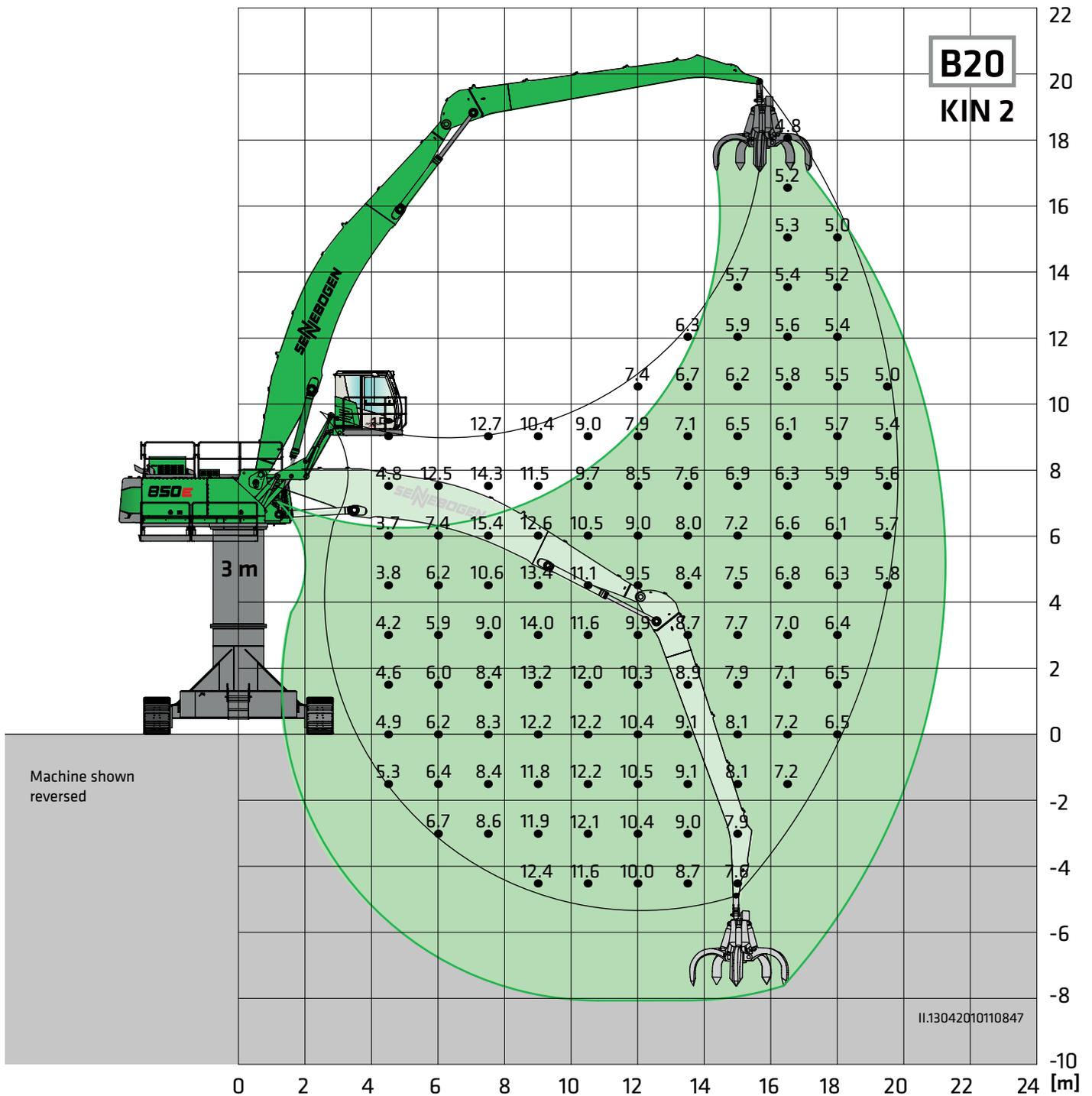


**Undercarriage:** R73/420    **Compact boom:** 12 m Banana    **Cab:** Maxcab E300/260, can be elevated and moved forward hydraulically  
**Pylon:** 1.5 m    **Grab stick:** 9.5 m

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.

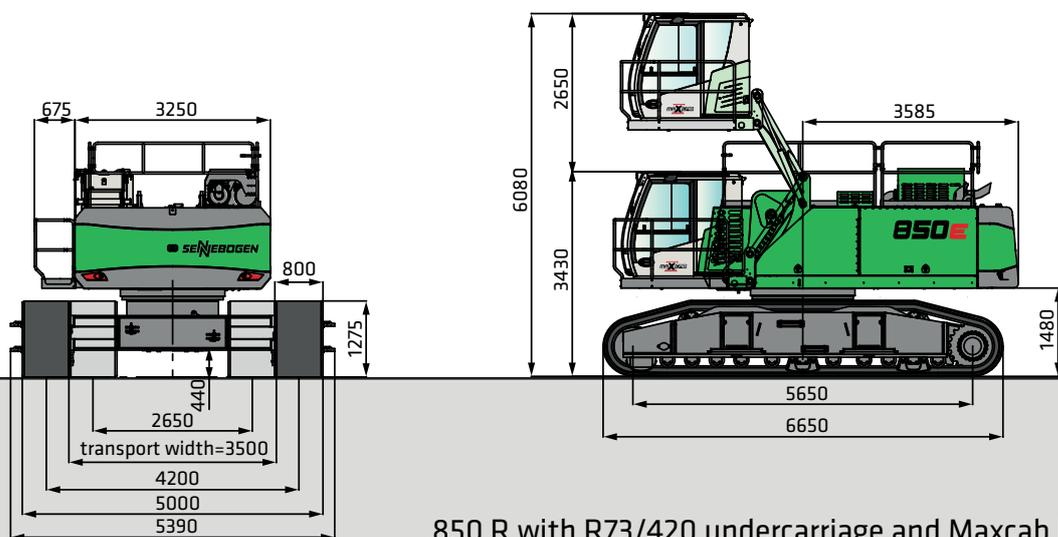
# 850E Load ratings

R

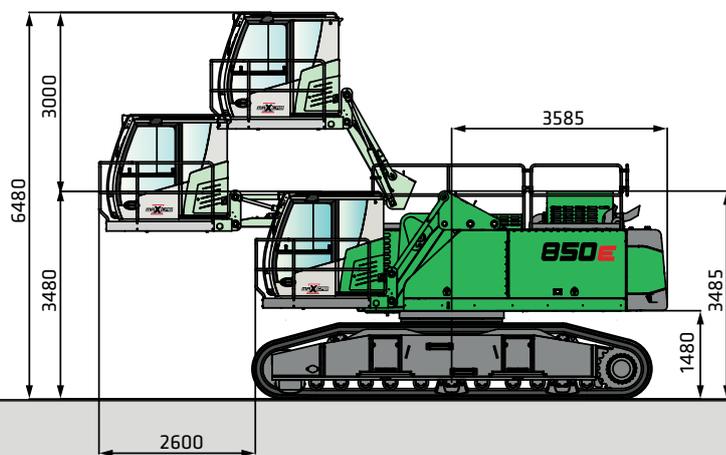


**Undercarriage:** R70/490    **Compact boom:** 12 m Banana    **Cab:** Maxcab E300/260, can be elevated and moved forward hydraulically  
**Pylon:** 3 m    **Grab stick:** 9.5 m

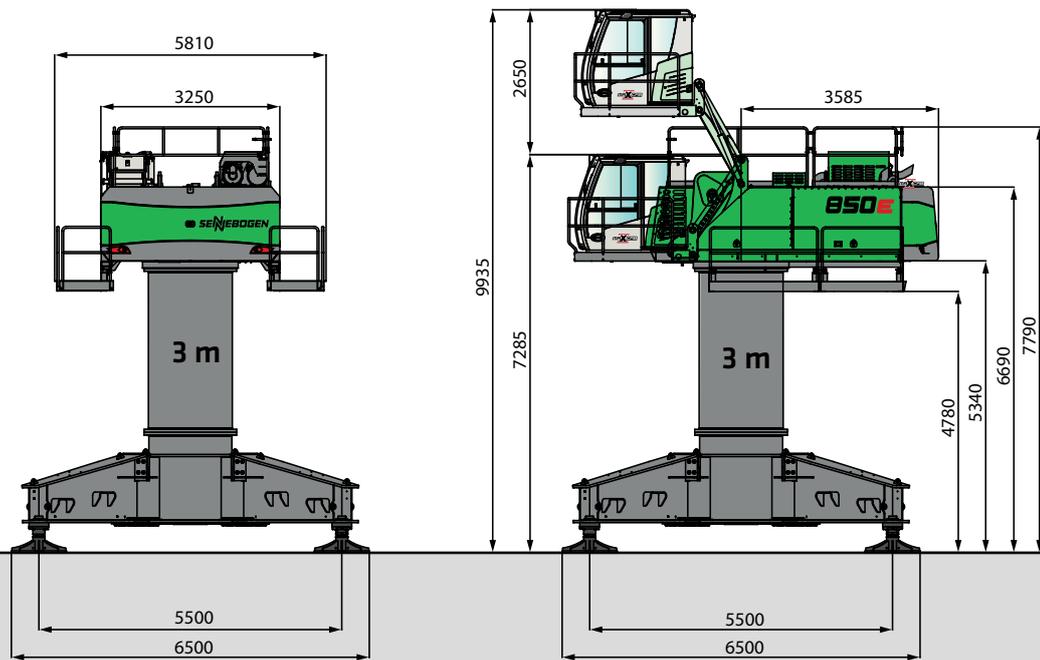
All load ratings are specified in tons (t) and apply at the end of the stick, without attachment, on solid, level ground. Attachments such as grabs, magnets, load hooks, etc. are part of the specified load ratings. The specified values are 75% of the static tipping load or 87% of the hydraulic lifting 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.



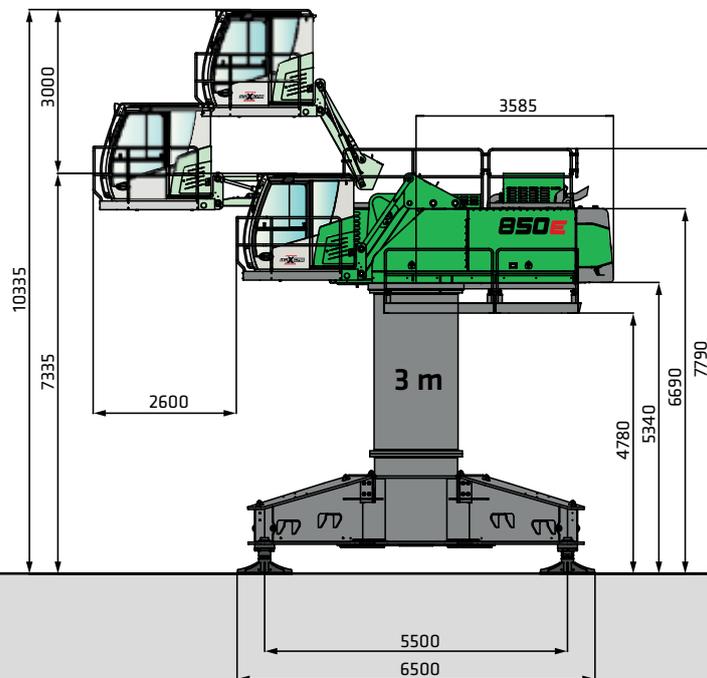
850 R with R73/420 undercarriage and Maxcab E270, can be elevated hydraulically



850 R with R73/420 undercarriage and Maxcab E300/260, can be elevated and moved forward hydraulically



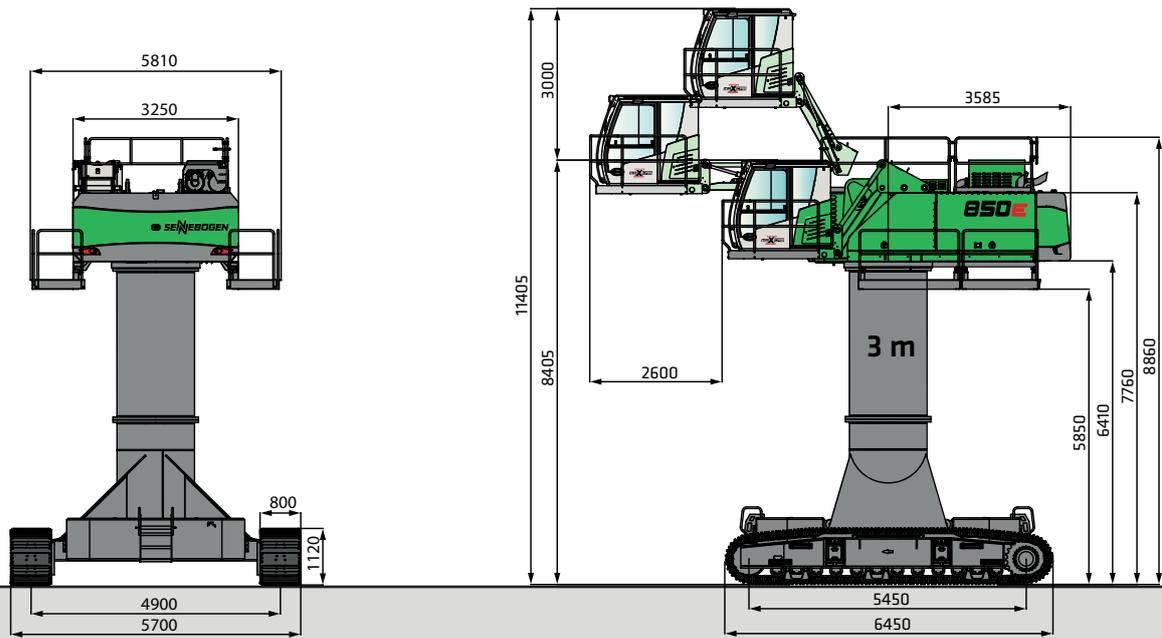
850 special with 4-point ST78/550 pedestal and 3.0 m pylon, Maxcab E270 can be elevated hydraulically



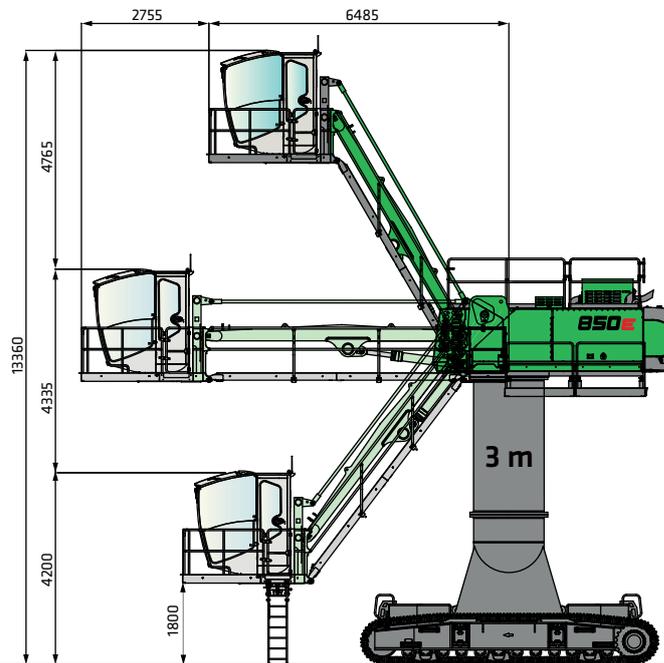
850 special with 4-point ST78/550 pedestal and 3.0 m pylon, Maxcab E300/260 can be elevated and moved forward hydraulically

# 850E Dimensions

R



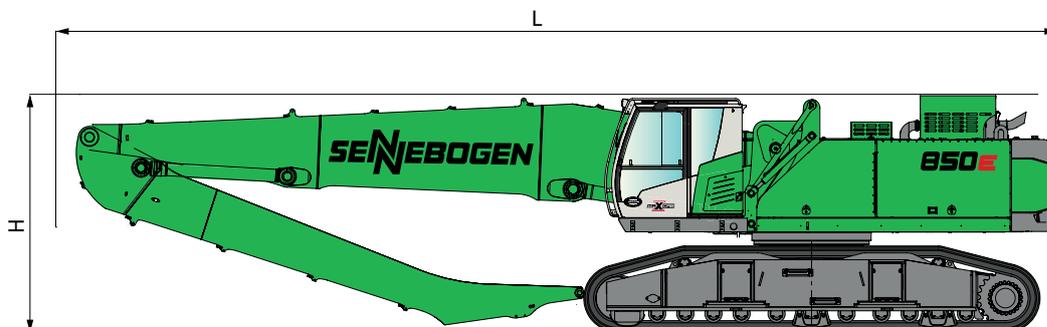
850 R special with R70/490 undercarriage and 3.0 m pylon,  
Maxcab E300/260 can be elevated and moved forward hydraulically



850 R special with R70/490 undercarriage and 3.0 m pylon,  
Mastercab Skylift 900 can be elevated hydraulically

# 850E Transport dimensions

R



	Load boom	Grab stick	Transport length (L)	Transport height (H)
K17	10.0 m	7.50 m	14.60 m	3.50 m
K19	11.0 m	8.40 m	15.60 m	3.60 m
K21	12.10 m	9.50 m	16.70 m	3.85 m
B17	10.8 m Banana	7.50 m	15.20 m	3.60 m
B19	12.0 m Banana	8.40 m	16.40 m	3.70 m
B20	12.0 m Banana	9.50 m	16.40 m	3.70 m

**Note:**

This catalog describes machine models, scope of equipment of individual models, and configuration options (standard equipment and optional equipment) of the machines delivered 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 <sup>1</sup>		max. piled density
		Shell		
		HO	G	
SGM	l	kg	kg	t / m <sup>3</sup>
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 <sup>1</sup>		max. piled density
		Shell shape <sup>2</sup>		
		HO	G	
SGM	l	kg	kg	t / m <sup>3</sup>
800.50	800	2580	2740	2.0
1000.50	1000	2710	2870	
1500.50	1500	2860	3100	
2000.50	2000	3060	3615	
2500.50	2500	3130	3615	
3000.50	3000	3250	3875	
3500.50	3500	3420	4140	

## SGZ clamshell grab



Design/size	Grab capacity	Weight <sup>1</sup>	max. piled density
	l	kg	t / m <sup>3</sup>
SGZ			
1500.50	1500	1950	2.6
2000.50	2000	2200	
2500.50	2500	2300	2.0
3000.50	3000	2490	
4000.50	4000	2800	1.6

## Magnetic plates



Type series/model	Power	Dead weight	Pull-off strength	Load-bearing capacity in kg
	kW	kg	kN	Slab (safety factor 2)
WOKO				
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    <sup>1)</sup> Weight information without grab suspension, stick bolts, hose system

<sup>2)</sup> Half-open shells: shell sheet steel width 400 mm, 500 mm for 1,250 l capacity and higher



850 M - with orange peel grab - scrap handling; Austria

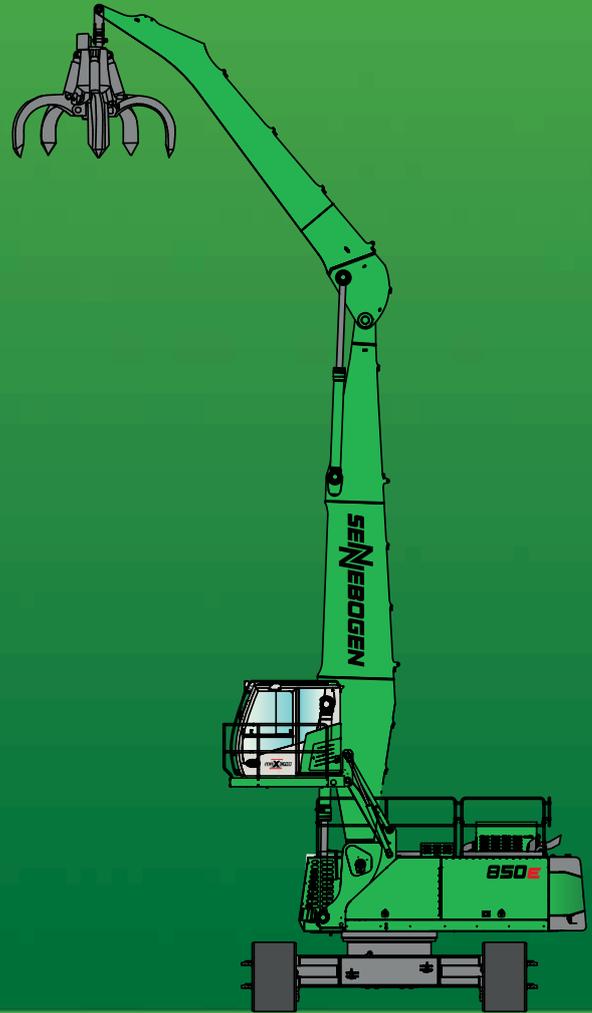


26 850 M - with magnet plate - truck loading; USA



850 R special electro - with orange peel grab - loading of a scrap shear; France

# 850E R



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**SENNEBOGEN**

**SENNEBOGEN**  
**Maschinenfabrik GmbH**  
Sennebogenstraße 10  
94315 Straubing, Germany

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

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