



**90** kW (Electro)



**119** kW (Stage IIIa)

**123** kW (Stage V)



**26.3** t



**11** m



**MAXCAB**

# 821E

Crawler material handler

# 821E Advanced. The E-Series



1962: Rope-driven S833 with elevated operator cab

## What makes up the E-Series

- More than 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 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 usability

Comfortable Maxcab operator cab - relaxed work  
SENCON - work program selection made easy



4

### Maximum safety

Safe entry and exit - no-slip steps  
State-of-the-art camera - entire work area in view

5

### Maintenance and service made easy

SENNEBOGEN Control System SENCON - easy fault diagnosis  
Easy maintenance - clear labeling

6

### Consultation and support in your area

3 production sites - 2 subsidiaries  
more than 150 sales partners - worldwide and also in your area





Subject to technical changes. Further options available upon request.

# 821E The E-Series. At a glance.



## Four ways to save fuel

- Up to 20% savings: working in Eco Mode with reduced engine speed
- Idle automation reduces speed to 40% of operating speed
- Stop automation switches the engine off when not needed
- Optimized settings of engine and hydraulics reduces fuel consumption



## Quiet operation 3

- Consistently quiet operation thanks to decoupled engine mounts and soundproofing in the doors und Schallschutzmatten in den Türen
- Soundpower level according to 2000/14/EC up to 2 dB lower than required

## High-capacity cooling 4

- Constant, reliable performance thanks to large-dimensioned 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

4 Subject to technical changes. Further options available upon request.

## Maximum safety

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



## Powerful hydraulic system **5**

- Strong pumps with power reserves
- Top efficiency thanks to large-dimensioned 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\*

\* Optional



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



# **821E** 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 ring



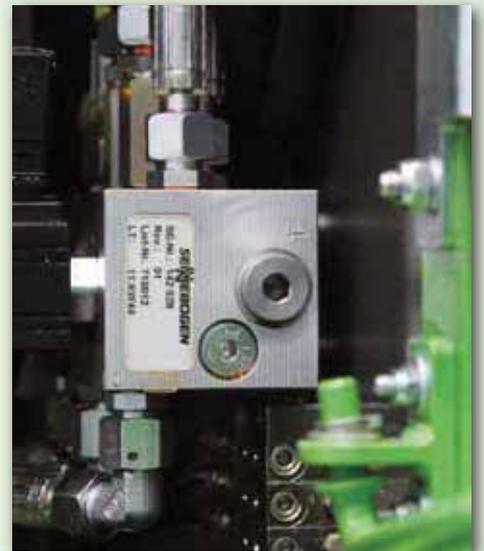
## **SENNEBOGEN Hydro Clean\***

- 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



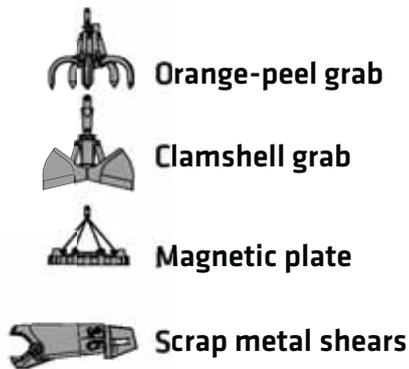
## **Clear labeling**

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

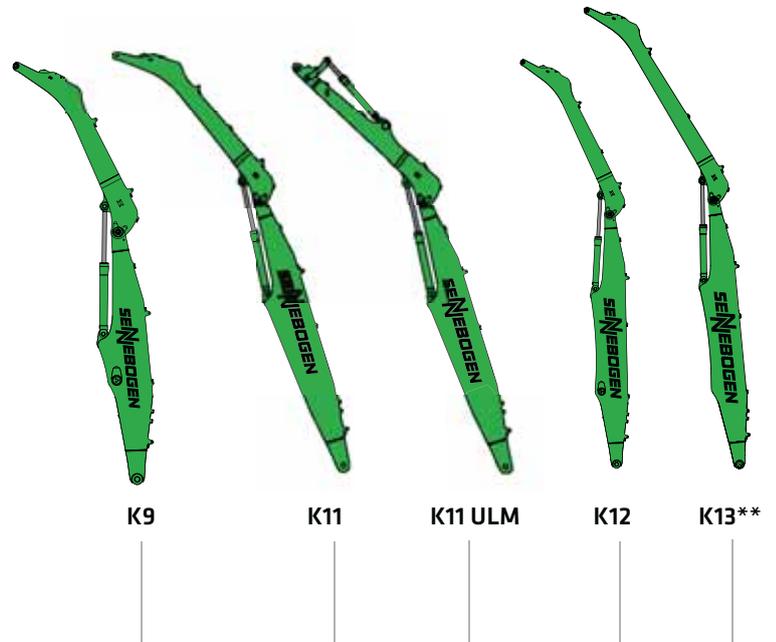
\* Option

# 821E Modular design - versatile solutions

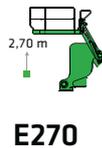
## Attachments



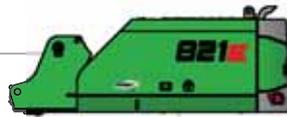
## Equipment options (others available upon request)



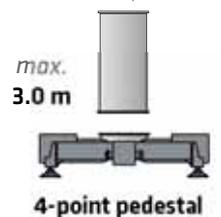
## Cabs



## Uppercarriage



### Options



# 821E Advantages at a glance



Reliable operation through robust and FEM-optimized equipment

Sliding door for convenient entry and exit

Ideal overview and safe working height thanks to stable cab elevation

Safe entry and exit thanks to railing\*, handles and non-slip steps

Robust side covers made of recyclable sheet steel

Better illumination of the work area with powerful LED headlights\*

# 821E Technical data, equipment

## MACHINE TYPE

Model (type) **821**

## ENGINE

Power	<b>Stage V:</b> Rated Power: 123 kW at 2200 rpm <b>Stage IIIa:</b> Rated Power: 119 kW at 2200 rpm
Model	<b>Cummins B4.5, Stage V</b> <b>Cummins QSB4.5, Stage IIIa</b> Direct injection, turbo-charged, charge air cooler, reduced emissions, Eco Mode, idle automation
Cooling	Water-cooled
Diesel filter	with water separator and heating system
Air filter	Dry filter with pre-separator, automatic. dust discharge, main and safety element, contamination indicator
Fuel tank	<b>300 l</b>
DEF tank	<b>30 l (Stage V)</b>
Electrical system	<b>24 V</b>
Batteries	2 x 110 Ah, battery disconnect
Options	<ul style="list-style-type: none"> <li>■ Engine block pre-heater</li> <li>■ Electric fuel pump</li> <li>■ Jump-start terminals for battery</li> <li>■ Additional cyclone pre-separator</li> </ul>

## UPPERCARRIAGE

Design	Torsion-resistant upper frame with end shields all the way from boom linkage to counterweight for optimized force transmission, precision-crafted steel bushings for boom bearings, lockable storage compartment, outstanding design, very low noise emissions
Central lubrication	Automatic central lubrication for equipment and slewing ring
Electrical system	Central electrical distributor, battery disconnect switch
Safety	Camera package (right/rear)
Options	<ul style="list-style-type: none"> <li>■ Slewing gear brake via foot pedal</li> <li>■ Hand rails on the upper carriage</li> <li>■ LED lighting packages</li> <li>■ Fire extinguisher</li> <li>■ Special paint finish</li> <li>■ Electric hydraulic tank preheater with uppercarriage power socket</li> <li>■ Low-temperature packages</li> <li>■ Platform with railing next to cab</li> </ul>

## Options

- Hydraulically driven 9 kW/15 kW magnetic generator
- Telematic system SENtrack DS
- Rotating lights and alarm horns

## 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	<b>Max. 350 bar</b>
Delivery rate	<b>310 l/min</b>
Filtration	High-performance filtration with long change interval
Hydraulic tank	<b>260 l</b>
Control system	Proportional, precision hydraulic actuation of work movements, 2 hydraulic servo joysticks for work functions, additional functions via switches and foot pedals
Safety	All hydraulic circuits secured with safety valves, hydraulic accumulator for emergency attachment and cab lowering if engine fails, pipe fracture safety valves for stick and hoist cylinders
Options	<ul style="list-style-type: none"> <li>■ Bio-oil – environmentally friendly</li> <li>■ ToolControl for programming pressure/rate of up to 10 tools</li> <li>■ Additional hydraulic circuit for shears attachment</li> <li>■ Load moment warning with capacity utilization indicator with/without shutdown</li> <li>■ Electronic overload safeguard with overload shutdown</li> <li>■ SENNEBOGEN HydroClean 3-µm hydraulic microfilter system</li> </ul>

## SLEWING DRIVE

Gearbox	Planetary gearbox with axial piston motor and integrated brake valve
Parking brake	Spring-loaded, hydraulically vented safety multi-disk brake
Slewing ring	Oversized slewing ring
Slewing speed	0–8 rpm, continuous. Hydraulic brake valves integrated into motor ensure wear-free braking.

# 821E Technical data, equipment

 <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, steering via foot pedal, SENNEBOGEN SENCON control & diagnosis system
Options	<ul style="list-style-type: none"> <li>■ 30 ° tiltable cab</li> <li>■ Camera for ground monitoring</li> <li>■ Protective cover for the seat</li> <li>■ Comfort armrests</li> <li>■ Protective ventilation system</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	Sealed and soiling-protected box design with oversized bearing points for long service life. Oversized bearing points with low-maintenance, sealed special bushings, precision-crafted
Cylinders	Special hydraulic cylinder with hydraulic end position damping, optimized kinematics for high lifting power. The material handling attachment is specifically designed for high-performance applications.
Central lubrication	Automatic central lubrication system
Options	<ul style="list-style-type: none"> <li>■ Ball valves on the hydraulic lines to open, close, and rotate grapple</li> <li>■ Multi-coupling</li> <li>■ Adjustable hoisting limiter/stick limiter</li> <li>■ Additional cameras</li> <li>■ Boom damping</li> </ul>

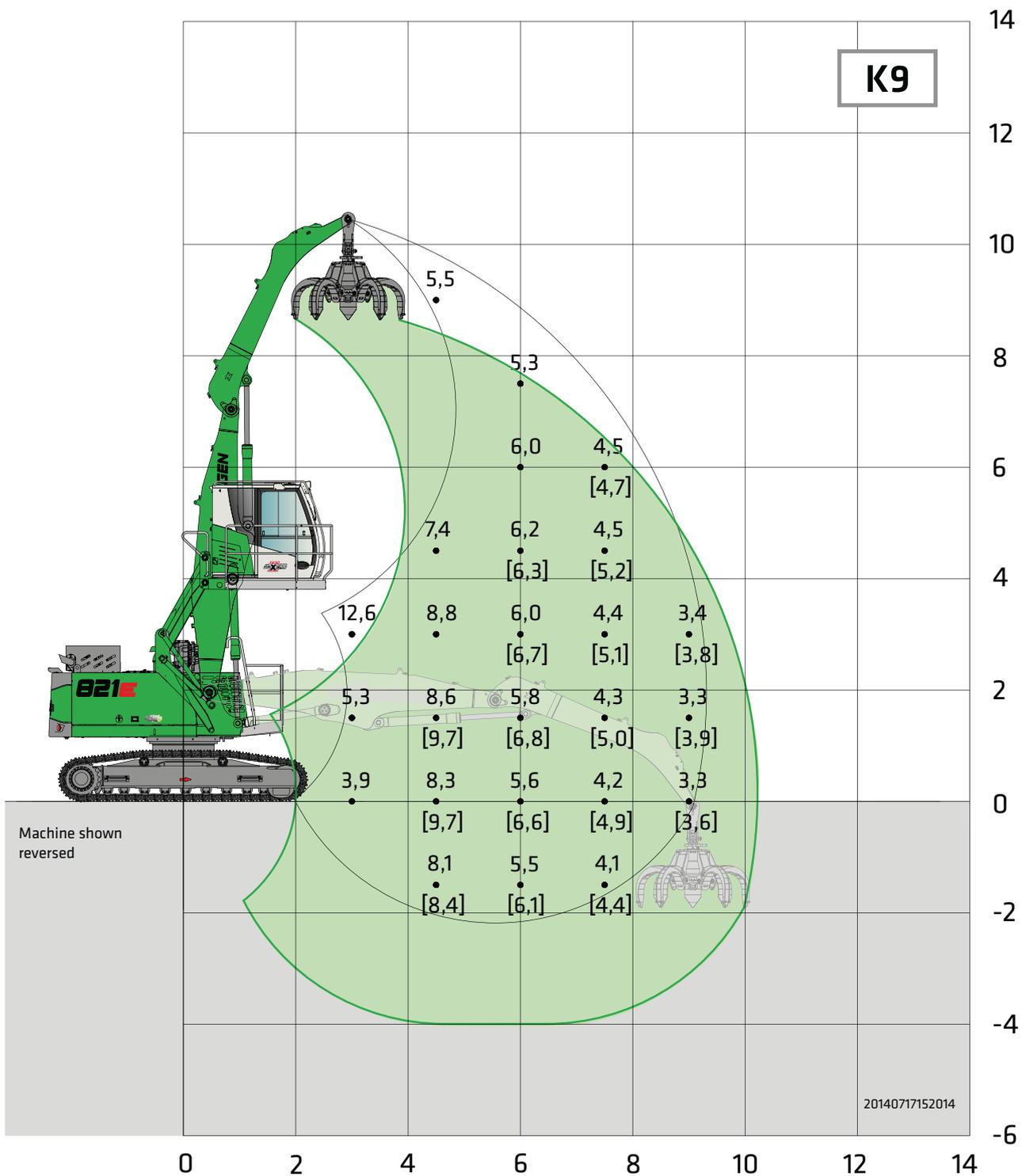
 <b>UNDERCARRIAGE</b>	
Design	Crawler undercarriage in stable, torsionally rigid box design
Travel drive	Hydraulic travel drive
Parking brake	Spring-loaded multi-disk brakes with hydraulic brake valves
Traveling gear	Undercarriage with 600 mm B4HD traveling gear and 3-grouser track shoes R25/240 crawler undercarriage
Travel speed	Stage I: <b>0-1.8 km/h</b> ; Stage II: <b>0-2.4 km/h</b>
Options	<ul style="list-style-type: none"> <li>■ B4HD crawler track with 700 mm 3-grouser canted track shoes</li> </ul>

 <b>ELECTRIC DRIVE</b> 	
Option	<ul style="list-style-type: none"> <li>■ Power: <b>90 kW, 400 V, 50 Hz</b> Total connected load 200 kVA, machine fusing 200 A (alternatively 250 A with magnet system) for 400 V – via star-delta circuit</li> <li>■ Advantages: Lowest operating costs, quiet and virtually vibration-free work, long service life of hydraulic components</li> </ul>

 <b>OPERATING WEIGHT</b>	
Mass	821 R with R25/240 undercarriage, K11 compact equipment and 600-l orange-peel grab <b>Approx. 26,300 kg</b>
Note	Operating weight varies by model and equipment.



# 821E Load ratings



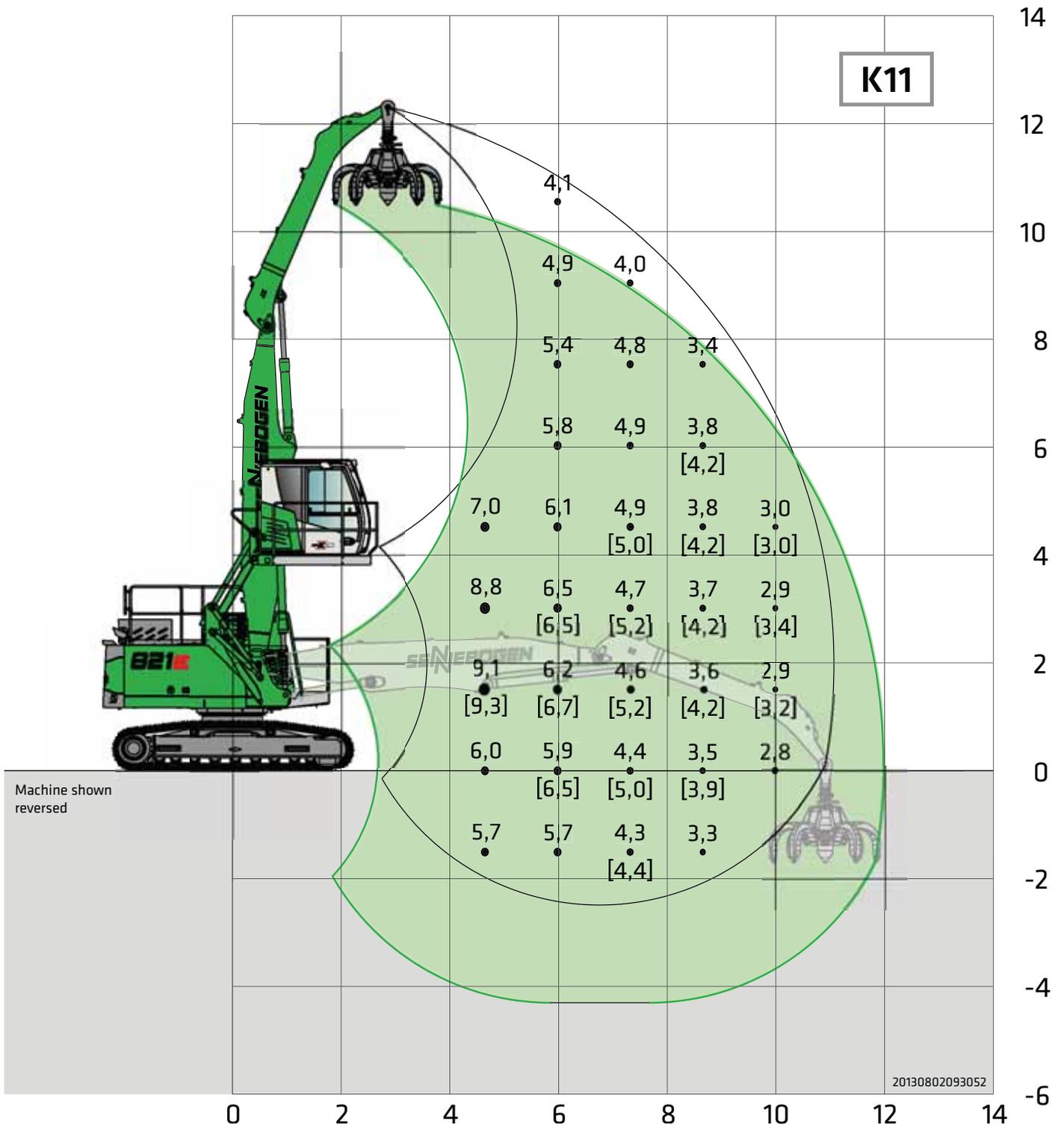
**Undercarriage R25/240**

**Compact boom 5.1 m**  
**Grab stick 4.0 m ULM**

**Cab E270 Maxcab,**  
**hydraulically elevating**

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. Load ratings apply to max. gauge and they are 360° slewing. Load ratings in square brackets [ ] apply to longitudinal direction of the machine.

# 821E Load ratings



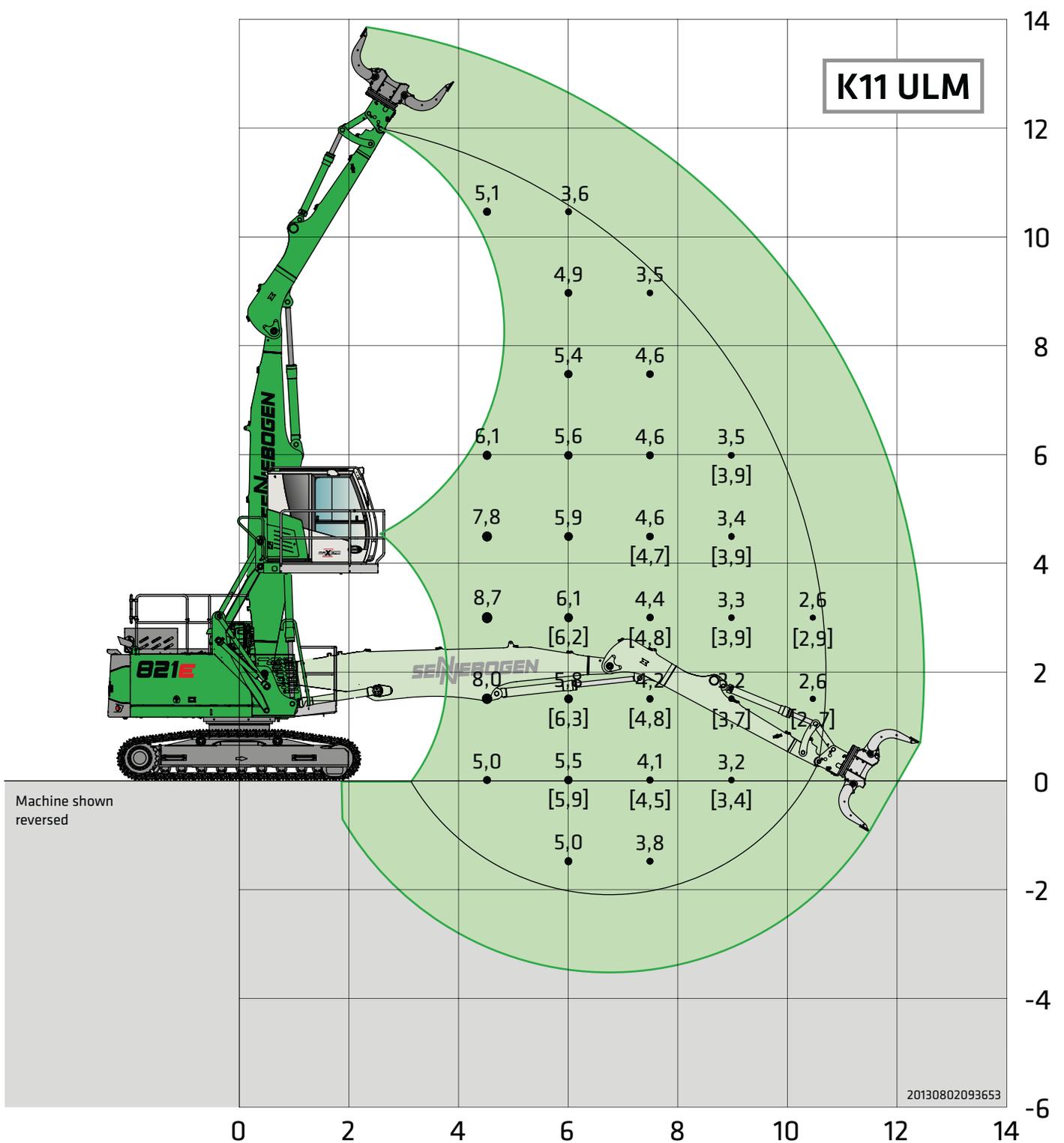
Undercarriage **R25/240**

Compact boom **6.3 m**  
Grab stick **4.6 m**

Cab **E270 Maxcab, hydraulically elevating**

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# 821E Load ratings



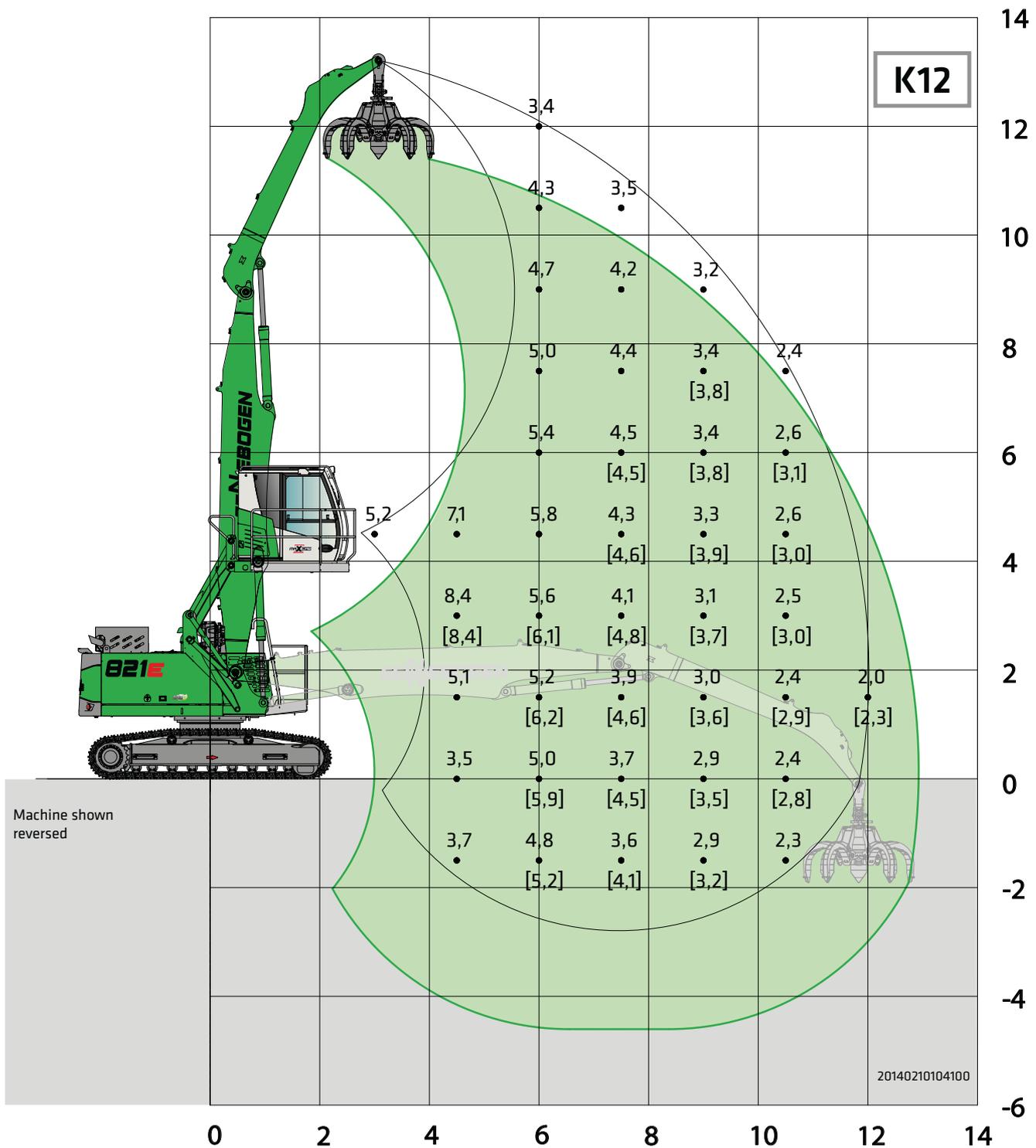
Undercarriage R25/240

Compact boom 6.3 m  
Grab stick 4.2 m ULM

Cab E270 Maxcab,  
hydraulically elevating

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. Load ratings apply to max. gauge and they are 360° slewing. Load ratings in square brackets [ ] apply to longitudinal direction of the machine.

# 821E Load ratings



Undercarriage **R25/240**

Compact boom **7.0 m**  
Grab stick **4.9 m**

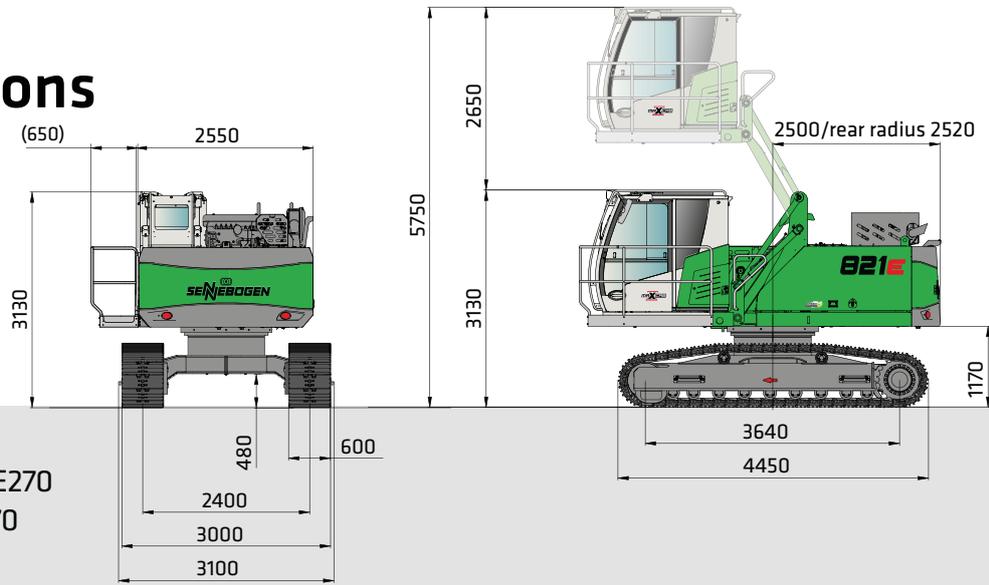
Cab **E270 Maxcab,  
hydraulically elevating**

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. Load ratings apply to max. gauge and they are 360° slewing. Load ratings in square brackets [ ] apply to longitudinal direction of the machine.

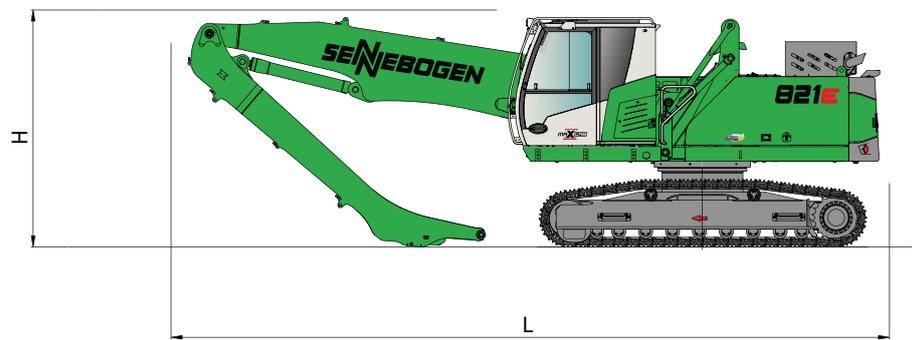
# 821E Dimensions

Transport width 3,000 mm

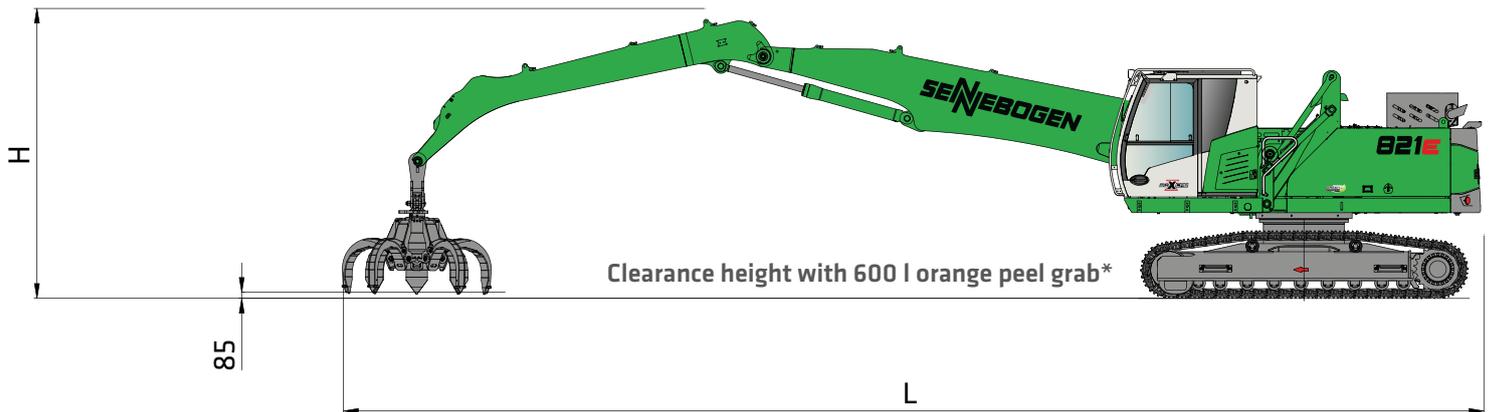
821 R with R25/240 undercarriage and E270 hydraulically elevating Maxcab type E270



Transport Dimensions 821 R with R25/240 undercarriage



	Load boom	Grab stick	Transport length (L)	Transport height (H)
K9	5,10 m	4,00 m	8,50 m	3,25 m
K11	6,30 m	4,60 m	9,80 m	3,30 m
K11 ULM	6,30 m	4,20 m ULM	9,80 m	3,25 m
K12	7,00 m	4,90 m	10,50 m	3,45 m



	Load boom	Grab stick	Transport length (L)	Transport height (H)
K9	5,10 m	4,00 m	12,80 m	3,65 m
K11	6,30 m	4,60 m	14,70 m	3,85 m
K11 ULM	6,30 m	4,20 m ULM	9,80 m	3,90 m
K12	7,00 m	4,90 m	15,50 m	3,95 m

# 821E 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>
400.30-4	400	1290	1390	2,0
600.30-4	600	1315	1445	
800.30-4	800	1350	1515	

## SGM orange-peel grab (5 shells)



Design/size	Grab capacity	Weight <sup>1</sup>		Max. piled density
		Shell <sup>2</sup>		
		HO	G	
SGM	l	kg	kg	t/m <sup>3</sup>
400.30	400	1480	1530	2,0
600.30	600	1510	1590	
800.30	800	1550	1660	

## SGZ clamshell grab



Design/size	Grab capacity	Weight <sup>1</sup>	Max. piled density
		kg	
			t/m <sup>3</sup>
1000.40	1000	1440	2,0
1200.40	1200	1575	
1400.40	1400	1650	
1600.40	1600	1775	

## Sorting grab



Design/size	Grab capacity	Weight <sup>1</sup>
	l	kg
SGR		
800.30 L	380	1000
1000.30 L	450	1050
1200.30 L	520	1060

## Magnetic plates



Type series/model	Power	Dead weight	Breakaway force	Load capacity in kg
	kW	kg	kN	Slab (safety factor 2)
WOKO				
S-RSL 10	4,8	730	190	9500
S-RLB 11.5	5,5	1060	240	1200
S-RLB 12.5	8,8	1310	280	14000
S-RLB 13.5	10,0	1700	300	15000

Recommended magnetic generator: 9 kW/15 kW

\*) Available upon request

<sup>1</sup>) Weight information without grab suspension, stick bolts, hose system

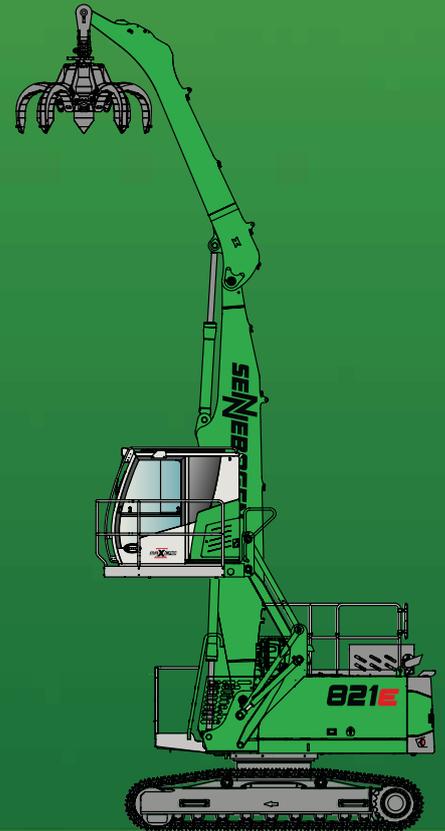
<sup>2</sup>) Half-open shells: shell sheet steel width 400 mm, 500 mm for 1,250 l capacity and higher





# 821E

# R



This catalog describes machine models, scopes 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.

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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 black outline, set against a dark green background.

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