SENNEBOGEN

90 kW (Electro)

119 kW (Stage IIIa)

123 kW (Stage V)

23.9/25.1 t

9–13 m

maXCAB

821E

Mobile material handling machine

Stage V

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 130 sales partners - worldwide and also in your area


821E

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 2

- Consistently quiet operation thanks to decoupled engine mounts and soundproofing in the doors
- Soundpower 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 pump and motor control and on demand thermostatic control
- Fan reversal for cleaning in series

Subject to technical changes. Further options available upon request.

Maximum safety

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

Powerful hydraulic system 4

- 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*

* Option

The premium cab.

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 cooler behind operator`s seat, protective covers, 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

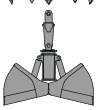
- All parts labeled with a unique part number
- Easy and reliable spare parts ordering

* Option

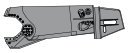
821E Modular design - versatile solutions

Attachments


Orange peel grab


Clamshell grab


Magnet plate


Scrap metal shears

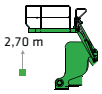
Equipment options (others available upon request)

Cabs


Maxcab


Maxcab Industry

Cab elevation



E270

Uppercarriage


Diesel-hydraulic drive


Electrohydraulic drive

Options


Motorized cable reel


Transformer

Undercarriage variants

max. 0.5 m

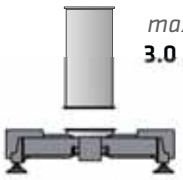

Mobile M
MP21

max. 1.0 m

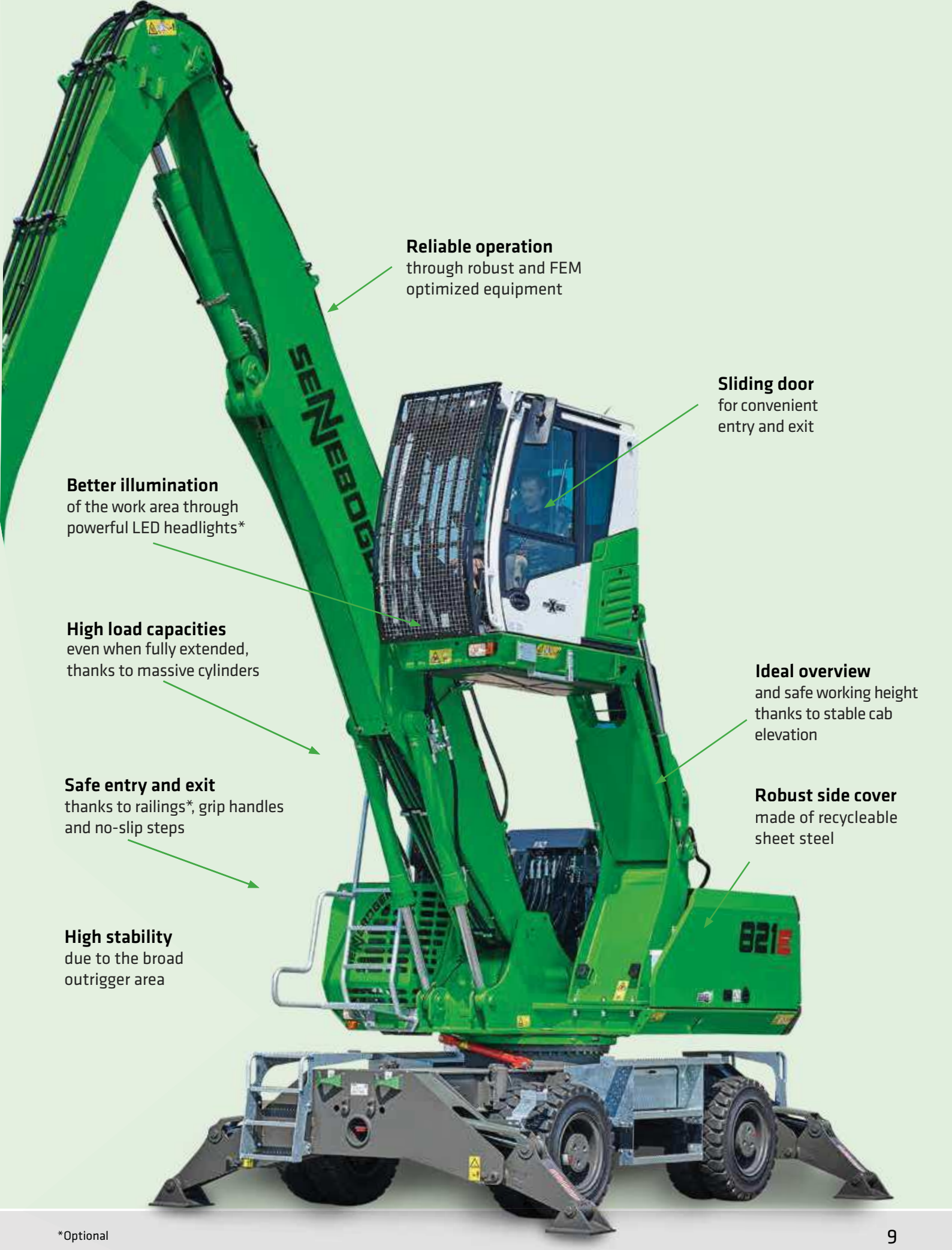

Mobile MHD
MP26


Crawler R25/240*

max. 3.0 m


4-point pedestal

* further information about our crawler undercarriages can be found in the separate brochure 821 R E-Series. **only available with undercarriage MP26E (MHD)



Reliable operation
through robust and FEM optimized equipment

Sliding door
for convenient entry and exit

Better illumination
of the work area through powerful LED headlights*

High load capacities
even when fully extended, thanks to massive cylinders

Ideal overview
and safe working height thanks to stable cab elevation

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

Robust side cover
made of recycleable sheet steel

High stability
due to the broad outrigger area

*Optional

821E Technical data, equipment

MACHINE TYPE

Model (type)	**821**

ENGINE

Power	**Stage V:** Rated power: 123 kW at 2200 rpm **Stage IIIa:** Rated power: 119 kW at 2200 rpm
Model	**Cummins B4.5, Stage V** **Cummins QSB4.5, Stage IIIa** 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 air filter with integrated pre-separator, safety element, contamination indicator
Fuel tank	**300 l**
DEF tank	**30 l (Stage V)**
Electr. system	**24 V**
Batteries	2 x 110 Ah, battery disconnect switch
Options	■ Engine block heater ■ Electric fuel pump ■ Jump-start battery terminals ■ additional cyclone pre-separator

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, very low noise emissions
Central lubrication	Automatic central lubrication for equipment and slewing gear
Electrical system	Central electrical distributor, battery disconnect switch
Safety	Camera package (right/rear)
Options	■ Slewing gear brake via foot pedal ■ Hand rail at the upper structure for additional safety ■ LED lighting packages ■ Fire extinguisher ■ Special paint finish ■ Electric heater for hydraulic tank ■ Low-temperature packages ■ Telematic system SENtrack DS
Options	■ Hydraulically driven magnetic generator 9 kW/15 kW ■ Additional ballast ■ 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 acutally needed, pressure purging, load limit sensing control
Delivery rate	**310 l/min**
Operating pressure	**up to 350 bar**
Filtration	High-performance filtration with long change intervals
Hydraulic tank	**260 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	All hydraulic circuits secured with safety valves, hydraulic accumulator for emergency equipment and cab lowering if engine stops, pipe fracture safety valves for stick and hoist cylinders
Options	■ Bio-oil ■ Tool Control for programming pressure/rate for up to 10 tools ■ Additional hydraulic circuit for shear attachment ■ Load moment warning with capacity utilization indicator with/without shutdown ■ Electronic overload safeguard with overload shutdown ■ SENNEBOGEN HydroClean 3 µm hydraulic microfilter

SLEWING DRIVE

Gear box	Planetary gearbox with axial piston motor and integrated brake valve
Parking brake	Spring-loaded, hydraulically vented safety multi-disk brake
Slewing ring	Large-dimensioned slewing ring
Slewing speed	0-8 rpm, continuous. Hydraulic brake valves integrated into motor ensure ware-free braking

821E Technical data, equipment

CAB

Cab type	Hydraulically elevating cab E270
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
Options	■ active seat air conditioning ■ Auxiliary heating system with timer ■ Cabs with active carbon filter ■ Armored-glass windshield ■ Armored-glass sunroof ■ Safety side window and rear window ■ Rolling shade for roof window and windshield ■ Protection guards ■ FOPS protective roof grating ■ Protective front grating ■ Radio with speakers ■ Maxcab industrial cab with undivided armored glass windshield ■ electrical cooling box ■ Steering wheel steering ■ 30° tiltable cab ■ Camera for ground monitoring ■ Protective cover for the seat ■ Comfort armrests ■ Protective ventilation system

EQUIPMENT

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 equipment is specifically designed for high-performance applications.
Central lubrication	Automatic central lubrication system
Options	■ Ball valves on the hydraulic lines - open and close grab ■ Multi-coupling ■ Adjustable hoisting limiter/stick limiter ■ Additional cameras ■ Boom damping

UNDERCARRIAGE

Design	Strong undercarriage with 4-point outrigger support or combination of stabilizer blade and claw support (option), hydraulically locking pendulum steering axle. Pendulum axle cylinder with pipe-fracture safety valves
Drive	All-wheel drive powered by a variable-displacement hydraulic motor with direct-mounted, automatically actuated brake valve and 2-stage power shift transmission. Strong planetary axles with integrated steering cylinder, 2-circuit multi-disk service brake.
Parking brake	Spring-loaded multi-disk brake
Tires	8 x 10.00-20 solid rubber
Speed	Stage I: **0–5.5 km/h**; Stage II: **0–20 km/h**
Options	■ 8 x 10.00-20 pneumatic tires ■ Individual outrigger actuation ■ Additional pushing blade for 4-point outrigger (front or rear) ■ 2-point outrigger and stabilizer blade (front or rear) ■ Protection for travel drive/shunting coupling ■ Pylon extension

ELECTRIC DRIVE eGREEN

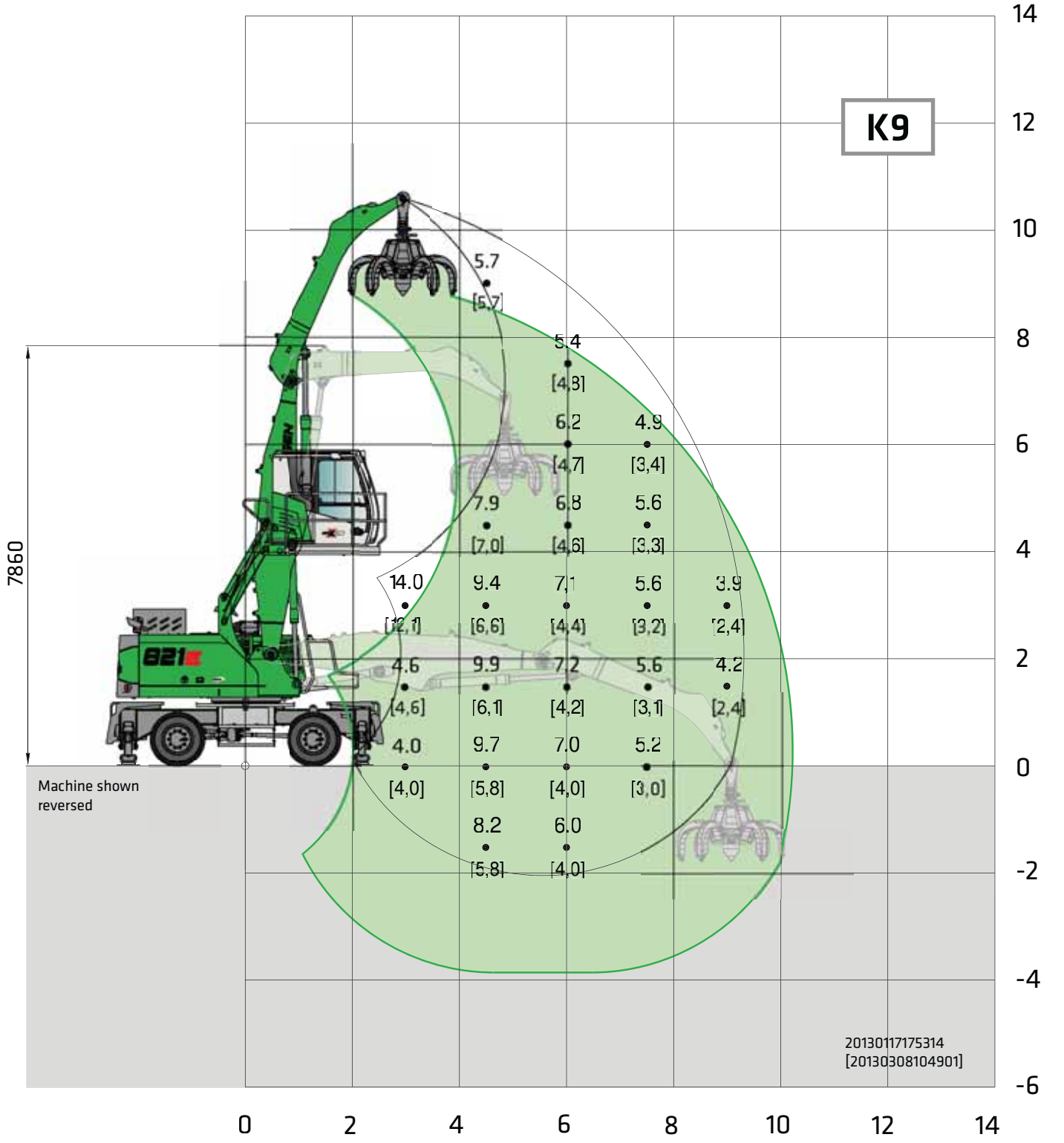
Option	■ Power: **90 kW / 400 V / 50 Hz** Total connected load 200 kVA, machine fusing 200 (alternatively 250 A with magnet system) for 400 V, motor start-up via star-delta circuit ■ Advantages: lowest operating costs, quiet and virtually vibration-free work, long service life of hydraulic components

OPERATING WEIGHT

Mass	821 M with 4-point outrigger, K11 compact loading equipment and orange peel grab 600 l **ca. 23,950 kg** 821 MHD with 4-point outrigger, K12 compact loading equipment and orange peel grab 600 l **ca. 25,100 kg**
Note	The operating weight varies by model and equipment.

821E Load ratings

M

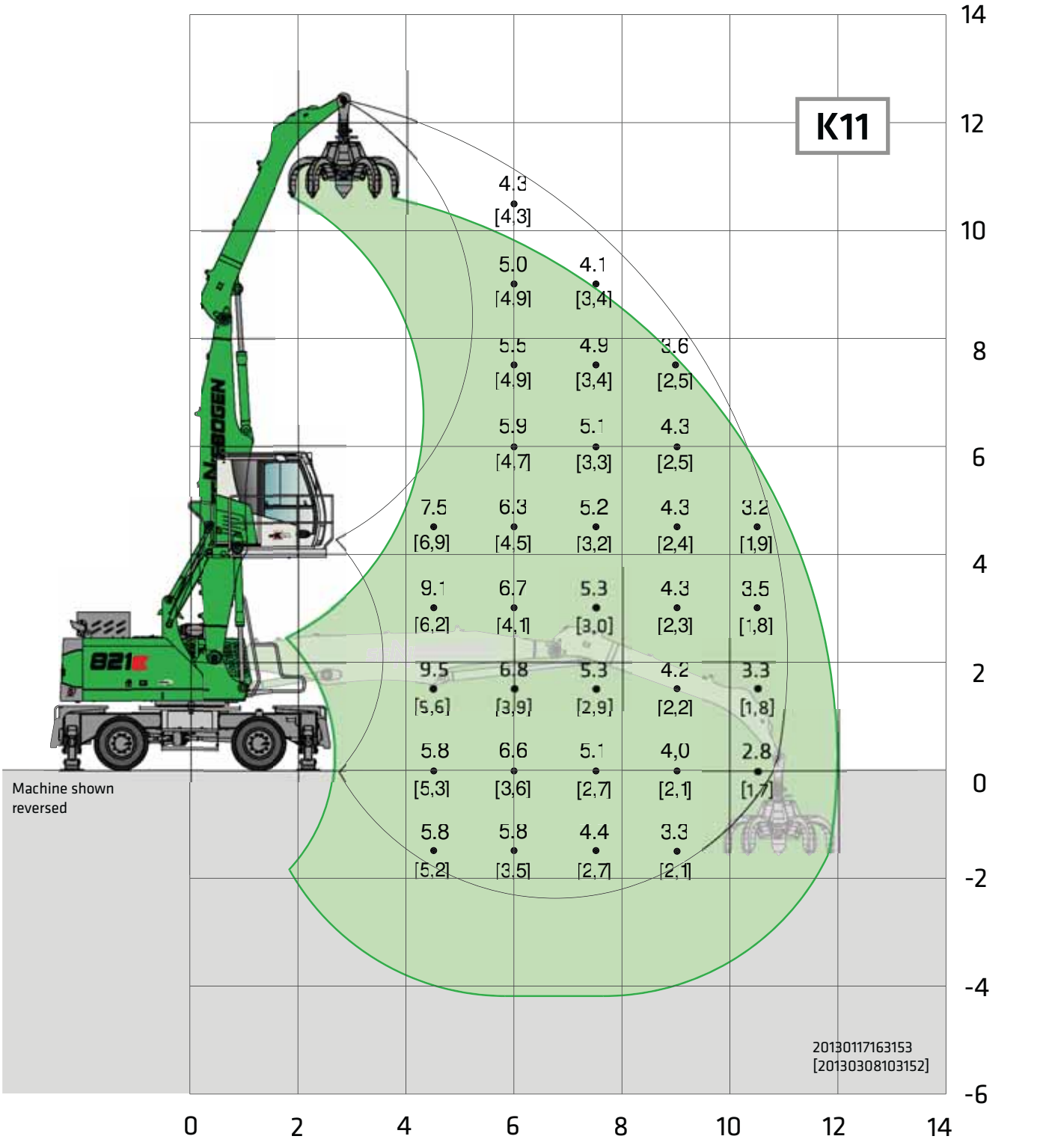


Undercarriage	**MP21**	**Compact boom** **Grab stick**	**5.1 m** **4.0 m**	**Cab**	**E270 Maxcab, hydraulically elevating**

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 a machine with deployed 4-point outrigger support and 360° slewing. Load ratings in square brackets [ ] apply to blocked pendulum axle, undeployed outriggers (free-standing) and 360° slewing.

821E Load ratings

M

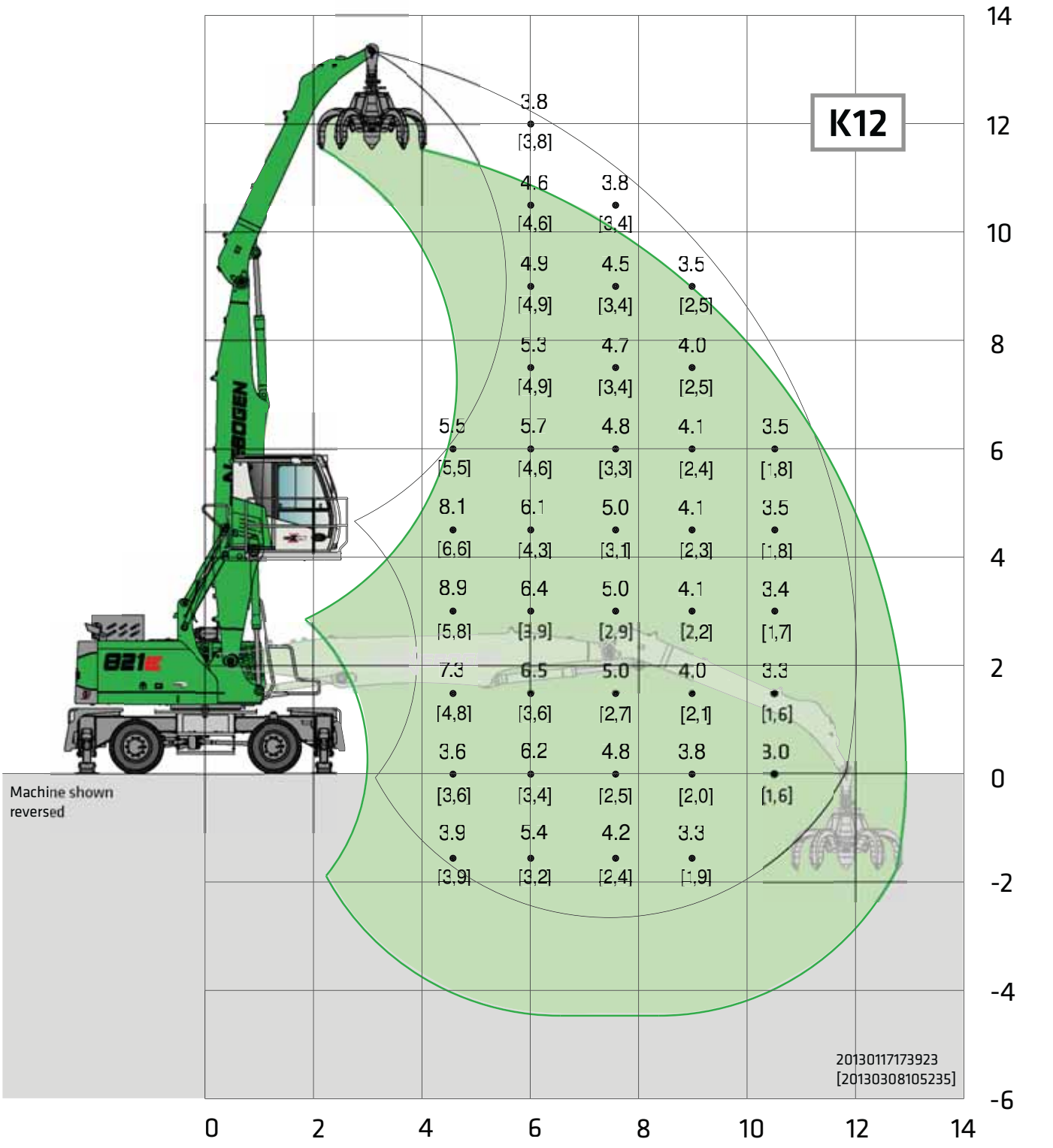


Undercarriage	**MP21**	**Compact boom** **Grab stick**	**6.3 m** **4.6 m**	**Cab**	**E270 Maxcab, hydraulically elevating**

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 a machine with deployed 4-point outrigger support and 360° slewing. Load ratings in square brackets [ ] apply to blocked pendulum axle, undeployed outriggers (free-standing) and 360° slewing.

821E Load ratings

M

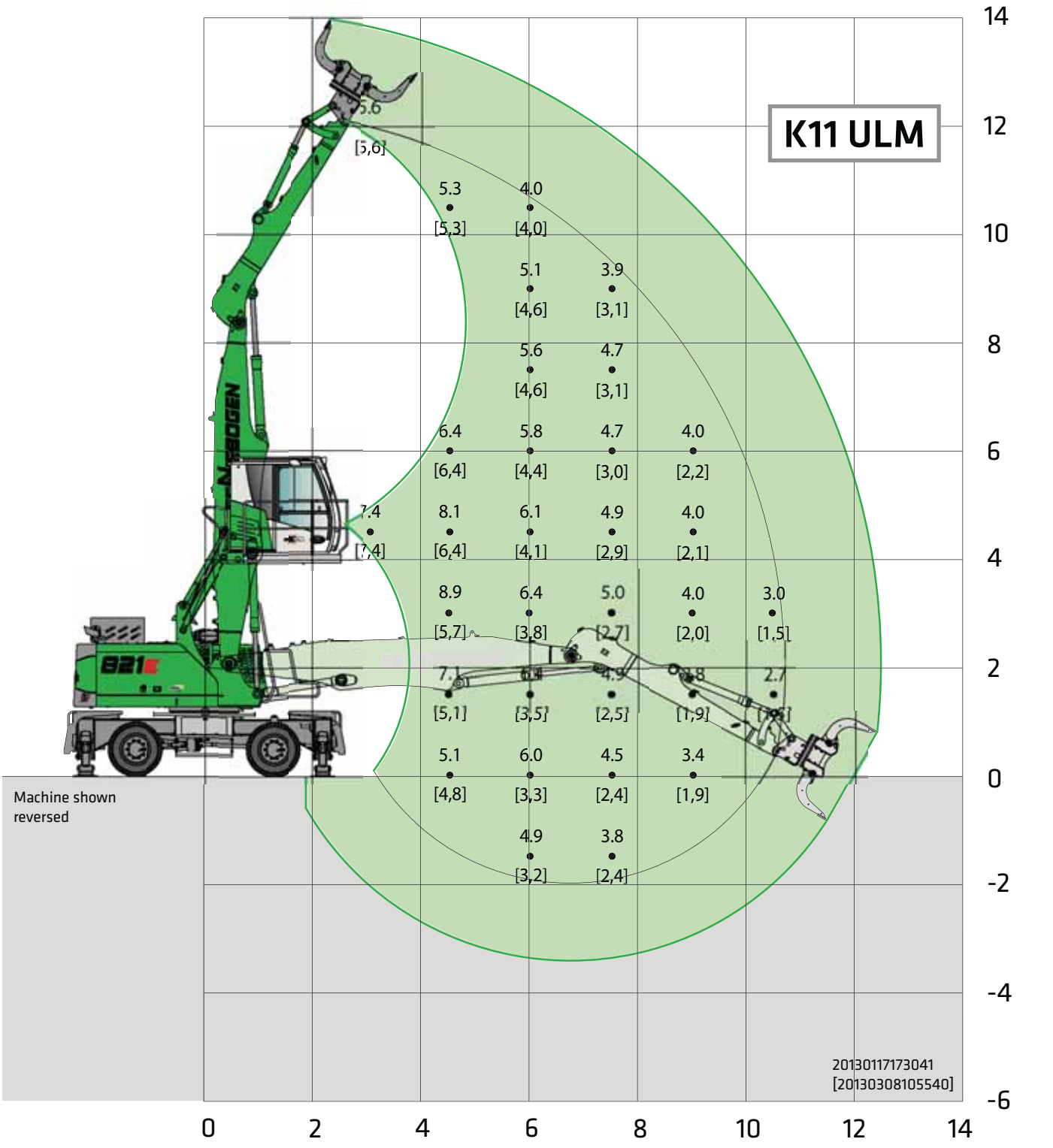


Undercarriage	**MP21**	**Compact boom** **Grab stick**	**7.0 m** **4.9 m**	**Cab**	**E270 Maxcab, hydraulically elevating**

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 a machine with deployed 4-point outrigger support and 360° slewing. Load ratings in square brackets [ ] apply to blocked pendulum axle, undeployed outriggers (free-standing) and 360° slewing.

821E Load ratings

M



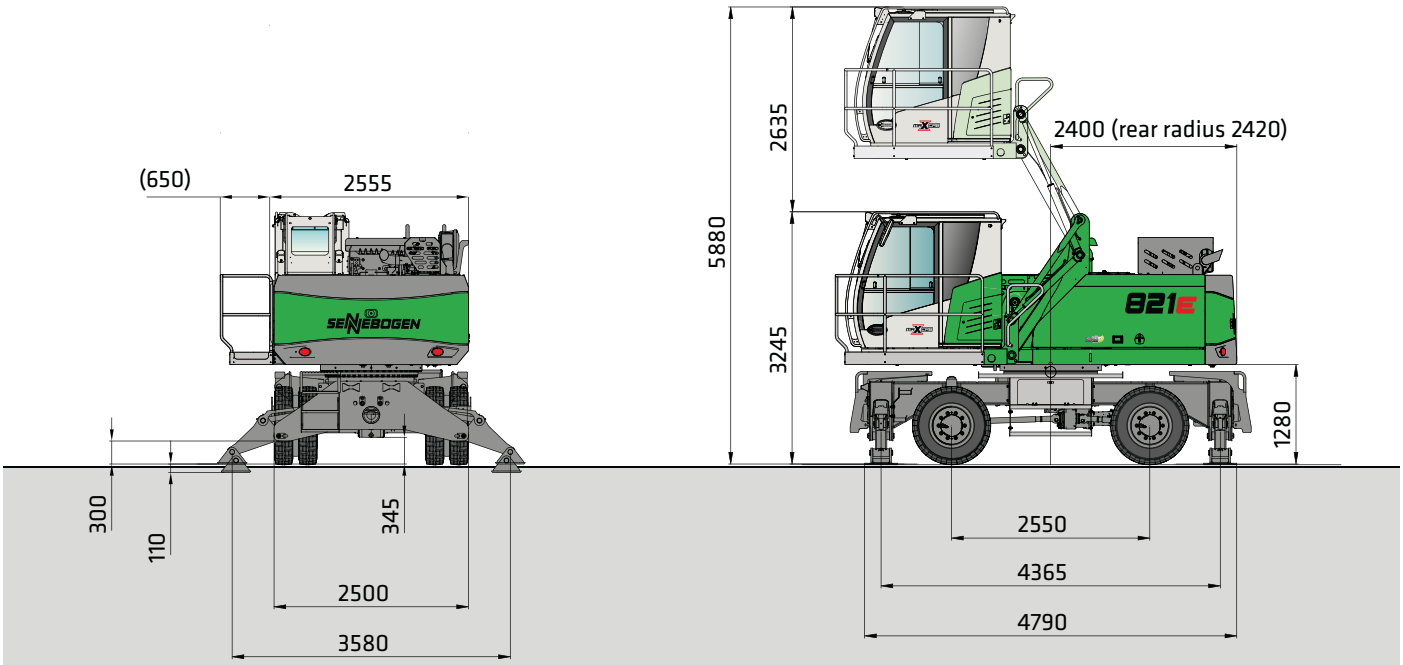
Undercarriage	**MP21**	**Compact boom** **Grab stick**	**6.3 m** **4.2 m**	**Cab**	**E270 Maxcab, hydraulically elevating**

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 a machine with deployed 4-point outrigger support and 360° slewing. Load ratings in square brackets [ ] apply to blocked pendulum axle, undeployed outriggers (free-standing) and 360° slewing.

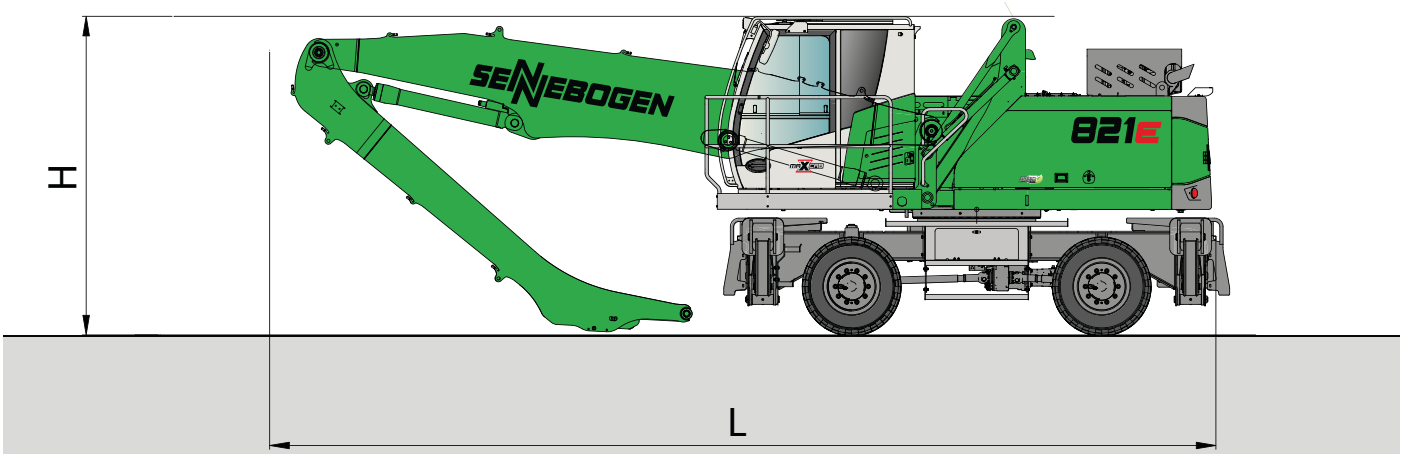
821E Dimensions

M

Transport width: 2.555 mm



821 M with undercarriage and Maxcab with elevation type E270, hydraulically elevating.

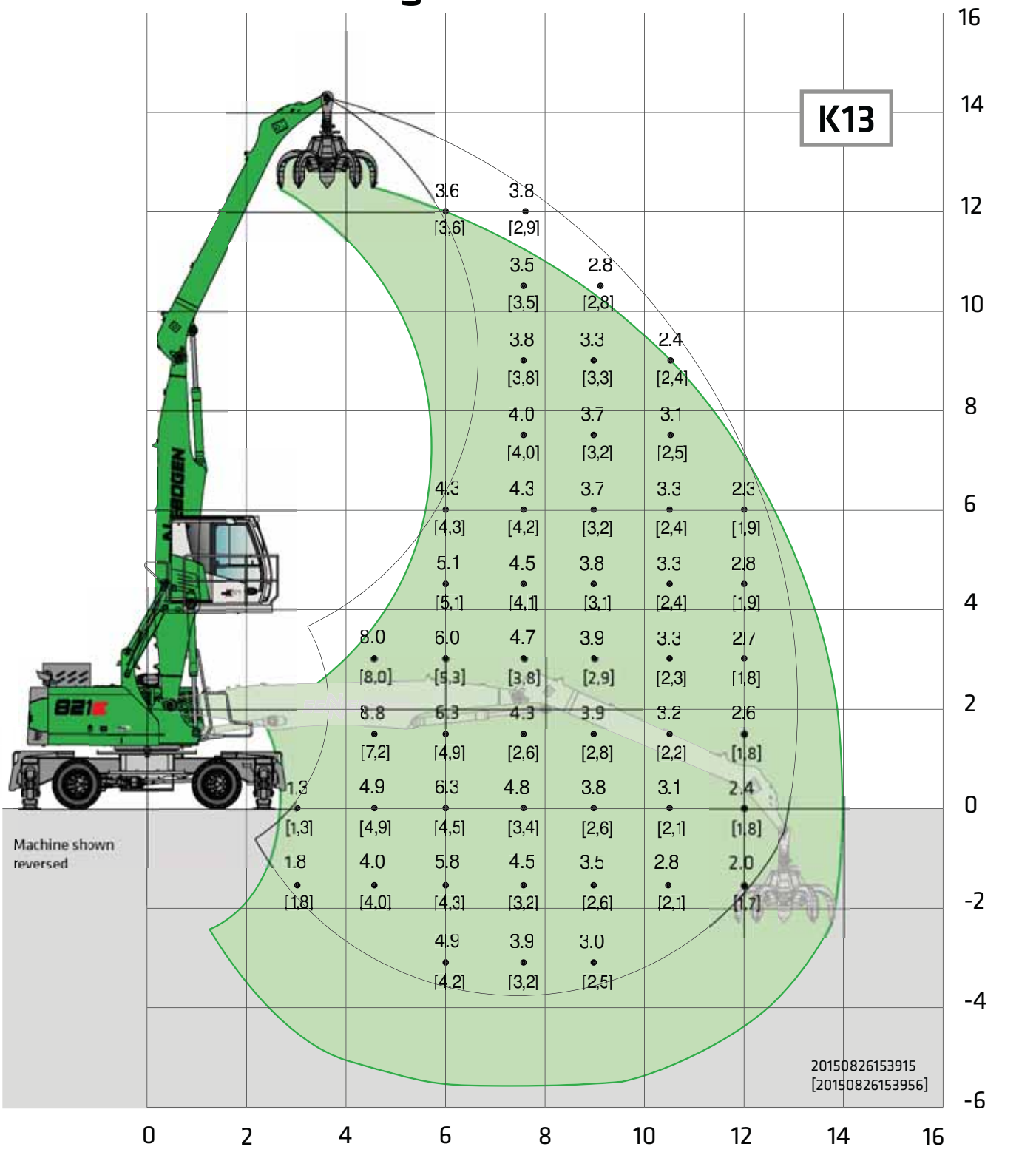


821 M with undercarriage MP21.

	Compact boom	Grabstick	Transport length (L)	Transport height (H)
K9	5.1 m	4.0 m	8.5 m	3.25 m
K11	6.3 m	4.6 m	9.65 m	3.25 m
K11 ULM	6.3 m	4.2 m ULM	9.7 m	3.25 m
K12	7.0 m	4.9 m	10.4 m	3.25 m

821E Load ratings

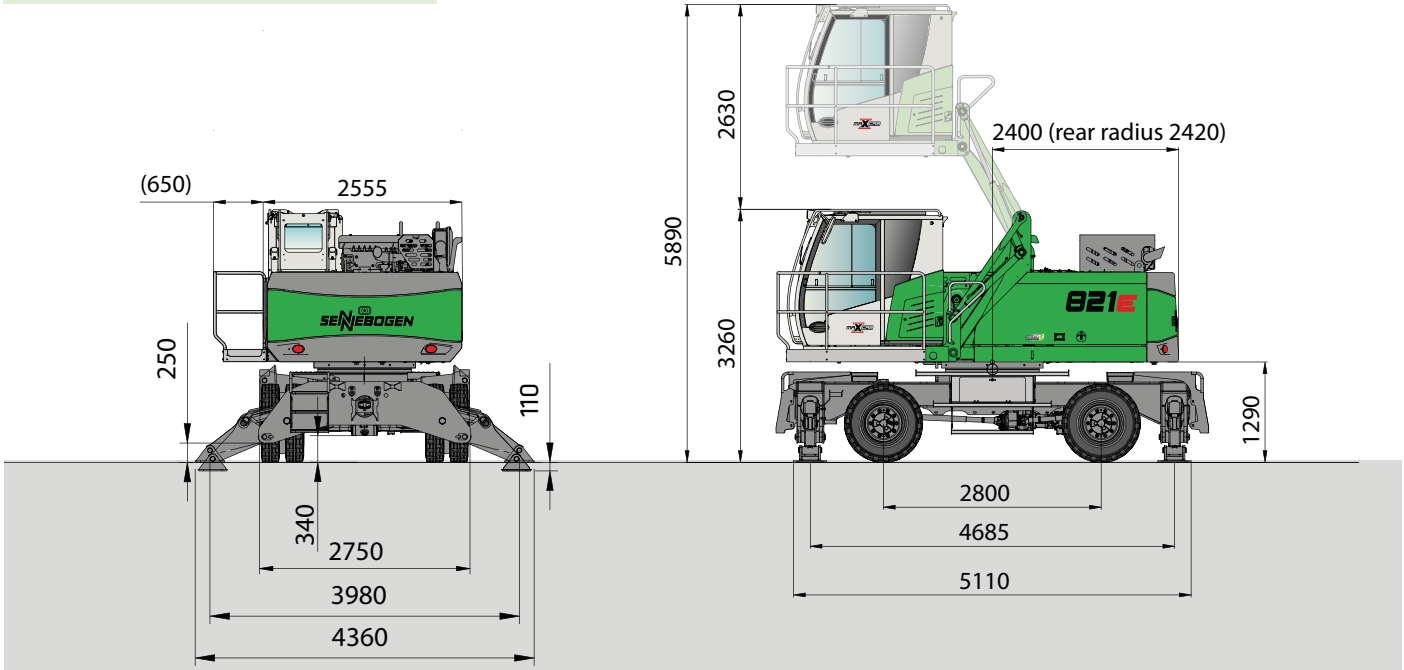
MHD



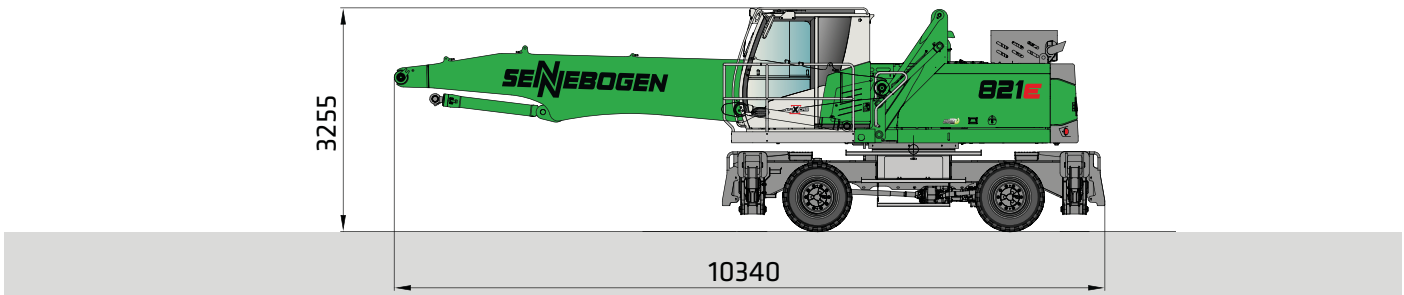
Undercarriage	**MP26**	**Compact boom** **Grab stick**	**7.0 m** **6.0 m**	**Cab**	**E270 Maxcab, hydraulically elevating**

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 a machine with deployed 4-point outrigger support and 360° slewing. Load ratings in square brackets [ ] apply to blocked pendulum axle, undeployed outriggers (free-standing) and 360° slewing.

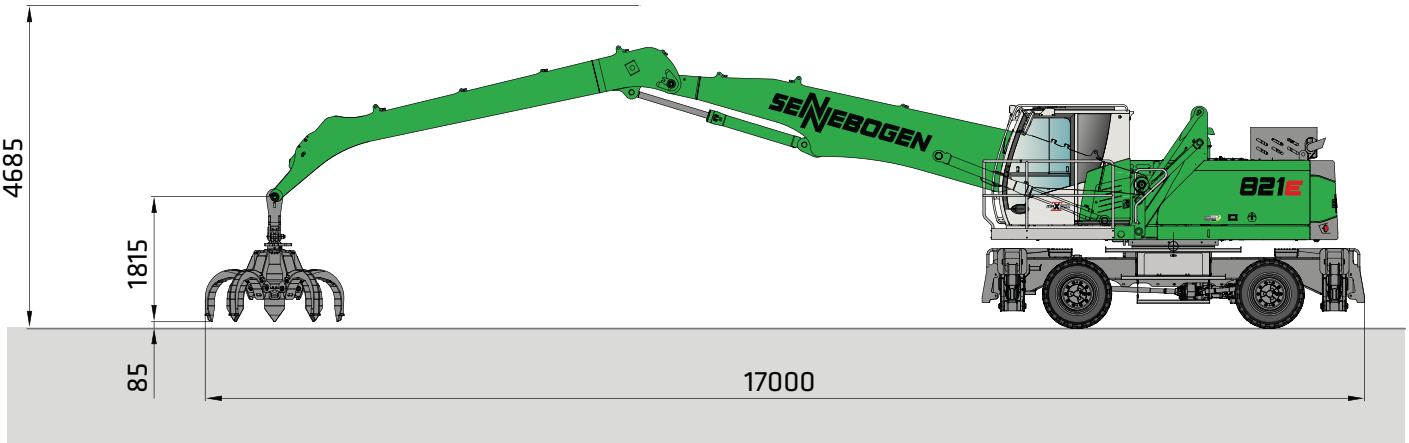
Transport width 2.750 mm



821 MHD with undercarriage MP26 and K13 equipment variant.



*grab stick must be removed



821E Recommended grabs

SGM orange peel grab (4 shells)

Design / size	Grab capacity	Weight[1]		max. piled density
		Shell shape		
		HO	G	
SGM	l	kg	kg	t/m³
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[1]		max. piled density
		Shell shape		
		HO	G	
SGM	l	kg	kg	t/m³
400.30	400	1480	1530	2,0
600.30	600	1510	1590	
800.30	800	1550	1660	

Clamshell grab SGZ

Design / size	Grab capacity	Weight[1]	max. piled density
		kg	t/m³
1000.40	1000	1440	2,0
1200.40	1200	1575	
1400.40	1400	1650	
1600.40	1600	1775	

Sorting grab SGR

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

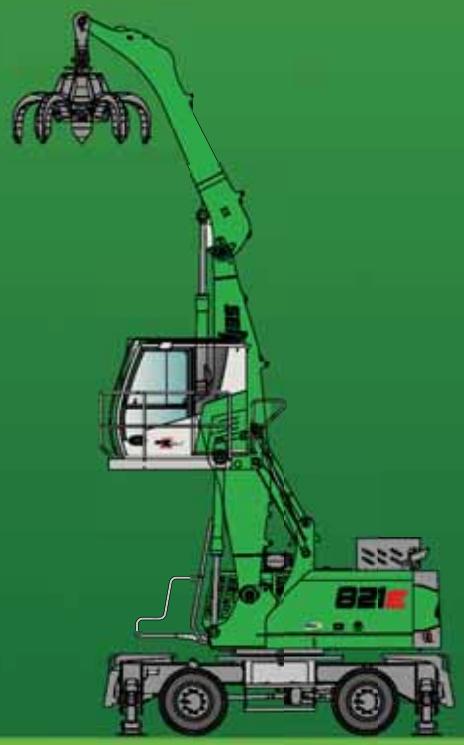
Magnetic plates

Type series / model	Power	Deadweight	Breakaway force	Load -bearing capacity in kg
WOKO	kW	kg	kN	Slab (Safety factor 2)
S-RLB 10	4,8	730	190	9500
S-RLB 11.5	5,5	1060	240	12000
S-RLB 12.5	8,8	1310	280	14000
S-RLB 13.5	10,0	1700	300	15000
Recommended magnetic generator: 9/15 kW				

*) Available upon request [1]) Weight information without grab suspension, stick bolts, hose system [2]) Half-open shells: shell sheet steel width 400 mm, 500 mm wide for 1250 l capacity and higher

Detailed information on grabs, as well as log grabs, quick-release systems, and other attachments can be found in the „Attachments“ brochure.

821 E



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