

PRELIMINARY



# 624E

Heavy Duty Cycle Crawler Crane

 129 kW

 13.5 t

 19 m

 MULTICAB

Tier IVf emission standards

# 624E Advanced. The multifunction machine.



1969: First full hydraulic duty cycle crawler crane worldwide, SK 15

## What makes up the E-Series

- 60 years of experience in the design and construction of duty cycle cranes
- Uncompromisingly high performance in all areas
- 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 operating comfort**  
Comfortable Multicab operator cab – relaxed work  
SENCON – SENNEBOGEN Control System



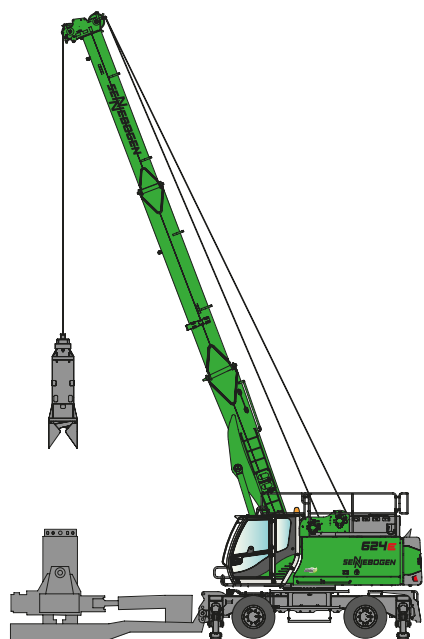
- 4 Flexibility in use**  
Driving under load – low space requirement  
Strong undercarriage traction – good all-terrain mobility

- 5 Easy transport**  
Foldable booms – quickly ready for use  
optional Ballast support system – short set-up time

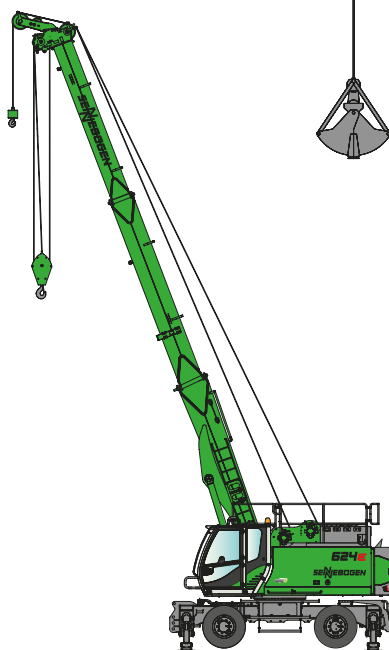
- 6 Maintenance and service made easy**  
Easy fault diagnosis – central measuring points  
Easy maintenance – clear labeling

- 7 Consultation and support**  
3 production sites – 2 subsidiaries  
120 sales partners – over 300 service stations

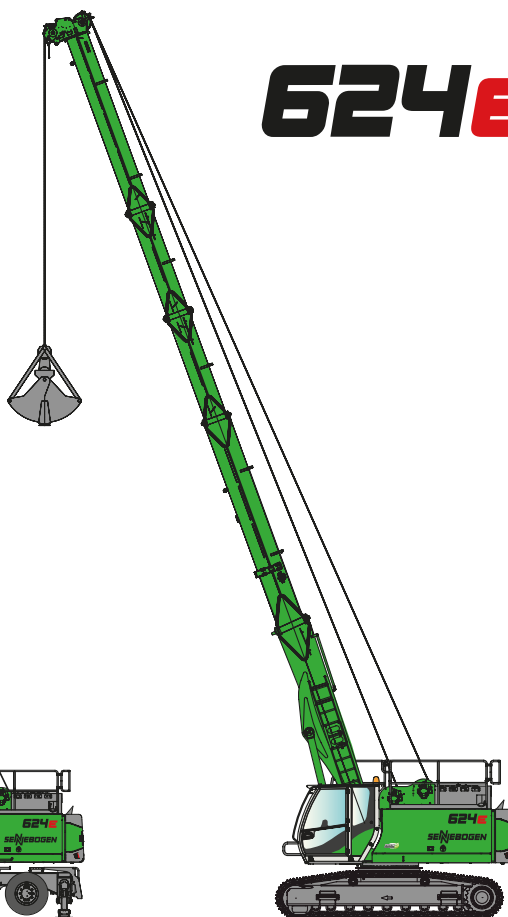
# 624E



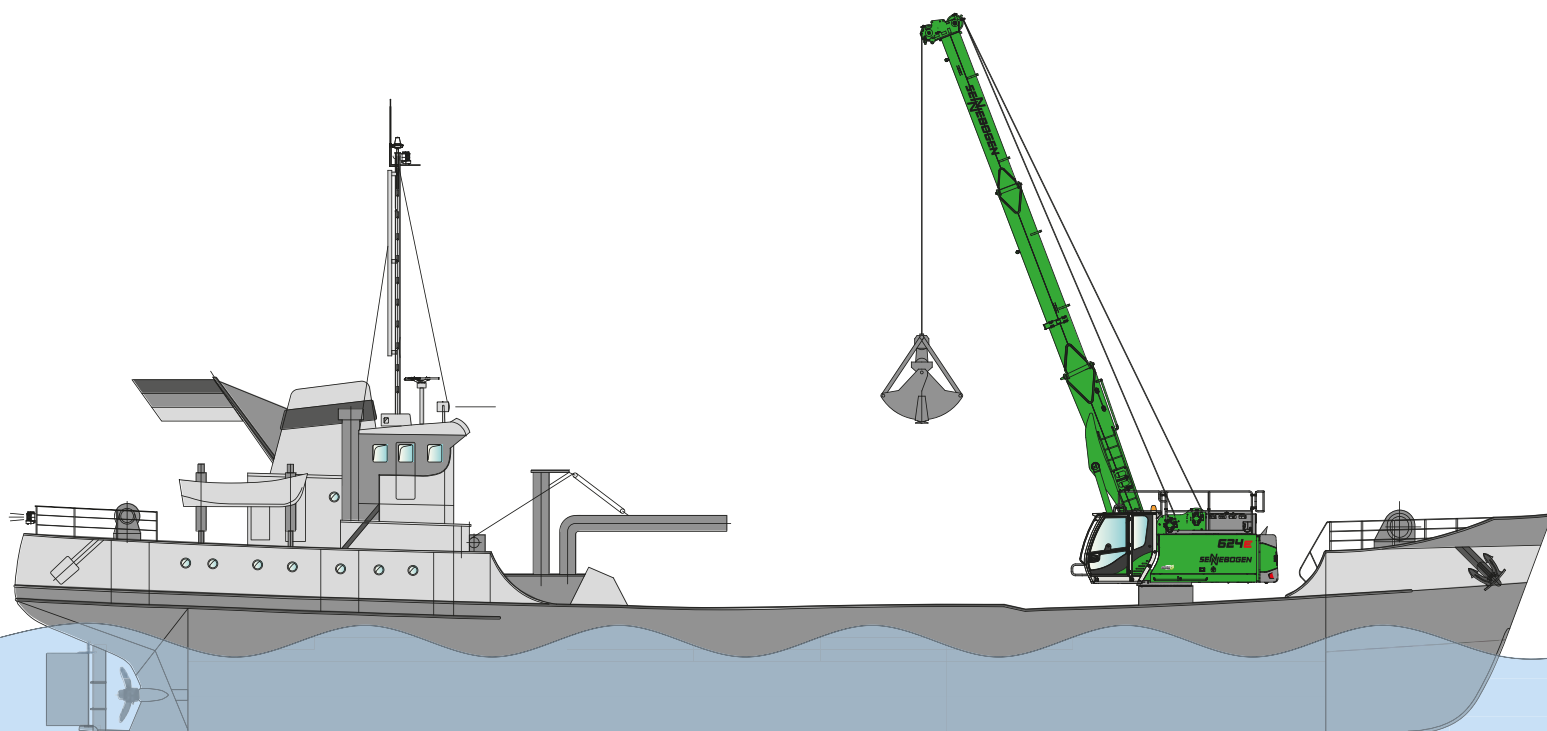
Casing oscillator



Crane equipment



Grab equipment



Ship construction

# 624E Technical data, equipment

## MACHINE TYPE

Model (type) **624 E**

## ENGINE

Power **129 kW / 175 PS at 2200 rpm**

Model **Cummins QSB 6.7 TIER IVf\***  
Direct injection, turbo-charged, charge air cooling, reduced emissions

Cooling Water-cooled

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

Fuel tank **480 l**

DEF tank **38 l**

Electrical system **24 V**

Batteries **2 x 150 Ah**, main switch

## UPPERCARRIAGE

Design Torsion-resistant box design, precision crafted, bronze bushings for boom bearing arrangement  
  
Clear, service-friendly concept, engine installed in the longitudinal direction

Lighting LED headlights for optimal illumination of the work area

Safety Camera monitoring of the rear area and right side, uppercarriage rail

Options
 

- Maritime climate varnish as corrosion protection
- Low temperature package
- Fuel pump

## HYDRAULIC SYSTEM

**Multi-circuit hydraulic system** for optimal function and capacity, all movements can be run simultaneously. The hydraulic pumps are variable displacement piston pumps with individual control and energy-saving flow-on-demand control. The pumps only supply as much oil as is actually consumed. Pressure cut-off, load limit sensing control.

Delivery rate Hydraulic circuit for winch 1 and driving  
Hydraulic circuit for winch 2 and driving or support  
Hydraulic circuit for slewing gear and boom adjustment

Operating pressure **max. 330 bar**

Hydraulic tank **310 l**

## Options

- Bio-oil – environmentally friendly
- SENNEBOGEN HydroClean micro-filter system with water separator
- Potentiometer for casing machine and other attachments
- Grapple fill automation
- Hydraulic circuit for oscillation

## SLEWING DRIVE

Gearbox Compact planetary gear with slant-axis hydraulic motor, integrated brake valves

Parking brake Spring-loaded multi-disk brake

Slewing ring Ball bearing rotary connection with interior gearing

Slewing speed 0 – 4 rpm, variable

## CAB MULTICAB

Cab type Multicab

Cab equipment With air suspended comfortable cab with super sound insulation. All-weather version, all-round glazing made of safety glass and large roof window, adjustable windscreen. With air suspended comfortable seat, weight adjustable and vibration damped. Dashboard overview with swiveling steering column. Variable, controllable cab heating with air circulation stage and particle filter, automatic climate control

## Options

- Active seat climatization
- Auxiliary heating system with timer
- Protective roof grating
- FOPS protective roof grating
- Radio with speakers
- Glass roof panel made from bullet-proof glass
- Sunblind for windshield



## ATTACHMENTS

|         |  |
|---------|--|
| Design  | Decades of experience and the latest computer simulations guarantee the greatest degree of stability and longest service life  |
| Boom    | Box-type boom with basic length 14 m, 2 folds for transport. Adjust by 2 hoist cylinders with safety shutoff valves. Steel rope sheaves in the boom head   |
| Options | <ul style="list-style-type: none"> <li>■ Auxiliary jib, for load ratings to 4.5 t</li> <li>■ Load moment limitation for hoisting implementation: latest generation of load moment monitoring, display shows all important data, lifting limit switch, pressure relief valves, rope run-out safeguard</li> <li>■ Up to 2x 2.5 m extension can be bolted in for 16.5 m and 19 m boom length</li> <li>■ Roller mask for less wear and tear</li> </ul> |

## UNDERCARRIAGE CRAWLER

|                |  |
|----------------|--|
| Design         | Very strong crawler undercarriage, with integrated, protected drive transmission. Rigid track width R25/240 or R25/215   |
| Drive          | Strong travel drive with axial piston hydraulic motor and directly attached automatically functioning brake valve and compact planetary gear on each running gear side |
| Parking brake  | Spring-loaded multi-disk brake   |
| Traveling gear | Maintenance-free tractor running gear with hydraulic chain tension, 600 mm flat or 600 mm 3-grouser base plates,   |
| Speed          | <b>0 - 2.5 km/h</b>  |
| Options        | <ul style="list-style-type: none"> <li>■ 700-mm 3-grouser crawler shoes</li> </ul>   |

## UNDERCARRIAGE MOBILE

|               |   |
|---------------|---|
| Design        | Strong mobile undercarriage with integrated 4-point claw support, steering axle as hydraulically locking pendulum axle. Pendulum axle cylinder with pipe-fracture safety valves SENNEBOGEN MP26   |
| Drive         | All-wheel drive powered by an adjustable hydraulic motor with direct-mounted, automatically actuated brake valve and 2-stage power shift transmission. Strong 40 t planetary axles with integrated steering cylinder, 2-circuit multi-disk service brake. |
| Parking brake | Spring-loaded multi-disk brake  |
| Tires         | 10.00-20, 8   |
| Speed         | <b>0-7 km/h Tier I, 0-20 km/h Tier II</b>   |

## WINCH

The winches are driven via high-pressure-regulated adjustable hydraulic motors, thus there is always optimal pulling force speed control. Strong oil-bath planetary gear, low-maintenance.

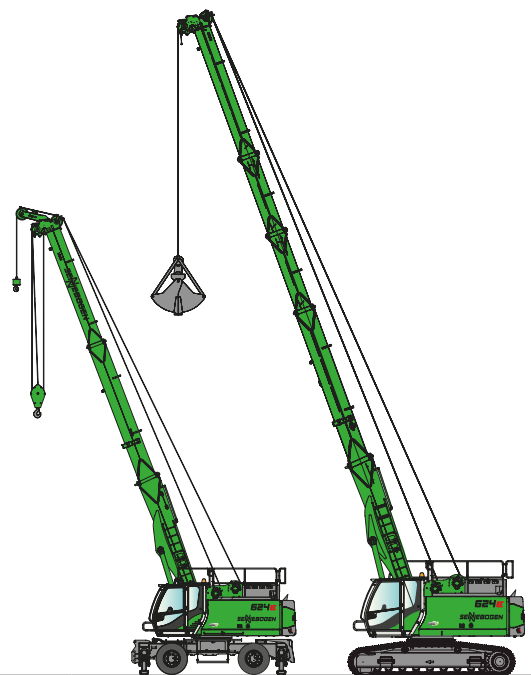
Crane and free fall brakes are spring-loaded, maintenance-free, low-wear disc brakes running in the oil bath, oil-cooled. The driver is assisted by the special, continuously-variable free fall brake that also helps to protect the machine.

|                                   | Series        |
|-----------------------------------|---------------|
| <b>Winches</b>                    | 6 t           |
| Rope winch (rated load) 1st layer | 60 kN         |
| Rope diameter                     | 16 mm         |
| Rope speed 1st layer              | 0 - 110 m/min |

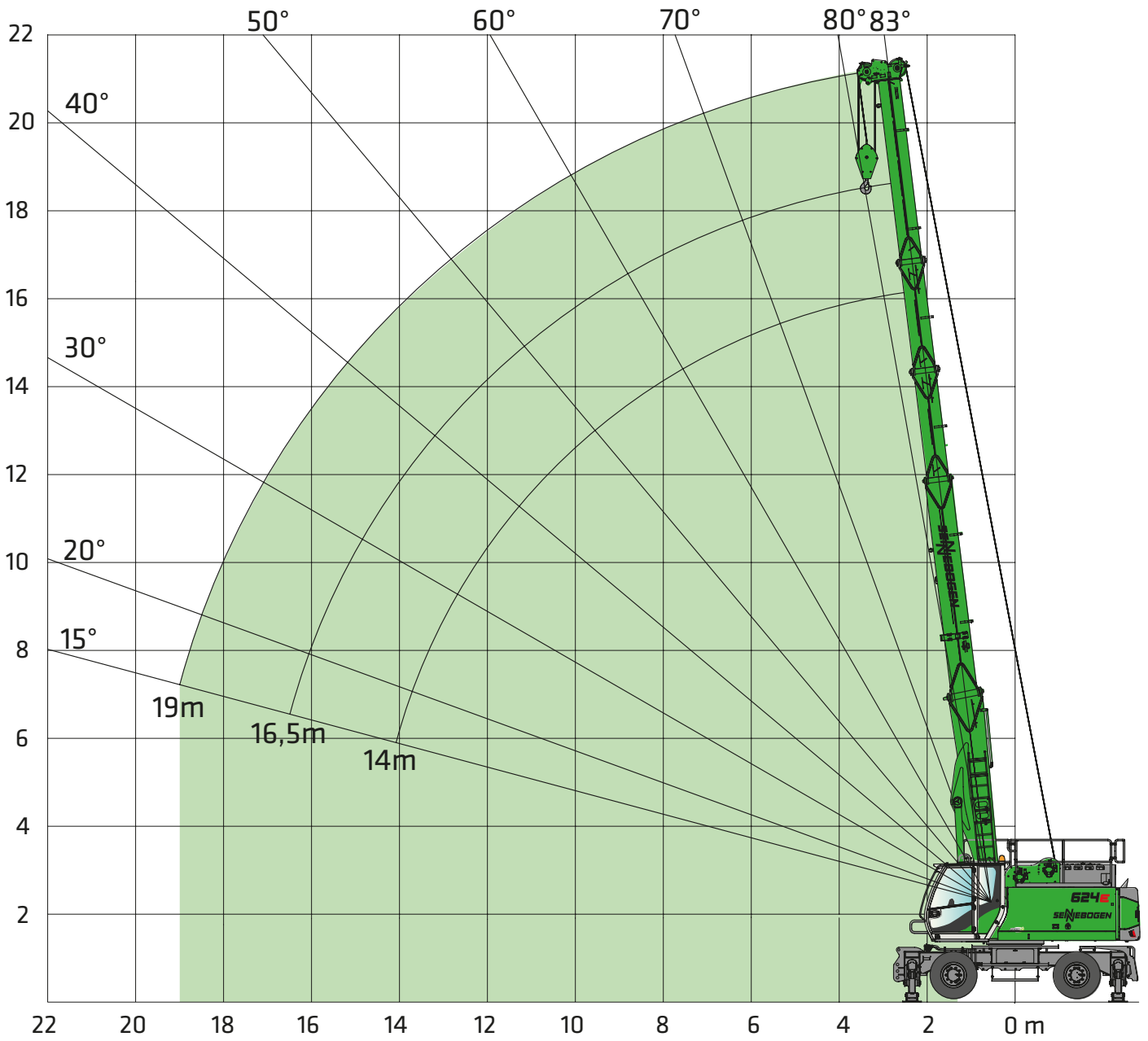
|         |   |
|---------|---|
| Options | <ul style="list-style-type: none"> <li>■ Depth indicating device</li> <li>■ Rope tensioning pulley</li> </ul> |
|---------|---|

## OPERATING WEIGHT

|        |  |
|--------|--|
| Mass   | <b>approx. 28,200 kg</b>   |
|        | 624 with 2 x 6 t free fall winches, basic boom 14.0 m, counterweight 5.8 t, 15 t bottom hook block, mobile undercarriage |
|        | R25/215: <b>28.7 t</b> (14 m boom)   |
|        | R25/240: <b>29.2 t</b> (14 m boom)   |
| Notice | The operating weight varies depending on the version and equipment selected.   |



# 624E Boom system



# 624E Load capacity in crane operation



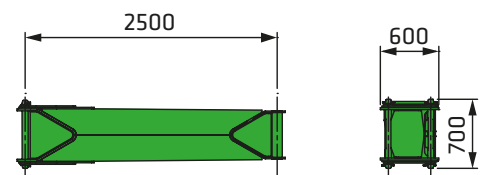
| Outreach [m]      | Undercarriage                     |        |          |                                   |          |          |                                   |           |      |
|-------------------|-----------------------------------|--------|----------|-----------------------------------|----------|----------|-----------------------------------|-----------|------|
|                   | MP26                              |        |          | R25/240                           |          |          | R25/215                           |           |      |
|                   | 5.8 t                             |        |          | 6.9 t                             |          |          | 6.9 t                             |           |      |
|                   | Boom length [m]                   |        |          |                                   |          |          |                                   |           |      |
|                   | 14.0                              | 16.5   | 19.0     | 14.0                              | 16.5     | 19.0     | 14.0                              | 16.5      | 19.0 |
| 3.0               | 13.5                              |        |          | 13.5                              |          |          | 13.5                              |           |      |
| 4.0               | 12.0                              | 11.5   | 11.0     | 12.0                              | 11.5     | 11.0     | 11.5                              | 10.7      | 9.9  |
| 5.0               | 9.5                               | 9.0    | 8.5      | 9.5                               | 9.0      | 8.5      | 8.9                               | 8.3       | 7.6  |
| 6.0               | 7.9                               | 7.4    | 6.9      | 7.9                               | 7.4      | 6.9      | 7.2                               | 6.6       | 6.1  |
| 7.0               | 6.8                               | 6.2    | 5.8      | 6.4                               | 6.2      | 5.7      | 5.7                               | 5.4       | 4.9  |
| 8.0               | 6.0                               | 5.4    | 4.9      | 5.2                               | 5.0      | 4.7      | 4.6                               | 4.4       | 4.1  |
| 9.0               | 5.3                               | 4.8    | 4.3      | 4.4                               | 4.1      | 3.9      | 3.9                               | 3.6       | 3.4  |
| 10.0              | 4.8                               | 4.3    | 3.8      | 3.7                               | 3.4      | 3.2      | 3.3                               | 3.0       | 2.7  |
| 11.0              | 4.3                               | 3.8    | 3.4      | 3.2                               | 2.9      | 2.7      | 2.8                               | 2.5       | 2.3  |
| 12.0              | 3.9                               | 3.5    | 3.0      | 2.7                               | 2.5      | 2.2      | 2.4                               | 2.1       | 1.9  |
| 13.0              | 3.5                               | 3.2    | 2.7      | 2.4                               | 2.1      | 1.8      | 2.1                               | 1.8       | 1.5  |
| 14.0              | 3.0                               | 2.8    | 2.5      | 2.1                               | 1.8      | 1.5      | 1.8                               | 1.5       | 1.3  |
| 15.0              | 2.9/14.25                         | 2.5    | 2.2      | 2.0/14.25                         | 1.5      | 1.3      | 1.7/14.25                         | 1.3       | 1.0  |
| 16.0              |                                   | 2.2    | 1.9      |                                   | 1.3      | 1.1      |                                   | 1.1       | 0.8  |
| 17.0              |                                   | 2/16.7 | 1.6      |                                   | 1.2/16.7 | 0.9      |                                   | 0.95/16.7 | 0.6  |
| 18.0              |                                   |        | 1.4      |                                   |          | 0.7      |                                   |           | 0.5  |
| 19.0              | Table.-No. 624M-80/1950/5.8/08.16 |        | 1.2      | Table.-No. 624R-80/1252/6.9/09.16 |          | 0.5      | Table.-No. 624R-80/1128/6.9/09.16 |           |      |
| 20.0              |                                   |        | 1.2/19.1 |                                   |          | 0.5/19.1 |                                   |           |      |
| Number of strands | 3                                 | 3      | 3        | 3                                 | 3        | 3        | 3                                 | 3         | 3    |

## Comments:

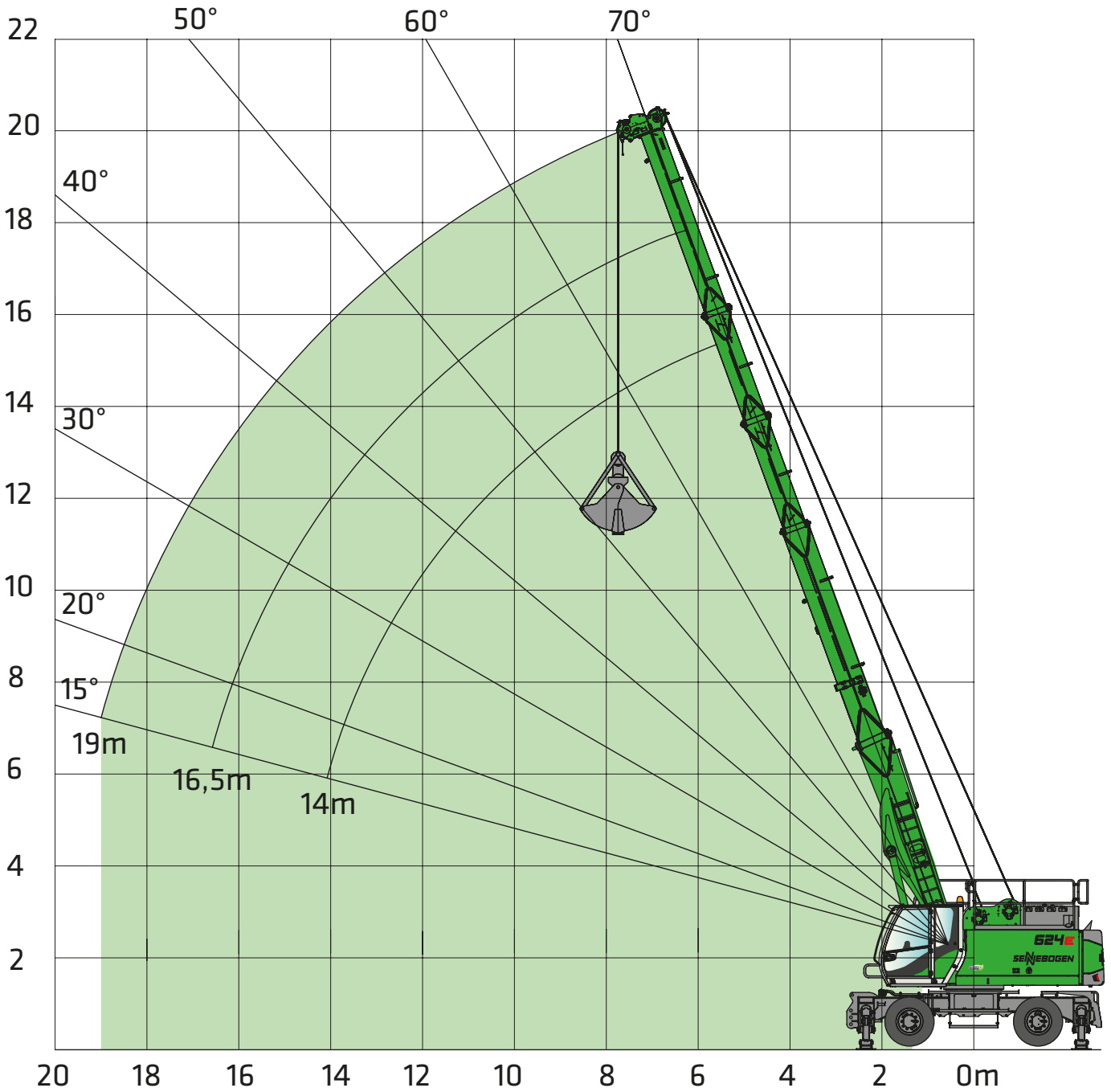
1. The specified safe working load values apply for a level and stable stance of the machine.
2. The safe working load values are specified in tons (t) and apply for 360 degrees..
3. The safe working loads take the standards ISO 4305 Tab. 1+2 and the tilt angle method into account (angle of inclination 4°).
4. Deduct the weight of the load handling devices (hook, suspension gear) from the load ratings.
5. Load ratings must be limited or reduced when conditions are unfavorable, such as soft or uneven ground, slopes, wind, lateral loads, swinging loads, jerking or sudden stopping of the load, operator inexperience, driving with load.
6. Permissible rope pull per strand in crane mode for winch diameter 16 mm - 4,500 kg
7. Safe working load values apply for the SH boom (boom assembly in accordance with the operating manual).

## Boom extension 2.5 m

Weight approx. 660 kg



# 624E Grab equipment



# 624E Load capacity in grapple operation



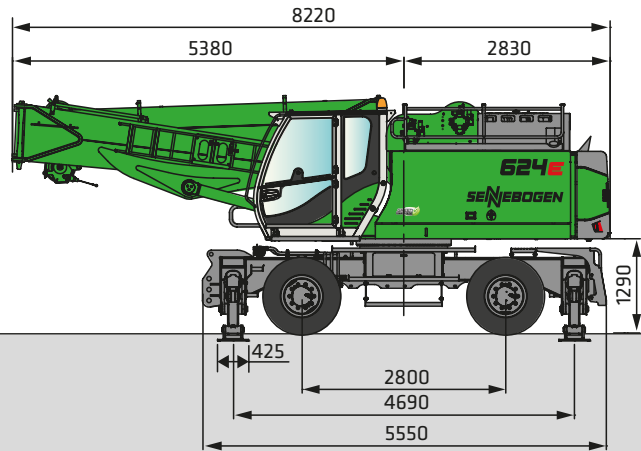
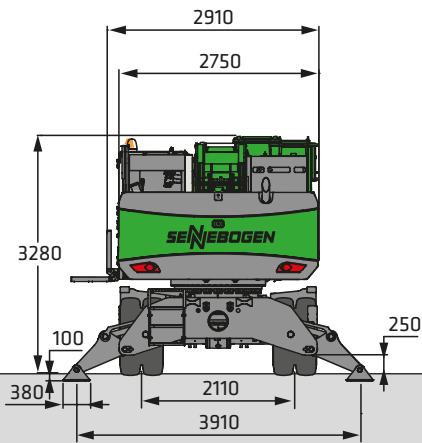
|                         |  | Undercarriage   |      |     |      |      |     |      |      |     |         |      |     |      |      |     |      |      |     |         |      |     |      |      |     |      |      |     |   |
|-------------------------|--|-----------------|------|-----|------|------|-----|------|------|-----|---------|------|-----|------|------|-----|------|------|-----|---------|------|-----|------|------|-----|------|------|-----|---|
|                         |  | MP26            |      |     |      |      |     |      |      |     | R25/240 |      |     |      |      |     |      |      |     | R25/215 |      |     |      |      |     |      |      |     |   |
|                         |  |                 |      |     |      |      |     |      |      |     |         |      |     |      |      |     |      |      |     |         |      |     |      |      |     |      |      |     |   |
|                         |  | Boom length [m] |      |     |      |      |     |      |      |     |         |      |     |      |      |     |      |      |     |         |      |     |      |      |     |      |      |     |   |
| Boom angle<br>alpha [°] |  | 14              |      |     | 16.5 |      |     | 19   |      |     | 14      |      |     | 16.5 |      |     | 19   |      |     | 14      |      |     | 16.5 |      |     | 19   |      |     |   |
|                         |  | R               | H    |     | R    | H    |     | R    | H    |     | R       | H    |     | R    | H    |     | R    | H    |     | R       | H    |     | R    | H    |     | R    | H    |     |   |
|                         |  | m               | m    | t   | m    | m    | t   | m    | m    | t   | m       | m    | t   | m    | m    | t   | m    | m    | t   | m       | m    | t   | m    | m    | t   | m    | m    | t   | m |
| 70                      |  | 5.8             | 15.3 | 6.1 | 6.7  | 17.7 | 4.9 | 7.5  | 20.0 | 4.0 | 5.8     | 15.0 | 6.1 | 6.7  | 17.3 | 4.9 | 7.5  | 19.7 | 4.0 | 5.8     | 15.0 | 6.1 | 6.7  | 17.3 | 4.9 | 7.5  | 19.7 | 4.0 |   |
| 65                      |  | 7.0             | 14.8 | 5.1 | 8.0  | 17.1 | 4.1 | 9.1  | 19.4 | 3.2 | 7.0     | 14.5 | 5.1 | 8.0  | 16.8 | 4.1 | 9.1  | 19.0 | 3.2 | 7.0     | 14.5 | 4.9 | 8.0  | 16.8 | 3.8 | 9.1  | 19.0 | 2.9 |   |
| 60                      |  | 8.0             | 14.2 | 4.5 | 9.3  | 16.4 | 3.5 | 10.5 | 18.5 | 2.7 | 8.0     | 13.9 | 4.5 | 9.3  | 16.0 | 3.4 | 10.5 | 18.2 | 2.6 | 8.0     | 13.9 | 4.0 | 9.3  | 16.0 | 3.0 | 10.5 | 18.2 | 2.2 |   |
| 55                      |  | 9.0             | 13.5 | 4.0 | 10.5 | 15.6 | 3.0 | 11.9 | 17.6 | 2.3 | 9.0     | 13.2 | 3.8 | 10.5 | 15.2 | 2.8 | 11.9 | 17.3 | 2.0 | 9.0     | 13.2 | 3.3 | 10.5 | 15.2 | 2.5 | 11.9 | 17.3 | 1.8 |   |
| 50                      |  | 10.0            | 12.7 | 3.6 | 11.6 | 14.7 | 2.7 | 13.2 | 16.6 | 2.0 | 10.0    | 12.4 | 3.2 | 11.6 | 14.3 | 2.4 | 13.2 | 16.2 | 1.7 | 10.0    | 12.4 | 2.9 | 11.6 | 14.3 | 2.0 | 13.2 | 16.2 | 1.4 |   |
| 45                      |  | 10.9            | 11.9 | 3.3 | 12.6 | 13.6 | 2.5 | 14.4 | 15.4 | 1.8 | 10.9    | 11.5 | 2.8 | 12.6 | 13.3 | 2.0 | 14.4 | 15.1 | 1.4 | 10.9    | 11.5 | 2.5 | 12.6 | 13.3 | 1.7 | 14.4 | 15.1 | 1.1 |   |
| 40                      |  | 11.7            | 10.9 | 3.0 | 13.6 | 12.5 | 2.2 | 15.5 | 14.2 | 1.6 | 11.7    | 10.6 | 2.5 | 13.6 | 12.2 | 1.8 | 15.5 | 13.8 | 1.1 | 11.7    | 10.6 | 2.2 | 13.6 | 12.2 | 1.5 | 15.5 | 13.8 | 0.9 |   |
| 35                      |  | 12.4            | 9.9  | 2.8 | 14.4 | 11.4 | 2.0 | 16.5 | 12.8 | 1.4 | 12.4    | 9.6  | 2.3 | 14.4 | 11.0 | 1.6 | 16.5 | 12.5 | 1.0 | 12.4    | 9.6  | 2.0 | 14.4 | 11.0 | 1.3 | 16.5 | 12.5 | 0.8 |   |
| 30                      |  | 13.0            | 8.9  | 2.6 | 15.2 | 10.1 | 1.9 | 17.3 | 11.4 | 1.3 | 13.0    | 8.5  | 2.1 | 15.2 | 9.8  | 1.4 | 17.3 | 11.0 | 0.8 | 13.0    | 8.5  | 1.8 | 15.2 | 9.8  | 1.2 |      |      |     |   |
| 25                      |  | 13.5            | 7.8  | 2.5 | 15.8 | 8.8  | 1.7 | 18.0 | 9.9  | 1.1 | 13.5    | 7.4  | 2.0 | 15.8 | 8.5  | 1.3 |      |      |     | 13.5    | 7.4  | 1.7 | 15.8 | 8.5  | 1.1 |      |      |     |   |
| 20                      |  | 13.9            | 6.6  | 2.3 | 16.3 | 7.5  | 1.6 | 18.6 | 8.3  | 1.0 | 13.9    | 6.3  | 1.9 | 16.3 | 7.1  | 1.2 |      |      |     | 13.9    | 6.3  | 1.6 | 16.3 | 7.1  | 1.0 |      |      |     |   |
| 15                      |  | 14.3            | 5.4  | 2.1 | 16.7 | 6.1  | 1.5 | 19.1 | 6.7  | 0.9 | 14.3    | 5.1  | 1.8 | 16.7 | 5.8  | 1.1 |      |      |     | 14.3    | 5.1  | 1.6 | 16.7 | 5.8  | 0.9 |      |      |     |   |

## Comments:

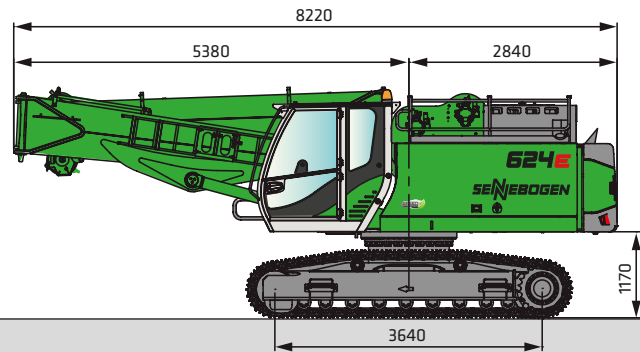
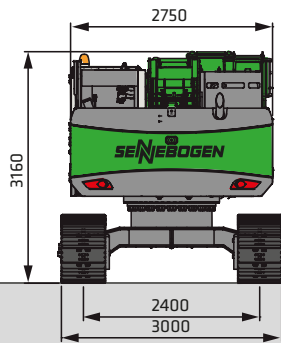
- The specified safe working load values apply for a level and stable stance of the machine.
- The safe working load values are specified in tons (t) and apply for 360 degrees.
- The safe working loads apply for the maximum outrigger width / undercarriage track width.
- The specified safe working loads include the grapple weight and do not exceed 66.7 % of the tipping load
- For operation with a mechanical two-rope grapple and even load distribution on the closing and holding ropes, the safe working load is limited by the permissible rope tension or the maximum winch pulling force of a winch:

|   |     |
|---|-----|
| Winch pulling force [kN]                                | 60  |
| Rope diameter [mm]                                      | 16  |
| Minimum tensile strength [kN]                           | 213 |
| Maximum safe working load in single-winch operation [t] | 6.0 |
| Maximum safe working load in two-winch operation [t]    | 9.1 |

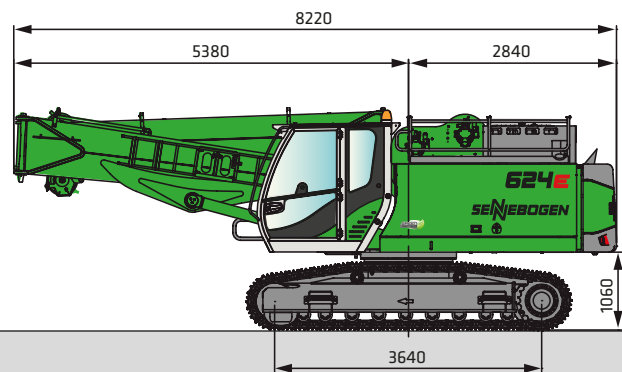
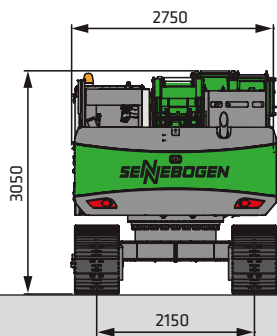
# 624E Transport dimensions



Mobile undercarriage MP26



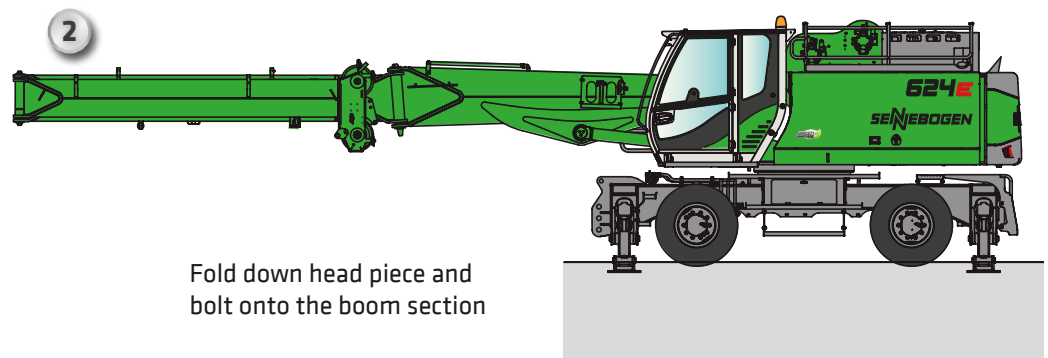
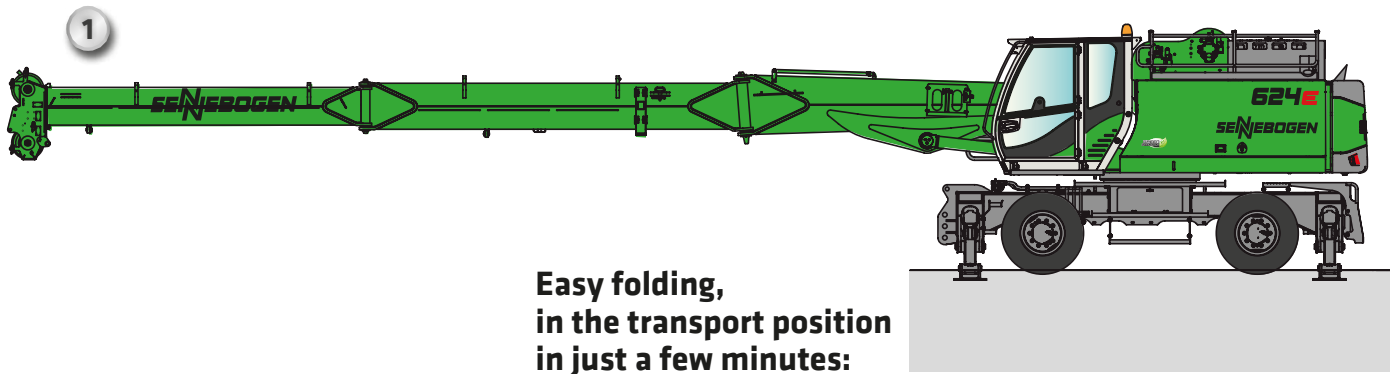
Crawler undercarriage R25/240



Crawler undercarriage R25/215

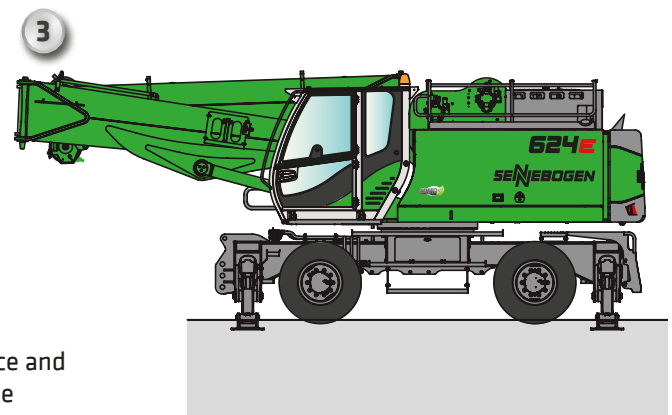
# 624E High mobility due to a simple folding mast system

Fold down the handrail at the ascent  
Fold down uppercarriage railing



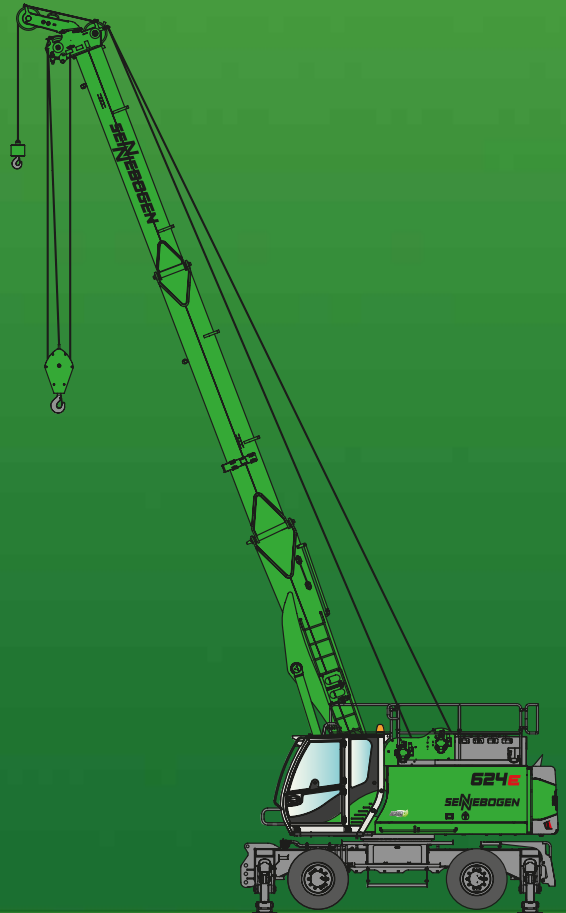
## ADVANTAGES:

- Fast handling between different operation sites
- Ready for use in a short time thanks to the folding boom, no additional hoists required





# 624E



This catalog describes machine models, scopes of equipment of individual models, and configuration options (standard equipment and optional equipment) of the machines supplied by SENNEBOGEN Maschinenfabrik. Machine illustrations can contain optional equipment and supplemental equipment. Actual equipment may vary depending on the country to which the machines are delivered, especially in regard to standard and optional equipment.

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