

EN



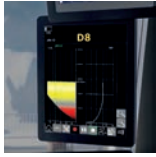
LB 25 unplugged

LB 2102.07
www.liebherr.com

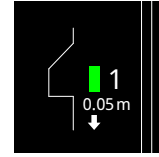
LIEBHERR

Drilling rigs

Concept and characteristics



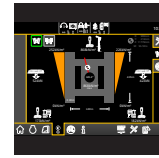
PDE[®]
Process Data Recording



Kelly
Visualization



MyJobsite



Ground
Pressure
Visualization



LIPOS[®]
Positioning System



Radio remote
control



LiDAT[®]
Data Transmission



Concrete
pump



The robust universal machine for a wide variety of applications

- Kelly drilling
- Continuous flight auger drilling
- Full displacement drilling
- Double rotary drilling
- Soil mixing

Assistance systems

- Cruise Control for all main functions
- Joystick control for all machine functions
- Automatic shake-off function for working tools
- Kelly Visualization
- Ground Pressure Visualization
- Radio remote control
- Radio remote control for concrete pump
- Drilling assistant (single-pass process)
- Leader inclination memory
- Display of auger filling level
- Kelly winch with freewheeling and with slack rope monitoring and prevention

Technical description



Drive system

| | |
|---------------------|--|
| Max. drive power | 390 kW |
| Battery type | High Performance Battery System |
| Technology | Li-Ion NMC (nickel manganese cobalt) |
| Max. charging power | 40 kW (CEE socket 63 A / 400 V AC) 20 kW (CEE socket 32 A / 400 V AC) |
| Option | 80 kW (CEE socket 125 A / 400 V AC) |
| Mains voltage | 400 V AC (3 phase + N + PE) |
| Capacity | standard 4 h* |

* in normal operation



Hydraulic system

| | |
|-----------------------------|---|
| Hydraulic pumps | double axial displacement pump in open loop hydraulic system allows all functions to be operated simultaneously; automatic working pressure cut-off to minimize peak pressure |
| Hydraulic oil tank capacity | 600 l |
| Max. working pressure | 385 bar |
| Hydraulic oil | electronic monitoring of all filters use of synthetic environmentally friendly oil possible |



Crawlers

| | |
|---------------------|--|
| Drive system | with fixed axial piston hydraulic motors |
| Crawler side frames | maintenance-free, with hydraulic chain tensioning device |
| Brake | hydraulically released, spring-loaded multi-disc holding brake |
| Drive speed | 0-2.0 km/h |
| Track force | 440 kN |
| Grousers | width 700 mm |



Swing gear

| | |
|---------------|--|
| Drive system | with fixed axial piston hydraulic motors, planetary gearbox, pinion |
| Swing ring | roller bearing with external teeth |
| Brake | hydraulically released, spring-loaded multi-disc holding brake |
| Swing speed | 0-3.75 rpm continuously variable |
| Speed control | both swing modes are possible - speed control or free swing for speed control: a multi-disc holding brake locks automatically at zero swing motion |



Kelly winch with freewheeling

| | |
|---------------------|--------------------|
| Line pull effective | 200 kN (1st layer) |
| Rope diameter | 28 mm |
| Rope speed | 0-95 m/min |



Auxiliary winch

| | |
|---------------------|-------------------|
| Line pull effective | 80 kN (1st layer) |
| Rope diameter | 20 mm |
| Rope speed | 0-82.5 m/min |



Crowd system

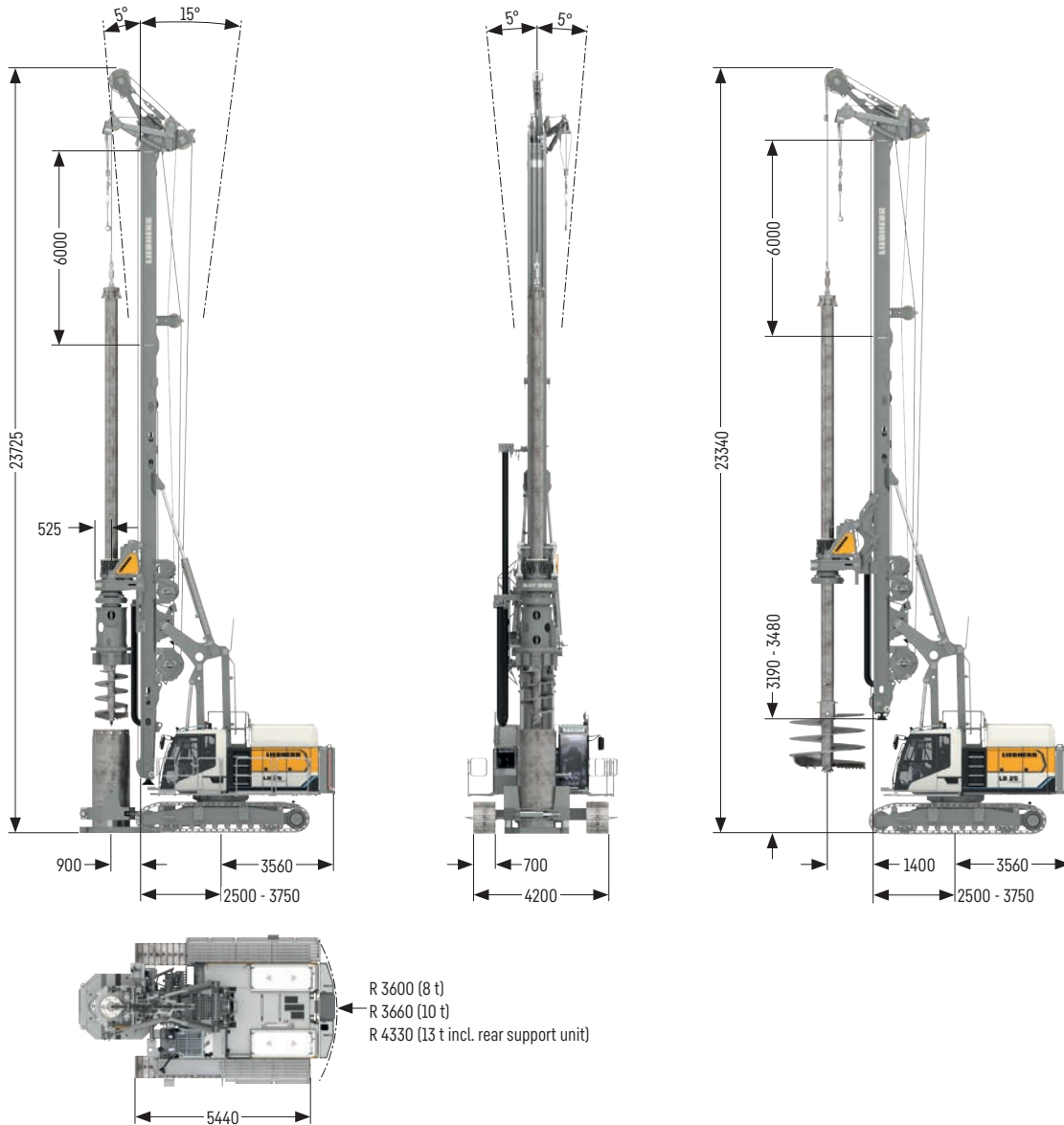
| | |
|--|------------------------|
| Crowd force | 300/300 kN (push/pull) |
| Line pull effective | 150 kN (1st layer) |
| Rope diameter | 24 mm |
| Travel with standard leader between mechanical limit stops | 17.3 m |
| Rope speed | 0-88 m/min |

Remarks:

- Illustrations showing the types of application (e.g. Kelly drilling, continuous flight auger drilling etc.) are examples only.
- Weights and transport dimensions can vary with the final configuration of the machine. The figures in this brochure may include options which are not within the standard scope of supply of the machine.

Dimensions

Standard



Operating weight

| | |
|---|--------|
| Total weight with 700 mm 3-web grousers | t 73.5 |
| Total weight with 800 mm 3-web grousers | t 73.9 |

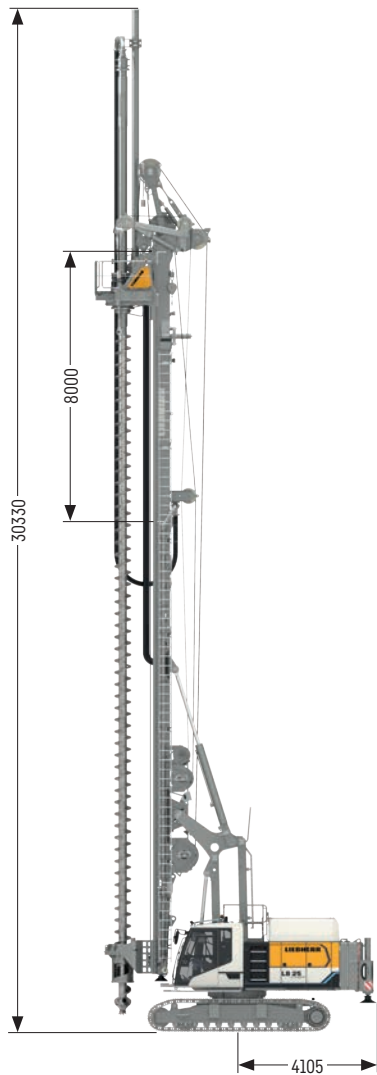
The operating weight includes the basic machine LB 25 unplugged with rotary, Kelly bar 20/3/27, 8 t counterweight and equipment for casing oscillator.

Operating weight

| | |
|---|--------|
| Total weight with 700 mm 3-web grousers | t 78.7 |
| Total weight with 800 mm 3-web grousers | t 79.1 |

The operating weight includes the basic machine LB 25 unplugged with rotary, Kelly bar 20/4/48, 10 t counterweight and equipment for casing oscillator.

Folding leader

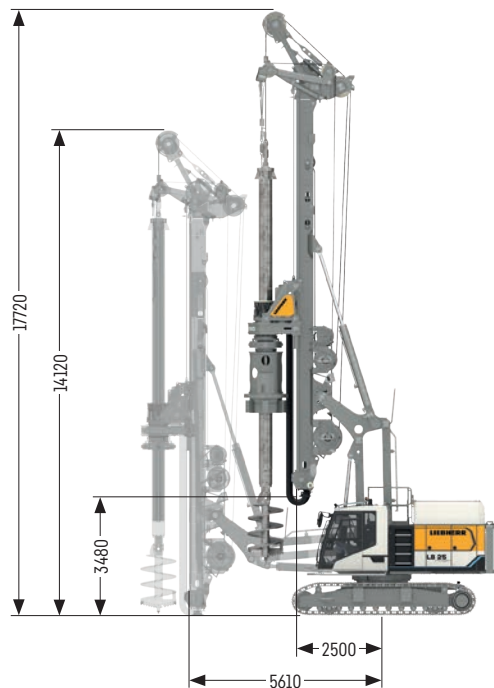


Operating weight

| | |
|---|--------|
| Total weight with 700 mm 3-web grousers | t 81.8 |
| Total weight with 800 mm 3-web grousers | t 82.1 |

The operating weight includes the basic machine LB 25 unplugged with rotary, continuous flight auger 20 m, 13 t counterweight and equipment for casing oscillator.

Low Head



Operating weight

| | |
|---|--------|
| Total weight with 700 mm 3-web grousers | t 71.1 |
| Total weight with 800 mm 3-web grousers | t 71.5 |

The operating weight includes the basic machine LB 25 unplugged with rotary, Kelly bar 20/3/18 and 10 t counterweight.

Equipment for casing oscillator not included. The line pull of the Kelly winch is reduced to 100 kN when working at a radius exceeding 3750 mm.

Local zero emission

Emission-free

The new machines with alternative electro-hydraulic drive have a very low noise level and are also emission-free. That is a huge advantage in areas sensitive to noise and also for the people working on the jobsite.

Operation

The LB 25 unplugged can be operated both connected to the power supply (plugged in) or powered by battery (unplugged).

Sustainability

Liebherr is aware of its responsibility towards society and the environment and, with the unplugged series, strives for the best possible combination of environmental sustainability, customer benefit and efficiency.





Plugged in

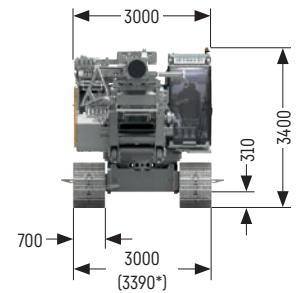
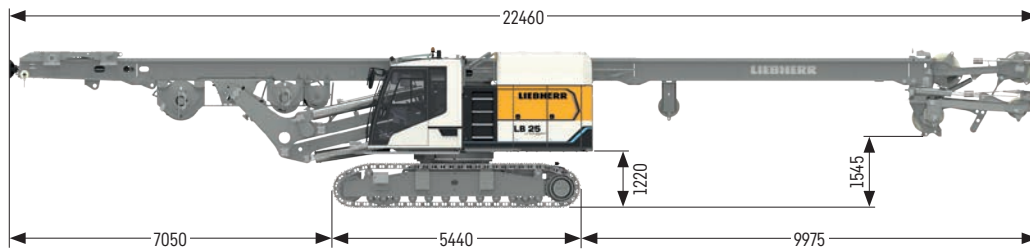
When connected to the power supply, there are no restrictions in performance and application of the machine when compared to the conventional version with diesel engine. The battery is constantly charged when connected to the power supply and therefore always provides sufficient energy.



Unplugged

In Kelly application, the battery is designed for an operating time of 4 hours. It can be simply recharged using a conventional jobsite electric supply (32 A, 63 A). Using a 125 A supply, the battery can be fast-charged in barely 5 hours.

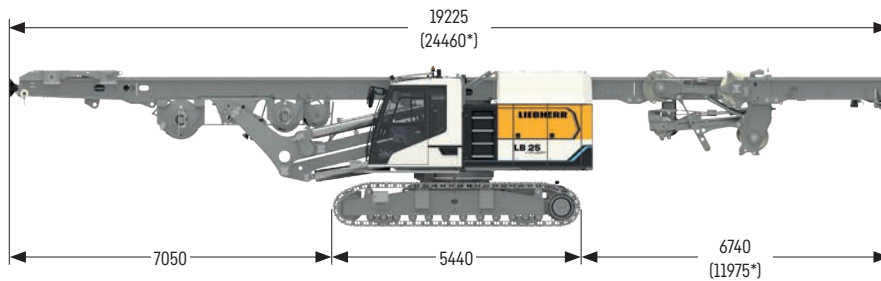
Transport dimensions and weights



Standard leader (6 m leader upper part)

includes the basic machine (ready for operation) with leader, without attachments (such as rotary, Kelly bar etc.), without counterweight and without adapter for casing oscillator t 52.8

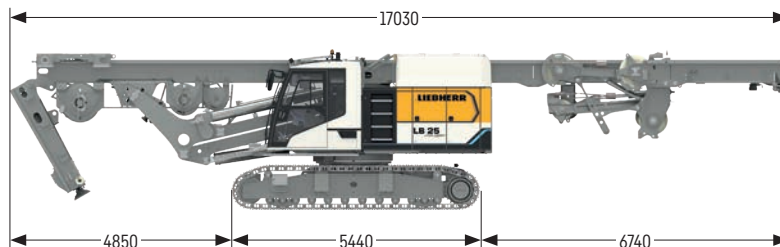
* transport width with 800 mm grousers



Folding leader (8 m leader upper part)

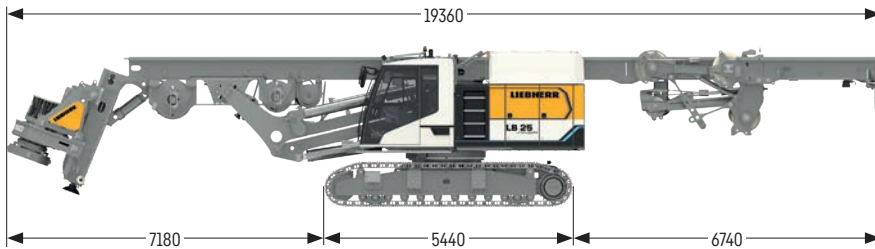
includes the basic machine (ready for operation) with leader, without attachments (such as rotary, Kelly bar etc.), without counterweight and without adapter for casing oscillator t 53.8

* Transport length leader not folded



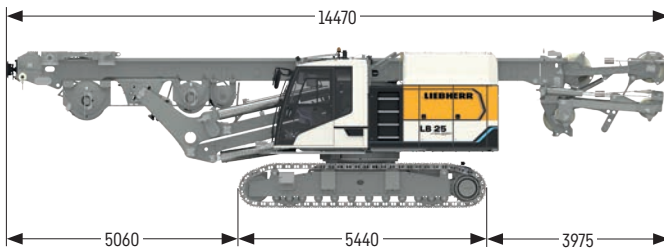
Leader lower and upper part folded

includes the basic machine (ready for operation) with leader, without attachments (such as rotary, Kelly bar etc.), without counterweight and without adapter for casing oscillator t 53.8



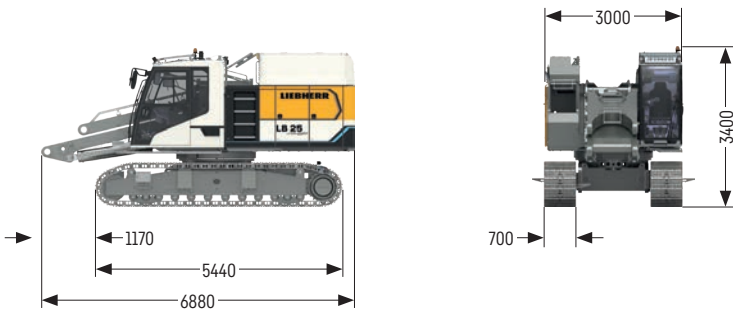
Leader lower and upper part folded (with BAT)

includes the basic machine (ready for operation) with leader, BAT 250, without t 59.0 counterweight and without adapter for casing oscillator



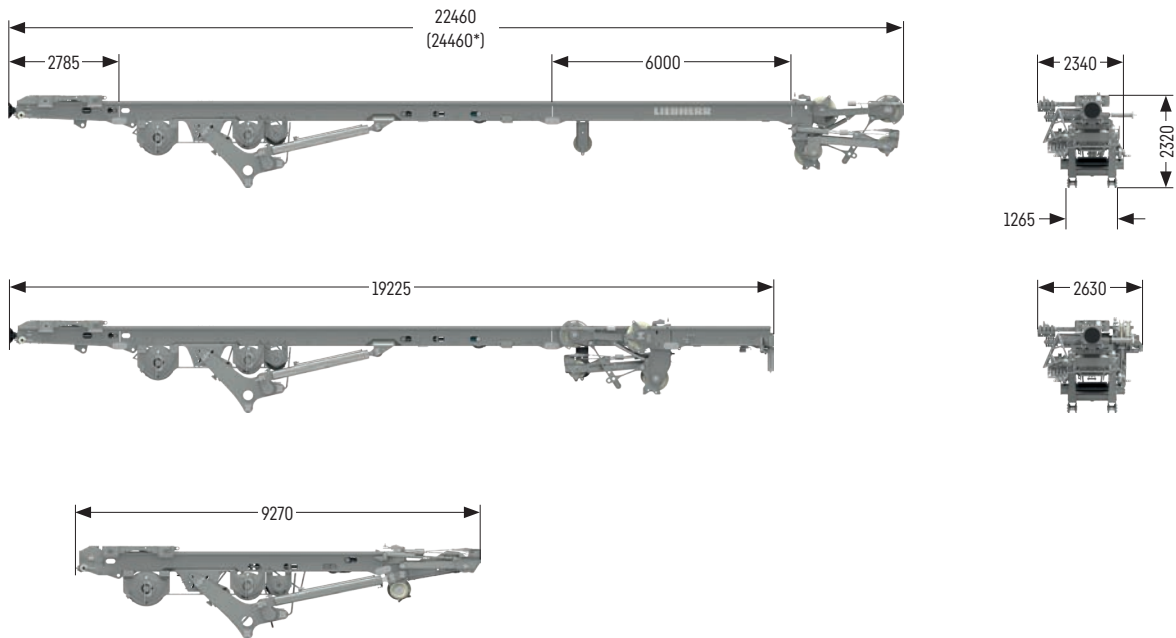
Low Head

includes the basic machine (ready for operation) with leader, without attach- t 50.9 ments (such as rotary, Kelly bar etc.), without counterweight and without adapter for casing oscillator



Basic machine

with crawler side frames, without counterweight and without adapter for casing oscillator t 35.8



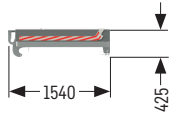
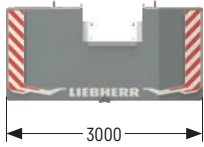
Leader versions

| | |
|----------------------------|--------|
| Standard leader | t 17.8 |
| Folding leader | t 18.7 |
| Standard leader lower part | t 0.7 |
| 6 m leader extension | t 1.5 |
| 8 m leader extension | t 2.4 |
| Leader top | t 1.7 |
| Short leader lower part | t 0.3 |

* Transport length folding leader

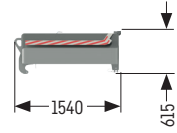
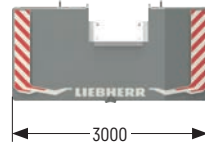
Options

| | |
|----------------------------------|-------|
| Adapter for casing oscillator | t 0.8 |
| Concrete supply line | t 0.6 |
| All round platform with railings | t 0.4 |



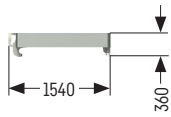
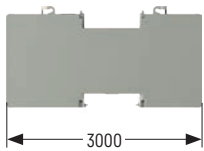
Counterweight

Weight t 5.0



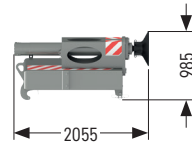
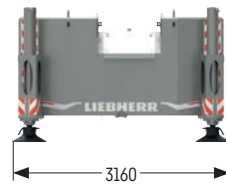
Counterweight

Weight t 8.0



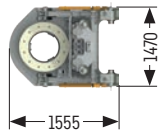
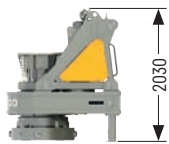
Intermediate slab

Weight t 5.0



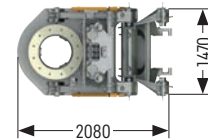
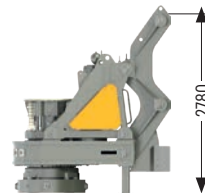
Counterweight with rear support unit

Weight t 8.0



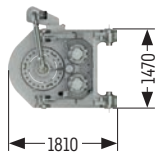
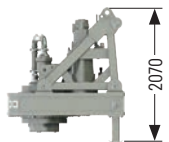
BAT 250

Transport weight t 5.3



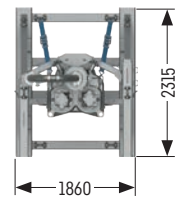
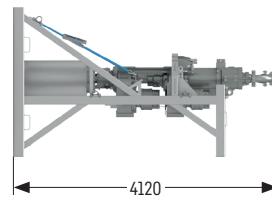
BAT 250 with adapter for drilling axis 1400 mm

Transport weight t 6.4



MAT 100.1

Transport weight t 5.6



DBA 90

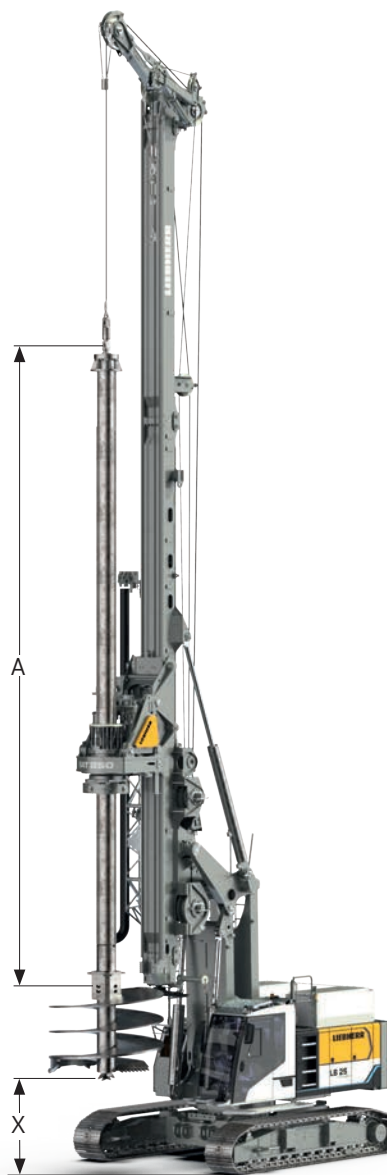
Transport weight t 5.7

Kelly drilling

Standard



Standard (large drilling axis)



Performance data

| | | | |
|---|-----|----------------------|-----------------------|
| Rotary drive - torque | kNm | 252 | |
| Rotary drive - speed | rpm | 58 | |
| | | Drilling axis 900 mm | Drilling axis 1400 mm |
| Max. drilling diameter cased* | mm | 1200 | 2200 |
| Max. drilling diameter uncased | mm | 1500 | 2500 |
| Max. drilling diameter uncased with short leader lower part | mm | 2700 | 3300 |

Above applications are sample illustrations. Other drilling diameters available on request.

* Depending on casing driver configuration.

Drilling depths

Technical data Kelly bars

| Kelly bars | | | Drilling depths | | | | | | | |
|------------|---------------|------------|--------------------|------------------|---------------------|-------------------|------------------|------|-------------------|------|
| | | | Low Head | | | | Standard | | | |
| | | | X [m] | | Depth [m] | | X [m] | | Depth [m] | |
| Model | Length A [mm] | Weight [t] | 900 | 1400 | 900 | 1400 | 900 | 1400 | 900 | 1400 |
| 20/3/18 | 7800 | 3.4 | 5.4 | 5.0 | 16.6 | 17.1 | 11.4 | 11.0 | 16.6 | 17.1 |
| 20/3/21 | 8950 | 4.0 | 4.2 | 3.9 | 19.6 | 20.1 | 10.2 | 9.9 | 19.6 | 20.1 |
| 20/3/24 | 9950 | 4.4 | 3.2 ¹ | 2.9 | 22.6 ¹ | 23.1 | 9.2 | 8.9 | 22.6 | 23.1 |
| 20/3/27 | 10800 | 4.6 | 2.2 ¹ | 1.9 ¹ | 25.6 ¹ | 26.1 ¹ | 8.2 | 7.9 | 25.6 | 26.1 |
| 20/3/30 | 11800 | 4.9 | 1.4 ^{1/2} | 1.0 ¹ | 28.6 ^{1/2} | 29.1 ¹ | 7.4 | 7.0 | 28.6 | 29.1 |
| 20/3/33 | 12800 | 5.2 | 0.4 ^{1/2} | - | 31.6 ^{1/2} | - | 6.4 | 6.0 | 31.6 | 32.1 |
| 20/4/36 | 11265 | 6.2 | 1.9 ¹ | 1.5 ¹ | 34.6 ¹ | 35.1 ¹ | 7.9 | 7.5 | 34.6 | 35.1 |
| 20/4/42 | 12855 | 6.9 | 0.3 ^{1/2} | - | 40.7 ^{1/2} | - | 6.3 | 6.0 | 40.7 | 41.2 |
| 20/4/48 | 14200 | 8.2 | - | - | - | - | 4.9 | 4.5 | 46.6 | 47.1 |
| 20/4/54 | 15855 | 8.6 | - | - | - | - | 3.3 ¹ | 3.0 | 52.7 ¹ | 53.2 |

¹ When using a short leader lower part an assist crane is required for installation.

² Installation only possible using auxiliary equipment

Drilling axis 900 mm

Drilling axis 1400 mm

Other Kelly bars available on request.

When using a casing oscillator, value X has to be reduced by 1200 mm.

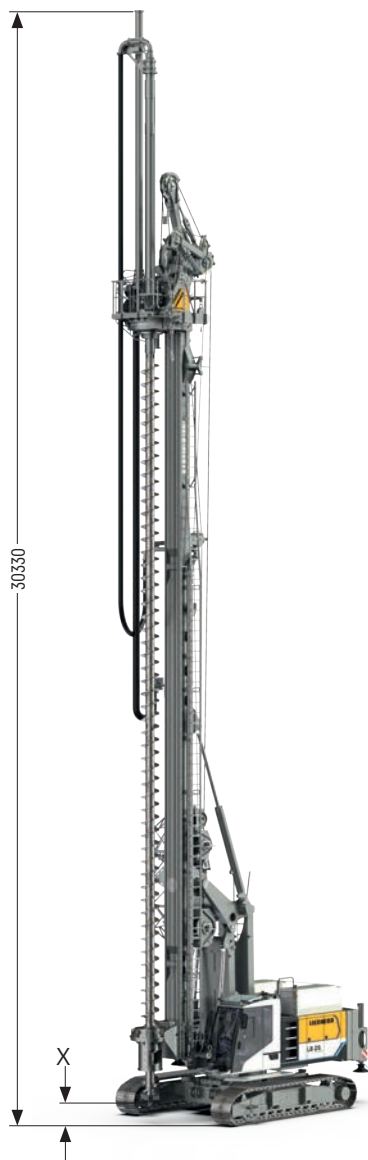
When using a Kelly bar guide, value X has to be reduced by 500 mm.

When using a short leader lower part the drilling depth is reduced by 2000 mm for a drilling axis of 900 mm, and by 2500 mm for a drilling axis of 1400 mm.

Length of drilling tool 1900 mm

Continuous flight auger drilling

Folding leader



Performance data

| | | | | |
|---|-----|----------|----------|----------------|
| Rotary drive - torque | kNm | 230 | | |
| Rotary drive - speed | rpm | 58 | | |
| Max. drilling diameter* | mm | 1000 | | |
| | | Low Head | Standard | Folding leader |
| Drilling depth without Kelly extension | m | 10.1 | 16.1 | 18.1 |
| Drilling depth with 6 m Kelly extension | m | 16.1 | 22.1 | 24.1 |
| Max. pull force | kN | 700 | 700 | 700 |

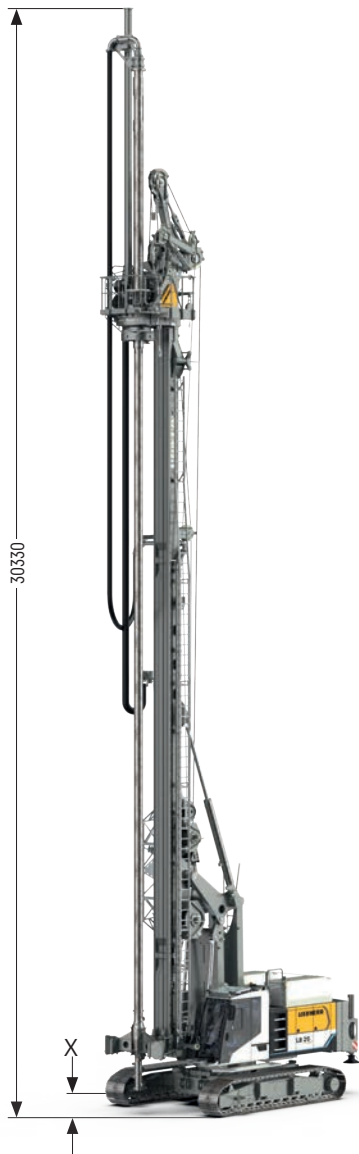
Above drilling depths take into account that an auger cleaner is used and the cardan joint has been removed.

Above drilling depths are valid for the use of standard tools and for the X value of 475 mm (see above illustration).

* Other drilling diameters available on request

Full displacement drilling

Folding leader



Performance data

| | | | | |
|---|-----|----------|----------|----------------|
| Rotary drive - torque | kNm | 230 | | |
| Rotary drive - speed | rpm | 58 | | |
| Max. drilling diameter* | mm | 500 | | |
| | | Low Head | Standard | Folding leader |
| Drilling depth without Kelly extension | m | 10.6 | 16.6 | 18.6 |
| Drilling depth with 6 m Kelly extension | m | 16.6 | 22.6 | 24.6 |
| Max. pull force | kN | 700 | 700 | 700 |

Above drilling depths are valid for the use of standard tools and for an X value of 665 mm (see above illustration).

* Other drilling diameters available on request

Double rotary drilling

DBA 90



Performance data

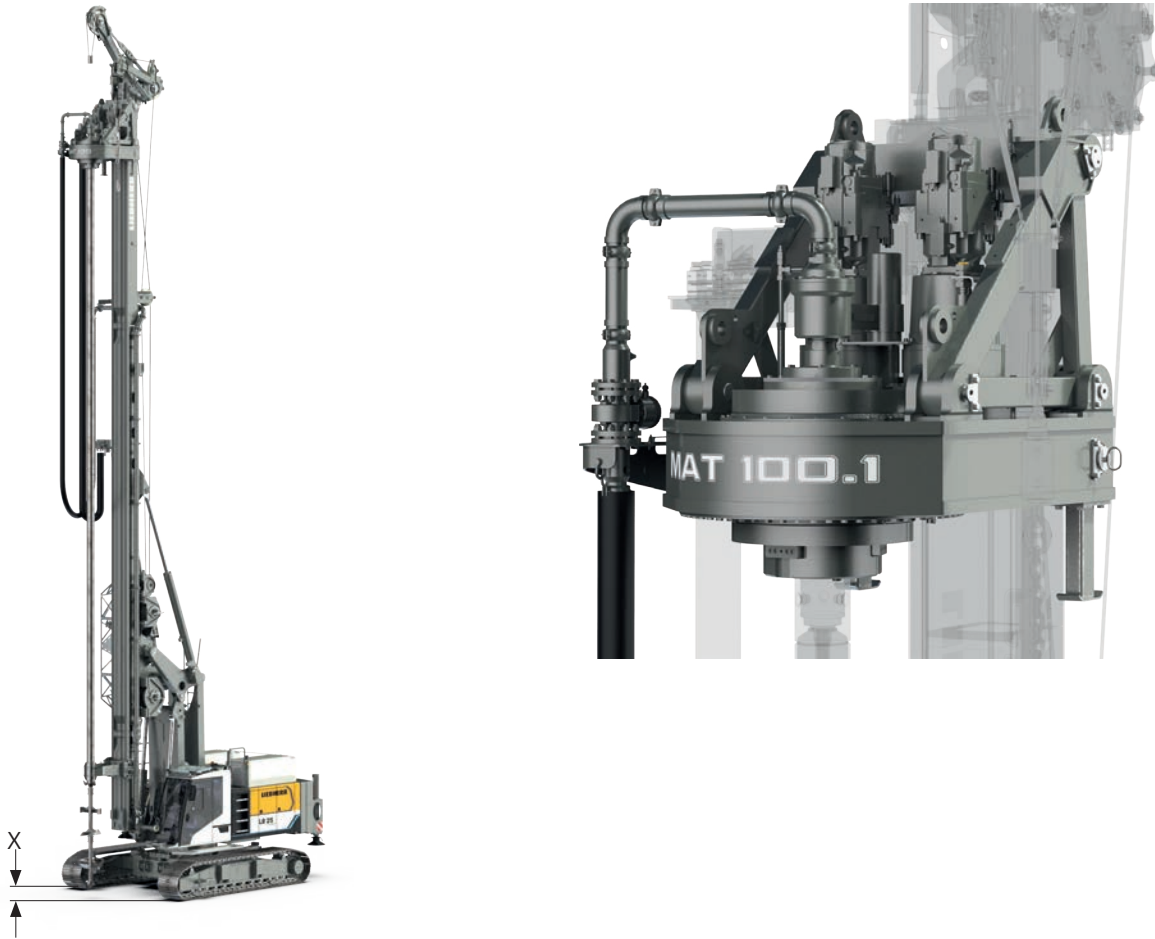
| | | | | |
|--------------------------|-----|----------|----------|----------------|
| Rotary drive I - torque | kNm | 0-90 | | |
| Rotary drive I - speed | rpm | 0-32 | | |
| Rotary drive II - torque | kNm | 0-68 | | |
| Rotary drive II - speed | rpm | 0-44 | | |
| Max. drilling diameter* | mm | 620 | | |
| | | Low Head | Standard | Folding leader |
| Drilling depth | m | 10.4 | 16.4 | 18.4 |
| Max. pull force | kN | 300 | 300 | 300 |

Above drilling depths are valid for the use of standard tools and for an X value of 885 mm (see above illustration). Due to differences in the max. admissible load capacities, the combinations of drilling depth and drilling diameter may be limited.

* Other drilling diameters available on request

Soil mixing

MAT 100.1 / BAT 250



Performance data MAT 100.1

| | | | | |
|-----------------------|-----|----------|----------|----------------|
| Rotary drive - torque | kNm | 0-95 | | |
| Rotary drive - speed | rpm | 0-100 | | |
| Max. mixing diameter* | mm | 1500 | | |
| | | Low Head | Standard | Folding leader |
| Mixing depth | m | 11.0 | 17.0 | 19.0 |
| Max. pull force | kN | 300 | 300 | 300 |

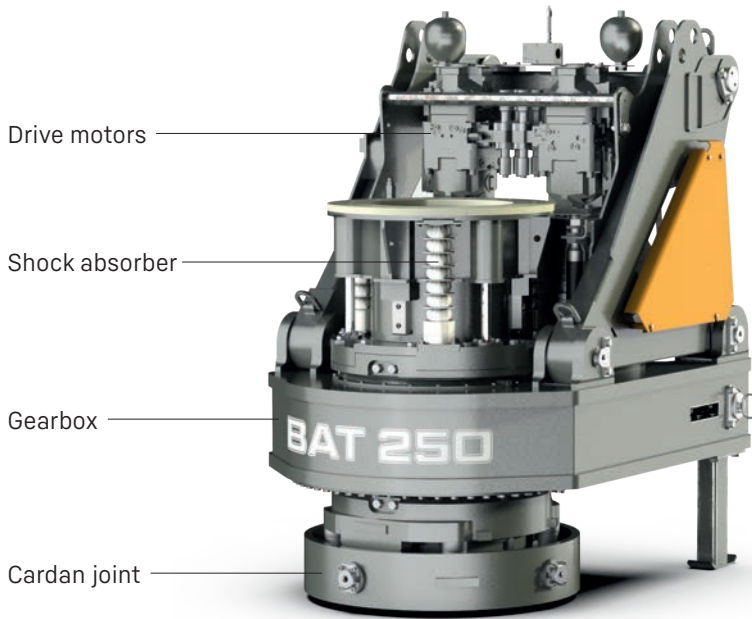
Performance data BAT 250

| | | | | |
|---------------------------------------|-----|----------|----------|----------------|
| Rotary drive - torque | kNm | 230 | | |
| Rotary drive - speed | rpm | 58 | | |
| Max. mixing diameter* | mm | 1500 | | |
| | | Low Head | Standard | Folding leader |
| Mixing depth | m | 10.6 | 16.6 | 18.6 |
| Mixing depth with 6 m Kelly extension | m | 16.6 | 22.6 | 24.6 |
| Max. pull force | kN | 700 | 700 | 700 |

Above mixing depths are valid for the use of standard tools and for an X value of 300 mm for MAT 100.1, and 665 mm for BAT 250 (see above illustration).

* Other mixing diameters available on request

BAT 250



Kelly shock absorber:

- Newly developed Kelly shock absorber for highest demands
- Possibility of adjusting the strength of the Kelly shock absorber for different Kelly bar weights

Highest availability through easy set-up:

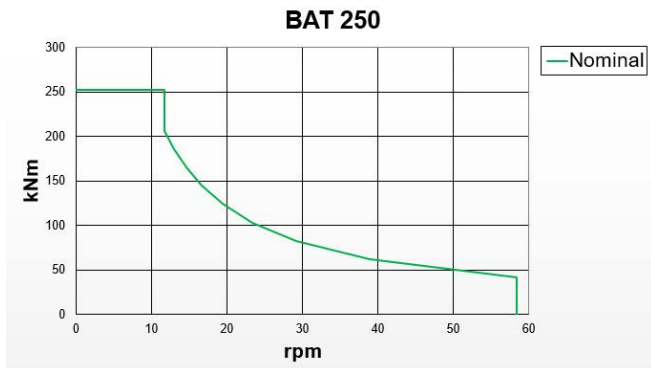
- No mechanical shift gearbox
- Low maintenance requirements

Automatic gearbox for best operating comfort:

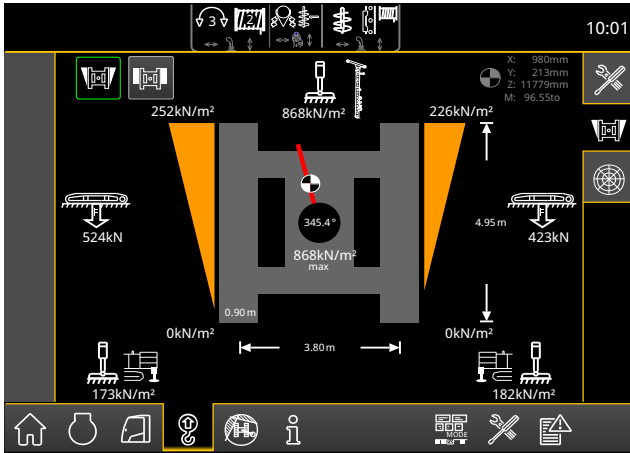
- No stopping required to change gears
- No interruption of the drilling process
- Continuous optimization of speed

Flexibility through modular design:

- Exchangeable cardan joint for other casing drivers
- Exchangeable drive adapters for use of other Kelly bars
- Quickly exchangeable equipment for other methods of operation

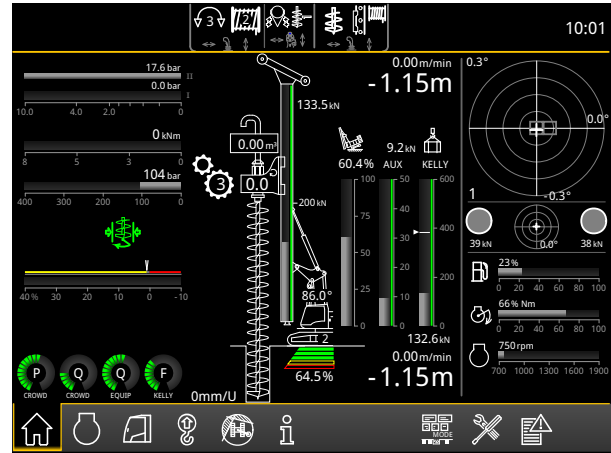


Ground Pressure Visualization



Features:

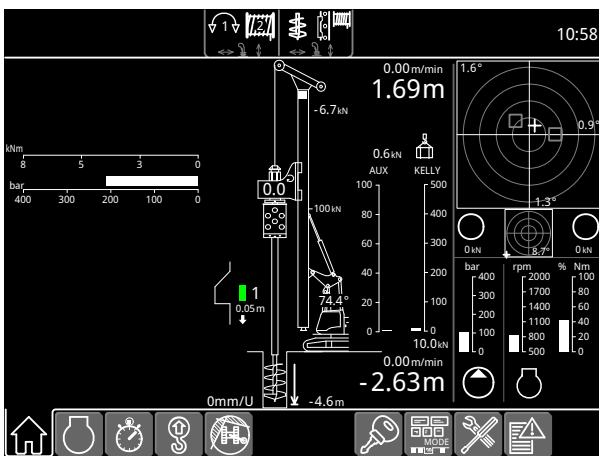
- The actual ground pressure is calculated in real time
- The maximum admissible ground pressure can be individually predefined
- The utilization is continuously calculated and displayed on the monitor in the operator's cab
- Audible and visual warnings when the predefined values are approached



Your benefits:

- Increased safety on the jobsite due to consideration of prevailing ground conditions
- Higher operator comfort thanks to clearly displayed information and warning signals
- Prevention of critical or stressful situations before they occur
- User-friendly and intuitive handling in the operator's cab

Kelly Visualization

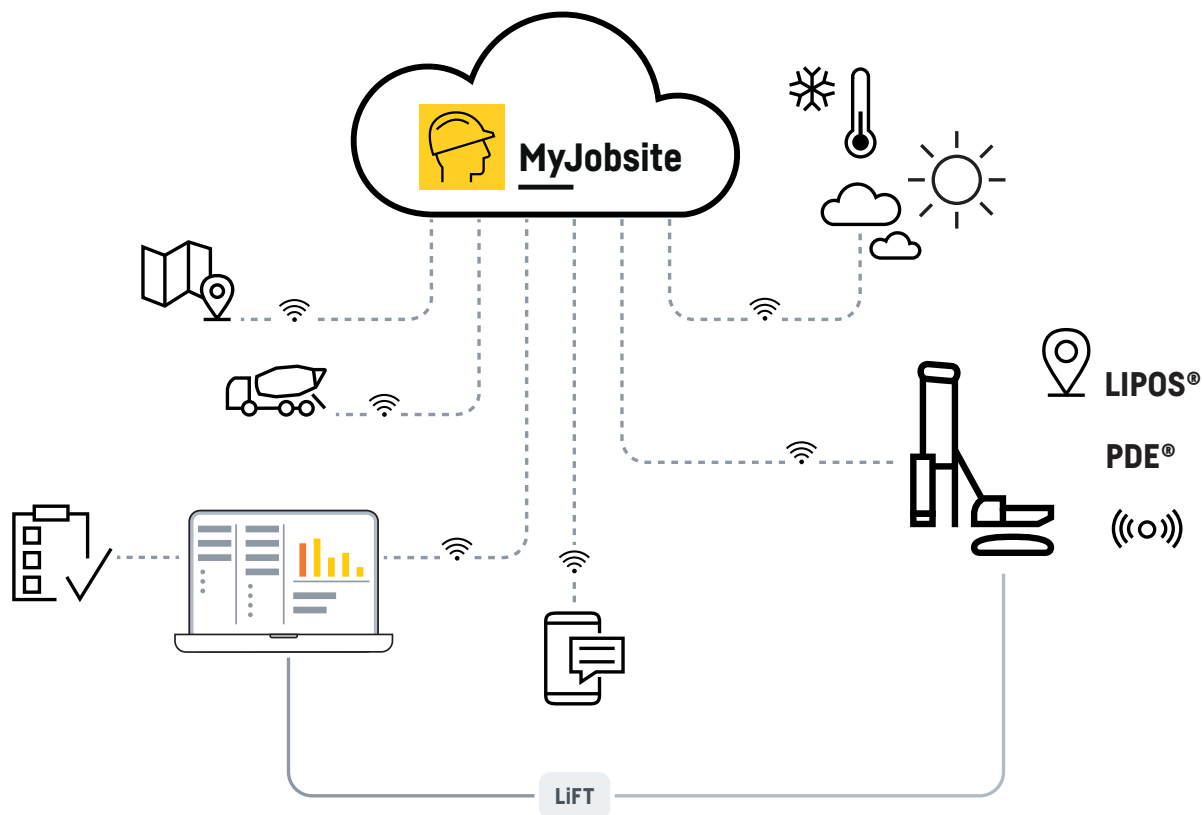


Your benefits:

- Time saving: the operator no longer needs to search for the interlocking recesses
- Higher availability: the machine needs less repair and maintenance work
- More safety: correct locking prevents damage to the Kelly bar
- Cost reduction: smooth operation results in higher performance and less wear

Digitalization in deep foundation work

As deep foundation expert, Liebherr has created a combination of the most diverse assistance systems and software solutions in order to record and evaluate complex processes and to be able to provide the corresponding evidence.



LIPOS - Liebherr Positioning System

Using pre-installed components, LIPOS enables the direct integration of machine control systems from Trimble and Leica. These systems are based on modern DGNSS technology (Differential Global Navigation Satellite System) and so achieve the best possible conditions for a precise and efficient positioning of Liebherr machines and their attachment tools.

PDE

All working processes can be electronically recorded and visualized using the process data recording system PDE. The system is operated and displayed on the PDE touchscreen in the operator's cab. PDE records operating data from the Litronic control system, as well as data from external sensors.

MyJobsite

Using the MyJobsite software solution all relevant process, machine, construction site and positioning data (LIPOS) can be recorded, displayed, analysed, managed and

evaluated in one central location. The collected data can be accessed via a web browser when an internet connection is active.

With the recorded PDE data, such as the driving progress of the pile per blow, the total number of blows, or the impact frequency per minute, a driving protocol is automatically generated as proof of quality directly after completion of a work process. The parameters of the driving protocol can be defined and assigned in advance. Using the templates saves a lot of time when creating the protocols.

MyJobsite is THE tool for quality control and documentation. The deluge of data, which is accrued each day from a wide variety of sources on the jobsite, can be recorded precisely and processed in an informative manner. Unpopular bureaucratic work is kept to a minimum and the amount of time required for it is significantly reduced. At the same time, the quality of administration work is maximised.



Download datasheet



Please contact us.

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