

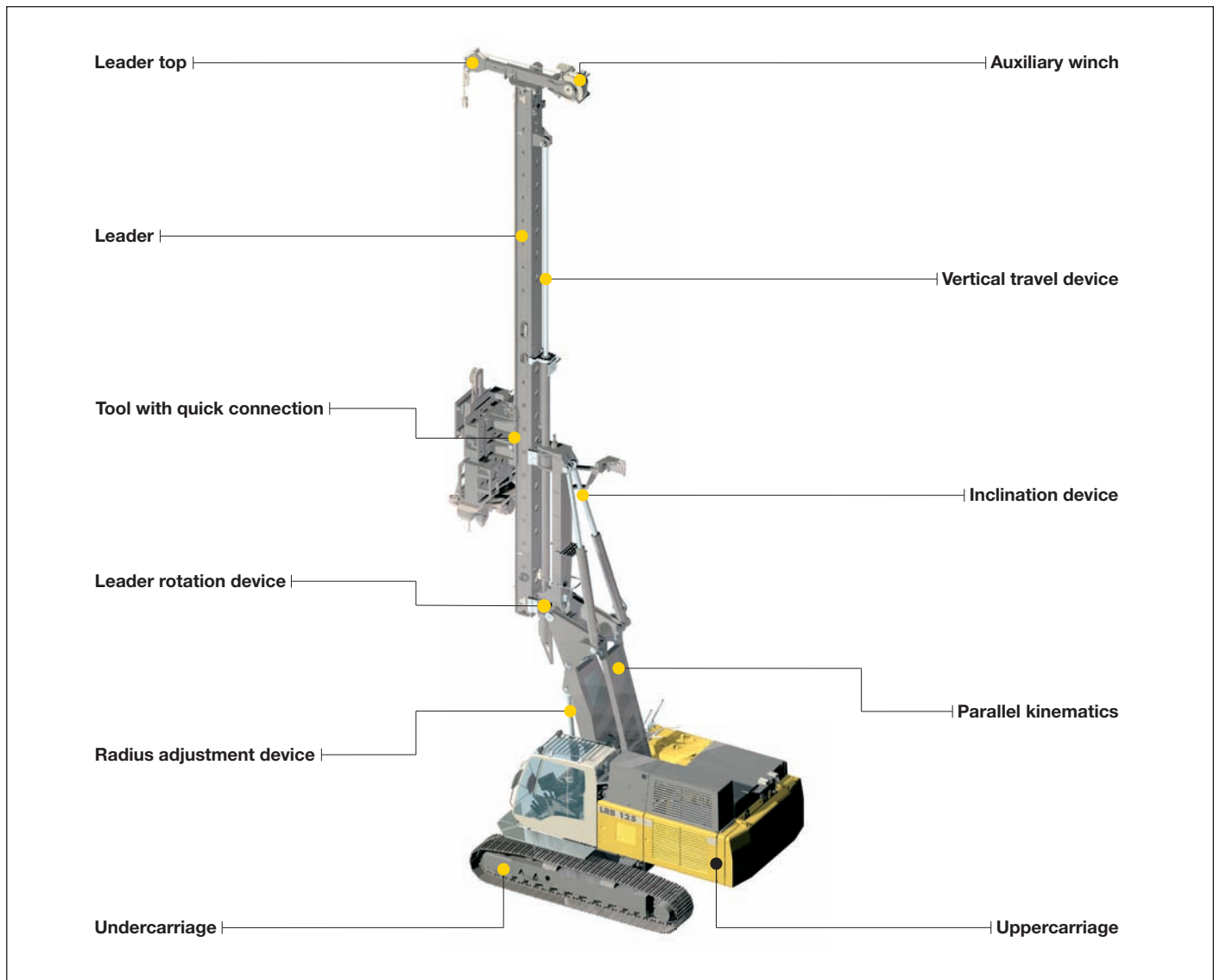
# Technical data Piling and drilling rig

**LRB 125**  
Litronic®



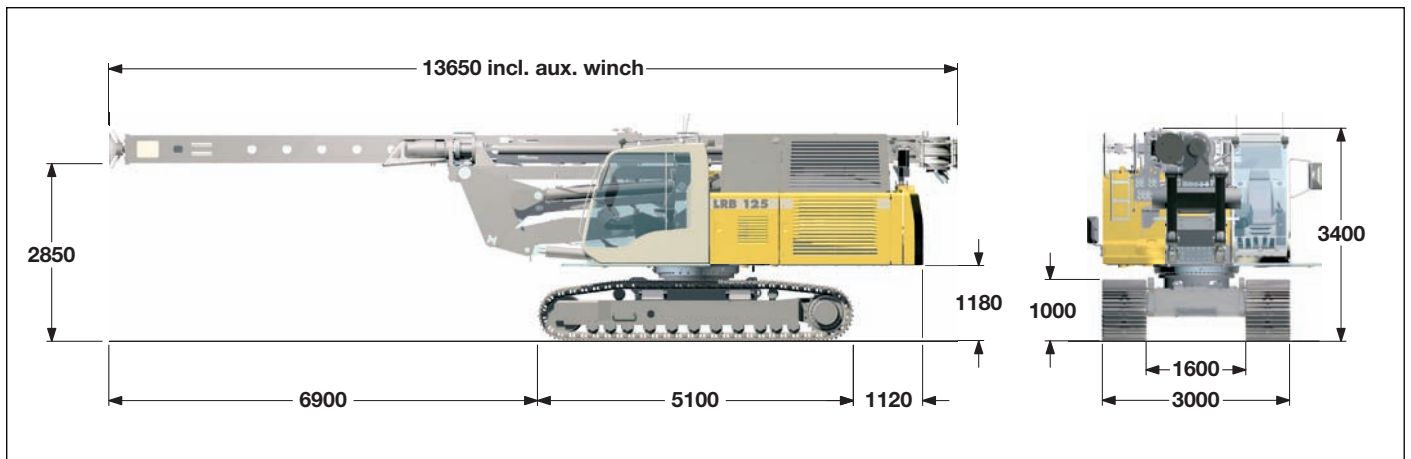
# LIEBHERR

# Concept and characteristics



- High engine output with automatic engine speed control
- Controlled entirely from cab
- Sturdy and solid rig design
- Wide longitudinal and lateral supporting system on the basic machine through triangles
- High push and pull forces
- High torque
- Completely self-rigging (no auxiliary machines required)
- Large range of working tools (all piling and drilling works can be performed)
- Stepless leader inclination 1:6 forward – 1:3 backward depending on type of equipment
- Leader swing range  $\pm 90^\circ$
- Increase of effective leader length (5 m) via vertical travel device
- Automatic vertical alignment
- High alignment forces
- Simultaneous control of several movements via Load-sensing multi-circuit hydraulics
- Quick change of equipment possible through quick connection
- Equipment design according to latest European regulations and standards
- High manufacturing quality through quality control by PDE-system

# Transport dimensions and weights



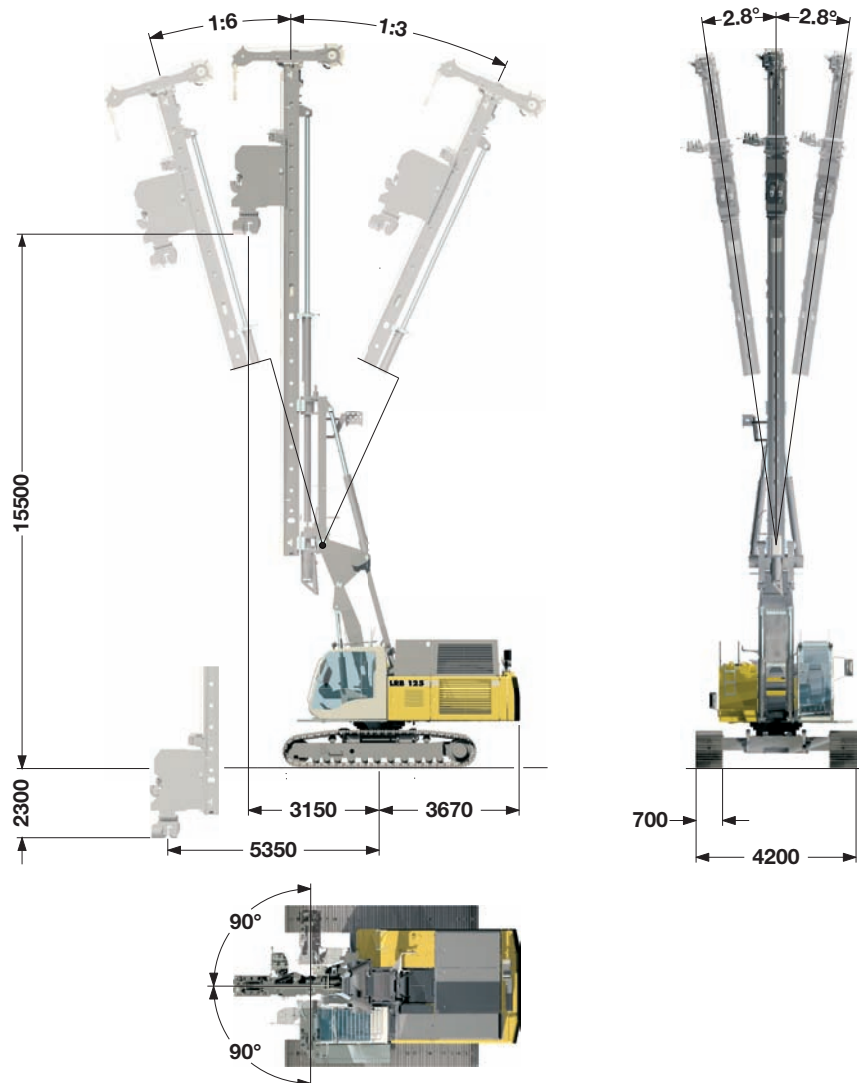
## Transport weight

|                                                                        |        |
|------------------------------------------------------------------------|--------|
| Without attachment,<br>with telescopic undercarriage and counterweight | 43 t   |
| Without attachment and counterweight,<br>with telescopic undercarriage | 39.1 t |

Weights 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

## Basic machine LRB 125



### Technical data

|                                                                     |               |
|---------------------------------------------------------------------|---------------|
| Leader length                                                       | 12.5 m        |
| Capacity hammer including cap plus pile                             | 12 t          |
| Max. hammer weight                                                  | 6 t           |
| Max. pile weight                                                    | 6 t           |
| Max. pull                                                           | 200 kN        |
| Max. torque                                                         | 120 kNm       |
| Working radius machine                                              |               |
| Center of rotation — center pile                                    | 3.15 — 5.35 m |
| Stepless rig inclination adjustment                                 |               |
| Lateral inclination                                                 | ± 1:20        |
| Forward inclination                                                 | 1:6           |
| Backward inclination                                                | 1:3           |
| Vertical leader adjustment above ground level (depending on radius) | 5 m           |
| Leader swing range                                                  | ± 90°         |

### Operating weight and ground pressure

|                                                                                                                                                                        |                                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| Telescopic undercarriage with                                                                                                                                          |                                |
| 700 mm 3-web shoes                                                                                                                                                     | 49 t – 0.83 kg/cm <sup>2</sup> |
| The operating weight includes the basic machine LRB 125 (leader length 12.5 m, with attachment). Weights can vary depending on the final configuration of the machine. |                                |

# Technical description



## Engine

Power rating according to ISO 9249, 450 kW (603 hp) at 1900 rpm  
Engine type \_\_\_\_\_ Liebherr D 9508 A7  
Fuel tank \_\_\_\_\_ 870 l capacity with continuous level indicator and reserve warning  
Engine complies with NRMM exhaust certification EPA/CARB Tier 3 and 97/68 EC Stage III.



## Hydraulic system

The main pumps are operated by a distributor gearbox. Axial piston displacement pumps work in open circuits supplying oil only when needed (flow control on demand).

The hydraulic pressure peaks are absorbed by the integrated automatic pressure compensation, which relieves the pump and saves fuel.

Pumps for working tools \_\_\_\_\_ 2x 350 l/min  
Separate pumps for kinematics \_\_\_\_\_ 2x 190 l/min  
Hydraulic oil tank \_\_\_\_\_ 825 l  
Max. working pressure \_\_\_\_\_ 350 bar

No auxiliary power packs are required as application specific hydraulics supply power to all components.  
The cleaning of the hydraulic oils occurs via an electronically monitored pressure and return filter.  
Any clogging is shown on the display in the cab.  
The use of synthetic environmentally friendly oil is also possible.



## Crawlers

Propulsion through axial piston motor, hydraulically released spring loaded multi-disc brake, maintenance free crawler tracks, hydraulic chain tensioning device.

Drive speed \_\_\_\_\_ 0 – 2.3 km/h  
Track force \_\_\_\_\_ 437 kN  
Width of 3-web track shoes \_\_\_\_\_ 700 mm



## Noise emission

Noise emissions correspond with 2000/14/EC directive on noise emission by equipment used outdoors.



## Swing

Consists of single row ballbearing, fixed axial piston hydraulic motor, spring loaded and hydraulically released multi-disc holding brake, planetary gearbox and pinion.  
Swing speed from 0 – 3.3 rpm is continuously variable.



## Control

The control system – developed and manufactured by Liebherr – is designed to withstand extreme temperatures and the many heavy-duty construction tasks for which this machine has been designed. Complete machine operating data are displayed on a high resolution monitor screen.

To ensure clarity of the information on display, different levels of data are shown in enlarged lettering and symbols. Control and monitoring of the sensors are also handled by this high technology system. Error indications are automatically displayed on the monitor in clear text.

The machine is equipped with proportional control for all movements, which can be carried out simultaneously.

Two joysticks are required for operation. Pedal control can be changed to hand control.

Options :

PDE : Process data recording  
GSM modem



## Auxiliary winch

Line pull (effective) \_\_\_\_\_ 50 kN  
Rope diameter \_\_\_\_\_ 17 mm  
Drum diameter \_\_\_\_\_ 420 mm

The winch is noted for compact, easily mounted design.

Propulsion is via a maintenance-free planetary gearbox in oil bath. Load support by the hydraulic system; additional safety factor by a spring-loaded, multi-disc holding brake.



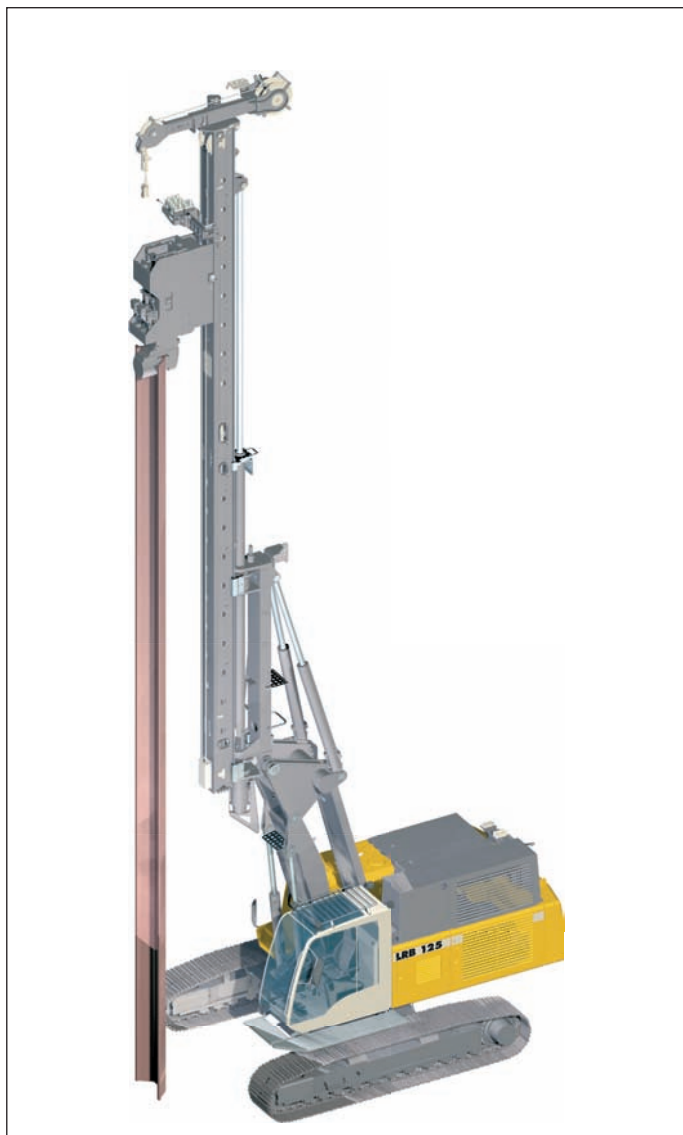
## Rope crowd system

Crowd force push/pull \_\_\_\_\_ 150/200 kN  
Line pull (nominal load) \_\_\_\_\_ 100 kN  
Rope diameter \_\_\_\_\_ 18/20 mm

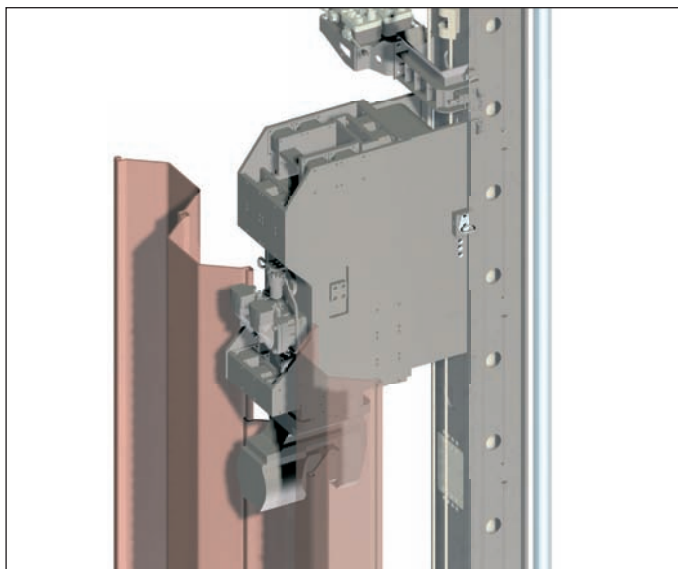
The ropes are actuated by a powerful hydraulic cylinder.

# High frequency vibrator slim design

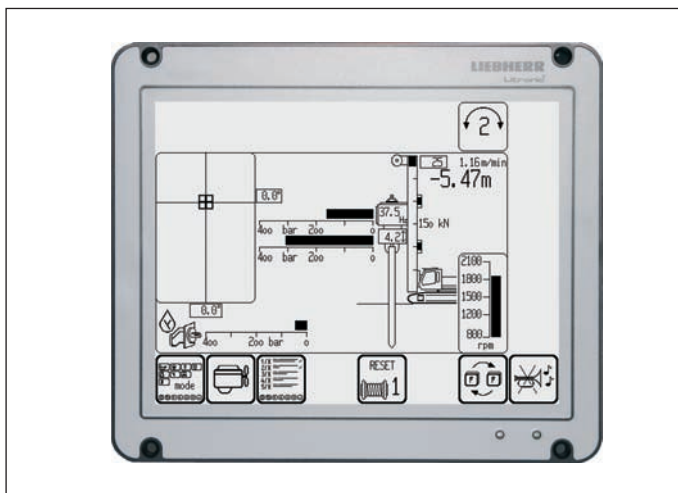
## Model 1100 H



Effective length – 15.5 m



Vibrating of single pile between two other piles



Display for vibrating

### Technical data

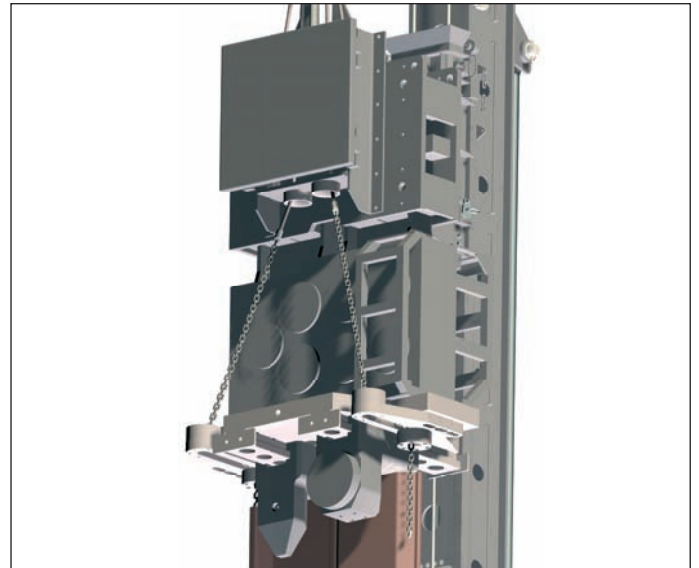
|                                |            |
|--------------------------------|------------|
| Static moment                  | 0 – 20 kgm |
| Max. frequency                 | 2300 rpm   |
| Max. centrifugal force         | 1160 kN    |
| Max. amplitude                 | 19 mm      |
| Total weight without clamp     | 3250 kg    |
| Total weight with single clamp | 4200 kg    |
| Dynamic weight with clamp      | 2980 kg    |

# High frequency vibrator

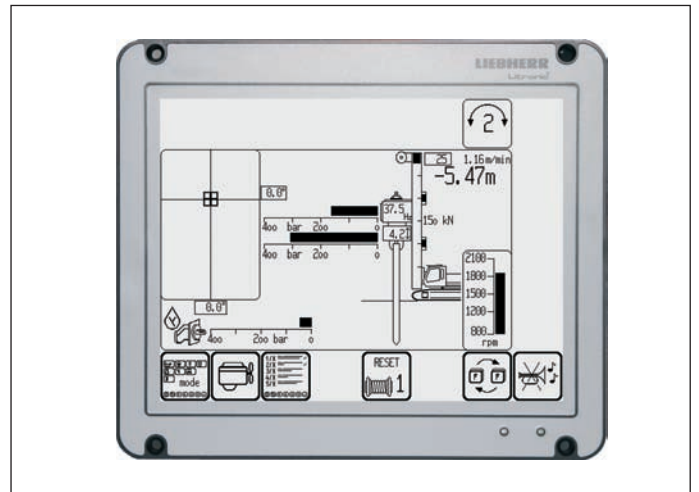
## Model 23 VML with hydraulic sheet pile feeder



Effective length – 15.5 m



Double clamp and hydraulic sheet pile feeder



Display for vibrating

### Technical data

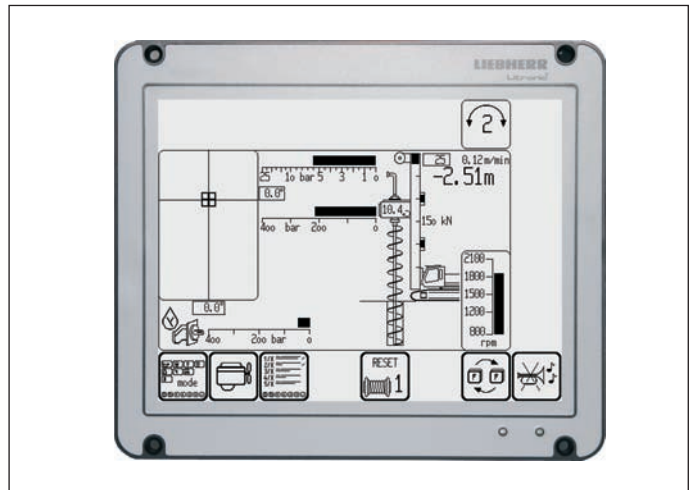
|                            |            |
|----------------------------|------------|
| Static moment              | 0 – 23 kgm |
| Max. frequency             | 2300 rpm   |
| Max. centrifugal force     | 1350 kN    |
| Max. amplitude             | 17 mm      |
| Total weight without clamp | 4000 kg    |
| Dynamic weight incl. clamp | 5250 kg    |

# Pre-drill

## Model BA 45



Effective length – 15.5 m



Display for continuous flight auger drilling

### Technical data

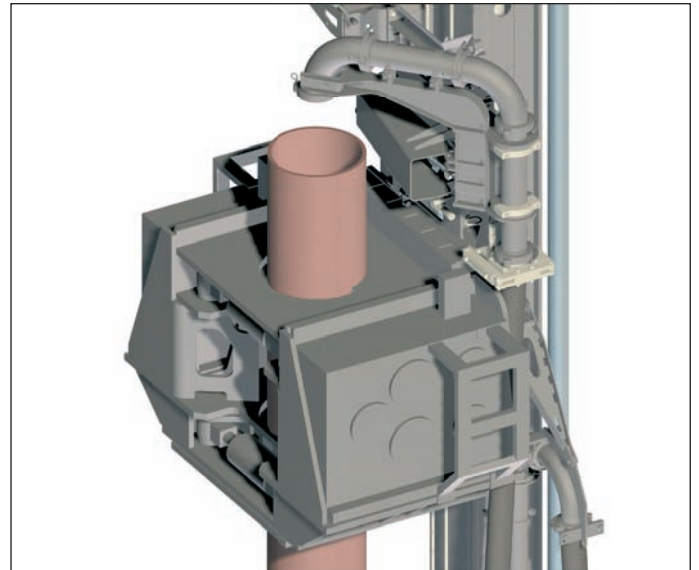
|                         |        |
|-------------------------|--------|
| Drilling drive – torque | 45 kNm |
| Drilling drive – speed  | 95 rpm |
| Max. drilling diameter  | 800 mm |

# High frequency ring vibrator

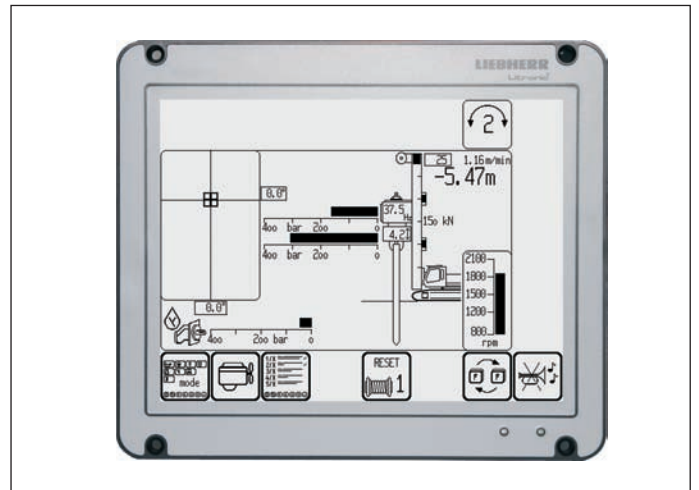
## Model 20 VMR



Effective length – 27 m



Concrete supply system



Display for vibrating

### Technical data

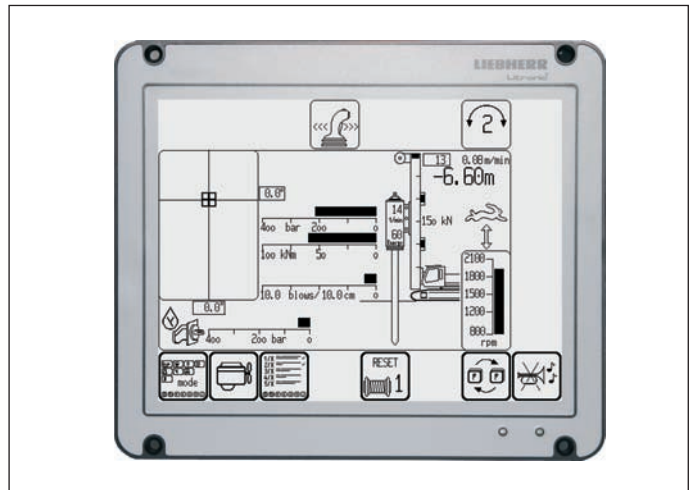
|                        |              |
|------------------------|--------------|
| Static moment          | 0 – 20 kgm   |
| Max. frequency         | 2300 rpm     |
| Max. centrifugal force | 1160 kN      |
| Diameter               | 355 – 510 mm |
| Total weight           | 6200 kg      |

# Hydraulic hammer

## Model H 50



Effective length – 13.5 m



Display for impact driving

### Technical data

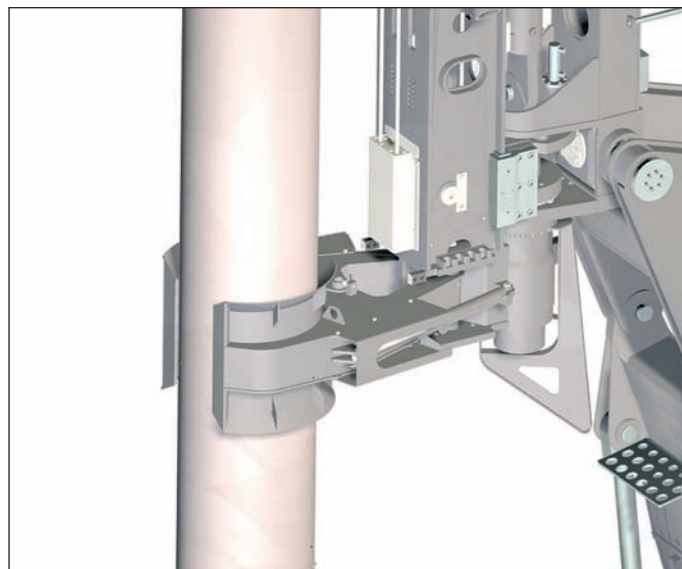
|                       |               |
|-----------------------|---------------|
| Ram mass              | 4000 kg       |
| Max. rated energy     | 51 kNm        |
| Blow rate max. energy | 50 blows/min  |
| Max. blow rate        | 100 blows/min |
| Basic hammer weight   | 8000 kg       |

# Double rotary drilling

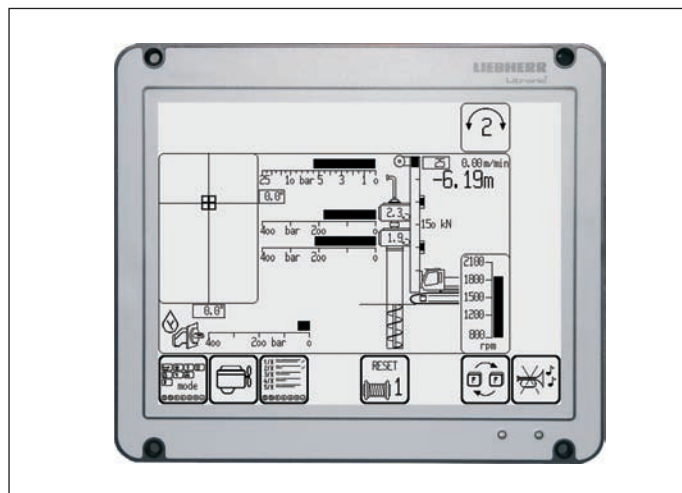
## Model DBA 80



Effective length – 12.8 m



Hydraulic casing guide



Display for double rotary drilling

### Technical data

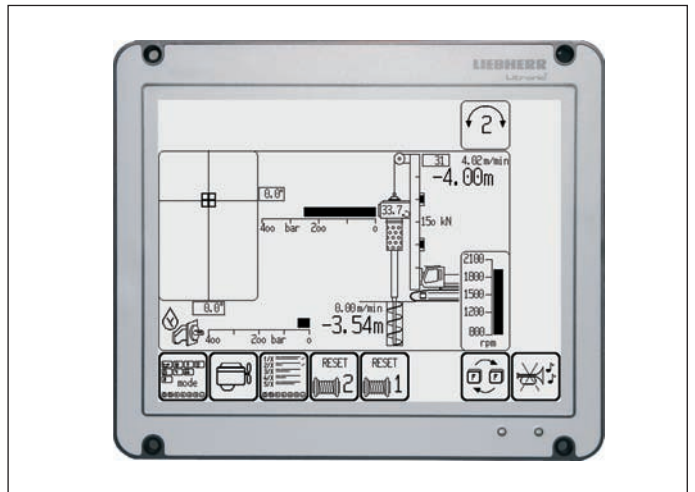
|                            |                      |        |
|----------------------------|----------------------|--------|
| Drilling drive I – torque  | 1 <sup>st</sup> gear | 80 kNm |
| Drilling drive I – speed   | 1 <sup>st</sup> gear | 18 rpm |
| Drilling drive I – torque  | 2 <sup>nd</sup> gear | 40 kNm |
| Drilling drive I – speed   | 2 <sup>nd</sup> gear | 36 rpm |
| Drilling drive II – torque | 1 <sup>st</sup> gear | 60 kNm |
| Drilling drive II – speed  | 1 <sup>st</sup> gear | 24 rpm |
| Drilling drive II – torque | 2 <sup>nd</sup> gear | 30 kNm |
| Drilling drive II – speed  | 2 <sup>nd</sup> gear | 48 rpm |
| Max. drilling diameter     |                      | 620 mm |

# Kelly drilling

## Model BA 150 and Kelly bar 12/3/20



Shock absorber for Kelly bar



Display for Kelly drilling

### Technical data

|                         |                      |         |
|-------------------------|----------------------|---------|
| Drilling drive – torque | 1 <sup>st</sup> gear | 120 kNm |
| Drilling drive – speed  | 1 <sup>st</sup> gear | 32 rpm  |
| Drilling drive – torque | 2 <sup>nd</sup> gear | 60 kNm  |
| Drilling drive – speed  | 2 <sup>nd</sup> gear | 60 rpm  |

### Technical data Kelly bar

|                    |         |
|--------------------|---------|
| Diameter           | 305 mm  |
| Number of sections | 3       |
| Extended length    | 20.5 m  |
| Retracted length   | 8.5 m   |
| Drive stub         | 200 mm  |
| Weight             | 3200 kg |

### Technical data Kelly winch

|                       |               |
|-----------------------|---------------|
| Line pull (effective) | 110 kN        |
| Winch speed           | 0 – 100 m/min |

### Performance data

|                                    |         |
|------------------------------------|---------|
| Max. drilling diameter             | 1200 mm |
| Max. drilling depth*               | 18 m    |
| Max. clearance below drilling tool | 6.5 m   |

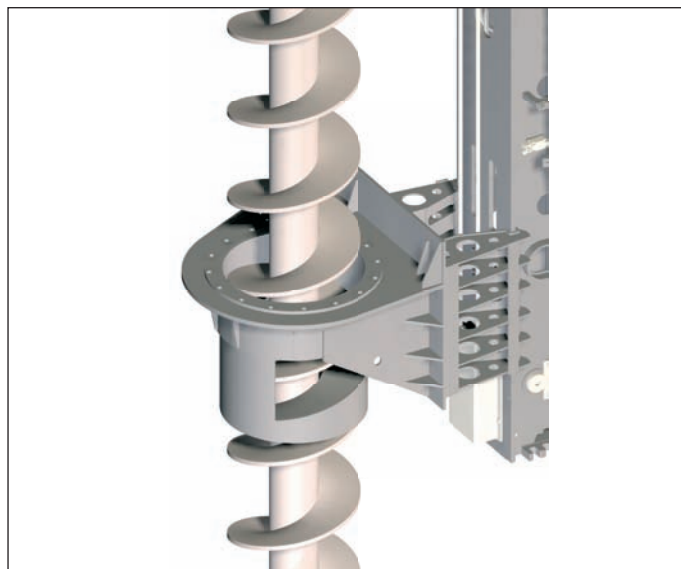
\*) other Kelly bars on request

# Continuous flight auger drilling

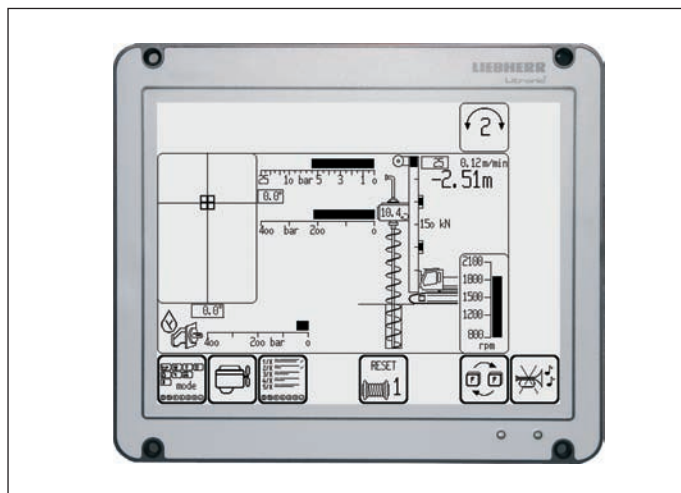
## Model BA 150



Effective length – 14.6 m



Auger with hydraulic auger cleaner



Display for continuous flight auger drilling

### Technical data

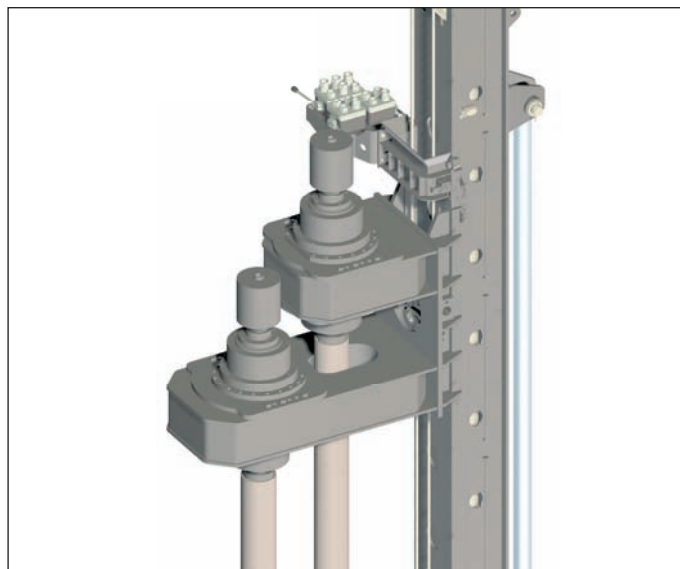
|                         |                      |         |
|-------------------------|----------------------|---------|
| Drilling drive – torque | 1 <sup>st</sup> gear | 120 kNm |
| Drilling drive – speed  | 1 <sup>st</sup> gear | 32 rpm  |
| Drilling drive – torque | 2 <sup>nd</sup> gear | 60 kNm  |
| Drilling drive – speed  | 2 <sup>nd</sup> gear | 60 rpm  |
| Max. drilling diameter  |                      | 800 mm  |

# Twin mix equipment

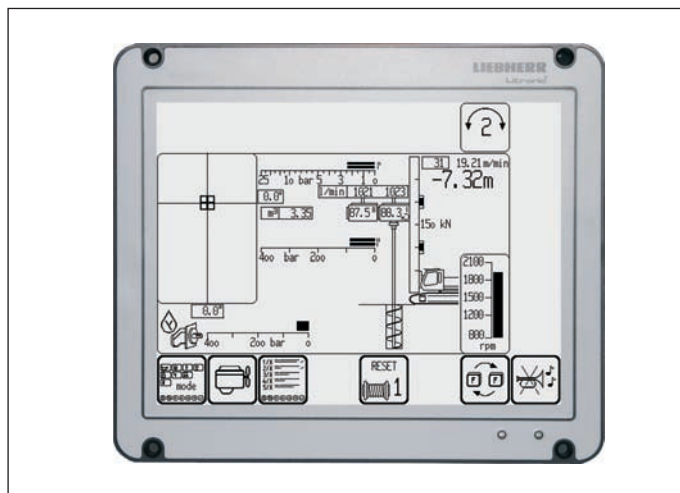
## Model DMA 35



Effective length – 15.2 m



Set up for operation on dams



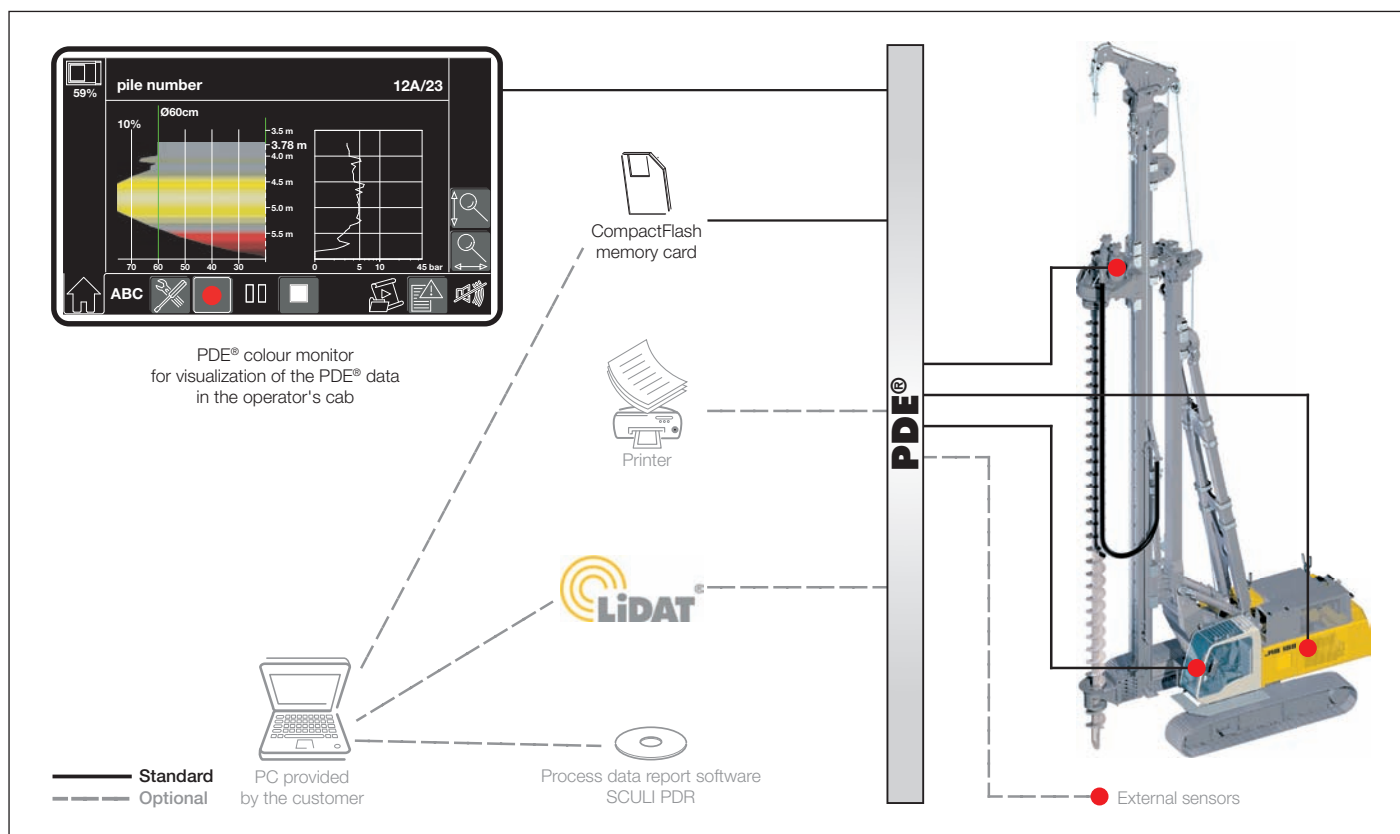
Display for soil mixing

### Technical data

|                         |                      |          |
|-------------------------|----------------------|----------|
| Drilling drive – torque | 1 <sup>st</sup> gear | 35 kNm   |
| Drilling drive – speed  | 1 <sup>st</sup> gear | 60 rpm   |
| Drilling drive – torque | 2 <sup>nd</sup> gear | 17.5 kNm |
| Drilling drive – speed  | 2 <sup>nd</sup> gear | 120 rpm  |

## Process data recording system - PDE® (additional equipment)

The Liebherr process data recording system PDE® constantly records the relevant process data during the working process.



Depending on the application the recorded and processed data are displayed on the PDE® touchscreen in the operator's cab, e.g. in the form of an online cast-in-place pile.

At the same time the PDE® is operated using this touchscreen. The operator can enter various details (e.g. jobsite name, pile number, etc.) and start and stop recordings. A recording of every start-stop cycle carried out in the PDE® is established on a CompactFlash memory card.

The PDE® can be configured in a number of ways, e.g. for the connection of external sensors, for the generation of a simple protocol as graphic file and/or for a printout directly in the operator's cab.

## Process data reporting - PDR (additional equipment)

Comprehensive data evaluation and generation of reports on a PC is possible using the software SCULI PDR.

**Recordings management** - The recordings generated by the PDE® system can be imported and managed in SCULI PDR. The data can be imported directly from the CompactFlash card or via the Liebherr telematics system LiDAT. Certain recordings, e.g. for a particular day or jobsite, can be found using filter functions.

**Viewing data** - The data in each record is displayed tabularly. Combining several recordings provides results, for example, regarding the total concrete consumption or the average depth. Furthermore, a diagram editor is available for quick analysis.

**Generating reports** - A vital element of SCULI PDR is the report generator, which allows for the generation of individual reports. These can be printed out directly or stored as pdf files. In the process the size, colour, line thickness or even the desired logo can be configured. Moreover, the reports can be displayed in different languages, e.g. in English and in the national language.

