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 ± 90°
- 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, with telescopic undercarriage and counterweight ———— 43 t
Without attachment and counterweight, 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.
**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

**Operating weight and ground pressure**

Telescopic undercarriage with 700 mm 3–web shoes: 49 t – 0.83 kg/cm²

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.

- 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°
**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.

### Swing

Consists of single row ball-bearing, 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

### 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**: 2 x 350 l/min
- **Separate pumps for kinematics**: 2 x 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.

### 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

<table>
<thead>
<tr>
<th>Static moment</th>
<th>0 – 20 kgm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. frequency</td>
<td>2300 rpm</td>
</tr>
<tr>
<td>Max. centrifugal force</td>
<td>1160 kN</td>
</tr>
<tr>
<td>Max. amplitude</td>
<td>19 mm</td>
</tr>
<tr>
<td>Total weight without clamp</td>
<td>3250 kg</td>
</tr>
<tr>
<td>Total weight with single clamp</td>
<td>4200 kg</td>
</tr>
<tr>
<td>Dynamic weight with clamp</td>
<td>2980 kg</td>
</tr>
</tbody>
</table>
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**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Static moment</td>
<td>0 – 23 kgm</td>
</tr>
<tr>
<td>Max. frequency</td>
<td>2300 rpm</td>
</tr>
<tr>
<td>Max. centrifugal force</td>
<td>1350 kN</td>
</tr>
<tr>
<td>Max. amplitude</td>
<td>17 mm</td>
</tr>
<tr>
<td>Total weight without clamp</td>
<td>4000 kg</td>
</tr>
<tr>
<td>Dynamic weight incl. clamp</td>
<td>5250 kg</td>
</tr>
</tbody>
</table>
Pre-drill
Model BA 45

Effective length – 15.5 m

Technical data
Drilling drive – torque ———— 45 kNm
Drilling drive – speed ———— 95 rpm
Max. drilling diameter ———— 800 mm

Display for continuous flight auger drilling
## High frequency ring vibrator

**Model 20 VMR**

### Technical data

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
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<tbody>
<tr>
<td>Static moment</td>
<td>0 – 20 kgm</td>
</tr>
<tr>
<td>Max. frequency</td>
<td>2300 rpm</td>
</tr>
<tr>
<td>Max. centrifugal force</td>
<td>1160 kN</td>
</tr>
<tr>
<td>Diameter</td>
<td>355 – 510 mm</td>
</tr>
<tr>
<td>Total weight</td>
<td>6200 kg</td>
</tr>
</tbody>
</table>

Effective length – 27 m

Concrete supply system

Display for vibrating
Hydraulic hammer  
Model H 50

Effective length – 13.5 m

Display for impact driving

<table>
<thead>
<tr>
<th><strong>Technical data</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ram mass</td>
<td>4000 kg</td>
</tr>
<tr>
<td>Max. rated energy</td>
<td>51 kNm</td>
</tr>
<tr>
<td>Blow rate max. energy</td>
<td>50 blows/min</td>
</tr>
<tr>
<td>Max. blow rate</td>
<td>100 blows/min</td>
</tr>
<tr>
<td>Basic hammer weight</td>
<td>8000 kg</td>
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</table>
Double rotary drilling
Model DBA 80

Effective length – 12.8 m

Technical data

<table>
<thead>
<tr>
<th></th>
<th>1st gear</th>
<th>2nd gear</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drilling drive I – torque</td>
<td>80 kNm</td>
<td></td>
</tr>
<tr>
<td>Drilling drive I – speed</td>
<td>18 rpm</td>
<td></td>
</tr>
<tr>
<td>Drilling drive I – torque</td>
<td>40 kNm</td>
<td></td>
</tr>
<tr>
<td>Drilling drive I – speed</td>
<td>36 rpm</td>
<td></td>
</tr>
<tr>
<td>Drilling drive II – torque</td>
<td>60 kNm</td>
<td></td>
</tr>
<tr>
<td>Drilling drive II – speed</td>
<td>24 rpm</td>
<td></td>
</tr>
<tr>
<td>Drilling drive II – torque</td>
<td>30 kNm</td>
<td></td>
</tr>
<tr>
<td>Drilling drive II – speed</td>
<td>48 rpm</td>
<td></td>
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<tr>
<td>Max. drilling diameter</td>
<td>620 mm</td>
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</tr>
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</table>
## Technical data

<table>
<thead>
<tr>
<th>Description</th>
<th>1st gear</th>
<th>2nd gear</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drilling drive – torque</td>
<td>120 kNm</td>
<td>60 kNm</td>
</tr>
<tr>
<td>Drilling drive – speed</td>
<td>32 rpm</td>
<td>60 rpm</td>
</tr>
</tbody>
</table>

## Technical data Kelly bar

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
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<tbody>
<tr>
<td>Diameter</td>
<td>305 mm</td>
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<tr>
<td>Number of sections</td>
<td>3</td>
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<tr>
<td>Extended length</td>
<td>20.5 m</td>
</tr>
<tr>
<td>Retracted length</td>
<td>8.5 m</td>
</tr>
<tr>
<td>Drive stub</td>
<td>200 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>3200 Kg</td>
</tr>
</tbody>
</table>

## Technical data Kelly winch

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Line pull (effective)</td>
<td>110 kN</td>
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<tr>
<td>Winch speed</td>
<td>0 – 100 m/min</td>
</tr>
</tbody>
</table>

## Performance data

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. drilling diameter</td>
<td>1200 mm</td>
</tr>
<tr>
<td>Max. drilling depth*</td>
<td>18 m</td>
</tr>
<tr>
<td>Max. clearance below drilling tool</td>
<td>6.5 m</td>
</tr>
</tbody>
</table>

*) other Kelly bars on request
Continuous flight auger drilling
Model BA 150

Technical data

- Drilling drive – torque: 1st gear 120 kNm
- Drilling drive – speed: 1st gear 32 rpm
- Drilling drive – torque: 2nd gear 60 kNm
- Drilling drive – speed: 2nd gear 60 rpm
- Max. drilling diameter: 800 mm

Effective length – 14.6 m

Auger with hydraulic auger cleaner

Display for continuous flight auger drilling
Twin mix equipment
Model DMA 35

Effective length – 15.2 m

Set up for operation on dams

Display for soil mixing

Technical data

<table>
<thead>
<tr>
<th>Drilling drive – torque</th>
<th>1st gear</th>
<th>35 kNm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drilling drive – speed</td>
<td>1st gear</td>
<td>60 rpm</td>
</tr>
<tr>
<td>Drilling drive – torque</td>
<td>2nd gear</td>
<td>17.5 kNm</td>
</tr>
<tr>
<td>Drilling drive – speed</td>
<td>2nd gear</td>
<td>120 rpm</td>
</tr>
</tbody>
</table>
**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.