

Press release

Knock, knock. Who's there? LRH 100.1 unplugged on first jobsite

The piling rig LRH 100.1 unplugged is one of the latest models in the electrically driven unplugged series from Liebherr. Fitted with a hammer H 6 of the latest generation, it has found its first jobsite in Sweden. The company Hercules Grundläggning AB is using this model to drive nearly 300 concrete piles into the ground and is very satisfied with the first performance.

Nenzing (Austria), 20 April 2023 – “I am retiring in two years. It is very nice to operate such a machine for the last few years.” Mats Andersson operates the piling rig LRH 100.1 unplugged on the jobsite in Karlstad, Sweden and is pleased to “avoid exhaust and noise emissions, and vibrations” with it. It is the first application and endurance test for the battery-powered piling rig from Liebherr.

A building complex with flats, offices and shops on the ground floor is being built in Karlstad. In order to transfer the load of the building into load-bearing soil layers, Hercules Grundläggning AB is driving piles into the ground with the LRH 100.1 unplugged. “We are installing 284 piles with sizes of 270 x 270 millimetres and lengths between 15 and 20 metres.”

Flexible for all piling conditions

The LRH 100.1 unplugged excels with its large working range. A radius of up to 8.7 metres has the advantage that the machine does not have to be constantly moved. The design of the leader enables inclinations of up to 18° in all directions. Furthermore, it is also possible to raise or lower the leader by 4 metres (e.g., when working in a foundation pit), which makes the machine even more flexible.

For the piling work, Hercules Grundläggning AB has equipped the LRH 100.1 unplugged with a Liebherr hammer type H 6. The hammer is modular and can be used with drop weights of between 3,000 and 6,000 kilogrammes, depending on requirements. At the jobsite in Karlstad, Mats Andersson drives the piles into the soil with a 5,000-kilogramme weight from a drop height of 40 centimetres.

“Here, we are using a free-fall hammer, i.e., it is not accelerated. We only compensate for the power loss with the cylinders. This has the advantage, especially when driving concrete piles, that these are not damaged so much as when using accelerated hammers,” explains Liebherr’s Product Manager Michael Rajek.

Depending on the length of the pile, between 800 and 1,500 strokes of the hammer are necessary for each one. In only 10 to 20 minutes, Mats Andersson can lift the pile and drive it into the soil. “The control

system is designed in such a way that the operator can now adjust the pile-driving energy and the number of strokes independently of each other, and thus ideally adapt to the conditions.”

The hammer used by Hercules belongs to the latest generation in the series. “We have more or less changed the whole architecture of the existing H 6 hammer. The new steel construction is specially designed for stiffness, longevity and for reliability.” The noise reduction on the jobsite due to the battery-powered piling rig was also continued with the new hammer. “We have a soundproofed pile helmet and pile helmet guide.” Due to the redesign of the hammer, the noise emission has been reduced by about 35 per cent.

Performance, safety and zero emission

The electro-hydraulic drive of the LRH 100.1 unplugged has the same performance specifications as the conventional version. Both are operated in the same way, which is especially convenient for machine operators if they often have to switch between machines.

The Ground Pressure Visualization of the new piling rig calculates the current ground pressure in real time and compares it with the specified safety limits of the relevant jobsite. The ground pressure is displayed in the operator’s cabin. This means the operator is permanently aware of whether the machine is situated in, or is approaching, a critical area.

One exceptional feature of the electric drive concept is Zero Emission. The unplugged machines of this series do not produce any exhaust fumes and are extremely quiet. This strikes the right note especially in noise-sensitive regions and finds favour with construction site personnel like Mats Andersson.

The battery is charged using a conventional jobsite electric supply. “That was no problem at all,” Mats Andersson is pleased to say. Operation can continue as normal while charging. In order to change to battery operation, you just need to pull out the plug, therefore: unplugged. Whether attached to the electric supply or not, the performance and range of application remains unchanged.

The film shows the first operation of the LRH 100.1 unplugged in Karlstad:

[Liebherr – LRH 100.1 unplugged in first operation - YouTube](#)

About the Liebherr Group

The Liebherr Group is a family-run technology company with a highly diversified product portfolio. The company is one of the largest construction equipment manufacturers in the world. It also provides high-quality and user-oriented products and services in a wide range of other areas. The Liebherr Group includes over 140 companies across all continents. In 2022, it employed more than 50,000 staff and achieved combined revenues of over 12.5 billion euros. Liebherr was founded in Kirchdorf an der Iller in Southern Germany in 1949. Since then, the employees have been pursuing the goal of achieving continuous technological innovation, and bringing industry-leading solutions to its customers.

Images



liebherr-lrh100.1unplugged-1.jpg

“Zero emission“ is one exceptional feature of Liebherr’s unplugged series.



liebherr-lrh100.1unplugged-2.jpg

The LRH 100.1 unplugged is installing piles with the H 6 hammer in Karlstad.

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