



Company News

Borg Havn modernises Port with all-electric Liebherr LPS 420 E

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Rostock, Germany –

To help meet its climate goals while offering multipurpose cargo handling options, Borg Havn has chosen the Liebherr LPS 420 E. The port's investment in an electric infrastructure is the ideal foundation through which the crane will operate. The crane will be delivered fully erected by ship and mounted on the quay at Øra in Fredrikstad.

Borg Havn is investing in a new all-electric harbour crane. The Liebherr portal slewing crane will be the first of its kind delivered in Norway and exceeds the average turnover of comparable electric driven cranes in the market. All crane movements like luffing, hoisting, slewing and travelling are done by electric motors. The LPS 420 E can be supplied with high or low voltage, depending on the transformer requirements. This ensures that Borg Havn can fulfil its logistical operations while greatly reducing its environmental footprint.

Paving the Way for reduced Emissions, benefitting from Years of industry Know-How



The all-electric LPS 420 E supports a more environmentally friendly infrastructure at the port, able to operate without the need for hydraulic oil or a diesel engine. (Pictures: ©Liebherr-MCCtec Rostock GmbH)

Borg Havn is a multi-purpose port which handles all types of cargo like containers, bulk, general cargo, and heavy lift. It's the third biggest container port in Norway, with 67,249 TEUs in 2021, which is an increase of 14% from 2020. The LPS 420 E will be used for all types of operation and is the first Liebherr crane at the port.

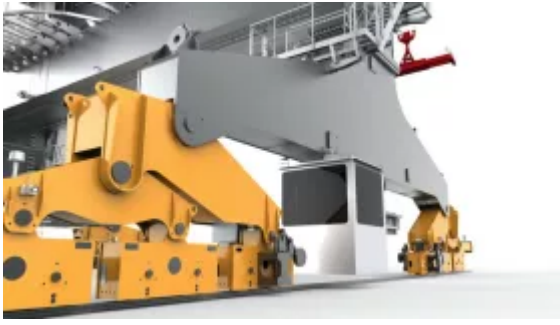
The contract for the new crane was entered into in March 2022. "This is a large investment for Borg Havn," says Port Director Tore Lundestad. "Renewing and modernizing our crane fleet in line with harbour activity is crucial to us. Among the main reasons for our investment in the LPS 420 E is its more environmentally friendly profile, which allows us to greatly reduce emissions and noise in the area."

It is estimated that as much as 7% of greenhouse gas emissions from shipping occur while the vessels are completely stationary in the harbour. Life on board also needs electricity when the vessel is docked. The ships therefore have the auxiliary engines running to keep the systems running. Whether it's light and heat or loading and unloading. The investment in shore power at the Port of Borg is an important measure to cut emissions and a contribution to reaching Fredrikstad's ambitious climate goals. Borg Havn produces its own energy from solar cells which are connected to an internal grid. The maximum output is 2 MW, which on sunny days powers all five cranes in the port with their own power in addition to shore power.

Based on the modernized electric infrastructure of the port, the LPS 420 E is equipped to provide optimal and safe operations. Thanks to the Liebherr active-front-end frequency converter, deviations in the voltage supply can be compensated easily for safe and stable operation. To accommodate potentially limited space and any harsh environmental conditions, a liquid-cooled and highly efficient performance capacitor system was implemented. This Liebherr-built component, known as LiCaTronic, has proven itself in Liebherr ship-to-shore gantry cranes and material handlers.

"We are proud to welcome to our Liebherr family such a new customer as Port of Borg. With our innovative LPS 420 E and outstanding customer service, we will support an ambitious target of Port of Borg and develop a new partnership for the future," says Roman Chopyk, Area Manager for Liebherr mobile harbour cranes.

Top Bulk Turnover and Container Handling Capabilities



Among the crane's unique features is an observer cabin attached near the tracks at the bottom of the crane. This provides another layer of supervision for additional workers to keep an eye on the crane's operations.

The LPS 420 E raises the bar in terms of electrical driven bulk handling performance. A turnover of up to 1,200 tonnes per hour allows the new Liebherr electric crane to exceed the average turnover of comparable all-electric cranes in the market. With up to 30 cycles per hour, the LPS 420 E is the perfect solution when it comes to container handling performance. The crane can be fitted with various types of fixed or telescopic spreaders on a 60-tonne load chart for twin-lift container operation. A maximum outreach of up to 48 metres allows for ships up to Panamax class size to be served. This makes the crane the ideal electrical driven solution for bulk handling – local emission-free.

The main components of the E-drive are liquid cooled and the heat is dissipated by heat exchangers. The fully closed liquid cooling system in combination with the heat exchanger are installed on top of the slewing platform. According to this, no overpressure unit is necessary to prevent dust coming inside the machinery house, which is a big benefit for cranes working in a dusty environment.

It is this overall combination of dynamic operation and environmental benefits that has made the LPS 420 E a suitable fit for Borg Havn.