

Liebherr lattice boom mobile crane hoists giant lock gates

- LG 1750 from Nolte-Autokrane works on the refurbishment of the Büsum barrage
- 90 tonne lock gates removed and reinstalled
- Machines from three divisions of the Liebherr Group involved

Ehingen / Donau (Germany), 23 August 2018 – All six gates on the barrage of the fishing and yacht dock had to be removed for the refurbishment of the dock gates in Büsum. A Liebherr LG 1750 lattice boom mobile crane had a genuine challenge on its hands, namely hoisting the 90 tonne steel gates. With a radius of 67 metres, the massive crane had to manage a gross load of over 100 tonnes.

Over the last few months the lock gates on the barrage at the dock in Büsum have been undergoing general refurbishment, some 35 years after being commissioned. Crane contractor Nolte from Hanover sent three Liebherr cranes to the site on the North Sea coast for the hoisting work involved in the process. In addition to the LG 1750 lattice boom mobile crane, an LTM 1200-5.1 was also on the site to take care of the set-up work. An MK 88 mobile construction crane was also used on the gates to complete minor hoisting work and build the so-called emergency barrier. The emergency barrier, made of steel girders and a large number of pipes, was required to seal the dry dock chamber from the sea and the dock.

Crane erection site on the dike completed in 2017

The most impressive phases of the refurbishment, however, were the hoists of the lock gates, which are as tall as houses. A site with thick concrete foundations was built for the powerful lattice boom crane last year on the sea side edge of the dike. From there, the LG 1750 had to hoist the massive gates out of their anchorings over the barrage building and place them in a frame on the bottom of the drained dock chamber for the refurbishment work. The 12 metre wide and 16 metre high gates meant a load of 101 tonnes on the hook block and lifting equipment.

To handle this load case at the enormous radius of up to 67 metres, the LG 1750 had been erected with a 49 metre lattice boom, a 56 metre luffing jib and the derrick boom. 570 tonnes of ballast provided sufficient counterweight for hoisting the steel gates.

Site manager Jürgen Peters: "The Liebherr LG 1750 was the ideal crane for this job."

The crane job on the Büsum barrage was far from routine as a result of the load case and the radius, together with the very constricted available space. "The LG 1750 was the ideal crane for this job because the slewing range for the derrick platform was very limited," explains Jürgen Peters, who planned the job and is responsible for major crane jobs at Nolte. At the beginning of June, he and his team completed the work smoothly and on schedule. Six weeks after the start of the 2.5 million euros refurbishment of the barrage, all the lock gates had been reinstalled.

There were cranes and construction machines from three divisions of the Liebherr Group in action on this site in Büsum. The mobile construction crane comes from the Liebherr Plant in Biberach/Riss in Swabia. The modern telescopic loader was manufactured in Telfs in Austria and both the LG 1750 lattice boom crane and the 200-tonne mobile crane were manufactured at the Liebherr Plant in Ehingen.

Captions

liebherr-lg-1750-nolte-buesum.jpg

Imposing power pack – the LG 1750 has the first of the six lock gates from the barrage in Büsum on its hook.

liebherr-lg-1750-nolte-buesum-outriggers.jpg

A firm base – The erection site for the lattice boom mobile crane was constructed in 2017 using auger piles.

liebherr-lg-1750-nolte-buesum-floodgate.jpg

A rare view – one of the massive gates in the pumped-out dock chamber.

liebherr-lg-1750-nolte-buesum-hammer.jpg

Flame cutters and sledgehammers – after 35 years of use, this lock gate took a great deal of work to release it from its anchoring.

liebherr-lg-1750-nolte-buesum-derrick.jpg

Counterweight – the 350 tonne ballast pallet is suspended on the derrick boom. A further 220 tonnes of steel are stacked on the slewing platform.

liebherr-lg-1750-nolte-buesum-high-pressure.jpg

High pressure cleaning – tonnes of oysters and mussels are jettied off the gates.

liebherr-lg-1750-nolte-buesum-team.jpg

Complete professionals – the team headed by Jürgen Peters (2nd from right), who is responsible for major crane jobs at Nolte-Autokrane.

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Published by

Liebherr-Werk Ehingen GmbH

Ehingen / Donau, Germany

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