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Press Information

Liebherr Container Cranes
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New STS crane concept, designed for finger pier applications.

GRUP TCB and Liebherr Container Cranes debut new double boom STS Crane concept in Aliaga Container Terminal.

Grup TCB and Liebherr Container Cranes Ltd. have created an innovative crane design tailor made for best performance from the jetty pier in Nemrut Bay/Aliaga, Turkey, where Grup TCB operates its container terminal TCEEGE. Until now, in order to service container vessels on both sides of the jetty pier, the use of mobile harbour cranes has been necessary. This requires continuous management of terminal tractor traffic and movement of the hatch-covers on the dock. This situation was far from ideal and was not optimising the operational flexibility that a finger pier provides.

The idea of a double boom ship-to-shore (STS) container crane emerged because of the need to operate simultaneously on both sides of the pier, handling two vessels at the same time while improving existing traffic flow and safety on the pier and significantly increasing the productivity rates per vessel.
The 360 metre long pier at Nemrut Bay/Aliaga will be equipped with four double boom STS cranes, two of which have recently been commissioned and installed by Liebherr. This will allow up to four cranes to work on the same vessel simultaneously, thus easily exceeding 100 moves per hour per vessel. Alternatively, two medium-sized vessels can be handled simultaneously, achieving a productivity well in excess of 50 moves per hour per vessel.

To meet these new challenges, the Liebherr double boom STS crane has been designed in such a way that it can switch from one boom to another within a few minutes. The machinery trolley and spreader rotate with the cabin, enabling the operator to directly face the vessel in operation. Moreover, the Liebherr drive system allows the STS to work on one side of the pier while having the opposite boom raised to allow berthing and unberthing on the other side of the pier.

A major advantage of working with a STS on a jetty pier is the span of 36 metres. The portal beam platform can accommodate up to three hatch-covers, leaving the entire pier unimpeded. In combination with the new terminal tractors circulation concept (two-way central circulation “pit lane” and two “pit stops” for each STS,) traffic jams will be avoided and there will be improved safety for ground personnel. The Liebherr Double boom STS cranes installed in Nemrut Bay/Aliaga have proven to be very successful.

The cranes have an outreach of 50m on either side. The pier has a rail span of 36m, which gives a total trolley travel of 136m. The lifting height of the spreader above the seaside rail is 38m and has a 15 m depth below the rail giving a total lifting height of 53m. Each crane is fitted with a pair of 400kW hoist motors, which are installed in a large machinery trolley. The machinery trolley and associated cabin is capable of turning through 180^{O} to allow operational flexibility on both sides of the finger pier. Both cranes are fitted with crane to crane and crane to ship anti-collision systems.

Speaking about the installation of the crane, Liebherr’s Managing Director, Pat O’Leary commented.

“The double boom crane design was a unique engineering project in terms of innovation and scale. Liebherr Container Cranes have manufactured the first (a smaller unit) double luffing crane in 1976 for Piombino Italy. We were able to draw on the many years experience in designing site specific and machinery house trolley cranes which helped us deliver the optimum solution for the Port of Nemrut Bay/Aliaga”

The Liebherr Double Boom Cranes are not the first Liebherr Cranes purchased by GRUB TCB for the port. They join two Liebherr Mobile Harbour cranes already at the port since 2008.