BRUKS Siwertell
BULK HANDLING & WOOD PROCESSING



SIWERTELL TERMINAL - CHINA

HIGH-CAPACITYCEMENT HANDLING AT AN EXTENDED REACH

When Bulkcem International Ltd needed an enclosed ship unloader capable of discharging cement at a high capacity, but with the ability to connect to a jetty conveyor more than 40m from the quayside; Siwertell screw-type technology proved ideal for the task.

CHALLANGE

Shekou Port, situated in Shenzhen, China's Guangdong province, is a busy transportation junction, offering connections to destinations across the Pearl River Delta.

In the early 1990s, local operator, Bulkcem International Ltd, needed a tailored solution that would not only enable the high-capacity, dust-free transfer of cement from bulkers up to 35,000 dwt, but one that could span more than 40m from the quayside.

An innovative approach was required to ensure that an extended reach, from the vessel to the jetty conveyor, would still deliver in terms of environmental protection, through-ship performance and capacity; Bruks Siwertell expertise was called upon.

SOLUTION

Bruks Siwertell delivered one of its longest-reach designs, bridging the gap between the ship unloader and the jetty conveyor, located 42.75m behind the center of the unloader. The design comprised two key approaches. In the first instance, the ship unloader was equipped with a horizontal conveyor 'tail'. With a total length of more than 100m, a completely enclosed gantry screw conveyor was used for this task. It was equipped with a flexible docking arrangement for quick connections to the jetty conveyor.

Secondly, the totally enclosed Siwertell ST 490 F-type rail-mounted ship unloader was also fitted with a reach extender on its main 19.5m beam. This was about efficiency. Because the unloading system had to be fixed to the jetty conveyor during operations, preventing long travel motions on the rails and effectively making the unloader stationary, it would have resulted in a loss of efficiency. However, to compensate for this, an extra knuckle was fitted on the vertical screw conveyor arm, offering two extra motions, pendulum and slewing, in addition to the standard motions included on all

FACTS

CATEGORIES:

- Bulk Terminal Solutions

MATERIALS:

- Cement

CUSTOMER:

Bulkcem International Ltd.

ADDITIONAL FACTS:

Ship unloader model	Siwertell ST 490-F rail-mounted
Maximum ship size	35,000 dwt
Total weight of unloader	150t
Conveying system 1	Horizontal screw conveyors HSC 800: 83.6m and 38.6m
Conveying system 2	Vertical screw conveyors SEC 501D of 26m each, parallel mounted two and two, for elevating the material 50m
Capacity	800t/h
Weight excl. counterweight	150t

LOCATION:

Shekou, China

FOR MORE INFORMATION, PLEASE CONTACT US

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Siwertell unloaders. The result was optimum reach into the ship's cargo holds and a continuous rated cement handling capacity of 800t/h.

To obtain full redundancy, four 26m vertical screw conveyors, offering a lifting height of 50m, were parallel mounted at the storage silo. This enabled the system to use both pairs or one pair at a time, depending on the unloading rate.