



White Paper

The Siwertell Bulk Discharger

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Siwertell of Bjuv, Sweden, have for several years been manufacturing ship dischargers using the principle of transmission of bulk materials by totally enclosed screw conveyors. The paper centres on the assessment of the 350 t/h screw type discharger ordered from Siwertell by the Forth Ports Authority in December 1979 and commissioned in February 1981.

This particular discharger which is the first of its type in Britain, replaces two 7.5 tonne E.L.L. grabbing cranes which fed to an underground conveyor band via surge hoppers standing at the rear of the quay. These cranes had a very limited remaining life, and the grabbing operations created a considerable amount of airborne dust which was unacceptable under the Health and Safety at Work Act.

The discharger has not been in operation for a sufficiently long period to prove its reliability but similar dischargers have proved the reliability of the design in practice elsewhere. The external contra-rotating inlet screw at the cargo intake to the vertical conveyor has successfully overcome the poor filling factor normally associated with vertical screw conveyors.

The use of hydraulic actuators for maneuvering the vertical conveyor in the ship's hold gives accurate control of the movements to the operator.