

Port Handling Equipment

Storage and Loading Systems

Excellence in Technology



ThyssenKrupp Robins



ThyssenKrupp



Above:

The Hansaport bulk handling terminal in Hamburg handles 12 million tons of coal and iron ore every year. Hourly throughputs reach 3,000 tons in ore and 2,000 tons in coal.

Top Right Insert:

Close-up of a Grab-type ship unloader in action.

Experience

Each port has its own individual site requirements, namely commodity, capacity and local regulations which dictate the type of ship loader or ship unloader to be employed. ThyssenKrupp has a wealth of experience, knowledge and references such that the equipment most appropriate for the project can be determined with the greatest of confidence.

An extremely important component of a port bulk material handling system is the electrical and automation package. By using the latest drive and state-of-the-art automation technologies, ThyssenKrupp Robins' highly skilled electrical and control engineers deliver a safe and reliable integrated system to insure the most efficient handling of materials.

Complete Handling Plants

The planning and construction of complete turnkey handling plants for port terminals calls for thorough insight into the handling characteristics of the particular material, knowledge of the processing and production technology concerned, and experience in architectural and civil engineering fields, right down to the last detail.

All technology, processes, components, machines and systems used have to match perfectly to produce the required overall efficiency and economy.

ThyssenKrupp Robins and her sister companies comprise a team of specialists with know-how and experience building and commissioning turnkey installations worldwide.

ThyssenKrupp Robins can also modernize and rehabilitate existing facilities to meet new standards of output and efficiency.

Ship Loaders and Unloaders

These centerpieces of today's modern terminals ensure accurate and reliable movement of materials.



Top Left Inset:

View of the 'L' type foot arrangement of a continuous ship unloader designed to handle a variety of commodities ranging from coal to limestone, gypsum, sand and slag.

Left :

Continuous Ship Unloader handling coal in a port in Spain. Capacity: 30,000 tons per day.

Top Right:

Radial ship loader handling concentrates. Capacity: 1,500 MTPH. Maximum ship size: 60,000 DWT.

Bottom Right:

Ship loader handling petroleum coke. Capacity: 9,000 tph, 250,000 DWT ship size.

COVER PAGE:

Large traveling ship loader . Capacity: 9,000 tph, 250,000 DWT ship size.

The two main types and two main groups:

Traveling Type

Traveling ship loaders are mounted on rails that are parallel to the ship. They are fed by a conveyor belt incorporating a tripper that travels with the ship loader. A belt conveyor is utilized on the boom and, in most instances, a shuttle head provides complete coverage of the ship's hold. The discharge spout incorporates a rotating spoon which allows the operator greater flexibility when placing the material.

Radial Type

The radial ship loader pivots at the tail end allowing the ship loader to access the entire length of the ship. Rather than incorporating a shuttle conveyor, the

entire upper structure travels on the fixed lower bridge section of the ship loader. The combination of bridge rotation and boom travel allows the operator to access all areas of the ship's hold.

Grab Type Group

The grab type unloader is the traditional method to unload a ship. It incorporates a bucket of appropriate size to satisfy the capacity. These machines travel alongside the ship. They remove the commodity and deposit it either in a hopper integral with the ship unloader or on the land behind the ship unloader. This style of ship unloader is available in any capacity up to 5,000 TPH

with payloads as great as 85 tons.

Continuous Type Group

The continuous ship unloader incorporates a chain and bucket elevator system to provide continuous unloading of the ship. The unloader travels alongside the ship and the boom slews to enable access to all areas of the ship's hold. Once the operator sets the working limits, the PLC control system unloads the hold in a smooth, dust free, and near silent operation. Capacities are lower with this type of design but can reach 2,250 TPH.

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