

BRUKS *Siwertell*

The Innovator in Bulk Handling Systems

BRUKS Siwertell is a world leading supplier with true global market coverage in dry bulk handling including Bulk Storage, Port Terminals, Conveyor Technology and Wood Processing. We offer a large portfolio of products that can be customized according to individual operating requirements with capabilities of executing large turnkey systems. In addition, our Aftermarket Sales Team offers a wide range of services to install, commission, and maintain machinery, as well as an extensive inventory of spare parts. BRUKS Siwertell is with you every step of the way.



Bulk Storage Technology

Conveyor Technology

Port Terminal Technology

BRUKS SIWERTELL GROUP

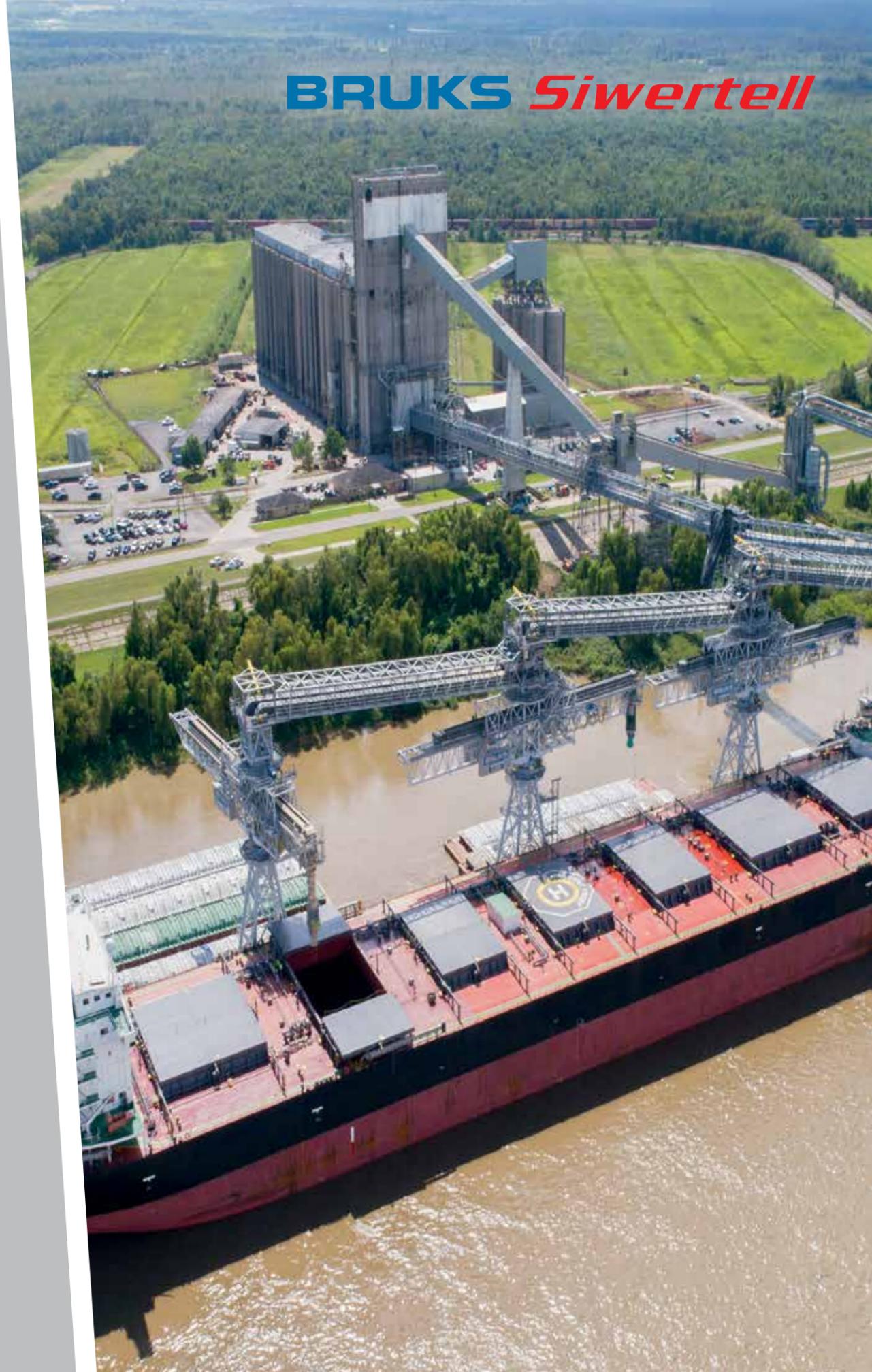
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PORT TERMINAL TECHNOLOGY SOLUTIONS





BRUKS Siwertell designed, supplied and installed three state-of-the-art pedestal mounted shutting ship loaders and conveying equipment for ADM's grain port facility in Ama, Louisiana.

BRUKS *Siwertell* The Innovator in Port Terminal Technology

Since its founding, BRUKS Siwertell has become one of the world's most respected and innovative leaders in dry bulk handling. We are experts in supplying our customers with the most comprehensive portfolio of bulk material handling products and services. Our extensive global service team provides customized solutions to meet your every need, from conception and installation through commissioning and after sales support.

BRUKS Siwertell always proposes the most economic and optimized solutions. Not all equipment available on the market is created and made equally. We believe in constructing high quality products that are built to last. Our reliable port, storage and conveying solutions provide the cleanest dry bulk handling performance available, while helping you protect the environment.

BRUKS Siwertell is leading the way in loading and unloading virtually any dry bulk material in an efficient, high performance, and environmentally safe manner. Choosing BRUKS Siwertell is not only smart - it could make a substantial difference to your bottom line.

RAIL MOUNTED SCREW UNLOADER

Offers the most efficient loading with totally enclosed screw type unloaders designed to handle all dry bulk commodities traded across the world. Unloaders are arranged in four main groups in increasing order of size. The main difference between types is in the supporting steel structure carrying the conveyors on the arm system. All systems are tailor made to suit the particular requirements of the customer and can either run on rails or be used as stationary units.

KEY FEATURES:

Vertical Arm: Discharges materials in a continuous, layer by layer operation that minimizes the risk of dust.

Counter Rotating Inlet Feeder: Enhances material flow to the vertical arm guaranteeing high and even capacity. Rate Capacities: Wide range from 200t/h to very high rate of more than 3,000t/h.

Safe Handling: Causing little or no cargo degradation.



MOBILE UNLOADER

Offers three sizes of mobile unloaders – 5,000, 10,000 and 15,000. These versatile machines are the ideal solution for operators looking for flexible, reliable and efficient unloading solutions for smaller vessels and barges.

KEY FEATURES:

Flexibility: Discharge directly into trucks, rail wagons, belt conveyors, air slides and more.

Moveable: The unloader is mounted on road legal semi trailer, allowing it to be used in multiple locations.

Clean, Continuous Operations: Fully enclosed screw technology ensuring extremely clean transfer of cement and other powdery materials from the ship to the storage facility.



PNEUMATIC CONTINUOUS SHIP UNLOADER

BRUKS Genma Gpu800-600 Series with capacity from 80-600t/h(single pipe), can be customized by specific conditions. Self-developed multi-stage turbo blower system, more efficient and energy-saving.

KEY FEATURES:

Three Installations: Rail, fixed and steerable rubber tires (pulled or self propelled).

Applicable for Various Cargo: Different kinds of grain, cement, mineral powder, clinker, sulfur, aluminum, soda ash salt, fertilizer, petrol coke etc.

Intelligent: Automatic air flow speed adjustment leads to the optimal conveying speed. Full automatic control, real time and visible monitoring.

Safety: Consideration of the ATEX regulation.

Pro-Environment & Protect Your Cargo: No limitation to bad climatic conditions.



BUCKET CHAIN SHIP UNLOADER

BRUKS Genma is suitable for coal, mineral, grain and other bulk materials. The efficient operation speeds up the turnover of the vessels and lower the unloading cost.

KEY FEATURES:

High Efficiency: The average working performance as high as 65%. The auxiliary work supported by push rake machine accounts for only 10% total.

Environmental & Energy Saving: Enclosed conveying, no risk of material leak or loses nor dust blowing. Stable operations, without frequent starting, braking, accelerating and decelerating with less energy consumption.

Low Relative Investment: The material flowing is stable and unnecessary to increase the belt conveyor's capacity. Low wheel pressure, which will lower the requirements of the port construction.



STATIONARY SHIP LOADER

Stationary Ship Loader design offers cost efficient solutions with limited foundation requirements. It can be solitary units that can reach three or more holds from a single vessel set position on the dock, to an array of two or three ship loaders connected by transfer conveyors to provide continuous, high capacity loading into several holds at one time. Our sophisticated material handling controls allow grain to be loaded at 2,000 tons per hour in three ship loaders at one time, reducing the loading time for even Panamax vessels to 36 hours.

KEY FEATURES:

Loading Efficiency: Can accommodate slewing shuttling and/or luffing features to optimize loading efficiency.

Capacity: Multiple designs are available for a variety of materials and capacities.

Operational Benefits: Simplifies feed conveyor requirements. Can be equipped with enclosed conveyors to reduce dust and noise emissions. Optional loading spout designs are available.

BRUKS Siwertell offers a wide variety of ship loaders designed for every bulk material loading application. We use stationary and traveling designs that incorporate loading boom configurations that luff, shuttle, and slew to access holds on barges, Handymax, Panamax, Supramax and Capesize vessels. Telescopic tubular and cascading chutes are used to contain the cargoes being loaded, and to provide a safe and dust-free environment.

Ship loading of bulk materials including coal, wood chips, pellets, various minerals, grain, and any powder or granular material requires specific attention to the specialized natures of the materials being moved. BRUKS Siwertell ship loaders are custom designed for every installation.

More than dust control, the process of ship loading requires that the cargoes are kept dry and protected from rain and wind. BRUKS Siwertell uses a variety of methods, including standard conveyor covers, but also telescopic covers on shuttling designs. These covers move with the shuttling boom inside the supporting truss, preventing rain or wind to gain access to sensitive cargoes like wood pellets and soda ash, which are both badly degraded when wet.

Many combinations of slewing, shuttling, luffing, and traveling have been used depending on the site conditions, dock arrangement, and project requirements. Contact BRUKS Siwertell for a consultation for your project. We have a design that is just right for you.

TRAVELING SHIP LOADER

Traveling ship loaders are preferred when vessel movement needs to be kept to a minimum. In these designs typically the traveling gantry will engage a dock conveyor using a tripper, passing the cargo onto the tail section of the loading boom. This boom generally shuttles in and out from the dock's edge, dropping a telescopic chute into the hold of the ship. Since the gantry moves along the dock, the chute can be located in any position relative to the various holds without having to move the vessel. Slewing is not necessary in this design. The ship loader loading capacity can be as high as practical, reducing loading time.

KEY FEATURES:

Loading Efficiency: Can be equipped with slewing, luffing and shuttling options to optimize loading efficiency.

Operational Benefits: Allows the vessel to remain fixed in location thus reducing overall dock space requirements. Balanced loading can be achieved quickly by moving the loader rather than the ship. Optional loading spout designs are available.

Capacity: Multiple designs are available for a variety of materials and capacities.



MOBILE HOPPER

BRUKS Genma's mobile environmental hopper is different from the common hopper with its environmental protection, safe, and flexible features.

KEY FEATURES:

Nearly Dust Free & Low Noise:

Enclosed conveying with no risk of material damage, contamination, or dust blowing. Equipped with related noise and vibration reduction solutions.

Flexibility: Various power supply options and with ample access for operations.

Safety: Includes bumper bar, hydraulic lifting, grab positioning systems, monitoring and alarm systems.

MOBILE HARBOR CRANE

BRUKS Genma's Harbor Cranes are mainly used for bulk, break-bulk and container cargo's loading and unloading. Multi-functional operations with hook, grab, and head-block. Type of GHC50-210, the maximum capacity ranging from 50-210t.

KEY FEATURES:

Undercarriages: Three options to meet specific needs.

Safety: Intelligent safety controls optimize structure can reduce the wind load while the tower can lower to the ground under extreme weather to ensure safe operations.

User Friendly Design: Provides easy access to operation and maintenance.

THE BELT CONVEYOR

BRUKS Siwertell introduces a new innovative fully enclosed covered conveyor design called The Belt Conveyor,™ a system composed of a standard belt supported on a bed of pressurized air over a formed steel trough. This innovative design eliminates the safety and environmental issues caused by dust and mitigates house keeping that is commonly generated by other conveyor designs. Visit www.thebeltconveyor.com for more information.

KEY FEATURES:

Environmental: Produces low noise, controls dust, no spillage and reduces rain contamination.

Operating Advantages: Handles all bulk Materials with no belt alignment. It also can handle higher allowable belt speeds and with steeper conveying angles.

Safety Advantages: No nip points or rollers which means reduced fire danger and access required.

Installation Advantages: No belt training. Can have long spans up to 250 ft with less number of support bents.

IDLER CONVEYOR

BRUKS Siwertell is a designer and supplier of all belt conveyors including the Idler type for any bulk handling materials. Founded in 1897, we have supplied thousands of conveyors throughout the world including individual conveyors as well as complete systems from conception to commissioning.

KEY FEATURES:

Low Operating Cost: Very economical way to move bulk material with easy maintenance.

High and Long: Wide range of belt widths most common are 18-72 inches.

Installation: Overland and horizontal curved applications are easily achievable.



RECEIVING



Truck rail and barge unloading system



CONVEYING



Various designs including Idler, Air and Drag chain for transporting to storage



STORAGE



Linear and circular systems for large capacity. Open and closed storage applications



STORAGE



Process storage solutions



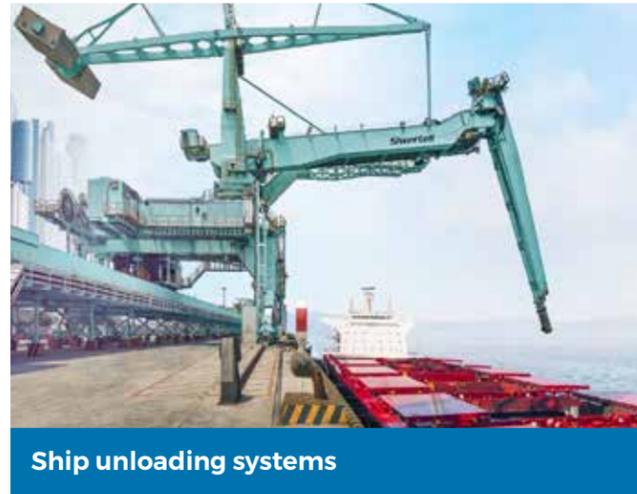
CONVEYING



Conveyor systems delivering material to process storage



SHIP UNLOADING



Ship unloading systems



SHIP LOADERS



Ship loading systems