



ASTEC
BULK HANDLING SOLUTIONS



GLOBAL SUCCESS: OUR CASE STUDIES

Rail Mounted Barge Loading in a Grain Application

Astec Bulk Handling Solutions

Astec Bulk Handling Solutions continues to excel in providing customized bulk material handling solutions to its wide customer base. The company offers the Ship and Barge loading/unloading industry the most innovative and customized mobile bulk handling systems on the world market today. Astec Bulk Handling Solutions (ABHS) draws upon existing experience, proven engineering designs and manufacturing footprints from Astec companies around the world to deliver what our customers are asking for: A single source for customized bulk handling solutions. Here is another case study from one of our Global customers:

The Key Facts:

| | |
|--------------------------|--|
| Country / Region: | Ukraine – 4 x Different sites |
| Product: | Rail Mounted Parallel Travel / Radial Telescopic Barge Loader |
| Application: | Mobile telescopic conveyor barge loading from over-head conveyor |
| Material Type: | Grain |
| Max Lump Size: | 0 - 1½" @ 45 PCF |

“Our innovative mobile barge loaders form an integral part of the largest transshipment terminals in Ukraine”

The first of four innovative and unique grain handling mobile barge loaders has recently been installed to form an integral part of the largest transshipment terminal in Ukraine. On a single mobile chassis each unit utilizes several key functions including, rail mounted parallel travel, radial slewing, luffing, telescopic and dust extraction features.



Rail mounted telescopic barge loader loading grain at 250 TPH



Rail mounted telescopic waiting for next barge



Unrivalled Site Mobility and Flexibility

The barge loader is fed from an overhead conveyor system with fixed discharge points. This system is fed directly from the grain silos onto the overhead conveyor. The telescopic barge loader receives grain from these fixed points, where it then loads 3,000 - 5,000 DWT barges at throughputs up to 250 TPH.

The barge loader is installed with electrically driven rail bogie units, which are used to move the unit parallel to the barge to the fixed feeding points from the overhead conveyor. The entire unit moves smoothly down the quayside to each fixed feeding point, which is controlled from the central control panel (optional remote control available) and ensures relocation times are minimized to enhance production rates. As the unit is installed on the rails only one person is required to operate the machinery during the entire loading process, with all control / monitoring signals integrated into the HMI control panel mounted on the barge loader.

Complete Radial Trimming of the Hold

The most distinctive feature of this unit is the ability to move from parallel travel to radial travel at the fixed discharge points along the overhead feeding conveyor. This is achieved by the hydraulic jacking legs which lift the machine from the front rail (closest to the barge) and lower the unit to the hydraulically driven radial wheels. This feature allows for complete radial trimming of the hold of the barge / vessel. The radial feature also enhances production rates, as it allows the operator to load a larger area of the barge from the single feed-in point, which minimizes the number of relocations required and ensures the barge can be easily balanced during the loading process.

Once the loading sequence is complete, the machine is lifted (via the hydraulic jacking legs) back onto the rail and moved parallel to the barge to the next loading point. This method ensures an efficient loading cycle whilst trimming the entire hold of the barge/vessel without the barge needing to move.

The telescopic feature also adds further operational flexibility during the loading process, as it allows the operator to load (in conjunction with the radial function) the full width of the hold from the fixed feed-in points. This process is replicated over the four holds to ensure that the barge is loaded evenly. The combination of these features ensures the operator has maximum flexibility / productivity for an efficient and effective loading cycle.



**Mobile barge loader loading barges
directly from grain silos**

Integrated Dust Suppression and Extraction Techniques

A major consideration when handling grain materials is the quantity of dust emitted when the material moves through different transfer points. This was a key consideration identified by the customer. Astec Bulk Handling Solutions custom designed the dust suppression / extraction features to meet the needs of the application. This included the design of the hydraulically raising transfer chute which connects to the overhead conveyor eliminating dust emissions and spillage at the feed-in point. This allows the operator to move parallel to each fixed discharge point and reconnect this chute with ease, confident that no material / dust is escaping from the transfer point. This is further enhanced by the completely sealed hopper and integrated primary and secondary skirting.

The outer conveyor and innovative retractable inner conveyor dust covers on the barge loader ensure that dust is contained when material is on the belt. This feature protects the material from the rain and wind and ensures the quality of material is maintained. This is further enhanced by the 30' long telescopic free fall chute with integrated dust extraction, which extracts airborne dust as the material is fed into the barge / vessel.



Innovative Custom Engineering

Astec Bulk Handling Solutions works closely with customers from the earliest stages of the sales process to ensure that the client's needs are met. Our technical sales team will attend and assess the site to ensure that the client receives a solution that fully integrates into their infrastructure, and will work with the client to ensure the equipment complies with all applicable local laws and standards, whilst still providing the optimum solution in terms of flexibility, efficiency and production. ABHS achieve this by treating each project as a unique one, engineering our equipment around the specific application with customized designs where necessary, and designing the ultimate solution for the job. We are driven by satisfying the customer's project requirements, using our extensive operational and technical experience and knowledge in this industry.

Other Bargeloading and Unloading Products

Astec Bulk Handling Solutions design and install mobile bulk material handling products for the Inland Terminals industry to handle grain, fertilizer, biomass, iron ore, coal etc. These solutions can be customized to suit each individual application.

These products include truck unloaders, barge loaders and unloaders, radial telescopic barge loaders, hopper feeders and stacking conveyors.

ABHS Promise to You

As part of Astec Industries, Astec Bulk Handling Solutions (ABHS) share their commitment to "grow and prosper by designing, manufacturing and selling the most innovative, productive and reliable equipment for the industries we serve, coupled with unparalleled customer service."

We have a portfolio of global reference sites and customize each project to your exacting needs. We see the benefits in getting involved from the earliest stages of a project and customers can benefit from our application and industry experience.

To discuss your project, please contact a sales representative on 541-735-0748 or email sales@astecbulk.com.



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ABHS Aftersales

Astec Bulk Handling Solutions is part of the Astec Industries family of companies. Astec Industries, a NASDAQ listed US Corporation based in Chattanooga, Tennessee, has a turnover of \$1 billion. Being part of the Astec Industries family of Companies insure that ABHS delivers around the clock service, around the world.

Astec Bulk Handling Solutions will continue to strive for new ways and better solutions. We look forward to serving our customers of today and tomorrow with innovative products and excellent service. We are committed to you and your business.



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American Company