Shiploaders
All on board – the smart way
Perpetually in motion for maximum efficiency

Shiploaders for all locations, goods and capacity requirements: As one of the world’s leading suppliers of shiploaders, thyssenkrupp Industrial Solutions offers a wide range of tailored solutions to meet your every need – and cost-effectiveness, reliability and eco-friendliness are part of the package, too.

Nowadays, port operators face a multitude of challenges: ever-increasing import volumes and ever-higher handling rates coupled with the demand for significant capacity increases and the cost-effective optimization of port operations call for state-of-the-art, reliable and efficient technology. thyssenkrupp Industrial Solutions delivers solutions that allow these challenges to be met: Our decades of experience in the development, design and maintenance of shiploaders in the tradition of PWH Anlagen & Systeme combines with maximum engineering competence and strict consideration of even the most demanding customer requirements.

For all materials and locations
thyssenkrupp Industrial Solutions has so far successfully commissioned more than 160 shiploaders, 55 of these in the past 15 years alone. They meet all specific requirements in full – be it for loading deep-sea or coastal vessels, whether for handling coal, ore, bauxite, alumina, fertilizers, phosphates, sulfur or other goods.

Proven technology tailored to your needs
thyssenkrupp Industrial Solutions offers an opportunity to refine proven technologies and tailor them to your capacity requirements and intended use – regardless of whether you require a long traveling shiploader with a slewing or luffing boom, a radial shiploader with a fixed pivot point and radial track, a slewable shiploader or a combined shiploader/stacker.

A tradition of innovation
thyssenkrupp Industrial Solutions has fully integrated the know-how of the former PWH Anlagen & Systeme, a company which has a history that stretches back over a century and is known throughout the world for excellent shiploader solutions.

This tradition, combined with consistent innovative strength, ensures that under the name of thyssenkrupp our proven shiploaders will continue to set standards in terms of quality and cost-effectiveness. All types of shiploader have already been built many times in the company’s history. This plethora of experience guarantees the ideal solution for all your needs.
Traveling shiploaders with slewing booms are particularly suited to shorter quay lengths. By luffing, and with certain types telescoping, the boom, they optimally adapt to a ship’s size and loading process. A particular advantage of this type of shiploader is that it is possible to load ships on both sides of a finger pier.

**Slewing Shiploader | C-Frame**

- Luffing by rope winch, loading chute with fixed length
- Combined for bulk and bags

**Shiploaders**

<table>
<thead>
<tr>
<th>Location</th>
<th>PIC Kuwait, Kuwait</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>Urea, ammonium sulfate</td>
</tr>
<tr>
<td>Capacity</td>
<td>Bulk – 500 t/h Bags – 2,400 bags/h</td>
</tr>
<tr>
<td>Ship size</td>
<td>40,000 DWT</td>
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<table>
<thead>
<tr>
<th>Location</th>
<th>Tuapse, Russia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>Fertilizer</td>
</tr>
<tr>
<td>Capacity</td>
<td>1,700 t/h</td>
</tr>
<tr>
<td>Ship size</td>
<td>max. 52,000 DWT</td>
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</table>

<table>
<thead>
<tr>
<th>Location</th>
<th>Pilbara, Australia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>Iron ore</td>
</tr>
<tr>
<td>Capacity</td>
<td>max. 15,000 t/h</td>
</tr>
<tr>
<td>Ship size</td>
<td>270,000 DWT</td>
</tr>
</tbody>
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<table>
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<tr>
<th>Location</th>
<th>Qinhuangdao, China</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>Coal</td>
</tr>
<tr>
<td>Capacity</td>
<td>max. 9,200 t/h</td>
</tr>
<tr>
<td>Ship size</td>
<td>max. 150,000 DWT</td>
</tr>
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**Slewing Shiploader | Stacker Type**

- Luffing by hydraulic cylinder, telescopic loading chute
- Hydraulically operated deflector plate at boom end

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**Slewing Shiploader | with shuttle head**

- Luffing by hydraulic cylinder, shuttling by rack and pinion drive, loading spout with rotating and tilting trimming spoon

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<tr>
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These shiploaders with a luffing telescopic boom are particularly easy to operate as they can be adjusted to the size of the ship and loading operation without further inevitable combined movements.

Curved boom with shuttle head underneath driven by chains, loading spout with rotating and tilting trimming spoon

Long traveling with luffing and shuttling boom

- Location: Laxt California, USA
- Material: Coal and petroleum coke
- Capacity: 9,000 t/h
- Ship size: max. 250,000 DWT

Straight boom with telescopic shuttle head inside driven by rack and pinion, loading spout with rotating and tilting trimming spoon

Long traveling with luffing and shuttling boom

- Location: Kooragang, Australia
- Material: Coal
- Capacity: 10,500 t/h
- Ship size: max. 180,000 DWT

Straight boom with fixed length at an upper carriage moving on a portal bridge, loading spout with rotating and tilting trimming spoon

Long traveling with luffing boom and upper carriage

- Location: Tianjin Port, China
- Material: Coal
- Capacity: 6,700 t/h
- Ship size: max. 200,000 DWT
Radial shiploaders

Shiploaders with fixed pivot points and radial tracks are used when the water near the shore is too shallow as these shiploaders can be erected offshore.

Loading spout with rotating and tilting trimming spoon

Twin radial shiploader

Linear shiploaders

Shiploaders with fixed pivot points and linear tracks are used when the water near the shore is too shallow and there is very little space for the tracks.

Travel gear with slew bearing

Loading spout with rotating and tilting trimming spoon

Radial traveling with luffing and traversing boom

Location: KPC Alpha, Indonesia
Material: Coal
Capacity: 8,000 t/h each (after refurbishment by thyssenkrupp)
Ship size: 180,000 DWT

Loading spout with rotating and tilting trimming spoon

Radial traveling with luffing and traversing boom

Location: PCT, Vancouver, Canada
Material: Sulphur
Capacity: 5,000 t/h
Ship size: 60,000 DWT

Travel gear with slew bearing

Linear traveling with luffing and traversing boom

Location: Maraven, Venezuela
Material: Coke
Capacity: 2,000 t/h
Ship size: 60,000 DWT

Travel gear with slew bearing

Linear traveling with luffing and traversing boom

Location: LKAB Narvik, Norway
Material: Iron ore/iron ore pellets
Capacity: 11,000 t/h
Ship size: max. 180,000 DWT
Stationary shiploaders

These shiploaders have a fixed pivot point as well as a luffing telescopic boom, thus requiring no tracks.

- Luffing by hydraulic cylinder, shuttling by chain drive, deflector plate at boom end

Stationary with slewing, luffing and shuttling boom

- Location: Norsk Stein, Norway
- Material: Granite
- Capacity: 3,000 t/h
- Ship size: 40,000 DWT

- Luffing by hydraulic cylinder, shuttling by chain drive, loading spout with rotating and tilting trimming spoon

Stationary with slewing, luffing and shuttling boom

- Location: Alumbrera, Argentina
- Material: Copper and gold concentrate
- Capacity: 1,400 t/h
- Ship size: 60,000 DWT

Shiploaders for bags

This type of shiploader is available as either a slewing or a coordinate shiploader. Packaged goods, such as sacks or boxes, are loaded continuously and quickly into a precise position via a spiral chute.

- Roller conveyor with telescopic and rotating motion
- Combined for bulk and bags

Coordinate shiploader with spiral chute distribution

- Location: Copersucar, Brazil
- Material: Sugar
- Capacity: Bulk – 1,000 t/h, Bags – 3,000 bags/h
- Ship size: 30,000 DWT

- Roller conveyor with telescopic and rotating motion
- Combined for bulk and bags

Slowing shiploader with spiral chute distribution

- Location: Ravenna, Italy
- Material: Rice
- Capacity: Bulk – 750 t/h, Bags – 1,500 bags/h
- Ship size: 10,000 DWT

- Roller conveyor with telescopic and rotating motion
- Combined for bulk and bags

- Roller conveyor with telescopic and rotating motion
- Combined for bulk and bags
Our features – your added value

Contemporary, sophisticated features make our shiploaders eco-friendly and ensure both reliable and user-friendly operation that avoids downtime and facilitates day-to-day processes.

Environmental design
To meet today’s environmental requirements, thyssenkrupp Industrial Solutions shiploaders are equipped with all necessary precautionary equipment and systems to minimize the impact of noise, dust emissions, etc. on the surroundings. To reduce dust emissions and avoid any leakage of material, if required and specified, our shiploaders have a covered boom and discharge chute which directly load the material into the hatches.

Automation
thyssenkrupp Industrial Solutions shiploaders have an integrated modern drive and operational safety control via a PLC system. Operation can thus be controlled via the operator’s panel in the operator’s cabin. The high degree of automation and operational safety combined with the operational assistance provided by the operator’s screen enable the operating staff to operate the machine in an easy and effective manner.

Maintenance assistant system
As a maintenance support tool, the maintenance assistant system helps maintenance personnel to ensure that maintenance takes place at regular intervals. Every time maintenance activities are completed, they are recorded and documented in the logbook of the system. By adhering to the preset maintenance schedule, operators can avoid expensive repairs due to a lack of maintenance and ensure minimum downtimes.

“Plug and play” – turnkey delivery

Through the turnkey delivery of tested, preassembled shiploaders, thyssenkrupp Industrial Solutions supplies shiploaders that can be used on the pier to create immediate economic benefit with minimum downtime.

The advantages of a turnkey delivery are:
• Easy erection on the pier irrespective of the size and type of the pier itself (e.g. finger pier).
• As the shiploaders have already been pre-commissioned, any adjustments that may be required can be easily done on the erection site.
• Downtime on the pier is minimized, also when replacing an existing shiploader.
• There is more time for pier construction as the shiploaders do not need to be preassembled on the pier.
Comprehensive service throughout the life cycle of your plant

With thyssenkrupp Industrial Solutions you can count on cost efficiency right from the start: Through the turnkey delivery of tested, preassembled shiploaders, we ensure that downtime on the pier is kept to a minimum. And even after commissioning, we remain a partner you can trust for all your needs.

*Always there when you need us*
Our portfolio includes a full range of services for your shiploaders – throughout their entire life cycle. thyssenkrupp Industrial Solutions provides its customers all over the world with a reliable and extensive customer service. The scope of customer services ranges from maintenance and engineering support, advisory services and spare parts trainings for operation and maintenance to plant optimization, repair and refurbishment. On top of this, thyssenkrupp Industrial Solutions offers a range of tailor-made services to meet the requirements of today’s customers.