Mechanical Ship Unloaders from Buhler.

Portalino. Portalink.
Portalino and Portalink. 
Efficient and reliable operation.

Future-oriented investment
Buhler Portalino and Portalink are continuous mechanical ship unloaders designed for reliable and efficient unloading of grain, oilseeds and derivatives. Depending on the specific flow characteristics of the bulk material, maximum unloading throughput rates of up to approx. 1400 t/h can be achieved. Portalino and Portalink are characterized by their high flexibility and uptime, as well as by their outstanding cost-to-benefit ratio.

Design and application
Portalino and Portalink can be mobile or stationary ship unloaders powered by diesel engines or electric motors. They are preferably applied to ship sizes of 3000 to 120,000 DWT (dead weight tons). Designs are available for travel on rail tracks or have rubber-tired wheels that can be steered.

The unloaded bulk material is transferred downstream to conveying systems or directly into road or rail vehicles.

Your advantages at a glance.
- Low operating costs
- Efficient unloading
- Very high uptime
- High operating reliability
- Easy maintenance, long service life
- Gentle materials conveying
Portalink 800, South Africa.
Portalino and Portalink.
Customer value as a top priority.

Efficient unloading
The automatic sink-in mechanism of the HL-SKT marine leg (vertical chain elevator) allows optimal positioning of the unloader boot in the bulk material and thus automatic unloading to the maximum depth of material inside the ship’s hold.

The unit can perform the following movements:
- Ship unloader travel
- Lifting, lowering and swiveling of the boom
- Kick-in/kick-out of the marine leg

These movements provide flexibility inside the ship’s hold. This enables higher unloading throughput rates and reduced berthing times.

High uptime and reliability
- Reliable operation even when material characteristics vary
- Low sensitivity to foreign objects
- Fast chain link changes
- Easy operation
- Proven technology

Low operating costs
- Low conveyor chain speeds
- Low energy consumption
- Low wear
- Reduced spare parts requirements
- Long service life, in particular long life cycle of the durable conveyor chains
Portalino and Portalink.
Successful, mature technology.

Operating principle and main elements
The intake boot of the marine leg (vertical chain conveyor) sinks into the bulk material to be unloaded. The specially designed endless conveyor chain picks up the material and forms a compact column of material inside the conveying casing, which moves continuously at a uniform speed to the outlet. From here, the material is directed by additional chain conveyors to the truck loading point or the pier conveyor.

The ship unloader consists of a gantry construction on which the swiveling top section with trussed boom and kick-in/kick-out system are mounted. The kick cylinder is attached to the boom and moves the HL-SKT marine leg to an inclined position of up to ±30°. The boom is lifted and lowered through hydraulically controlled cylinders. The swiveling motions are also carried out through a hydraulically powered swiveling gear.

All motions are protected by overload valves. The built-in proportional control valves ensure gentle and continuously (infinitely) variable movements.

The control system is equipped with PLC elements. A display shows the operating conditions, error messages, and the preventative maintenance program.

Gentle conveying of the bulk material
A compact column of bulk material inside the casing of the marine leg is moved at a uniform low speed, ensuring gentle conveying action. In addition, this also reduces the energy consumption and wear.
Loosening screws
When handling sluggish materials or products compacted during shipping such as soy or fishmeal, animal feeds, or biomass, the unloader can be optionally equipped with loosening screws. They loosen the material around the intake boot and facilitate its flow towards the chain conveyor. This increases the throughput rate and simplifies the unloading operation.

Clean-up screws
During clean-up of the remainder of material inside the ship’s hold at the end of the ship unloading cycle, the ship unloader no longer operates at its full throughput capacity. Efficient clean-up is therefore all the more important in order to achieve short unloading times. The Buhler clean-up screws feed the bulk material to the marine leg and clear the ship’s hold. This reduces the unloading time and simplifies clean-up.

Optimal unloading with software support
The software application shows the optimal unloading processes in a system. Existing terminals can improve their unloading times by determining the best possible hold unloading sequences, giving consideration to the ship’s inclination and the existing unloading equipment. The traveling distances of unloaders are optimized and their throughput capacities are when possible utilized to the full. In new terminals, it is possible to clearly show the influence of different system layouts and individual machine throughputs. The terminal can be exactly tailored to the existing requirements.

Portablade
The Portablade clearing shovel creates clear space for clean-up front-end loaders and similar tools inside the ship’s hold. A hydraulic system moves the shovel to the clean-up position. Then the operator can clear part of the bottom of the ship’s hold and lower the front-end loader into the hold.
Portalino and Portalink.  
High-capacity and gentle conveying.

<table>
<thead>
<tr>
<th>Size</th>
<th>Portalino 300</th>
<th>Portalink 400</th>
<th>Portalink 600</th>
<th>Portalink 800</th>
<th>Portalink 1100</th>
<th>Portalink 1300</th>
</tr>
</thead>
<tbody>
<tr>
<td>Throughput (t/h)*</td>
<td>300</td>
<td>400</td>
<td>600</td>
<td>800</td>
<td>1100</td>
<td>1300</td>
</tr>
<tr>
<td>Typical ship sizes (DWT)</td>
<td>approx. 3,000 to 30,000</td>
<td>approx. 3,000 to 60,000</td>
<td>approx. 10,000 to 120,000</td>
<td>approx. 10,000 to 120,000</td>
<td>approx. 10,000 to 120,000</td>
<td>approx. 10,000 to 120,000</td>
</tr>
<tr>
<td>Boom length (m)</td>
<td>20</td>
<td>25</td>
<td>25/27/32</td>
<td>27/32</td>
<td>27/32</td>
<td>27/32</td>
</tr>
<tr>
<td>Traveling gear</td>
<td>Rails (R) Tires (T)</td>
<td>Rails (R) Tires (T)</td>
<td>Rails (R) Tires (T)</td>
<td>Rails (R)</td>
<td>Rails (R)</td>
<td>Rails (R)</td>
</tr>
<tr>
<td>Energy supply</td>
<td>Electricity through cable Diesel genset</td>
<td>Electricity through cable Diesel genset</td>
<td>Electricity through cable Diesel genset</td>
<td>Electricity through cable</td>
<td>Electricity through cable</td>
<td>Electricity through cable</td>
</tr>
<tr>
<td>Winch for feed equipment (t)</td>
<td>3.5 – 7.0</td>
<td>7.0</td>
<td>10.0 – 15.0</td>
<td>10.0 – 15.0</td>
<td>15.0</td>
<td>15.0</td>
</tr>
</tbody>
</table>

* Rated throughput rate relative to wheat with a bulk density of 0.75 t/m³. Maximum throughputs as a function of the specific application may be up to 10% higher than rated throughput.

Portalino Combi, Sri Lanka.

Data and images in the pamphlet
The images shown may include accessories and special equipment that are not part of the standard scope of supply. Your Buhler partner will be pleased to inform you about all equipment details. Data and information are based on the Buhler standard design version without options. Options may influence the specifications. Design and equipment subject to change without notice.