

Industrial Solutions for the mining and materials handling industry



thyssenkrupp

Continuous Ship Unloader



High efficiency, environment protected ship unloading

1,800 t/h max. unloading capacity

Continuous Ship Unloaders for Coal. Shanwei and Huilai Power Plant, China

In 2004, thyssenkrupp Industrial Solutions AG received orders for design, supply and construction of in total 4 high capacity continuous ship unloaders from Guangdong Yudean Group, China, for their Shanwei and Huilai Power Plants in Guangdong, province of China.

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Continuous Ship Unloader

New Technology for Ship Unloading

The CSU's are designed to unload ships ranging from 35,000 to 150,000 DWT at the design unloading rate of 1,500 t/h. The design was made in Germany and all key mechanical, hydraulic and electrical equipment was supplied from thyssenkrupp.



CSU fully assembled in the workshop on the way to final destination

Steel structures were fabricated and assembled in the workshop near the power plants as a single unit and delivered to the power plant by Ro-Ro transport, so that the construction time on site could be kept to a minimum. Further the pier can be built parallel to the ship unloader

Modern drive systems are adopted in the new design of the CSU. The bucket elevator drives are AC motor type with frequency converter for effective digging and conveying.

Hydraulic drives are used for the slewing gear of the boom for a precision and low-speed-high-torque motion, which is necessary for the realization of automatic unloading procedures.

Provision of emergency drive via diesel motor is made for the slewing and luffing gear in case of failure of main power supply from the power plant.

Technical Specification

General data

Design/Type:	Continuous ship unloader with chain bucket elevator
Unloading capacities:	rated 1,500 t/h max. 1,800 t/h
Materials:	Coal, 0.8 - 1.0 t/m ³
Ship size:	35,000 - 150,000 dwt
Rail Gauge:	22 m
Power installed:	1,200 kW



Coal discharge under the portal in fully enclosed conveyor

Especially engineered discharge facility to the down stream conveyor makes it possible, that the transfer point and the whole jetty conveyor are fully enclosed by side walls and belt cover so that no dust emission occurs.

Advanced Development for Continuous Ship Unloader

With developments carried out to the bucket elevator foot adjustment and shape by thyssenkrupp Industrial Solutions, the operator can easily follow the movements of the unloaded material, as well as those of the ship and can make any necessary adjustments quickly and in a controlled manner.



Digging foot in reclaiming operation

Tailor-made control system and software for manual and automatic operation control under different conditions have been developed for the CSU with the specific aim of automating unloading procedures. Computer Aided Unloading Control will be used when unloading a single ship hold.

Contact

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