



Giant | Despite its huge size, the crusher is flexible and mobile. Photos: ThyssenKrupp Fördertechnik

FULLY MOBILE CRAWLER-MOUNTED CRUSHER FOR LARGE OPEN-PIT MINING OPERATIONS

Success through innovation

“The huge demand for this system from mine operators all over the world shows that our innovation has been accepted and is now seen as the state of the art.”

When Ulrich Mentges starts eulogizing, he’s usually talking about the “fully mobile crawler-mounted crusher”. He works for ThyssenKrupp Fördertechnik and is responsible for engineering and general sizing of plants for this project.

A plant with a future

Engineers from ThyssenKrupp Fördertechnik started development work on the “fully mobile crawler-mounted crusher for large open-pit mining operations” in 2006.

“The aim was to design a plant with strong future potential which operates continuously and delivers high performance while offering significant cost advantages to customers,” explains Mentges.



Team | Slobodan Stupar, Frank Seehöfer, Frank A. Schneider, Dr. Hans-Jürgen Kaiser, Ulrich Mentges, Stephen Harrington, Martina Shehata (from left).
 Photo: ThyssenKrupp Fördertechnik



The team developed a fully mobile crusher which is mounted on a crawler assembly. Thanks to the design of the support structure, the plants – which can weigh in excess of 1,000 tons – can operate without the need for any additional support.

“They can be used in all large open-pit mining operations where the materials allow the use of a crusher,” says Mentges.

The mined materials are reduced directly on site and fed to a continuous conveyor system, dispensing with the otherwise customary truck haulage. A crusher-conveyor system can now be controlled and monitored by three to four people per shift, whereas truck operations need a large number of drivers.

Savings and improvements

“Due to the huge demand for raw materials on the Chinese market, a first fully mobile crusher system was put into operation in the YiminHe open-pit coal mine in 2007,” reports Ulrich Mentges. The crusher has an hourly capacity of 3,500 tons and is powered by electricity. Compared with truck operations, CO₂

emissions are reduced by an average 100,000 tons per year. Further important savings are made on rubber: Trucks need a new set of tires each year. This solution cuts the use of tire rubber by an average of 400 tons. Moreover, the 190 liters of diesel fuel required per operating hour for each truck is also eliminated.

There is particular potential for these crusher systems on the global raw materials mining and energy supply markets. Key to this is the rising demand for raw materials in Asia, India, Russia and Africa. Oil sands deposits in Canada are a further market. A system will go into operation for a Canadian oil sands producer in late 2009. Little wonder that this successful technology won this year’s Groupwide ThyssenKrupp Innovation Contest.

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