

Reviving old technology

Besides the healthy export figures South African coal enjoyed in 2008, the energy crisis early in the year helped to create an upswing in the demand for coal and led to the industry seeking better and more efficient processing equipment. Stricter and more precise classification of the different grades of coal is just one of the requirements that end-users are starting to ask for, which has led to the revival of some of the 'old' technology that had faded into the background over years.

Roller Screens used to be quite popular some years ago and local companies who originally installed them, like Joest (Pty) Ltd, have been servicing them all these years, in spite of few new installations. However, due to problematic screening of damp coal, Joest is reviving interest in the application of these machines.

Roller screens

"Bulk Handling Today" met with Malcolm Skeen, sales director and Val Korzynski, sales manager of Joest, to talk about the roller screen's comeback as part of their normal product line of vibrating screens, feeders and associated services. "During our association with Zomag GmbH, before the company was closed down, we acquired enough expertise in the manufacturing technology of roller screens to build these machines ourselves. Now that the demand has grown again, we can," says Malcolm. "In fact, we've just landed an order for quite a large roller screen machine for the USA."

Unlike a vibrating screen which uses types of deck media of various apertures, the roller screen classifies the material by virtue of predetermined roller gap settings. The rollers, each with its own motor, are mounted adjacent to one another on a static base. These promote the close sizing and transport of material.

Damp coal

"The main advantage roller screens have over vibrating screens in the processing of fine, damp coal is their ability to overcome blinding" says Val. "Damp, adhering fines are difficult to screen tending to blind (clog) the apertures in a normal vibrating screen."

Another advantage of the roller screen system is that it has a processing capacity two to three times that of an equivalent vibrating screen system. "In addition, roller screens have a higher throughput per square metre screening area, while there is no vibration into the structures it's built on," says Malcolm. "It is a low-head installation that makes it easy to add dust enclosures for dust control and it's a modular system that makes changing a roller quick and easy. In fact, the screen will still operate when some of the roller shafts have stopped turning. In terms of maintenance, the roller wear segments can also be swapped around to balance out wear patterns. The roller wear segments in the centre wear faster than the ones on the side, therefore they can be swapped around to extend their overall life, before they need to be replaced altogether."

Made in S A

As with the vibrating equipment Joest manufactures, the entire roller screen system is made locally and assembled at the plant in Kempton Park. "Even the rollers are cast at a partner foundry that does all our work," says Val, as he walks us through the spacious

and airy workshop. "To consolidate all our steel fabrication under one roof, we built this 1650 square metre fabrication facility in 2007 and we're already planning to extend even further. We are equipped with two bays, each with two 10-ton cranes, one bay with a 5-ton- crane with a 4 x 8m enclosed shot blast booth and a state-of-the-art enclosed paint booth."

Limitations

Malcolm stresses that, although they manufacture both vibrating and roller screen systems, the two systems are not actually competing against each other at all, in spite of us comparing the features of one against the other, as each has its place in the market. "Even so, there are people who simply hate roller screens, while there are others who love it," he says with a chuckle. "Although we've done wet and dry screening applications, roller screening is not for every application. It's certainly difficult to cut at six millimetres, but some have achieved it after addressing certain operational issues."