Robust engineered screens preferred

Specialist vibrating equipment manufacturer, Joest, brands its benchmark screens as 'engineered solutions' as each one is customised to match the metallurgical requirements of a client's processes and the associated mechanical duty. The end result is a robust design with proven performance.

"Understanding the difference in design and duty for process plant screens, particularly sizing feed preparation in washing and dense media separation (DMS) applications, is a key feature of our ongoing success in other sectors of the mineral processing industry," says Derrick Alston, chief executive officer of Joest.

Joest continues to make inroads into Africa. "We have supplied vibrating screens several to gold mines on the continent, six in Liberia, eight in Mali and 15 in Burkina Faso," says Yashin Ramdhin, general manager, sales.

"We have also supplied screens to Tanzania and have had vibratory feeders installed in a large coal mine in Mozambique. We are optimistic that our growth in Africa will go from strength to strength. This is largely due to the excellent reputation that the Joest brand has gained over the years. A particular advantage of Joest's equipment is the increased lifespan, structural integrity and ease of maintenance of the equipment, which is particularly important in remote areas in Africa."

Joest offers a full selection of specialist equipment to meet its customers' total vibrating screen and feeder requirements. Ramdhin says the company's specialist vibrating equipment forms part of a tailored solutions approach to cater for a wide range of duties, "which allow our customers to reduce downtime and achieve production efficiencies at the lowest operating costs."

An example of Joest's engineered solutions approach is its design and development of a 4.3 m wide banana screen to cater for the ongoing trend in the coal processing sector to opt for larger equipment so as to increase throughput and boost efficiencies. "We have paid close attention to our clients' needs by assessing the failure modes of existing 4.3 m wide screens from other suppliers in this market and designed our screen with the focus on reduced downtime and ease of maintenance when required," Alston says.

"There are 50 to 60 screens of this size in the coal processing sector at present, many of which are approaching the point in their lifecycle where they will need to be replaced. Our new 4.3 m wide screen, which incorporates the latest technology and refinements, is therefore ideally positioned to fill this gap in the market," Alston adds.

The trend towards larger equipment in the coal-processing sector is being driven by the necessity to increase tonnage throughput and plant availability. "This has had an impact on the entire equipment supply chain, from screens through to cyclones and centrifuges. Joest has therefore been ideally positioned to incorporate the latest advances into its own 4.3 m wide screen, which means that the coal processing sector in South Africa can now be confident it is on par with what is happening internationally."

Joest has made a significant investment in its engineered solutions' capabilities in order to be able to offer its clients intensive value added benefits. "It is the sum total of our experience, combined with the specific expertise we bring to analysing client problems that enables us to develop cost-effective and technologically relevant solutions," Alston says.

An example of this is Joest's in house development of a condition monitoring system for integration into its larger screens. "We supply this as part of a total equipment and solutions package. We usually advise our clients to make use of condition monitoring, especially due to the lack of technical skills in the mining industry in general. Condition monitoring can turn out to be the saving grace for such giant screens, because any maintenance issue that is neglected for too long is likely to result in far more costly damage and downtime."

Apart from the coal-processing sector, Joest's screens are also making significant inroads into the iron ore industry in Africa. It has supplied and installed 20 screens at Kumba Iron Ore's Sishen mine at Kathu in the Northern Cape, the largest iron ore mining operation in South Africa. The new Joest 2.4 m by 4.8 m single-deck exciter driven screens for Sishen replace ageing screens in the original plant installation, which have been operating for about

A dense media recovery screen from Joest being delivered for an iron ore application.

A banana screen for a gold application in Liberia under construction at Joest's Spartan premises.

A Joest double deck-vibrating screen of up to 4.3 m for a coal application.

A Joest vibrating screen being installed at a gold plant in Namibia.

40 years. These float-and-sink screens are located in the dense media separation plant where cast iron cyclones separate the iron ore from the tailings. "The exciter driven screens provide an increased G-force which should result in improved recovery of ferrosilicon media as well as reduced maintenance costs," Alston notes.

The order is the culmination of Joest's 15-year-long relationship with Kumba Iron Ore. It is also a testament to the applicability of these customised designed screens for such rugged applications as the iron ore and manganese sector in the Northern Cape in particular. Joest recently established a branch at Kathu, which is run by the newly appointed branch manager with the main objective of carrying spare components for Joest's equipment.

Joest is a locally owned and operated original equipment manufacturer (OEM) that designs and fabricates vibrating screens and feeders in-house. It has a 38-year track record of developing and supplying the African mining and bulk materials handling markets. Joest's technology is characterised by its robustness and longevity tailored to the clients' specific application and processing needs in the harsh African mining industry.

With thousands of installations throughout the continent, Joest's machines are engineered to lower the total cost of ownership. They are commonly found in mineral sands, coal, gold, diamond, platinum, iron ore and manganese operations, with 24/7 client service provided by the company's service centres and branch network. ❑