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SA company launches exclusive unbalanced drives

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STRAIGHT TO SOURCE Aviteq drives are bolted directly onto the equipment and the vibration is transmitted directly into the working device

Specialist vibrating equipment supplier Joest Kwatani South Africa launched its exclusive range of Joest unbalanced drives in March, states company service GM **Theresa Walton**.

The new range of unbalanced motors will be available in four-, six- and eight-pole configurations, with a working moment ranging from 100 kg/cm to 2 050 kg/cm for voltages from 380 V up to 690 V.

The motors, which replace the previous range, share the same footprint, making it simple to change over, states Walton.

The unbalanced motors were developed and manufactured in partnership with one of the world's most established vibrating motor manufacturers, based in Europe, she enthuses.

Walton says Joest Kwatani drew on its extensive operating experience in harsh operating conditions to make design improvements to these motors, which will result in extended uptime and improved ease of maintenance for customers.

These improvements include an extra sealed terminal box and an increased mounting surface.

In addition, the company's research and development team has added further improvements to the Joest Kwatani exciter gearbox. The gearbox housings are cast to Joest Kwatani specifications to not only guarantee robustness in the most arduous operating conditions but also provide longer in-service life.

The range of gearboxes is engineered and manufactured to the most stringent quality standards and achieves noise levels of well below 75 dB, says Walton.

Prior to shipment, the exciter gearboxes undergo full load testing at Joest Kwatani's in-house testing facility in Spartan, Johannesburg.

Owing to high demand, Joest Kwatani expanded its operations in February and opened another factory in Johannesburg, thereby doubling the capacity of its gearbox assembly and refurbishment facility.

Included in Joest Kwatani's in-house developed product line-up is the range of SFH electromagnetic super feeder drives. A mixed current is applied, which is suitable for the number of vibrating bars in the drive. This, in turn, provides the correct natural mechanical frequency at which the equipment is vibrated. The drive is mechanically linked to the equipment through an armature.

Electrical impulses are passed through stator coils forming a magnetic circuit to create a sequence of interrupted pulls on the armature, which is connected to the vibrating bars.

As the spring resistance of the vibrating bars is consistent, the amplitude of the vibration is adjusted by increasing or decreasing the electrical current, which increases or decreases the strength of the pull on the electromagnets. The break in the current drives material forward in the pan.

Meanwhile, the SFH range of electromagnetic vibrating drives is designed for the feeding of bulk materials at a controlled rate from stockpiles and hoppers to bulk materials handling equipment such as belt conveyors, crushers and screens. These are designed for use in medium to heavy applications, such as quarries, coal plants, steelworks and the chemicals industry.

The key benefits of using magnetic drives in mining include the longevity of the product in continuous applications and the high accuracy in terms of controlling the flow of material across equipment. In addition, once set up, required maintenance is relatively low.

Meanwhile, Joest Kwatani was appointed in November 2014 as the exclusive agent of Germany-based company Aviteq, previously AEG, whose product range includes magnetic drives and controllers to suit smaller to medium applications, but particularly where high dosing accuracy is required, states Walton.


The vibrators are spring mass systems, which exploit the close to resonance condition between the drive and the equipment. The drive elements include electromagnets and a leaf spring package.

Unlike magnetic drives, which connect to the equipment with an arm, Aviteq drives are bolted directly onto the equipment and the vibration is transmitted directly into the working device.

The drives are most suited where a high degree of control is required, such as in dosing and batching applications. As impact vibrators, they can also be used to provide smooth material flow in silos, bunkers and chutes, she explains.

About 20 magnetic drives have been sold in the past year, states Walton, with Joest Kwatani having sold equipment with magnetic drives to copper, chrome, platinum, gold and phosphate mines, as well as the glass and metal processing industries, in the same period.

Joest Kwatani also offers a full drive refurbishment facility and refurbished drives on behalf of these mines and industries, as well as the drives used in manganese and mineral sands applications.

The company supplies vibrating equipment to all major mines in South Africa, Africa and countries as far afield as Russia, Walton concludes. 

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