Kwatani puts exciter quality to the test

Assuring customers of the quality and reliability of Kwatani's locally manufactured exciter gearboxes means testing them at full load before they leave the company's workshop. This is according Kenny Mayhew-Ridgers, General Manager Engineering at Kwatani.

"As the designer and manufacturer of these products, we want to be sure there are no issues with the running temperatures, oil cooling and noise emissions," he says. "The only way to do that confidently is by applying the load that the machine will be subject to during its lifespan on site."

Kwatani, previously known as Joest Kwatani, has operated in South Africa for more than four decades and is known for its vibrating screens and feeders, drives, controllers, conveyor feeders and dryers. The company also leads the field in terms of the sheer size of its exciters. For this reason, the facilities for testing these large units – located at Kwatani's Spartan premises near Johannesburg – are similarly above-average in scale.

"Our largest exciter can displace 20 tonnes with 10 mm movement – so this needs a strong, heavy frame," says Mayhew-Ridgers. "We designed a full-scale test rig so the gearbox can endure a full load on its bearings, and it must withstand this without generating undue noise or heat."

To ensure that the vibrations do not carry into Kwatani's test building, the rig is placed on a secure sub-frame to dampen the movement and dynamics to the floor.

"We also put the rig at an angle, because it is important to test the oil flow in the position in which the unit is going to be used – to make sure there are no oil leaks," he says. "We have spent many research and development hours on fluid dynamics to simulate the flow of oil inside the exciter gearboxes, leading to some very rewarding solutions."

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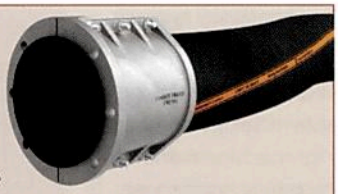
He believes that after almost two years of full-load testing, Kwatani leads the industry in terms of the way it tests exciters. "We build the exciters ourselves – everything except the bearings – and use a highly qualified consultant and specialised foundry to ensure the best quality castings for our exciter housings."

The other advantage of Kwatani's facility is that a variable speed drive (VSD) has been connected to specialised monitoring software, allowing experiments to be conducted on the gearbox at various speeds. This checks whether there are any critical or 'natural' frequencies created by rotating equipment and records important aspects

Mining hose launched by ContiTech



ContiTech recently launched its new CONTI®ULTIMATE mining hose system. It is a heavy-duty, abrasion-resistant suction and discharge hose that is designed to provide flexibility in mining and mineral processing applications, including the transportation of sand, gravel and slurries.

The durable mining hose system includes the high-tensile hose, reusable couplings, gaskets and flanges, as well as ContiTech's new hose condition monitoring wear indicator, Conti Orange.

The Conti Orange wear indicator, placed directly beneath the hose's textile reinforcement layer, continuously monitors the wear of the hose's abrasion-resistant NR compound lining to prevent unexpected production breakdowns.

Along with the specially designed liner, the hose features high-tensile textile reinforcement with an embedded steel helix to provide durability as well as flexibility with its small bend radius while the UV, ozone and abrasion-resistant IB/BR cover enables it to withstand harsh operating conditions associated with mining and mineral processing.

In addition, the hose system features a specialised high-strength, aluminium alloy flange that is designed to have no contact with transferred medium, ultimately reducing wear and providing a smoother medium flow.

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