

Hytec Engineering invests in efficiency

Bosch Rexroth South Africa Group of Companies continues to invest in its production floors – with Hytec Engineering, the latest Group company to have optimised its manufacturing and repair operations.

The acquisition of an additional 1 000 m² of floor space; upgrades to shop equipment; as well as optimised process flows for the manufacturing and repair facilities are some of the new investments that have improved shop-floor visibility and are allowing the hydraulic cylinder manufacturing specialist, Hytec Engineering, to enhance operational efficiency and production capabilities.

Established in 1979, Hytec Engineering is one of sub-Saharan Africa's few hydraulics cylinder companies with in-house cylinder design, manufacturing, testing and repair services in a single workshop. Its locally manufactured cylinders, which cover the complete fluid power spectrum up to 700 bar, are used in mining, materials handling, steel, oil and gas, marine and other industries.

And now its remodelled ISO 9001-accredited facility is geared towards maximum handling efficiency and ergonomic, lean production, while also meeting the most stringent health and safety standards.

Optimised production flow

In the case of Hytec Engineering, significant

growth of the business since the design of its core production line 12 years ago had created an urgent need for space. The purchase of the additional 1 000 m² of an adjacent work space has allowed the company to move most of the initial cylinder refurbishment facilities to this dedicated area.

Here, cylinders sent for repairs from mining and industrial sites across southern Africa are cleaned, stripped and assessed prior to refurbishment. New equipment, such as an upgraded, state-of-the-art stripping bench, which boasts 1 350 000 Nm of torque, provides improved efficiency across the inspection and assessment stages of the process.

"With this dedicated area, we have separated the 'dirtier' work of cylinder refurbishment from the cleaner aspects of the production process," explains Hytec Engineering general manager, Pierre Goosen.

The main area of the workshop is now dedicated to component manufacture, assembly, testing and painting of the company's hydraulic cylinders via a redesigned production flow.

In consultation with Bosch Rexroth production systems engineers from Germany, the



Each cylinder is tracked across the production floor with a new scanning system that provides complete traceability and visibility of the facility's manufacturing and refurbishment processes.

process flow of the factory has been reconfigured with an emphasis on efficient handling and movement of products and workers.

From rod manufacture to welding and barrel manufacture, the process flows to the pre-assembly area where quality of components is checked before entering the assembly line. At the end of the assembly line is the company's high-tech, in-house designed cylinder test bench that is used to verify the quality and conformance of cylinders to their precise design specifications.

Once tested, the cylinders are ready for painting in the company's new three-stage painting booths. With this three-stage facility, painting of cylinders, including the specially formulated epoxy-based paints used in marine and other corrosive applications, is faster and more efficient.

Another new piece of equipment in the factory is the company's sponge blasting facility. Among the first introductions of this technology in South Africa, it provides a much faster and far safer solution for removing paint and other superficial contaminants from repaired cylinders than traditional chemical removal, while also not generating the hazardous quantities of combustible dust associated with shot blasting. In addition, sponge blasting allows Hytec Engineering to provide special surface finishes on new manufactured cylinders as required by customers' specialised applications.

A fully containerised solution, sponge blasting ensures the dust is localised before it can be extracted and processed by specialised dust collection systems. It also means that the sponge media utilised in the application can be collected and reused up to 10 times, allowing the factory to reduce its waste and lower its footprint, while meeting stringent safety standards for dust.

"These investments have produced a modern factory process that is tailored to our



With 1 350 000 Nm of torque, Hytec Engineering's upgraded stripping bench makes quick work of stripping even the largest hydraulic cylinders.