

Latest high-efficiency smart compressor products launched

Atlas Copco has recently introduced a number of new products under its Smart Air Solutions initiatives. *MechChem Africa* highlights some of the notable innovations: GA 90+ to 160 (VSD+) oil-injected screw compressors; the new Optimizer 4.0 central controller; and its BD+ and CD+ desiccant air dryers.



As part of its smart AIR solutions portfolio, Atlas Copco has launched its latest high-efficiency GA 90+ to 160+ (VSD) oil-injected screw compressors, which offer reduced energy consumption and ease of installation and service.

The GA 90+ to 160 (VSD+) oil-injected screw compressors, the latest air compressor range in Atlas Copco's smart AIR solutions portfolio, are designed for reduced energy consumption and ease of installation and service. The range features advanced compression elements with Smart Injection technology coupled with highly efficient oil-cooled IE4 and IE5 motors that require no service interventions. The new Elektronikon® Touch controller with integrated smart algorithms further reduces energy consumption.

These latest-generation GA compressors are particularly well suited to the mining industry, metal processing and power plants where its IP66 drive train offers complete protection from environmental dust and moisture, ensuring reliable operation even in the harshest environmental conditions. This reliability also provides long and trouble-free life in general industrial applications in ambient temperatures of up to 55 °C.

Optimum efficiency is ensured through a highly efficient drive train, low internal pressure drops and precise control from the Elektronikon® Touch controller.

All components are designed for ease of service with the most commonly serviceable parts grouped together for ease of access. Furthermore, the patented portal design enables full access to all components when

more extensive maintenance is required. "Subsequently, service time on these GA compressors is halved compared to similar designs, leading to increased uptime and improved productivity," notes JC Lombard, business line manager for Atlas Copco's Oil-free Air division.

The GA 90+ to 160 (VSD+) oil-injected screw compressors are available in water- and air-cooled versions, with fixed or variable speed drive and with an optional integrated dryer.

Atlas Copco provides customers with a top-to-toe 5-year Warranty Plus programme on the complete machine, ensuring smooth operation in the harshest environments.

Advancing control capabilities for its compressors is the new Optimizer 4.0 central controller, which replaces the company's ES16 central controller. Optimizer 4.0 enables a compressed air system to be optimised through selection of the most efficient combination of machines, such as compressors, dryers, filters, controllers, energy recovery systems, generators, air receivers, coolers and boosters.

Also, through a highly intuitive user interface, the end-user can view the performance and energy consumption of each machine as well as of the whole system.

Optimizer 4.0 can also be monitored through a customer's PC via the LAN, a SCADA system or via Atlas Copco's SMARTLINK. As



Latest-generation GA compressors are ideally suited to the mining industry, metal processing & power plants.

the name suggests, it is fully Industry 4.0 compatible, enabling the Internet of Things and the digital integration of the air compressed system with other intelligent networked devices to improve equipment performance, enhance predictive maintenance and further increase energy efficiency.

BD+ desiccant dryers

Atlas Copco's class-leading BD 100+ to 300+ heat-reactivated adsorption desiccant air dryer range is designed and engineered with a focus on delivering maximum efficiency and reliability in diverse ambient conditions. The air dryer range effortlessly meets every requirement for demanding applications that require an uninterrupted, ultra-reliable supply of clean, dry and high quality air.

"Ever cognisant of customers' ongoing drive to reduce energy consumption, the BD+ range keeps energy costs to a minimum by using mainly heated ambient air to dry its desiccant as part of the regeneration cycle," says Wayne Jacobs, business line manager for the Industrial Air division at Atlas Copco Compressor Technique. Jacobs adds that the BD+ blower purge technology delivers further cost and energy savings by allowing the downsizing of both the BD+ desiccant dryer and the compressor.

The BD+ range, which comprises five models with capacities ranging from 100 l/s to 300 l/s features, as standard: two-stage inlet and single-stage outlet filtration; fork lift slots; and a regeneration air manifold. The range's robust vessels and galvanised piping with flanged connections guarantee

efficient regeneration while minimising leakages and keeping the pressure drop low. Stainless steel check valves, a stainless steel three-way valve and a blow off silencer with integrated safety deliver performance durability and extended service life.

The standard units include a pressure dew point monitor as well as an array of temperature and pressure sensors that signal the Elektronikon® control system to dynamically adjust the dryer's operation. The Elektronikon controller provides complete digital communication and, according to Jacobs: "These controls optimise the operation of heaters and blowers to ensure maximum utilisation of each desiccant bed. The result is a significant and measurable reduction in energy consumption," he explains.

The addition of an optional AirMonitor™ or communication box allows for browser-based remote monitoring and complete remote control via profibus or Modbus. According to Jacobs, these broad, flexible monitoring possibilities allow unprecedented levels of user convenience for a diversity of installations across industry.

These fully packaged, ultimately reliable units are easy to install and are delivered complete with filtration and microprocessor controls.

Energy savings of up to 90% with CD+ desiccant air dryers

Atlas Copco's energy efficient CD+ desiccant air dryers are designed to deliver a constant pressure dewpoint even at full load under the most stringent of conditions.

Available in two ranges, the CD 25+ to



Atlas Copco BD 300+ desiccant air dryers keep energy costs to a minimum.



Atlas Copco's CD 185+ desiccant air dryer can deliver energy savings of up to 90%.

145+ and the CD 110+ to 300+ feature a simple design and working principle making these compact desiccant air dryers ideal for a wide range of industries such as electronics, food & beverage, pharmaceutical and oil & gas where absolute dry air is critical.

The CD+ series boasts a small carbon footprint by minimising pressure drops and optimising the regeneration cycle to reduce energy consumption. "The pressure dewpoint sensor measures the remaining humidity in the compressed air, detects when the active tower is completely saturated and then switches the functions of the two dryer towers at the optimal moment," says Jacobs. "Thanks to Dewpoint Dependent Switching, dryer cycles are delayed, resulting in energy savings up to 90% compared to more traditional switching systems."

As with the BD+, the Elektronikon controller monitors all parameters of the desiccant air dryers to guarantee a constant pressure dewpoint down to -70 °C at 100% load. "This ensures absolute dry air for high-stake applications that require the highest reliability 24/7," notes Jacobs.

Thanks to easily accessible internal components and the use of durable materials such as butterfly valves, installation and service are quick and easy, extending maintenance intervals and keeping production downtime to an absolute minimum.

As well as the BD+ and CD+ desiccant dryer ranges, the MD and MDG rotary drum



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dryers along with its FD and FX air- and water-cooled refrigerant dryer series complete Atlas Copco Compressor Technique turnkey quality air dryer solutions for sustainable end-user productivity. □