



Press Release from the Industrial Air Division

hPieter van Wyk, Business Line Manager – Oil Free Air
+27 (0)11 821 9000 / 9144 (direct) / FAX: +27 11 388 5065
Email: Pieter.vanwyk@za.atlascopco.com

Charl Ackerman, Business Line Manager – Industrial Air Division
+27 (0)11 821 9113 / FAX: +27 11 252 9847
Email: charl.ackerman@za.atlascopco.com

Sonia Laverick – Laverick Media Communications cc
Tel: 011 027 8880 / Fax: 086 671 6836
lavmedia@iafrica.com / www.laverickmedia.co.za

9th October 2014

35% Energy-saving & sustainable energy-efficient operation with Atlas Copco VSD compressor technology

Variable Speed Drive (VSD) compressor technology from quality air equipment and service solutions specialist, Atlas Copco, is the key to sustainable energy-efficient operation and low total cost of ownership.

With declining global energy resources and escalating electricity costs, twenty-first century mining and industry around the world face similar challenges and share the same objectives, namely to minimise cost and maximise production. End-users are compelled to install equipment that combines high performance with efficient operation for optimum productivity and lowest possible operational costs.

To assist end-users in meeting these objectives, Atlas Copco focuses on end-to-end energy efficient operation in the development and design of compressors. In addition to quality, the focal point is to minimise the cost of each cubic meter of compressed air produced to be able to supply compressors that deliver best-case-scenarios where reliability, performance and efficiency is concerned.

VSD (frequency-controlled) technology forms part of Atlas Copco's strong energy saving drive to achieve maximum energy efficiency and sustainable productivity.

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Atlas Copco South Africa

Postal address:
P O Box 14110
Witfield
1467
Gauteng
South Africa

Visitors address:
Innes Road
Jet Park
1459 Gauteng
South Africa

Reg No.: 1911/003838/07

Phone: + 27 (0)11 821-9000
Fax: + 27 (0)11 821-9202
+ 27 (0)11 821-9246

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The company's range of oil-injected rotary screw compressors - GA VSD (GA 5-90 kW with world class FAD (Free Air Delivery), GA 90 – 500 kW for larger air requirements, and the more recent highly compact 7-37 GA VSD⁺ clearly reflect this drive towards achieving optimum efficiency during compressed air delivery.

“Energy consumption typically represents over 70% of a compressor's life cycle cost which opens up tremendous energy saving opportunities,” according to Atlas Copco Compressor Technique's Business Line Managers for Oil Free Air and Industrial Air Division respectively, Pieter van Wyk and Charl Ackerman.

Giving a broad outline of VSD, a technology which was pioneered by Atlas Copco in 1994, Van Wyk confirms that energy savings of up to 35% can be realised. “The VSD compressor perfectly matches air supply to air demand in processes where air demand profiles fluctuate. By varying the speed drive of the drive motor, the compressor follows fluctuation in production demand; as air demand declines or is reduced, the GA VSD lowers the delivered flow and consequently the power consumption.”

Van Wyk adds that motor speed regulation is the most efficient compressor control method where air demand varies “because the inefficient transition period between full and no load is eliminated which avoids excessive off-load power consumption. Maintaining the net pressure band within 0.10 bar (15 psi), greatly reduces the overall average working pressure and energy costs.” Soft start will lend further flexibility as gradual motor ramp-up avoids electricity surges. Reduced carbon dioxide emissions is another benefit offered by VSD technology.

Ackerman points out that the most efficient compressor package incorporates optimisation of all the compressor elements (oil-injection, flow and temperature) to maximise output and minimise losses. In the development of the GA VSD, substantial efforts were made to reduce all types of losses, whether flow-related, mechanical or electrical.

The highly compact oil-injected rotary screw 7-37 GA VSD⁺ compressor range, introduced by Atlas Copco in April 2013, serves as an excellent example where Atlas Copco evaluated every part in the compressor to ensure across-the-board optimisation:

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A more efficient fan, a robust air intake system, the elimination of all blow-off losses, and the best electronic components together with the new drive train, add up to breakthrough energy-efficiency. Better performances are delivered, even at full load, while consuming on average 50% less energy compared to a traditional idling compressor.

“Available from 7 to 37 kW, the GA VSD⁺ is another 15% more efficient than Atlas Copco’s GA 7-37 VSD and operates at lower noise levels,” notes Ackerman. The range also offers a leap forward in Free Air Delivery with improvements of up to 12%. “The GA VSD⁺ has been completely in-house developed and brings together all our expertise and know-how on energy-efficient compressor technology. The compressor contributes significantly to the green economy needs as this innovation enables all compressor users to switch over to variable speed drive compressors, an important step towards a more sustainable industry.”

Regular service and maintenance by skilled technicians using the right tools and genuine parts are essential for ensuring optimum, reliable and efficient compressor performance and sustainable productivity. Atlas Copco Compressor Technique South Africa’s four service branches in Johannesburg, Durban, Cape Town and Port Elizabeth, supported by ten authorised distributors, take care of customers’ requirements across the country offering turnkey service solutions across the complete Compressor Technique product portfolio.

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Atlas Copco is a world-leading provider of sustainable productivity solutions. The Group serves customers with innovative compressors, vacuum solutions and air treatment systems, construction and mining equipment, power tools and assembly systems. Atlas Copco develops products and service focused on productivity, energy efficiency, safety and ergonomics. The company was founded in 1873, is based in Stockholm, Sweden, and has a global reach spanning more than 180 countries. In 2013, Atlas Copco had revenues of BSEK 84 (BEUR 9.7) and more than 40 000 employees. Atlas Copco is listed on the NASDAQ OMX Stockholm exchange. Learn more at www.atlascopco.com

Industrial Air is a division within Atlas Copco's Compressor Technique business area. It develops, manufactures and markets oil-injected and oil-free air compressors, vacuum pumps, gas generators, air treatment solutions and compressor controls and monitoring under several brands. In addition to serving a wide variety of industries, dedicated solutions are also available for marine, railway and oil and gas customers. The division's focus and main drive is to further improve its customers' productivity. The divisional headquarters and main production center are located in Antwerp, Belgium.