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## **Reap all the benefits of on-site oxygen production with Atlas Copco's efficient OGP<sup>+</sup> oxygen generators**

Atlas Copco proudly unveils its latest range of cutting-edge OGP<sup>+</sup> Oxygen Generators that seamlessly, efficiently, reliably and cost-effectively produces oxygen (O<sub>2</sub>) on-site, requiring only a supply of dry compressed air. These environmentally-friendly machines deliver significant across-the-board savings through lower total cost per cubic meter of oxygen, optimised uptime due to continuous oxygen supply and the delivery of guaranteed gas purity.

Oxygen is a critical gas for a vast number of industries including waste water treatment, food & beverage, pulp & paper, steel, medical, pharmaceutical, bioenergy, metallurgical, glass and aquaculture. Oxygen has multiple uses within diverse applications: Oxygen is added to a process for better control of heating patterns, for higher furnace efficiencies (for lower fuel consumption) and for the reduction of particulate and NO<sub>x</sub> emissions. It can also be used with fuel gases to enhance processes such as gas welding, gas cutting, oxygen scarfing, flame cleaning, flame hardening and flame straightening. Moreover, oxygen is a raw material in many oxidation processes and it is also used to regenerate catalysts.

The on-site production or generation of oxygen as opposed to purchasing this gas from a vendor presents a highly cost-effective, safe, space-saving and convenient solution. Owing to ground-breaking engineering, Atlas Copco's new OGP<sup>+</sup> 3-30 PSA (Pressure Swing Adsorption) machines deliver best-in-class oxygen generation performance and efficiency. These generators ensure continuous reliable on-site oxygen generation at a significantly lower total cost per unit of oxygen. Furthermore, with the touch of a button, the user is able to choose the correct oxygen purity level for the application.

“With our OGP<sup>+</sup> Oxygen Generators, professional oxygen users can become oxygen producers,” states Zandra van der Westhuizen, Business Line Manager at Atlas Copco Compressor Technique. “To switch from sourcing the gas from a vendor to producing oxygen on-site is easy. All that is required is a compressed air system plus a gas generator and the plug-and-play machine is ready to produce oxygen on-site.”

Van der Westhuizen draws attention to the countless benefits that can be gained from on-site oxygen production. “Our Atlas Copco OGP<sup>+</sup> generators are 30% more efficient at full load compared to a traditional generator. Moreover, thanks to the machines' innovative Variable Cycle Saver technology, the OGP<sup>+</sup> generators offer up to 70% in additional energy savings when oxygen demand is low. This all adds up to a lower cost per cubic meter of oxygen, delivering unparalleled cost savings.”

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Generating oxygen in-house also ensures a dependable and continuous supply source, thus mitigating potential stoppages due to stock shortages. “Reliance on a third party supplier is eliminated,” adds Van der Westhuizen. “The user is in complete control, generating the exact amount of oxygen when needed at the correct and guaranteed purity required for the particular application. If more oxygen is required, simply run the generator a little longer. Bottom line - users only pay for the gas they need and use.”

Coming back to the topic of purity, Van der Westhuizen points out that the purity of purchased oxygen is usually over-specified for most application requirements. “An on-site generator not only achieves this high purity more cost-efficiently, but it also offers additional savings. Because generating oxygen of the highest purity uses more energy, the ability of on-site generators to set the correct purity for a particular application will significantly reduce the user’s operational costs.”

Yet another advantage offered by on-site oxygen production is that there is no need for a facility to store oxygen cylinders or to install a large liquid oxygen tank. Owing to an intelligent design, aluminium extrusions and best-in-class usage of zeolite molecular sieve (ZMS) material, the OGP<sup>+</sup> generator has a very small footprint and requires only a small space in a production facility.

And finally, producing oxygen on-site with Atlas Copco’s OGP<sup>+</sup> generator removes the hassles of long-term contracts, logistics and safety concerns that accompany the ordering and handling of third-party oxygen cylinders. There is no need to move pressurised cylinders around the plant thus avoiding the potential risk of employee injuries. And finally, the elimination of oxygen transport and delivery reduces the user’s carbon footprint.

The generation of oxygen for industrial use is a straightforward process that involves the separation of oxygen molecules from the other molecules within a clean, dry compressed air stream. The OGP<sup>+</sup> generator uses and optimises Pressure Swing Adsorption (PSA) technology. This simple, reliable and cost-effective process takes place in two separate pressure vessels (tower A and tower B), each filled with carbon zeolite molecular sieve (ZMS) that separates the oxygen from the incoming air. Adsorption happens when atoms, ions or molecules from a substance (compressed air in this case) adhere to a surface of an adsorbent. PSA technology isolates oxygen molecules from other molecules (nitrogen, CO<sub>2</sub>, water vapour and trace gases) to leave high purity oxygen at the outlet of the generator. The ZMS material switches between a separation process and a regeneration process. So at any time, one of these vessels produces oxygen while the other is regenerating its saturated ZMS. Thus PSA technology enables continuous, high-capacity oxygen flow at the desired level of purity (90% to 95%).

The Atlas Copco OGP<sup>+</sup> generator is supplied standard with an oxygen sensor, a digital flow meter, a pressure regulator and an automatic start-up function. The machine features a new advanced controller with a large HD colour touchscreen that enables easy, user-friendly navigation through options such as oxygen purity selection and purity alerts. The automated 24/7 feed air and oxygen monitoring and interception function safeguards the quality of the OGP<sup>+</sup> generator’s performance and output.

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At **Atlas Copco**, we have been turning industrial ideas into business-critical benefits since 1873. By listening to our customers and knowing their needs, we deliver value and innovate with the future in mind.

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Great ideas accelerate innovation. At Atlas Copco Compressor Technique we team up with our customers to turn industrial ideas into smart connected air and gas solutions and leading edge compressed air technology. Our passionate people, expertise and service bring sustainable value to industries everywhere.

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