

The best-fit approach to compressed air

Long renowned for high efficiency premium compressed air solutions, Atlas Copco Compressor Technique also supplies best-in-class air solutions to suit the full range of market needs, from economy to premium. *MechChem Africa* talks to business line managers JC Lombard of Oil-Free Air and Wayne Jacobs of Industrial Air about the company's fit-for-purpose solutions approach.



As the home of industrial ideas, Atlas Copco has long prided itself on having some of the most efficient equipment available on the market. "Performance, reliability, energy efficiency and green credentials have always been part of our development mindset and we are continually striving to get better.

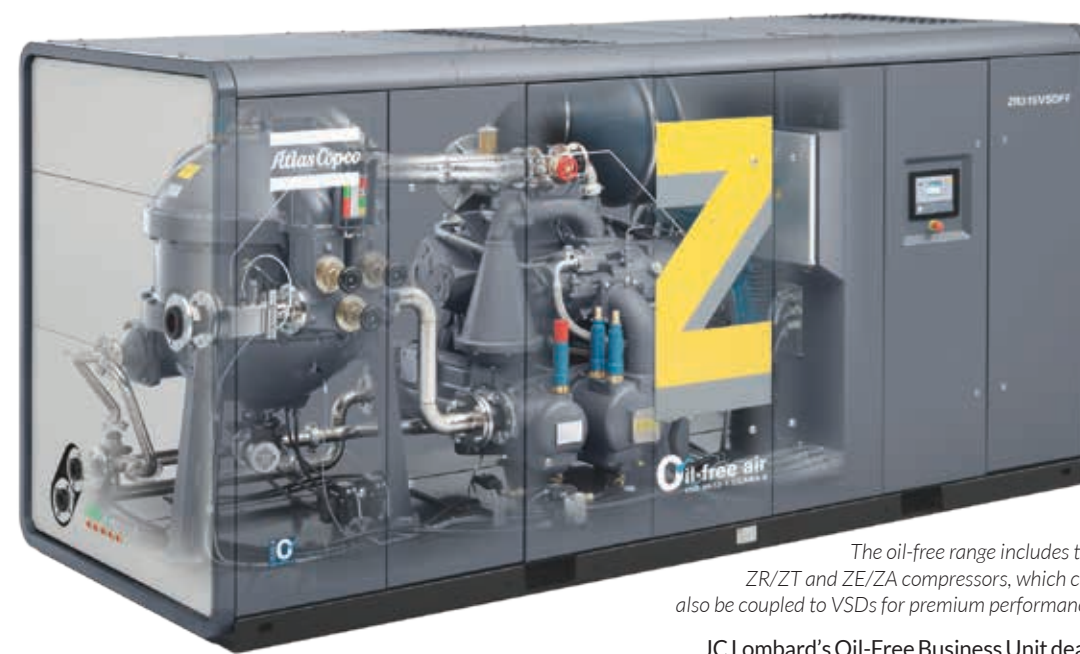
"What may get missed by the market however, is the message that we cater for the entire market: not just the premium sector," begins Jacobs.

"Some of our customers need simple, user-friendly equipment that is effective and

reliable, but because every decision is price sensitive in their market, we have an economy range of equipment specifically for them, such as Atlas Copco L-Series piston compressors. These compressors offer durable, high performance compressed air where reliable switch-on/switch off air is needed with absolute minimum maintenance. In addition, our Automan range is even suitable for DIY use, or for occasional use at autobody repair shops," he adds.

"Then, for more professional clients that are still looking for simplicity, but at the best efficiency they can afford, we have a more professional range of compressors and ancillaries, such as the G-Series oil-injected screw compressors that will typically have simple controllers and industry benchmarked free-air delivery (FAD) for their power, making them efficiency leaders in this second tier affordability bracket," he continues.

Further up the scale, Jacobs points out Atlas Copco's Industrial product range, which is designed to suit more sophisticated and established industries that are more running-cost conscious, so tend to prefer



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digital controls and tracking, for example. "Users of our industrial range need technically advanced and robust machines that are referenced against their peers with respect to aspects such as noise, control sophistication, energy recovery opportunities and air quality. These machines typically have heavy duty gearboxes, strong transmissions and industrial digital controllers," he says.

"While at the top of the range, we still offer premium compressors, which use high-tech digital controllers and VSDs to give the highest efficiency solutions available in the world. These feature FAD values of 5 to 10% higher than many competitors and the highest efficiency drive-train components available," Jacobs assures, adding "but while high-end products cost more because they deliver more, we know that these machines are not necessarily the best-fit choice for every customer or application," he tells *MechChem Africa*.

Atlas Copco's four different product tiers of compressors and ancillaries, which progress in terms of sophistication from relatively simple to state-of-the-art, are all market leaders in their respective segments.

"Our bread and butter technologies are the G- and GX-series of oil injected screw compressors, for example, which suit professional and industrial users," Jacobs continues. "Although priced for affordability, these are legendary for their reliability and efficiency and are the preferred compressed air solution for small and medium sized businesses," he says. The more affordable options mostly come with analogue controls, but for more discerning users, versions are now also available with basic digital controllers.

"For industrial users, the fixed-speed GA units with digital controllers tend to be a good fit," Jacobs continues. In spite of their affordability, these are more energy efficient than competing equivalents.

JC Lombard's Oil-Free Business Unit deals with the high-power end of the compressor market, from 90 kW all the way up to 3.0 MW. In spite of the unit's name, however, the range includes both oil-injected and oil free compressor options. "Larger machines mostly meet industrial and premium requirements," Lombard tells *MechChem Africa*. "On the oil-injected side, we have G, GX, GA and GA+ (VSD) options, while the equivalent oil-free range includes the ZR/ZT and ZE/ZA compressors, which can also be coupled to VSDs for premium performance," he reveals.

"Everyone likes to look at the top of the range blue efficiency-type models on the showroom floor, but these vehicles don't work for everyone. Some people need a 1-ton bakkie. It is very important that we at Atlas Copco can offer compressor choices across this whole performance range. By focusing only on our world-leading products, which we have always had, we lose out because people don't see our excellent lower tier options," Jacobs adds.

Lombard agrees. "Our focus in the 90 kW and above range is the same. We strive to sell the most energy efficient machine possible for the particular applications we are looking at. That means that a Tier 2, G-series machine might be more appropriate than a GA or a GA+ machine. Rather than selling our best possible product at the highest price, we strive to offer the most cost appropriate option for our customer's needs at the time."

Jacobs argues that, in comparing compressors, the free air delivery (FAD) requirement is a good starting point. "The FAD enables us to compare how much air one can get from a compressor. Two 20 kW compressors are never quite the same. What a user wants is as much air as possible from the machine and, by using FAD instead of kW to size the machine, it may be possible to buy a machine with a smaller motor and footprint that delivers the



Atlas Copco also offers a full range of medical air products, which meet the European Pharmacopia air quality standards.

necessary volumes. The smaller motor means a lower energy draw, which makes the specific energy – the amount of energy required per unit of air supply – more favourable and the compressor more efficient.

"So before requesting a quote for a 20 kW compressor, look at the air volumes needed in terms of litres per second at 7.0 bar, for example. Some compressors may require 22 kW to produce the volume needed, while we at Atlas Copco may be able to do it using an 18 kW compressor. Not only will the smaller compressor be less expensive, but the specific energy will be lower, making the compressor more energy efficient – an added bonus if efficiency is particularly high on the wish list," he argues.

"The smaller unit also impacts the cost of maintenance," continues Lombard. "The size of the bearings, the base size, the amount of oil used, the separators, filters and replacement parts can all be smaller and less expensive," he adds.

From the serviceability perspective, Lombard adds that the same approach also applies. "Economy customer can adopt simple preventative maintenance by buying service kits and repairing their own equipment if they prefer. Professional and industrial users may prefer to look at safer and more efficient maintenance options, such as service plans, while premium users often want total care packages, where Atlas Copco takes total control of the whole

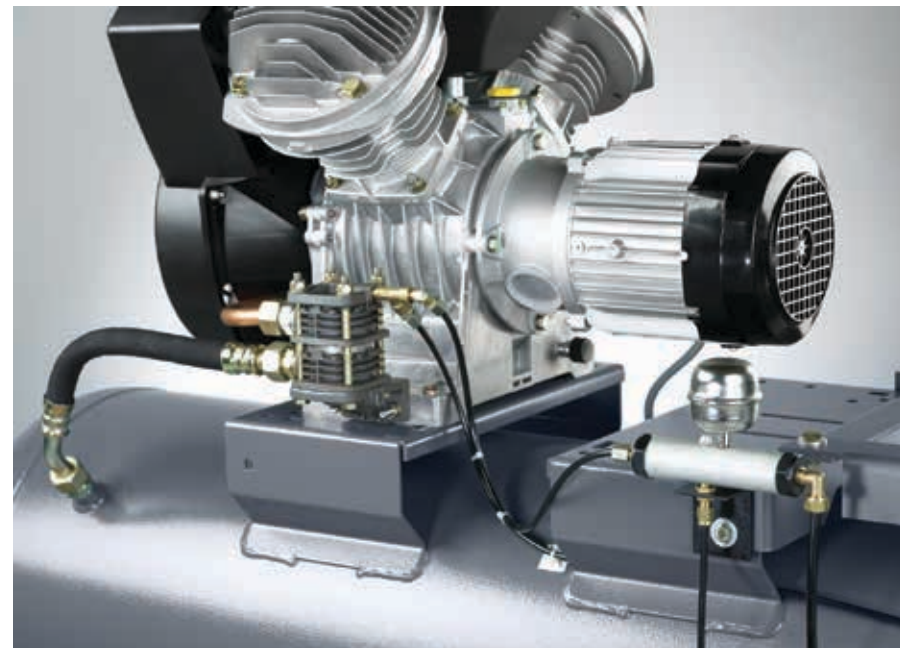
system, leaving the company with guaranteed compressed air reliability at all times.

"It all depends on people's preferences, levels of sophistication and the criticality of the air they use," Lombard tells *MechChem Africa*.

He adds that the number of compressors required also changes the equation. "Customers needing one or two machines may be inclined towards G-series solutions, but if 10 or 15 machines are needed, they are likely to prefer GA or GA+ machines because of the efficiency benefits and the return on investment opportunities available by reducing the net power draw," he argues.

"Needs also vary considerably. People need food-grade air, dry air and very high-quality laboratory air. All combinations can be accommodated according to the real needs of our different clients. We even have a full range of medical air products, which meet the European Pharmacopia air quality standards: oxygen and nitrogen generators; pressure swing adsorption systems; medical and surgical instrument air solutions; and medical oxygen," says Lombard.

"At the end of the day, we strive to offer compressed air solutions that least affect the end costs of our customers' products and services. The more the cost of air influences the end costs of doing business, the more it will pay to invest as much as is affordable in an energy efficient compressed air solution," Jacobs concludes. □



Atlas Copco L-Series piston compressors offer durable, high performance compressed air where reliable switch-on/switch off air is needed.