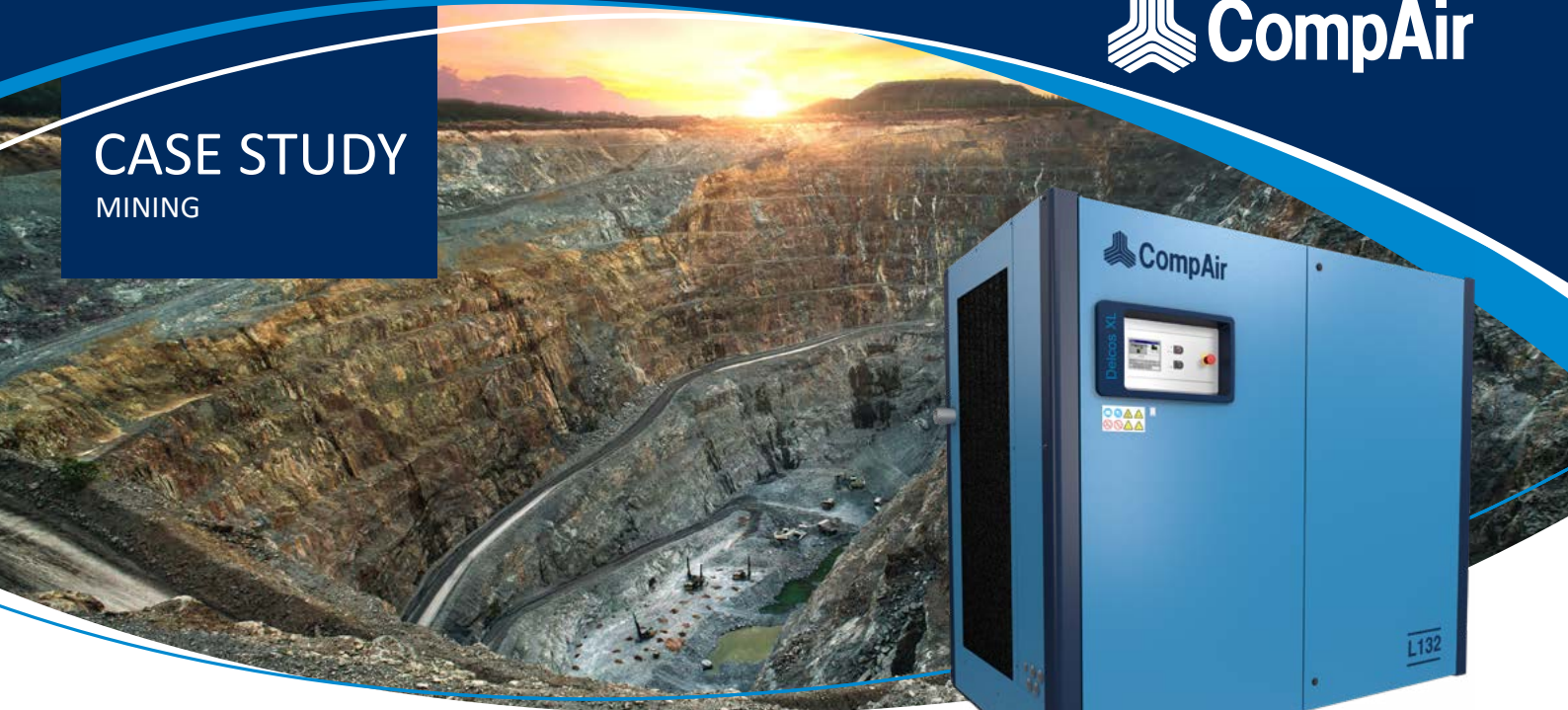


CASE STUDY

MINING



Leading Iron Ore Producer Turns to CompAir to Supply Robust Instrument Air Delivery Solution

Tough conditions demand robust equipment and a wealth of application expertise. That's why when a leading iron ore producer needed a fleet of compressed air equipment to provide instrument air during a recent mine expansion, they turned to the experts at CompAir to provide efficient and reliable equipment to help them achieve their goals.

Compressed air is used in a wide range of mining applications, helping operators to improve safety and working conditions for miners, extract resources more efficiently, and process and enrich raw materials. Supplied by specialized compressed air systems, instrument air in particular plays a crucial role powering equipment such as drills, conveying systems, and other pneumatic tools that help miners to break through the earth and extract raw materials from deep underground. However, complex pneumatic equipment requires a steady and reliable stream of clean, dry air is required in order to function correctly.

As one of the world's leading producers of iron ore, our customer manages an integrated business that includes a number of mining hubs in Western Australia, alongside rail and shipping facilities, and all other required business operations. In total, the company's operations are responsible for supplying the global market with almost 200 million tonnes per annum of iron ore, ranking them amongst the largest iron producers in the world.

Overview



Customer

Leading mining and resources company



Location

Western Australia, Australia



Application

Mining



Product

CompAir 4 x L132, 3 x L37, 3 x L07 fixed speed lubricated rotary screw compressors; A range of refrigerant, desiccant dryers and air receivers



Customer Benefit

Premium products deliver future savings for the customer in the form of reduced energy, maintenance, and operating costs.

The company emphasizes a strong commitment to both innovation and technology, two key tenets that have allowed it to maximize efficiency and push the boundaries of their operations, as well as remain competitive in an increasingly challenging market. This commitment has also helped the company to not only mitigate its impact on the environment, but also pursue green initiatives that would help it diversify its business in future.

CASE STUDY

MINING



Growth Drives Need

Having begun a major expansion project across multiple mine sites in Western Australia, the company required compressed air systems and equipment that would be capable of providing instrument air for a range of equipment on site.

Demanding desert conditions, where ambient temperatures can reach up to 50°C during the day and where sand and dust can wreak havoc on equipment, mean that experience and expertise are crucial in making the right equipment choice. Specifications and cost were also front of mind, with the chosen equipment vendor having to supply equipment that not only met strict specifications, but was also able to stay within the project budget.

That is why the company turned to the experts at CompAir to design and provide them with a complete compressed air solution that would address their need for high quality instrument air.

Choosing the Right Tools

When designing a solution, the team at CompAir had a number of challenges to overcome. The harsh site conditions meant that any equipment selected had to be robust, and capable of performing in demanding desert environments with high ambient temperatures. Both compressors and downstream filtration systems also had to be sized correctly to meet the customer's specific requirements around pressure, air delivery, and air purity.

Budgetary constraints were also a concern. The team had to ensure that the proposed solution not only met the projects budgetary constraints, but worked to deliver future savings for the customer in the form of reduced energy, maintenance, and operating costs.

The team at CompAir proposed a solution built around their leading L Series compressors, consisting of four L132, three L37, and three L07 fixed speed lubricated rotary screw compressors. The solution also featured a range of refrigerant and desiccant dryers for air treatment, as well as air receivers for instrument air storage.

Engineered for the Job

CompAir's L series of lubricated screw compressors are designed to provide the highest levels of quality, reliability, performance and efficiency. Powered by high efficiency electric motors, the L series guarantees lower CO₂ emissions without sacrificing power or performance. The L series features a specially designed screw element that is manufactured in-house using the latest CNC rotor grinding and laser technology, ensuring unrivalled reliability and performance, alongside lower operating costs.

The L132 and L37 feature a 132kW IE3 and 37kW IE3 electric motors, providing a pressure range from 7.5 to 13 bar(g). A large surface after cooler is used to maintain low operating and discharge temperatures, while a high performance two-stage filtration system provides the highest levels of air purity, delivering an oil carryover of less than 3 ppm.

Powered by an energy efficient 7.5kW IE3 motor, the L07 featured a fully integrated airend that is designed to maximize efficiency. The innovative, integrated design includes an oil separator, oil filter, and thermostatic bypass valve, reducing the number of hoses and components required, maximizing reliability. The combined air and oil cooler works to further maximize reliability by providing rapid warm-up and control of oil temperatures, as well as reducing wear and eliminating condensate in the compressor system.



CompAir's F Series dryers provide high quality heat exchange with minimal pressure loss, and a +3°C pressure dewpoint. Simple to operate and maintain, with a compact, space saving design and patented heat exchanger technology, F Series dryers are engineered to help operators to significantly reduce operating costs.



Leveraging Expertise to Deliver Success

Relying on our wealth of knowledge and experience, CompAir provided the customer with a solution that would address their technical requirements, while the high standard of professional service and unwavering commitment to the customer ensured that all equipment was delivered both on time and within budget. With all compressors and auxiliary equipment now on site, the team at CompAir is on stand-by to support the customer during installation and commissioning.



Designed and built in Germany, the L series compressors are guaranteed to provide efficient and reliable performance for years to come, while a comprehensive network of service and support technicians ensures that reliable parts, service, and support are always on hand. Premium products, world class service and support, and unrivalled expertise: these are the reasons that the world's leading mining and resources companies turn to CompAir.

