CompAir

CASE STUDY
WATER WELL DRILLING

CompAir takes the pressure out of fuel costs for Blair Drilling

Twelve months after taking delivery of a new portable C230TS-17 TurboScrew compressor from CompAir, Blair Drilling, a water engineering services company, is experiencing savings of up to 34% on fuel consumption, with a fast payback on return on investment.

Overview

Client
Blair Drilling Ltd

Location
Cheshire, UK

Application
Water well drilling

Products
C230TS-17 TurboScrew compressor

Customer Benefits
Low fuel consumption with a fast payment on return on investment

Application Details

Based in Cheshire in the North West of England, Blair Drilling is a specialist water engineering company offering water well borehole construction, with associated filtration systems, pumping and disinfection equipment, as well as water testing, viability studies and hydrogeology.

Recently, Blair Drilling embarked on an acquisition programme to upgrade its entire plant inventory, focusing on lightweight, easily transportable and fuel- efficient equipment.

The company uses compressed air with its specialist water well rigs, which have a drilling capability of 100mm to 500mm diameter, to a maximum depth of 330m. In the middle of 2011, Blair Drilling's managing director, Richard Taylor, spent six months researching the market for a new portable compressor:

"The nature of our business is highly varied from domestic properties to agricultural and commercial sites frequently in remote and difficult to access areas; this means we are often faced with restrictions in terms of just getting equipment onto site. Similarly, we've carried out studies on sports turf irrigation at a number of Premier League football clubs where we can't afford any site damage, so the improved access and manoeuvrability of the CompAir TurboScrew unit contributes major improvements in both site safety and the overall impact of the drilling operations," said Taylor. "Our previous plant inventory included a lot of heavyweight equipment, including an 8-tonne compressor, which was difficult to manoeuvre and had high transport costs. "In early 2012, as a result of

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Benefits at a glance

- Savings of up to 34% on fuel consumption
- Fast payment on return on investment
- Lightweight and easily transportable compressor
- Reliable supply of sufficient air pressure and volume

thorough research into the portable compressor market, we chose to purchase a new 17 bar (250 psi), C230TS-17 TurboScrew compressor from CompAir. Our key buying points were; improved fuel efficiency, savings in plant transport, improved health and safety through manoeuvrability, and, very importantly, confidence in the brand. CompAir ticked all of the boxes."

Efficient air

The technology used in CompAir's TurboScrew series of compressors offers a high standard of energy efficiency and reliability, with quiet operation. Using a small and light diesel engine, two exhaust turbochargers pre-compress the intake air for the screw compressor stage. This patented machine concept increases the efficiency of the compressor system significantly, especially in day-to-day part-load operations.

Mr Taylor explains: "We've found that the C230TS-17 uses between 22% and 34% less fuel than our previous compressors. On site, our compressor is always running, but not always operating at full load. At idling speeds the TurboScrew compressor only uses around 10 litres of fuel per hour. At full load it uses 44 litres per hour, whereas our previous compressors always ran at 55 to 65 litres per hour whether idling or on load. The smaller engine, along with a very efficient engine management system returns substantial fuel savings. "What's more, the lightweight design of the compressor means it can be hitched to a 4x4 vehicle and, at 3.4 tonnes, is road towable. This versatility allows us to choose between lorry transport and road towing, showing substantial additional savings in transport costs, which is another major benefit. It's also very quiet, limiting noise pollution."

Skilled drilling

The availability of compressed air is vitally important when drilling water supply boreholes to ensure efficient removal of cuttings, particularly in larger diameter holes where high air volume is essential. The C230TS-17 compressor delivers 23m^3/min (812 cfm) of air at a pressure of 17 bar as standard, making it ideal in applications where on-time job completion is dependant on maintaining sufficient air pressure and volume at depths up to 170 metres.

Fast payback

The low operating cost of the TurboScrew compressor means that Blair Drilling can expect a fast payback on return on investment. Mr Taylor adds: "Our previous compressors have typically had an 8,000 hour life cycle before we look to move them on. Based on the fuel savings we're currently experiencing with the C230TS-17 TurboScrew compressor, we expect the machine to have paid for itself in fuel savings alone after just about 7000 hours, so we'll effectively get 1,000 hours of use for free."

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Richard Taylor, Blair Drilling's Managing Director

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