CompAir

CASE STUDY
FOOD & BEVERAGE

Oil-free compressors cut energy costs by 25% at Belovo

At Belovo's research institute, energy consumption must be monitored closely and stringent HACCP quality standards met.

The performance of its air compressors has a direct impact on product quality and production costs so Belovo must be confident that they are safe and reliable. Now, two new D50H SR oil-free compressors from CompAir have achieved 25% energy savings and a totally clean air supply, eliminating any concerns over product spoilage.

Overview

Client
Belovo

Products
Bastogne, Belgium

Application
Egg Science and technology

Product
Two D50H oil-free compressors

Customer Benefits
Benefit - more than 25% energy savings. Guaranteed oil-free air

Application Details

Belovo is a specialist in egg science and technology and distributes a wide variety of powders, oils and serums to more than fifty countries worldwide.

The company is developing its Bastogne site as a leading research centre for the analysis of food ingredients and needed new compressors that could meet its 24-hour demand for dry, oil-free air. Impressed by CompAir's worldwide support network, Belovo chose the D50H SR oil-free, speed-controlled compressor to provide maximum energy efficiency and reduced cost.

Energy Efficiency

Unlike a fixed speed machine, the D50H SR does not consume full power continuously, reducing Belovo's energy bills by 25%. Construction is much simpler with fewer moving parts for easier maintenance and electronic controls reduce stress on the components, for even longer life.

No Risk of Contamination

The D50H SR is water injected and does not contain a single drop of lubricating oil, so Belovo is assured of premium air quality, eliminating any concerns over product safety.

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Benefits at a glance

- Cuts energy consumption by 25% - saving cost and reducing carbon emissions
- Unique SR technology - uses 3% less energy that traditional inverter technology
- Guaranteed oil-free air - meets HACCP food standards and eliminated product spoilage, saving the expense of rework
- Two compressors maintain set 7 bar pressure - reduced wear and tear for longer service and more efficient operation
- Simple mechanical and electronic design - reduced maintenance downtime and costs
- Continuous remote monitoring - rapid fault finding and preventative maintenance for increased uptime
- Absorption dryers remove air moisture - no risk of product contamination

Remote Monitoring

CompAir's team of engineers monitor the air station remotely and if they detect a problem, they can then take preventative measures or make emergency repairs before production uptime or product quality is affected.

Belovo plans to house its compressed air station and other devices in an adjacent building and will purchase a full maintenance and support package from CompAir on commissioning.

Switched Reluctance Technology

The two D50H SR variable-speed, rotary screw compressors are controlled by Switched Reluctance (SR) technology.

Combined with the latest features for control and monitoring, SR overcomes many of the disadvantages of conventional variable-speed drives and is 3% more energy efficient than a traditional inverter. A simple mechanical and electrical design makes the motor highly robust and low energy losses in both the rotor and power electronics ease thermal management and enhance reliability and efficiency.

Oil-less Compression

Water injected into the compression element provides lubrication, sealing and cooling. The compressors operate at a low temperature providing near isothermal compression for premium efficiency and low power consumption.

Reduced Maintenance

With low operating temperatures, maintenance-free sealed bearings can be used, totally removing the need for lubricating oil in the compressor. The maintenance and environmental costs associated with oil and oil filter changes are therefore eradicated.

> "We must comply with HACCP standards which mean that there can be no risk of the compressed air being contaminated with oil... even if the machine breaks down"

Phillipe Ramirez
Director of Engineering

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