



CASE STUDY

FOOD MANUFACTURE

CompAir slices energy costs at bakery

Just three months after installing two fixed-speed L110s and one regulated-speed L132RS compressor, along with a heat recovery system from CompAir, a leading supplier of bread products is on target to achieve annual energy savings in the region of £188,000, with a payback on investment in less than two years.

Overview

Client

Leading UK Bakery supplying major fast food restaurants

Location

UK

Application

Production air with heat recovery

Products

Two L110 fixed-speed and one L132RS regulated-speed compressors

Customer Benefits

Annual energy savings of £188,000 and two year payback on investment

Application Details

The company recently embarked on a period of investment, with the aim of improving its equipment and processes to ensure consistent production levels.

Compressed air is used throughout the production process, 24 hours per day, to help produce over two million bread products every week. The plant's existing compressors, which were over 20 years old, were no longer providing an efficient source of air, so the company opted to review its compressor system.

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Benefits at a glance

- ▶ High-efficiency system with regulated-speed technology - matches air output to plant demand
- ▶ Heat recovery - reduces gas supply demand for the boilers with savings of up to £139,000 per annum
- ▶ SmartAir Master controller - reduces energy by operating compressors to the narrowest pressure band
- ▶ High quality air - to avoid oil contamination and expensive product spoilage

Inefficient air

The bakery had previously using four fixed-speed compressors, three of which were CompAir machines. Because of their age, and the fact they were running continuously, the compressors were becoming inefficient and expensive to maintain.

A full air audit, including leak testing identified that, by installing three new compressors, including a regulated speed unit as well as a heat recovery system and SmartAir Master controller, the customer could benefit from considerable energy savings. The regulated speed L132RS and fixed speed L110 compressors produce the correct amount of air to match requirements, meaning the compressors are always running at optimum efficiency. The additional fixed speed unit acts as a standby compressor for use during essential maintenance work.

In addition, the SmartAir Master controller from CompAir helps to reduce energy consumption by operating all of the compressors in the network to the narrowest pressure band. The unit's remote monitoring capability allows the operator to view system performance and detect any errors via a PC. It has also allowed machine-running hours to be equalised so that no compressor is over or underused.

Heat recovery

Typically, almost all of the energy that is used to power a compressor is converted to heat and is then wasted.

All three compressors came factory fitted with CompAir's oil-to-water plate heat exchangers, allowing recovery of up to 72% of the power consumed.

The heat recovery system enables the company's boiler water feed to be preheated, helping to reduce the company's annual natural gas consumption, saving approximately £139,000 per year.

Filtering

In order to meet the strict hygiene requirements of the food industry, it is important to generate clean and dry air. The company therefore chose to install a desiccant dryer with steam regeneration from CompAir, along with food grade filtering and oil.

The new system will provide overall annual energy savings in the region of £188,000 with a return on investment in less than two years.



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