

# News from CompAir

## **Only the best is good enough for Hochwald dairy**

### **New Quantima compressor technology assures oil-free compressed air**

At Hochwald Nahrungsmittelwerke's (Hochwald) Erfstadt dairy, one of the cooperative's fastest growing sites, there is continuous investment in production to keep pace with growing consumer demand for a wider range of products, including fresh and long-life milk, cheese and yoghurt.

As a result, the company has expanded its compressed air system by installing CompAir's new Quantima compressor and is one of the first factories in Europe to benefit from the machine's innovative design features. These include high energy efficiency and guaranteed oil-free air quality, with very low cost of ownership for a compressor in its class.

### **High quality and safety standards**

The compressed air is used at many points in the production process, such as when emptying tanks and during sterile filling, placing stringent requirements on its quality. Plant manager Ralf Fuchs explains: "We manufacture high-quality products and, because the air comes into direct contact with these products, we demand the highest levels of purity and safety."

As well as achieving Level 4 International Food Standard (IFS) certification for our production process, we also now satisfy the requirements for IFS level 5 as we are continually developing our quality standards."

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## **Only the best is good enough for Hochwald dairy / 2**

In order to achieve these standards, the Erfstadt factory operates two compressed air networks; one produces oil-free air for the central processing stages and a second, smaller network uses oil-lubricated compressors to supply the packaging machines, where the air does not come into direct contact with the product.

### **Producing oil-free compressed air**

Hochwald has been using CompAir compressors for a number of years to provide the oil-free air that its processes require. Prior to the installation of Quantima, the compressor station housed four CompAir piston compressors, which supplied around 68 m<sup>3</sup>/min of compressed air to the oil-free, 8 bar network. Achim Derr, head of technology explains, “We require 100% oil-free compressed air production because this is the only way we can be sure that there is no contamination and the CompAir piston compressors are able to give us this assurance of air quality.”

To optimise energy usage, Hochwald technicians developed a practical, demand-based control system for the four compressors. Achim Derr explains, “The machines are regulated at half load and controlled centrally. This produces eight power levels which fit the demand profiles perfectly.”

### **Choosing Quantima**

When Hochwald started considering how to expand the compressed air station, it seemed obvious to install two further piston compressors in the space available. However, CompAir proposed a system comprising one new Quantima unit and, following detailed analyses by the plant engineering team including research in to the unit’s energy performance and operating costs, its air quality and its physical size, the benefits were compelling.

Compared to a conventional compressor of the same performance class, a Quantima compressor has less than half the footprint – further evidence that highly innovative developments can lead to simple functionality.

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### **Only the best is good enough for Hochwald dairy / 3**

Derr adds, "The compact installation space was another feature which convinced us to purchase Quantima as otherwise, we would not have been able to fit any other equipment in the compressor room."

He concludes, "We calculated the payback based on data provided by CompAir and the findings were impressive. As a result, CompAir was tasked with supplying and installing one of Europe's first Quantima Q-43s; with a 250 kW drive and maximum volumetric flow of 43 m<sup>3</sup>/min."

### **Using Quantima**

As the largest machine in the station, the Quantima speed-regulated compressor handles the base load and therefore, usually runs at full load. The piston machines are then activated in a cascade when the requirement exceeds 43 m<sup>3</sup>/min. A huge, 30 m<sup>3</sup> storage tank ensures that peaks in load are buffered. Ralf Fuchs adds, "This allows us to make best possible use of the energy-saving potential of the new compressor technology."

Shortly after Quantima was installed, a volumetric flow-recording unit was fitted for all lines and departments. As the compressed air-related power requirement is known, this is enabling Hochwald to calculate the compressed air costs with great accuracy.

Ralf Fuchs adds, "We always monitor the return on investment for any new equipment we purchase and features such as reduced energy demands of course impact on payback. Factors like energy saving and the compact design tipped the scales when it came to making this investment, as did the partnership we have nurtured over the years with CompAir. Staff at Hochwald are already completely satisfied with Quantima."

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