



Oil-free PureAir compressor at Brauhaus Faust brewery in Miltenberg

Outstanding beers demand outstanding compressed air technology

With the extension of their brewhouse, the Brauhaus Faust brewery in Miltenberg has also procured a new compressed air generation system and opted for a regulated-speed PureAir compressor from CompAir. The compressor provides a reliable and economic supply of oil-free compressed air, which always meets the current air requirements and is used to produce the bold, multiple award-winning beers.

World champion at the World Beer Cup, an prize at the European Beer Star Award 2014, gold and silver medals at numerous international competitions: the Brauhaus Faust brewery in Miltenberg, Lower Franconia, has an excellent reputation among beer aficionados. However, to the dismay of many beer lovers, the oldest brewery in the Rhein-Main area (founded in 1654!), only sells its beer in the region. With an annual

production of approximately 55,000hl, the brewery is "small but perfectly formed" and its location in the centre of the historic "Schwarzviertel" (Black Quarter) in the picturesque old town of Miltenberg places a limit on its growth.

The best brown ale in the world

The brewery produces popular classics such as smooth bitter pilsner, tangy wheat beers, traditional bock beer and the fiery, dark "Schwarzviertler". All of these are brewed with ingredients from the region with open fermentation and an extra-long maturation period.

Faust is also known for their unusual beers such as the wood-barrel-aged "Eisbock", which is stored in an ancient vault thirty metres below the brewery building in sandstone rock. The "Eisbock" has been crowned world champion twice in succession at the World Beer Cup – as the best brown ale in the world.

New brewhouse – new compressed air station

At the start of the year, the brewery extended their brewhouse and added several new items including a new lauter tun. New energy stores, which enable waste heat to be used, were also installed. The control technology was also modernised and extended.



The „Eisbock“ matures in a wooden barrel in the vaults of the brewery and was awarded the title of best brown ale in the world.

User

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Machines in use

At the Brauhaus Faust brewery, a highly compact, small, type D15H RS machine with regulated speed 15 kW drive is used. It supplies compressed air with a volume flow of 0.67 to 2.3 m³/min into an 8 bar network.

As part of this work, the brewery also invested in a new compressed air station. "We were using two oil-free piston compressors and one compressor for the control air, which was fed in a separate network. In terms of energy, this was not ideal," says Master brewer and Brewing Engineer Cornelius Faust. "We wanted to take this opportunity, with the modernisation of the brewhouse technology, to purchase a new compressor."

Decision to try an innovative concept

One thing was clear from the start: the new system should also be oil-free. The risk of an oil breakthrough could simply not be entertained and the "slimmer", and thereby more efficient and economical, treatment system of an oil-free compressor spoke for itself. Apart from this, the decision-makers were open to new solutions – and opted for an innovative concept: a PureAir compressor from the CompAir DH range.

It is neither a piston compressor or a screw compressor in the conventional sense. Instead, on the water-injected screw compressors a bronze alloy screw, which is combined with a pair of gate rotors made from carbon fibre-reinforced plastic, takes care of compression.

Oil-free compressed air generation with water as the cooling medium

The advantage of this principle is that there is no metal-to-metal contact in the compression chamber. As a result, the compressor does not require any oil as a lubricating, cooling or sealing medium – which means that the compressed air is produced 100 % oil-free. And as the operating principle of the air end block means that it runs very quietly, the PureAir compressors are characterised by low vibration and noise emissions.



The regulated speed „PureAir“ compressor generates oil-free compressed air with high efficiency.

Instead of oil, the DH compressors with PureAir technology use water as a completely harmless and highly efficient cooling medium. The compression temperatures are therefore very low, with a maximum of 60°C. This leads to an almost isothermal compression, low energy consumption and an extremely high degree of efficiency.

Low operating temperatures and bearing loads enable the use of maintenance-free sealed bearings, which remove the need for any oil lubrication in the compressor. The gearbox bearing is no longer needed, since the motor and air end block are directly coupled and the required speed is generated via an electronic gearbox.

At the Brauhaus Faust brewery, a highly compact, small, type D15H RS machine with regulated speed 15 kW drive is used. It supplies compressed air with a volume flow of 0.67 to 2.3 m³/min into the 8 bar network, thereby meeting the current demand, which is highly variable and means that a clear consumption profile cannot be

identified. A downstream "control filter" provides additional production reliability. A redundant system is not required in the compressed air station as the brewery generates the necessary nitrogen itself and, when servicing is required, the compressor for the nitrogen system also supplies the compressed air network.

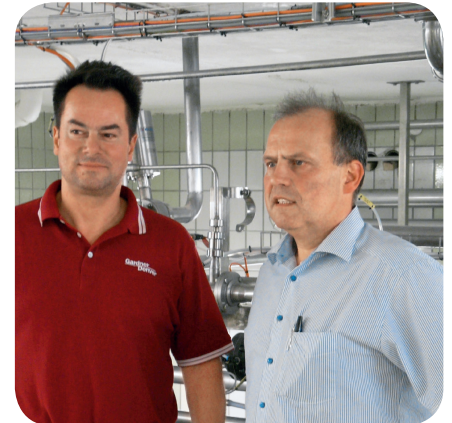
Climate protection award for clear environmental targets and achievements

Brauhaus Faust's commitment to protecting the environment and climate is reflected in the Climate Protection Award 2014, which they received from the Bund Naturschutz (nature conservation association) in Bavaria – due to their clear targets and achievements. Since 2003, the brewery has reduced their energy consumption per generated hectolitre by 24 % and lowered the CO₂ emissions from 16.73 kg to just 11.94 kg. In terms of electricity, Faust relies 100 % on regenerative energy and their water consumption is 30 % less than the industry average.



Brauhaus Faust's commitment to protecting the environment and climate is reflected in the awards such as the Climate Protection Award 2014. The decision-makers at Faust also expect considerable energy savings from the new compressor – without the risk of contaminants entering into the brewing process.

Norbert Nitsche, CompAir, and Master Brewer Cornelius Faust in the fermenting cellar. This is where the cold, open fermentation takes place: a real mark of quality.



The decision makers at Faust also expect considerable energy savings from the new compressor. The DH compressor with PureAir technology has only been in operation for a few weeks, and since the brewhouse was modernised at the same time

and fitted with a more powerful controller, there are no comparison values available. However, everything indicates that the system is always operating very efficiently despite the highly varied consumption profile. And the system also provides a

high degree of reliability and operational safety – without the risk of contaminants entering the brewing process.

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