Air Everywhere

Sustainability projects and low-carbon initiatives need compressed air, gas and vacuum equipment

HELP THE INDUSTRY TO ACHIEVE BETTER ENERGY EFFICIENCY

Compressed air in mills

1. Application

The product range comprises wheat flour and rye flour, maize meal and maize semolina, brans and ground products ready to be processed. The food made using these products is also varied: apart from bread, cornflakes, ice cream wafers, crispbread and crisps are also made from products used in mills.

2. Role of compressed air technology

Compressed air technology plays an important part in many processes within a mill. Filter cleaning, the operation of valves, slide valves and balances, and the fully automatic filling of silo trucks – all these processes are operated electro-pneumatically.

3. Compressed air technology

In foodstuff technology, oilfree screw compressor units with pressures up to 10 bar are mainly used (in this example: 2 units with each 1.125 m^3/h, 132 kW driving capacity, 8 bar differential pressure). Apart from compressors, such plants also use an automatic control system, refrigeration or adsorption dryer as well as a compressed-air storage system.

4. Energy efficiency

In the project mentioned, there was a compressed air audit to match the new system exactly to the requirements and to demonstrate the potential to improve the old machine technology to be replaced. The new frequency converter-controlled compressor units run within their optimal characteristic curve and the operation of both units at low speed is avoided. All the necessary operating parameters and compressed air costs are transparent via the PC program. The energy saving potential in this example compared to the old compressor unit is more than 20%.

Example provided by VDMA member companies