



VACUUM SOLUTIONS



CASE STUDY
FEINKOST DITTMANN

Energy efficiency
in **vacuum packaging**

OUR SOLUTION

Busch were tasked with offering a more reliable and efficient solution. The continued use of the existing pipe network was to be integrated. In addition, the vacuum supply was to be designed in such a way that connection of further packaging machines would be possible if production capacity were to grow. Busch analysed the conditions on site and all technical parameters in detail and worked together closely with the project manager from Feinkost Dittmann and the in-house laboratory. The result of this analysis and comprehensive consultation was a central vacuum system with four MINK claw vacuum pumps.

Three vacuum containers with a volume of 3,000 litres each are upstream from the MINK claw vacuum pumps. This ensures that sufficient vacuum levels are immediately available at the machines when they are

needed. The MINK vacuum pumps in the new central system are controlled so that only those currently needed for the actual vacuum requirements are running. Two of the vacuum pumps with standard motors are responsible for the so-called base load. The other two vacuum pumps are frequency controlled and ensure fine adjustment of the vacuum requirements by adjusting their speed.



WITH THIS INTELLIGENT SOLUTION THE PUMPING SPEED OF THE CENTRAL VACUUM SYSTEM ADJUSTS ITSELF PRECISELY TO THE CURRENT REQUIREMENTS.



COMPANY PROFILE

- Food processing
- Delicatessen products
- Diez, Germany
- www.feinkost-dittmann.de

APPLICATION PROFILE

- Packaging machines
- MINK claw vacuum pumps
- Centralized vacuum system

The basic advantage of MINK claw vacuum pumps is that they do not require an operating fluid such as oil in the compression chamber. This makes all maintenance work that has to do with oil unnecessary. MINK claw vacuum pumps also use non-contact operation. This means that there are no parts in the compression chamber that come into mechanical contact and thus cause wear. This renders the exchange of wear parts and the associated working hours and costs unnecessary. The non-contact operation method of claw vacuum technology also enables a high degree of efficiency and thus requires less motor power than conventional vacuum pumps.

These frequency controls drastically reduce the actual operating times of the individual

vacuum pumps because, during normal operation, all four vacuum pumps never need to operate at full load. So Feinkost Dittmann's central vacuum system has sufficient power reserves to connect further packaging machines.

Maintenance of the new central vacuum system is limited to annual measurements of the ultimate pressure and current consumption at each of the individual vacuum pumps as well as changing the upstream particle filters and an oil change in the gearbox.

„WITH THE INSTALLATION OF THE NEW VACUUM SYSTEM FROM BUSCH WE COULD REDUCE THE ENERGY REQUIREMENTS BY MORE THAN 70 PER CENT“ – ANDREAS LUTZ (PROJECT MANAGER)