

Energy-efficient deep-freezing of food

moneo|RTM optimises maintenance and servicing
by providing a transparent plant condition



Our customer:

One of the leading companies in the production and distribution of frozen products such as vegetables, legumes, rice, pasta and cereals for retail, catering and industry since 1984. To ensure that food safety and environmental protection can be guaranteed at all times, the company is constantly working to optimise processes.

A special freezing system ensures that the colour, smell, taste and texture of the food are preserved. From cultivation and harvesting, cleaning and deep-freezing to packaging and logistics processes, the company takes care of everything itself, so that the products always arrive at the customer with optimum quality.

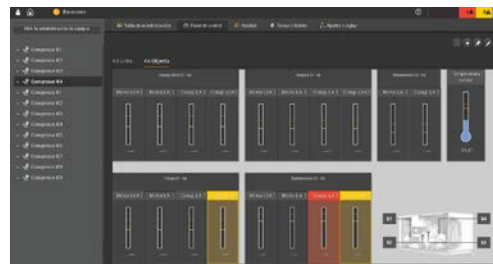


CASE STUDY | FOOD INDUSTRY

The challenge:

The ammonia compressors used for deep-freezing are the company's biggest energy consumers. Correct maintenance and operation can avoid unnecessarily high energy consumption. Maintenance and servicing had to be carried out by the plant manufacturers, as the operator had no reliable indicator to assess maintenance requirements and quality. Therefore, there was a maintenance contract based on preventive maintenance with maintenance scheduled every 25,000 operating hours.

tion, cooling down the plant after a standstill is very energy-intensive. To solve this problem, the company carried out a proof of concept on a compressor together with ifm.



The solution – why ifm?

In contrast to the previous maintenance plan, the interval between maintenance appointments could be increased by 8,000 operating hours with the condition monitoring proof of concept using vibration diagnostics on the compressors. Besides, it can be checked at any time via the moneo RTM software whether the plant is in good condition.

The company quickly recovered the costs for monitoring the system through the longer intervals between costly maintenance. In addition, an unbalance was detected in a compressor that was not older than one year and for which there was still a warranty claim. This saved follow-up costs of more than €40,000 for repairs, energy consumption and maintenance.

Besides, a compressor that was not optimally installed and would also have led to increased costs over time was detected. Since the new acquisition of such a compressor costs more than €1,000,000, the monitoring of the plants by means of vibration diagnostics is worth every penny. Meanwhile, the project has been successfully extended to all 15 locations, and further applications, such as pumps and gearboxes, will follow.

Results:

- Condition monitoring provides transparent insight into the condition of the plant
- High cost savings in maintenance, servicing and energy consumption
- Avoidance of plant downtimes
- Optimum product quality and maintenance of the cold chain are ensured

Since the coordination of maintenance appointments was not based on the actual condition and maintenance requirements of the plants, in the worst case plant downtime could occur in the time between two appointments. A damaged bearing can cause high costs in energy consumption and repair. Even the replacement of small spare parts, such as a screw, can quickly cost €75,000 due to long downtimes caused by defrosting and cooling down the plant. In addition,



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Cost savings through moneo|RTM



Maintenance of the cold chain



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