



Application Report

Quality assurance with checkweighers and metal detectors

About the company:

Customer: Pfanni (Unilever)

Location: Stevenage,
Germany

Application: Quality assurance

Industry: Food

Year: May 2007

Products: Synus 10, EWK 3010,
Discovery, MDP, Sartorius
ProControl for Windows

All about the potato

The 350 employees of the potato refining plant process 150,000 tons per year of fresh potatoes from contracted farmers into 40,000 tons of finished products. Pfanni is thus the market leader in both sales volume and quality. As a part of the Unilever

corporation, Pfanni is represented in 25 European countries by a variety of potato products: dumplings, potato dough, mashed potatoes, gnocchi, fried potatoes, hash browns, country breakfast, country potatoes, and more.

Thanks to the success of their unique mini-dumplings, Pfanni demonstrated substantial economic growth in 2006.



The challenge:

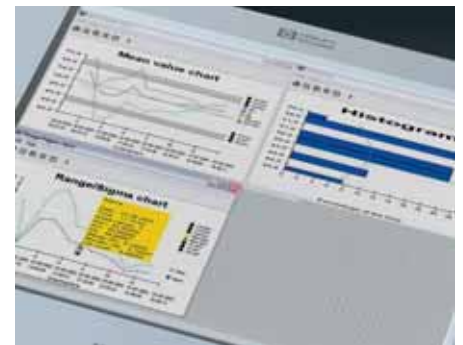
To put Pfanni's first production facility for their new mini-dumplings into operation in 2005.

Pfanni wanted solutions that would guarantee the perfect quality of the dumplings. To meet the strict guidelines of both HACCP regulations and the IFS, the equipment had to be easy to clean. The moistness and consistency of the dumpling impose high demands on the material and design of the measurement equipment.

Furthermore, Pfanni must guarantee its customers that their products are free of metal contaminants, even though the wide variations in temperature during the production process present a major challenge for the accuracy of metal detectors.

Finally, it had to be assured that underweight packages could be rejected and that if possible, overfilling can be detected and the filling machines adjusted all in one step.

It was particularly important for Pfanni that the utmost discretion be assured, since the product was new and innovative technologies were to be used for processing.



The average weight control system for prepackaged products, SPCfWin, provides a comprehensive evaluation of weight data



The MDP metal detector guarantees that products headed for retail are free of metal contaminants



With a throughput of 100 pcs/min the SYNUS checkweigher monitors the weight of the dumpling packages

The solution:

As a preferred supplier, Sartorius was integrated into the project right from the beginning.

To meet high standards of accuracy and cleanability, metal detectors of the Discovery series as well as MDP and dynamic checkweighers of the SYNUS and EWK 3000 series were installed.

The mini-dumplings now roll along the conveyor belt and through the metal detector. Products contaminated by metal can be rejected automatically.

After packaging, the products move along the conveyor belt to the dynamic checkweighers, where they are weighed at a throughput rate of 100 units per minute. Underweight packages are sorted out directly and the weight data is stored and analysed.

The quality assurance system is completed by a connection to Sartorius ProControl for Windows, a control system for prepackages, which provides comprehensive evaluations of weight data.

Conclusion:

"In September of 2005, only seven months after the investment was approved, the first production facility began operations right on time. The wide design range of the metal detectors allowed for optimal adjustment to dumpling size and was supplemented by a special conveyor technique for reliable metal detection without false positives.

The use of the MDP multifrequency system further optimized the detection process," according to Jens Labenz, engineering manager at Pfanni.

The dynamic checkweighers not only ensure comprehensive monitoring and documentation of prepackages in accordance with FPV regulations but also minimize overfilling and thus save valuable raw and packaging materials.

The company was able to integrate their existing Sartorius ProControl program and thus avoided unnecessary investments.

All of the products installed are of course hygienically designed. The stainless steel and protection ratings – IP66 in the metal detectors and IP65 in the dynamic checkweighers allowed for easy cleanability. This protects the machines, saves the equipment operators' time and protects the consumer from contamination.

Due to the remarkable success of the mini-dumpling, a further production line was built in 2007 in the new production hall. Pleased with the cooperation that resulted in the first facility, Labenz decided to use Sartorius products again.

Plant manager Fred Muhsal: "The reliable and punctual delivery in spite of the boom in the mechanical engineering industry at that time was a fantastic performance on the part of all companies involved, and the result of smooth cooperation."



An EWK 3000 checkweigher checks product weight on the second production line



Holger Hölschen, Sartorius sales engineer, and Jens Labenz, engineering manager at Pfanni

For more information

Sartorius AG
Weender Landstrasse 94–108
37075 Goettingen, Germany
Phone +49.551.308.0
Fax +49.551.308.3289

Sartorius Hamburg GmbH
Meiendorfer Straße 205
22145 Hamburg, Germany
Phone +49.40.67960.303
Fax +49.40.67960.383

Sartorius Aachen GmbH & Co KG
Am Gut Wolf 11
52070 Aachen, Germany
Phone +49.241.1827.0
Fax +49.241.1827.210
www.sartorius.com