

Perfect Pasta with Rotronic

JOWA AG Pasta Buchs has been the largest manufacturer of pasta products in Switzerland since it was founded. It is important for the company that its production operations run smoothly and meet strict quality standards. Probes from Rotronic measure the climates in the factory's six production lines, which to a large part manufacture dried pasta for the retailers Migros. Some of the almost indestructible probes have been in use for more than 15 years. To ensure that these instruments return correct data, they need to be calibrated and checked from time to time.



In the reception area of JOWA AG (from left): Marko Schulze, qualification technician (Rotronic) with Andreas Zülle, head of production, and Oliver Höfler, head of site (JOWA, Pasta Buchs).

JOWA AG today manufactures 18,000 tonnes of pasta per year and is thus the largest pasta producer in Switzerland. The market is highly competitive, the eurofranc exchange rate unfavorable, the quality requirements of customers demanding and food legislation strict. It is therefore all the more important that the pasta is produced in the finest quality without production stoppages and rejects.

The drying process plays a key role in the production of dried pasta and is therefore accorded top priority at JOWA. In order to control the climates optimally, temperature and humidity probes from Rotronic are used in the production lines. To preserve the food for a long shelf life and prevent mold and negative microbiological processes, the pasta is dried. Humidity and temperatures therefore need to be monitored closely during production. Legislation in Switzer-

land states that pasta products may not contain more than 13 percent water.

High Demands on Probe Accuracy

JOWA has been manufacturing pasta at its site in Buchs AG since 1963. The requirements of food standards, law and customers are rising continuously. Oliver Höfler, head of the JOWA AG sites Pasta Buchs & Mühle Wildeggen, comments: "Every single production step needs to be traceable in ever more detail, down to each single packet of spaghetti.

The temperature and humidity of each production step must be recorded exactly." Andreas Zülle, head of production at JOWA Pasta Buchs, adds: "It is therefore crucial that our probes measure very accurately and are checked regularly to make sure the quality is right.

In the past we checked all probes internally on an annual basis and sent them in to Rotronic for calibration if we found discrepancies. Now we have Rotronic additionally calibrate the instruments every two years even if our reference measurements lie within the tolerance range.” There are several rea-

"We greatly appreciated the open and transparent collaboration with Rotronic."

Oliver Höfler, JOWA AG, Switzerland

sons for this. Andreas Zülle wanted to have the probes calibrated externally by experts: “Due to the interval, we are dependent on absolutely reliable calibration. In addition to this, we want a calibration certificate for all probes from the specialists Rotronic.”

If unwanted temperature and humidity variations were to occur in the pasta, this could lead to quality defects. For example, to so-called crumbling. The pasta would then dry irregularly and break during cooking. For this reason a sample is taken of every product from the first three and last three pallets for quality assessment. The heads of the different departments evaluate the products daily according to various specified properties such as taste and appearance.



Migros dried pasta perfectly monitored.

Oliver Höfler explains: “If we have to recall products from various stores, this means an enormous financial loss of several ten thousand francs and also a severe blow to the image of our products. A dissatisfied customer – that is something we cannot afford. For this reason it is essential that we are able to rely on the measuring accuracy of the Rotronic probes to 100 percent.” In addition to this, samples need to be taken for analysis from ongoing production every four hours.



Rotronic I200 sensor, providing reliable service for more than 15 years.

Project Workflow: Good and Long-Term Planning

Planning of the calibration project was started around two months before implementation. JOWA AG in Buchs stops production twice a year, two weeks in winter and two weeks in summer, in order to check all equipment and machinery and so maintain the high quality standards. Andreas Zülle, head of production, ensured that the 50 probes (both the I200 transmitters dating back to at least the year 2000 and the newer HF5 generation) were dismantled right at the start of the last inspection so that Marko Schulze, Rotronic’s qualification technician on site, could begin calibrating the measuring devices. All probes were also cataloged. Marko Schulze: “JOWA’s planning was ideal: I was able to check all probes and either get them back into shape or replace them, and then we still had enough time to test the newly adjusted probes.”

Marko Schulze also calibrated other spare probes so that faulty products can be replaced simply during operation without any interruptions in production. Smooth implementation of such an inspection and calibration procedure is also important to Andreas Zülle: “After the calibration, our process specialists were able to start up the production lines again without problem.”

Oliver Höfler adds: “We greatly appreciated the open and transparent collaboration with Rotronic, found Marko Schulze to be an extremely competent partner and are sure we will be able to carry out calibration of our instruments even more efficiently next time. They have now been cataloged in detail. On top of that, we can also check the probes during operation with the Hygropalm from Rotronic.” Both sides benefit from good planning and a good working relationship.



Marko Schulze and Andreas Zülle during reference comparison of an HF5 transmitter with a Hygropalm.



Illustrated example: spaghetti with crumbling, a quality defect that can occur due to temperature and humidity variations.

Calibration and Adjustment by Rotronic

Even though Rotronic instruments boast excellent long-term stability, we recommend that probes be calibrated regularly – once a year is normally enough. More frequent calibration can be necessary if the probes are used in polluted/contaminated atmospheres.

Humidity and temperature measuring devices are precision instruments that must be serviced regularly to maintain reliability. Measurement errors can cause substantial damage to products during production and storage. If the last time you performed a calibration yourself is a while back – why not come to one of our calibration seminars to refresh your knowledge and get some hands-on practice in just five hours?



JOWA AG

JOWA AG is the leading Swiss bakery and supplies its customers from the retail trade, convenience stores and food service sector daily with a wide range of products and individual service concepts.



From 1st of August buns and cream slices to pasta, ham croissants and braided bread, some even gluten-free – the bakery assortment goes far beyond the classical bakery range. The service concepts are tailored specifically to the requirements of customers and extend from logistics and marketing to in-store production. The tasty JOWA breads and pastries are very popular. JOWA breads are served fresh on the table daily in every third Swiss household.

JOWA, which is headquartered in Volketswil, operates 11 regional bakeries, a durum wheat mill, a pasta factory, a factory for gluten-free products as well as around 100 in-store bakeries in all regions of Switzerland. With more than 3000 different products and an annual production output of more than 166,000 tonnes and net sales of CHF 787.3 million, JOWA is one of the biggest food manufacturers in Switzerland.

JOWA employs a workforce of around 3,200 people and, with more than 140 apprentices and trainees, is the biggest training company in the Swiss bakery industry. JOWA is a wholly-owned subsidiary of Migros.

JOWA Pasta Buchs, the Migros Pasta Factory

JOWA Pasta Buchs has been producing dried pasta in Buchs AG for more than 50 years, to a large part for Migros. The durum wheat semolina needed for production comes from a mill in Wildegg that also belongs to JOWA. A team of 46, working three shifts a day, ensure daily that high-quality raw materials are transformed into products at an optimum price-performance ratio.

Rotronic AG

Rotronic was founded in 1965 and employs a workforce of more than 200. The international manufacturing and trading company has locations and subsidiaries in eight countries. The group offers a wide range of products and services for dealers and industrial customers in the field of measurement solutions, safety systems and uninterruptible power supply.

As a leader in the field of humidity and temperature measurement, Rotronic is also increasingly making a name for itself as one of the strongest players worldwide in the measurement of other parameters.