

ISHIDA AIRSCAN ENSURES MAP QUALITY FOR GLUTEN-FREE PRODUCTS

Case Study
JOWA

Facts and figures

- » Fully intact MAP is essential to keep food free of gluten and ensure a guaranteed shelf life of up to 180 days.
- » The Ishida AirScan inline leak detection system checks every pack of gluten free product for leaking CO₂.
- » The high-performance system checks each individual thermoformed tray in less than 20 milliseconds and is able to find 0.25mm holes.

An Ishida AirScan leak detection system is helping to ensure the seal integrity of a range of gluten-free pasta and baked goods from Swiss company JOWA AG.

Challenge

The company needs to be confident that its modified-atmosphere packaging (MAP) is sealed properly in order to prevent cross-contamination from products made using conventional methods. An intact protective atmosphere is also essential for products that do not contain any preservatives.

The gluten-free production at JOWA's factory in Huttwil involves a sophisticated process chain, from exceptionally strict controls on ingredients and stringent production safety requirements to the need to pack the products in a cleanroom. This protects products from being contaminated with gluten, while the sterile conditions render preservatives largely unnecessary.

Solution

Fully intact MAP is essential to keep food free of gluten and ensure a guaranteed shelf life of up to 180 days. In addition, as JOWA site manager Rochus Liniger explains: "Gluten-free food is susceptible to variations in consistency if the protective atmosphere is not quite right."

JOWA uses a variety of thermoformed tray formats for a wide range of products, such as bread, rolls and muffins. The need for effective leak detection arose when the company came to automate the wrap-around packaging process at the end of the packing





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line. Employees had previously carried out this aspect of inspection when manually applying the wrap-around packaging, while spot checks on random samples provided an added layer of security. However, the time had come for fully automated leak detection.

“We were looking for an in-line machine that could work at high speed with first-rate reliability and, unlike conventional systems, would be capable of picking out individual packs,” says Rochus Liniger.

Itech AG, which represents Ishida in Switzerland from its site in Rotkreuz, was the only supplier to offer a suitable solution with the Ishida AirScan, a revolutionary in-line system for detecting leaks in MAP. The system uses laser technology to detect leaking carbon dioxide (CO₂). The high-performance system checks each individual thermoformed tray in less than 20 milliseconds.

With an output of up to 180 packs per minute, the AirScan is able to find holes as small as 0.25 mm in diameter. Any identified leaking packs are separated from the line using a powerful air nozzle and ejected into a locked reject bin. Although the reject rate is low at JOWA, there is always a risk of bits of product getting into the seals and causing leaks. Packaging can also suffer damage from the crusts of bakery products, which are sometimes quite sharp.

The Ishida AirScan is very easy to operate and requires barely any maintenance. No changes to settings are needed for product changeovers, apart from occasional adjustments to the height-adjustable control arm and sensor for different pack heights. Another benefit is that users find material costs falling as the inspection process is completely non-destructive.

The AirScan has been easily integrated into the JOWA packing line, with the compact system installed above an existing conveyor without the need for time-consuming modifications to the line configuration. The system runs on a two-shift schedule, and JOWA is very happy with it.

Since its installation, the company has reduced the rate of complaints resulting from mouldy products. Rochus Liniger describes the Ishida machine as “an ingenious solution” and is delighted that he has “less to worry about now”, declaring that the company’s investment in the technology paid for itself in no time.

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