

ISHIDA X-RAY ENSURES GINGERBREAD QUALITY

Case Study **Frank Lebkuchen**

Facts and figures

- » The IX-GA-2475 reaches belt speeds of up to 90 metres per minute.
- » The IX-GA-2475 detects foreign bodies with a diameter of only 0.5 mm.
- » Ishida's patented X-ray technology is based on software featuring an intelligent genetic algorithm. By analysing image data over a number of generations, the machine achieves an extremely high level of inspection accuracy.

Leading German gingerbread manufacturer Frank Lebkuchen GmbH has enhanced its already strict quality control procedures with the installation of an Ishida IX-GA-2475 X-ray machine. Based in Arzberg in the Fichtel Mountains of Bavaria Frank Lebkuchen has been making the finest Elisen gingerbread for over 150 years.

Challenge

The new inspection system is in operation at the end of the company's most important production line, checking its standard mixed gingerbread pack with a fill weight of 200 grams, which is Frank Lebkuchen's best-selling product and accounts for almost 80% of its entire output. The foil-wrapped cardboard trays each contain seven pieces of a mix of the three different gingerbread types – natural, chocolate-coated and frosted.

The gingerbread pieces sit upright in the packs and, due to their different thicknesses, place high demands on the X-ray inspection system.

Solution

Nevertheless the Ishida X-ray has been able to be calibrated perfectly for its intended use. The IX-GA-2475 reaches belt speeds of up to 90 metres per minute and detects foreign bodies with a diameter of only 0.5 mm, which are eliminated using an air-blast nozzle.

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Since similar contaminants are usually found again and again in food manufacture, the system can, with each inspection procedure, create an increasingly accurate comparison log with valuable visual and numerical information that helps to eliminate recurring sources of contamination.

In this way, Frank Lebkuchen can demonstrate that its production and packing processes are properly and correctly performed. Batch traceability is very important to the company, which is awaiting IFS certification.

The easy-to-use IX-GA-2475 features an automatic set-up function and is ready to use within 90 seconds, while up to 100 pre-sets facilitate the frequent changes of product. “The different types of gingerbread in the pack are easy to programme, and we can fulfil new orders very quickly,” comments Frank Lebkuchen’s managing director Helmut Frank.

Precision adjustments can be made during ongoing production, and password-protected areas ensure that certain settings can be changed only by authorised employees. Equally important, the machine’s hygiene-friendly, IP65 rated open-frame design means that it can be easily cleaned.

Although its ingredient suppliers carry out their own preliminary checks and the company already used metal detection, Frank Lebkuchen

decided to enhance its inspection systems further with the use of X-ray inspection technology.

The company turned to Ishida “because the company is the leader in X-ray inspection technology,” says Helmut Frank. A comprehensive series of tests at Ishida’s centre for X-ray inspection in Norderstedt, near Hamburg, was then undertaken with various packs of gingerbread deliberately prepared with contaminants before undergoing inspection. The system reliably detected even the smallest foreign bodies made from metal, hard rubber and glass inside the gingerbread. “The results of the tests were convincing and the foreign body detection worked wonderfully,” says Helmut Frank.

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The X-ray inspection system is in use for 10 to 14 hours per day and has already found contaminants such as soil and bits of nutshells. “We generally have very few foreign bodies. On average, there is one contaminant per tonne of product output, as we don’t scrimp on purchasing and take the greatest possible care in our own processes. However, the X-ray inspection system has eliminated another possible risk for consumers,” says Helmut Frank.

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