

ISHIDA X-RAY SOLUTION PROVIDES AN IMPORTANT STEP TOWARDS BONE-FREE CHICKEN BREASTS AND THIGHS

Case Study **Nortura**

Facts and figures

- » Nortura can now consistently pick up, down to a size (for fully calcified bone) of 3 mm or 4 mm.
- » A full truck load of birds undergoes processing and packing in just 20 minutes.
- » This is reflected in a belt speed of 25m per minute on the fillet lines and is well within the capacity of the G2.

Three Ishida IX-G2 Dual Energy X-ray inspection systems are providing effective quality control for chicken breast fillets and deboned thigh meat produced at the Haerland factory of Norway-based Nortura, an agricultural co-operative and the largest supplier of meat and eggs in Norway.

At Nortura the individual fillets emerge from the cut-up to the inspection stage well separated from each other, but the G2 has been shown to be capable of picking up small fragments even in packs of overlapping fillets.

Challenge

While cutting equipment for poultry has become more and more accurate over the years, there is still a need to ensure maximum quality and safety, as Nils Olaf Vikmark, Process Engineer at Nortura explains: "If the cutter removes a piece of the wishbone along with the breast, then we need to be aware of it: to find it and remove it. If left in, either arm of the wishbone is long enough and strong enough to cause trouble for anyone swallowing it."

Solution

Where ordinary X-ray detection equipment obtains an image using X-rays of one energy, the IX-G2 uses rays of two different energies to produce two images. These are then compared, which helps to eliminate the background effect caused by the product itself and improves the detection of low-density contaminants such as bone fragments.





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Breast fillets, with their consistent-density fibres all running in the same direction, do not present as great a challenge to X-ray inspection as deboned thighs, whose muscle and fat vary considerably in density. A single IX-G2 is enough to monitor the combined output of deboned thighs at Haerland, ensuring that they are fully up to standard.

“The bigger the customer, the more likely they are to have their own specific limits for size and density of bone fragments”, says Nils Olaf Vikmark. “We deal with a major international fast-food company, for example, that has its own set of criteria for X-ray detection, just as it had for metal detection before. With the G2, we can in fact do significantly better than those standards.”

At Haerland, a full truck load of birds undergoes processing and packing in just 20 minutes. This is reflected in a belt speed of 25m per minute on the fillet lines and is well within the capacity of the G2. Nortura also considers the Ishida X-ray system, with its width of just 800mm excluding reject systems, to be reasonably compact. X-rays are the favoured approach to the detection of a wide range of solid contaminants, with Ishida now the major supplier of inspection systems to the food industry

worldwide. Machine set up is simple and takes place automatically when a product sample is passed through several times.

“ The operators are very pleased with the G2, as they get good results without excessive preparation. ”

Nils recalls the days when 50% of fillets had to be rejected in order to achieve acceptably bone-free product. “Nowadays very few will have significant bone fragments, which makes it all the more important to be able to decisively remove these from the product stream.”

He believes that advances in X-ray inspection of poultry are not just driven by retailer and consumer demands but also by automation itself. “There is very little close human eye or hand contact with each piece. Reliable X-ray detection at speed has therefore become essential.”

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