

New Ishida X-ray technology takes quality inspection to the highest level

Ishida is launching a top of the range X-ray inspection system that incorporates new sensor and image processing technology to achieve the highest level of detection sensitivity. The Ishida IX-PD is capable of detecting both low-density and very small size foreign bodies with excellent accuracy whilst enabling manufacturers to maintain high productivity rates.

Combined with Ishida's already proven Genetic Algorithm (GA) and Dual Energy technologies, the new machine produces an ultra-high resolution and clearer image than conventional X-ray systems. This allows the Ishida IX-PD to offer enhanced detection for low-density items including bones in fish fillets and also minute foreign bodies such as stainless steel wires. In addition, the new model is capable of reliably detecting foreign bodies in applications where products are overlapping or standing up in a pack.

In tests, the IX-PD demonstrated near 100% detection rates for bones in a variety of products including chicken, diced meat and sausages, for example achieving an increase from 40% to 100% compared to existing X-ray technologies for the detection of bone in chicken breast fillets. The performance enhancement of the IX-PD has been designed for high-volume production lines and where there is a tendency of overlap in densely packed food products, which makes fine contaminants difficult to detect.

The enhanced detection capabilities of the IX-PD further minimise the need for manual inspections, and the machine's ability to recognise the difference between food and foreign bodies with high accuracy reduces the rate of detection errors. In this way, companies can maintain stringent quality control procedures without compromising on throughput rates.

"We understand the importance that businesses today place on quality and the rigorous standards that they employ throughout their operations; however, even the smallest error can have serious consequences for a company's or brand's image, particularly in today's social media world," explained Sibtain Naqvi, Ishida Europe's X-ray Product Manager.

"This was the driving force behind the development of our new IX-PD, which represents a real step-change in X-ray inspection systems. Its new technology delivers the best ever sensitivity to give manufacturers complete confidence in the effectiveness of their quality control procedures."

Direct Conversion technology enables the X-rays to be directly converted to electrons rather than through a photodiode. Removing one of the stages in the inspection process increases the energy efficiency of the IX-PD. Maximum output for the system is 300W, while tube voltage is between 25 and 75kv, with Ishida's GA self-learning technology adapting this to the precise requirement of the foreign bodies to be detected. The energy-efficient operation also helps to extend the shelf life of the X-ray tube.

The Ishida IX-PD will be available in two sizes to meet the requirements of the widest variety of product and pack sizes. The options of 360mm and 450mm width allows flexibility of application detection from unpackaged meat products to boxed

food applications where products are overlapped. Both offer compact dimensions for easy integration into packing lines. An IP66 waterproof construction provides full washdown protection for maximum hygiene.

Like all Ishida X-ray inspection systems, the IX-PD also has the ability to carry out other quality control functions including weight estimation and identifying damaged product or packaging or missing items.

"The launch of the IX-PD marks another milestone in Ishida's X-ray technology development," concluded Sibtain Naqvi. "Its high accuracy detection of the most challenging products and foreign bodies provides complete peace of mind for food manufacturers."

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Ishida is a world leader in the design, manufacture and installation of complete weighing, packing and inspection solutions for the food industry, helping manufacturers increase automation, reduce cost and downtime, increase operational efficiencies and maximise profits. With an installed global base well in excess of 100,000 industrial machines, covering a huge number of applications and end markets, the company is the undisputed world market leader for multihead weighers and one of the leading global suppliers of snack food bagmakers, graders, traysealers, X-ray inspection systems, checkweighers, leak detectors and Industry 4.0 solutions. This extensive product range, along with the company's in-depth knowledge and experience of many industries, mean that Ishida is able to design and install complete turnkey solutions for markets such as snacks and other dry foods, meat, poultry, fish, dairy, ready meals and fresh produce.

The company's vision is to play an enduring and indispensable role in the global food supply chain, ensuring food products are delivered and consumed safely, efficiently and sustainably around the world.

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