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Interceptor conquers product effect on meat and poultry lines

At the 2018 International Production & Processing Expo (@IPPEexpo), the Interceptor metal detector from Fortress Technology takes wet food inspection to a new level of sensitivity.

Conquering the longstanding challenge of ‘product effect’ caused by moisture and minerals, the Interceptor, is specifically designed to inspect conductive applications including meat, poultry and fish, helping to eliminate false rejects.

On raw meat and poultry lines, products are exposed to a variety of processes, including cutting, slicing and mincing. Although stainless steel contamination in products is a rare occurrence, the metal is prevalent in industrial meat preparation equipment.

By utilizing a simultaneous multi-frequency operation, the Fortress Interceptor effectively processes the transmission and reception of multiple frequencies continuously over a broad spectrum. This revolutionary operation facilitates an improvement in detection capabilities of up to 100% with stainless steel, especially when inspecting traditionally difficult “wet” products. This technology is especially beneficial for producers using metalized film in their process or with products that create a challenging product effect.

Splitting the frequency signals means that the machine can clearly differentiate between the signal generated by the product as a result of moisture or mineral content (for example salt that’s prevalent in bacon) and any metal contaminant. This puts a stop to a potential stainless-steel signal being ‘swamped’ by product effect.

Cutting out background interference
The Interceptor builds upon the cutting-edge Simultaneous Multi-Frequency Technology introduced by Fortress almost a decade ago. The technology works by carrying out a real-time analysis of a low-frequency and a high-frequency signal simultaneously.

Using an advanced algorithm, the Interceptor is able to split the product and metal detection signals and then link the readings back together. Compared to the traditional approach where inspection systems would tune into specific frequencies, this method can identify the product effect (most noticeable at lower frequencies) and eliminate it from the higher-frequency signal, where the potential effect of the metal is more prominent.

In some cases, alternative approaches may work on up to 10 different frequencies, where the system homes in on the most relevant range. However, metal detectors that select individual frequency ranges are not able to eliminate the product effect as readily and reliably as Interceptor, claim the Fortress team.

For ease of use, the system learns and recalls the signature of any given product with just one pass. Available on all Fortress models, including Phantom and Stealth, this single pass product learning makes the manufacturing process much simpler for production staff and reduces the time spent introducing and checking operational protocols.
Being IP69K rated, the new range is resistant to water ingress, ensuring long-term reliability and performance under heavy washdown meat processing environments. Made to order, Interceptor units can be customized and deployed in different checkpoints on the meat production and packing line. For products with minced meat, such as sausages, pipeline configurations can also be incorporated.

Moving ever closer to the performance of x-ray but at a much lower capital investment, the Interceptor also reliably detects the range of ferrous and non-ferrous metals, including aluminum. For bulk meat cuts, which pose a challenge to x-ray because of the variation in density, the Interceptor is the only sure option for the detection of metal contaminant.

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Notes to the editor
Images/captions

Fortress Technology’s Interceptor model accurately inspects wet and conductive meat products helping to eliminate false rejects.

Single pass learning and 100% improvement in stainless steel detection sensitivity are among the benefits of the Interceptor range.

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Fortress Technology Ltd. is a privately-owned Toronto based company. Fortress Technology is the only metal detection manufacturer that, since its inception in 1996, custom manufactures metal detectors to suit its customers’ needs, application and specification while ensuring optimal performance. Dedicated to their Never Obsolete Commitment, new technology is developed to be backwards compatible and accessible without having to purchase an entirely new system. Renowned in the industry for their speed, accuracy and simple operation, Fortress systems are used widely within a range of food industry sectors including bakery, meats, ready meals, dairy, confectionery, fresh foods, frozen foods. In addition to product manufacture, the company offers a range of before and after sales service and support services including consultation, product testing, training, preventative maintenance plans, spare parts and validation visits. Fortress is a global enterprise providing worldwide coverage from its manufacturing facilities in Canada, the UK, and Brazil.

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