



Food

High-tech metal detector ensures strictest quality specifications for Wheaty products



TOPAS GmbH (Germany)

Product: UNICON, INTUITY, AI,
VARICON, GLS, GHF

TOPAS GmbH is a pioneer in the field of vegan nutrition. The family business produces vegan meat and cheese alternatives in Kernen, Germany, including the well-known Wheaty brand. With around 100 employees, 50 different products and deliveries to 16 European countries, TOPAS attaches great importance to the highest quality and continuous further development.

Produced exclusively in Germany using regional raw materials, the products meet the most stringent ecological quality requirements and are certified according to the IFS. Since the foundation until now with the second family generation in the company management, constant development in the areas of product and technology plays an important role.

All Wheaty products are based on organic wheat protein, so-called seitan. During its production, the wheat grains are first processed into flour, which is washed and kneaded several times with water until the starch is washed out and only wheat protein remains. Cooked with various ingredients and spices, the result is seitan, a wet mass that has a meat-like consistency.



Seitan unseasoned and seasoned (among others with soy sauce)

The problem: Water content and ambient conditions affect the accuracy of metal detectors and cause false alarms

When using metal detectors in the food industry, it is important to keep in mind that many foodstuffs exhibit a so-called product effect. This product effect is caused e.g., by a high water or salt content, which leads to the so-called intrinsic conductivity. This impairs the metal detection in that the detector may report a metal signal even though no metal is present in the product. The result: false triggering occurs, and a perfect product is rejected. Vibrations in the vicinity of metal detectors can also cause false resolutions.

In the case of products with a high product effect (intrinsic conductivity), the sensitivity of the metal detector is reduced. However, this increases the risk of metal contamination in the end product.

The solution: Combination of conveyor belt and metal detector with AI

The Sesotec complete metal detection system UNICON+ for dry or wet area consists of a conveyor belt, the INTUITY metal detector (coil and control unit), and as optional with reject system. The metal detection system can be integrated into different production stages. The INTUITY coil technology with extremely short metal-free zone enables shortest conveyor belt lengths, which is very important due to the limited space available at TOPAS GmbH.



The metal detection system from Sesotec UNICON+W 2000/500/600/150 IC INTUITY 600/150 with one flap as a reject system and a cover up to the end of the belt meets the requirements for detection accuracy: ferrous FE 1mm, non-ferrous NFE 1mm and stainless steel SS 1.3mm

The INTUITY metal detector uses THiNK technology, which is based on AI (Artificial Intelligence) methods. Products with high and/or fluctuating product effects can be examined better and more stable with THiNK. Sesotec THiNK can detect "false" interference signals caused by the product effect. The advantages: Metal particles are reliably detected and there are fewer false alarms.

The metal detection system, which is installed after packaging, inspects the finished products at the last CCP (Critical Control Point) for metallic foreign bodies (stainless steel, ferrous and non-ferrous), thus guaranteeing pure products for consumers.

Customer benefits: Fewer complaints due to highest detection performance

As a food manufacturer, TOPAS has to comply with strict guidelines and standards regarding Food Safety. With THiNK, the product effect can be almost eliminated, which enables a high sensitivity setting with which TOPAS can detect the smallest metal particles. The advantage for Wheaty products: greater safety, fewer complaints and less product loss.

"All in all, it was a great project with Sesotec. From our side, there were several different requirements for the metal detectors, which were well solved by Sesotec. Stability, sensitivities, integration – these were all factors that presented us with challenges that are now no longer an issue. We can fully concentrate on our products, which is the most important thing for us", says Mr. Behne, plant manager at TOPAS GmbH.

THiNK

"THiNK", the latest innovation from the Sesotec headquarters, is a metal detection system equipped with Artificial Intelligence. Sesotec's THiNK metal detectors for the food industry apply Artificial Intelligence in order to virtually eliminate the interference caused by product effect, even in the most difficult food products.

<https://www.sesotec.com/emea/en/lp/think>

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Sesotec - an overview

The Sesotec group is one of the leading manufacturers of machines and systems for contaminant detection and material sorting. Product sales primarily focus on the food, plastics, and recycling industries.

www.sesotec.com



Metal detection systems



X-ray inspection systems



Sorting systems



Magnet systems