

Advanced Metal Detection for Raw Material Control



Zentis GmbH & Co has specialized in the preparation of fruit and other natural products for more than 120 years and is one of Europe's leading fruit preparation companies. The high quality of its fruit preparations and the resulting safety for consumers are key factors to Zentis' success.

Quality at every stage of production

Its main supplier is nature itself. In order to be able to ensure consistently high quality on a permanent basis, Zentis uses a wide-ranging quality assurance system, including in-process quality controls, even as early as during the selection of the raw ingredients.

An important component of these quality controls is the use of metal detection systems from METTLER TOLEDO as part of a comprehensive Hazard Analysis and Critical Control Point



METTLER TOLEDO's Profile Advantage is a dependable control point in Zentis' incoming goods control.

Zentis GmbH & Co.

Metal detection inspection
of wet products



When metal is detected, the product is ejected from the process by reversing the conveyor belt. This approach improves process reliability at Zentis, and ensures only raw goods that are completely free of metal are processed further, protecting its products and brand.

(HACCP) programme to prevent metal contaminants entering the production process.

During incoming goods control, a Profile Advantage metal detection system inspects raw pineapple chunks from 2-3 kilogram cans. After the cans are opened in an automated process, the pineapple chunks are shaken onto a conveyor belt and immediately guided through the Profile Advantage metal detector.

If small metal particles have been left in the pineapple from the supplier's cutting process or the automatic can-opening process, the Profile Advantage detects these foreign bodies and removes the affected product from the production process automatically using a reverse belt reject mechanism.

Offering the highest sensitivity when inspecting 'wet' products and a dependable rejection system, the Profile Advantage gives Zentis complete process reliability.

When the belt is reversed for this process, the product infeed from the can-opening system also stops in order to prevent unnecessary product loss.

Zentis only further processes raw ingredients that are completely free of metal.

Brand protection and compliance

The Profile Advantage uses advanced multi-simultaneous frequency (MSF) technology. This allows it to increase its detection sensitivity for metallic contaminants by up to 50 percent (based on ball diameter) compared to conventional metal detection

systems when inspecting 'wet' products, or those with high salt content, variable temperature, or packed in metallized film.

The combination of MSF and Product Signal Suppression technologies enables Profile Advantage to overcome a phenomenon known as 'product effect'. This is where the product's own characteristics can inhibit the metal detector's ability to identify specific contaminants.



The wet characteristic of the pineapple makes it a challenging product for traditional metal detectors to inspect due to product effect, but Profile Advantage excels when inspecting these types of applications.



The Profile Advantage metal detector is combined with a conveyor system for easy integration into the production line.

Profile Advantage is able to effectively remove the product signal to allow the detection of smaller metal contaminants.

In the process, the Profile Advantage not only protects the reputation of the Zentis brand, but also strengthens the company's competitive edge on the international market.

Furthermore, all of Zentis' conformity requirements are supported by the metal detection solution. Zentis has achieved IFS "Higher Level" certification.

The Profile Advantage is defined as a critical control point as per HACCP in the production process. All data can be accessed directly on the metal detection solution for the HACCP review.

Increased productivity, reduced costs

Intuitive product clustering technology allows for the use of one product setting for multiple products. This approach simplifies operation and shortens the setup time when switching products on the line.

Furthermore, false rejects are minimized thanks to modern inspection technology. System availability is significantly increased, which in turn further reduces costs.

Profile Advantage also provides valuable information for process optimization. In addition to comprehensive support of quality management, the Profile Advantage increases Zentis' productivity through increased operator efficiency.

Thanks to the Profile Advantage, Zentis was able to reduce its maintenance costs by up to 80 percent.

Profile Advantage is designed and constructed for operation in harsh environments. Available in stainless steel with a bead blast or brushed finish to meet a variety of hygiene standards, and finished in either IP65 or IP69K.





Zentis is one of Europe's leading fruit preparation companies

About the Company

Zentis has been operating in Aachen, Germany since 1893. Its many fruit preparations add fruity flavours to yogurt, fruit-based quark, and many other dairy products and enrich a number of baked goods and confectionery.

Zentis also produces a wide range of quality jams and preserves, sweet spreads, and confectionery for end consumers. Its products are sold worldwide. In addition to different branches, Zentis has its own production facilities in Poland, Hungary, and the USA.

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Mettler-Toledo GmbH

8606 Greifensee
Switzerland

E-mail: product.inspection@mt.com
Website: www.mt.com/contact

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