

Top-quality with maximum flexibility: Increasing challenges in pet food production

The pet food production industry is more and more confronted with similar requirements to the food industry: Ensuring contamination-free products has always been the most important premise for both industries. In addition, new trends in food production are reflected in the production of pet food, forcing companies to be flexible. With its broad product portfolio of weighing and inspection solutions, Minebea Intec offers the right solution for every production step to be prepared for the future.

Pet food has long since ceased to be merely a source of food for pets, but often reflects the lifestyle of their owners. Nowadays, pets are a complete member of the family – and pet owners often have the same demands on their pet food as they do on their own diet. New topics such as sustainability or organic products, for example, are playing an increasingly important role in pet food. Such new products are initially produced in smaller batches. To achieve this, the machines used in the production line must be flexible and allow changes even after the initial installation.

There is no shortage of animal buyers: 417 million dogs and 373 million cats alone are kept as pets worldwide. This huge target group is also reflected in the increasing turnover of pet food producers: Nestlé, one of the leading manufacturers of pet food products, achieved sales of around 12.96 billion euros in this market segment last year, which is almost 15 percent of total sales. But how do producers ensure that they can meet the changing demands of the market?

Flexibility in production – solutions from Minebea Intec help

Minebea Intec, one of the internationally leading manufacturers of industrial weighing and inspection technologies, counts established pet food producers among its long-standing customers – and therefore knows what matters.

"We can offer plant manufacturers and producers of pet food flexible, high-performance solutions for every required process step," says Matthias Rehren, Global Sales Manager Key Account and OEM business. "Our portfolio includes systems for all areas: For use in incoming goods, for intermediate storage of raw materials, for the actual production process as well as for packaging and final quality inspection. Our solutions are thus optimally designed for the needs of the industry from incoming goods to despatch". Rehren names the dynamic checkweigher Flexus (for reliable dynamic checkweighing), the Dymond 80 X-ray inspection system (for foreign object inspection and fill level control) and the SPC@Enterprise software (for statistical process control and recognition of optimization potential) as product highlights as examples of his company that excellently meet the requirements of the industry. Minebea Intec offers its products in a variety of configurations, some of which can be adapted even after initial installation. Thanks to around 150 years of experience, tailor-made solutions for customers are also possible. Product quality and consumer safety are our top priorities.

Minebea Intec meets the highest demands for foreign object detection

Since the 1970s, the European legislation has issued a series of directives and regulations to ensure consistently high quality. Many of these laws are also found in the production of human food and its supply chain. Metal detectors as well as X-ray inspection equipment are used at several points in pet food production to exclude contamination by foreign bodies made of metal, stones, plastic or other materials. This starts even before processing, where the basic ingredients are examined for possible contamination. During later processing steps, such as mixing the ingredients, product contamination can be caused by rubbing from containers or machines and finally, packaging is also checked by inspection solutions.

Established pet food manufacturers rely on metal detection systems from Minebea Intec: Free-fall detection systems such as the Vistus FreeFall ensure quality control of the raw materials. The Vistus metal detector, which detects both ferrous and non-ferrous metals, is popular in packaging inspection. The simple mounting on the metal detection belt allows a quick and easy integration into the production or packaging line.

At the end of the production chain, the manufacturer's versatile X-ray inspection systems are not only suitable for the final detection of foreign objects but also for checking for completeness or fill level. The inspection solutions detect foreign objects regardless of the type of packaging. After all, as with people, defective products and the associated recall campaigns are associated with severe damage to the company's image and financial losses. To avoid this, metal detectors and inspection devices are used which can be individually designed to meet legal requirements and production needs.

Precise weighing eliminates excess product

In addition to the foreign object check, the checkweighers and load cells from Minebea Intec are ideal for maintaining the exact quantities in the recipe of the individual components. When weighing packages containing individual products such as food sticks, the bestseller from Minebea Intec, the Synus checkweigher, can ensure that the package contains the desired weight or quantity by means of 100% random sampling or completeness checks.

Here, the company's fast and high-precision solutions score points: Like the Synus, the EWK 30/60 weighing solution offers precise results through the use of electromagnetic force compensation (EMFC) load cells and also scores with extremely high throughput of up to 600 pieces per minute in individual configurations. The checkweigher is particularly interesting in the special configuration as a multi-track system, so that several product types can be checked simultaneously.

If space in the production line is limited, the use of the Cosynus combi device is recommended - a combined solution consisting of the Synus checkweigher and the Vistus metal detector: Here, the user controls and configures two machines via a common interface, which is both clear and time-

saving. A load cell with electromagnetic force compensation is also built into this device. Optionally, a trend controller can be installed in order to achieve a filling improvement.

Statistical process control helps to take advantage of unused potential

The use of software is recommended to ensure statistical process control. With SPC@Enterprise, Minebea Intec provides the plant operator with a tool that monitors the entire process chain. The SPC@Enterprise software combines classic fill quantity control with dynamic process control for a wide range of different systems and thus efficiently supports quality management in production. Real-time monitoring reduces reaction times and allows individually configured alarms and reports. As a result, both production speed and production quality can be increased. By using SPC@Enterprise, producers of pet food can be sure to avoid the production of surplus feed due to inaccurate filling when formulating wet or dry feed.

"Plant engineers should be aware before purchasing weighing and inspection solutions that an initial higher investment often pays off many times over: Minebea Intec not only supports its customers with the right weighing and inspection solution, but also with decades of experience," says Stefan Meihöfer, Sales Manager End Customer Business Germany. This also pays off in terms of service: Customers can choose between different service levels, from basic to round-the-clock service. All contract levels include the experience of over 150 years of expertise in the areas of weighing and inspection solutions. Innovative tools such as miRemote, for example, offer the possibility of receiving competent assistance 24/7 through the use of Augmented Reality and first aid in the event of faults through the direct video connection, which minimizes possible downtimes. "In this way we ensure that we live up to our claim of "the true measure" - also for our animal customers." Meihöfer promises with a smile.

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