

Press release

Minebea Intec and the plastics industry

Modern technologies provide targeted support for the plastics industry



Plastic is still the material of the future. The plastics industry, and the plastics processing industry in particular, provide a platform for technological advancement and form the basis for a range of other industries. However, there are also growing challenges facing the plastics industry. The calls for even more efficient use of raw materials and energy at all levels of the process and value chain are causing many manufacturers to 'rethink plastic'. This also involves using technologies that facilitate more

sustainable ways of working, such as conservation and efficient use of resources, and make it safer to use recycled materials. Minebea Intec is one of the world's leading providers of weighing and inspection solutions, and is helping the plastics industry to explore new horizons with precision.

The plastics sector is in the process of a structural transformation. Emerging technologies such as e-mobility are bringing new challenges and fields of application for plastic as a material. At the same time, plastic is recognised as an important resource, which needs to be used efficiently, and systematically recycled for repeated use in recycling loops. All over the world, manufacturers in the plastics industry are exploring their options. According to Willy-Sebastian Metzger, Director of Strategy, Business Development & Marketing at Minebea Intec, there is an extremely wide range of these. "In our experience, our customers in the plastics processing industry are increasingly seeking weighing and inspection solutions, specifically to help them reduce production rejection or over filling of packaged products. At the same time, there is a demand for inspection solutions to help ensure that recycled materials are used. As a provider with a high customer focus, we have developed tailored solutions for the specific challenges of the plastics industry." Metzger mentions the freefall metal detection system Vistus and the checkweigher WK+ as the latest innovations, but statistical process control software also makes a significant contribution to conserving resources.

Maximum metal detection in minimal space

For reliable metal detection in the plastics industry, Minebea Intec offers a sophisticated and particularly space-saving solution in the form of the Vistus RS. The freefall metal detection system comes into its own particularly when it comes to the subsequent integration of metal detection control points into existing product lines. "At best, this requires an installation height of just short of 28 cm – including the required metal-free zone," stresses Willy-Sebastian Metzger. "In many applications, Vistus RS is therefore the solution of choice for ensuring product purity and safety." Vistus RS reliably detects free and enclosed foreign objects made from ferrous and non-ferrous metals, light alloys and stainless steels in the falling product flow. Contaminated products and impurities in recycled materials are precisely detected and can be removed from the production process in a targeted manner, conserving resources in the process. The metal detector is based on the proven Vistus metal detection technology. With over 75 years' experience, Minebea Intec is a pioneer of industrial

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metal detection. To this day, the machines and systems are developed and manufactured in Germany to the highest quality standards.

Uninterrupted weighing processes for handling resources efficiently

Metzger points to the checkweigher WK+ as proof of Minebea Intec's particular industry focus. The checkweigher was specifically developed for the challenges of the injection moulding industry and successfully deals with a range of disruptive influences in the weighing process. "In the WK+, we have developed a reliable weighing solution for environments with drafts and temperature fluctuations as well as production-related electrostatic charge. Injection moulding production generates heat. This means the temperatures rise during the production day. For this reason, the area is ventilated, which in turn produces a draft. All these are factors that can make it more difficult to carry out precise weighing, particularly of small plastic parts. This is accompanied by electrostatic charge, which can be caused by tipping plastic products." The checkweigher WK+ offers a solution for all of the disruptive factors mentioned. The load cells of the checkweighers have integrated temperature compensation, which automatically readjusts during weighing. To protect against the production-related drafts and to allow for flexible use in confined spaces, a special cover was designed for the WK+ which effectively shields the weighing process. In addition, an ioniser was integrated into the checkweigher, which neutralises the electrostatic charge of the plastic parts shortly before their checkweighing. Thanks to its precision, the checkweigher is an effective instrument for increasing product quality and reducing waste, and therefore makes a contribution to conserving raw materials.

In-line and end-of-line checkweighing

For checkweighing and integrity checking, at the end of the packaging line, there is also the checkweigher Essentus. This product family, from the entry-level model Essentus efficiency through to the top-of-the-range Essentus performance, covers a wide range of weighing functions for weights up to 6 kilos and 60 kilos respectively. The modular system is flexible and can be tailored to the individual requirements of the plastics manufacturer, and therefore offers a considerable savings potential. The checkweigher is used as an in-line and end-of-line solution.

Statistical process control increases efficiency

Checkweighers and metal detection systems from Minebea Intec can be integrated into the powerful SPC@Enterprise software. "Statistical process control is an integral part of many quality management systems. Checkpoints at relevant process steps and in a sensible chronological order generate crucial key figures on process optimisation in plastics production," explains Willy-Sebastian Metzger. "Our customers benefit from the software as it guarantees consistent product quality, increases efficiency and documents product quality to show conformity with regulations. It also provides important information on error prevention that enables early intervention in the process."

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Experienced partner in weighing and inspection technology

Minebea Intec offers its customers a high level of experience and expertise in weighing and inspection technology. "We share our knowledge by regularly publishing Best Practices, White Papers and How-To Guides on our website," stresses the Director of Marketing, explaining the range of information available to interested parties from the plastics industry. As a worldwide provider, the company is proud to have countless applications in use around the globe. "Our customer relationships are our most valuable asset," emphasises Metzger. "Our focus each day is on meeting your requirements. Our tailored products for the plastics industry are an excellent example of this but far from the only one." (More about Minebea Intec at www.minebea-intec.com)

Image material

(iStock-489647701_Plastics)

Plastic parts are subject to production-related electrostatic charge



(PIC_VistusFreefall_RS150_Left)

The freefall metal detector Vistus RS reliably detects metal contaminants in plastic products or recycling material



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(NIK_2205)

The optional ioniser for the WK+ neutralises the electrostatic charge of plastic parts



(SPC@Enterprise)

The software for statistical process control SPC@Enterprise is also available as a mobile release



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