

The Festo Checkbox in practical application: Mechanical feeding, optical inspection, pneumatic sorting

FESTO



Viktor Hegedüs GmbH, Wehingen **Precision and special design components**

The requirements

- Reliable batching and sorting of mass-produced components of different type variants
- Critical sorting parameters and high sorting speeds
- High quality requirements
- Large component range/ bulk mixtures of numerous variants
- Mobile system

The solution

- Festo Sortbox – standard unit:
- Automatic checking and sorting system using mechanical processes, optical detection and pneumatics
 - Parallel sorting of components
 - Retooling via push-button
 - High sorting speeds
 - Central control of all signals
 - Modular design, simple system integration

The benefits

- Automatic quality assurance
- Highly reliable operation, consistent checking quality
- High cost savings, fast system amortisation
- Modular design
- Simple batching
- Flexible range of applications

Complex assortment of components, clearly sorted!

The Sortbox ensures quality for mass-produced parts

Viktor Hegedüs GmbH

The smaller the products, the more complicated are quality control and the sorting of bulk components. The company Hegedüs has been manufacturing high quality precision and special design components for many years. The product range includes nuts, turned parts such as pins for the jewellery industry and special housings for sensors. The component assortments consist of a large number of product types, which are difficult to differentiate. Particularly process steps such as galvanizing and

grinding involve a mixture of widely varying components for cost reasons. Previously, these assorted components had to be meticulously separated by hand to ensure the necessary component conformity for delivery. Considering that the length of these small mass-produced parts varies by just 1 mm, it becomes clear just how exacting the sorting process is.

Hegedüs have therefore consistently followed any innovations in production and quality control, since the various production processes from machining or forming right through to corrosion protection or part refinement are subject to increasingly greater cost pressures. Hegedüs have decided to use the Sortbox which can be easily integrated.

Checking and sorting of a wide range of different components.

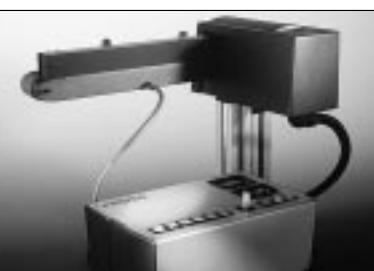
The objective is to achieve 100% component conformity, process reliability and quality control to meet the end customer's requirements. This is not easy to achieve, since the spectrum of assorted components consists of miniature pins starting from diameters of 1.6 mm with up to 30 mm in length and threaded tubes (sensor housings) with diameters of up to 30 mm and 100 mm length. The extreme similarity of components often leads to problems when ensuring component conformity for delivery.

The Sortbox recognises those little differences!

Basically, the only answer for quality and characteristics inspection in this case is a highly sensitive system such as the Festo Sortbox, which incorporates image processing and mechanics. That is, an efficient standard system which is able to handle the complete range of parts to be sorted without major retooling requirements. The standard module, camera and conveyer unit is connected to the vibratory bowl feeder via a simple and flexible mechanical conveyer hopper outlet with width adjustment and overflow protection, which enables the system to effect the separating out and the adaptation of the sorting process to the respective assortment of components. The conveyor control units connected to the Sortbox operator unit via standard interfaces, process all signals in one central control system. This ensures optimum interaction of all equipment involved in the sorting process and consistently high sorting rates of 5000 components/h of an average length of 50 mm. The Sortbox can be mounted onto a mobile unit, thereby permitting flexibility of use in the entire production area.



the parts...



the Sortbox...



the system...

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