SWITCH TO BETTER TEST DEVICE CONTROL

Improved availability from performance of control electronics: Devices for seal strength testing play a crucial role in the transition of film packaging to more sustainable materials. Crisis-related interruptions to supply chains forced the German manufacturer Willi Kopp e.K. Verpackungssysteme to change the main supplier of its machine control system. The switch to SIGMATEK not only improved availability, but also the performance of the machine control system.

By **Ing. Peter Kemptner , x-technik**

The days when products were sold open, i.e. unpackaged, in retail stores are long gone, apart from the weekly market or farm-gate sales. For decades now, practically all products have been packaged for transportation and sale. In addition to providing protection from external influences, packaging also serves as a means of presentation and as a carrier of the necessary product information.

Everything for Film Packaging

Packaging should add as little mass and volume as possible to products, be quick and easy to use and also be recyclable. As it offers a high degree of flexibility in use for

VIDEO

left The multi-touch control panels from SIGMATEK with high-performance processors, in conjunction with the control computers, made it possible **to speed up the visualization by a factor of 10.**

right The configuration of the individual modules of SIGMATEK's compact, modular S- DIAS system made it possible to create an **extremely compact and cost-effective machine control system.**

differently shaped products and a wide range of visual design options, film packaging has established itself in many areas. Willi Kopp e.K. Verpackungssysteme (Kopp) has been a specialist for decades in packaging equipment and machines with flexible packaging materials such as film, laminates, composites and barrier materials as well as paper. The product portfolio of the film packaging specialist based in Reichenbach an der Fils (Germany) ranges from sealing devices, welding devices and laboratory sealing devices to banding devices and shrink-wrapping devices through to fully automatic tubular form, fill and seal machines, overwrappers and bundling machines.

Shortcut

Task: Rapid replacement of existing machine control system due to lack of availability.

Solution: Compact Dual-CPU solution with S-DIAS modular system and multi-touch operating panels from SIGMATEK.

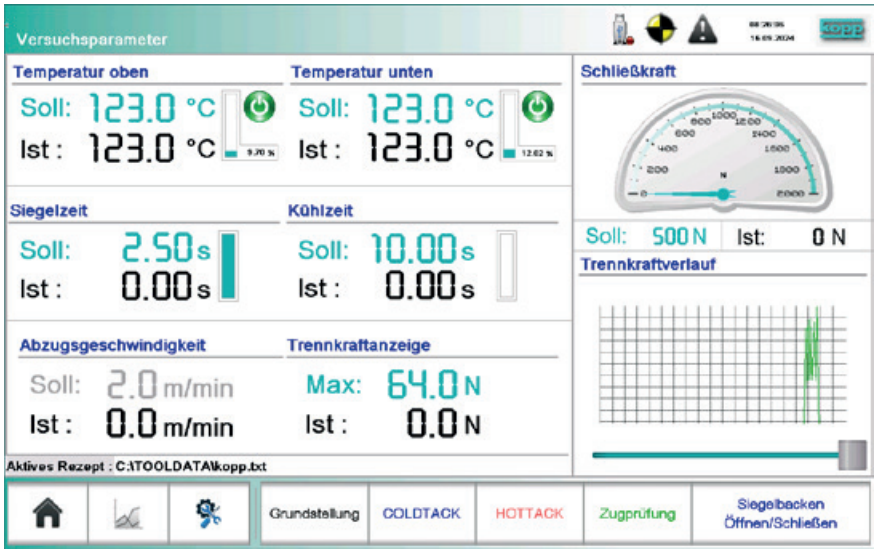
Use: Compact, cost-effective and performant solution with high operating convenience and reduced engineering effort.

More Sustainability with Laboratory Testing Equipment

"Sustainable packaging made from recyclable or compostable films or paper not only has to meet many requirements in terms of resource conservation, degradability, reusability and low environmental impact, above all it has to protect the product," explains Götz Goller, Managing Director at Kopp. "To achieve this, it must be ensured that the packaging seam is tightly and firmly sealed." This is why laboratory devices such as the Labormaster 3500 are also part of Kopp's product portfolio. These are used by product manufacturers and packagers to check the strength of the seal seam when new materials or changes to the material composition are introduced, for example. The seal seam strength testers work according to the force measurement method in accordance with DIN 55571-2 procedure A. It uses the hot-tack method, in which the seal seam of the clamped sample strips is pulled off while still warm immediately after the sealing process. The test parameters, description and curve data can be stored in CVS format and transferred via USB port or Ethernet.

Flexible Automation

The laboratory devices from Kopp work with the highest precision, the individual parameters are set exactly and the values are compared precisely. To ensure that the values determined correspond to the actual conditions, the devices can be calibrated. In addition, the machine control system must above all enable simple, graphically supported operation. "We have been using products from an >>



With the LASAL VisuDesigner, Kopp created a fluid, ergonomic user interface.

established manufacturer to control the laboratory equipment for years and were actually quite satisfied with them," reports Michael Galm, who is responsible for developing the automation at Kopp. "However, we were hit particularly hard by the delivery difficulties caused by the Covid pandemic and the war in Ukraine, and as a small company we felt abandoned."hard by the delivery difficulties caused by the Covid pandemic and the war in Ukraine, and as a small company, we felt abandoned."

> SIGMATEK is a better fit for us in terms of size than many others, and this is reflected in fast, unbureaucratic and expert support at eye level, one of the basic ingredients for a lasting, crisis-proof relationship.
>
> **Götz Goller, CEO Willi Kopp**

Compact, Available and Affordable

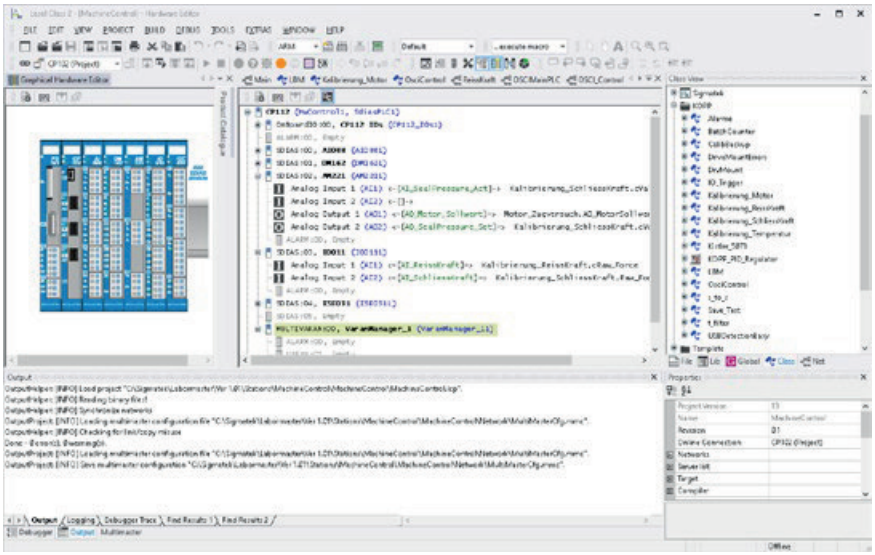
Kopp therefore began a search for alternatives among all the manufacturers on the market. In addition to availability, the main criteria included a compact design and at least an equivalent price-performance ratio. After a short time, the decision was made in favor of SIGMATEK. There were several reasons for this. “We stand for short delivery times, in fact, many modules in the S-DIAS series are available from stock,” says Martin Zanner, Head of Technical Sales Germany at SIGMATEK, naming one of them.

“The individual modules of SIGMATEK's S-DIAS modular system, which is already very compact in itself, are available in such a clever combination that we need fewer of them overall,” Michael Galm points out. The DM 162 digital mix module, for example, provides eight digital outputs and eight digital inputs, four of which have a counting or timing function, on a width of just 12.5 mm. The two analog inputs of the analog mix module AM 221, which is also 12.5 mm slim, can be used as potentiometer inputs, while one of its two analog outputs can be used as a reference output. The analog input module AI 088 has eight analog thermocouple inputs and two analog KTY inputs. In addition to digital inputs, the IO 011 multi I/O module offers eight short-circuit-proof digital outputs, one analog input and one analog current input.

Accelerated Visualization

The laboratory devices from Kopp are visualized via ETT 764 7-inch and ETT 1034 10.1-inch multi-touch operating panels. The devices have IP65 protection at the front and are equipped with high-performance processors. “In contrast to the previously used system, we can use the self-intelligent panels in conjunction with the CP 102 and CP 112 control computers as a Dual-CPU system,” says Michael Galm. “The separation of sequence control and visualization led to an acceleration of the visualization by a factor of ten, which is reflected in a smoother, more ergonomic handling.” >>

> At SIGMATEK, we stand for active partnership. As the required display of the result curve diagram was not available in the standard oscilloscope, it was expanded by this special form at the request of the customer.
>
> **Martin Zanner, Head of Technical Sales Germany, SIGMATEK**



The fully graphical user interface of LASAL , enables very fast implementation without training, facilitates more structured work and helps to avoid mistakes.

Advantage Through Graphical Engineering

Kopp managed the changeover from the previous brand to SIGMATEK's control and automation technology within a few months. This rapid changeover was made possible above all by the LASAL engineering environment. The fact that some of the programs created in Structured Text could be transferred was just one of several success factors. "Thanks to LASAL's fully graphical user interface, I was able to adapt very quickly, so I didn't even need any training," confirms Michael Galm. In addition, the clarity contributes to a more structured way of working and thus helps to avoid mistakes. "Object-oriented programming with a comprehensive object class library and true inheritance, as well as extensive import and export functions, speed up program creation by around 20 percent," he adds.

Fast Support, Reliable Partnership

The software was not ported one-to-one during the system changeover. Instead, Kopp took the opportunity to further optimize the hot-tack testers in the Labormaster series. Nevertheless, it was also important to maintain the familiar and proven features. These included the special display of a result curve diagram. "Exactly this type of display format is not provided in the standard LASAL oscilloscope," explains Martin Zanner. "SIGMATEK stands for active partnership. That's why we expanded the display options to include this special form on behalf of Kopp." For Götz Goller, the fact that SIGMATEK carried out this adaptation within just a few days is just one of several signs that Kopp has chosen the right partner. Another is that the current solution is not only more powerful than the hardware previously used, but also cheaper to purchase. Kopp was also able to make savings on license fees for the development system. "In terms of size and mentality, the company is a better fit for us than many others, and this is reflected in fast, unbureaucratic and expert support we receive on an equal footing," says the Kopp Managing Director. "This is one of the basic ingredients for a lasting, crisis-proof relationship." For this reason, the switch to SIGMATEK's automation systems includes not only the laboratory equipment, but also the entire portfolio of the innovative packaging system manufacturer.

www.sigmatek-automation.com

User

Founded in 1930, Willi Kopp e.K., based in Reichenbach an der Fils (Germany), has specialized in packaging systems for flexible packaging materials such as film, laminates, composites and barrier materials since 1953. The portfolio also includes devices for seal strength testing. The owner-managed family business employs around 25 people.

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