

Vacuum solutions

Industry



Helium leak testing of composite cans in the food industry

Ensuring the tightness of food packaging with Pfeiffer Vacuum

The durability and integrity of food primarily depends on its packaging. Thanks to their manufacturing technology and their basic raw material, composite cans provide the best conditions for proper and sustainable storage.

A leading global provider of packaging is the Weidenhammer Packaging Group GmbH from Hockenheim, Germany. For almost 60 years, the company has been manufacturing composite cans and plastic containers for various products, pursuing the highest quality standards. In order to fulfill them, Weidenhammer Group has counted on the collaboration with Pfeiffer Vacuum for many years now.

The most important quality aspect is the tightness of the cans: If oxygen diffuses into the package, the food spoils quickly. Therefore, the manufacturer performs leakage tests to examine the composite cans for leakage.

Application:

For leak testing of composite cans a helium leak test is performed during production and after the last production step, following a given test plan. With the help of the test gas helium, the packaging is examined for possible leaks. If a leak is detected, the production of the composite cans is stopped. In this case, the cause of the leak is sought in the previous process chain and eliminated.

The impact of modified parameters during the production process as well as new substances and materials can be immediately analyzed by leak testing. This allows for a targeted product development.

Solution:

For this verification process, Pfeiffer Vacuum has designed a vacuum solution that is precisely tailored to the requirements of the customer and which is used at several production sites in various versions.

The system has a modular design and can be equipped with up to six different test chamber modules to fit customers' requirements. The entire vacuum pumping and measuring technology is installed in one base module: A DUO 65 rotary vane pump for evacuating the process chamber and the test specimen as well as a SmartTest 550 helium leak detector. It is equipped with a separate DUO 5 rotary vane pump and ensures the highest measurement accuracy.

Due to its ability to quickly and reliably detect even the smallest detectable leakage rate, the SmartTest 550 was the perfect solution for leak tests in composite cans.

In addition, the system has several vacuum gauges, valves and other Pfeiffer Vacuum components, which ensure proper operation.

The system can be connected to an existing computer-network or to a telephone line. This allows for worldwide access to the system control as well as rapid fault analysis and troubleshooting online.

The system is equipped with an integrated PC that allows for data transfer to a network where all test data can be stored and statistically evaluated. The stored data can be used by customers to demonstrate quality to their end customers at any time. Thanks to its modular design, the system is also very flexible. Variable test parameters enable optimal process adaptation.

Advantages:

- Fast, reliable and reproducible results
- Smallest detectable leakage rate through integral leak-tightness test
- Short recovery time of the leak detector after possible contamination with helium
- Powerful and reliable
- Robust engineering
- Optimal reliability
- Minimum service requirements

Since 2013, the SmartTest has been replaced by the ASM 340, the most powerful leak detector in its class. Thanks to this improvement, the Pfeiffer Vacuum systems' performance is unmatched in the marketplace.

With the designed vacuum solution, Pfeiffer Vacuum was able to satisfy the high demands of the customer. The individual combination of different products constitutes a system which is exactly adjusted to the production processes.



Vacuum solution for the helium leak testing of sealed cans

Are you looking for a perfect vacuum solution?
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