



We keep an eye on your quality

Vacuum/Pressure Measurement System

ibea[®]
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The Vacuum/Pressure Measurement System

The Vacuum/Pressure Measurement Systems (VPMS), are designed for leak-testing cans and ends. The underlying principle here is to work with vacuum or (over)pressure applied to the inspected product. To determine if there is a leakage can be done by two measuring principles:

1. Measurement discrepancies in pressure

After application of vacuum or pressure a first gauging, via pressure sensor, is taking place before adhering to a stipulated waiting period and a second gauging. The difference of the two readings determines if the product is ok or has a leak, and consequently, will be ejected in the latter case.

In the majority of cases the vacuum technology is applied. The main advantage of using vacuum when testing cans is a gasket-based tooling that guarantees the products' nestling against the tooling with very little mechanical pressure. This allows for a long, maintenance-free time for all mechanical components.



Clocked system for peal ends

2. Thermographic measurement

This is a technique for detecting and measuring variations in the heat, emitted at a defined point to generate a heat flow to the neighboring areas. In case of a leak there are heat gaps which can be captured via thermo-camera.



360° seam imager and reject stations

VPMS Highlight

- VPMS clock-based system: up to 300 parts / min.
- VPMS cycled system: up to 1,600 parts/min.
- Pressure and vacuum measuring method
- Thermographic method
- Variable number of lines dependent on cycles
- Clear and simple handling and operating
- Durability and low-maintenance

The intelligent way to test for leaks

Further description of the VPMS

The design of the system can be linear or cycled; the gauging principle and the amount of test stations per system depend on the production line's clock speed. Ibea systems are suitable for clock speeds of up to 1,600 parts per minute; however the application range mostly lies between 100 and 800 parts per minute.

The VPMS consist of two components: the leak tester and the control panel:

The leak tester is comprised of a vacuum/ pressure generator, gasketbased tooling and conveying system. Ibea's concept is modular, for example it is possible to design variants to existing standards. Leak-testers contain connections for rotary encoders (speed gauging of product conveyor belt), trigger light barriers or trigger sensors, as well as one to three eject-stations.

The control panel consists of computer and PLC-Connectionunits. Operation of the VPMS is clear and simple; parameters can be adjusted directly at the control panel. While in operational mode all measured values, including statistics are displayed for all stations. Our internal philosophy is to keep an eye on new market developments, to constantly improve and assimilate your ideas into our systems.

We gladly assist and inform you in much more detail about the VPMS application variety, and the many possibilities to develop a system tailored to your needs.



Touchscreen based operator panel



Easy to access housing

Inputs:

- 240 VAC 50-70 Hz (16 A)
- 6 bar compressed air 200 NL/min
- Vacuum/Pressure-tank 5 l
- Input sensor for max. 16 tools, 24 VDC PNP
- 2 inputs for line control, each 24 VDC PNP
- Access during realtime operation possible
- anytime, also via network
- Direct connectors for light (slit lamp), camera, angle transmitter and trigger
- Integrated statistic and analysis tool
- Up to 3 options for discharge provided

Outputs:

- Up to 8 single reject outputs,
- each 24 VDC (1A)
- Serial interface RS 232
- 2 more freely programmable system outputs, each 24 VDC (1A), including relays

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Testing methods applied by ibea systems

- Standard image processing applications:
inspection by camera of surface, texture, geometry, shape and dimensional accuracy, color, 2D and 3D measurement, holographic imaging, roughness, measurement of position and torsion, leak tightness
- Image processing, special applications:
Heat-flow thermography by direct application of heat or ultrasonic initiation for structure checks, crack detection or the detection of other anomalies; UV light for fluxing agents or coating checks — crack detection, X-Ray
- Acoustic inspection:
initiation by a hammer system
- Eddy current measurement:
castings

What ibea systems inspect

- Ceramic tubes, ceramic insulators
- NoX sensors
- Sprinkler glasses, Sprinkler bodies
- Glass ampoules, plastic ampoules
- Syringes, syringe parts
- Laparoscopes, Biopsy forceps
- Catheter, Artery tubes
- Toothpaste caps or shoulders
- Blister packaging, before sealing:
 - two-sided and for filling
- Tablets - color, cracks, size
- Silicone sealings and plastic sealings
- Metal packaging
- Plastic packaging
- Heavy ceramics and fine ceramics

Put our know-how to the test

Feel free to send us samples of your faulty products that need inspection. Please give us a short description of your conveying system, possibly including photographs. Please also include conveyor speed and part rate. We will prepare a comprehensive offer specified to your needs, including needed accessories — all for an attractive price!

About Ibea

ibea develops and implements inspection systems for a perfect quality check — modular, future-proof, and flexible. It is our aim to ensure a trouble-free production around the clock. Our focus is on producing systems, which are stable and maintenance-free. As a systems integrator we offer you comprehensive professional service from consulting to implementation.