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Visit us at Control in Stuttgart, 09 - 12.05.2023, Hall 7 / Stand 7426



Control

Dear readers,

this year we will again exhibit at the **Control trade fair in Stuttgart from May 09 to 12, 2023**. Among other things, we will present two new test device types of the current CETATEST x25 series as well as our new compact, digital pressure manometers.

We are looking forward to your visit at our **booth 7426 in hall 7**.

Yours sincerely, Günter Groß, Managing Director

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Expansion of the x25 leak tester series - CETATEST 525 / CETATEST 725

After the market launch of the differential pressure leak tester CETATEST 825, the CETATEST x15 series is now successively replaced by the current CETATEST x25 series.

The CETATEST 525 uses the differential pressure method. Hereby, the pressure change in the test part volume due to leakage is compared with the pressure in a tight reference volume. The use of fast-switching solenoid valves in combination with a very small internal measuring circuit volume makes the CETATEST 525 particularly suitable for very short test processes.

The "sealed components - high resolution" variant enables process-reliable detection of volume differences as small as 0.03 cm³ in a basic volume of 10 cm³. This type of test is used, for example, for leak testing of micro switches, relays, RFID transponders or also for assembly control. The CETATEST 725 uses



the relative pressure test method. The method is based on the measurement of the pressure change in the test part volume due to a leakage. The test device has a gauge pressure sensor and is characterized by a very large measuring range. This makes the CETATEST 725 particularly suitable for testing test parts with larger leakages.

Digital, compact pressure manometers – The CETA DPM series



With the DPM series, CETA adds compact and digital pressure manometers to its product range. This measuring device series includes differential pressure (±200 Pa, ±2 kPa, ±20 kPa, -100 kPa...200 kPa), relative pressure (-100 kPa...1000 kPa, -100 kPa...2000 kPa) and absolute pressure manometers (200 kPa).

The scope of delivery of the pressure manometers includes rechargeable battery, manual, USB charger with charging cable, transport case, data logger, quick coupling as well as an internationally recognised DAkkS calibration certificate (according DIN EN ISO/IEC 17025). The pressure manometers are suitable for a wide range of applications, such as monitoring of compressed air networks, 4 Pa test for the safe operation of fireplaces, service area and workshop.



Important service information for the repair of the CETATEST x10 series



In the last 20 years, all types of service work could be carried out on the CETATEST x10 test device series (introduced in 2002). The availability and

procurement of spare parts has deteriorated massively. Due to this situation, repairs on these devices can no longer be carried out **as of 01 January 2023.**

Maintenance (as long as this does not result in repairs), as well as re-calibrations (factory and DAkkS calibrations [according DIN EN ISO/IEC 17025], both at CETA and on site) are still carried out. We will be pleased to advise you on the exchange of test devices against the latest technology test device series with 36 months warranty (extension to 60 months possible on request).

CETATEST x15 demonstration devices at attractive conditions

Due to the successive introduction of all product variants of the current CETATEST x25 test device series, we are exchanging our stock of demonstration devices of the predecessor series CETATEST x15. These devices were used for demonstrations, trade fair presentations and conducting tests and are in a very good condition. These can be offered with an attractive discount. The test devices will be serviced, calibrated and sold with a full 3-year warranty. Take this opportunity to make an inquiry.



CETA practical tip: Mechanically induced pressure changes

If there are no specifications for the selection of the test pressure as test parameter, there are different approaches to define it (barometric pressure change with height, temperature induced pressure change, hydrostatic pressure during diving).

If the test part deforms mechanically during operation due to the application of force or external pressure, encapsulated test parts will experience mechanically induced pressure changes. These can also be an indicator for the selection of the test pressure.

This effect will be demonstrated by means of a calculation example: A cuboid container has the dimensions 200 mm x 100 mm x 50 mm. The largest mechanical pressure change occurs when the shortest side is compressed. In this case, this is the product height of 50 mm. In the initial state, atmospheric pressure (1000 mbar) prevails inside the product. Instead of a dome-shaped indentation, it is assumed for simplicity that the cover shifts completely by 1 mm during compression. Assuming an isothermal change of state, this results in a positive overpressure of +20.4 mbar. This approach can also be used to estimate the mechanically induced pressure change if the internal volume is significantly smaller due to internally mounted components.

Assume a product has the same external dimensions, but only 200 cm³ can be filled (instead of 1000 cm³). The fillable volume is therefore 1/5 of the empty volume. Let the expansion of this volume in x, y and z directions be proportionally similar to that of the external dimensions. The dimensions of the fillable volume are obtained mathematically by dividing the external dimension by the factor 1.71 (third root of 5): 116.96 mm x 58.48 mm x 29.24 mm. If in this case again the most "sensitive" side, i.e. the height, of 29.24 mm is compressed by 1 mm, the result is a positive overpressure of +35.4 mbar. On the basis of such considerations, mechanically induced pressure loads can be estimated and classified. The same applies if the product expands in a vacuum environment.



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