CETA® Newsletter

Dear readers,

Here is our 21st CETA Newsletter, issued on the occasion of the CONTROL 2013 trade fair. 2013 is a special year for CETA, since we are celebrating the 25th anniversary of the company.

If you attend the CONTROL 2013 trade fair, you are welcome to our exhibition stand (hall 1, stand 1423). We will be happy to present our product portfolio and discuss your project with you. The manager of our service department will be present on 16.05.2013, so that you can address him with specific service issues. We are looking forward to meeting you.

Wishing you a pleasant reading,

Yours,

Günter Groß

Managing Director

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CETA celebrates 25th anniversary

Mr. Günter Groß, Managing Director of CETA Testsysteme GmbH, laid the corporate foundations by establishing a private company for sales and service of leak-testing devices twenty-five years ago, on 08.02.1988. By the turn of the year 1988/89, the corporation was converted to a limited liability company (GmbH). In 1996, the company was renamed CETA Testsysteme GmbH and started developing its own leak and flow testers. Meanwhile, thousands of CETA leak testers are used successfully throughout the world. We would like to take this opportunity to thank our business partners for the long-standing business relationships and the confidence placed in us.

CETA gets excellent credit rating

As in 2012, CETA has been awarded by the agency Hoppenstedt Kreditinformationen GmbH an „excellent credit rating“ for 2013. The award ranks the creditworthiness of 4,7 million German companies on a scale of 1 to 6. The assessment is based on various corporate and financial key figures.

With a rating of „1“ (TOP-RATING), CETA belongs to the 4,9 % best-ranked German commercial enterprises (as of January 2013). We are very pleased about this new top-rating by a neutral party.

Leak tester CETATEST 515 – Special device for testing smallest volumes

The differential pressure leak tester CETATEST 515 (test medium: compressed air) of the CETATEST x15-series was specially designed for testing smallest volumes (e.g. miniature valves, microswitches, sensors, keyboards, clocks, relays). The „High Speed Pressure Decay“ version is conceived for testing parts in high-speed production cycles. The model „Sealed Component with High Resolution“ allows process-sure testing of parts which cannot be filled (smallest volume differences from 0,03 ml on). The newly developed „Pressure Rise“ version of the CETATEST 515 is characterized by a measurement signal larger by 50 % (as compared to the differential pressure leak tester CETATEST 815 with additional option pressure rise). Moreover, the components which are usually located externally (such as check valves, primary pressure monitor) have been integrated into the test device. Special valves help reduce considerably the „switch kicks“ due to switching of internal valves. Furthermore, the internal volumes of the device have been extremely reduced, making this device optimal for testing small-volume test parts. The leak tester has 64 test programs and is serially equipped with RS-232 interface and digital

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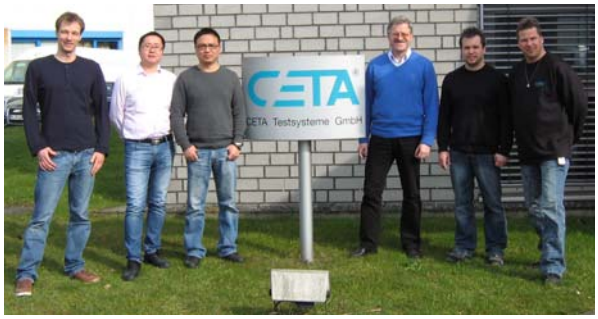
I/O-interfaces (Profibus or Ethernet available as option). The software CETA Soft 2G allows the recording of measurement data/curves and the control of the device.

Differential pressure and relative pressure

CETA leak testers are available as differential pressure and relative pressure test devices. The name alone already gives an indication on the underlying measurement method:
In differential pressure measurement, the differential pressure sensor (usually a piezo-resistive sensor) measures the pressure difference between the test volume (test part) and a sealed reference volume contained in the test device. It should be noted at this point that a differential pressure leak tester is equipped with two pressure sensors. The relative pressure sensor is used for monitoring the pressure during the filling and stabilization phase, while the differential pressure sensor measures with high resolution the pressure decay in the test part.
In relative pressure measurement, the decrease in pressure is measured directly on the basis of the test pressure. Only one sensor is integrated in a relative pressure leak tester. During the filling and stabilization phase, the sensor monitors the test pressure, and during the measuring phase, the signal is electronically amplified and allows leak measurement. It therefore follows that the use of relative pressure test devices only makes sense from a pressure decay of approximately 75 Pa/s on, because of the higher noise component due to electronic signal amplification. Differential pressure leak testers can be used from approximately 1 Pa/s on. In industrial production lines, they are often used for applications where the pressure decay is approximately 10 Pa/s. The expected pressure decay, which is used here as selection criterion, can be estimated with the help of the leak rate formula (see CETA Newsletter no. 1). CETA consistently and unequivocally uses the terms differential pressure and relative pressure.

CETA service training for our Chinese cooperation partner Dantsin

In 2011, CETA found in the company Dantsin a Chinese cooperation partner. After completing a training in sales and application, Dantsin took over project management for Chinese customers. Hundreds of CETA test devices are in use in the Chinese industry. We have now taken into account the growing need and the increasing requests for on-site service on CETA test devices on the part of our Chinese customers. Messrs. Chen Rui and Chen Haidong from our Chinese cooperation partner Dantsin (2nd and 3rd from left) were trained in February / March 2013 at CETA in maintenance and calibration of CETA leak testers.



The first service assignments of Dantsin in China are scheduled for April 2013. CETA is planning further service trainings.

CETA practical tip: Conversion of flow rate to other ambient conditions

In practice, one is often confronted with the issue of converting the flow rate of a calibration standard, which has been determined under specific conditions, to other conditions. For this purpose, the following formula (derived from the ideal gas equation) can be used:

$$Q = Q_{Normal} \bullet \frac{p_{Normal}}{p} \bullet \frac{T}{T_{Normal}}$$

In this case, Q_{Normal} represents the flow rate under normal conditions, i.e. T_{Normal} = 273,15 K (= 0°C) and p_{Normal} = 1013,25 hPa. For conversion to the flow rate Q, the ambient temperature (T = ambient temperature in K) and the ambient pressure (p = ambient pressure in hPa (absolute pressure)) are taken into account. If a test leak (calibrated under normal conditions) with a flow rate of 1,00 norm-ml/min is used at 20°C (293,15 K) and 1050 hPa, the flow rate under these operating conditions will be 1,04 ml/min. Using the above-mentioned formula, it is also possible to convert the flow values of calibrations under different conditions into each other.

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