CETA® Newsletter

+ + + + + CETA newsletter no. 12 of 20.02.2009 + + + + +

Dear readers,

Here is our newsletter no. 12, issued in the run-up to our trade fair activities (DGZfP-seminar: „Leak test and leak detection", end of March 2009 in Dortmund, and CONTROL 2009 trade fair, beginning of May in Stuttgart). You will find further information on this subject in this newsletter.

Wishing you a pleasant reading,
Yours,

Günter Groß
Managing Director

Inhalt

Participation in the DGZfP-seminar „Leak test and leak detection "

The „5th seminar on leak test and leak detection", which will be organized by the association for non-destructive testing (DGZfP, registered society), will take place in Dortmund on 24th/25th of March, 2009. On this occasion, CETA will hold a presentation on „Leak test of smallest volumes with short cycle time ". In addition, CETA will present in the exhibition area some practical applications. For further information (program, registration, organisation), please look up the website of DGZfP under www.dgzfp.de/seminar/lecksuche

CETA in-house: new on the staff

CETA has had three new employees since February 1st, 2009. A technician strengthens the service area.
Two other employees will deal with hardware development and programming and will work on the further development of the CETA test devices.

CETA test devices at the AMPER 2009 trade fair in Prague

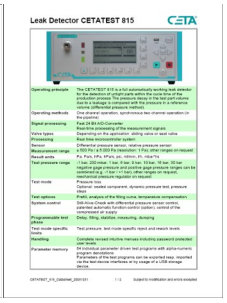
Our Czech cooperation partner Cressto s.r.o. will exhibit our CETA leak detectors next to his own pressure-measuring devices, at the AMPER 2009, 17th international trade fair of electrotechnics and electronics. You will find the company Cressto in hall 3, stand 3A3. The trade fair with more than 700 exhibitors from over 23 countries will take place from 31.03. to 03.04.2009, daily from 9 – 17, on the exhibition grounds PVA Letnany, Beranových 667, 199 00 Prague, Czech Republic. For further information, please look up the AMPER website (www.amper.cz).

CETA at the CONTROL 2009 trade fair Free tickets available

The 23rd CONTROL international trade fair for quality assurance will take place in Stuttgart from 5th to 8th of May, 2009. As in previous years, CETA will present its program of testing devices and be available for project discussions. You will find us in hall 1, stand 1423. If you are planning to visit us at the CONTROL trade fair, we will be glad to send you a free entrance ticket. A short telephone call (number: see below) will be enough.

CETA data sheets – new products, new languages

As of now, data-sheets for our new products are available. This concerns the differential pressure test devices CETATEST 815 and CETATEST 810 HP-PR. The device CETATEST 810 HP-PR, available as single or two channel device, allows leak tests up to 300 bar according to the pressure-rise method (please refer to newsletter no. 9). Moreover, our most important data-sheets are now available in Chinese, Indian, Japanese and Portuguese languages. All data-sheets (in several languages) can be downloaded from our website, http://www.cetatest.com.



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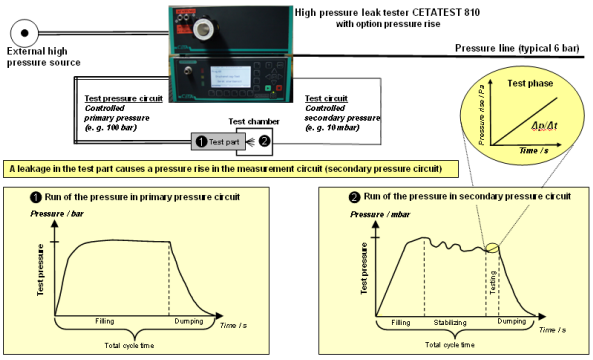
News from the DKD calibration lab
Extension of pressure range, new devices with DKD calibration

The calibration laboratory (DKD-K-36001) belonging to CETA Testsysteme GmbH has been accredited since July 2004 for measurand pressure. The pressure range has now been extended to **-1 to 17 bar,** for which DKD calibration is also available. All newly ordered test devices of the 510, 810 and 815 series with standard pressure ranges (-1 bar to 17 bar) and 400 Pa or 500 Pa measuring cell will be delivered without extra charge with a DKD calibration certificate instead of the regular manufacturer's calibration certificate. DKD calibration is performed according to the norm DIN EN ISO 17025 and is consistent with the requirements of norm ISO / TS 16949 in effect in the automotive industry.

CETA practical tip: High-pressure leak test according to pressure-rise method

A direct leak test according to the pressure decay method will produce at high pressures important pressure variations due to temperature. The physical relationship between pressure and temperature is described in this case as an isochoric change of state (constant volume of test part). The temporary pressure variation due to temperature can exceed the pressure variation due to leakage.
If a high-pressure leak test is necessary, we use the pressure-rise method. This method is suitable when a potential leak is detectable by air escaping from a previously known area of the test part (for example: testing the lock function of a valve). For this purpose, the test part is put under pressure. A slight counter pressure (as a rule, a few 10 mbar) is applied to the outflow side of the test part enclosed by a measurement chamber. This allows testing leak-tightness of the adaption, among other things. In case of a leak, air will penetrate the measuring chamber and produce a rise of pressure, which can be measured by the differential pressure method.

This means that a pressure-rise test device is equipped with a primary pressure circuit (high pressure) and a secondary pressure circuit (low pressure). The secondary pressure circuit is the actual test circuit. Temperature-related pressure variations will hardly be noticeable due to the much lower test pressure in this circuit. As a rule, a primary pressure circuit will work with a pressure corresponding more or less to the subsequent operating pressure. In the first stage, the test part is put under high pressure (primary pressure). At the same time, the test cycle begins in the secondary circuit.
The actual leak test takes place in the secondary circuit and consists of the following consecutive



phases: filling, stabilisation, test and dump. In the filling phase, primary pressure is applied to the test part and secondary pressure to the measuring chamber. In the process, the correct adaption of the test part connection to the secondary circuit is checked. The stabilisation phase is necessary to allow air disturbances to die down. During the test phase, the temporary pressure rise is measured in the measuring chamber and compared to the permissible tolerances. A stable test phase is characterised by the fact that the pressure rise due to a leakage increases proportionally to time. This phase is followed by the dump procedure. This is taking place simultaneously in the primary and secondary pressure circuits.
As an alternative, the measuring chamber can be put under high pressure and the pressure infiltration in the test part can be measured. In this case, the measuring chamber is connected to the primary circuit and the test part to the secondary circuit.

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