



Dear readers,

Here is our CETA newsletter no. 19, issued for the CONTROL 2012 trade fair in Stuttgart. On this occasion, we will present for the first time the complete test device series CETATEST x15.

Our practical tip deals with the procedure for the adjustment of the display units „ml/min“ or „mbar*l/s“, occasionally required for the results of some leak tests.

Wishing you a pleasant reading,
Yours,

Günther Groß
Managing Director

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CETA gets excellent credit rating

CETA has been awarded „excellent credit rating“ by the agency Hoppenstedt Kreditinformationen GmbH. 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. CETA has been awarded top rating „1“. This acknowledgement certifies that CETA belongs to the 4.4 % best-ranked German companies (as of January 2012). We are proud of this rating by a neutral party.



The new series of test devices CETATEST x15

Compressed air as a low-cost test medium can be used for diverse industrial leak tests, such as test of oil and water tightness, or IP protection class tests. The new CETATEST x15 series features compressed air as test medium and will completely replace the CETATEST x10 series as

of 01.07.2012. The new series includes the differential pressure leak tester CETATEST 515 (follow-up model of CETATEST 510), which has been optimized for testing small test part volumes with short cycle times. The test device CETATEST 715 (follow-up model of CETATEST 710) with gauge pressure sensor is characterized by a large measuring range. The device CETATEST 815 (follow-up model of CETATEST 810) with differential pressure sensor can be upgraded with a large number of options and is suited for complicated applications. This type of device is also available in 2-channel version, as CETATEST 815 TWIN. The CETATEST 815 HP-PR (follow-up model of CETATEST 810 HP-PR) allows leak testing up to a test pressure of 300 bar according to the pressure rise method. The flow tester CETATEST 915 (follow-up model of CETA 900) is a new product of the x15 series. Some customers communicate via RS-232 with their test device. In order to ensure the compatibility of the RS-232 interface with the previous



x10 series, we have developed specially for this purpose an activatable RS-232 protocol converter. With this feature, it will be easy to exchange a device of the x10 series against a new x15 device. At the same time, a new evaluation software for the CETATEST x15 series will be available as of 01.07.2012. The x15 series is characterized by many new and interesting performance features. All devices of the x15 series have in common the 24-bit A/D converter and real time capability. The self-diagnosis integrated as standard detects and reports internal device errors. The test devices are delivered with a 3-year warranty. With several thousands of test devices in use all over the world, the CETA success story now continues with the CETATEST x15 series.

CETA at the 3rd CONTROL CHINA 2012 trade fair in Shanghai

This year again, CETA will exhibit at the CONTROL CHINA 2012 trade fair in Shanghai, which is taking place on 15.-17.08.2012 for the third time. As usual, we will be assisted by our Chi-

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nese cooperation partner DANTSIN. Till now, CETA has taken part in all CONTROL CHINA trade fairs. Due to the expansion of the fair, it will take place this time at the exhibition centre SNIEC (hall W5), 2345 Long Yang Road, Shanghai, Pudong, where a lot more exhibition space is available.

This takes into account the growing response to the fair. It is also a clear signal that quality is becoming an increasingly important issue in China. This



year too, our business trip to China on the occasion of the trade fair will be combined with visits to customers. We are aware at CETA that our international presence definitely needs the local support provided by our international cooperation partners.

Turkish cooperation partner ECOM

There are a number of CETA test devices in use in Turkey for diverse applications. For this reason, we made it a point of finding a Turkish cooperation partner. We found what we were looking for in the company ECOM, registered in Istanbul, with long-time experience in construction of test stands, including for leak testing.

ECOM MÜHENDİSLİK LTD. ŞTİ.

Cemal Süreyya Sk. 73/6 Moda
34710 Kadıköy – ISTANBUL / TURKEY
Kontaktperson: Mr. Necati Özdemir
Tel.: +90 216 660 06 30
Fax: +90 216 336 10 88
E-mail: n.ozdemir@ecom.com.tr
Homepage: www.ecom.com.tr

CETA has already concluded successful cooperation agreements with partners from China, France, Spain, the Czech Republic, Hungary and Korea, now including Turkey. We are also planning in the short term the expansion of our international cooperation network to South America.

CETA practical tip:

Procedure for the adjustment of the display units „ml/min“ or „mbar*/l/s“ during leak tests

Leak testers measure the pressure decay due to leakage by means of appropriate sensors and usually indicate the pressure decay Δp in the unit

„Pa“. However, it is sometimes necessary to display the air leak rate Q_L in the units „ml/min“ or „mbar*/l/s“. These units are available in the CETA test devices, but it should be taken into account that they are derived units. The value of pressure decay can be converted to a leak rate with the help of the leak rate formula (see also CETA newsletter no. 1 and 10), provided the test volume is known (= sum of the volumes of test part, adaption, test line, internal measuring circuit of test device).

$$\frac{\Delta p}{\Delta t} = \frac{Q_L}{V_{\text{Test volume}}} \cdot \frac{100.000 \text{ Pa}}{60 \text{ s / min}} \Leftrightarrow Q_L = \frac{\Delta p}{\Delta t} \cdot V_{\text{Test volume}} \cdot \frac{60 \text{ s / min}}{100.000 \text{ Pa}}$$

However, this relationship is only valid under ideal and stable conditions, and those are usually not given in a leak test during production process.

For this reason, it is necessary in the practice to proceed as follows: After having ascertained with the help of a specially prepared leakproof master part that the adaption and the master part do not leak, a test leak, suited for the application as to the flow rate at the corresponding test pressure, is connected to the test circuit (i.e. parallelly to the master part). The adequate display unit „ml/min“ or „mbar*/l/s“ is selected. As a first estimate, the test volume (calculated as the sum of the above-mentioned volumes) is entered as adjustment value. Then, a leak test is carried out with the settings used in the production line. In this first step, the indicated leak rate does not correspond to the flow rate of the test leak. Now, the entered value for the test volume should be gradually modified until the measured leak rate corresponds to the flow rate of the test leak.

In this context, the following should be taken into account: Owing to the pressure decay due to the connected test leak during the stabilizing phase preceding the measuring phase, the pressure during the measuring phase can deviate from the test pressure, so that the displayed leak rate is too low. This can be corrected by activating the nominal pressure correction of the CETA test devices. The test volume measured in this practical way might deviate from the calculation of the volume sum, since ideal and stable testing conditions are almost never the case with leak tests during production. However, this is not critical, since the test leak is used for determining the „effective“ test volume. The application is thus calibrated to the conditions of the current testing process.

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