



Dear readers,

This is the first CETA newsletter, in which we keep you informed on the new developments in products and services of our company CETA Testsysteme GmbH,

on the occasion of the Control 2005 exhibition. Take advantage of the exhibition to visit us at our stand in hall 1, stand no. 1104. We are looking forward to meeting you.

Wishing you a pleasant reading of the CETA newsletter,

Yours sincerely

*Günter Groß*

Managing Director

## Contents

- Maintenance contract
- DKD calibration lab (DKD-K-36001)
- New devices with DKD calibration
- Leak detector CETATEST 510
- Increased process reliability (Still Alive Check)
- CETA practical tip: Leak rate formula



## Maintenance contract

Since January 2005, we have been offering the possibility of a contract for on-site maintenance of the CETA test devices. This service, covering the whole of Europe, is an answer to the often-expressed wishes of our customers. In the scope of a maintenance contract with a runtime of - for example - 3 years, we choose with the customer a service time period of 4 weeks per year. This brings considerable advantages due to better time planning, much lower processing costs and "automatic" task execution within the scope of your regularly test equipment control.

## DKD calibration lab

DKD-K-36001 for pressure



The calibration lab for pressure affiliated to CETA Testsysteme GmbH (DKD-K-36001) has been accredited since July 2004. The lab carries out DKD calibrations (according to DIN EN ISO 17025) for pressure range -0,01 to 10 bar. The usual certification in the automotive industry according to ISO / TS 16949:2002 requires the accreditation of the external calibration lab as per DIN EN ISO 17025. During calibration, the pressure range is measured in terms of deviation between actual and nominal value. The nominal values are set by adjusting the standard value to its own deviation values. The calibration protocol allows thus the determination of the correct values on the basis of the measured values. DKD calibration certificates are valid and accepted in the whole EU as well as in many other countries. The calibration devices in use (among others, a bell pressure gauge) are regularly checked by institutes such as the "Physikalisch-Technische Bundesanstalt (PTB)". This ensures the alignment of the calibration object with the national standard of the PTB.



## New devices with DKD calibration

(from 01.06.2005)

Since 01.06.2005, all newly ordered CETA leak detectors of the 510 and 810 series with standard pressure ranges (0 bar to 10 bar) and 400 Pa transducer will be delivered with DKD calibration certificate instead of the usual factory calibration certificate. This cost-neutral option allows us to meet our customers' increased quality requirements. The DKD calibration is carried out in accordance with the norm DIN EN ISO 17025 and thus conforms to the requirements of the norm ISO / TS 16949:2002 applied to the automotive industry.

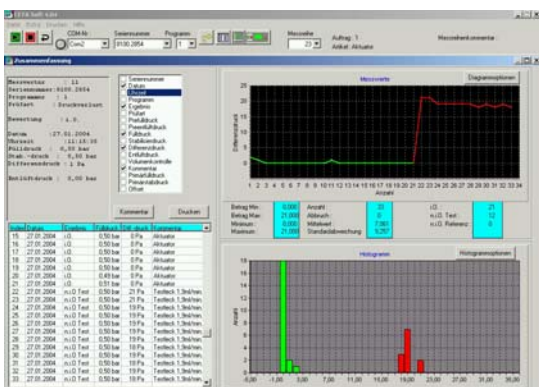


## Leak detector CETATEST 510 Special device for testing smallest volumes

The fully automatic differential pressure leak detector CETATEST 510 (test medium: compressed air) has been especially developed for testing smallest volumes (e.g. miniature valves, micro switches, sensors, keyboards, watches, relays).



This type of device is available in 3 versions. The „high speed pressure decay“ type makes it possible to test parts with short cycle time. The version “closed test part with high resolution” allows process-sure testing of unfillable parts, the so-called closed test parts. The outstanding characteristic of this device version is the detection of smallest volume differences starting from 0,03 ml. The new „pressure rise“ version of the CETATEST 510 distinguishes itself in typical applications by a measuring signal greater by 50 % (as compared to CETATEST 810). In addition, the usually external components (such as check valves, primary pressure control) have been integrated in the test device. The test device is serially equipped with 64 test programs, RS 232 interface and digital I/O interface. The profibus interface is available as option.



The program CETA Soft allows measurement data logging and interpretation as well as control and parameterization of the test device.

## Increased process reliability with „Still Alive Check“

Nothing is more irritating than the occurrence of rare errors in test devices due to dysfunction of internal components. It can lead to an uncontrollable interference on the test measurements and to a wrong interpretation of the results. This has a detrimental effect on the quality of the finished products. To detect such “hidden” sources of error, CETA has developed the monitoring function of the „Still Alive Check (SAC)“. This function is serially integrated ex works in the firmware of the CETA test devices. According to the type of error, the test device indicates a specific code which helps isolate the fault. This function contributes appreciably to the improvement of process reliability. The parameters and release limits of the internal function tests are pre-set, but can be externally parameterized by specially trained personnel in exceptional cases. The „Still Alive Check“ helps detect faults of the differential pressure transducer, the valve system and the AD converter. Furthermore, it monitors the necessary input pressure for process-reliable operation of the test devices.

## CETA practical tip: leak-rate formula

In case of a leak, there is a drop of pressure in the test part and air escapes into the ambient atmosphere. The temporal pressure drop can be calculated as follows:

$$\frac{\Delta p}{\Delta t} = \frac{Q_L}{V_{testpart}} \cdot p$$

[under standard conditions DIN 1343:  
p = 101.325 Pa, T = 0 °C], with

$Q_L$  = leak rate (unit: Norm-ml/min)

$V_{testpart}$  = volume of test part (unit: ml)

$\Delta p/\Delta t$  = temporal pressure drop (unit: Pa/s)

We have approximately:

$$\frac{\Delta p}{\Delta t} \left[ \frac{Pa}{s} \right] = \frac{Q_L \left[ \frac{ml}{min} \right]}{V_{testpart} \left[ ml \right]} \cdot \frac{100.000 Pa}{60 s / min}$$

+++ CETA Newsletter no. 1 of 26.04.2005 +++