

Hilden, September 2022

**Leak and flow testing of plastic products in the production process**

Comprehensive range of test equipment from CETA Testsysteme GmbH for quality assurance

A large number of plastic products (e.g. containers, pipes, catheters) must be leak-tight against the ingress or escape of media. In order to ensure this, they are tested for leaks during the manufacturing process at the same rate as the production line. This is a routine test, i.e. each product is tested (100 % end-of-line leak test).

Causes of leaks are, for example, air inclusions, insufficient wall thickness, faulty seams, leaky injection points, incomplete welding or bonding or leaky material connections between metal and plastic.



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When testing plastic products for leaks, some special features must be taken into account: Depending on the wall thickness, the products might expand when pressure is applied. Sometimes they are still warm when the test is carried out immediately after the thermoplastic manufacturing process. And of course the test should take place within one cycle of the production process. CETA has more than 30 years of experience in industrial leak testing and flow measurement in the production line. Several thousand CETA test devices are in use worldwide. With a comprehensive range of test devices, the right technical solution can be found for practically any application.

The use of compressed air as a test medium is widespread. Depending on the application, CETA leak testers with gauge or differential pressure sensors are used. The leak tightness of large-volume test parts can be tested using leak testers with a calorimetric mass flow sensor. Very low leakage rates down to  $10^{-6}$  mbar\*I/s can be detected with hydrogen leak testers. The range of product volumes to be tested extends from 0.1 ml up to 1,000 l. Products whose flow is tested are, for example membranes, filters and cooling channels. With CETA flow testers, a range from 3 ml/min to 400 l/min can be covered using different laminar flow elements. The usual industrial interfaces are available for the test devices. These enable the transmission of the measurement results as well as the control and parameterisation of the test devices.

As a solution partner, CETA Testsysteme GmbH supports the customer in all phases of the practical implementation of his testing project: starting with product development, ensuring technical feasibility, selecting the appropriate testing technology, series production and subsequent process optimisations.

**CETA Testsysteme will present practical solutions at the following trade fairs in the 4th quarter of 2022:** The possibilities for integrating leak testing and flow testing into the assembly process will be presented at the **MOTEK trade fair (04. - 07.10.2022, Stuttgart)**. Solutions for leak testing of plastic products will be presented at the world's largest trade fair for the plastics and rubber industry, the **K 2022 trade fair (19 - 26.10.2022, Düsseldorf)**. And at the world's largest medical trade fair, **Medica (14.11. - 17.11.2022, Düsseldorf)**, the focus will be on leak and flow testing of medical products.

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**CETA Testsysteme GmbH - Solution partner for industrial leak and flow testing**

CETA Testsysteme GmbH, based in Hilden near Düsseldorf, was founded in 1988 and has been active for more than 30 years as a manufacturer of physical measurement instruments used in leak tests and flow measurements. Compressed air and hydrogen are used as test media. These testing procedures are characterised by the fact that they can be integrated in the production line with high process reliability.

The test equipment "Made in Germany" is developed in-house and along with the components and accessories (e.g. calibration standards) are manufactured by CETA. This takes into account the high demands on the quality of the internal modules used. A comprehensive range of test devices means that the right solution can be found for almost any testing application.

Semi-automatic test stands are also offered. The test devices are used by customers for quality assurance, quality control and production assurance. The customers are mainly from the automotive industry, medical technology, heating and air conditioning industry, fittings and household appliances industry, packaging industry and e-mobility.

The company is certified according to DIN ISO 9001 and won the NRW Quality Award in 2002 in the industry category. The calibration laboratory was accredited in 2004 by the German Calibration Service (DKD) and in 2014 by the German Accreditation Body (DAkkS) - as the successor to the DKD - as a DAkkS calibration laboratory. The DAkkS calibration (compliant with the DIN EN ISO/IEC 17025 standard) meets the requirements of the IATF 16949 standard applicable in the automotive industry.

CETA Testsysteme GmbH is the first German manufacturer of leak testers to deliver its test equipment with DKD or DAkkS calibration certificate as standard since 2004. Since 2012, CETA has been consistently certified with a very good credit rating.

The comprehensive range of services includes consulting, feasibility studies, commissioning, training, maintenance and calibration.

With cooperation partners in China, India, Indonesia, Korea, Mexico, Poland, Portugal, Singapore, Thailand, the Czech Republic, Turkey and Hungary and with thousands of test devices in use all over the world, CETA Testsysteme GmbH presents itself as a competent solution partner for industrial leak and flow testing.

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