

Leak testing of large-volume containers during the production process

Quality control of new and reconditioned IBCs

Test system for leak testing new and reconditioned IBCs

As part of the sustainable processing of used IBCs (Intermediate Bulk Containers), a comprehensive reconditioning (REKO) process is carried out prior to resale, during which the containers are cleaned and inspected for functionality. Both the IBC and the outlet tap are tested for leaks.

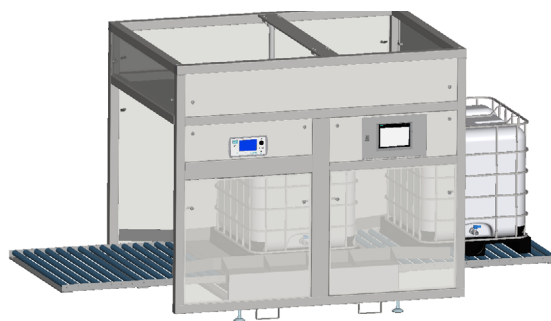
Especially Bulk Containers (IBCs) used for the transport of dangerous goods are subject to the dangerous goods regulation BAM-GGR 002 of the Federal Institute for Materials Research and Testing and must undergo initial and periodic leak tests in accordance

with the IMDG Code and RID/ADR (Chapters 6.5.4.4.1 and 6.5.4.4.2).

The CETATEST LV series of testers, which was developed for leak testing large-volume products, is ideal for this purpose. These testers are already being used successfully in automated test stations for new IBCs. Compared to widely used sensor solutions, they offer numerous advantages, such as full test sequence control, a bidirectional Profinet interface, and internationally recognized calibration.



Large-volume containers being tested for leaks

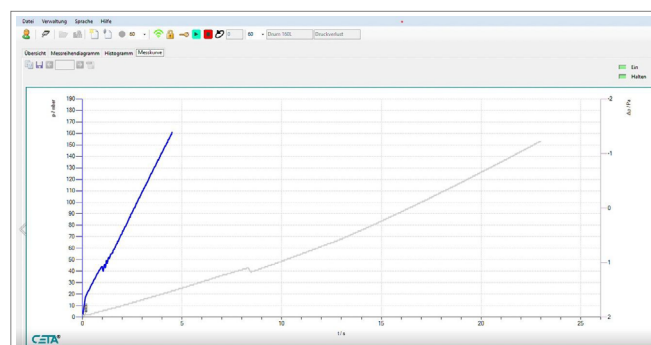


Test bench for leak testing IBCs during the production process

Using the overpressure version of the CETATEST LV and the turbo-fill function, an IBC with a volume of approximately 1,000 liters can be tested for leaks in just 30 seconds. And for a 160-liter drum, the total test time is only 10 seconds. Depending on the volume of the test piece, holes ranging in size from 0.07 mm to 1 mm can be reliably detected.

Pressure-time diagrams for filling a 160-liter tank to a target pressure of 160 mbar using the leak tester CETATEST LV (CETA Soft 2G application software)

- Gray curve: normal filling
- Blue curve: turbo filling



Test bench for leak testing the outlet tap of reconditioned IBCs

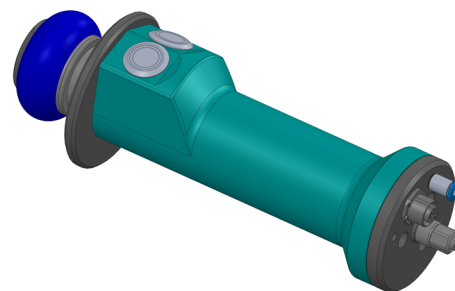
As part of the quality control process for reconditioned IBCs, both the container and the installed outlet tap (sometimes referred to as outlet valve) are tested separately for leaks. A compact, standalone test bench was developed for this purpose, consisting of a clamping adapter for outlet taps and the vacuum

version of the leak tester CETATEST LV with integrated vacuum generation.

The compact design of the clamping adapter also allows for the testing of very short outlet taps. The operator inserts the adapter manually; once activated, it is secured by internal clamping. A flexible bellows

reliably seals diameters from 42 to 54 mm, making it suitable for 2-inch taps and camlock fittings. A multifunction cable supplies the pneumatic adapter with 6 bar compressed air, routes the measuring line, and transmits the start signal. Upon pressing a push button, the sealing element is clamped and the test sequence is started. The CETATEST LV enables fast, precise measurements at typical test pressures of -500 mbar and a permissible leakage rate of 10^{-2} mbar·l/s.

Image: Adapter for leak testing IBC outlet taps



Testing technology – Leak tester CETATEST LV

The CETATEST LV (Large Volume) leak tester with over-pressure sensor was specifically designed to meet the requirements of the packaging industry and is suitable for products that can be filled directly. The turbo-fill function significantly shortens the filling process for large-volume test parts. Standard features include digital I/O interfaces, RS-232, USB (host), Ethernet, and Profinet. The transmission of relevant test

process data enables traceability and evaluations of production quality. External valves can be controlled via the integrated control valve. The main valve system is FDA-compliant; an UL-certified power supply is available as an option. The test device is supplied with an internationally recognized calibration certificate (DIN EN ISO/IEC 17025) and a warranty of up to three years (optionally extendable to five years).



Images: Leak tester CETATEST LV



CETA Testsysteme GmbH

CETA Testsysteme GmbH has been active for more than 35 years as a solution partner and quality manufacturer of "Made in Germany" leak and flow testers for 100% end-of-line testing. Compressed air is used as the test medium. With a comprehensive ran-

ge of testers and suitable accessories, the right testing technology can be found for nearly any testing task. Several thousand CETA testing devices are in use worldwide for quality assurance in production lines www.cetatest.com.

Images: IBC & Drums: istock.com/alexlmx | Test bench for IBCs: Blau Sondermaschinen GmbH | Measurement curves + Leak tester CETATEST LV: CETA Testsysteme GmbH | Adapter for leak testing IBC outlet taps: LPK Maschinenbau GmbH

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

CETA Testsysteme GmbH

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