

Re-inventing glass container pressure testing

RICK OTTO EXPLAINS HOW RE-VISITING PRESSURE TESTING HELPED TO DEVELOPED A NEW PRODUCT

Sometimes old ideas are reborn. More than 40 years ago, Powers Manufacturing (now Emhart Inex) experimented with inspection technology that attempted to test the burst strength of glass containers using pressurised air. Containers that didn't explode during the test were considered good and allowed to pass. The experiment remained just that: an experiment. Although the idea of subjecting glass containers to a pressure-stress test was valid, the design was considered unsafe.

AIR PRESSURE TESTING

Years later, other companies experimented with systems that used air pressure and water to periodically test production samples. Using completely enclosed machines that filled containers with water then used air to pressurise the containers to a pre-determined level, these machines accomplished the same results as the earlier inspection devices in a much safer manner.

If a container broke during testing, the broken glass and water fell into a special cullet chute. The mould number of the failed container was then noted and, depending on quality assurance criteria, additional containers from the mould were tested. If these additional samples also failed, all production from the failed mould was set to be rejected until the forming issues causing the strength defect were resolved and verified through further testing.

AUTOMATED PRESSURE TESTING

Improvements in computer technology and process control strategies have made it easier to automate pressure testing, but until recently, these devices were able to only provide information on the pressure at which a container burst. There was no analysis of the pressure curve and few, if any, self-diagnosis tools. Operators were still needed to periodically verify the proper functioning of the device.

The original innovator, now Emhart Inex, has changed that paradigm. Innovations of the past have been updated, new capabilities have been added, and there is now a better alternative to older sampling pressure testing systems.

MINIMAL INTERVENTION

Besides meeting the industry-accepted ASTM C-147 standard for internal pressure testing of glass containers, the new Emhart Inex MLP Plus is equipped with patented technology that continuously monitors and analyses the pressure curve for each container test and verifies that each station of the pressure tester is operating correctly, from container entry to

final test and disposal.

The result is a pressure testing device that, once it is set up, requires little or no operator intervention, thus significantly improving the machine performance and reliability of the pressure test data. The MLP can also be equipped with an optional capacity measurement gauge, which is not widely available on other sampling pressure testing systems.

BENEFITS OF THE SYSTEM

The MLP design is based on current air-conditioned (standard) PC-based electronics in an all-stainless steel frame and enclosure.

Other benefits of the MLP include:

- The system can test two different containers, as long as both have the same finish size.
- Job change parts are minimal; a complete changeover can be completed in minutes without having to lower the turret.
- Because the MLP is computer-based, new features or upgrades can be made to the software over the life of the system.
- The MLP Plus can be provided with an external conveyor system and cullet removal system.

The MLP Plus is available as a stand-alone, automated statistical sampling device or as part of the MiniLab System, a new concept in glass container sampling and precision measurement. A complete MiniLab system includes the MLP Plus, the Emhart Inex ISIS Automatic Dimensional Gauging and Weight Measurement System, mould code readers (two used for dual production lines), as well as a data reporting and export programme, conveyors, ware control gates and line sensors. ■



THE MLP+ SAMPLING PRESSURE TESTER

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