

Leak Test Inspection

App Note 3001



Reduction of PPMs

**100% In-Line Process
Monitoring**

Defect-Free Threads

High Production Rates

**Material Handling for Various
Part Sizes**

Load Cell Technology

Pressure Sensor Technology

**Additional Applications Notes
Available**

Situation

A leading manufacturer of consumer drinks, needed to assure that 100% of a new product to be test marketed was free from any type of leaks. The container was a plastic bottle that would dispense the drink when squeezed after removal of a twist-off top.

Solution

Automation Innovation coupled their proprietary Signature Analysis based Process Monitoring System to an analog output from a single axis force sensor controller as part of a semi-automated test station.

The manual test station utilized a precision linear slide with a single axis force sensor mounted to it. The operator opened a protective cage door and placed the drink bottle into a nest. The door was closed and the operator began the inspection by triggering two (2) photo eye buttons simultaneously with their hands.

The sensor squeezed the bottle by the slide moving to a programmed position.. The analog signal from the sensor was coupled to the signature analysis controller to monitor the force over a specific time period. The force curve indicated whether the bottle was leak free contained a hole in the bottle. Analysis of the curve

produced data indicating the size of the hole.

The test station proved to be a valuable tool in locating various types of leaks. Some of these leaks were small splits, defects in the molding, and pin holes as small as three (3) thousandths of an inch. The types of leaks found aided in identifying problems in manufacturing the plastic bottles. In addition, the system was so sensitive that it detected changes in the drink bottle's plastic content.

Other Products

- Process Monitoring
- Thread Inspection
- Press Monitoring
- Gauging Systems
- OEM Heat Treat Monitors
- Assembly/Verification Systems
- Packaging Systems
- Robotic Automation
- Engineering Services

Providing Process Monitoring Automation to Achieve Zero-Defects

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