

TapTone

APPLICATION NOTES

News and information from Teledyne TapTone, a leader in the package inspection industry.

Leak detection in aerosol cans of whipped cream

Tested: Cans of whipped cream

Tested with: TapTone 4000-FS Force System

The purpose of this test was to prove the effectiveness of the TapTone 4000-FS Force System in testing high pressure aerosol cans for leaks. Leaking containers can result in reduced or zero product delivery leaving customers dissatisfied and ruining your brand image. Leaks can originate from faulty valves, broken valve stems or missing valve cup gaskets, and misaligned or missapplied valve cups. The T4000-FS was specifically designed to handle the higher internal pressures of aerosol containers up to 140 psi or 9.6 bar. The TapTone 4000-FS is a non-destructive leak inspection system that will test 100% of your containers on-line at production line speeds. The system is ideal for finding potential leakers in aerosol containers before they leave your processing plant.



Cans of aerosol whipped cream being tested in the TapTone 4000-FS Force System

TECHNOLOGY CORNER *How it works*

Detects leaks and low pressure in aerosol containers, LN2 dosed beverage containers, and carbonated beverage containers. Parallel belts transport the container past a sensor that measures the tension on the sidewall of the container. This action allows the system to measure the pressure inside the container. Utilizing DSP technology, the controller analyzes the measurement and assigns a merit value to each container. If the merit value is outside of the acceptable range, a reject signal activates a remote reject system.



T4000-FS Force System. All stainless steel construction and reinforced side plates make it the perfect solution for testing aerosol cans.



TEST

Figure 1 shows the evaluation comparing non-leaking cans to low pressure and no pressure cans. The non-leaking cans had internal pressures around 140 psi. The low and no pressure cans were supplied from the customer. The cans were tested several times to get a larger population of readings.

During the testing, the non-leaking cans generated an average merit value* of 960. The low pressure cans had average merit values of 830 and all showed good separation in values from the population of good cans. The zero pressure cans showed a clear separation from both the good and low pressure cans.

Figure 2 shows the serial release of pressure from a single can of product that has been tested after each pressure release. The data demonstrates the sensitivity and linearity of the system.

SUMMARY

The TapTone 4000-FS was successful in differentiating low and zero pressure cans from full pressure whipped cream cans. Containers should be tested at a point in the production line where sufficient pressure has built in the container.

Figure 1

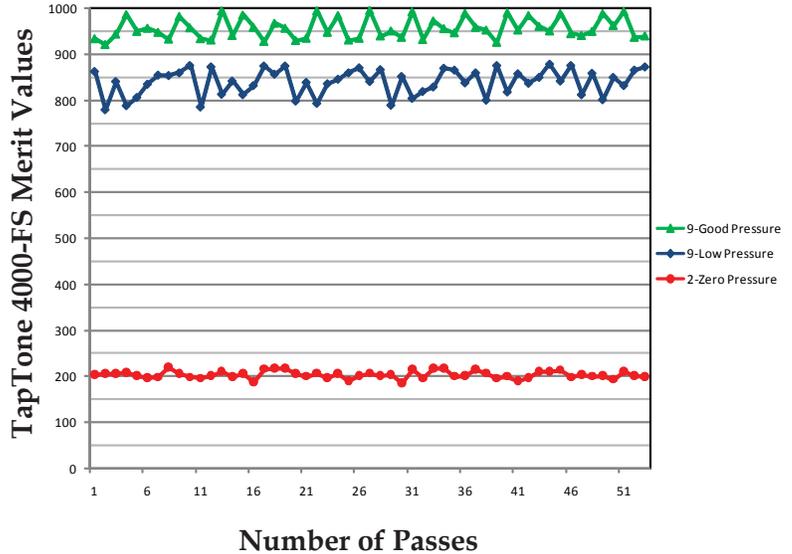
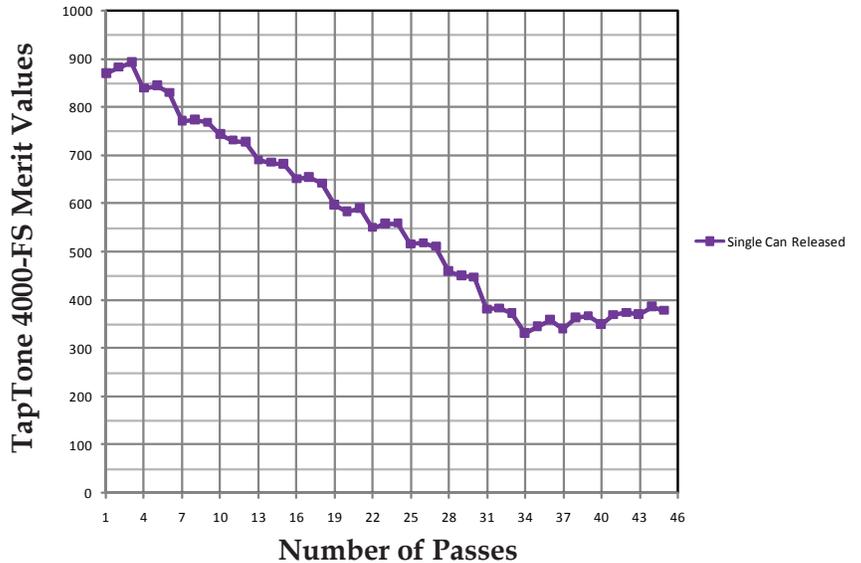


Figure 2



* Merit value is a calculated number determined using an algorithm to compute a resultant from a set of data values. Test results achieved in the test laboratory may be different from results seen in the production environment.



TELEDYNE TAPTONE
Package Inspection Systems
 A Teledyne Technologies Company

49 Edgerton Drive • North Falmouth, MA 02556 USA

P: 508.563.1000 • F: 508.564.9945

E-Mail: taptone@teledyne.com

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