Teledyne TapTone Inspection Systems

T550 Series
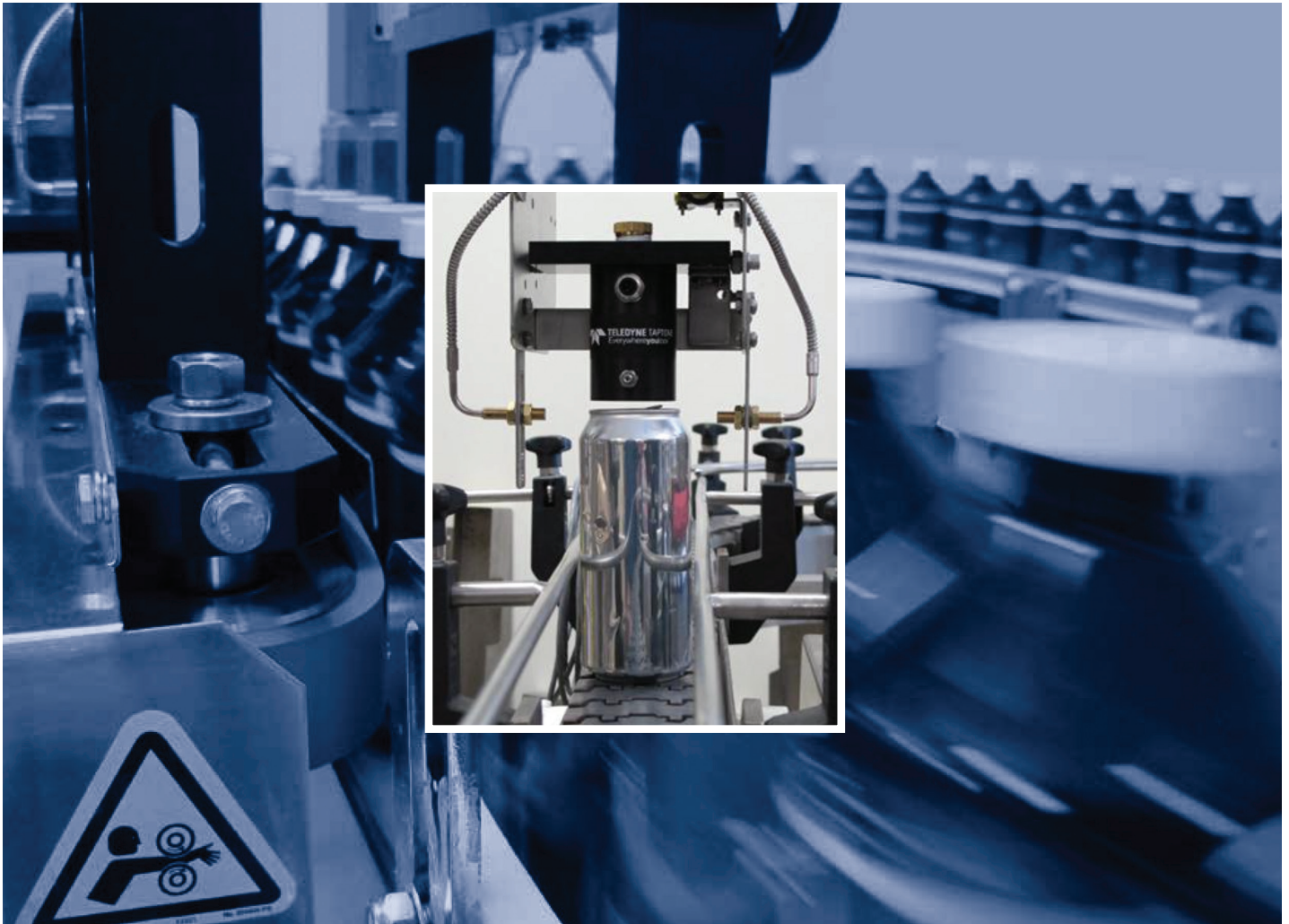
Innovations in
Container Inspection

TELEDYNE TAPTONE
Everywhere**you**look™

T550 SERIES

Touchscreen Control / Versatile Inspection

The TapTone T550 user interface provides complete inspection control for a variety of compatible sensors including: fill level, pressure and vacuum. Utilizing a user friendly icon driven menu, the T550 offers a value-packed combination of features for fast product setup, changeovers, and reject tracking. The TapTone T550 is a cost effective and scalable solution for inspection of your plastic, metal and glass containers.

Benefits

- Rapid on-line inspection: up to 2,000 containers per minute
- Touchscreen icon driven user interface
- Combined inspections on a single controller: up to 3 primary inspections (Acoustic, Proximity, Force, Compression, X-ray)
- Up to 4 digital inspections (missing cap, high cap, missing foil, vent tube kit, fill-level optical, missing labels)
- Floor and conveyor mount options for sensors
- Compact system for efficient production floor space utilization

Applications (sensor dependent)

- Vacuum inspection on metal cans with sanitary or pull tab ends
- Vacuum inspection on glass jars with lug caps or pop button ends
- Vacuum inspection on plastic containers with composite closures
- Pressure inspection on carbonated or LN2 dosed beverage cans
- Leak inspection on glass beer bottles with metal crowns
- Fill height inspection on glass, metal and plastic containers
- Flat sour detection
- Cooker protection

Systems Specifications

General Specifications	
Operating Speed	2,000 containers/min maximum for Proximity, X-ray and Digital Inspections 1,500 containers/min maximum for Acoustic Inspections
Analog Sensors	Acoustic, Cocked Crown, Single or Twin Proximity and X-ray, Force, Compression
Digital Sensors	Four programmable digital reject inputs
Alarm Outputs	Two isolated relays (Ready and Fault) programmable functions
Shaft Encoder	1,800 PPR, aluminum, IP65 Rated
AC Line Voltage (APXD)	90-264VAC, 47 - 63 Hz, single phase, 145 watts, auto select
AC Line Voltage (F/C)	186-264VAC, 47-63Hz, single phase, 3,300 watts
Reject Outputs	Three outputs: shaft encoder timing, adjustable pulse width, good signal
USB Ports	One external watertight USB socket, three internal
Operating Temperature	0º - 50º C (32º to 122º F)
Humidity	0 - 90%, non-condensing
Altitude	Sea level to 3,035 m (10,000 feet)

Material & Control Enclosure

Enclosure Environmental Rating.....Stainless steel, NEMA 4X, IP65 rated
Sensor Environmental Rating.......... Delrin® plastic and nickel plated, IP65 rated
Wash Down.......................................Low pressure water
Human Interface.............................. 6.5″ color touchscreen industrial PC, IP65 rated

Software & Networking Capabilities

Product Types.................................... Stores 99 product setups, supplementary storage on USB drive
Password Protection......................... Three password levels with 100 users
Screen Shot Pictures......................... Easy to store all screen shot images to USB drive
Product Backup/Restore....................Saved to USB thumb drive
*Plant SCADA Port...........................Ethernet EIP Modbus TCP Weihenstephan TCP/IP
Data Streaming Port.........................TCP/IP Data output

*Optional

Available T550 Sensors

Compression

Compression technology detects and rejects leaking and damaged flexible containers. As a container passes through the system, dual parallel belts apply force to the sidewalls of the container. This action compresses the headspace of the container which allows a sensor to take a force measurement at the discharge of the system. 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.

Force

Force technology is designed to find leaks and low pressure in LN2 dosed or carbonated containers. As a container passes through the system, dual 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 and automatically reject all containers that fall below or above the acceptable pressure range.

Acoustic

Acoustic technology is used to measure pressure or vacuum in containers with metal closures that do not have a measurable lid deflection. The sensor works by applying a "tap" to the top of each container lid using an electromagnetic pulse which excites the closure. The lid vibrates at a natural resonant frequency "tone" based on internal pressure or vacuum. The resultant "tone" signal is sensed by a microphone. The frequency is then compared to user set limits. Containers with a frequency outside these limits are rejected.

Cocked Crown

TapTone's Cocked Crown Sensor (CC) is well established in the brewing industry as the inspection system of choice in testing the seal integrity of glass beer bottles at production line speeds. The cocked crown option is a supplement to the Acoustic sensor to improve rejection of bullnose, dented, dimpled, wrinkled, crushed and cocked crowns. A small percentage of cocked crowns have the same acoustic response as a good crown making them difficult to detect.

Proximity

Proximity technology measures pressure or vacuum in containers with metal closures by measuring the lid deflection. The sensor produces a continuous magnetic field that monitors the distance between the sensor and the metal lid. The continuous signal is digitally sampled to produce a merit value of the lid profile. The profile value is then compared to user set limits. Containers with lid deflection outside these limits are rejected.

Twin Proximity

Proximity technology has been used for decades to detect low vacuum in food cans. However, recent widespread use of bi-metal Easy Open (EZO) ends (steel ends with aluminum pull-tab) has presented a challenge for the traditional technology. The TapTone Twin Proximity Sensor is designed to detect and reject low vacuum and no vacuum steel cans with EZ-Open can ends (pull-tabs) at production speeds up to 525 feet per minute.

X-ray

The TapTone Fill_xr sensor uses low energy X-ray technology to inspect steel, aluminum, plastic and glass containers for proper fill level. The system can be configured to detect underfilled and overfilled containers. The sensor mounts on a remote variable height stand and requires no modifications to the existing production conveyor.

Proven Technologies, Industry Expertise

With over 50 years of experience in the packaging industry, Teledyne TapTone can help you stay competitive in today's changing market climate. TapTone systems are uniquely designed for rapid product changeover to accommodate the ever evolving requirements of consumer packaged goods. With a global focus on quality and cost control, there has never been a better time to add a TapTone inspection system to your production line.

TapTone has package inspection options for:

- Glass, Metal, and Plastic Containers
- Leak, Vacuum/Pressure, and Fill Level
- Individual Containers or Cases

TapTone.com

Standing Rejection and Lane Diversion

The TapTone Segment8 rejector is a high speed rejection system for standing rejection and lane diversion. The Segment8 rejector is compatible with T550 user interfaces. It is available in two configurations, the standard Segment8 (for use with a TapTone inspection system) and the Segment8 SOLO (a stand-alone system that can be used with non-TapTone inspection systems). The Segment8 is floor mounted and is available with either a fixed height stand or a motorized height adjustment for simple push button product changeover.

Benefits

- Standing rejection for rigid stable containers
- No conveyor modifications required; rejector is floor mounted next to existing conveyor
- Push button, motorized height adjustment or fixed height stand
- Optional "reject all" mode
- Easy operation using a color touch screen and icon driven menus
- Up to 5 inches (127mm) of displacement
- Wash down safe, NEMA 4X, IP65 rated
- Up to 850 CPM

Applications

- Cans
- Juice bottles
- Glass bottles
- Condiment containers
- Household chemicals
- Nutraceutical products
- Personal care & cosmetics

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