



## Force

Pressurized container inspection for liquid nitrogen dosed containers and carbonated beverage containers.

## Pressure Inspection up to 3.1 bar or 45 psi

The TapTone Force (F) sensor inspects 100% of containers at production line speeds. The system will detect leaks and low pressure in liquid nitrogen dosed containers and carbonated beverage containers. When combined with optional sensors, this system will also perform fill level inspection, cap inspection, and label detection.

### Benefits

- Rapid on-line inspection: up to 1.52 m/sec (300 ft/min) maximum
- Easy operation & product set-up using a large color touch screen and icon driven menus
- Combined inspections on a single user interface. Up to 4 primary inspections (Force, X-ray, Proximity)
- Reject and sort with 2 independently operated reject outputs
- Meets CE requirements
- UL and CUL approved

### Applications

- LN2 dosed teas, juices, and water
- Over pressure/under pressure in LN2 dosed PET containers
- Retorted dairy drinks in cans
- Carbonated beer or soft drinks in cans or plastic bottles
- Other low to mid-range pressure applications up to 3.1 bar or 45 psi

## How It Works

### Force Technology

Detects leaks and low pressure in LN2 dosed containers, carbonated beverage containers and aerosol 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 and the container is removed from the line.

### Fill Level Technology

**Optical Technology:** The Fill\_ir sensor is used to measure fill level of water based products in glass and plastic containers. The sensor utilizes a special emitter/receiver infrared wavelength tuned to the absorption band of water. The beam is powerful enough to pass through most types of plastic and glass containers but will not pass through water based liquids.

**X-ray Technology:** The Fill\_xr sensor is used to measure the fill level in steel, aluminum, glass, plastic and paper containers. An x-ray beam is focused in the expected fill level region of the container. As the x-ray beam penetrates the container, it is attenuated by the amount of product blocking the beam. The attenuation is proportionate to the fill level of the container.

# SYSTEM SPECIFICATIONS

## General Specifications

F

|  |                                      |
|--|--------------------------------------|
| Pressure Measurement Range                   | Up to 3.1 bar (45 psi)               |
| Operating Speed (max)                        | 1.9 m/sec (375 ft/min)               |
| Standard Conveyor Height Range               | 60.9 cm-111.7 cm<br>(24 in - 44 in)  |
| Optional Conveyor Height<br>(leg extensions) | 111.7 cm-157.4 cm<br>(44 in - 62 in) |
| Belt Opening (maximum)                       | 177.8 mm (7 in)                      |
| Digital Outputs                              | 8                                    |
| Digital Inputs                               | 4                                    |
| Shaft Encoder                                | Aluminum                             |
| AC Line Voltage (standard)                   | 230 VAC, 1-phase                     |
| Alarm Outputs                                | 2 (multi-function configurable)      |
| Reject Outputs                               | 3                                    |

## Material & Control Enclosure

|                                |                                      |
|--------------------------------|--------------------------------------|
| Enclosure Environmental Rating | Stainless steel, NEMA 4X, IP65 rated |
| Transport Deck Materials       | Aluminum hard coat                   |
| Frame Material Finish          | Stainless steel                      |

## Software & Networking Capabilities

- Remote Diagnostics
- Supports Multiple Languages (user interface dependent)
- Stores Multiple Product Set-Ups
- Supports Industrial Ethernet Protocols (EtherNet/IP and Modbus TCP)
- Multi-Level Password Protection



49 Edgerton Drive • North Falmouth, MA 02556 USA

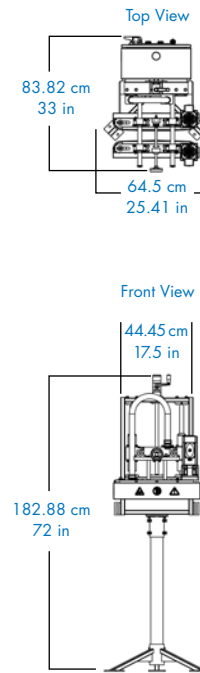
P: +1 508.563.1000

F: +1 508.564.9945

E-Mail: [taptone@teledyne.com](mailto:taptone@teledyne.com)

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## F Sensor



## F | System Options

**Air Pressure Monitoring:** Monitors and displays the air pressure at the rejector. Alarm signal will activate if the air pressure drops below user pre-set limits.

**Cap Inspection:** Inspection sensors for missing, high, or cocked cap detection can be added as an option. Both optical and camera systems are available.

**Down Bottle/Can Inspection:** The Down Bottle/Can Inspection sensors detect containers that have fallen over on the conveyor and were not inspected.

**Rejectors:** TapTone offers a line of pneumatic ram and standing rejection systems.

**Reject Verification:** Detects a container that has failed the inspection but has not been rejected from the production conveyor.

## F | Compatible Systems

- T550

[www.TapTone.com](http://www.TapTone.com)