

Application Note 99-2

Inspection of missing plastic cap with *TapTone 100* system

The *TapTone 100* is a new DSP controlled inspection/rejection system which mounted to the customer's production conveyor. The *TT-100* has the capability to perform a multitude of on-line inspections including missing plastic caps on plastic or glass containers. This option can be added to any *TT-100* system.

What type of containers?

The *TT-100* will inspect the following containers for high/cooked cap or lids.

- PET bottles with plastic caps
- Plastic water/sport drinks with plastic cap
- Glass bottles with plastic caps
- Plastic food containers with plastic caps
- Pharmaceutical products with plastic caps
- Chemical containers with plastic caps

Where to install the system?

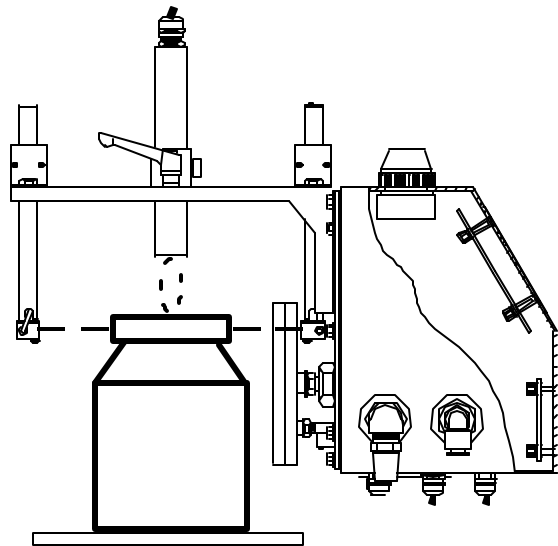
- Post capper
- Pre-warmer
- Pre-cooker
- Pre-cooler

What type of sensor for detection?

The analog proximity sensor for metal caps is removed and replaced with fixed field mode photo detector looking down at the cap. This photo detector will see any object within the 50mm range and ignore and objects beyond the 50mm fixed focus distance. This photo beam is connected to one of the 6 optional inputs of the *TT-100* system. Note that this sensor does not measure curvature, only presents or absence of the cap.

How does the inspection work?

The trigger photo beam looks at the cap from the side measuring the cap passing time. The cap detection photo beam looking over the top of the cap monitors the cap as it is passing by. If the cap detection beam does not see the cap the entire time the trigger beam is broken then that container will be rejected.



What is the accuracy of inspection?

The accuracy of the inspection is 100% as long as the cap sensor is set up so it does not see the product inside the container.



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January 28, 1999

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