

Identifying missing caps in plastic milk bottles

Tested: 64-ounce and 128-ounce plastic milk bottles
Tested with: TapTone 100 Missing Cap Inspection System

The purpose of this test was to identify milk bottles with missing caps.

T100 -- How it works

The TapTone 100 utilizes an optical sensor to detect missing caps.

The T100 is also equipped with quick disconnects on its base that allows for 6 optional inputs for other inspections. These include low vacuum, swelled cans, cocked caps, missing labels and tamper bands, and visible low fills.



▲ *Milk bottles with colored caps.*



▲ *TapTone 100.*



▲ *TapTone 100 base with quick disconnects for optional inputs.*

See next page for test results.

Test Summary

Half-gallon and gallon milk containers with six different color closures were tested successfully for identification of missing lids. Lid colors were brown, blue, green, red, orange, and white. The equipment used was a TapTone 100 set-up with the dual bifurcated missing lid inspection kit and a test loop conveyor to simulate line speeds. This feasibility review was to evaluate if the TapTone 100 could identify the containers with missing lids. The lid colors tested were all successful and would be rejected if missing.



▲ Containers being inspected on the process line with the dual bifurcated missing cap assembly.

▲ The test was also performed with the container filled to an industry standard fill level.

Input # 1 - Active low
with cap properly applied



▲ For the missing cap application we used Input (1) one as the port. With the system set-up correctly we can monitor the status of the option. When a good container with a lid passes by the inspection bridge we can expect a low signal every time.

Input # 1 - Active high
with cap missing



▲ When a container with a missing lid is presented to the inspection bridge the signal for input (1) one will go high. Then the container will be rejected from the production line.