

AUTOMATION TRENDS

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OMRON

Soft Drink Bottlers Error-Proof Date Coding to Reduce Waste

Bottlers fill multiple products using the same line and each product has its own freshness date. In a semi-automatic system, human error can affect the date information downloaded to the marking equipment and lead to costly waste from incorrectly marked product. Fully automating the date/lot code input and verifying the results with machine vision inspection provides feedback to the inkjet marker that the right code has been printed and that print quality meets standards.



Identifying Problem Areas

Beverage manufacturers that package products in 12-ounce cans face several problems when it comes to marking and verifying correct date/lot codes for freshness:

- Potential incorrect code downloads to marking equipment
- Inkjet marking equipment printing codes either unreadable by customers or inspection systems
- Getting less than 100% inspection of date/lot codes on concave can bottoms at high speed

When any one of these problems crop up, it results in expensive waste of product and packaging resource, and a loss of productivity. How bad are these problems?

Piles of Product with Incorrect Freshness Dates



One bottling plant used a system with manual entry of freshness date codes where the operator searched a table of brands and days of the week to find the correct code. The data entry was subject to human error—look-up mistakes in referencing the chart and typing errors when the code was keyed into the system. Even though mistakes were infrequent (as few as two a year), they caused a huge problem. With no date code verification loop in place, product printed with an incorrect date code could go unnoticed for hours. The bottler's most recent episode of incorrect marking lasted almost four hours, resulting in nearly half a million cans having to be

scrapped.

High-Speed Machine Vision Keeps the Pace

Part of Omron's solution included a high-speed F270 series machine vision system mounted next to the printing head of a Videojet inkjet marking system. It provides 100% date code verification and print quality inspection at rates fast enough to meet production speed.

Error-Proofing Data Entry

Omron delivered a turnkey operator panel that error-proofs date code selection. Using a touch screen terminal, the operator selects the brand and embedded programming in a PLC calculates the correct date and downloads the data to the inkjet printer. The touch screen terminal also has live video monitoring capabilities. This allows the operator to watch the inkjet operation using the same machine vision camera that provides images for printing verification and quality inspection. The entire inspection solution was designed and fabricated by Omron Manufacturing of America, a UL-certified panel builder, using a mix of controls and devices from Omron and other suppliers.



For More Information:

Omron's [High-Speed F270 Vision Sensor](#) Brochure

[Omron Manufacturing Of America's](#) Capabilities Brochure

Omron's [Machine Vision Solutions](#) web site