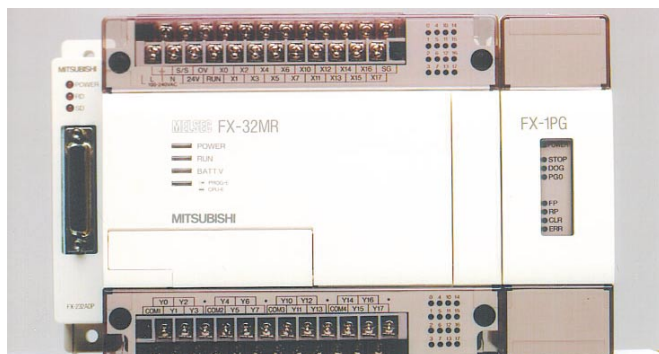


Industry: **Plastics /// Manufacturing**

Products Used: **FX PLCs /// SCADA /// HMIs**

# Ten green PLCs

Today, plastic bottles are used to package a huge variety of products and we take for granted that they do not leak. In order that we can have such confidence, the manufacturers of the bottles go to considerable lengths to ensure quality and employ special machines for on-line leak detection. One such family of machines, from PCE Automation, is now fitted with PLCs for the control, supervised by HMIs (Human Machine Interfaces) and PC based SCADA, all from Mitsubishi Electric.



PCE use the latest in automation and control equipment to measure bottle height, check for rigidity, measure the neck bore and test for leaks on their machines. The entire process is controlled by an FX PLC which sends its real-time data directly to the MX-SCADA for collation. The 32 bit SCADA runs on a normal desktop PC and is primarily there for statistical analysis and production of reports.

High accuracy leak detection is achieved by using specially designed piezo-electric pressure transducers. The low level signals from these are digitised by the PLC without any other interfacing. This ability to be so flexible with its input capabilities is a main reason why PCE choose the FX PLC, as unlike most micro PLCs, FX has powerful and accurate integral analogue measurement capabilities, and is immune from the effects of temperature variation and electrical interference.

*Application story first released January 1998 by Mitsubishi Electric UK*

PCE use a Mitsubishi MAC 50 HMI to provide a local operator interface on the machines. It is used to set test settings, display results, and show data and alarms. The HMI monitors and records the pressures at the start and end of the test cycle showing the detection of weak bottles as well as leaks. Terry Cook of PCE says, "We use the Mitsubishi PLCs rather than other makes as they are easy to programme and fault finding is very easy. We have experience with other types as customers sometimes specify them, but Mitsubishi's are excellent and the back up service and support superb."

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Terry Cook  
PCE

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Using the MX-SCADA software the user can control and monitor data from several machines via the one PC work station, saving on equipment costs. In order to dovetail the real-time data collected by the SCADA software easily with the existing third party software used to provide the statistics, the SCADA uses it's multi-tasking capabilities to transfer data via a DDE link. This DDE link can be configured without any special drivers needing to be written.