Case Details

ACI Operations in Victoria Australia manufacture glass bottles and jars. Their furnace produces molten glass which is cut at a predetermined size by shears. At this stage the glass is referred to as a gob. A gob is inserted into a mould and compressed air is applied, which completes the bottle manufacture process. It is crucial that the size of each gob is correct or the bottle will have inconsistent wall thickness. ACI were experiencing varying sizes in the production of the gobs at infrequent intervals resulting in a large number of rejects, but were unsure what was causing it.

Key Requirements

Frequency encoder measurement
20Hz sampling
Memory stick capability

dataTaker DT80

1. A cost effective data logger expandable to 100 channels, 200 isolated or 300 single-ended analog inputs

2. Built-in web and FTP server allows for remote access to logged data, configuration and diagnostics

3. Modbus slave and master functionality allows connection to Modbus sensors and devices and to SCADA systems

4. Smart serial sensor channels capable of interfacing to RS232, RS485, RS422 and SDI-12 sensors

5. Rugged design and construction provides reliable operation under extreme conditions

6. Includes USB memory stick support for easy data and program transfer

Inspection time: A factory worker manually inspects a rejected glass bottle from the production line. A *dataTaker* DT80 soon established the production faults leading to these rejects.

dataTaker Solution

Equipment

dataTaker DT80 data logger
USB memory stick

Sensors

Current transformer
Frequency encoder
Proximity switches

Implementation Notes

ACI had to investigate several parameters to determine whether the problems arose from a mechanical fault on the shears that cut each gob, the motor driving the shears or the Variable Speed Drive (VSD) driving the motor. They installed a *dataTaker* DT80 data logger with a frequency encoder monitoring the motor position, a current transformer monitoring the output from the VSD and proximity switches monitoring each cut of the shears.

To avoid collecting enormous amounts of data the DT80 was set to store only the most recent 45 minutes (enough time for the electronic inspection equipment to discover the fault). When the fault finally re-occurred the operator inserted his USB memory stick and retrieved the data.

By matching the VSD output to the motor position and by accurately monitoring the timing between cuts of the shears the fault was isolated and identified so that ACI could improve their production output.

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