

**Application Note** Monitoring cooking temperatures and sterilization of food products

## Customer Requirements

The client, a renowned rice miller and food processor recently installed a new production line that produces various cooked rice based products in reheatable and microwavable polymer sachets. As a consequence the company required a system to monitor the retort cooking and sterilization temperatures, as well as the accumulated  $F_0$ , during production of various pouched rice products. The capability to download the results was required for analysis and quality purposes.



## Equipment

DT800  
DeLogger™ 4 Pro

## Sensors

Thermocouple probes

## Datataker Solution

The *dataTaker DT800* was installed and configured for 12 thermocouple probes to monitor the progress of cooking temperatures in the sachets, and to monitor the development of steam sterilization as measured by  $F_0$ . The probes are placed centrally into pouches, which in turn are placed at appropriate locations throughout the load in a retort.

During cooking:

- The temperature of each probe is recorded every 30 seconds, and charted real time on a computer screen.
- The partial  $F_0$  for each probe is calculated every 30 seconds, and a progressive  $F_0$  for each probe is accumulated and displayed on a computer screen.

The real time data is returned to a computer running DeLogger™ Pro software displaying a trend graph of the temperatures, and a numeric display of the progressive  $F_0$  accumulations.

The data logger also logs the temperature and progressive  $F_0$  data into memory, which then can be unloaded from the logger following the monitoring period for subsequent analysis in Microsoft Excel, etc.

At the end of the cook time the information is downloaded as a .csv file and retained for analysis and quality purposes.

Please see Part B for a step-by-step guide.

## Other application users

Sterilization of medical equipment

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