

## Carcass Pasteurization Monitoring

### Application Summary

Pasteurization is the thermal destruction of vegetative pathogens in food products. In the meat industry, FDA and FSIS regulations require carcasses to be surface-pasteurized to eliminate pathogens and ensure the safety of the final product. The pasteurization cycle must be validated to confirm that the proper temperatures were reached for the correct amount of time.

In an average meat pasteurization cycle, the carcass is surface-pasteurized with steam heat to approximately 200°F for 10 to 20 seconds. Validating this cycle ensures that pathogens and spores have been eliminated, allowing the meat to progress into the next stage of processing.

### MadgeTech's Solution:

MadgeTech's CTL2000 is an eight channel thermocouple temperature logger. With a rugged IP65 design, the CTL2000 is protected against water jets from any direction. It operates for extended periods under wet conditions, collecting temperature data from eight different sections of a carcass. Measuring and recording multiple points on a carcass provides an overall temperature profile and ensures steam pasteurization cycles are correctly completed.

Other features of the CTL2000 include multiple starting options, such as delayed start, immediate start, and pushbutton start, as well as status LED's to provide the user with optimum visual aid. Additionally, the CTL2000 offers a channel naming option, for ease of location and detection. Also, if a thermocouple is disconnected or severed during the logging process, it is automatically annotated in the software.

MadgeTech's CTL2000 will provide the data necessary for quality personnel to validate steam pasteurization cycles, and ensures the significant reduction of bacteria such as E. coli or Salmonella.

### Method:

- 1) Start the logger
- 2) Insert the hook on the logger into the carcass
- 3) Insert thermocouples into fat or lean meat (custom-made barbed thermocouples are included and stand 1/4" from the surface of the carcass)
- 4) Run the steam pasteurization cycle
- 5) Data is stored in non-volatile memory, and can be downloaded and analyzed at the end of each cycle to provide documentation to validate the surface-pasteurization process.

MadgeTech, Inc.  
6 Warner Road,  
Warner, NH 03278

(603) 456-2011 Phone  
(603) 456-2012 Fax

[www.madgetech.com](http://www.madgetech.com)  
[support@madgetech.com](mailto:support@madgetech.com)