Ohio Administrative Code
Rule 901:3-3-08 Equipment and Procedures for Pressure Processing in Steam in Hydrostatic Retorts.
Effective: April 28, 2003

(A) Each retort shall be equipped with at least one mercury-in-glass thermometer.

(1) Thermometer divisions are to be easily readable to one degree Fahrenheit and the temperature range shall not exceed seventeen degrees Fahrenheit per inch of graduated scale.

(2) Thermometers shall be tested for accuracy against a known accurate standard thermometer upon installation and at least once a year thereafter to ensure their accuracy.

(3) A thermometer that has a divided mercury column or that cannot be adjusted to the standard shall be repaired or replaced before further use of the retort.

(4) Thermometers shall be installed where they can be accurately and easily read. The thermometer shall be located in the steam dome near the steam-water interface.

(5) When the scheduled process specifies maintenance of particular temperatures in the hydrostatic water legs, a mercury-in-glass thermometer shall be located in each hydrostatic water leg in a position near the bottom automatic recorder.

(6) The mercury thermometer shall be the references instrument for indicating the processing temperature. The recorder chart shall not be used for this purpose.

(B) Temperature-recording device.

(1) Each retort shall have an accurate temperature-recording device. Graduations on the temperature-recording devices shall not exceed two degrees Fahrenheit within a range of ten degrees Fahrenheit of the processing temperature.

(2) Each chart shall have a working scale of not more than fifty-five degrees Fahrenheit per inch
within a range of twenty degrees Fahrenheit of the processing temperature.

(3) The temperature chart shall be adjusted to agree as nearly as possible with, but to be in no event higher than, the known accurate mercury-in-glass thermometer during the process time.

(4) A means of preventing unauthorized changes in adjustment shall be provided.

(5) The temperature recording device may be combined with the steam controller and may be a recording-controlling instrument.

(6) The temperature-recorder bulb shall be installed either within the steam dome or in a well attached to the dome.

(7) Each temperature-recorder bulb well shall have a one-sixteenth inch or larger bleeder opening which emits steam continuously during the processing period.

(8) Additional temperature-recorder bulbs shall be installed in the hydrostatic water legs if the scheduled process specified maintenance of particular temperatures in the hydrostatic water legs.

(C) Recording of temperatures.

(1) Temperatures indicated by the mercury-in-glass thermometer or thermometers shall be entered on a suitable form during processing operations.

(2) Temperatures shall be recorded by an accurate automatic recorder or recorders at the following points:

(a) In the steam chamber between the steam-water interface and the lowest container position.

(b) Near the top and the bottom of each hydrostatic water leg if the scheduled process specifies maintenance of particular temperatures in the legs.

(D) Steam controller.
Each retort shall be equipped with an automatic steam controller to maintain the retort temperature.

(E) Venting.

Before the start of processing operations, the retort steam chamber or chambers shall be vented to ensure removal of air.

(F) Bleeders.

(1) Bleeder openings one-fourth inch or larger shall be located at the top of the steam chamber or chambers opposite the point of steam entry.

(2) Bleeders shall be wide open and shall emit steam continuously during the entire process, including the come-up-time.

(3) All bleeders shall be arranged in such a way that the operator can observe that they are functioning properly.

(G) Retort speed.

(1) The speed of the container-conveyor chain shall be specified in the scheduled process and shall be determined and recorded at the start of processing and at intervals of sufficient frequency to ensure that the retort speed is maintained as specified.

(2) When the temperature drops below that specified in the scheduled process the container conveyor chain shall be stopped.

(3) A means of preventing unauthorized speed changes shall be provided.

(H) Critical factors.

Critical factors specified in the scheduled process shall be measured and recorded on the processing
record at intervals of sufficient frequency to ensure that the factors are within the limits specified in the scheduled process.

(1) When maximum fill-in or drained weight is specified in the scheduled process, it shall be measured and recorded at intervals of sufficient frequency to ensure that the weight of the product does not exceed the maximum for the given container size specified in the scheduled process.

(2) Closing machine vacuum in vacuum-packed products shall be observed and recorded at intervals of sufficient frequency to ensure that the vacuum is as specified in the scheduled process.