



SECTION 3. OPERATION

3-1. INTRODUCTION

This section provides operating procedures for the heated holding cabinets. The Introduction, Installation and Operation Sections should be read, and all instructions should be followed before operating the cabinet.

<u>3-2. OPERATING</u> <u>CONTROLS AND</u> <u>COMPONENTS</u>

Figures 3-1 through 3-5 identify and describe the function of all the operating controls and the major components of the cabinet.





Figure 3-2



Figure 3-4



Figure 3-3



Figure 3-5



3-2. OPERATING CONTROLS AND COMPONENTS (Continued)

Fig. No.	Item No.	Description	Function	
3-1	1	Power Switch	A toggle switch that switches electrical current to the unit	
3-1	2	Power Light	Illuminates when the power switch is in the ON position and the components are energized	
3-1	3	Thermometer	Indicates the air temperature inside the cabinet	
3-1	4	Heat Light	Illuminates when the thermostat turns on the heaters	
3-1	5	Thermostat	An electromechanical device that controls the temperature inside the cabinet	
3-2	6	Blower Motor	Used to recirculate the hot humid air throughout the cabinet; there are two blower motor assemblies in the cabinets	
3-2	7	Heater	Two, open-resistance, wire type heaters that provide heat throughout the cabinet; a standard full sized 120 VAC unit will have 1000 watt heaters; a standard full sized 240 VAC unit will have 1500 watt heaters; a standard 120V, HHC-903 unit will have 750 watt heaters	
3-2	8	High Limit	A safety device mounted next to the heater which protects the unit from overheating	
3-3	9	Fuse	A protective device that breaks the circuit when current exceeds the rated value; the fuse provides an overload protection for the electrical components; to remove the fuse, twist and pull the cap; the fuse is used only on the 120V/2000 watt units	
3-4	10	Water Pan	Holds the water for creating humidity in the cabinet	
3-5	11	Venting System (Units with vent adjustment only)	Controls the humidity levels in the cabinet	



3-3. START-UP





Before using the heated holding cabinet, the unit should be thoroughly cleaned as described in the Cleaning Procedures Section of this manual.

- 1. To put the unit into operation, move the power switch to the ON position. The power light should now be illuminated and the blowers should be in operation.
- 2. Remove the water pan and put approximately 1" of hot water in the pan. Return the pan to its location.



Be sure to push the water pan in as far as it will go so that it does not block air from the thermometer and thermostat capillary tubes. This will ensure proper operation of these components.

3. Set the thermostat at #7 or approximately 180°F (82°C). When the heat light goes out, the unit is ready for operation.

Step 2



The unit should take approximately 25-35 minutes to heat to temperature during start up. Be sure that the temperature light goes out before loading with product.

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<u>3-4. OPERATION WITH</u> <u>PRODUCT</u>

- 1. Place the hot product on bun pans and insert between the cabinet racks.
- 2. Serve the product f rst that has been in the cabinet the longest.
- 3. In order to maintain a constant temperature, open the doors only as necessary to load and unload product.

<u>3-5. VENT ADJUSTMENT</u>



As mentioned in the Operating Controls and Component Section, the vent system limits the humidity level of the cabinet. The vent adjustments are very easy to follow.

The vent setting corresponds to the number of trays of product. With one tray of product, set the vent at No. 1. With two trays of product, set the vent at No. 2 and so on.

- 1. Turn all controls to the OFF position.
- 2. Disconnect the electrical supply to the cabinet.



To avoid burns, allow the unit to cool before cleaning.

- 3. Open the doors and remove all trays from the cabinet.
- 4. Take the trays to a sink and clean them thoroughly.
- **Step 3** 5. Remove the water pan and clean it with a soft cloth, soap, and water.

PROCEDURES

3-6. CLEANING





<u>3-6. CLEANING</u> <u>PROCEDURES</u> <u>(Continued)</u>







- 6. Wipe the control panel with a damp cloth. Do not splash water around the controls.
- 7. Clean the exterior of the cabinet with a damp cloth.



<u>Do not use</u> steel wool, other abrasive cleaners or cleaners/sanitizers containing chlorine, bromine, iodine or ammonia chemicals, as these will deteriorate the stainless steel material and shorten the life of the unit.

<u>Do not use</u> a water jet (pressure sprayer) to clean the unit, or component failure could result.

- 8. Open the doors and remove side racks. Clean the racks with soap and water.
- 9. Clean the interior of the cabinet thoroughly with a cloth and soap water.
- 10. Put the side racks and water pan back into the cabinet.
- 11. Leave at least one door open over night to allow the unit to thoroughly dry out.

Step 8



<u>3-7. OPERATING</u> <u>CONTROLS -</u> <u>COUNTDOWN TIMERS</u> <u>(if applicable)</u>

These instructions are for both 13 and 5 count down timers.

Start-Up

- 1. Turn the power switch to the ON position.
- 2. The display shows the increase in temperature, indicating the unit is heating.
- 3. When the preset temperature is reached, the HEAT ON LED turns off and the display stays at the preset temperature.

Temperature Regulation

- 1. Press and hold the PROGRAM button.
- 2. The control beeps and "Prog Enter Code" shows in display.
- 3. Enter access code 1, 2, 3.
- 4. Press the INCREASE or DECREASE buttons to change the f ashing setpoint temperature.
- 5. Press and hold the PROGRAM button to set the temperature and exit the programming mode.

Timer Operation

Each of the timers can be started, stopped, or cancelled, and not affect the status of the other timers.

- 1. Press the desired timer button.
- 2. The time remaining shows in the display.
- 3. At end of time cycle, an alarm sounds and "0:00" is displayed.
- 4. Press the timer to stop alarm and "---" is displayed.

Press and <u>hold</u> an active timer to cancel.



<u>3-7. OPERATING</u> <u>CONTROLS -</u> <u>COUNTDOWN TIMERS</u> <u>(if applicable)</u> (Continued)

Timer Regulation - All timers can be set to a different starting time.

- 1. Press and hold the PROGRAM button.
- 2. The control beeps and "Prog Enter Code" shows in display.
- 3. Enter access code 1, 2, 3.
- 4. Press the PROGRAM button, and "---" is displayed, along with all the timer settings.
- 5. Press the desired timer and the starting time f ashes.
- 6. Press the INCREASE and DECREASE buttons to change the starting time.
- 7. Press the timer button to set the new starting time, and now a different timer button can pressed, and it's starting time can be changed.
- 8. When f nished setting timers, press and hold the PRO-GRAM button to exit programming.



Exit the program mode at any time by pressing and holding the PROGRAM button. Also, if no buttons are pressed for 2 minutes, programming is exited automatically.

Timing Through Power Down

If a power failure occurs while a timer is running, the timer resumes the countdown when power is restored.



<u>3-7. OPERATING</u> <u>CONTROLS -</u> <u>COUNTDOWN TIMERS</u> <u>(if applicable)</u> (Continued)

Special Program Mode - Consists of Setup Mode and Tech Mode.

Setup Mode

- Fahrenheit or Celsius
- Initialize System One button programming for times and temperatures

Fahrenheit or Celsius

- 1. Press and hold the PROGRAM button for 4 seconds.
- 2. "SetUP" and "Tech" are displayed.
- 3. Press a timer button under the word "SetUP".

Ex: Setup



Press either 1 or 2.

- 4. Enter access code 1, 2, 3.
- 5. "SetUP deg. F" is displayed.
- 6. Press the INCREASE or DECREASE buttons to toggle from "F" (Fahrenheit) and "C" (Celsius).
- 7. When correct setting displays, press the PROGRAM button to move to initialize system, or press and hold the PRO-GRAM button to exit programming.



CE and international units must have the temperature readings in Celsius. Follow above procedures and set to "C".

Initialize System

- 1. Press and hold the PROGRAM button for 4 seconds.
- 2. "SetUP" and "Tech" are displayed.



<u>3-7. OPERATING</u> <u>CONTROLS -</u> <u>COUNTDOWN TIMERS</u> <u>(if applicable)</u> <u>(Continued)</u>

Initialize System (Continued)

3. Press a timer button under the word "SetUP".

Ex: "SetUP"



- 4. Enter access code 1, 2, 3.
- 5. "SetUP deg. F" is displayed.
- 6. Press PROGRAM button and "SetUP init sys" is displayed.
- 7. Press and hold either the INCREASE or DECREASE button.
- 8. The control beeps and the display counts down, 5, 4, 3, 2, 1, 0.
- 9. When display reaches "0", release the button and the initialization is complete.

If the INCREASE or DECREASE button is released before "0" is displayed, the control will not initialize.

10. Press the PROGRAM button to return to the Fahrenheit/Celsius mode, or press and hold the PROGRAM button to exit programming.

Tech Mode

- Output test heaters
- CPU calibration
- T emperature calibration
- Display tests
- Push-button test
- T otal initialization



The Tech Mode is mostly used at the factory level. The output tests and temperature probe calibration are given below. For further information, call the Technical Services Department at Henny Penny, 1-800-417-8405, or 1-937-456-8405.



<u>3-7. OPERATING</u> <u>CONTROLS -</u> <u>COUNTDOWN TIMERS</u> <u>(if applicable)</u>

(Continued)

Output System

- 1. Press and hold the PROGRAM button for 4 seconds.
- 2. "SetUP" and "Tech" are displayed.
- 3. Press a timer button under the word "Tech".

Ex: "Tech"



- 4. Enter access code 1, 1, 2, 2, 1, 1, 2, 2.
- 5. "outP test Htr" is displayed.
- 6. Press the 5 timer button (under "Htr") to turn heat and heat LED on and off.
- 7. Press the PROGRAM button to move to the next step, or press and hold the PROGRAM button to exit programming.

Temperature Calibration

- 1. Press and hold the PROGRAM button for 4 seconds.
- 2. "Setup" and "Tech" are displayed.
- 3. Press a timer button under the word "Tech". Ex: "Tech"

4 5	4		5
-----	---	--	---

Press either 4 or 5.

- 4. Enter access code 1, 1, 2, 2, 1, 1, 2, 2.
- 5. "outP test Htr" is displayed.
- 6. Press the PROGRAM button 3 times until "CAL OFS Hi Probe 185" is displayed.
- 7. Press and hold number 1 timer (under "CAL"), while pressing the INCREASE and DECREASE buttons and set the display to match the actual cabinet temperature.
- 8. Press the PROGRAM button to move to the next step or press and hold the PROGRAM button to exit programming.



<u>3-8. SIMPLEHOLD</u> <u>CONTROLS</u> (if applicable)

Operation

- Turn the power switch to the ON position and the actual temperature shows in the display. To check the setpoint temperature, press and hold
- 2. Remove water pan and put about 1" (25.4 mm) of hot water in pan. Return pan to cabinet.



Be sure to push the water pan in as far as it will go, so that it does not block the air to the temperature probe, to ensure an accurate temperature reading

3. Allow unit to heat 25 to 30 minutes to reach setpoint tem perature, and the heat LED f ashes, before loading product into cabinet.



Programming

To change the setpoint temperature, press and hold $\begin{bmatrix} \text{SET} \end{bmatrix}$ and then use $\begin{bmatrix} \mathbf{v} \end{bmatrix}$ $\begin{bmatrix} \mathbf{v} \end{bmatrix}$ to set the desired setpoint temperature.

NOTICE

If the controls are **locked** the setpoint cannot be changed until the controls are **unlocked**. See Special Programming below .

To access the Special Program Mode:

With the Power Switch OFF, press and hold [SET], and then turn the power switch on.

1. "^oF" or "C"shows in the display. To toggle between Fahrenheit and Celsius, press



3-8. SIMPLEHOLD CONTROLS

(if applicable) (Continued)

- After entering the Special Program Mode, press solution once and "int" shows in the display. Press and hold and the display counts down "In3-In2-In1".
 This reinitializes the controls and sets all controls to 0.
- 3. After entering the Special Program Mode, press and release twice, and "Cal" shows in the display, followed by

the current probe temperature. The probe can be calibrated $\pm 10^{\circ}$ F, and can be changed by using \bigcirc .

4. After entering the Special Program Mode, press and release three times, and "OP" shows in the display.

Use **V (A)** to toggle between "888" and a blank display. "888" turns all heat outputs on, and a blank display turns them off.

5. After entering the Special Program Mode, press and release four times, and P=L, or P=U, shows in the display.

Use \bigtriangledown to toggle between L (lock), and U (unlock).



<u>3-9. FRONT & REAR OPERATING</u> CONTROLS-HHC-903-10 CDT



Start-UP

- 1. Turn the power switch to the ON position.
- 2. The display shows the increase in temperature, indicating the unit is heating.



Press and hold

to view the setpoint temperature.

3. When the preset temperature is reached, the "HEAT ON" LED turns off and display stays at the preset temperature.

Timer Operation

Each of the timers can be started, stopped, or cancelled, and not affect the status of the other timers.

- 1. Press the desired timer button, from either the front or rear of the unit.
- 2. The time remaining f ashes in both front and rear displays. If #2 timer is started on the front, #2 timer also shows timing down on the rear of the unit. If more than one timer is running, the timer with the least amount of time remaining f ashes.
- 3. At end of time cycle, alarm sounds and "0:00" displays.
- 4. Press the timer to stop alarm and "---" is displayed.

Press and **hold** an active timer to cancel.

Vent Adjustment

The vent adjustment on the rear panel limits the humidity level inside the unit. Sliding the knob to a setting of 5 opens the two vent holes completely and a setting of 0 closes them.





<u>3-9. FRONT & REAR OPERATING</u> Programming Temperature and Timers <u>CONTROLS-HHC-903-10 CDT</u>

(Continued)

1. Press and hold

until "Prog" shows in the display

2. Press to change the f ashing setpoint temperature.



If "LOC" shows in the display at this time, the programming controls are locked and must be unlocked. See Special Program Mode Section.

3. Press and release reprogram to program the timers. Press any of the timer buttons, on either side of the unit, and when they are f ashing, use to set the timer in minutes

and seconds. If a timer is f ashing on one side of the unit, the corresponding timer on the other side of the unit also f ashes. For example, if timer #2 on the front of the unit is f ashing, #2 on the rear of the unit also f ashes. So, both front and rear timers are programmed at the same time.



More than one timer can be programmed at the same time if they are to be programmed with identical times. Just press the timers to be programmed and when they are all f ashing, use \square to set the time in all timers. Again, both

front and reartimers will be programmed.

4. Press and hold **PROGRAM** to exit the Program Mode and all settings are now programmed.

SPECIAL PROGRAM MODE

This mode consists of:

- Fahrenheit or Celsius Programming
- Initialize System One button programming for times and temperatures
- Probe Calibration
- Locking or Unlocking Programming
- Outputs Test
- Turn power switch OFF and press and hold program until "SP" shows in the display, followed by the software version.



3-9. FRONT & REAR OPERATING 2. **CONTROLS-HHC-903-10 CDT** (Continued)

when "^oF" or "^oC" shows in the display, use Press to change the temperature reading from Fahrenheit to Celsius, or vice-versa.

3. Press and release and "int" shows in the display.

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- 4. Press and hold **v** or **v** and display counts down, "in-3, in-2, in-1". When "int SYS" shows in the display, release the **v** or **v** and the initialization is complete. The temperature and timers are now programmed to factory presets.
- 5. Press and release program and "CAL" shows in the display, followed by the probe temperature, inside the unit.
- to set the displayed temperature to match the Use 6. actual temperature inside the unit.
- 7. Press and release PROGRAM twice and "P= L or U" shows in the display. "P=L" means Locked and the setpoint temperature and timers CANNOT be programmed. "P=U" means Unlocked and the setpoint temperature and timers CAN be programmed. Use the to toggle the display from

"P=L" to "P=U" or vice-versa.

8. Press and release and "OP" shows in the display. Use the **I** to toggle the outputs ON & OFF. When the

outputs are ON, the HEAT ON LED should come on and "8888" shows in the display, indicating the outputs are working correctly.

to exit Special Program Mode and 9. Press and hold all modes will now be set.