



OPERATOR'S M A N U A L

HEATED HOLDING CABINET

MODEL

HHC-901
HHC-904



HENNY PENNY
Engineered to Last

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Distributor Lists - Domestic and International

SECTION 1. INTRODUCTION

1-1. HEATED HOLDING CABINET

The Henny Penny Heated Holding Cabinet is a basic unit of food processing equipment designed to hold hot foods at proper temperature in commercial food operations. This cabinet keeps hot foods humid while maintaining temperature.

NOTICE



As of August 16, 2005, the Waste Electrical and Electronic Equipment directive went into effect for the European Union. Our products have been evaluated to the WEEE directive. We have also reviewed our products to determine if they comply with the Restriction of Hazardous Substances directive (RoHS) and have redesigned our products as needed in order to comply. To continue compliance with these directives, this unit must not be disposed as unsorted municipal waste. For proper disposal, please contact your nearest Henny Penny distributor.

1-2. FEATURES

- Easily cleaned
- Adjustable, electronic controls
- Lift-off doors
- Easy access to electrical components
- Moist heat
- Removable control module
- Stainless steel construction
- Flip-Up and/or Solid Doors
- Lift out tray racks

1-3. PROPER CARE

As in any unit of food service equipment, the Henny Penny Heated Holding Cabinet does require care and maintenance. Requirements for the maintenance and cleaning are contained in this manual and must become a regular part of the operation of the unit at all times.

1-4. ASSISTANCE

Should you require outside assistance, just call your local independent Henny Penny distributor in your area, call Henny Penny Corp. 1-800-417-8405 toll free or 1-937-456-8405, or go to Henny Penny online at www.hennypenny.com.

1-5. SAFETY

The only way to ensure safe operation of the Henny Penny Heated Holding Cabinet is to fully understand the proper installation, operation, and maintenance procedures. The instructions in this manual have been prepared to aid you in learning the proper procedures. Where information is of particular importance or is safety related, the words NOTICE, CAUTION, or WARNING are used. Their usage is described below.



SAFETY ALERT SYMBOL is used with DANGER, WARNING, or CAUTION which indicates a personal injury type hazard.



NOTICE is used to highlight especially important information.



CAUTION used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.



CAUTION used with the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.



WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

SECTION 2. INSTALLATION

2-1. INTRODUCTION

This section provides the installation instructions for the Henny Penny Heated Holding Cabinet.

NOTICE

Installation of this unit should be performed only by a qualified service technician.



Do not puncture the skin of the unit with drills or screws as component damage or electrical shock could result.

2-2. UNPACKING

The Henny Penny Heated Holding Cabinet has been tested, inspected, and expertly packed to ensure arrival at its destination in the best possible condition. The cabinet rests on cardboard pads that sit on a wooden skid. The racks inside the cabinet are secured with cardboard packing. The unit is then packed inside a heavy cardboard carton with sufficient padding to withstand normal shipping treatment.

NOTICE

Any shipping damages should be noted in the presence of the delivery agent and signed prior to his or her departure.

To remove the Henny Penny Heated Holding Cabinet from the carton, you should:

1. Carefully cut banding straps.
2. Lift the carton off the unit.
3. Lift the unit off the cardboard padding and skid.



Take care when moving the unit to prevent personal injury. The unit can weigh up to 500 lbs. (227 kg).

4. Open doors and remove packing from behind racks.
5. Peel off any protective covering from the exterior of the cabinet.
6. The unit is now ready for location and set up.

2-3. LOCATION

The unit should be placed in an area where the doors can be opened without interruption and loading and unloading of product is easy. For proper operation, the cabinet must be level.

CAUTION

To avoid damage to the unit, do not set anything on top of the cabinet that might close the vent holes.

2-4. ELECTRICAL CONNECTION

The heated holding cabinet is available from the factory as a 120 VAC or 240 VAC unit for domestic use and as a 240 VAC unit for international use. The data plate, located on the side of the module, will specify the correct electrical supply. The unit requires a grounded receptacle with a separate electrical line protected by a fuse or circuit breaker of the proper rating. For European markets, verify the electrical plug meets the proper electrical rating and country type. See local authorities for proper standards.



To avoid electrical shock, the cabinet must be adequately and safely grounded (earthed) according to local electrical codes.

(FOR EQUIPMENT WITH CE MARK ONLY!)

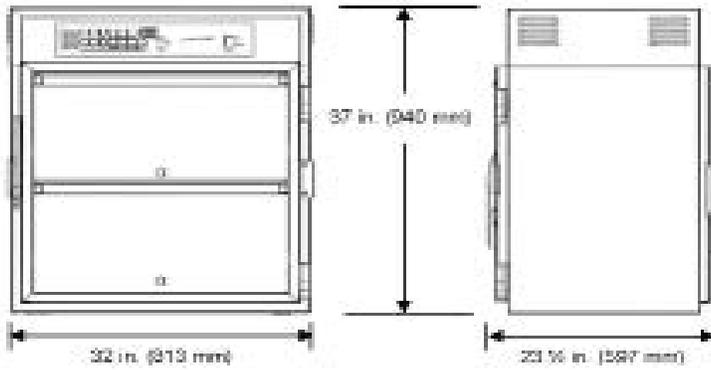
To prevent electric shock hazard this appliance must be bonded to other appliances or touchable metal surfaces in close proximity to this appliance with an equipotential bonding conductor. This appliance is equipped with an equipotential lug for this purpose. The equipotential lug is marked with the following symbol



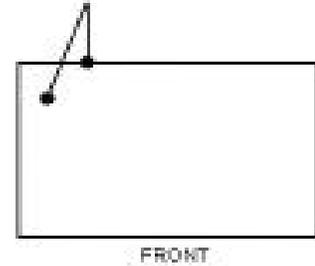
Refer to the table below for electrical ratings for the HHC-900.

Product Number	Volts	Watts	Amps
HHC-901	120	1700	14.2
HHC-904	120	1700	14.2

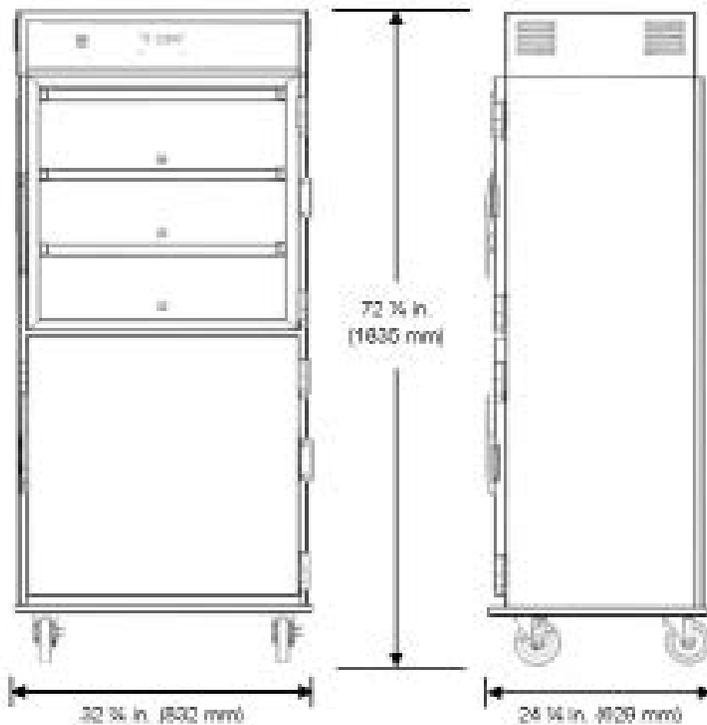
2-5. CABINET DIMENSIONS



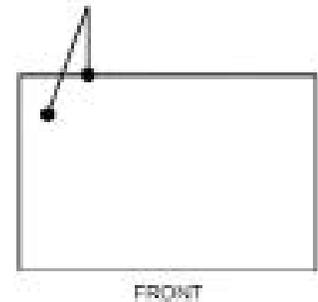
Power cord from back or top



Model HHC-904



Power cord from back or top



Model HHC-901

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.

3-2. OPERATING CONTROLS

Below are the 3 different controls available on the HHC-901 & 904 units and the description of the items are on the following pages.

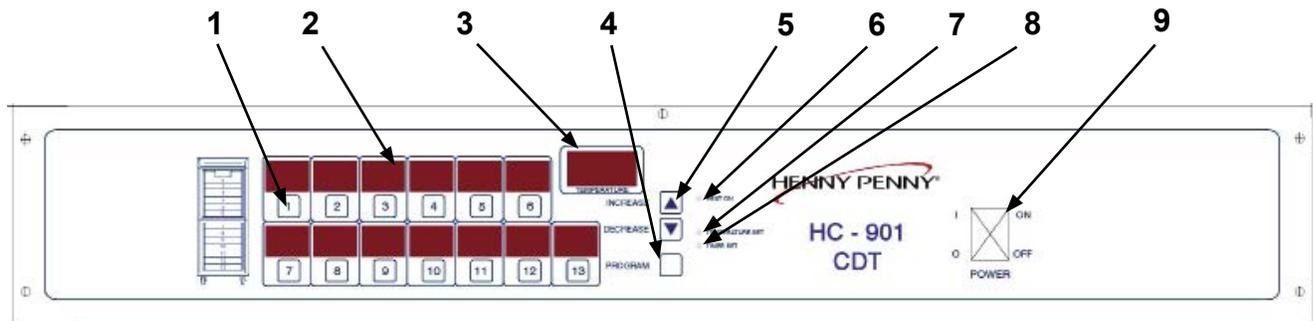


Figure 1 - 13 CDT

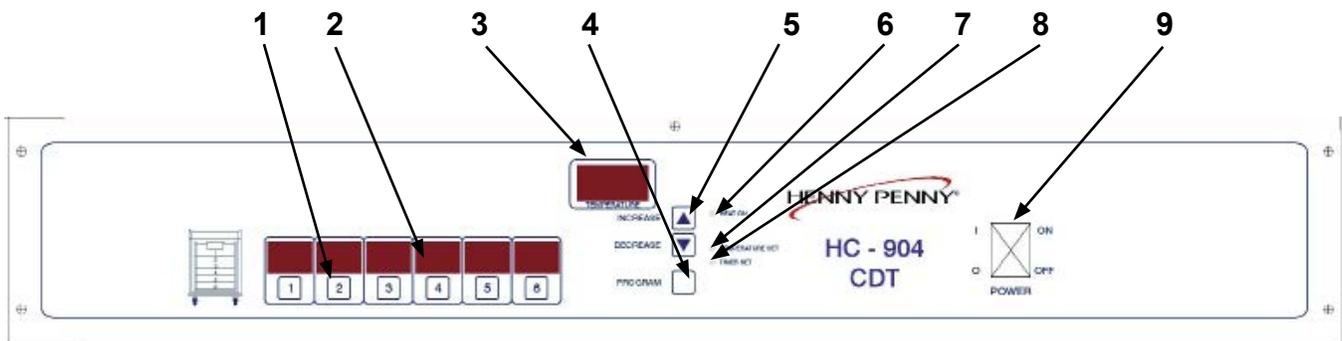


Figure 3-4 - 6 CDT

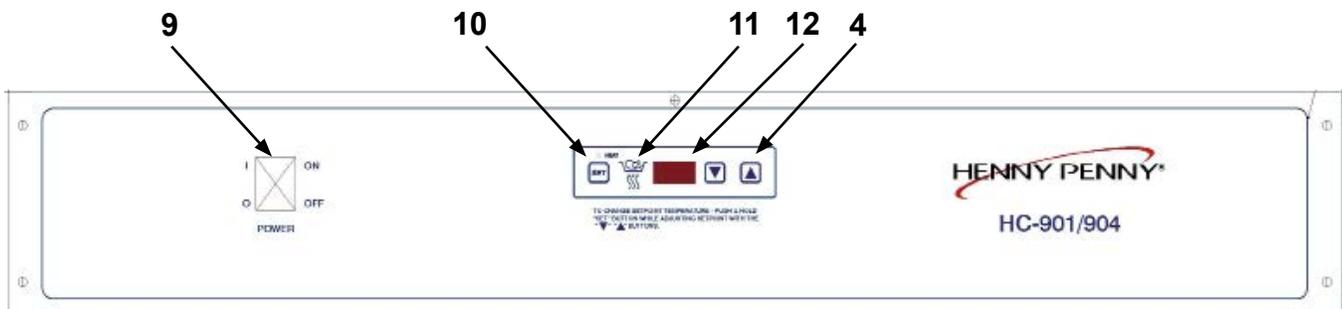


Figure 3-5 - Simple Controls

3-2. OPERATING CONTROLS AND COMPONENTS (Continued)

Fig. Nos.	Item No.	Description	Function
1 & 2	1	Timer Buttons	Press to start a timing cycle or access program modes
1 & 2	2	Timer Displays	Shows the timers counting down and functions of the program modes
1 & 2	3	Temperature Display	Shows the interior cabinet temperature
1, 2 & 3	4	Up & Down Buttons	Used once in the program modes to view the various items in the program modes and to change the settings
1 & 2	5	Program Button	Press to access the program modes
1 & 2	6	Heat LED	Illuminates when heat is on
1 & 2	7	Temperature LED	Fashes when programming temperature
1 & 2	8	Timer LED	Flashes when programming timers
1, 2 & 3	9	Power Switch	A rocker switch that controls electrical current to the unit
3	10	Set Button	Press to access the program modes
3	11	Heat Indicator	An LED which illuminates when the control calls for heat
3	12	Display	Shows temperature and program functions

3-3. START-UP

NOTICE

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 heat indicator or LED should now illuminate 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.

Step 1

NOTICE

Be sure to push the water pan in as far as it will go so that it does not block air to the temperature probe. This will ensure proper operation of these components.



3. When the heat indicator goes out (or flashes-Simple Controls), the unit is ready for operation. Default temperature is 180° F (82° C)

Step 2

NOTICE

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

3-4. OPERATION WITH PRODUCT

1. Place the hot product on bun pans and insert between the cabinet racks.
2. Serve the product first 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.

3-5. CLEANING PROCEDURES



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.
5. Remove the water pan and clean it with a soft cloth, soap, and water.
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.



Do not use 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.

Do not use 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.

**3-6. OPERATING
CONTROLS -
COUNTDOWN TIMERS
(if applicable)**

These instructions are for both 13 and 6 count-down timers.

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. For units with front and rear timers, the corresponding numbered timer shows on both sides.
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 hold an active timer to cancel.

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   buttons to change the flashing setpoint temperature and the temperature LED flashes. Default temperature is 180° F (82° C)
5. Press and hold the PROGRAM button to set the temperature and exit the programming mode.

3-6. OPERATING CONTROLS - COUNTDOWN TIMERS (if applicable) (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(s) and the starting time and LED flashes. Several timers can be on at the same time.
6. Press   buttons to change the starting time.
7. Press the timer button to set the new starting time. If desired, now press another timer button to change its starting time.
8. When finished setting timers, press and hold the PROGRAM button to exit programming.

NOTICE

Press and hold the PROGRAM button to exit the program mode at any time, or 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.

3-6. OPERATING CONTROLS - COUNTDOWN TIMERS (if applicable) (Continued)

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

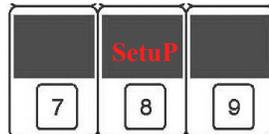
Setup Mode

- Fahrenheit or Celsius
- Relay Type
- Offset Calibration
- CPU Temperature
- Outputs Test
- 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 8 timer button for 13 timer units, or press 2 timer button for 6 timer units.

Ex:



4. Enter access code 1, 2, 3.
5. “temp units” and “°F” is displayed.
6. Press   buttons to choose between “°F” (Fahrenheit) or “°C” (Celsius).

NOTICE

To exit Special Program mode at any time, press and hold the PROGRAM button

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

3-6. OPERATING CONTROLS - COUNTDOWN TIMERS (if applicable) (Continued)

Relay Type

7. Press PROGRAM button and “relay type” shows in display.
8. Press   buttons to choose “mech” (mechanical relay) or “SSR” (solid state relay). Set the HHC-901 & 904 controls to “SSR”.

Off-Set Calibration

9. Press PROGRAM button and “offset calibrate” shows in display.
10. Press   buttons to calibrate the probe temperature ± 10 degrees. The displayed temperature can be set to match the actual interior temperature.

CPU Temperature

11. Press PROGRAM button and “therm temp” shows in display, along with the temperature of the PC board.

Outputs Test

12. Press PROGRAM button and “outputs Test” shows in display.
13. Press   buttons to turn on and off the heat outputs to help in troubleshooting problems.

Initialize System

14. Press PROGRAM button and “init system” shows in display
15. Press and hold either   button.
16. The control beeps and the display counts down, “In-3”, “In-2”, “In-1”.
17. When display reaches “0”, release the button and the initialization is complete and sets controls to default settings.

NOTICE

If the   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.

3-6. OPERATING CONTROLS - COUNTDOWN TIMERS (if applicable) (Continued)

Tech Mode

- Temperature probe calibration (PR1)
- Food probe calibration (if available - PR2)
- Display tests/Push-button test
- Output test - heaters
- Total initialization

NOTICE

The Tech Mode is mostly used at the factory level. For further information, call the Technical Services Department at Henny Penny, 1-800-417-8405, or 1-937-456-8405.

3-7. SIMPLEHOLD CONTROLS (if applicable)

PROGRAMMING

Temperature Regulation

To change the setpoint temperature, press and hold  and then use   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.

Special Program Mode:

Fahrenheit or Celsius

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

1. “°F” or “°C” shows in the display. To choose between Fahrenheit and Celsius, press  .

3-8. SIMPLEHOLD
CONTROLS
(if applicable)
(Continued)

Initialize System

2. After entering the Special Program Mode, press  once and “int” shows in the display. Press and hold either   buttons, and the display counts down “In3”-“In2”-“In1”. This reinitializes the controls and sets all controls to 0.

Probe Calibration

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  .

Outputs Test

4. After entering the Special Program Mode, press and release  three times, and “OP” shows in the display. Use   to toggle between “888” and a blank display. “888” turns all heat outputs on, and a blank display turns them off.

Lock/Unlock Controls

5. After entering the Special Program Mode, press and release  four times, and P=L, or P=U, shows in the display. Use   to toggle between L (lock), and U (unlock).

SECTION 4. TROUBLESHOOTING

4-1. TROUBLESHOOTING GUIDE

Problem	Cause	Correction
Product not holding temperature	<ul style="list-style-type: none"> • Doors are left open • Temperature set too low • Gasket torn or worn • Product held too long 	<ul style="list-style-type: none"> • Keep doors closed except to load and unload product • Increase per Temperature Regulation instructions in this manual • Replace gasket • Hold product only for recommended time
Cabinet steaming - product becoming soggy	<ul style="list-style-type: none"> • Too much humidity inside the cabinet • Holding product too long 	<ul style="list-style-type: none"> • Empty water from the water pan • Hold product for recommended time
Product dry	<ul style="list-style-type: none"> • No water in pan 	<ul style="list-style-type: none"> • Remove pan and add approximately 1” of hot water
Unit will not heat to desired temperature	<ul style="list-style-type: none"> • Display not indicating true temperature • Doors being left open too much • Gasket torn or worn 	<ul style="list-style-type: none"> • Check probe calibration and change calibration or offset if necessary • Only open doors as necessary • Replace gasket
Both blowers not working	<ul style="list-style-type: none"> • Faulty fuse (if unit is equipped) 	<ul style="list-style-type: none"> • Check fuse on rear of unit

NOTICE

More detailed troubleshooting information is available in the Technical Manual, available at www.hennypenny.com, or 1-800-417-8405 or 1-937-456-8405.

**4-2. ERROR CODES -
COUNTDOWN TIMERS**

The CDT controls have built-in diagnostics which display error codes on the display. This section describes the codes.

DISPLAY	CAUSE	PANEL BOARD CORRECTION
"E-4"	Control board overheating	Turn switch to OFF position, then turn switch back to ON; if display still shows "E-4", the board is getting too hot; check for signs of overheating behind the control panel; once panel cools down the controls should return to normal; if "E-4" reappears, replace control board
"E-5"	Unit overheating	Turn switch to OFF position, then back to ON; if "E-5" reappears, the heating and blower circuits should be checked, along with the temperature probe; once the unit cools down, the controls should return to normal; if "E-5" reappears, replace control board
"E-6"	Temperature probe failure	Turn switch to OFF position, then back to ON; if "E-6" reappears, the temperature probe should be checked; once the temperature probe is repaired, or replaced, the controls should return to normal; if "E-6" reappears, replace control board
"E-41"	Programming failure	Turn switch to OFF position, then back to ON; if "E-41" reappears, the control should be re-initialized (see Operating Controls - Countdown Timer Section); if "E-41" reappears, replace control board
"E-50"	RAM failure	Turn switch to OFF position, then back to ON; if "E-50" reappears, replace control board
"E-51"	NOVRAM failure	Turn switch to OFF position, then back to ON; if "E-51" reappears, replace control board
"E-53"	EPROM failure	Turn switch to OFF position, then back to ON; if "E-53" reappears, replace control board

GLOSSARY
HENNY PENNY HOLDING CABINETS

air temperature probe	a round device located inside the cabinet that measures the inside air temperature and sends that information to the control panel
concentration ring assembly	a metal assembly located in the water pan in the bottom of the unit that helps keep an even humidity level inside the cabinet
clean water pan setpoint	a preset temperature at which a sensor warns the operator that the water pan has excessive lime deposits
control panel	the components that control the operating systems of the unit; the panel is located on the top front surface of the cabinet
deliming agent	a cleaner used to remove lime deposits in the water pan
drain valve	a device that lets the water drain from the water pan into a shallow pan on the floor; the valve should be closed while the unit is in use if humidity is desired
float switch	a device that senses low water levels in the water pan
food probe	a sensor located outside the cabinet that, when inserted into the product, communicates the temperature of the product to the control panel
food probe receptacle	the connection where the food probe is inserted in order to communicate with the control panel
humidity sensor	a device that measures the percentage of humidity inside the cabinet during use
humidity setting	a preset moisture level at which the cabinet operates; this setting is programmed at the factory but can be changed in the field
LED	an electronic light on the control panel
minimum holding temperature	the lowest temperature at which a food product can be safely held for human consumption
module	the removable top part of the cabinet that contains all of the operating system
out of water trip point	a preset temperature at which a sensor warns the operator that the water pan needs refilled
parameters	a preset group of setpoints designed for holding specific food products at certain temperature and humidity levels
power switch	the ON/OFF switch that sends electricity to the unit's operating systems; this switch does not disconnect the electrical power from the wall to the unit
pressure sprayer	a device that shoots a stream of water under pressure; this device should NOT be used to clean a holding cabinet

probe clip	a metal holder that attaches to the outside of the control panel to hold the food probe when not in use; the clip is an optional accessory
product load capacity	the highest recommended number of pounds/kilograms of food product that can be safely held in the cabinet
proof function	a program used for allowing bread to rise
relative humidity	the humidity level outside the cabinet
setpoint	a preset temperature or humidity; the setpoint is a programmable feature
system initialization	a programming process that resets factory settings
temperature setting	a preset temperature up to which the cabinet will heat; this setting is programmed at the factory but can be changed in the field
vent activation switch	an automatic control that opens and closes the vent on the rear of the cabinet to maintain the preset humidity level
vented panels	openings on the cabinet that allow air access on the sides and rear of the module
water fill line	the line marked on the inside of the water pan that shows the maximum water level to prevent overflow onto the floor
water heater sensor	a part in the water heater that sends a message to the controls when the water pan is limed up or empty
water jet	a device that shoots a stream of water under pressure; this type of device should NOT be used to clean a holding cabinet
water pan	the area in the cabinet that holds water for creating humidity inside the cabinet



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