SERVICE MANUAL HOT HOLD® SERIES

DANGER: Do not install or operate Equipment that has been misused, abused, neglected, damaged, altered or in any way modified from that of original manufactured specifications.

DANGER: Do not immerse the power cord or plug in water. Keep the power cord away from any heated surfaces. Never let the power cord hang over edge of a counter or table.

Danger: To reduce the risk of property damage, injury or death, the service technician must read thoroughly and understand this service and the operator's manual before installing, performing maintenance or operating this Equipment. All services must be performed by a qualified and fully trained technician. All services and activities described in this service manual should only be conducted by a professional and fully trained technician and service professional.

SAVE THIS SERVICE MANUAL FOR FUTURE REFERENCE. Review frequently for continuing safe operation, performing maintenance and instructing others who may use or work on this Equipment

This document includes:

- general equipment information
- site preparation and installation
- operating instructions
- programming instructions
- maintenance and cleaning
- troubleshooting
- wiring diagram
- important safety instructions and notices



Revision: A, June 2019

HOT HOLD® SERIES



Operates with 120V/15Amp Generic Electric Outlet and
NEMA 5-15P Receptacle, 6 ft. Power Cord





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GENERAL EQUIPMENT INFORMATION

Equipment Serial Number

The Equipment serial number and model number can be found on the ID label on the back of the Equipment. Please have identified the serial number and model number before calling for parts or service.

Warranty Information

Visit www.meistercook.com/warrantypolicy for warranty information.
Warranty claims can be reported at www.meistercook.com/warrantyclaim.

Safety Certification

Equipment is certified by

- Intertek - ETL for Electrical Safety as per UL 197 Standard for Commercial Electric Cook Appliances
- Intertek - ETL for Sanitation as per NSF 4 Standard for Commercial Cooking, Re-thermalization, and Powered Hot Food Holding and Transportation Equipment
- Intertek - ETL for Canadian Electrical Code as per CSA 22.2 Standard for General Requirements

Installation Requirements

The following requirements must be met for proper installation of the Equipment:

- Equipment is intended for indoor use only. Do not install or operate the Equipment in outdoor locations.
- Installation location must be level, stable and capable of supporting the weight of the Equipment and stacked Equipment.
- Installation location must be free from and clear of combustible materials.
- Secure the Equipment and stacked Equipment to prevent any tipping or sliding. Provide adequate means to limit the movement of this appliance without depending on or transmitting stress to the electrical conduit
- Install the Equipment so that the electrical plug is accessible unless other means for disconnection from the power supply, such as a circuit breaker or disconnect switch, is provided.
- This Equipment must be installed in accordance with the following clearances in order to provide proper operation, servicing, cleaning and maintenance: Sides 1" (25.4mm), Back 2" (50.8mm).
- Check the electrical rating label to ensure that the Equipment is connected to the correct voltage, phase, amperage and wattage that are stated on the Equipment's identification label.

Basic Electrical Requirements

The Equipment operates with 120V/60Hz/15Amp Generic Electric Outlet, a NEMA 5-15P Receptacle, and a 6 ft. power cord.

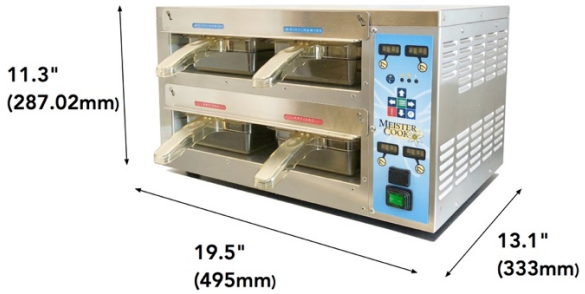
Lifting and Moving

The Equipment is made from robust stainless steel construction and is heavy. To lift or carry the Equipment always use two people.

SPECIFICATIONS FOR HH-22 (HOT HOLD® Series)

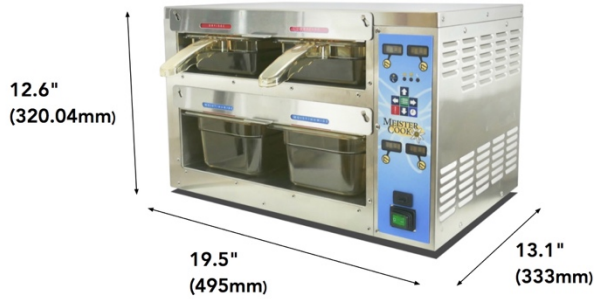
Meister Cook's Dry Moist Food Warmer (Hot Hold® Series) with ThermalBreeze™ Technology achieves high energy efficiency with a thermal air curtain and hot convection air re-circulation. Energy harvesting from the warm air stream allows the Hot Hold® units to operate with low energy consumption. Simple and quick configuration changes allow for dry/crispy or moist/humid food holding. Innovative features allow for easy maintenance, service and quiet operation. **Designed and Manufactured in the USA, US Patents #9,027,470 #9,962,037 & Other Patents Pending.**

Model: HH-2x2-TT



Construction
Type 304 Stainless Steel
Electric Power
900W, 7.5 Amps, 120V, 60Hz, 1Ø, NEMA 5-15P
Overall Dimensions
11.053" (280.746mm) H x 19.5"(495mm) L x 13.1"(333mm) D
Weight
62 lbs.
Pan Size
4 x Standard 1/3 size, 2.5 deep pan (pans not included)
Energy Efficiency
Power Consumption is usually less than 300W after warm-up.

Model: HH-2x2-TF



Construction
Type 304 Stainless Steel
Electric Power
900W, 7.5 Amps, 120V, 60Hz, 1Ø, NEMA 5-15P
Overall Dimensions
12.393" (314.782mm) H x 19.5"(495mm) L x 13.1"(333mm) D
Weight
65 lbs.
Pan Size
2 x Standard 1/3 size, 2.5" deep pan (pans not included)
2 x Standard 1/3 size, 4" deep pan (pans not included)
Energy Efficiency
Power Consumption is usually less than 300W after warm-up.

Tested, approved and listed by ETL as per UL 197, NSF 4 and CSA 22.2

OPERATING INSTRUCTIONS

The Meister Cook Hot Hold® Dry Moist Food Warmer was designed to provide extended holding time for various food items with a combination of hot convection air from the air outlet port and radiant heat from the bottom of the warmer. The convection air flow volume and velocity as well as the radiant air temperature has been optimized. Different food items may require different airflow temperatures that needs to be tested and then programmed into the program controls.

Operation

- Verify that all Reversible Dry/Moist Inserts are installed properly. Each horizontal level must have both Reversible Dry/Moist Inserts installed in either the dry or the moist configuration.
- Verify that both front panels are installed.
- Verify that all food pans are installed properly.
- After unpacking, allow the unit to acclimate to room temperature before starting.
- Turn power rocker switch to the ON position. "I" = ON, "O" = OFF.
- Verify that the correct food item is selected on control display.
- Allow for a 35-minute preheat for HH-2x2-TT and a 45-minute preheat for HH-2x2-TF.
- For optimal performance and utilizing full energy efficiency, all food pans should be installed. Exceptions include adding food product to pans, and removing food product from pans when speeding up Equipment cool-down time.

Airflow Temperatures

The Meister Cook Hot Hold® employs a gentle laminar warm airflow horizontally over the food pans within a warm air curtain. The warm laminar airflow generates negative pressure through a Bernoulli Effect. It is this Bernoulli Effect that helps to gently lift off moisture molecules and remove excess moisture from the food surface to maintain its crispiness.

The temperature displayed on the Meister Cook Hot Hold® is the airflow temperature of the recirculating airflow when it enters through the air intake. The airflow temperature for each level is measured with a K-Type thermocouple. The typical airflow temperatures for dry/crispy food is 210°F and for moist/humid food 185°F. The airflow temperature set point range is 100°F – 250°F.

Note: The left bin temperature setting controls the temperature of the entire horizontal row.

Energy Saving Mode

If only one compartment level of the Hot Hold® is needed to support restaurant operations, the other compartment level can be set in energy saving mode. Simply program the food Item "OFF" (food item No. 21) to the left bin of the compartment level desired to be off.



WARNING: Do not cook food in the Hot Hold®. Always heat food to 165°F or warmer before placing it in the Hot Hold®

HOT HOLD® PROGRAMMING INSTRUCTIONS

HOT HOLD® web-based online programming

Visit the Meister Cook Hot Hold® Programming site at www.meistercook.com/programming.

1. Follow the instructions to create your custom settings and download the programming file.
2. Upload the programming onto an empty USB flash drive
3. Turn off the Hot Hold® and insert the flash drive into the USB port (above the On/Off switch)
4. Turn on the Hot Hold®. The system will recognize any new software or menu updates and automatically upload these.
5. Once the upload is completed, the new Version VXX.X or Menu MXX.X will appear and blink.
6. Remove the flash drive and close the USB port.

HOT HOLD® manual programming


Select Bin "**SBin**"


Meal Times "**Meal**"


Meal Indicator Lights for Breakfast, Lunch, Dinner

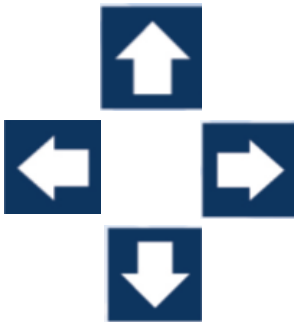

Program "**Prog**"


Temperature "**Temp**"


Time "**Time**"

"**Up**" or "**+/PLUS**"

Left "**L**"



Right "**R**"

"**Down**" or "**-/MINUS**"

Note: Left bin controls the temperature setting for entire compartment level



Visiting our YouTube Channel for Programming Videos: https://bit.ly/2KtVrhb

Change Selected Food Item:
STEP 1: Select desired meal time: press/hold/select **Meal** and verify your selection on the meal indicator
STEP 2: Select Program: press/hold **Prog**
STEP 3: Select the bin: push **SBin**
STEP 4: Select food item: push **Up/Down**
STEP 5: Save your selection: press/hold **Prog**

Change Temperature Setting for Food Item:
STEP 1: Select Program: press/hold **Prog** and wait for beep.
STEP 2: ***Repeat STEP 1:*** press/hold **Prog** and wait for beep.
STEP 3: Select food item: push **Up/Down**
STEP 4: Select Temperature: push **Temp**
STEP 5: Set temperature setting: **push +/-**
STEP 6: Save your selection: press/hold **Prog**

Typical Airflow Temperature Setting and Reversible Insert Position for Food Items

Moist/Humid Foods	185°F (85°C)	MOIST
Dry/Crispy Foods	210°F (99°C)	DRY

Change Dump Time for Food Item:
STEP 1: Select Program: press/hold **Prog** and wait for beep.
STEP 2: ***Repeat STEP 1:*** press/hold **Prog** and wait for beep.
STEP 3: Select food item: push **Up/Down**
STEP 4: Select Time: toggle **Time** until *"Dump Time" is displayed*
STEP 5: Set Dump Time setting: **push +/-**
STEP 6: Save your selection: press/hold **Prog**

Change Cook Time for Food Item:
STEP 1: Select Program: press/hold **Prog** and wait for beep.
STEP 2: ***Repeat STEP 1:*** press/hold **Prog** and wait for beep.
STEP 3: Select food item: **Up/Down**
STEP 4: Select Time: toggle **Time** until *"Cook Time" is displayed.*
STEP 5: Set Cook Time setting: **push +/-**
STEP 6: Save your selection: press/hold **Prog**

Change Food Item Name:
STEP 1: Select Program: press/hold **Prog** and wait for beep.
STEP 2: ***Repeat STEP 1:*** press/hold **Prog** and wait for beep.
STEP 3: Select food item: push **+/-**
STEP 4: Select the bin (under displayed food item to be changed): push **SBin**
STEP 5: Select letter: toggle **L/R**
STEP 6: Change letter: push **+/-**
STEP 7: Move to next letter: toggle **L/R**
STEP 8: Save your selection: press/hold **Prog**

HOT HOLD® ADDITIONAL PROGRAMMING OPTIONS

Quick Escape: Push **Meal** to return to normal operating mode.

Set to French or English Menu Presets:
STEP 1: Turn Hot Hold® off.
STEP 2: Select either **Upper Left SBin** for English presets or **Upper Right SBin** for French presets.
STEP 3: Press/Hold selected **SBin** and turn Hot Hold® on. Continue until Four (4) beeps confirm saved setting.
(four beeps can be heard after software version was displayed)

Bypass the "Warm Up" Display: Press **Time** and **Temp** buttons simultaneously.
(It is recommended to use both thumbs)

Display Heater Temperature and Airflow Temperatures: Press **Temp** button.
The left bin will display the heater temperature and the right bin the airflow temperature for each level.

Display Hot Hold® Total Hours and Blower Hours: Press **Time** button
The left bin will display the total Hot Hold® total operating hours and the right bin the blower hours for each level.

Typical Food Names, Display Abbreviations, Dry/Moist Settings, Hold Time and Cook Time (Pre-Dump Times)

	Food Name	English Display	French Display	INSERT Position	Dump Time [Hr:Min]	Cook Time [Hr:Min]
1	Eggs	EGGS	OEUF	MOIST	3:00	0:15
2	Bacon	BACN	BACN	MOIST	3:00	0:15
3	Sausage	SAUS	SAUC	MOIST	3:00	0:15
4	Hash Brown	HSBR	GLPT	DRY	1:00	0:15
5	Meatballs	MBLL	BDVD	MOIST	4:00	0:15
6	Chicken Strips	CHKS	POUL	MOIST	4:00	0:15
7	Crispy Chicken	CCHK	PCRO	DRY	2:00	0:15
8	Steak	STK	STK1	MOIST	3:00	0:15
9	Rotisserie Chicken	ROTC	PROT	MOIST	4:00	0:15
10	Oven Roasted Chicken	ORCH	PPRF	MOIST	4:00	0:15
11	Chicken Teriyaki	TYKI	TYKI	MOIST	4:00	0:15
12	Marinara Sauce	MNRA	MNRA	MOIST	4:00	0:15
13	Boneless Wings	WING	AILE	DRY	2:00	0:15
14	Breadsticks	BSTK	PAIN	MOIST	2:00	0:15
15	Corned Beef	CBF	BFSA	MOIST	2:00	0:15
16	Veggies	VEG1	LEG1	MOIST	4:00	1:00
17	Chicken Strips 2	CKS2	POU2	MOIST	3:00	0:15
18	Veggies 2	VEG2	LEG2	MOIST	3:00	0:15
19	Pasta	PSTA	PATE	MOIST	4:00	1:00
20	Crispy Chicken 2	CCK2	PCR2	DRY	2:00	0:30
21	OFF	OFF	OFF	Turns Off Power to Entire Level for Energy Saving Mode		

The Meister Cook Hot Hold® has 20 pre-programmed food items in English and French, plus the OFF setting.

HOT HOLD® PROGRAMMING AND TRAINING SHORT VIDEOS on Meister Cook YouTube Channel



A large variety of programming and training videos can be found at www.youtube.com under the "Meister Cook Channel".



Hot Hold® Programming - Change Selected Food Item

Change Selected Food Items
[click Image]



Hot Hold® - Introduction Video - Meister Cook

Hot Hold® Introduction
[click Image]



Hot Hold® Programming - Change the Temperature...

Change Temperature Setting for Food Item
[click Image]



Hot Hold® - Set Up and Installation

Setup and Installation
[click Image]



Hot Hold® Programming - Change "Dump" Time for...

Change Dump Time for Food Item
[click Image]



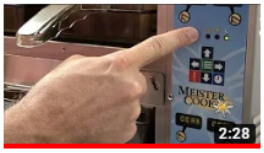
Hot Hold® - Reversible Dry/Moist Inserts

Reversible Dry/Moist Inserts
[click Image]



Hot Hold® Programming - Change "Cook" Time for Fo...

Change Cook Time for Food Item
[click Image]



Hot Hold® - Breakfast, Lunch, and Dinner Menu Set...

Setup Breakfast Lunch and Dinner Menu
[click Image]



Hot Hold® Programming - Change the Temperature...

Set to French or English Menu Presets
[click Image]



Hot Hold® - Food Timers

Food Timers
[click Image]

Meister Cook YouTube Channel: https://bit.ly/2KtVrhb

TROUBLESHOOTING GUIDE

Operation Problem	Probable Cause	Corrective Action
Unit doesn't not start up	No power to system	Make sure unit is plugged in
		Make sure ON/OFF Switch is turned on
		Check power cord for damage
		Check store circuit breaker
		Check for proper voltage supplied too unit
Excessive warm-up time	Food pans not installed	Install pans, even without food
	Insufficient power supply to system	Check for proper voltage supplied too unit
	Unit is exposed to cold draft	Move unit away from cold draft or entrance door
	Unit is cold, i.e. delivered in winter	Allow unit to warm up before turning on
Excessive time to cool down, i.e. for cleaning	Food pans installed	Remove food pans during cool down period
	Unit is still in operating mode	Turn unit off
Dry product too moist	Dry-Moist insert installed in "MOIST" orientation	Reverse dry-moist insert to "DRY" orientation
	Required food pan insert not used	Check if food items required a food pan insert
	Food temp set to low	Check for proper food temp setting
	Blower failure	Check if blower is operating, see below
Moist product too dry	Dry-Moist insert installed in "DRY" orientation	Flip dry-moist insert to "MOIST" orientation
	Dry-Moist inserts are missing	Check if Dry-Moist inserts are installed
Food not hot enough	Food set temperatures are too low	Check food set temperature, see programming
	Level set in Energy Saving Mode	Set left bin at food item other than OFF
	Heater failure	Check heater, see below
	Blower failure	Check blower, see below
Food is too hot	Food set temperatures are too high	Check food set temperature, see programming

Error Codes	Probable Cause	Corrective Action
"FLT! 1111" displayed	The AC wave form is not crossing the zero point.	First check the 10-PIN Ribbon Cable. Second, check Power Supply, see below. Third, check the UI Microprocessor Board, see below.
"FLT! 2222" displayed	Pans not installed at startup	Turn off unit, install pans, wait 10 seconds, turn on system.
	Unit is too cold, below room temp	Warm unit to room temp before turning on
	Cool air draft from another source	Turn off unit, move it away from cold air draft, install pans, wait 10 seconds, turn on system
	Blower failure	Check Blower, see below
	Heater failure	Check Heater, see below
"FLT! 3333" displayed	Airflow Thermocouple failure	Check Airflow Thermocouple, see below
	Loose Airflow Thermocouple connection	Check if all Airflow Thermocouples are connected and the thermocouple terminal screws on the UI Board are tightened
"FLT! 4444" displayed	Heater Thermocouple failure	Check Heater Thermocouple, see below
	Loose Heater Thermocouple connection	Check if all Heater Thermocouples are connected and the terminal screws the UI Board are tightened

Error Codes	Probable Cause	Corrective Action
"Reading EPROM"	System can't read software	Turn unit off and restart after 10 seconds
		Check voltage on UI Board (meter "5V" and "GRD" spot on UI Board). Should be 5V. If measuring 8V, replace power supply. Note: The 5V cooling fan will be noisy when operating at 8V.

Primary Symptom	Secondary Symptom	Potential Cause and Action
No Display	ON/OFF Switch not lit	Is unit plugged in?
		Check electric cord for damages
		Check store electric circuit
		Check cord connections to ON/OFF Switch
		Check ON/OFF Switch, see below
	ON/OFF Switch is lit	Is 10-PIN Ribbon Cable connected to supply 5V power to UI Board?
		Check voltage on UI Board (meter "5V" and "GRD" spot on UI Board). Should be 5V
		If cooling fan is not turning, check power supply, see below
		Check UI Board, see below

Unit cannot be programmed	Display is lit	Turn unit of, restart after 10 seconds
		Check Membrane Switch connection to UI Board
		Check that bottom PIN is left open, when connecting a 19-PIN Membrane Switch connector to a 20-PIN Microprocessor Board, see below.
		Check Membrane Switch pigtail for damages
		Check Membrane Switch, see below
Food not hot enough and temp displayed is more than 30°F below set point	Heater is warm but not hot	Check food set temperature, see programming
		Check Heater, see below
Food seems too hot	Heater temp is around 300°F (check heater temp after pressing the red temp button)	Check Blower, see below

Note: When pressing the temp button  until it beeps, the display will show the airflow temperatures on the left and the heater temperatures on the right for each level.

Heater and Airflow Temperatures don't agree	If the heater temp shows an unusual low temp, the heater thermocouple wires are likely reversed.	Reverse and correct the heater thermocouple wires.
	If one compartment level shows a high airflow temperature and an illogical low heater temperature, with a reverse display at the other compartment level, both airflow thermocouples are likely reversed.	Reverse the airflow thermocouples to the UI Microprocessor Board, top to bottom and bottom to top.

PARTS AND COMPONENTS REPLACEMENT

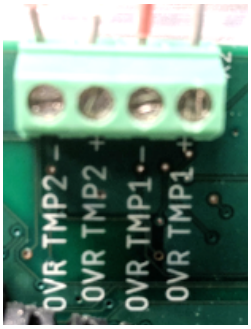
HH-20103 Heater Cartridge

- Silicon Heater encased in black anodized aluminum heat platens. Two heaters per HH model.
- Bottom heat platen with air distribution fins
- 120V, 750 W with K-Type Thermocouple
- Resistance: 18-20 Ω
- Max Temperature allowed by UI Microprocessor: 320°F
- Max Temperature One-Shut Safety Fuse: 400°F
- 4 lbs.



Check HH-20103 Heater Cartridge

- Measure Electrical Resistance: Should measure to 18-20Ω
- Measure Heater Thermocouple: Use a K-Type thermometer to insert the thermocouple ends and measure the temperature. Watch polarity. A cold heater with an intact heater thermocouple should read room temperature.
- Check that the heater thermocouples are properly connected to the UI Microprocessor Board. Note: Upper Heater Thermocouple connects to "OVR TMP1" and Lower Heater Thermocouple connects to "OVR TMP2".
- Use a new heater and attach the power connectors and the heater thermocouple to the UI board. If the new heater works, replace the faulty heater.



Replacement of HH-20103 Heater Cartridge



Hot Hold® - HH-20103 Heater Cartridge...

Replace HH-20103 Heater Cartridge
[click Image]

Required Tools:

- 5/16" nut driver
- #2 Phillips screwdriver
- 90° angle #2 Phillips screwdriver
- 2.4mm slotted screwdriver
- Use small container to collect all screws and removed components

1. Turn off power switch and unplug power cord.
2. Remove 10 outer screws from the side panel with the #2 Phillips screwdriver (3 in front, 3 in back, 4 on side). Carefully remove the side panel and place flat on its side.
3. Take pictures for reference of all wires and thermocouple connections.
4. With the 2.4mm slotted screwdriver, loosen but not remove thermocouple terminal screws, and detach wires.
5. Detach the blower cables from the 3 blower terminals.

6. Remove the insulation squares from the corresponding blower.
7. With the 5/16" nut driver, remove the 4 nuts connecting the air funnel. Detach air funnel.
8. Disconnect the insulated heater cables from the wiring harness.
9. With the 90° angle screwdriver, unscrew and remove the 2 heater brackets. Slide out the heater.
10. Slide in the new heater, reattach the 2 heater brackets with the screws.
11. Reattach the air funnel back with 4 nuts.
12. Set the insulation squares in place with the aluminum side against the unit
13. Reattach the blower cables.
14. Reattach the thermocouple wires to the control board.
15. Reattach the side panel back with the 10 outer screws.

HH-20104 Tangential Blower



- A/C motor with aluminum blades blower wheel
- Tangential blower design. Two blowers per HH model.
- 120V, 15 W
- Resistance: approx. 60 Ω
- 1 lbs.

Check HH-20104 Tangential Blower

- During operation, lightly touch the red silicon bearing.
  A slight vibration will indicate that the blower is working.
- Turning of the shaft end at the motor end will also Indicate that the blower is working.
- Measure Electrical Resistance: Should measure to approximately 60Ω.

Replacement of HH-20104 Tangential Blower



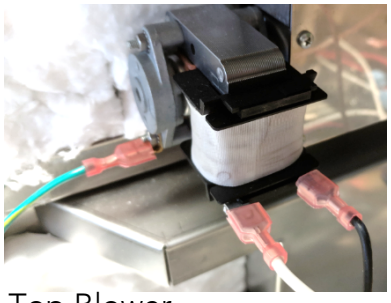
Hot Hold® - HH-20104
Tangential Blower...

Replace HH-20104
Tangential Blower
[click Image]

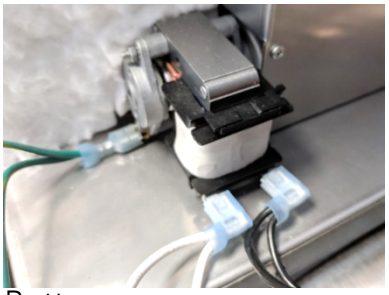
Required Tools:

- 5/16" nut driver
- #2 Phillips screwdriver
- 2.4mm slotted screwdriver
- Use small container to collect all screws and removed components

1. Turn off power switch and unplug power cord.
2. Remove 10 outer screws from the side panel with the #2 Phillips screwdriver (3 in front, 3 in back, 4 on side). Carefully remove the side panel and place flat on its side.
3. Take pictures for reference of all wires and thermocouple connections.
4. With the 2.4mm slotted screwdriver, loosen but not remove thermocouple terminal screws, and detach wires.

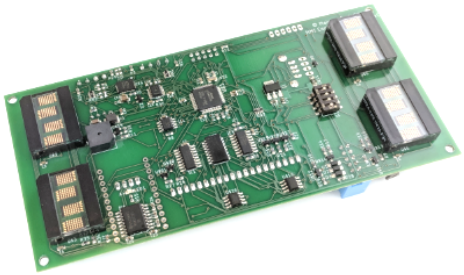

Top Blower

5. Detach the blower cables from the 3 blower terminals.
6. Remove the insulation squares from the corresponding blower.
7. With the 5/16" nut driver, remove the 4 nuts connecting the air funnel. Detach air funnel.
8. With the #2 Phillips screwdriver, remove the 6 screws (4 in front, 2 in back), connecting the blower to the air funnel.
9. Separate the blower from the air funnel. Note the orientation of the blower.
10. Attach the new blower to the air funnel in the same orientation.
11. Screw the blower back onto the air funnel with the 6 screws.
12. Reattach the air funnel with the 4 nuts.
13. Set the insulation squares in place with the aluminum side against the unit
14. Reattach the blower cables.
15. Reattach the thermocouple wires to the control board.
16. Reattach the side panel back with the 10 outer screws.



Bottom

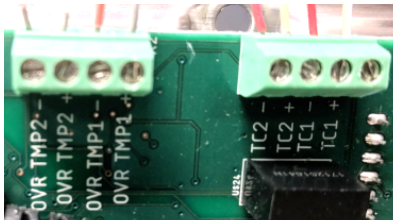
HH-20105 UI PCB Microprocessor



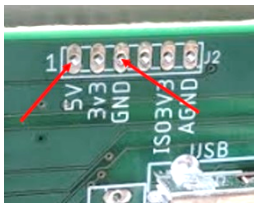
- Microprocessor
- Connected to power supply, thermocouples, membrane switch controls, USB and Wi-Fi subsystems.
- Operates at 5V, max 2 Amps

Check HH-20105 UI PCB Microprocessor

- Check that all Airflow and Heater Thermocouples, the 10-PIN Ribbon cable, the Membrane Switch pigtail, the USB and the Wi-Fi are connected to the UI PCB Microprocessor board.
- Make sure that the bottom PIN Is left open when connecting the 19-PIN Membrane Switch Overlay to the 20-PIN UI Board Connector.



- Check that all Airflow and heater thermocouples are properly and tightly connected, see picture. "1" refers to top level, "2" refers to bottom level. Note: Upper Heater Thermocouple connects to "OVR TMP1" and Lower Heater Thermocouple connects to "OVR TMP2". Note: Upper Airflow Thermocouple connects to "TC1" and Lower Airflow Thermocouple connects to "TC2".
- Check if 5VDC are supplied to the UI PCB Microprocessor Board. Check voltage on UI Board by metering the "5V" and "GRD" spot on the UI Board. It should measure 5V.



- Use a new UI PCB Microprocessor Board and connect the Membrane Switch pigtail, the 10-PIN Ribbon Cable and all Airflow and Heater Thermocouples. If the new UI PCB Microprocessor Board works, replace the faulty UI PCB Microprocessor Board.

Replacement of HH-20105 UI PCB Microprocessor



Hot Hold® - HH-20105 UI PCB Microprocessor...

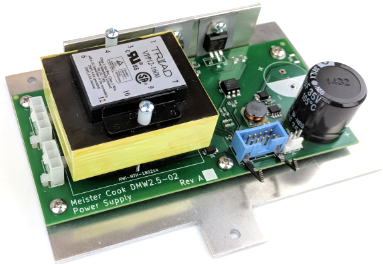
Replace HH-20105
UI PCB Microprocessor
[click Image]

Required Tools:

- #2 Phillips screwdriver
- #0 Phillips screwdriver
- 2.4mm slotted screwdriver
- Use small container to collect all screws and removed components

1. Turn off power switch and unplug power cord.
2. Remove 10 outer screws from the side panel with the #2 Phillips screwdriver (3 in front, 3 in back, 4 on side). Carefully remove the side panel and place flat on its side.
3. Take pictures for reference of all wires and thermocouple connections.
4. With the 2.4mm slotted screwdriver, loosen but not remove thermocouple terminal screws, and detach wires.
5. Detach USB cable and 10-PIN cable from the UI PCB Microprocessor board.
6. Carefully detach evenly the membrane switch connection from the UI PCB Microprocessor board without damaging the pin connectors. Recognize the open PIN location.
7. With a #0 Phillips screwdriver, remove 4 screws holding the UI PCB Microprocessor board. Detach the UI PCB Microprocessor board.
8. Reattach new UI PCB Microprocessor board with 4 screws.
9. Reattach all wires and cables to the UI PCB Microprocessor board.
10. Reattach the thermocouples to the UI PCB Microprocessor board.
11. Reattach the side panel back with the 10 outer screws.

HH-20106 Power Supply

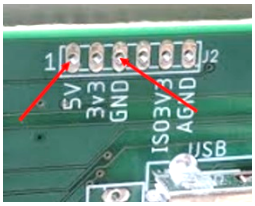


- 120V AC Power to Heaters
- 5V DC Power to HH-20105 UI PCB Microprocessor and HH-20127 Cooling Fan
- Two red blinking LEDs show If power is supplied to heater

Check HH-20106 Power Supply

- Check that both harnesses, the 10-PIN Ribbon Cable and the Cooling Fan power cable are connected to the Power Supply.

- Check if 5VDC are supplied to the UI PCB Microprocessor Board. Check voltage on UI Board by metering the "5V" and "GRD" spot on the UI Board. It should measure 5V.
- Check that both red LEDs are blinking, indicating that power is supplied to the heaters.
- Use a new Power Supply and connect both harnesses, the 10-PIN Ribbon Cable and the Cooling Fan power cable. If the new Power Supply works, replace the faulty Power Supply.



Replacement of HH-20106 Power Supply



Hot Hold® - HH-20106 Power Supply Replacement

Replace HH-20106 Power Supply
[click Image]

Required Tools:

- #2 Phillips screwdriver

1. Turn off power switch and unplug power cord.
2. Remove 10 outer screws from the side panel with the #2 Phillips screwdriver (3 in front, 3 in back, 4 on side). Carefully remove the side panel and place flat on its side.
3. Take pictures for reference of all wires connected to the power supply. [pictures of wires]
4. Detach all wires and cables from the Power Supply.
5. With the #2 Phillips screwdriver, remove the 3 screws and washers fastening the power supply to the side panel. Remove the Power Supply.
6. Reattach the new Power Supply to the side panel with the 3 screws and washers.
7. Reattach all wires and cables to the Power Supply.
8. Reattach the side panel back with the 10 outer screws.

HH-20108 Thermocouple

- K-Type
- Connects to UI Microprocessor Board
- Note: Upper Airflow Thermocouple connects to "TC1" and Lower Airflow Thermocouple connects to "TC2".



Replacement of HH-20108 Thermocouple



Hot Hold® - HH-20108 Thermocouple Replacement

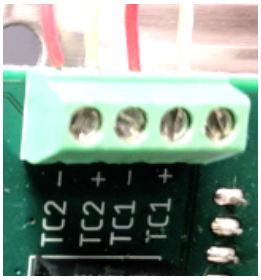
Replace HH-20108 Thermocouple
[click Image]

Required Tools:

- 5/16" nut driver
- 3/8" wrench

- 7/16" wrench
- #2 Phillips screwdriver
- 2.4mm slotted screwdriver

1. Turn off power switch and unplug power cord.
2. Remove 10 outer screws from the side panel with the #2 Phillips screwdriver (3 in front, 3 in back, 4 on side). Carefully remove the side panel and place flat on its side.
3. Take pictures for reference of all wires and thermocouple connections.
4. With the 2.4mm slotted screwdriver, loosen but not remove thermocouple terminal screws, and detach wires.
5. Detach the blower cables from the 3 blower terminals.
6. Remove the insulation squares from the corresponding blower.
7. With the 5/16" nut driver, remove the 4 nuts connecting the air funnel. Detach air funnel.



8. With the #2 Phillips screwdriver, remove the 6 screws (4 in front, 2 in back), connecting the blower to the air funnel.
9. Separate the blower from the air funnel. Note the orientation of the blower.
10. **Remove the thermocouple by holding one nut with the 3/8" wrench and turning the other nut with the 7/16" wrench. Once loose, turn by hand.**
11. **Place the new thermocouple through the front of the air funnel. Attach and tighten the 3/8" nut to the thermocouple.**
12. Attach the new blower to the air funnel in the same orientation.
13. Screw the blower back onto the air funnel with the 6 screws.
14. Reattach the air funnel with the 4 nuts.
15. Set the insulation squares in place with the aluminum side against the unit
16. Reattach the blower cables.
17. Reattach the thermocouple wires to the control board.
18. Reattach the side panel back with the 10 outer screws.

HH-20109 ON/OFF Switch

- Rocker Switch, Panel Mount, Illuminated LED, Green
- Rating 125VAC, 20A
- IP65
- Same as DMW-20109



Replacement of HH-20109 ON/OFF Switch



Hot Hold® - HH-20109 On / Off Switch Replacement

Replace HH-20109 ON/OFF Switch
[click Image]

Required Tools:

- #2 Phillips screwdriver
- Slotted screwdriver or rocker switch removal tool

1. Turn off power switch and unplug power cord.
2. Remove 10 outer screws from the side panel with the #2 Phillips screwdriver (3 in front, 3 in back, 4 on side). Carefully remove the side panel and place flat on its side.
3. Take pictures for reference of all wires.
4. Carefully remove the cables from the 4 terminals on the On/Off Switch.
5. With the slotted screwdriver or the rocker switch removal tool remove the switch by pressing down the 4 tabs to loosen it switch.
6. Press the new On/Off Switch into place.
7. Reattach the 4 cables to the On/Off Switch.
8. Reattach the side panel back with the 10 outer screws.



HH-20110 Power Cord

- 14 AWG, Type SJOOW, with a molded-on NEMA 5-15P plug
- Rating 300V
- Same as DMW-20110



Replacement of HH-20110 Power Cord



Hot Hold® - HH-20110 Power Cord Replacement

Replace HH-20110 Power Cord
[click Image]

Required Tools:

- #2 Phillips screwdriver
- 3/8" nut driver
- Small Phillips screwdriver or Heyco bushing removal tool

1. Turn off power switch and unplug power cord.
2. Remove 10 outer screws from the side panel with the #2 Phillips screwdriver (3 in front, 3 in back, 4 on side). Carefully remove the side panel and place flat on its side.
3. Take a picture for reference of all wire connections to the On/Off switch
4. Remove the 2 power cord connectors from the terminals on the On/Off switch.



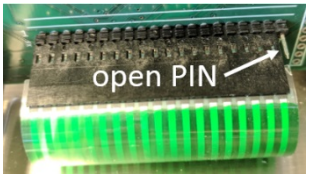
5. With the 3/8" nut driver, remove the first ground nut from the side panel.
6. Detach ground cable and remove the second ground nut.
7. With the small screwdriver or Heyco bushing removal tool, remove the power cord restrainer by squeezing the 3 tabs and pulling the power cord out the panel.
8. Replace the power cable through the back of panel.
9. Reattach the 2 connectors to the switch by noting black wire on left, white wire on right.
10. Place the power cable ground over the stud, then replace and tighten the nut over that ground cable.
11. Press the Heyco cord restrainer into place on the back of the unit.
12. Reattach the side panel back with the 10 outer screws.

HH-20111 Membrane Switch Overlay



- 19-PIN Pigtail Connector
- Fits on 19-PIN UI Board (Software version starting with "2", such as Version 2.21)
- Fits on 20-PIN UI Board (Software version starting with "3", such as Version 3.17 and higher), leave 20th-PIN, last bottom pin, open.
- Supplied 5VDC from Power Supply

Check HH-20111 Membrane Switch Overlay



- Check that the Membrane Switch Overlay connector (also called "pigtail") Is securely connected to the UI PCB Microprocessor board.
- If connecting a 19-PIN Membrane Switch Overlay to a 20-PIN UI PCB Microprocessor board, make sure that the lower PIN stays empty.
- Use a new Membrane Switch Overlay and connected it to the UI Microprocessor Board. If the new Membrane Overlay Switch works, remove the faulty and replace with a new one.

Replacement of HH-20111 Membrane Switch Overlay



Hot Hold® - HH-20111 Membrane Switch Overlay...

Replace HH-20111
Membrane Switch Overlay
[click Image]

Required Tools:

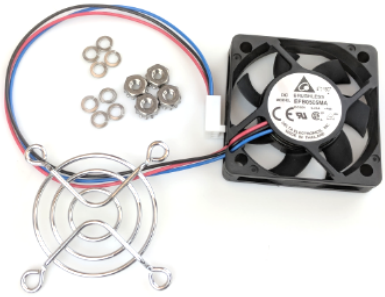
- #2 Phillips screwdriver
- Small slotted screwdriver

1. Turn off power switch and unplug power cord.
2. Remove 10 outer screws from the side panel with the #2 Phillips screwdriver (3 in front, 3 in back, 4 on side). Carefully remove the side panel and place flat on its side.

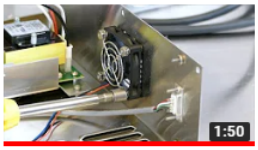
3. Carefully detach evenly the Membrane Switch Overlay connector from the UI PCB Microprocessor board without damaging the pin connectors.
4. Peel off the Membrane Switch Overlay from the side panel.
5. Use Goo-off to completely remove any residue off the side panel.
6. Funnel the Membrane Switch Overlay connector through the opening of the side panel.
7. Remove the upper inner adhesive film section and attach the Membrane Switch Overlay to the side panel by aligning it to the upper display windows.
8. Remove the lower adhesive film and fully attach the Membrane Switch Overlay to the side panel.
9. Reattach the 19-PIN Membrane Switch Overlay connector to the 20-PIN UI PCB Microprocessor board. Make sure that the lower PIN stays empty.
10. Reattach the side panel back with the 10 outer screws.

HH-20127 Electronic Cooling Fan

- 3-Pin Connector to Power Supply
- Supplied 5VDC from Power Supply



Replacement of HH-20127 Electronic Cooling Fan



Hot Hold® - HH-20127 Electronics Cooling Fan...

Replace HH-20127 Electronics Cooling Fan
[click Image]

Required Tools:

- 5/16" nut driver
- #2 Phillips screwdriver

1. Turn off power switch and unplug power cord.
2. Remove 10 outer screws from the side panel with the #2 Phillips screwdriver (3 in front, 3 in back, 4 on side). Carefully remove the side panel and place flat on its side.
3. Detach the Cooling Fan connector from the power supply.
4. With the 5/16" nut driver, remove 4 nuts and washers securing the Cooling Fan to the side panel.
5. Remove the Cooling Fan Guard. Remove the 4 split washers. Remove the Cooling Fan from the side panel. Leave the remaining 4 split washers on the four screw studs.
6. Attach the new Cooling Fan to the side panel.
7. Slide 4 split washers onto the four studs. Then, reattach the Cooling Fan Guard. **Note**: There need to be split washers placed between the Cooling Fan and Cooling Fan Guard to provide a physical distance between the guard and the fan blades.
8. Screw the four nuts onto the four studs.
9. Reattach the side panel back with the 10 outer screws.

HH-20128 USB Cable with Dust Cover

- 1Amp USB Power



Replacement of HH-20128 USB Cable



Hot Hold® - HH-20128 USB Cable Replacement

Replace HH-20128 USB Cable
[click Image]

Required Tools:

- #2 Phillips screwdriver

1. Turn off power switch and unplug power cord.
2. Remove 10 outer screws from the side panel with the #2 Phillips screwdriver (3 in front, 3 in back, 4 on side). Carefully remove the side panel and place flat on its side.
3. Remove the USB from the control board
4. Remove the USB port from panel by pressing the 2 tabs together. Pull the USB cable from the Hot Hold®.
5. Place the new USB cable through the front of the Hot Hold®, orienting the USB port so that the black tab inside the USB port faces upwards, and press it into place.
6. Reattach the USB to the control board.
7. Reattach the side panel back with the 10 outer screws.

REPAIR TIME OF INDIVIDUAL COMPONENTS (includes Removal and Installation)

Part Numbers	Description	Expert Repair time (Minutes)	Recommended Max. Repair Time Allowance (Minutes)
INITIAL Hot Hold® Failure Diagnosis		10	30
HH-20103	Heater Cartridge (single)	11	30
HH-20104	Tangential Blowers (single)	12	30
HH-20105	UI Control Board	12	30
HH-20106	Power Supply Board	8	30
HH-20108	Thermocouple - Airflow (single)	13	30
HH-20109	On/Off Switch	12	30
HH-20110	Power Cord	21	30
HH-20111	Membrane Switch Controls	25	45
HH-20115	Cable, Power Supply to Switch to Motor	9	30
HH-20116	Cable, Heaters to Power Supply	6	30
HH-20117	Cable, Ground, Motors	8	30
HH-20118	Cable, Ribbon, 10-PIN	6	30
HH-20120	Rubber Feet (set of 4)	8	30
HH-20126	Insulation Squares (set of 4)	6	30
HH-20127	Electronic Cooling Fan	9	30
HH-20128	USB Cable with dust cover	6	30

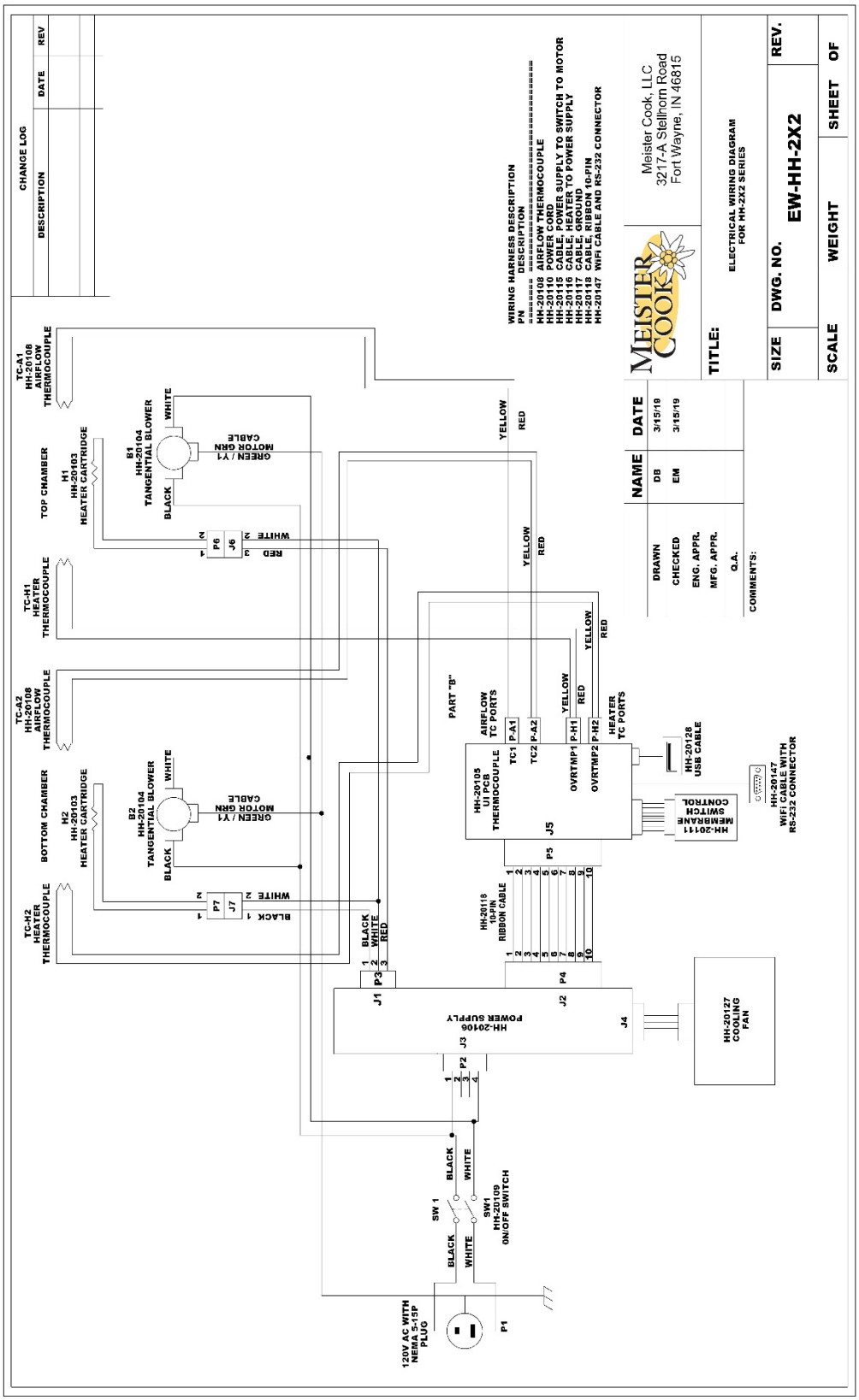
HOT HOLD® DRY/MOIST FOOD WARMER - PART NUMBERS

HH-20100	Removable Front Panel ……..***similar*** to DMW-20100. DMW-20100 lip extents left to right
HH-20101	Reversible Dry/Moist Insert...***equivalent*** to DMW-20101. HH-20101 now with Dry/Moist label
HH-20103	Heater Cartridge
HH-20104	Tangential Blower ……..……***same*** as DMW-20104
HH-20105	UI PCB Microprocessor
HH-20106	Power Supply
HH-20108	Thermocouple
HH-20109	On/Off Switch DPDT ……..……..***same*** as DMW-20109
HH-20110	Power Cord ……..…..***same*** as DMW-20110
HH-20111*	see note below (non-embossed panel)
HH-20111-TT	Membrane Switch for HH-2x2-TT (embossed panel)
HH-20111-TF	Membrane Switch for HH-2x2-TF
HH-20115	Cable, PS to SW to MT for HH-2x2-TT/TF ……...***same*** as DMW-20115
HH-20116	Cable, HT to PS for HH-2x2-TT/TF ……..……***same*** as DMW-20116
HH-20117	Cable, Ground for HH-2x2-TT/TF ……..…..***same*** as DMW-20117
HH-20118	Cable, Ribbon, 10-PIN for HH-2x2-TT/TF ……..……***same*** as DMW-20118
HH-20120	Rubber Feet (set of 4) ……..……..***same*** as DMW-20120
HH-20126	Insulation Squares (set of 4)
HH-20127	Electronics Cooling Fan Assembly
HH-20128	USB Cable with Dust Cover
HH-20133	DRY/MOIST label (set of 4) - ENG &FRA
HH-20143	Cooling Fan Guard
HH-20147	Wi-Fi Cable and Connector Assembly

* HH-20111 is the Membrane Switch for early HH-2x2-TT with a flat (non-embossed) side panel. Please use HH-20111-TF and remove the bottom portion to make it fit

"***same***" ……..……identical
"***equivalent***" ……not identical but equivalent with same performance
"***similar***" ……similar part can be used but has some with some minor differences

HH SERIES ELECTRICAL WIRING DIAGRAM



SERVICE SUPPORT

Service must be performed by a Service Center or Service Agency authorized by Meister Cook.

Contact Meister Cook online at www.meistercook.com and enter the Contact page

or

Call Meister Cook LLC, at (800) 585 7830 or (260) 399-3800

or

Mail Meister Cook at:

Meister Cook LLC
3217-A Stellhorn Rd
Fort Wayne, IN 46815
USA



WARNING: When servicing use only identical replacement parts. Use of any other parts may create a hazard or cause product damage.



WARNING: Have Equipment serviced by a qualified repair person. This will ensure that the safety of the Equipment is maintained.

If shipping or mailing the Hot Hold® Dry Moist Food Warmer, please pack carefully in a sturdy carton with enough packing material to prevent damage. The original carton with protective insert is suitable for mailing the Hot Hold® Dry Moist Food Warmer. Include a note describing the problem to our Service Center and be sure to give your return address. We also suggest that you insure the package for your protection.

LIMITED ONE-YEAR WARRANTY FOR COMMERCIAL PRODUCTS

Limited One-Year Warranty:

The Meister Cook Hot Hold® Dry Moist Food Warmer is warranted from date of shipment for one year to be free from defects in material or workmanship. Any Hot Hold® Dry Moist Food Warmer found to be defective in material or workmanship may be sent back to the company after authorization for, at Meister Cook's option, repair or replacement. It is at Meister Cook's sole discretion to either repair, replace defective parts, replace the defective warmer with a manufacturer refurbished warmer, or refund the original purchase price.

This Limited Warranty does not extend to any Hot Hold® Dry Moist Food Warmer which has been subjected to misuse, abuse, improper care, improper maintenance, improper storage, accident, damage in shipment, fire, floods, power changes, improper voltage, negligence, exposure to the elements or chemicals, alteration, improper repair, unauthorized repair or other hazards or acts of God that are beyond the control of Meister Cook.

This Limited Warranty does not apply, and shall not cover any products or equipment manufactured or sold by Meister Cook when such products or commercial equipment is installed or used in a residential or non-commercial application. Installations not within the applicable building or fire codes render this Limited Warranty and any responsibility or obligations associated therein null and void. This includes any damage, costs, or legal actions resulting from the installation of any Meister Cook commercial cooking equipment in a non-commercial application or installation, where the equipment is being used for applications other than those approved for by Meister Cook.

Meister Cook guarantees the correct mechanical operation of the equipment at the time of installation. Meister Cook makes no warranty, expressed or implied of food holding performance effect as subjective judgments, product variations and or customer caused machine conditions beyond Meister Cook's ability to predict or control.

Meister Cook specifically does not warrant or guarantee or provide compensation for any lost production, lost product, lost labor or lost sales or other consequential damages that may occur as a result of equipment malfunction or failure. This disclaimer of liability for consequential damages applies whether the cause of malfunction or failure is otherwise covered by Meister Cook's warranty or not.

This Limited Warranty is available only to the original purchaser of the product and is not transferable.

THIS LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED, INCLUDED BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE. IN NO EVENT WILL THE COMPANY BE LIABLE FOR SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR LOSS.

This Limited Warranty shall be governed by the laws of the state of Indiana, USA, excluding their conflicts of law principles. The United Nations Convention on Contracts for the International Sale of Goods is hereby excluded in its entirety from application to this Limited Warranty.

Meister Cook, LLC
3217-A Stellhorn Road
Fort Wayne, Indiana 46815
USA
www.meistercook.com

SAFETY SYMBOL

The following signal words and meanings are intended to explain the level of risks associated with this Equipment. The ANSI standard safety symbols are:

	DANGER: Indicates an imminently hazardous situation, which, if not avoided, will result in death or serious injury.
	WARNING: Indicates a potentially hazardous situation, which, if not avoided, may result in death or serious injury.
	CAUTION: Indicates a potentially hazardous situation, which, if not avoided, may result in minor or moderate injury.

ADDITIONAL IMPORTANT SAFETY NOTICES

	WARNING: Authorized Service Technicians and Representatives are obligated to follow industry standard safety procedures, including but not limited to, local and national standards for disconnection procedures for all utilities including electric, gas, water and steam, including OSHA standard for The Control of Hazardous Energy
	WARNING: Do not store or use gasoline or any other flammable vapors or liquids in the vicinity of this or any other Equipment. Never use flammable oil soaked cloths or combustible cleaning solutions, for cleaning.
	WARNING: Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death. Read the Operator's Manual and Service Manual thoroughly before installing or servicing this equipment.
	WARNING: Do not operate damaged Equipment. Operating damaged equipment can cause property damage, injury or death.
	WARNING: Use safety gloves and safety glasses when working on and performing maintenance on this Equipment. Use caution when handling metal surface edges and corners of this Equipment.
	DANGER: Installation must comply with all applicable fire and health codes of local jurisdiction. Use appropriate safety equipment during installation and servicing.



WARNING - CALIFORNIA PROPOSITION 65: This product contains chemicals known to the State of California to cause cancer and or birth defects or other reproductive harm. Operation, installation, and servicing of this product could expose you to airborne particles of glass wool or ceramic fibers, crystalline silica, and or carbon monoxide. Inhalation of airborne particles of glass wool or ceramic fibers is known to the State of California to cause cancer. Inhalation of carbon monoxide is known to the State of California to cause birth defects or other reproductive harm.



WARNING: Do not use any attachments or accessories not recommended by Meister Cook. The use of attachments or accessories not recommended by Meister Cook can result in serious personal injury.



WARNING: Use only genuine Meister Cook spare parts to ensure proper operation and performance of the Equipment. Non-genuine parts, or any damages or failures resulting from their use, are not covered under the Meister Cook warranty.