

OWNER'S MANUAL

MODEL DH5F-333WND – HHC FOR WENDY'S MODERN LAYOUT

MODEL DH5G-3333WND AND DH5H-3WND – HHC FOR WENDY'S IMAGE LAYOUT



DH5F-333WND shown

Supplier Name: **MARSHALL AIR SYSTEMS, INC.**
Address: 419 Peachtree Drive South
Charlotte, NC 28217

Model #: _____
Serial #: _____
Date Received: _____
Date Installed: _____
Telephone #: 704-525-6230
Fax #: 704-525-6229
Service Referral #: 800-722-3474

Local Service Name: _____

Local Service #: _____

PRODUCT DESCRIPTION

These nugget cabinets utilize Marshall's proprietary ThermoGlo™ technology in conjunction with circulated air. The DH5F-333WND with its three decks and two pans wide has been designed to fit into Wendy's new Modern and SB/In-Line fry station layouts. The DH5G-3333WND with its four decks single pan wide and the DH5H-3WND with its single deck two pans wide are paired together to fit into Wendy's Image station layout. The holding times have been lengthened for Wendy's nuggets to 60 minutes and fish to 45 minutes.

The nugget cabinets feature a time and temperature control as well as an on/off switch for each of their decks. This allows the user to run only the decks of the nugget cabinet needed to support the level of business during each part of the day or day of the week. Each pan has an associated three-digit display for the time and two LED indicator lights to the left and right of the time display. The LED will direct the operator which pans should be used first by displaying a green light while the back-up pan LED will display a red light.

These nugget cabinets are the following Wendy's part numbers:

DH5F-333WND is V1503-DH5F333
DH5G-3333WND is V1504-DH5G3333
DH5H-3WND is V1505-DH5H3

GENERAL SPECIFICATIONS

	61" SB/In-Line 81.5 MODERN DH5F-333WND	41" IMAGE DH5G-3333WND	41" IMAGE DH5H-3WND
Height:	21.875"	28.750"	9.625"
Width			
w/o Tong Holder:	15.375"	9.375"	15.375"
w/ Tong Holder:	16.875"	N/A	N/A
Depth:	18.250"	18.250"	17.500"
Weight:	75 lbs	105 lbs	30 lbs
# of Deck:	3	4	1
# Pans per Deck:	2	1	2
Electrical:	120V/9A	120V/6.6A	120V/3.1A

Cord: 36" Long w/ NEMA 5-15 plug
Approvals: NSF, ETL/CETL

Patent Pending

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FOR YOUR SAFETY

DO NOT STORE OR USE GASOLINE OR OTHER
FLAMMABLE VAPORS OR LIQUIDS IN THE
VICINITY OF THIS OR ANY OTHER APPLIANCE

AVERTISSEMENT

Ne pas entreposer ni utiliser de l'essence ni d'autres vapeurs ou liquides inflammables dans le voisinage de cet appareil, ni de tout autre appareil.

WARNING: IMPROPER INSTALLATION, ADJUSTMENT, ALTERATION, OR MAINTENANCE CAN CAUSE PROPERTY DAMAGE, INJURY OR DEATH. READ THE INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS THOROUGHLY BEFORE INSTALLING OR SERVICING THIS EQUIPMENT.

AVERTISSEMENT: Une installation, un ajustement, une altération, un service ou un entretien non conforme aux normes peut causer des dommages à la propriété, des blessures ou la mort. Lisez attentivement les directives d'installation et d'opération et d'entretien avant de faire l'installation ou l'entretien de cet équipement

KEEP THIS MANUAL IN A SAFE PLACE AND RETAIN FOR FUTURE USE.

Cabinet area must be kept free of combustible materials and the flow of ventilation air must not be obstructed. Operating personnel must not perform any maintenance or repair functions. Contact your Qualified Service Company.

Clean nugget cabinet including shelves and base with a damp cloth/rag and a mild cleaner.

DO NOT USE A GREEN SCOTCH BRITE PAD OR ANY OTHER ABRASIVE CLEANING PAD. THE BLUE SCOTCH BRITE (NO SCRATCH) IS SAFE TO USE.

DO NOT USE CAUSTIC CLEANING SOLUTIONS SUCH AS OVEN CLEANER. USE ONLY MILD, NON-ABRASIVE CLEANER.

DO NOT IMMERSE IN WATER!

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SCHEMATICS

WIRING SCHEMATIC, DH5F-333WND WITH PLENUM	#160801
WIRING SCHEMATIC, DH5G-3333WND WITH PLENUM.....	#161387
WIRING SCHEMATIC, DH5H-3WND WITH PLENUM.....	#161278
WIRING LADDER DIAGRAM, DH5F-333WND	#162501
WIRING LADDER DIAGRAM, DH5G-3333WND.....	#162883
WIRING LADDER DIAGRAM, DH5H-3WND.....	#162884

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PRE-INSTALLATION

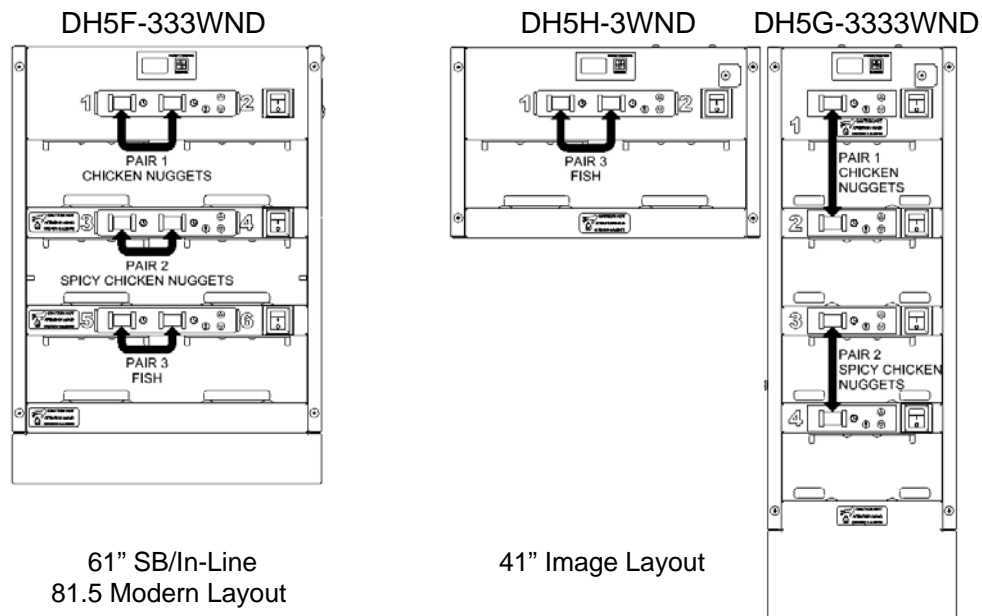
1. The nugget cabinets are packaged to minimize the risk of shipping damage. Immediately upon receipt, make certain to inspect the unit(s) for damage. **FILE ALL CLAIMS WITH THE FREIGHT CARRIER.**
2. Unpack and inspect the nugget cabinet. **IF ANY CONCEALED DAMAGE, FILE ALL CLAIMS WITH THE FREIGHT CARRIER.**

FINAL INSTALLATION

1. Unpack nugget cabinet and remove all protective paper or plastic covering from metal parts.
2. Make sure that the back air circulator plenum is well latched in place and plugged in to the cabinet(s). (See photos on page 7.)
3. Place nugget cabinet(s) in the designated area on the Hot and Crisp fry station.
4. Plug nugget cabinet(s) into 120v receptacle rated for 15 amps, provided in the Hot and Crisp Fry Station.
5. Installation shall comply with the latest version of the National Electrical Code, NFPA 70.
6. Wash and sanitize all parts before placing them in the nugget cabinet per Wendy's operations instructions.

CONFIGURATION

Your restaurant Hot and Crisp Fry Station is either the Modern Layout, SB/In-Line or Image Layout (shown below). Both layouts, Modern and Image are designed to have a total of 3 pairs of 1/3 size pans 2 1/2" deep that can be assigned a different product. These layout configurations are represented below:



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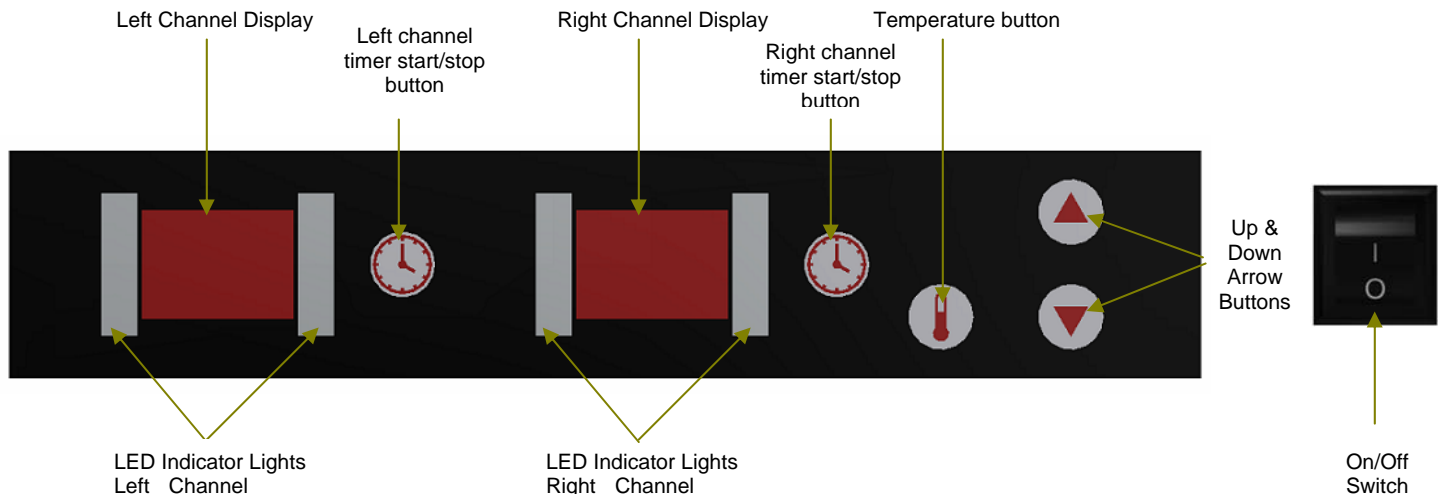
OPERATION

Each deck of each cabinet has its own time/temperature controller with one timer channel for each associated pan in the deck. Each controller also controls top and bottom heater temperatures of its deck. These independent controllers have been factory programmed with Wendy's authorized settings to maximize holding times of each different product. If any new settings are required by Wendy's, see Programming section.

1. Turn on the power switch of deck(s) to be used. The unit will go in pre-heat ("PHt") mode.
2. Once pre-heat period has elapsed and heater temperatures have reached set points, the deck will go to ready mode ("---") and is now ready to receive pans.
3. Put a pan of product in either one of the paired position and press the associated timer button for that pan and start the timer (see Programming section). The display will show the remaining holding time in minutes for that pan and the LED bars will turn steady green indicating that it is the service pan.
4. Put the back-up pan in available paired position and press the associated timer button (see Programming section). The display will show its remaining time and the LED bars will turn steady red indicating that it is the back-up pan.
5. An audible alert will let you know when the timer is down to the drop time to cook a fresh batch of product.
6. Any timer can be cancelled at any time by pressing and holding the corresponding timer button for 3 seconds.

QUICK START GUIDE

The following is the user interface layout for each deck. Note that the DH5G-3333WND only holds one pan per deck and therefore only has the right channel available for each deck. However, the controller operation is the same for the one or the two timer channels controller. The only difference resides in how the pans are paired.



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CONTROLLER POWER UP:

1. Upon power up, the controller will briefly show the software version and then go to preheat mode and the display will show "PHt"

PREHEAT:

1. The controller will stay in preheat mode ("PHt") for the entire preheat period (preheat time parameter) even though both heaters (top and bottom) have reached set points before the end of that period. If the controller is inadvertently turned OFF and back ON, the preheat period can be bypassed by a 3 second press of the down arrow button only if both heaters are within the allowed differential temperature set points (preheat bypass temperature parameter).
2. After preheat, the controller goes into idle mode "---". At this time, any timer can be started.

HOLDING TIME CYCLES:

1. To start a cycle, press a timer start/stop button. The display will show the holding time value in minutes and starts the countdown. The LED bars for that timer channel will then light steady green.
2. When the timer reaches the pre-alert value, the display will then alternate between showing the remaining time and "drP" for DROP, the LED bars will start flashing and a beeping will start. The user then has to acknowledge the pre-alert by a press of the timer start/stop button. The display will then flash the remaining time for the rest of the cycle, the LED bars will go back to steady and the beeping will stop.
3. If a second timer paired with the first one is started, its display will show the holding time value in minutes and then starts its countdown. The LED bars will turn steady red to indicate that the associated product pan is the back up and is not to be used yet.
4. When the first timer reaches the "000" value, the display will flash "000", the LED bars will flash red and the beeping will start until the user acknowledges the end of the cycle by pressing the timer start/stop button. The timer will then go back to idle mode "---", the led bars will turn OFF and the beeping will stop. Then, the paired timer channel LED bars will switch to green indicating that the associated product pan is now to be used.
5. Any holding cycle can be cancel at any time by a **3 second press** of the timer start/stop button.
6. If at any time during normal operation, one heater's temperature is falling or rising out of the allowed differential from set point (ready mode differential parameter), the displays will alternate between current mode and "LO" or "HI" to alert the user that the heater's temperature is too low or too hi. This should remain until the heaters are back within the allowed differential.

CURRENT TEMPERATURES DISPLAY:

1. To view the heaters current temperature, press and hold the temperature button for 3 seconds. The display will then alternate between "toP" for top heater and its current temperature value.
2. To view the bottom heater current temperature, press the temperature button again. The

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display will then alternate between "bot" for bottom heater and its current temperature value.

3. A press of the temperature button will cycle between top and bottom current temperatures.
4. To exit temperature view mode and return to previous mode, press and hold the temperature button.

PROGRAMMING

HOLDING TIME:

1. To change a timer channel holding time value, the unit needs to be in preheat mode "PHt" or in idle mode "---".
2. Press and hold for 3 seconds the timer start/stop button for the channel to be changed. The display will then flash the current setting in minutes.
3. Use the up/down arrow buttons to change to new setting.
4. Press and hold start/stop button for 3 seconds to save the new setting and go back to idle mode.
5. If necessary, repeat for other channels.

USER LEVEL:

1. User level programming mode can be accessed during preheat or when all timers are in idle mode "---".
2. Press and hold for 5 seconds the up and down arrow buttons. The controller then goes into user programming mode and the display will alternate between the parameter display codes and the current value for that parameter. Here is the list of the user programming parameters and functionalities with their display code:

" CF"	Configuration download (see configuration download section)
"toP"	Top heater temperature set point (in degree Fahrenheit or Celsius)
"bot"	Bottom heater temperature set point (in degree Fahrenheit or Celsius)
"ALt"	Drop time (expressed as a percentage of the holding time)
"PHt"	Preheat time (in minutes)
"bPS"	Preheat bypass temperature (in degree Fahrenheit or Celsius)

3. Use the temperature button to cycle to the desired parameter.
4. To change the parameter value, use the up and down arrow buttons.
5. To turn a parameter "OFF" (if applicable) press and hold the down arrow button until the display shows "OFF". Any other value indicates that the parameter is turned "ON".
6. When all parameters are set to desired values press and hold the temperature button to save new settings and exit to previous mode.

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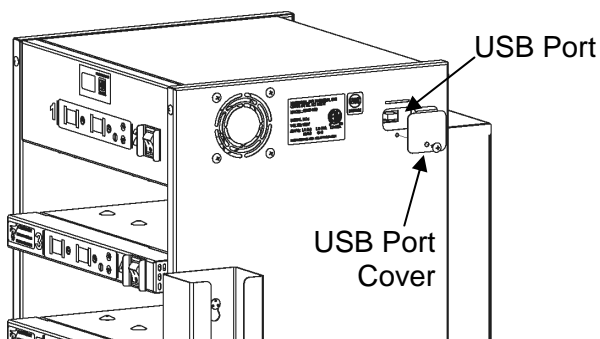
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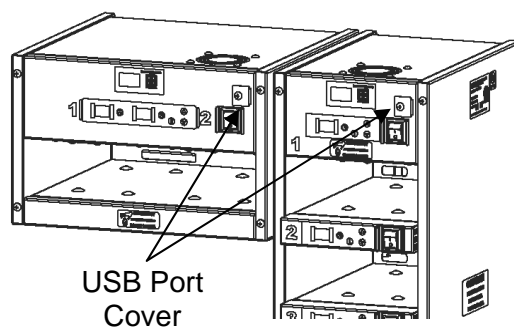


USB CONFIGURATION DOWNLOAD:

1. To download a new configuration, loosen the USB port cover screws using a Phillips head screwdriver (see figure below).



DH5F-333WND



DH5H-3WND and DH5G-3333WND

2. Insert USB flash drive with a valid file (provided by Marshall Air systems) into port.
3. Access the "CF" parameter in programming mode as explained in the programming (user level) section.
4. Once the display shows "CF", press the down arrow button. If the controller recognized a valid file through the gateway USB port, the display will show "dLd" to let the user know that it is ready to download the new configuration file. If the controller can not recognize a valid file, the display will show "Err" to let the user know that a file error occurred. The display will keep showing "Err" until a valid file is recognized or the user presses the temperature button to go back to parameter code display "CF".
5. To start the new configuration download when the display shows 'dLd', press the down arrow button again. The display will start flashing "dLd". When the download is complete, the display will show "Cpt" for complete. The user then acknowledges the download completion by pressing the down arrow button once more to go back to parameter code display "CF". If an error occurred during download, the display will show "Err" until a valid file is recognized or the user presses the temperature button to go back to parameter code display "CF".
6. If the unit has more than one deck, repeat steps 3, 4 and 5 for all other decks.

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DEFAULT PRESET VALUES:

	DH5F-333WND			DH5G-3333WND				DH5H-3WND
	Deck 1	Deck 2	Deck 3	Deck 1	Deck 2	Deck 3	Deck 4	Deck 1
Left Channel Holding Time (min)	60	60	45	N/A	N/A	N/A	N/A	45
Right Channel Holding Time (min)	60	60	45	60	60	60	60	45
Top Heater Set Point (°F)	210	210	200	210	210	210	210	200
Bottom Heater Set Point (°F)	200	200	200	200	200	200	200	200
Drop Time (%)	10	10	10	10	10	10	10	10
Pre-heat (min)	20	20	20	20	20	20	20	20
Pre-heat Bypass (°F)	50	50	50	50	50	50	50	50

DAILY MAINTENANCE

1. Turn off the nugget cabinet and allow it to cool for 20 minutes.
2. Clean nugget cabinet including shelves and base with a damp cloth/rag and a mild cleaner.

DO NOT USE A GREEN SCOTCH BRITE PAD OR ANY OTHER ABRASIVE CLEANING PAD. THE BLUE SCOTCH BRITE (NO SCRATCH) IS SAFE TO USE.

DO NOT USE CAUSTIC CLEANING SOLUTIONS SUCH AS OVEN CLEANER. USE ONLY MILD, NON-ABRASIVE CLEANER.

DO NOT IMMERSE IN WATER!

3. Clean any debris obstructing openings for cooling fan (on the right side cover top corner) as well as the openings for middle and bottom deck controllers (located on the right end of the middle and bottom controller crossbar). **THIS IS CRITICAL TO ACHIEVE PROPER COOLING OF THE UNIT.**
4. Allow sufficient drying time before attempting to use again.
5. Clean and sanitize all pans per Wendy's operations instructions.

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MONTHLY MAINTENANCE

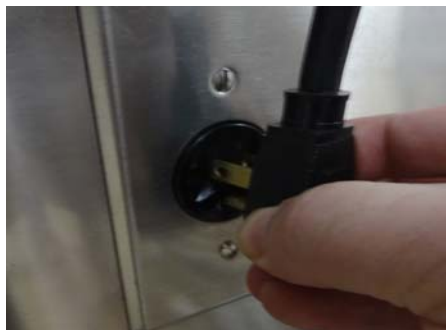
1. Follow the daily schedule; there are no adjustments.
2. Unplug nugget cabinet. **Do not pull on cord to unplug.** Grasp plug to unplug. See photo to the right.
3. Remove nugget cabinet from Hot and Crisp fry station and clean cabinet as described in Daily Cleaning and Hot and Crisp fry station. Focus cleaning on area under nugget cabinet. See photo.
4. Remove the rear air circulator plenum by disconnecting the power cord and latch. See photo to the right. Wipe down with damp cloth.

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DO NOT USE CAUSTIC CLEANING SOLUTIONS SUCH AS OVEN CLEANER. USE ONLY A MILD, NON-ABRASIVE CLEANER.

DO NOT IMMERSE UNIT IN WATER!

5. Wipe the back surfaces of the shelves while the air circulator is off.
6. Inspect the condition of cord/plug. If damaged, have it replaced.
7. Inspect the condition of the control overlay. If damaged, have it replaced.



Service must be performed by a Qualified Service Company. The term "Qualified Service Company" means any individual, firm, corporation or company which is either engaged in and is responsible for the installation or replacement of electrical components and wiring for commercial kitchen appliances.

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TROUBLESHOOTING CHART

Before trouble shooting is started: check unit is plugged in, check for tripped circuit breaker and check that power switch on.

**** DISASSEMBLING HEATER VOIDS WARRANTY ****

PROBLEM	POSSIBLE CAUSE	SOLUTION
1. CONTROL DISPLAYS "PHt"	A. NORMAL OPERATION CABINET HAS NOT BEEN ON FOR 20 MIN B. INADVERTANT POWER DISRUPTION IF SWITCH TURNED OFF BY ACCIDENT, POWER DISRUPTION BY THUNDERSTORM ETC.	A. WAIT 20 MINUTES B. PRESS AND HOLD DOWN ARROW FOR 3 SECONDS TO CLEAR "PHt" CYCLE
2. UNIT WILL NOT TURN ON	A. UNIT UNPLUGGED B. IS CONTROLLER ON/OFF SWITCH "ON" C. OUTLET HAS NO POWER D. CORD DEFECTIVE E. DOES POWER SUPPLY BOARD HAVE 120V INCOMING F. DOES POWER SUPPLY BOARD HAVE 8.5 VDC OUTGOING TO CONTROLLER G. BAD CONTROLLER	A. PLUG IN UNIT B. TURN SWITCH ON C. CHECK CIRCUIT BREAKER D. REPLACE DEFECTIVE CORD E. REPLACE SWITCH F. REPLACE POWER SUPPLY BOARD G. REPLACE CONTROLLER
3. UNIT NOT HEATING	A. HEATER IS TURNED "OFF" B. WIRES NOT PLUGGED INTO BACK OF CONTROLLER C. NO VOLTAGE TO DC SIDE OF SOLID STATE RELAY	A. SEE "PROGRAMMING USER LEVEL" SECTION TO TURN HEATER ON B. PLUG WIRES INTO CONTROLLER C. LOOSE WIRES, REPLACE CONTROLLER

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PROBLEM	POSSIBLE CAUSE	SOLUTION
3. UNIT NOT HEATING	<p>D. SOLID STATE RELAY HAS DC VOLTAGE, NOT ALLOWING POWER TO PASS THROUGH</p> <p>E. HEATING BLANKET WIRES HAVE POWER NOT HEATING</p>	<p>D. REPLACE SOLID STATE RELAY</p> <p>E. LOOSE WIRES, REPLACE HEATING BLANKET</p>
4. LOW PRODUCT TEMPERATURE	<p>A. TEMPERATURE SET POINTS ARE TOO LOW</p> <p>B. EXCESSIVE AIR DRAFT(S)</p>	<p>A. ADJUST TO HIGHER TEMPERATURE SET POINT (SEE PROGRAMMING SECTION)</p> <p>B. SHIELD DRAFT(S)</p>
5. HIGH PRODUCT TEMPERATURE	<p>A. TEMPERATURE SET POINTS ARE TO HIGH</p>	<p>A. ADJUST TO LOWER TEMPERATURE SET POINT (SEE PROGRAMMING SECTION)</p>
6. PRODUCT NOT HOLDING PROPER TEMPERATURE / QUALITY AT 60 MIN.	<p>A. IS AIR PLENUM INSTALLED PROPERLY</p> <p>B. IS AIR PLENUM PLUGGED IN</p> <p>C. DO FANS WORK IN AIR PLENUM</p> <p>D. ARE AIR CIRCULATION HOLES PLUGGED IN CABINET OR PLENUM</p>	<p>A. ATTACH AIR PLENUM TO CABINET AND LOCK</p> <p>B. PLUG IN AIR PLENUM</p> <p>C. REPLACE BAD FANS</p> <p>D. CLEAN UNIT (SEE CLEANING SECTION)</p>
7. UNIT FLASHES "+Pr" "LO" (TEMPERATURE LOW)	<p>A. EXCESSIVE AIR DRAFT(S)</p> <p>B. LOOSE WIRE IN ELECTRICAL CABINET</p> <p>C. BAD TEMPERATURE SENSOR</p> <p>D. BAD SOLID STATE RELAY</p> <p>E. BAD HEATING BLANKET</p>	<p>A. SHIELD DRAFT(S)</p> <p>B. CHECK WIRING</p> <p>C. REPLACE SENSOR</p> <p>D. REPLACE SOLID STATE RELAY</p> <p>E. REPLACE HEATING BLANKET</p>

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PROBLEM	POSSIBLE CAUSE	SOLUTION
8. UNIT FLASHES "+Pr" "HI" (TEMPERATURE HIGH)	A. BAD SOLID STATE RELAY B. BAD TEMPERATURE SENSOR C. BAD CONTROLLER	A. REPLACE SOLID STATE RELAY B. REPLACE TEMPERATURE SENSOR C. REPLACE CONTROLLER
9. ERROR CODE: "OPN" "UP" OR "LO" "OPEN TEMPERATURE SENSOR" "uP" UPPER DECK OR "LO" LOWER DECK	A. TEMPERATURE SENSOR WIRES BECAME DISCONNECTED B. BAD SENSOR C. BAD CONTROLLER	A. RECONNECT TEMPERATURE SENSOR WIRES B. REPLACE SENSOR C. REPLACE CONTROLLER
10. ERROR CODE "SHT" "uP" OR "LO" "SHORTED TEMPERATURE SENSOR" "uP" UPPER DECK OR "LO" LOWER DECK	A. TEMPERATURE WIRES ARE SHORTED B. BAD SENSOR C. BAD CONTROLLER	A. CHECK WIRES B. REPLACE SENSOR C. REPLACE CONTROLLER
11. TIMER COLOR LEDS NOT ILLUMINATING	A. BAD CONTROLLER	A. REPLACE CONTROLLER
12. ERROR "dft" ON POWER UP	A. INTERNAL MEMORY DAMAGED	A. REPLACE CONTROLLER
13. CABINET FAN NOT WORKING	A. NO VOLTAGE TO FAN B. BAD FAN	A. CHECK WIRING B. REPLACE FAN

****NOTE:** When replacing sensor, a special heat sink sealant will be present when removing failed sensor. Applying new sealant is not required; however, be sure to utilize existing sealant when mounting new sensor.

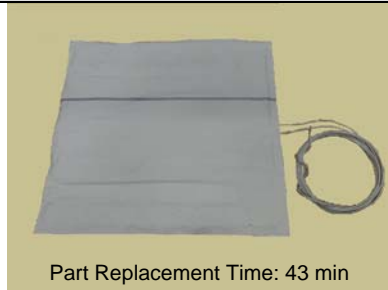
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REPLACEMENT PARTS

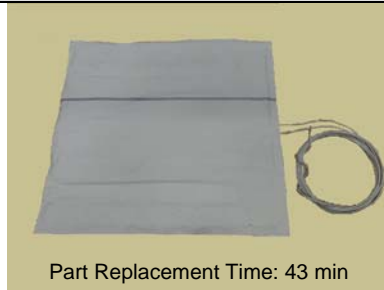


Part Replacement Time: 43 min

504323 - Blanket, Heater 120V

For models DH5F-333WND and DH5H-3WND

These heating blankets are used in the bottom heaters of each deck. A defective blanket could cause non-heating of the associated deck bottom heater and therefore an undesired change in the food product quality.

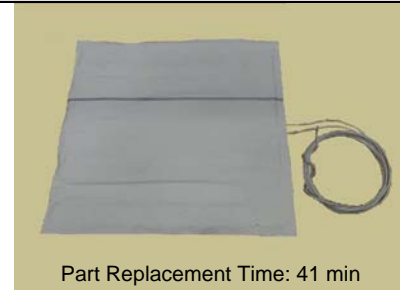


Part Replacement Time: 43 min

504324 - Blanket, Heater 120V

For models DH5F-333WND and DH5H-3WND

These heating blankets are used in the top heaters of each deck. A defective blanket could cause non-heating of the associated deck top heater and therefore an undesired change in the food product quality.

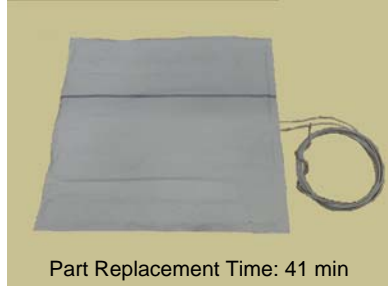


Part Replacement Time: 41 min

504336 - Blanket, Heater 120V

For models DH5G-3333WND

These heating blankets are used in the bottom heaters of each deck. A defective blanket could cause non-heating of the associated deck bottom heater and therefore an undesired change in the food product quality.



Part Replacement Time: 41 min

504337 - Blanket, Heater 120V

For models DH5G-3333WND

These heating blankets are used in the top heaters of each deck. A defective blanket could cause non-heating of the associated deck top heater and therefore an undesired change in the food product quality.



Part Replacement Time: 6 min

501193 - Connector, Strain Relief

For models DH5F-333WND, DH5G-3333WND and DH5H-3WND

Strain relief used with air circulator cord sets [502760](#) and [503362](#) and should be replaced if missing or damaged.

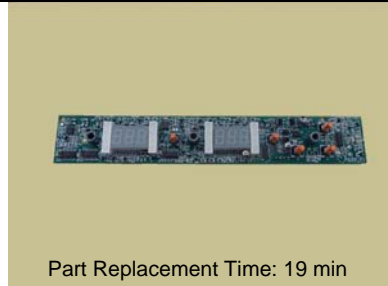


Part Replacement Time: 6 min

502080 - Connector, Strain Relief

For models DH5F-333WND, DH5G-3333WND and DH5H-3WND

Strain relief used with main power cord [504345](#) and should be replaced if missing or damaged.

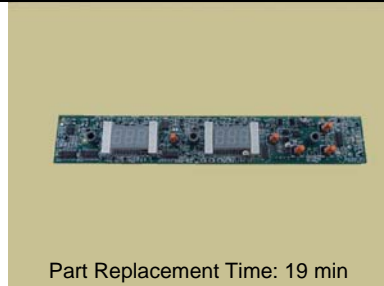


Part Replacement Time: 19 min

162865 - Control

For model DH5F-333WND (Deck 1)

Time/temperature controller factory pre-programmed according to Wendy's authorized settings. Replace if the controller is not operating according to specs or if it won't turn on when 8.5VDC is supplied to it.

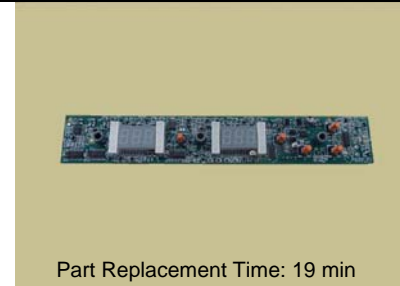


Part Replacement Time: 19 min

162866 - Control

For model DH5F-333WND (Deck 2)

Time/temperature controller factory pre-programmed according to Wendy's authorized settings. Replace if the controller is not operating according to specs or if it won't turn on when 8.5VDC is supplied to it.



Part Replacement Time: 19 min

162867 - Control

For model DH5F-333WND (Deck 3)

Time/temperature controller factory pre-programmed according to Wendy's authorized settings. Replace if the controller is not operating according to specs or if it won't turn on when 8.5VDC is supplied to it.

OWNER'S MANUAL

MODEL DH5F-333WND – HHC FOR WENDY'S MODERN LAYOUT

MODEL DH5G-3333WND AND DH5H-3WND – HHC FOR WENDY'S IMAGE LAYOUT



REPLACEMENT PARTS

Part Replacement Time: 19 min

161497 - Control

For model DH5H-3WND

Time/temperature controller factory pre-programmed according to Wendy's authorized settings. Replace if the controller is not operating according to specs or if it won't turn on when 8.5VDC is supplied to it.

Part Replacement Time: 19 min

162879 - Control

For model DH5G-3333WND (Deck 1)

Time/temperature controller factory pre-programmed according to Wendy's authorized settings. Replace if the controller is not operating according to specs or if it won't turn on when 8.5VDC is supplied to it.

Part Replacement Time: 19 min

162868 - Control

For model DH5G-3333WND (Deck 2)

Time/temperature controller factory pre-programmed according to Wendy's authorized settings. Replace if the controller is not operating according to specs or if it won't turn on when 8.5VDC is supplied to it.

Part Replacement Time: 19 min

162869 - Control

For model DH5G-3333WND (Deck 3)

Time/temperature controller factory pre-programmed according to Wendy's authorized settings. Replace if the controller is not operating according to specs or if it won't turn on when 8.5VDC is supplied to it.

Part Replacement Time: 19 min

162870 - Control

For model DH5G-3333WND (Deck 4)

Time/temperature controller factory pre-programmed according to Wendy's authorized settings. Replace if the controller is not operating according to specs or if it won't turn on when 8.5VDC is supplied to it.

Part Replacement Time: 7 min

504345 - Cord, 14/3 SJTOW W/STR 120V Plug

For models DH5F-333WND, DH5G-3333WND and DH5H-3WND

120V main power cord. Damaged cord can cause unit to stop operating and should be replaced.

Part Replacement Time: 7 min

502760 - Cord Set, 18/3 SJTOW 120 V 16" LG
For models DH5F-333WND, DH5G-3333WND and DH5H-3WND

Cord set for back air circulator. Damage could cause air circulation to stop therefore altering food product quality. Should be replaced if damaged.

Part Replacement Time: 6 min

503362 - Cord Set, 18/3 SJTOW 120V 24" LG
For models DH5F-333WND, DH5G-3333WND and DH5H-3WND

Cord set used to connect air circulator to main unit. Damage could cause air circulation to stop therefore altering food product quality. Should be replaced if damaged.

Part Replacement Time: 9 min

504344 - Fan, Cooling, Boxer, 115VAC
For models DH5F-333WND, DH5G-3333WND and DH5H-3WND

Fan used inside control box to cool electrical components and in air circulator to force air flow around food products. Failure can cause electrical components to overheat and fail or alter food product quality. Should be replaced if worn or damaged.

OWNER'S MANUAL

MODEL DH5F-333WND – HHC FOR WENDY'S MODERN LAYOUT

MODEL DH5G-3333WND AND DH5H-3WND – HHC FOR WENDY'S IMAGE LAYOUT



REPLACEMENT PARTS



162408 - Holder, Scoop/tong
For model DH5F-333WND

S/N ending with 32501 and before. Used to hold both fries scoop and tong for nuggets.



163202 - Holder, Scoop/tong
For model DH5G-3333WND

S/N ending with 32283 and before. Used to hold both fries scoop and tong for nuggets.



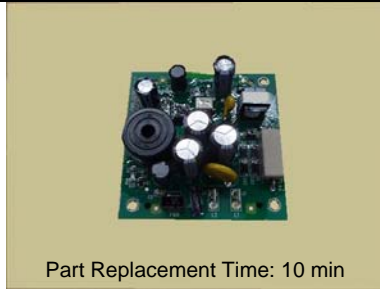
163207 - Holder, Scoop/tong
For models DH5F-333WND and DH5G-3333WND

S/N ending with 32502 and after. Used to hold both fries scoop and tong for nuggets.



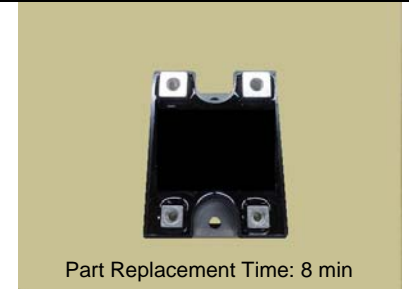
504331 - Pan, 1/3 Amber 2 1/2" Tall
For models DH5F-333WND, DH5G-3333WND and DH5H-3WND

Standard 1/3 size pan used to hold food products



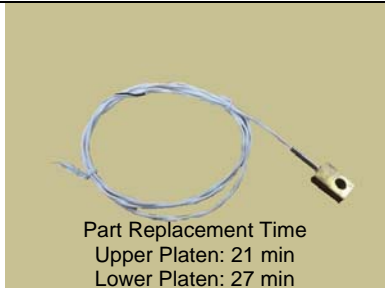
Part Replacement Time: 10 min
504318 - Power Supply
For models DH5F-333WND, DH5G-3333WND and DH5H-3WND

The 120VAC to 8.5VDC power supply is used to power the time/temperature controllers. A defective power supply could cause all controllers to not turn on when powered.



Part Replacement Time: 8 min
504023 - Relay, Solid State 25A
For models DH5F-333WND, DH5G-3333WND and DH5H-3WND

SSRs are used to turn on and off power delivered to their associated heater once it reaches temperature set point. Failure will cause the associated heater to excessively rise above set point and might cause permanent damage to it.



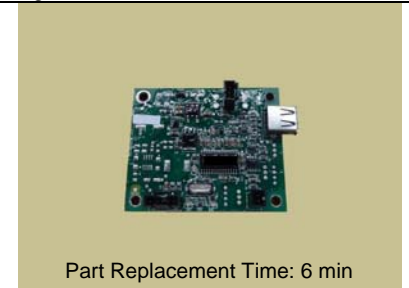
Part Replacement Time
Upper Platen: 21 min
Lower Platen: 27 min
502064 - Sensor, RTD, 48"
For models DH5F-333WND, DH5G-3333WND and DH5H-3WND

Used to read heater's temperature. If a RTD sensor goes bad or is disconnected, its associated controller will beep and the display will flash either "oPn" or "SHt" to indicate failure



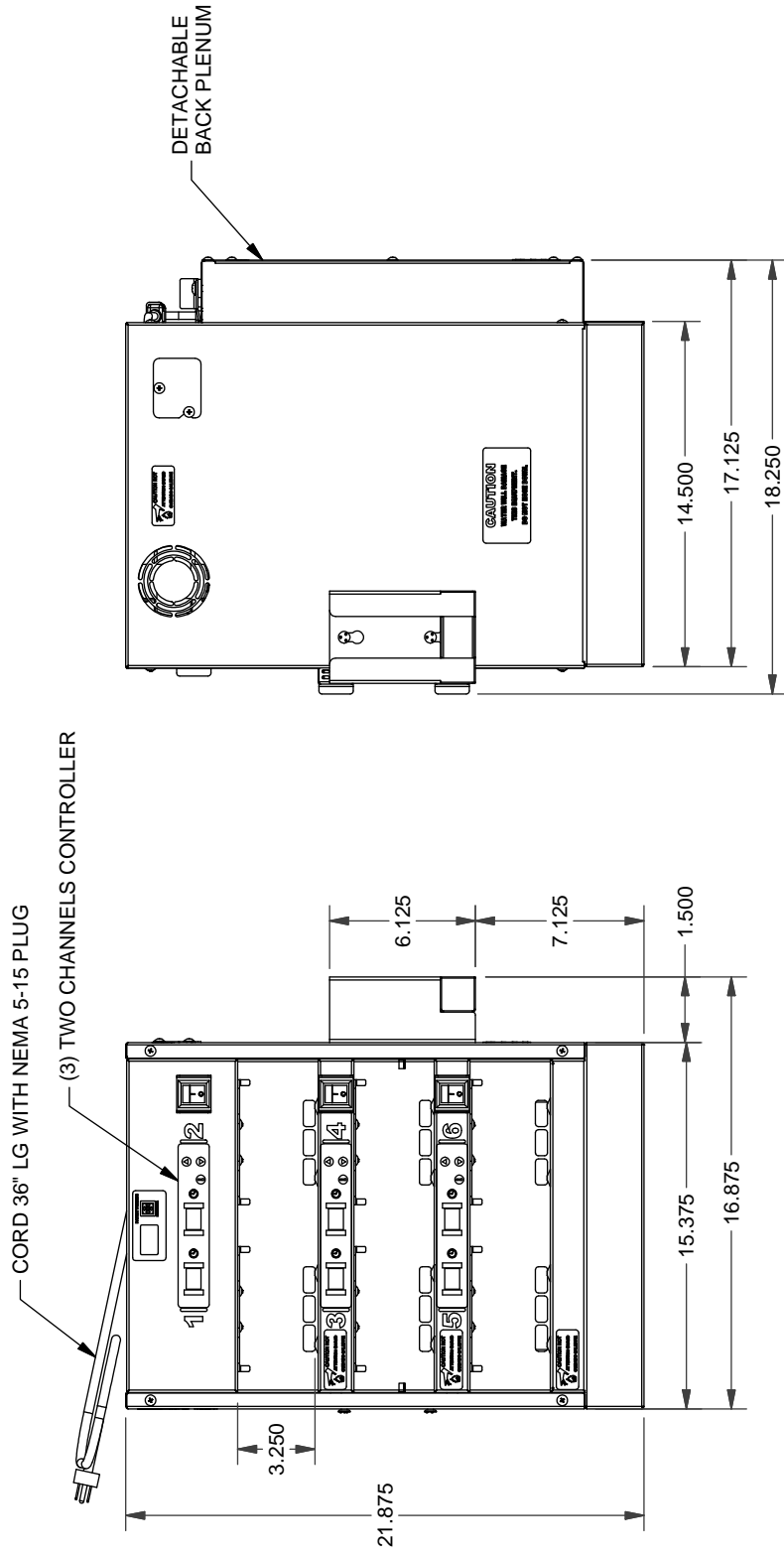
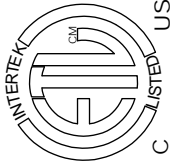
Part Replacement Time: 10 min
502425 - Switch, Double Pole
For models DH5F-333WND, DH5G-3333WND and DH5H-3WND

One switch for each deck is used to allow energy efficiency. A bad switch could cause the associated controller to not turn on. Bad or damaged switches should be replaced immediately.



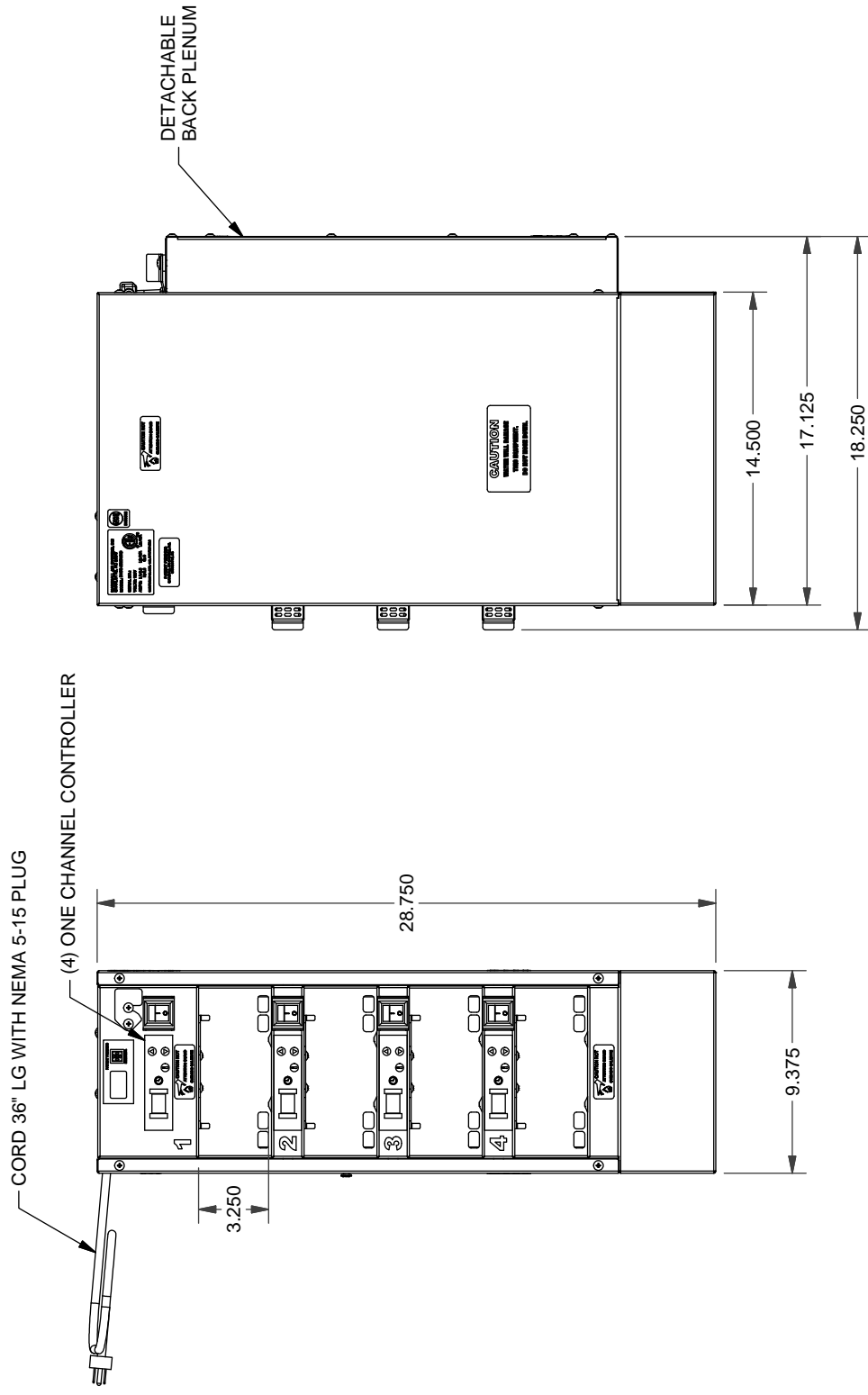
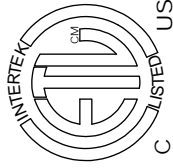
Part Replacement Time: 6 min
504346 - USB Gateway Board
For models DH5F-333WND, DH5G-3333WND and DH5H-3WND

The USB gateway board allows the user to download controller software updates as well as new settings configurations using a USB flash drive. Board should be checked for proper operation if a valid file can't be downloaded using a flash drive



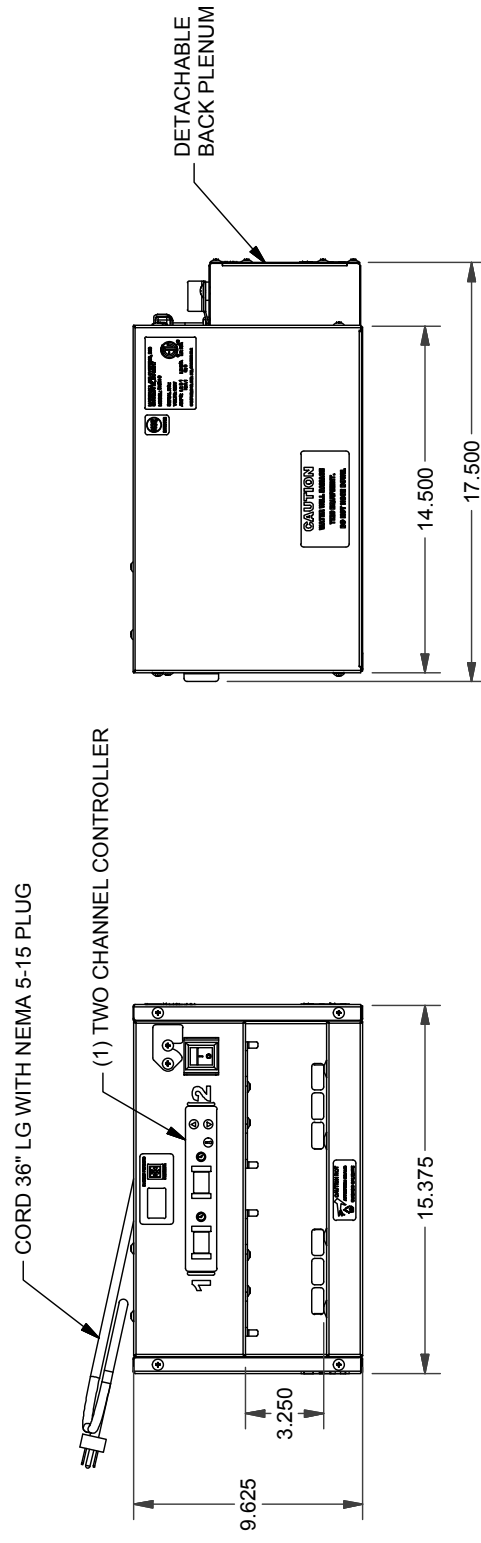
OVERALL DIMENSIONS DH5F-333WND WITH PLENUM

FIGURE 1



OVERALL DIMENSIONS DH5G-3333WND WITH PLENUM

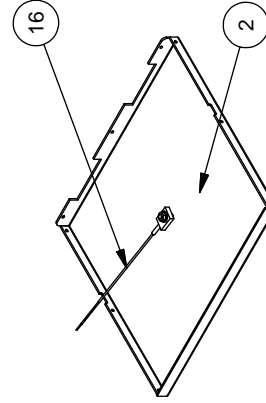
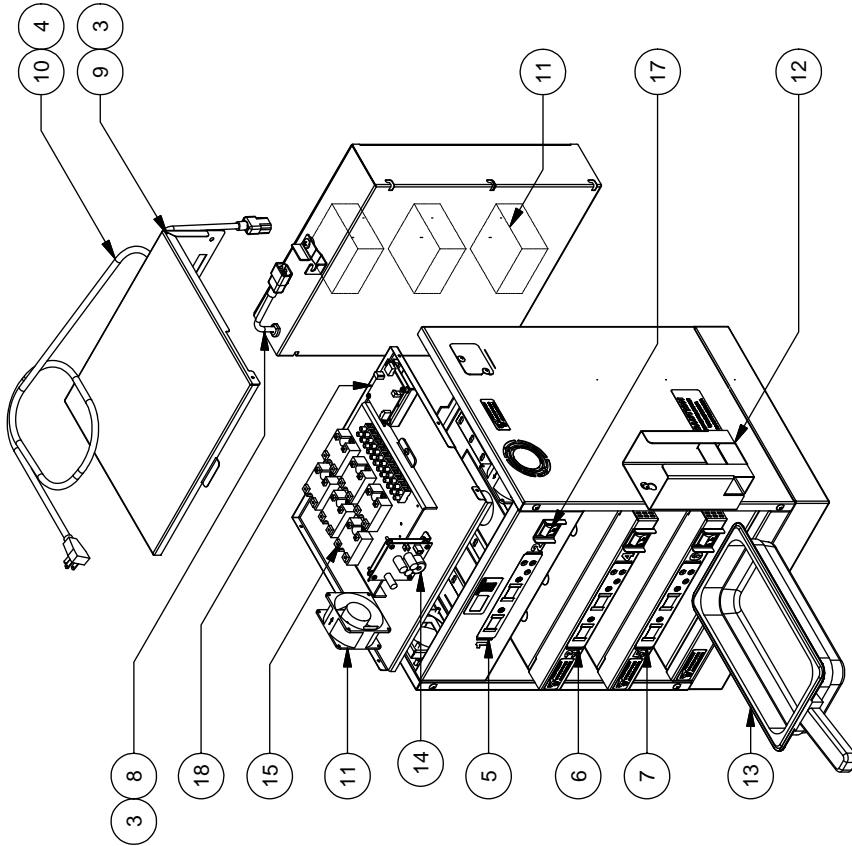
FIGURE 2



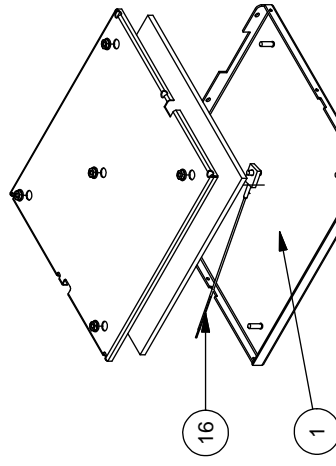
OVERALL DIMENSIONS DH5H-3WND WITH PLENUM

FIGURE 3

Parts List			
ITEM	PART NO.	DESCRIPTION	QTY
1	504323	BLANKET, BOTTOM HEATER	3
2	504324	BLANKET, TOP HEATER	3
3	501193	CONNECTOR, STRAIN RELIEF .625"HOLE	2
4	502080	CONNECTOR, STRAIN RELIEF .875 HOLE	1
5	162865	CONTROL, DECK 1	1
6	162866	CONTROL, DECK 2	1
7	162867	CONTROL, DECK 3	1
8	502760	CORD SET, 16" LONG	1
9	503362	CORD SET, 24" LONG	1
10	504345	CORD, 120V PLUG	1
11	504344	FAN, COOLING, BOXER	5
12	163207	HOLDER, SCOOP/TONG - S/N ENDING WITH 32502 AND AFTER	1
	162408	HOLDER, SCOOP/TONG - S/N ENDING WITH 32501 AND BEFORE	1
13	504331	PAN, 1/3 AMBER 2 1/2" TALL	6
14	504318	POWER SUPPLY	1
15	504023	RELAY, SOLID STATE	6
16	502064	SENSOR, RTD, 48"	6
17	502425	SWITCH, CURVETTE, DOUBLE POLE	3
18	504346	USB GATEWAY BOARD	1



TOP HEATER
ASSEMBLY

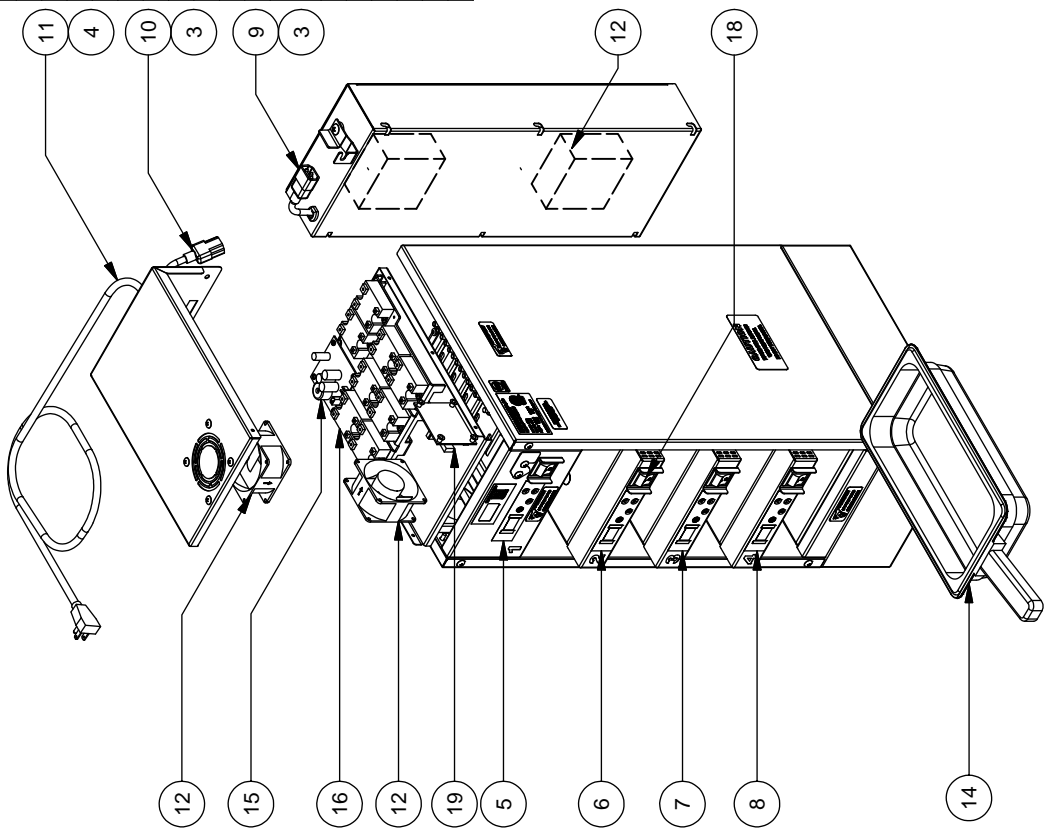


BOTTOM HEATER
ASSEMBLY

REPLACEMENT PARTS DH5F-333WND

FIGURE 4

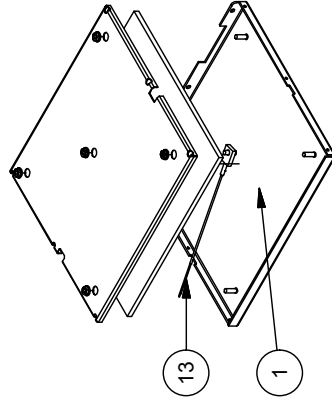
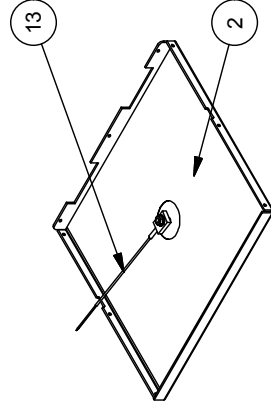
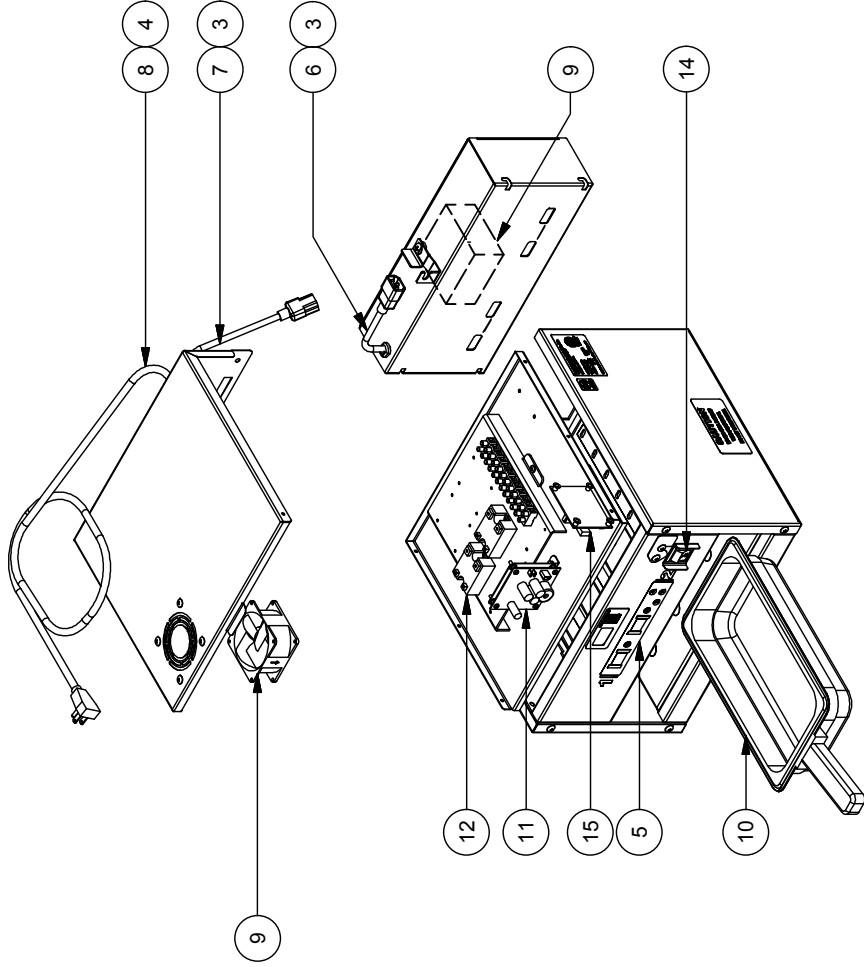
Parts List			
ITEM	PART NO.	DESCRIPTION	QTY
1	504336	BLANKET, BOTTOM HEATER	4
2	504337	BLANKET, TOP HEATER	4
3	501193	CONNECTOR, STRAIN RELIEF .625" HOLE	2
4	502080	CONNECTOR, STRAIN RELIEF .875 HOLE	1
5	162879	CONTROL, DECK 1	1
6	162868	CONTROL, DECK 2	1
7	162869	CONTROL, DECK 3	1
8	162870	CONTROL, DECK 4	1
9	502760	CORD SET, 16" LONG	1
10	503362	CORD SET, 24" LONG	1
11	504345	CORD, 120V PLUG	1
12	504344	FAN, COOLING, BOXER	4
13	163202	HOLDER, SCOOP/TONG - S/N ENDING WITH 32283 AND BEFORE	1
14	163207	HOLDER, SCOOP/TONG - S/N ENDING WITH 32502 AND AFTER	1
15	504331	PAN, 1/3 AMBER 2 1/2" TALL	4
16	504318	POWER SUPPLY	1
17	504023	RELAY, SOLID STATE	8
18	502064	SENSOR, RTD, 48"	8
19	502425	SWITCH, CURVETTE, DOUBLE POLE	4
20	504346	USB GATEWAY BOARD	1



REPLACEMENT PARTS DH5G-3333WND

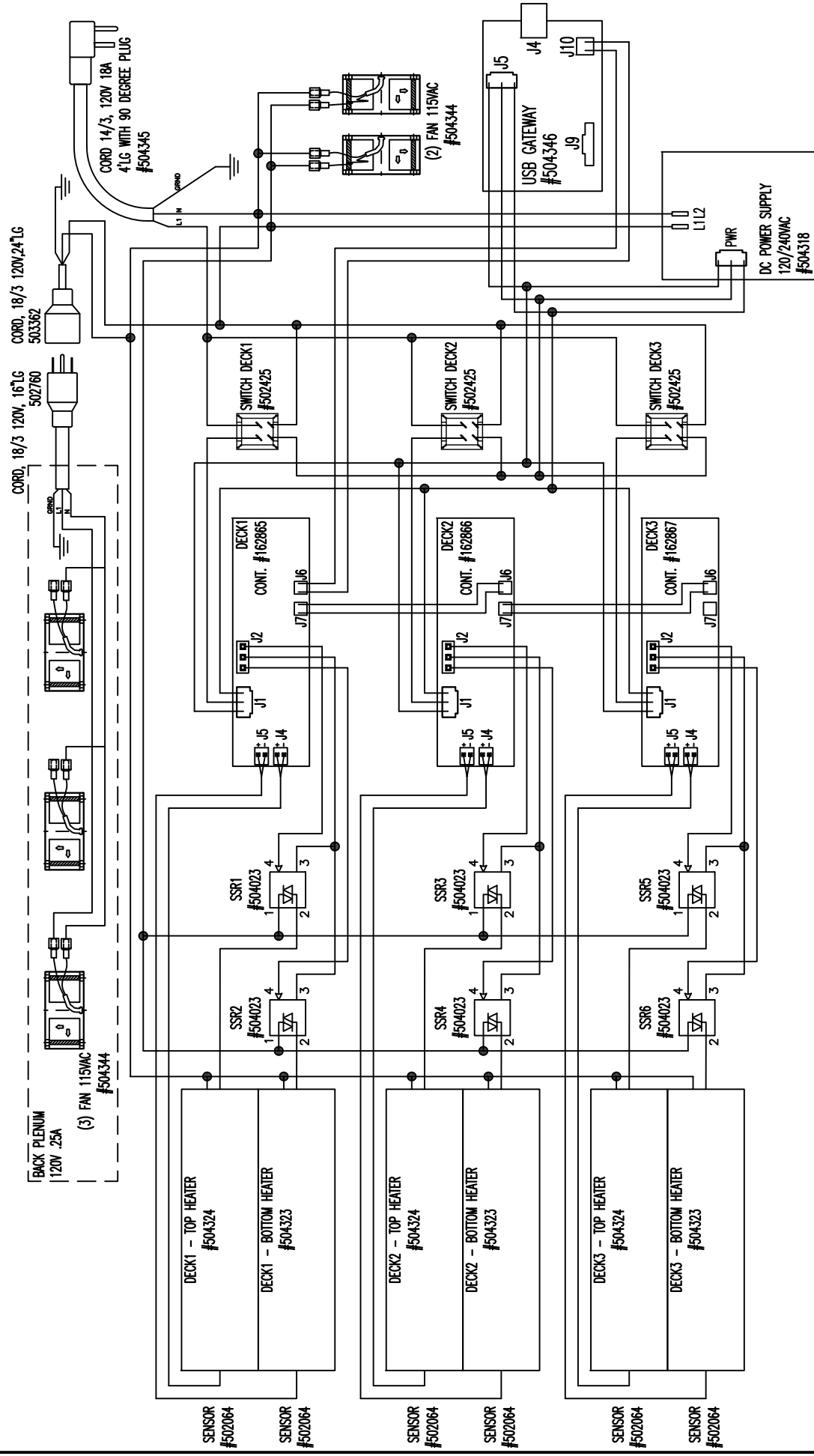
FIGURE 5

Parts List			
ITEM	PART NO.	DESCRIPTION	QTY
1	504323	BLANKET, BOTTOM HEATER	1
2	504324	BLANKET, TOP HEATER	1
3	501193	CONNECTOR, STRAIN RELIEF .625" HOLE	2
4	502080	CONNECTOR, STRAIN RELIEF .875 HOLE	1
5	161497	CONTROL, DECK 1	1
6	502760	CORD SET, 16" LONG	1
7	503362	CORD SET, 24" LONG	1
8	504345	CORD, 120V PLUG	1
9	504344	FAN, COOLING, BOXER	2
10	504331	PAN, 1/3 AMBER 2 1/2" TALL	2
11	504318	POWER SUPPLY	1
12	504023	RELAY, SOLID STATE	2
13	502064	SENSOR, RTD, .48"	2
14	502425	SWITCH, CURVETTE, DOUBLE POLE	1
15	504346	USB GATEWAY BOARD	1



REPLACEMENT PARTS DH5H-3WND

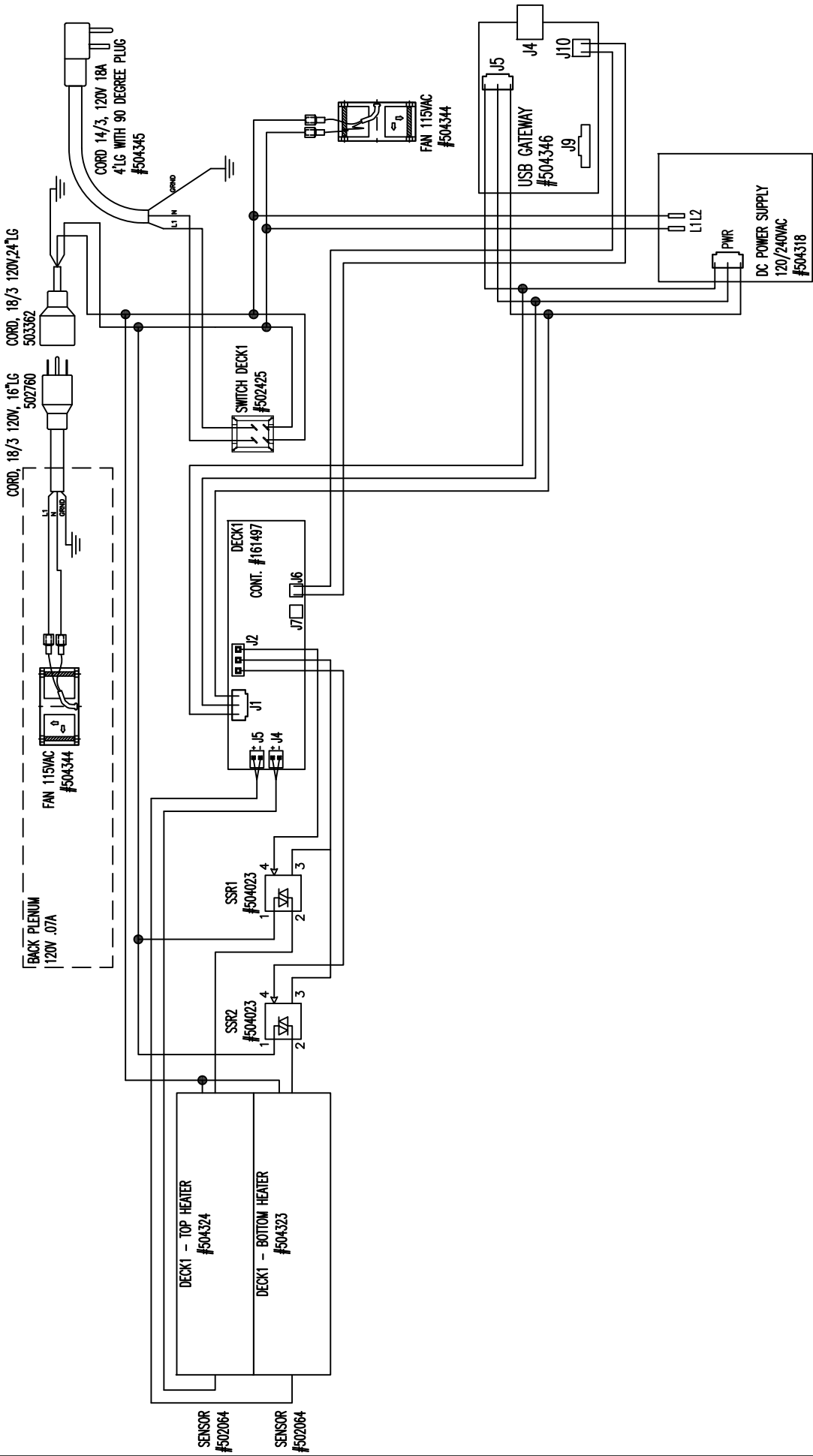
FIGURE 6



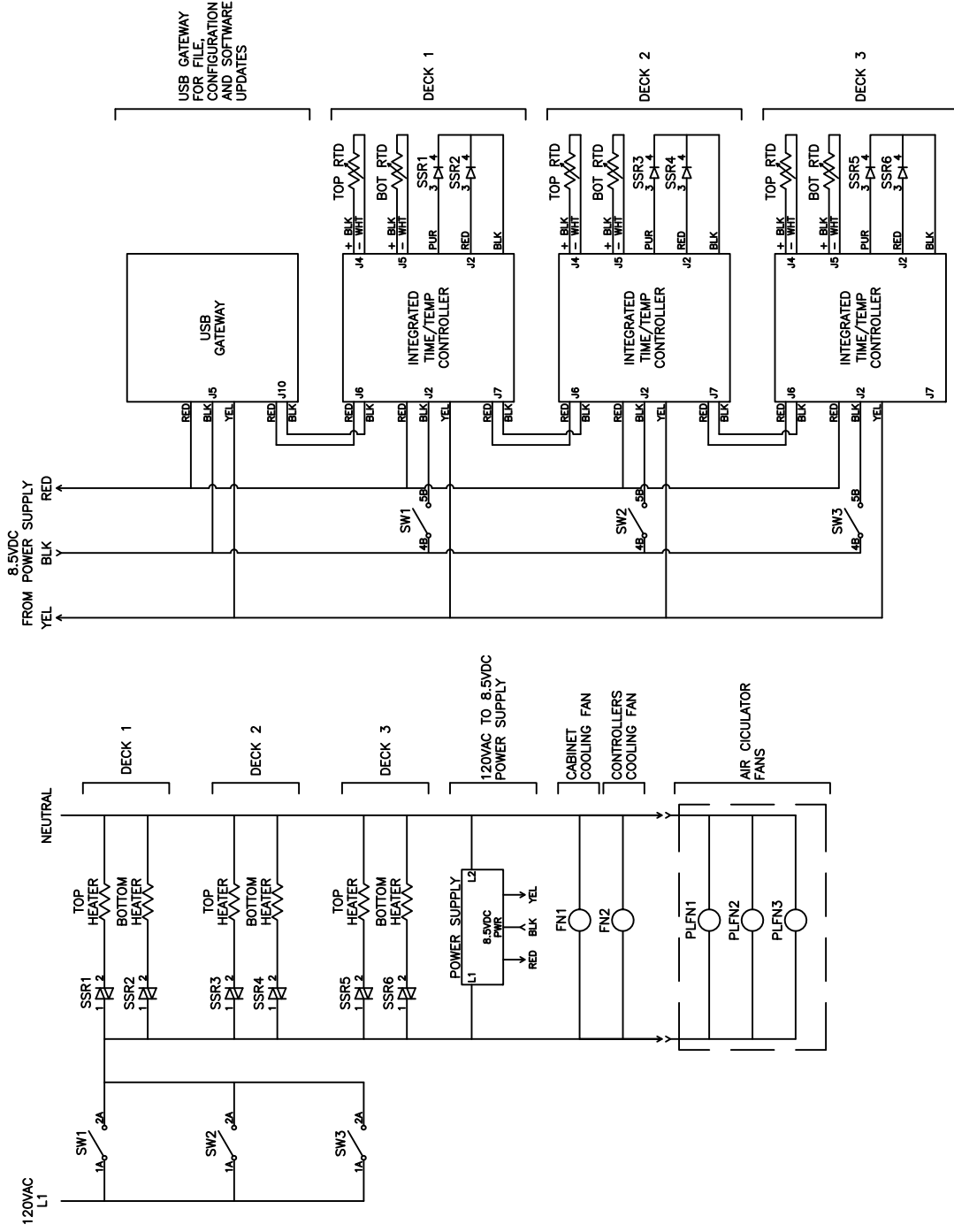
REV	DESCRIPTION	DATE	REV. BY	DRAWN BY:	DATE:	MARSHALL AIR SYSTEMS, INC.		
1	ADD USB GATEWAY AND CHANGED CORDS	1/10/2013	S.A.	S.A.	11/2/2012	SCHEMATIC		
2	CORD 18/3 16/1G WAS #503362	2/4/2013	S.A.	S.A.		DH5F-333WND WITH PLENUM, 120V 9A		
3	DECK 3 CONTROLLER P/N WAS 160800	3/7/2013	S.A.	S.A.		SIZE: A ROUTE: ELECT DWG. NO.: 160801 REV: 5		
4	TOP AND BOTTOM HEATERS WERE 160655 AND 160655	9/12/2013	S.A.	S.A.		SCALE: NTS NTS NTS		
5	CONTROL DECK 1,2 & 3 WERE 160800,160800 & 161497	10/8/2013	S.A.	S.A.		CODE: DH5F-333WND		



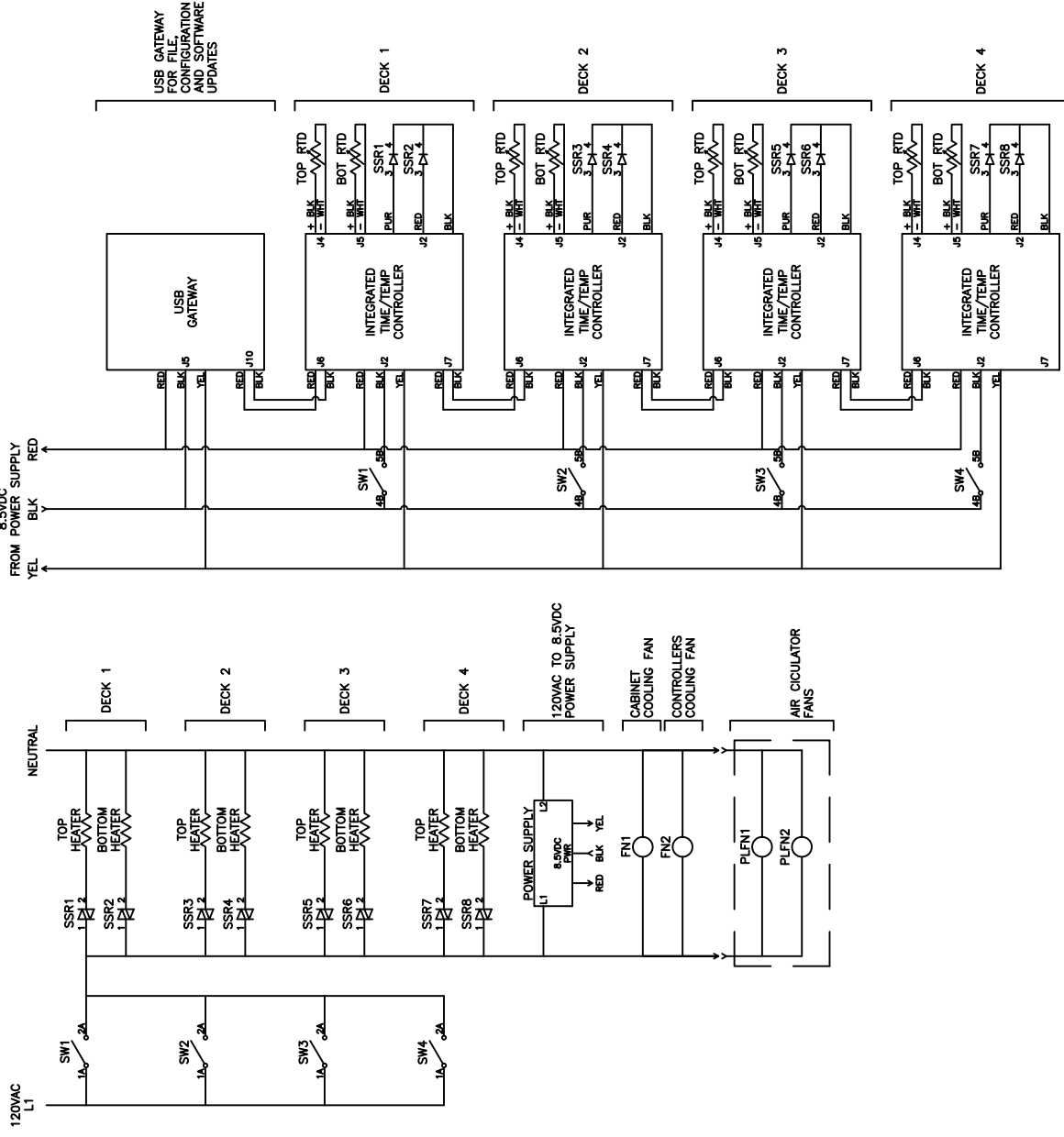
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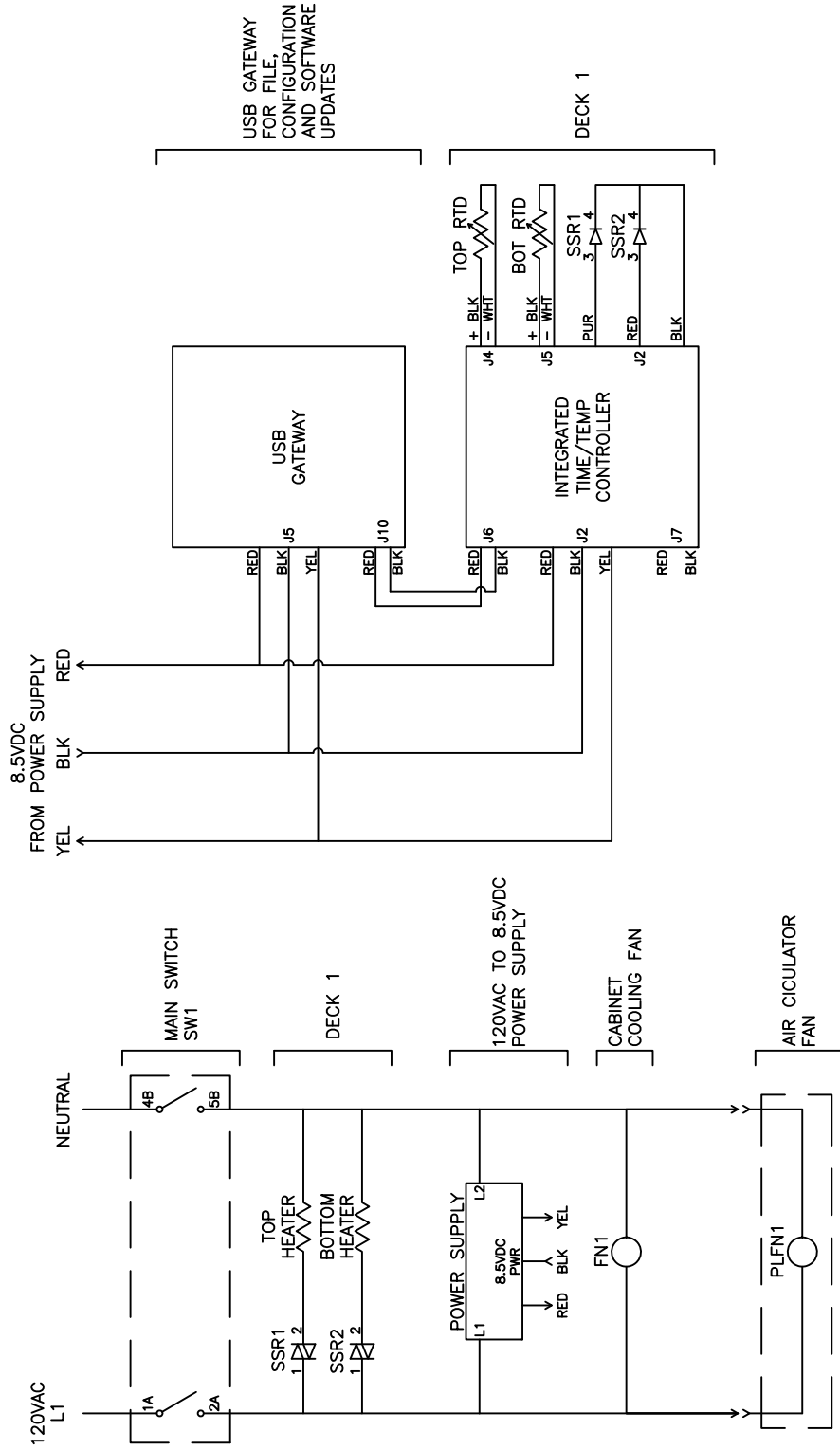
REV	DESCRIPTION	DATE	REV. BY	DRAWN BY:	DATE:	MARSHALL AIR SYSTEMS, INC.		
1	CONTROLLER P/N WAS 160800	3/7/2013	S.A.	S.A.	2/12/2013	SCHEMATIC, DH5H-3WND		
2	TOP AND BOTTOM HEATERS WERE 161360 AND 161358	9/12/2013	S.A.	S.A.		WITH PLENUM, 120V 3.1A		
MATERIAL: REFERENCE		SIZE: A		ROUTE: ELECT		DWG. NO.: 161278		REV: 2
_____ " X _____		SCALE: NTS		IMAGE MAY BE REDUCED		CODE: DH5H-3WND		



REV	DESCRIPTION	DATE	REV. BY	DRAWN BY: S.A. DATE: 8/1/2013		MARSHALL AIR SYSTEMS, INC.			
—	—	—	—	GENERIC NAME: LADDER DIAGRAM		LADDER WIRING DIAGRAM DH5F—333WND			
				PRODUCT LINE: HHC					
				PRODUCT CLASS: HHC					
				MATERIAL: REFERENCE		SIZE: A	ROUTE: ELECT	DWG. NO.: 162501	REV.: 0
				" X"		SCALE: NTS		IMAGE MAY BE REDUCED NTS	
								CODE: DH5F—333WND	



REV	DESCRIPTION	DATE	REV. BY	DRAWN BY: S.A.	DATE: 9/5/2013	MARSHALL AIR SYSTEMS, INC.		
—	—	—	—	LADDER DIAGRAM		LADDER WIRING DIAGRAM		
				PRODUCT CLASS: HHC		DH5G—3333WND		
				MATERIAL: REFERENCE		SIZE: A	ROUTE: ELECT	DWG. NO.: 162883
				” X ————		SCALE: NTS	IMAGE MAY BE REDUCED NTS	REV.: 0
				— · —				



REV	DESCRIPTION	DATE	REV. BY	DRAWN BY:	DATE:	MARSHALL AIR SYSTEMS, INC.		
1	REMOVED CONTROLLERS COOLING FAN (FN2)	8/7/2014	S.A.	S.A.	9/5/2013	LADDER WIRING DIAGRAM		
				LADDER DIAGRAM		DH5H-3WND		
				HHC		HHC		
				REFERENCE		A		
				X		162884		
				NTS		ELECT		
				NTS		162884		
				SCALE: IMAGE MAY BE REDUCED		REV: 1		
				CODE: DH5H-3WND		REV: 1		