



Your Solutions Partner

# OWNER'S MANUAL

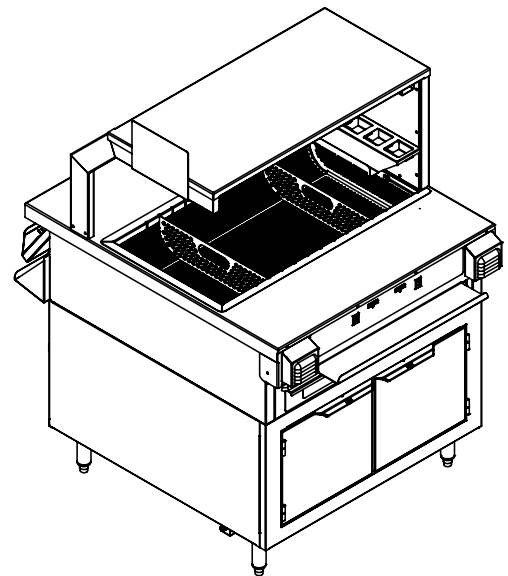
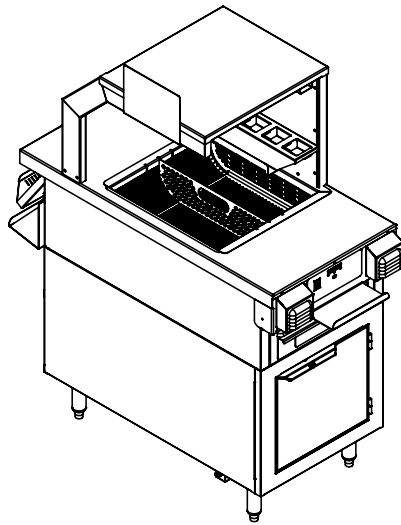
## FRY HOLDING UNIT (FHU)

Patent(s) Pending

### MODELS

**FHU1**

**FHU2**



**IMPORTANT INFORMATION, READ BEFORE USE.  
PLEASE SAVE THESE INSTRUCTIONS.**

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## IMPORTANT SAFETY INSTRUCTIONS

Throughout this manual, you will find the following safety words and symbols that signify important safety issues with regards to operating or maintaining the equipment.



### WARNING

Indicates information important to the proper operation of the equipment. Failure to observe may result in damage to the equipment and/or severe bodily injury or death.



### ELECTRICAL WARNING

Indicates information relating to possible electrical shock hazard. Failure to observe may result in damage to the equipment and/or severe bodily injury or death.



### CAUTION

Indicates information important to the proper operation of the equipment. Failure to observe may result in damage to the equipment.



### HOT SURFACE

Indicates hot surface for equipment and parts. Failure to observe caution could result in personal injury.



### ESD WARNING:

Indicates susceptibility to static discharge. Failure to observe ESD precautions may result in equipment damage.

In addition to the warnings and cautions in this manual, use the following guidelines for safe operation of the unit.

- Read all instructions before using equipment.
- Do not attempt to defeat the grounded connector.
- Install or locate the equipment only for its intended use as described in this manual.
- Do not use corrosive chemicals, water jet equipment, or other pressurized liquid spraying equipment to clean this unit. **ELECTRICAL HAZARD!**
- This equipment should be serviced by qualified personnel only. Contact the nearest Duke authorized service facility for adjustment or repair.
- Do not block any openings on the unit.
- This unit is not to be operated by children, unskilled or untrained persons, or persons with insufficient mental or physical capabilities. Unsupervised children are prohibited from playing near or contacting the unit.
- Turn off external mains supply disconnect and allow unit to cool down before servicing or performing maintenance.
- The procedures in this manual may include the use of chemical products. You must read the Material Safety Data Sheets before using any of these products.



## **IMPORTANT SAFETY INSTRUCTIONS (continued)**

- Properly rated all poles mains protection and earthing compliance with local electric codes are required for safe operation of this unit.
- Water supply connections to the unit must comply with local plumbing code and/or standards.
- Disposal of the unit must be in accordance with local environmental codes and/or any other applicable codes.
- **SAVE THESE INSTRUCTIONS**

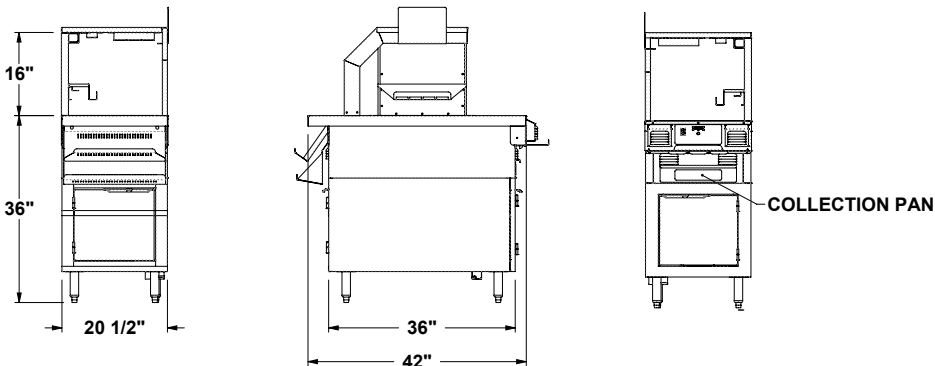
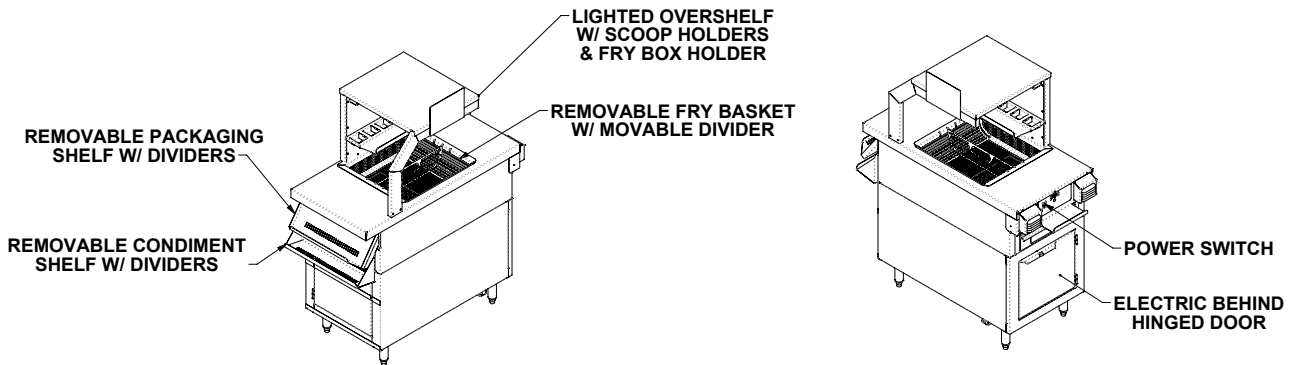
# SPECIFICATIONS

## FHU1

Patent(s) Pending

Unit Weight:	310 lbs / 141 kg
Shipping Weight: Wooden Crate	370 lbs / 168 kg

<i>Line Ratings</i>			
Line Supply Voltage (V)	Line Supply Frequency (Hz)	Line Phase Configuration	Total Maximum Line Current Amps (A)
200	50/60	Single Phase	24
208	50/60	Single Phase	18
230	50/60	Single Phase	18
240	50/60	Single Phase	18



**NOTE: MARKS FOR FHU**



COMMERCIAL COOKING APPLIANCE



ANSI/NSF 4

**NOTE: MARKS FOR FHU BASE**



CUSTOM-BUILT FOOD SERVICE EQUIPMENT <7P23>



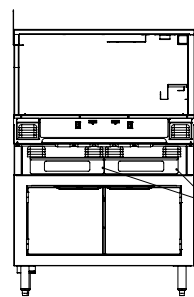
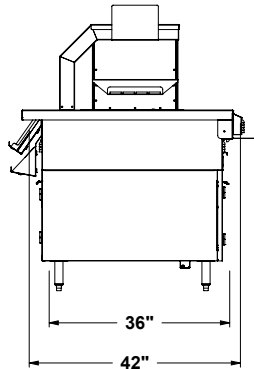
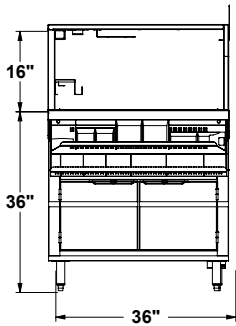
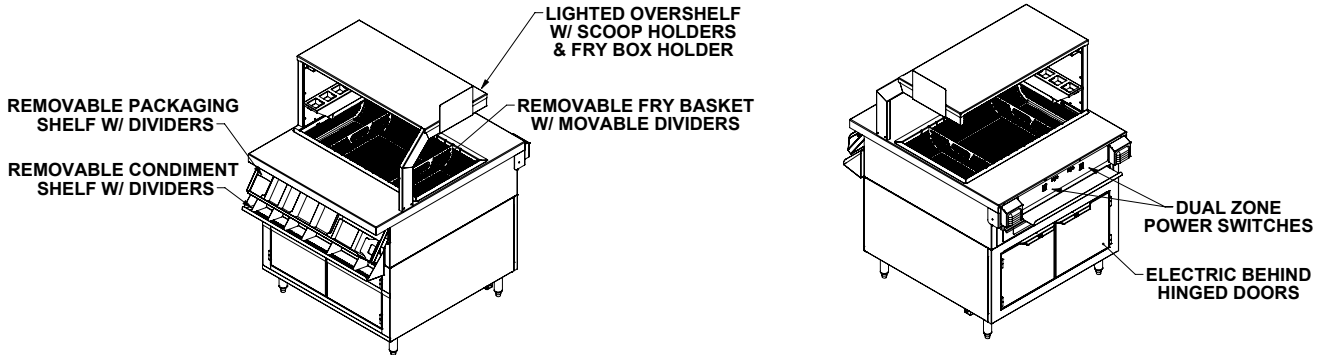
ANSI/NSF 2 FABRICATED FOOD SERVICE EQUIPMENT <9EX2>

# FHU2

Patent(s) Pending

Unit Weight:	525 lbs / 238 kg
Shipping Weight: Wooden Crate	585 lbs / 265 kg

<b>Line Ratings</b>			
Line Supply Voltage (V)	Line Supply Frequency (Hz)	Line Phase Configuration	Total Maximum Line Current Amps (A)
200	50/60	Single Phase	48
208	50/60	Single Phase	36
230	50/60	Single Phase	36
240	50/60	Single Phase	36



**NOTE: MARKS FOR FHU**



COMMERCIAL COOKING APPLIANCE



ANSI/NSF 4

**NOTE: MARKS FOR FHU BASE**

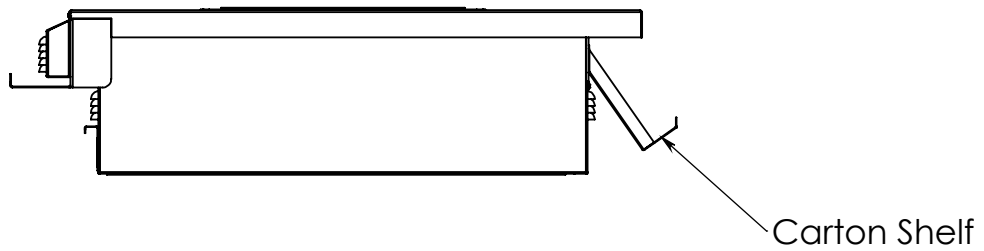
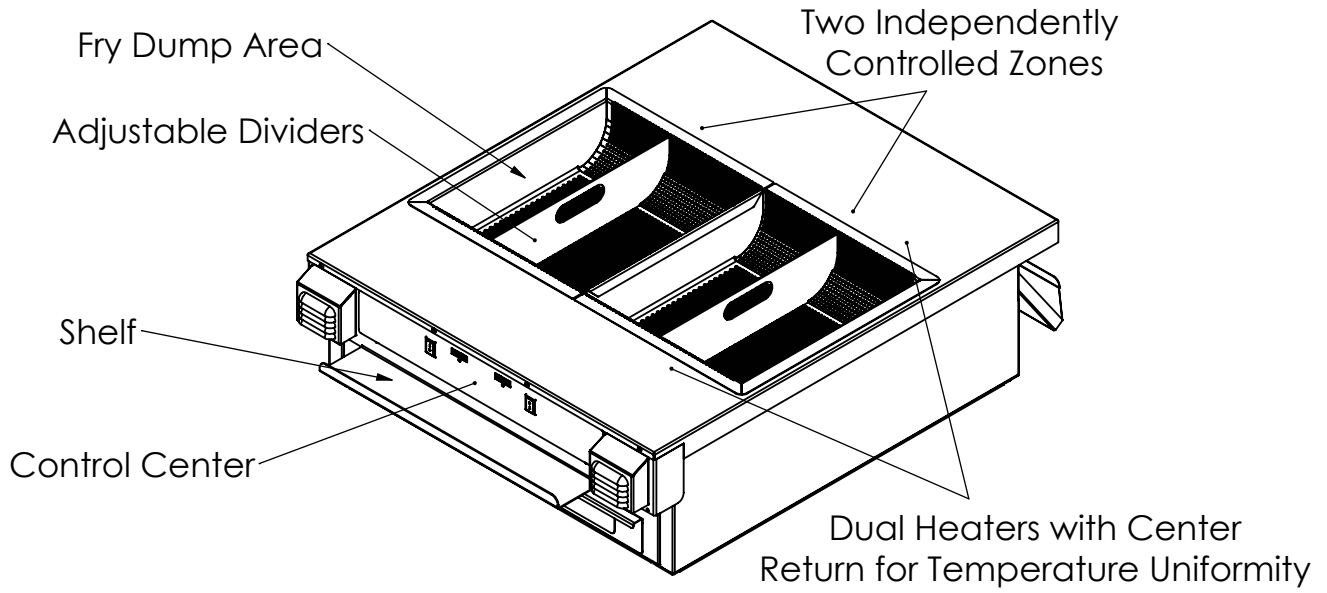


CUSTOM-BUILT FOOD SERVICE EQUIPMENT <7P23>



ANSI/NSF 2 FABRICATED FOOD SERVICE EQUIPMENT <9EX2>

## MAIN FEATURES



# INSTALLATION

## UNPACKING UNIT

Inspect the shipping carton and/or container, carefully noting any exterior damage on the delivery receipt; also note any damage not evident on the outside of the shipping container (concealed damage). Contact the carrier immediately and file a damage claim with them. Save all packing materials when filing a claim. Freight damage claims are the responsibility of the purchaser and are not covered by the warranty.

- Follow the instructions on the Carton Box for unpacking the unit.
- Inspect unit for damage such as, broken glass, etc.
- Report any dents or breakage to source of purchase immediately.
- **Do not attempt to use unit if damaged.**
- Remove all materials from unit interior.
- If unit has been stored in extremely cold area, wait a few hours before connecting power.

## UNIT PLACEMENT

- Install unit on level surface floor.
- Minimum Clearance of 6" (152mm) must be maintained between the unit and any combustible substance.



### WARNING



**ELECTRICAL SHOCK HAZARD  
UNIT MUST BE SAFETY GROUNDED,  
EARTHED.**

### DO NOT MODIFY OR DEFEAT ELECTRICAL CONNECTIONS

**ELECTRICAL CONNECTIONS:** Connection of the unit to the mains supply **MUST** be performed by an authorized person in accordance with codes, standards, and laws governing the installation site using properly rated all poles mains protection, all poles mains disconnects and safety ground earthing.

### EXTERNAL EQUIPOTENTIAL



Terminal provides a connection for bonding to equipment enclosure.

### STARTUP

1. Verify power cord is connected.
2. Place the power switch in the "ON" position.
3. Wait approximately 15 minutes before loading product into unit.

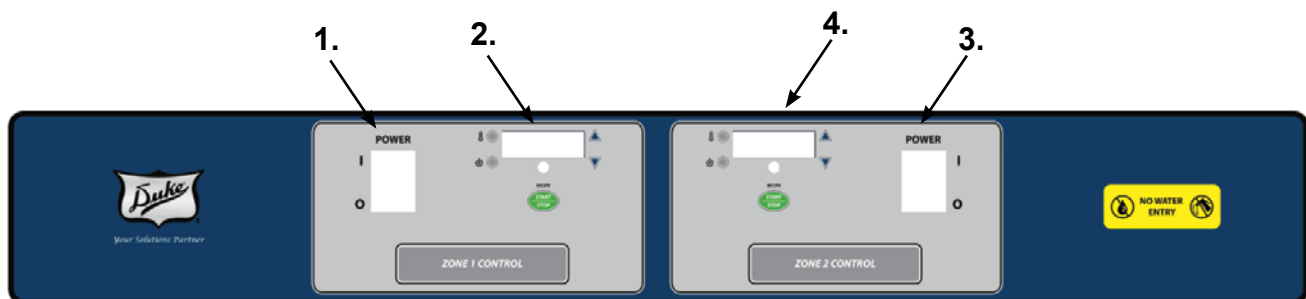
## OPERATION INSTRUCTIONS

The information in this section is intended for the use of qualified operating personnel. Qualified Operating Personnel are those individuals who have carefully read the information contained in this manual, are familiar with the function of the Fry Holding Unit and/or have had experience with operating the equipment described. We recommend following these instructions to insure optimum performance, long life and trouble-free service from your Fry Holding Unit.

The controller is pre-programmed at the factory for known recipes at the time of manufacture. The product keys must be programmed with an approved recipe and the Fry Holding Unit properly calibrated prior to use.

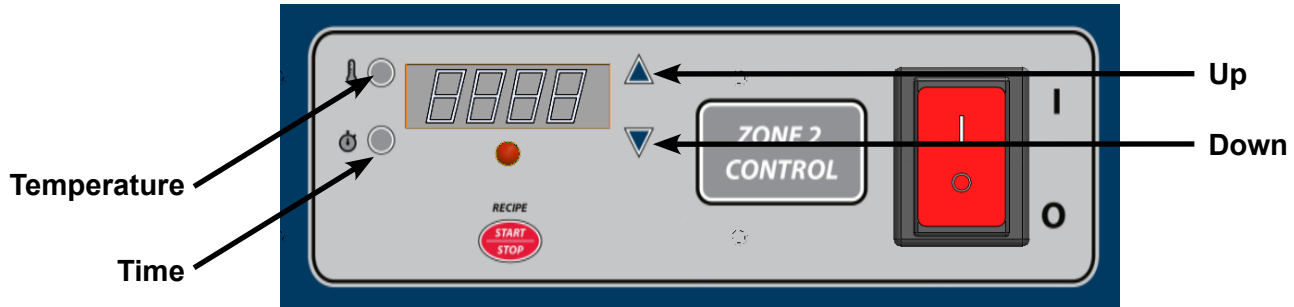
### CONTROLS

1. **ZONE 1 Power Switch** – Turns Zone 1 ON or OFF.
2. **ZONE 1 Programming Control** - Used to program zone.
3. **ZONE 2 Power Switch** – Turns Zone 2 ON or OFF.
4. **ZONE 2 Programming Control**



## PROGRAMMING INSTRUCTIONS

The control contains 4 recipes (r1, r2, r3, and r4), each recipe contains 28 parameters. The parameters in each recipe (Default recipe = r1) can be viewed and/or changed via the control keys:



### PROGRAMMING AND DISPLAYING PARAMETERS (FOUR RECIPES)

1. Upon power-up, the display will briefly show the model and version number of the control. After this short display, the control will then display "IdLE" indicating that the control is running in idle mode of the current default recipe or static condition.
2. From "IdLE" press and hold the "Temperature" and "Up" keys for 10 seconds.



Display will then show the current temperatures.

3. Enter program mode by pressing and holding the "Temp" key for 5 seconds. The display then indicates the currently selected recipe.
  - a. Example: When the current recipe is 2, the display shows "r 2" flashing.
  - b. The current recipe can be changed by pressing the "Up" or "Down" key.
  - c. The parameters for the selected recipe can then be viewed and changed.
4. Pressing the "Temp" key steps through the parameters.
  - a. Change a parameter by pressing the "Up" or "Down" key. Parameters are displayed flashing in the order shown in the table at the end of this section.
  - b. Zones will be indicated by flashing the heat LED as it currently does (one quick flash for zone 1 and two quick flashes for zone 2).
  - c. While displaying offset temperatures, digit 2 and 3 decimal points will illuminate.
  - d. While displaying idle parameters, all 4 decimal points will illuminate.
  - e. While displaying stage 1, only digit 1 (far left) decimal point will illuminate.
  - f. While displaying stage 2, digit 2 decimal point will illuminate.

- g. While displaying stage 3, digit 3 decimal point will illuminate.
- h. While displaying stage 4, digit 4 decimal point will illuminate.
- i. The decimal point indicators will not flash to avoid misinterpretation.
- j. The speed parameters will be in 1% increments from 0 to 100. Values will be stored when stepping to the next item.
- k. Stepping after the last item will go back to the current recipe number display. One can then select a new recipe for viewing or changing.
- l. Exiting the program mode can be accomplished at any time by pressing the "Time" key. NOTE: The recipe just displayed or changed will be the active recipe.

Other changes:

- A. When changing a parameter, the flashing will stop and restart 1 second after last change.
- B. There is a second acceleration (at least 10Xfaster) when holding the up or down key for setting a parameter. The second acceleration takes place after 5 seconds of initial acceleration.
- C. The "Dual Heater Staged Cooking EEPROM Setup Utility" has been updated to incorporate the 4 recipes above.

Item	Zone/Stage	LED Display	Allowable Range	Default
1.	Zone 1 Max Fan Speed	S L 7 0	0 – 99%	70%
2.	Zone 2 Max Fan Speed	S L 7 0	0 – 99%	70%
3.	Zone 1 temperature offset	___.0.F	0°F – 150°F	0
4.	Zone 2 temperature offset	___.0.F	0°F – 150°F	0
5.	Zone 1 idle temperature set point	1.9.5.F.	100°F – 250°F	195°F
6.	Zone 1 idle fan speed	S_5.0.	0 – 100%	50%
7.	Zone 2 idle temperature set point	1.9.5.F.	100°F – 250°F	195°F
8.	Zone 2 idle fan speed	S_5.0.	0 – 100%	50%
9.	Stage 1 time	_.0:1 4	* 0 min – 9h:59m	14 min
10.	Stage 1 Zone 1 temperature set point	1.9 5.F	100°F – 250°F	195°F
11.	Stage 1 Zone 1 fan speed	S_5.0	0 – 100%	50%
12.	Stage 1 Zone 2 temperature set point	1.9 5.F	100°F – 250°F	195°F
13.	Stage 1 Zone 2 fan speed	S_5.0	0 – 100%	50%
14.	Stage 2 time	_.0:0 0	* 0 min – 9h:59m	0
15.	Stage 2 Zone 1 temperature set point	1 0 0.F	100°F – 250°F	100°F
16.	Stage 2 Zone 1 fan speed	S_5 0	0 – 100%	50%
17.	Stage 2 Zone 2 temperature set point	1 0 0.F	100°F – 250°F	100°F
18.	Stage 2 Zone 2 fan speed	S_5 0	0 – 100%	50%
19.	Stage 3 time	_.0:0 0	* 0 min – 9h:59m	0
20.	Stage 3 Zone 1 temperature set point	1 0 0.F	100°F – 250°F	100°F
21.	Stage 3 Zone 1 fan speed	S_5 0	0 – 100%	50%
22.	Stage 3 Zone 2 temperature set point	1 0 0.F	100°F – 250°F.	100°F
23.	Stage 3 Zone 2 fan speed	S_5 0	0 – 100%	50%
24.	Stage 4 time	_.0:0 0.	* 0 min – 9h:59m	0
25.	Stage 4 Zone 1 temperature set point	1 0 0.F.	100°F – 250°F	100°F
26.	Stage 4 Zone 1 fan speed	S_5 0.	0 – 100%	50%
27.	Stage 4 Zone 2 temperature set point	1 0 0.F.	100°F – 250°F	100°F
28.	Stage 4 Zone 2 fan speed	S_5 0.	0 – 100%	50%

\* The total time for stages 1 thru 4 is 9hr:59min. When entering a time, the max time for a stage will be limited by the sum. For example, if stage 1 is 5 hours, and stages 3 and 4 are 0; when entering time into stage 2, the time will top out at 4hr:59min, then go to 0.

## CARE AND CLEANING (GENERATION 1 FHU)



CAUTION



Electrical shock hazard: Do not wash with water jet or hose.



CAUTION

Do not use oven cleaners, caustic cleaners, degreasers, acids, ammonia products, abrasive cleaners, steel wool, or abrasive pads containing iron. These can damage the stainless steel and plastic surfaces.

### Daily Cleaning Instructions



Turn system (Both Lanes) to the OFF position (RED Switch light is OFF) .



Remove the Lane Dividers and clean in three compartment sink.



Remove the Fry / Food Basket and clean in three compartment sink

Remove Air Scrubbing Element and clean in three compartment sink .



Remove Return Intake Grate and clean in three compartment sink.

Wipe all crumbs, salt and food debris out of air bowl into return openings to fall into Crumb Tray.



Remove each lane Crumb Tray and empty bulk food debris into trash container and clean in three compartment sink.



Inspect Crumb Tray Zones for food debris and grease migration. Wipe and clean as necessary.



Use the brush provided to clean discharge holes to remain free of grease and completely open. Use caution not to spray cleaning solution direct into air openings.



With a damp cloth wipe the air bowl clean and all stainless surfaces free of grease.



Insert Return Intake Grates after clean and dry back into position



Insert Air Scrubbing Elements after clean and dry back into position. Please note "THIS SIDE UP" marking on the element. Also make sure the proper FACING is in position.



Insert FRY / Food Basket after clean and dry back into position.



Insert Lane Dividers after clean and dry back into position.



Reinsert Crumb Trays back into tray guides making sure they are completely inserted, you should feel the Tray catch on the magnetic latch and interlock system.

## Daily Cleaning complete, System is now ready for use.

**CAUTION:** If the Crumb Tray drawers are not in place or not closed the system will not operate. The ON/OFF power switch will be illuminated (**RED**) but the system will NOT OPERATE

**CAUTION:** The Crumb Tray is **NOT A STORAGE AREA** and cannot have anything such as towels, rags, tools, paper products stored in them. The **RESULT** will be **DAMAGE** to the system.

**(GENERATION - 2 FHU, JANUARY 2014)**



**NEW: Three Stage Filtration System. This new removable filtration system will replace the larger Air Scrubbing Element of the Generation 1 model. The discharge plates will also be removable in the Generation 2 model, while permanently fixed in the Generation 1.**

**NEW: Three Stage Filtration System.** On a daily basis simply let the system cool down, remove the basket and lift up the three stage filter to be washed in the three compartment sink.

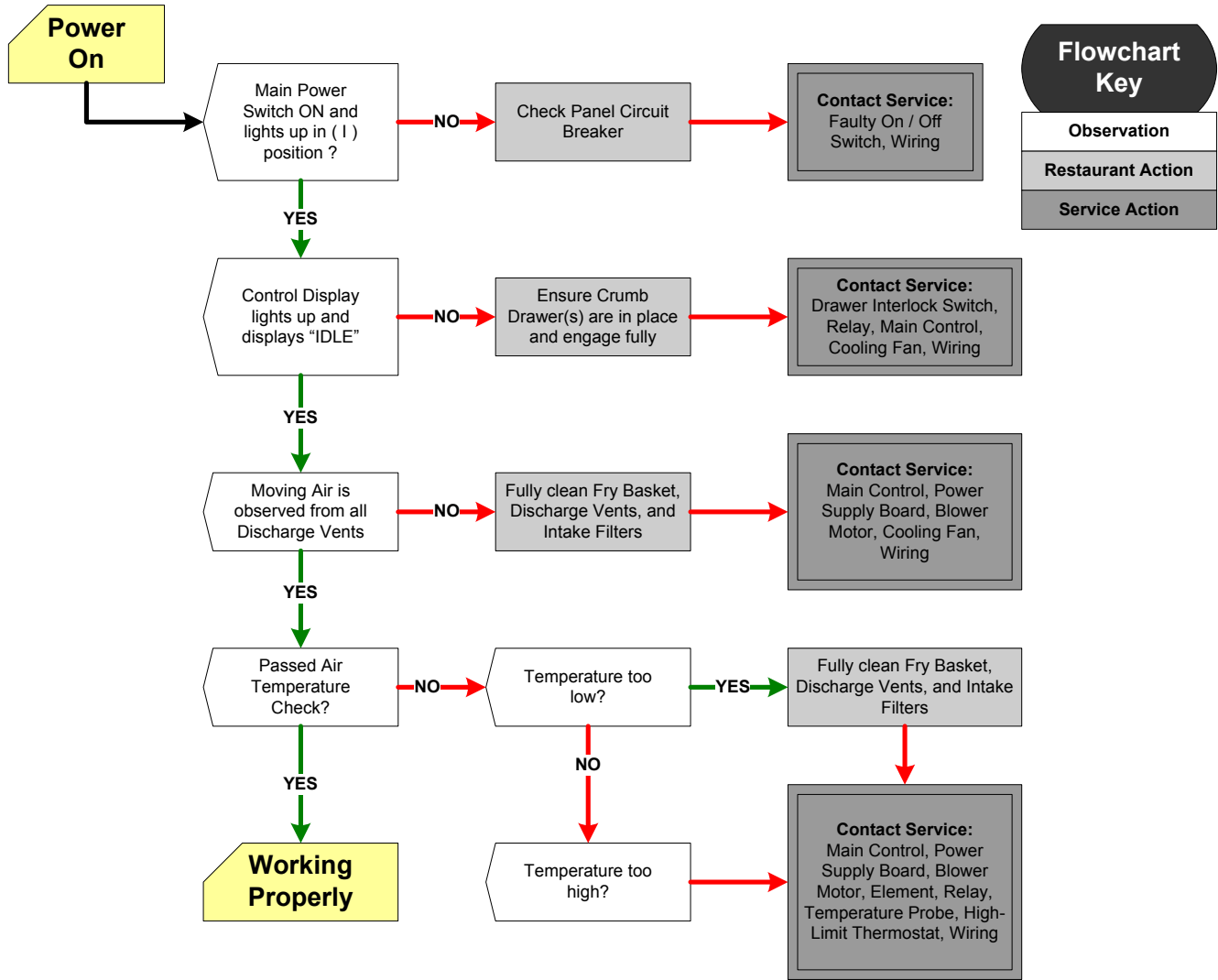
**Reverse procedures to reinstall for normal operation.**



**NEW: Removable Discharge Grate** - On a daily basis simply let the system cool down, remove the basket, and lift up and pull out the new discharge grate to be washed in the three compartment sink.

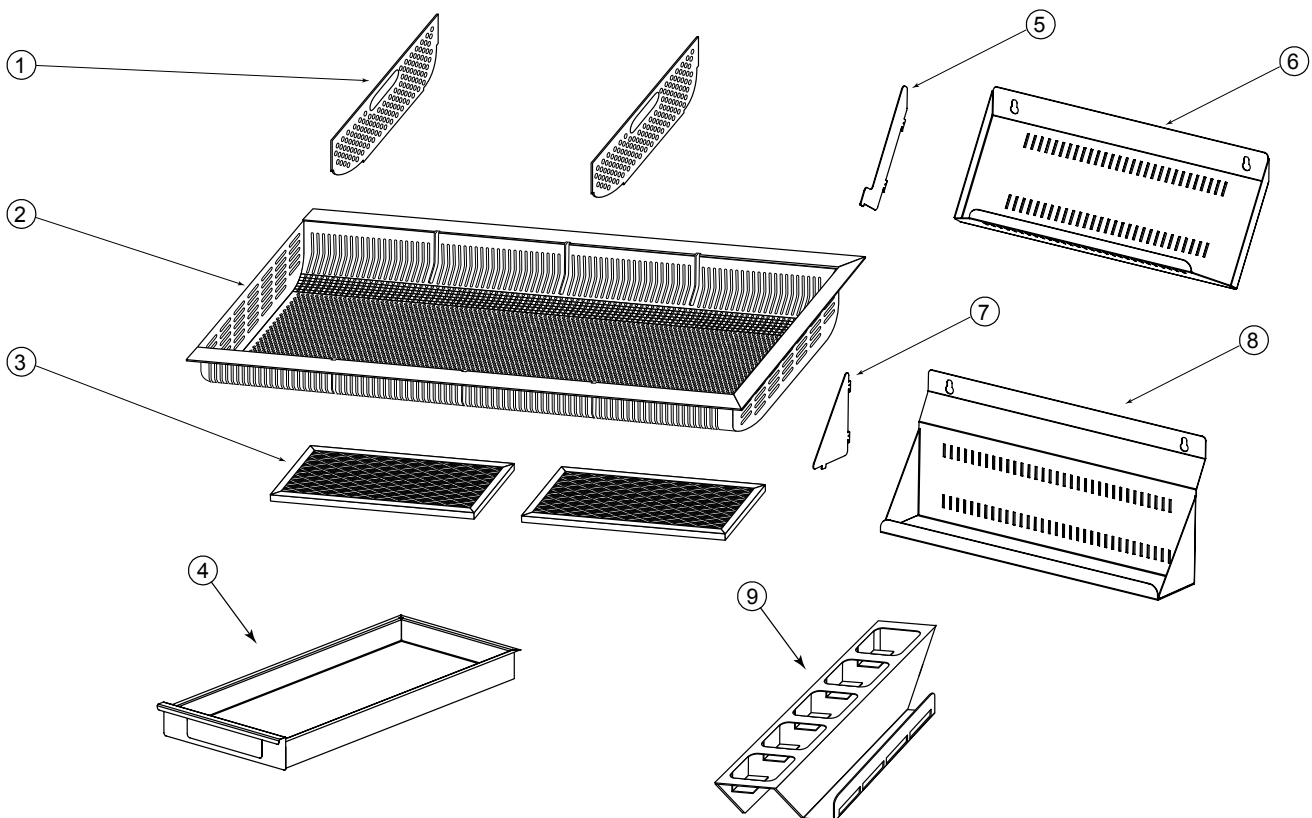
**Reverse procedures to reinstall for normal operation.**

# TROUBLESHOOTING



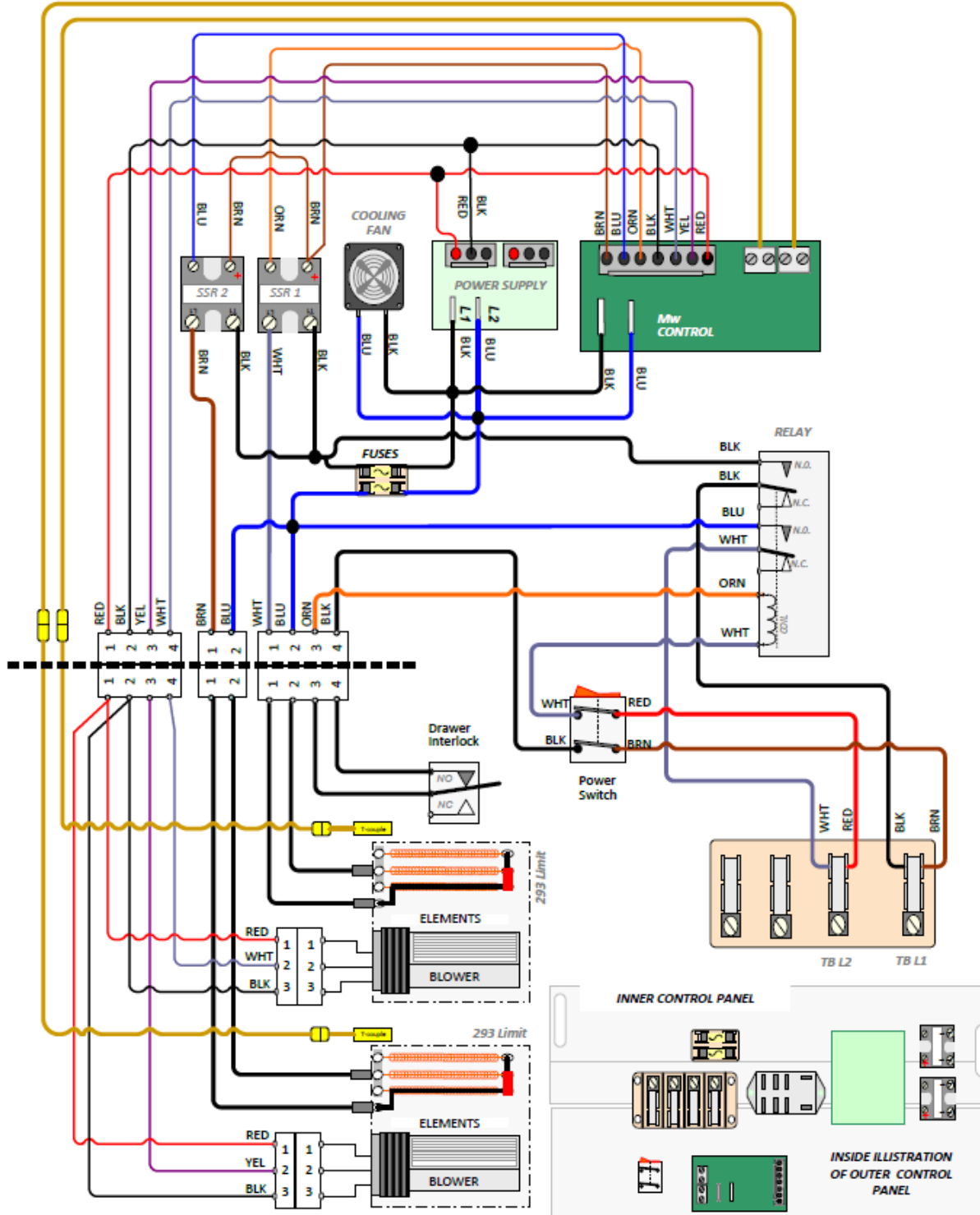
## REPLACEMENT PARTS LIST

Locator	P/N	Description	Qty Per Unit	
			FHU1	FHU2
1	1033-128	DIVIDER, BASKET	1	2
2	413048	BASKET, FHU1	1	
	413029	BASKET, FHU2		1
3	225540	FILTERS	1	2
4	412754	DRIP PAN ASSEMBLY	1	2
5	E020579	DIVIDER FRY STATION SHELF	3	3
6	E050072	SHELF FRY CARTON, FHU1	1	
	E020578	SHELF FRY CARTON, FHU2		1
7	E050087	DIVIDER CONDIMENT STORAGE	4	6
8	E050088	SHELF, CONDIMENT STORAGE, FHU1	1	
	E050086	SHELF, CONDIMENT STORAGE, FHU2		1
9	E020656	BOX FRY CARTON HOLDER	1	1



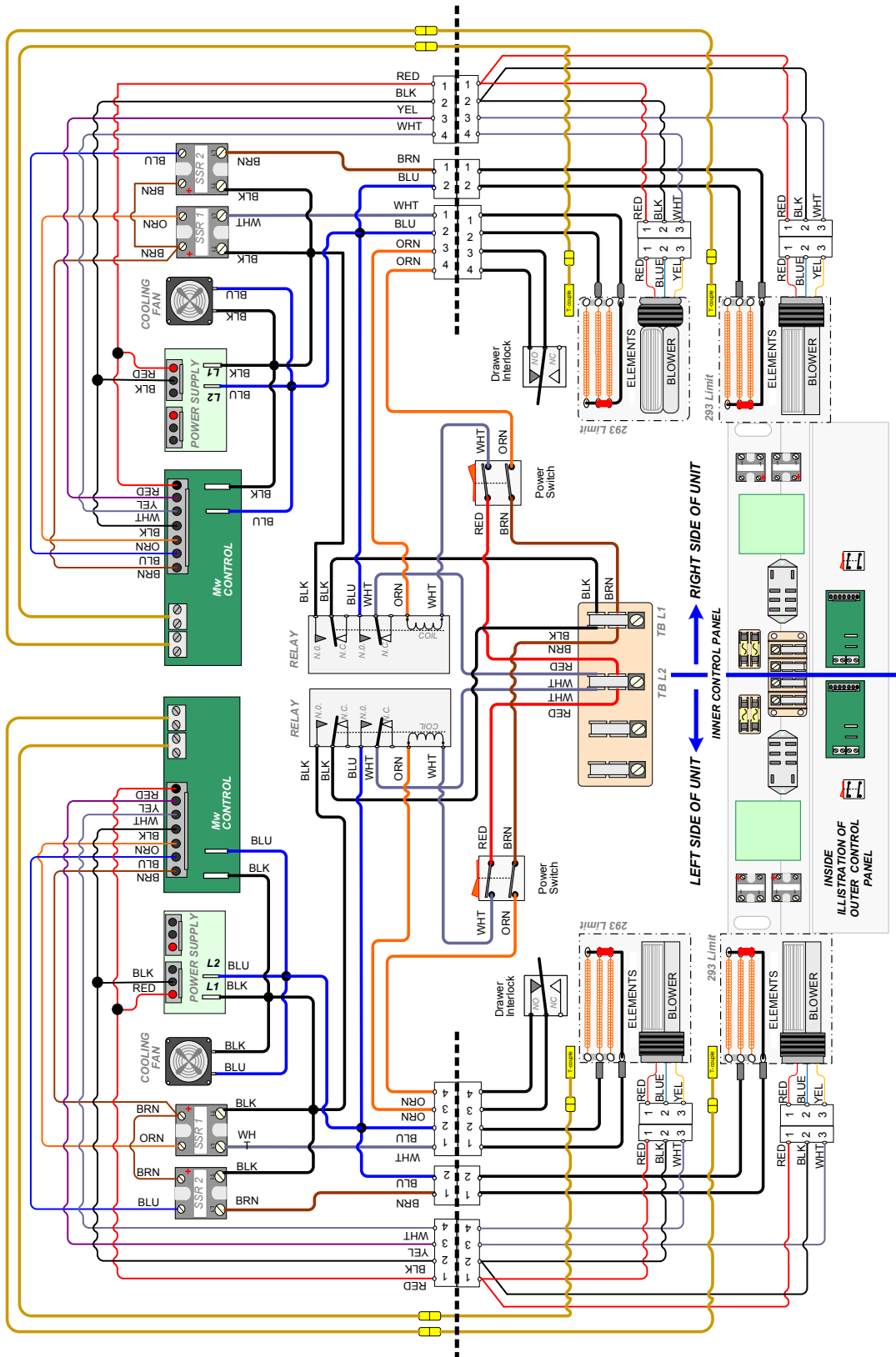
# WIRING DIAGRAM

## FHU1



June 3<sup>rd</sup> - Jim Bigott

# FHU2





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