



**Ultra Fryer
Low Oil Level Model E3RL-14/8
Operation Instructions for Remote
U-23 with Auxiliary Controls**

PN 30A245 rev A

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PREFACE

This Manual was written and published by the Engineering Department, Ultrafryer Systems for use by personnel who will operate a Model E3RL 14-8 Electric Fryer in a commercial cooking environment.

This appliance is intended for professional use and is to be operated by qualified personnel.

Throughout this manual, NOTES, CAUTIONS, and WARNINGS are used to alert the operator to items of special circumstances. These items are identified as follows:

NOTE:

CAUTION: To assure producing a quality product while prolonging the life expectancy of the fryer, ensure that the boil-out, and cleaning instructions are strictly followed.

WARNING: Do not allow any cleaning solution or water to splash into a vessel of hot cooking oil, as it will contaminate the oil and may cause the oil to splatter, causing severe burns.

For Service or questions concerning the Ultrafryer Contact us at:

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This manual is intended as a guide for all Basic Model Fryers, regardless of configuration and controllers. It is to be used in conjunction with the applicable controller manual that is included with the fryer.

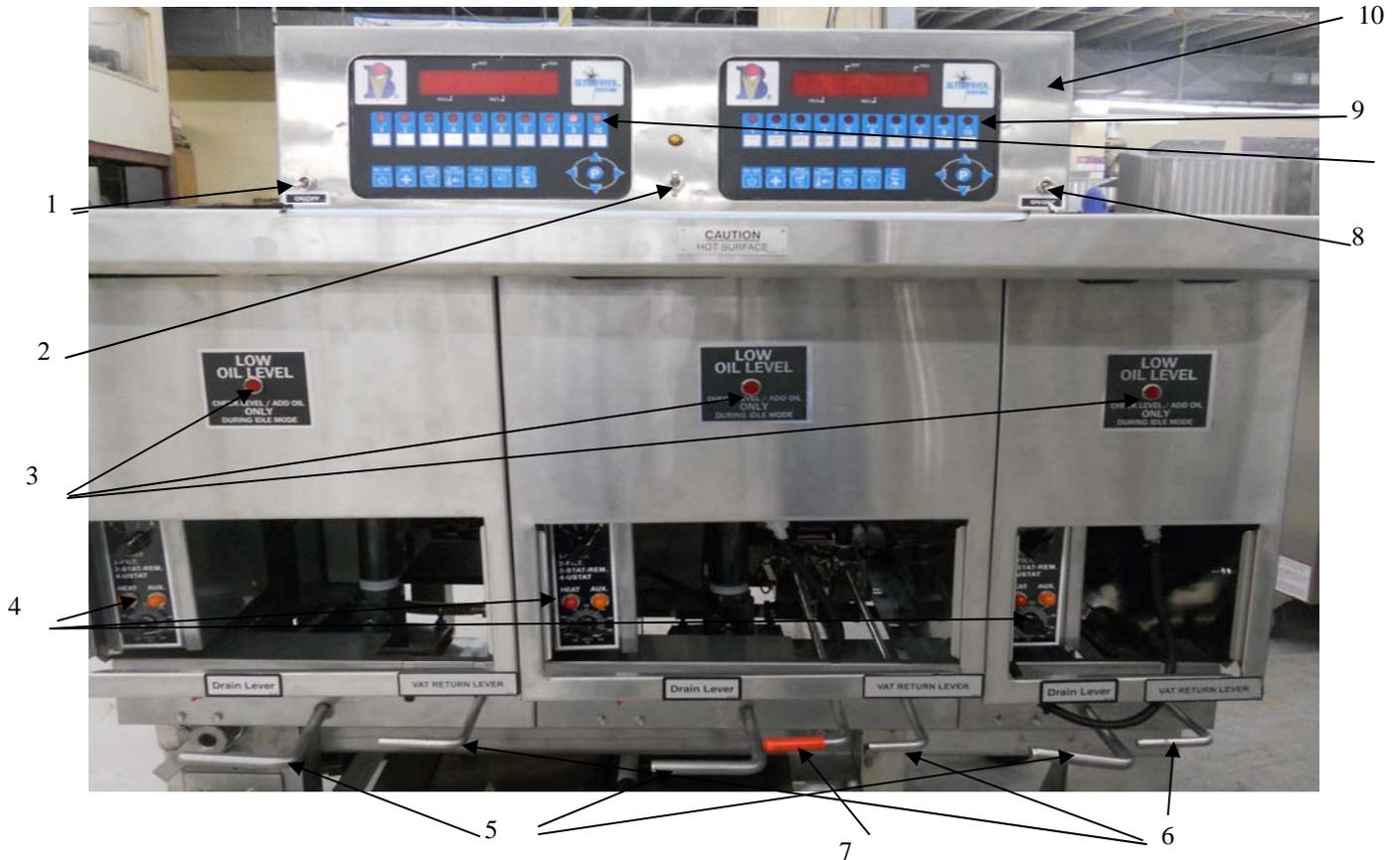
RECOMMENDED SPARE PARTS

To minimize downtime on the Electric Fryer upon failure of a component part, at least one (1) of the following items should be kept as a spare part in the local area

Description	P/N
U23 Controller	22A651
Cable, Remote 6 Ft	12C862
Box Assy Low Oil Level w/Aux Ctrl	12C840
Electrical Element 208V 8.5KW	18A012
Mechanical Contactor 2 pole	18A373
Mechanical Contactor 3 Pole	18231
Mercury Contactor 2 Pole	18A372
Mercury Contactor 3 Pole	18A103
Motor Start Relay 24 VAC	18A343
Pump/ Mtr. Assy	24A299
Cplg 11MM Blk Hd	24A328
Fuse	23A278
Snap Light 24V Red	23A406
Temp Sensor	18A006
Hi-Limit Switch	19B781
Switch, Toggle DPST 15A 120V	18A081

FRYER SPECIFICATIONS
2-14 1-8 E3RL

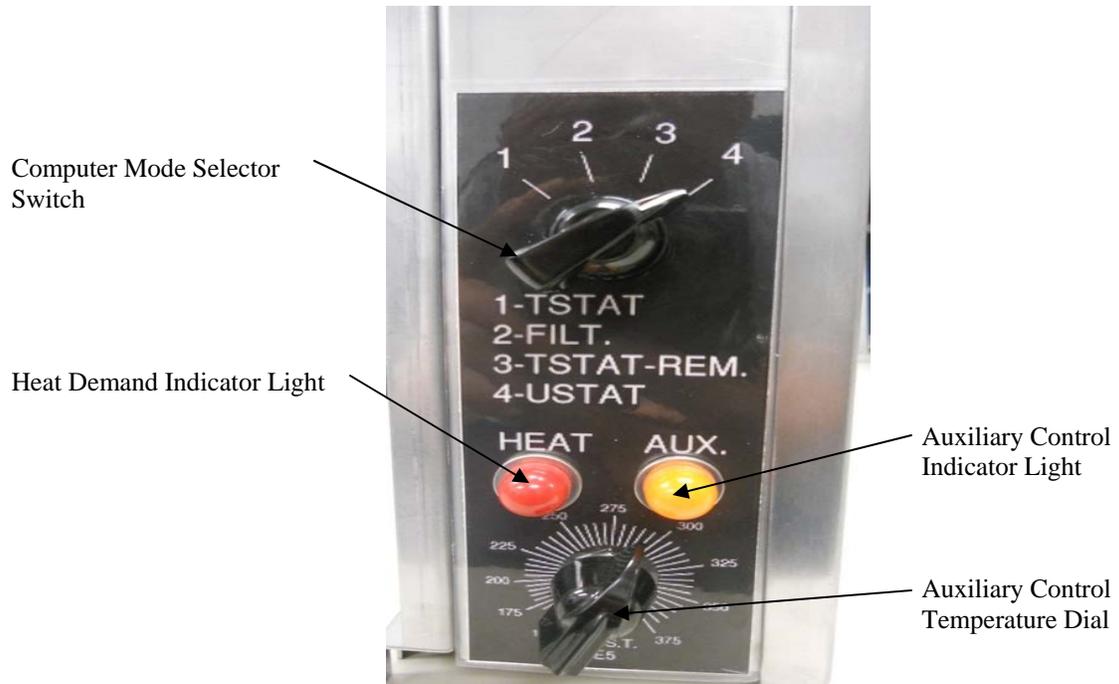
SPECIFICATION ITEM	14" EU 2 vat	8" EU 1 vat
Overall Width	40.125" (1019 mm)	40.125"(1019mm)
Overall Depth	33.7" (856 mm)	33.7" (856 mm)
Work Height	40.8 (1036 mm)	40.8 (1036 mm)
Oil Capacity		
High Level	45 lbs (20.4 liters)/vat	21.0 lbs(10.5liters)
Low Level	35 lbs (15.9 liters)/vat	
Shipping Weight	605lbs (274.1 kgs)	605lbs (274.1kgs)
Electrical Requirement	208 / 240 Volt 47 A / 41 A 17 KW / Vat 3 Phase	208 / 240 Volt 41 A /35.4 A 8.5 KW / Vat 1 Phase



**BANKED FRYER 3V 2-14 1-8 WITH
DUAL REMOTE U-23 CONTROLLERS,
LOW OIL LEVEL, & AUX. CONTROLS**

- | |
|--|
| <ol style="list-style-type: none"> 1) On/Off Toggle switch Left side controller. 2) On/Off Toggle Wash Wand switch. 3) Oil Level Indicator light 4a.) Control Selector Boxes 5) Drain Handle 6) Vat Return Handle 7) Wash Wand Handle 8) On/Off Toggle switch Right side controller 9) U-23 Controllers 10) Computer Control Box |
|--|

REMOTE COMPUTER CONTROL BOX



OVERVIEW CONTROL SELECTOR BOX

1. The most effective control of the fryer heating and fryer filtering is obtained by using the switches and the computerized controllers on the remote computer control box. All filtering operations require the use of the filter control handles (Drain, vat return, wash Wand) located on the fryer carriage.
2. Full computer control is obtained by setting the control mode selector switch to position #4.
3. Similar operation using on/off and wash wand toggles on the remote computer control box, but with manual heating control and the manual temperature dial. The control selector box may be used by setting the control mode selector switch to position #3. This option either fryer or both can be activated by their respective control mode selector switches.
4. Operating the fryer under total manual control (in the case of removal or damage of cable to remote computer control box) may be obtained by setting the control box selector switch to position #2 for filtering or to position #1 for heating.



Position #2

- Heat is off
- Vat return handle pumps shortening from tub to fryer
- Wash wand handle pumps shortening from tub to was wand nozzle

Position #1

- Vat return handle is off
- Heat is controlled by Auxiliary manual controller temperature dial.



5. Off condition

When fryers are not in use:

Either control selector switch is set to #3 or #4,
and toggle switch on remote computer control box is set to filter

Or control selector switch is set to #2.

DUAL REMOTE U-23 CONTROLLERS PRIMARY CONTROLLER POSITION #4



PURPOSE: Position #4 (USTAT) provides power to the primary control box containing the U-23 controllers. This position is the standard position to operate the fryer.

Computer mode selector switch

Heat Demand Indicator light

Auxiliary Control Indicator light

Auxiliary Control Temperature Dial



OPERATION:

1. To operate the controllers, first turn on the left and right hand toggle switches to the up position. This will bring power to the controllers.
2. To turn on each controller, press the on/off button on each controller. This is the first button on the bottom Left Hand side. This will turn the fryer on and begin the melt cycle.
3. Each controller operates independently of the other. This to control the cooking in each vat on an individual basis.
4. To turn off each controller, press the on/off button on each controller, then turn off each toggle switch in the down position.
5. The fryers are now off and you can begin to filter.
6. See page #6 for further details.



Left Controller showing On/Off toggle switch. In the up (on) position the controller is turned on. In the down (off) position the controller is turned off and the filtration circuit is activated.

NOTE: This is activated only when the selector switch is in position #3 or #4

Pump switch for wash wand (red handle) lever. When the toggle switch is in the up position, the yellow indicator light comes on, and the filter pump is activated when the wash wand lever is turned downward.

NOTE: This is activated only when the selector switch is in position #3 or #4.



Right Controller showing On/Off toggle switch. In the up (on) position the controller is turned on. In the down (off) position the controller is turned off and the filtration circuit is activated.

NOTE: This is activated only when the selector switch is in position #3 or #4

**AUXILLIARY COOKING CONTROL
BACK UP E5 CONTROL POSITION #3
WITH FILTRATION OPTION**

PURPOSE: The purpose of the auxiliary cooking controller POSITION #3 is to provide uninterrupted service to the fryer in case the primary controller fails.

HOW DOES IT WORK: To activate the auxiliary controller, turn the black knob to position #3. The yellow incandescent light will come on. Power from the primary controller will be removed and sent to the auxiliary control board (located inside the control box shown here). **NOTE: THE TOGGLE SWITCHES ON THE PRIMARY CONTROL BOX MUST BE IN THE ON (UP) POSITION.** The fryer will be immediately turned on. Depending on current status of the fryer, the auxiliary control will either activate the power train (heating elements on the electric fryer or the heat exchanger on the gas fryer) calling for heat or, if the fryer is up to the set point temperature, the fryer will stay in the ready mode and not call for heat. **NOTE: The heat demand (RED LIGHT) will be on to signify the call for heat.** This is located on the front face of the control box next to the yellow “AUX” light. When you first switch to the auxiliary control, a slight delay will occur while the auxiliary control board powers up.



SEQUENCE OF OPERATIONS:

1. Select the set point on the potentiometer to the desired cooking temperature. **NOTE:** The potentiometer will be located below the lights on the control selector box, and will be calibrated by the manufacturer.
2. Press the ON/OFF button on the primary controller to the off position.
3. Turn on the black knob on aux, control box to position #3.
4. Turn the power toggle switch on. This will bring power to the auxiliary control. The yellow light will come on indication the aux. control has power.
5. The fryer will turn on and bring the oil temperature up to the set point. If oil temperature is at the set point temperature, the fryer will be in the ready mode.
6. Fryer is ready to cook. The operator will be required to provide their own timing device i.e. timer, stop watch, clock, etc.
7. To return to the primary controller, turn the power toggle switch to off .
8. Turn the black dial knob to position #4.
9. Turn the power toggle switch on (up position). The LED on the primary controller will light up.
10. Push the ON/OFF button on the primary controller to ON.
11. The fryer will turn on and power the fryer up or stay in the ready mode.
12. The fryer is ready to cook.

FILTRATION POSITON #2 MANUAL FILTRATION

PURPOSE: To provide an option for manually filtering the fryer should you lose the ability to operate the fryer through positions #3 or #4. **NOTE:** Position #2 is the preferred position when the fryers are not being utilized. (Analogous to the on/off toggle on the computer control box).

HOW IT WORKS: Position #2 diverts power to the filtration circuit and allows filtration service with each filter handle and the wash wand (RED) handle without having to use the toggle switches on the remote control box. **NOTE:** When the selector switch is in this position, the fryers will NOT heat.

SEQUENCE OF OPERATION:

1. Turn selector switch to position #2 FILT.
2. Turn the drain valve of the selected vat. This will drain the vat into the filter tub.
3. Turn the filter handle of the selected vat downward. The filter pump will turn on. Filtering will begin.
4. When finished filtering, close the drain handle. Turn the filter handles back to the horizontal position. This will turn the pump motor off.
5. Turn the selector switch to the position that will allow the controllers to work the fryer.



THERMOSTAT CONTROL POSITION #1 MANUAL OPERATION WITH E5 CONTROLLERS

PURPOSE: To provide an option for operating the fryers thru the auxiliary E5 controllers should the remote controller box not function.

HOW IT WORKS: Position #1 diverts power to the auxiliary controller and allows power to operate the fryers independent of the remote box. This position strictly operates the fryers **ONLY**.

SEQUENCE OF OPERATION:

1. Set temperature on potentiometer to desired cooking temperature.
2. When fryer is off, turn selector switch to position #1. The **Yellow** auxiliary light will come on. This indicates you have power to the auxiliary controllers.
3. Depending on the actual temperature of the cooking oil, and the set point temperature, the **Red** heat demand light will either be on or off. If the temperature is below the set point by 10°, the Red heat light will come on and the fryer will start. If the oil temperature is at set point or above, the heat light will stay off, and the fryer will not turn on.
4. Once the heat demand is satisfied, you are ready to cook.



MODEL FRYER E3RL 3V 2-14 1-8" WITH DUAL REMOTE U-23 CONTROLLERS, LOW OIL LEVEL, & AUX. CONTROLS

The 8" vat has a single element wired for single phase. The current @ 208 VAC is 41 amps. A four position selector control box is located inside the front of the cabinet. The control box, as described earlier in this manual(see page 7) operates the fryer in four modes. The shortening capacity is approximately 21lbs when filled to the shortening level indicated on the back of the vat.



The 14" vat has two 8.5 KW elements for at total 17KW wired for 3 phase power. At 208 volts the amp load/vat is 47 amps. The shortening capacity for the high level is 45lbs, while the low level is 35 lbs. Each vat has an individual selector control box for operating the vat. (see page 7 for instructions).

LOW OIL LEVEL LIGHT

PURPOSE: The purpose of the “Low Oil Level Light” is to alert the operator the oil level in the fryer vat is below the fill level and may be required to top off the oil level in the vat. **NOTE:** The light is a “warning only” and does not stop the operation of the fryer.

HOW DOES IT WORK: A temperature probe (sensor) located on the front wall of the vat activates the oil light. When the probe is in contact with the hot oil (above the factory set point) the light will remain off. Once the probe is exposed to oil/air temperatures below factory set point, the light will turn on and remain on until the probe senses a temperature above the factory set point. **NOTE:** During fryer start up, the oil light will be on until the oil temperature exceeds the factory set point.

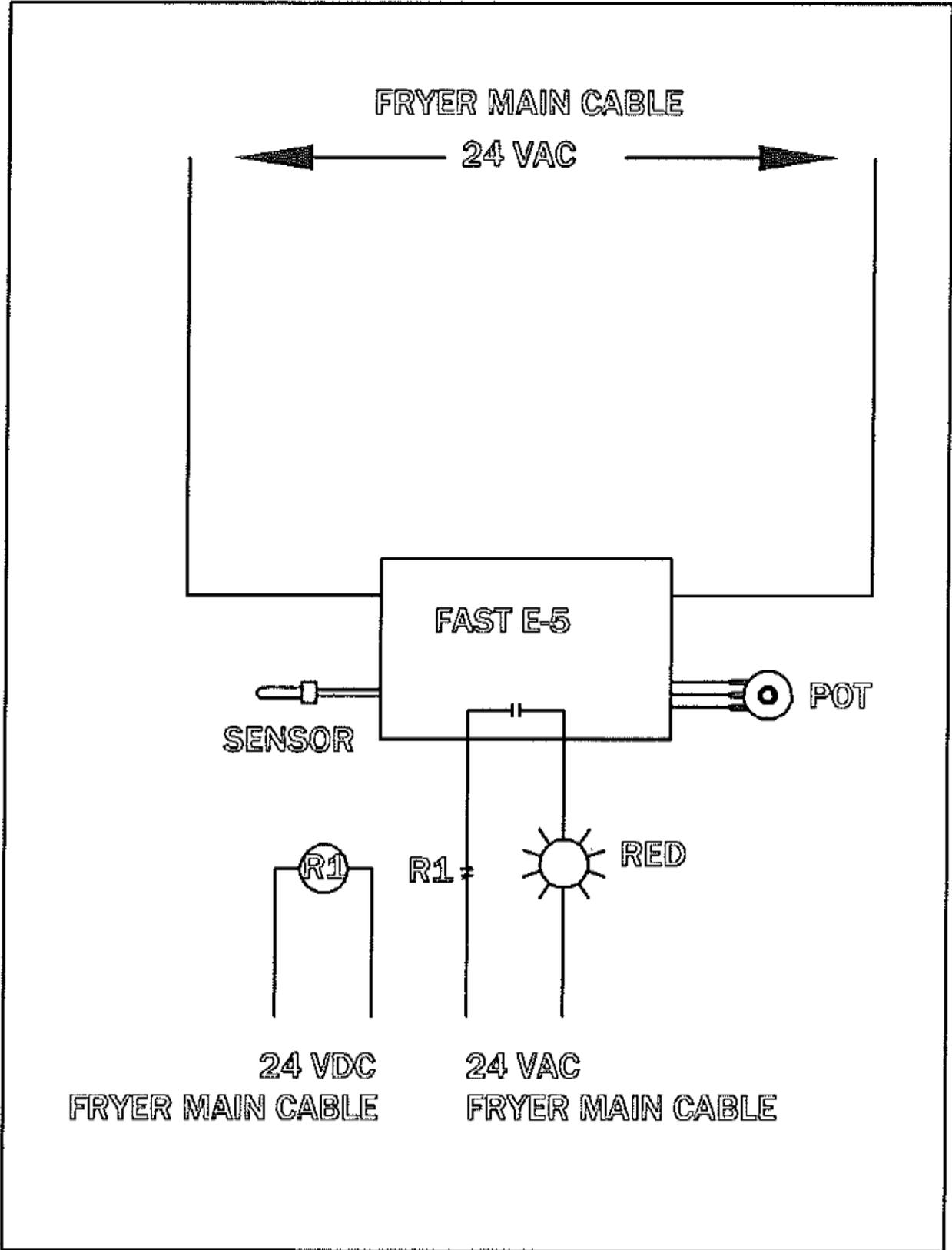
OIL LEVEL: The vat is designed to hold 35 lbs. of oil (one container of liquid oil). At this oil level, the shortening will be just enough to reach the bottom of the stamped “shortening level” mark. The recommended fill level is for the oil level to reach the middle of the “E” in the word “Level”. This will ensure the oil covers the oil level probe, and the proper temperatures are reached to keep the low oil level light off when the vat is full.

OPERATION: During normal cooking, the oil level light will remain in the off position. At which point the oil level should be checked. In order to see if the oil level in the vat needs to be topped off, cooking must be stopped and the vat is allowed to idle (the fryer must remain on). **ONLY DURING IDLE CAN YOU GET AN ACCURATE READING OF THE OIL LEVEL.** Once the vat is in idle mode, the oil will level off. If the oil level is below the probe, the light will turn on and remain in the on position. If the oil is touching the probe, the light will remain in the off position assuming oil temperature is above factory set point. **NOTE:** When topping off with cold oil, you may need to wait until the added oil heats up and reaches the cooking set point temperature.

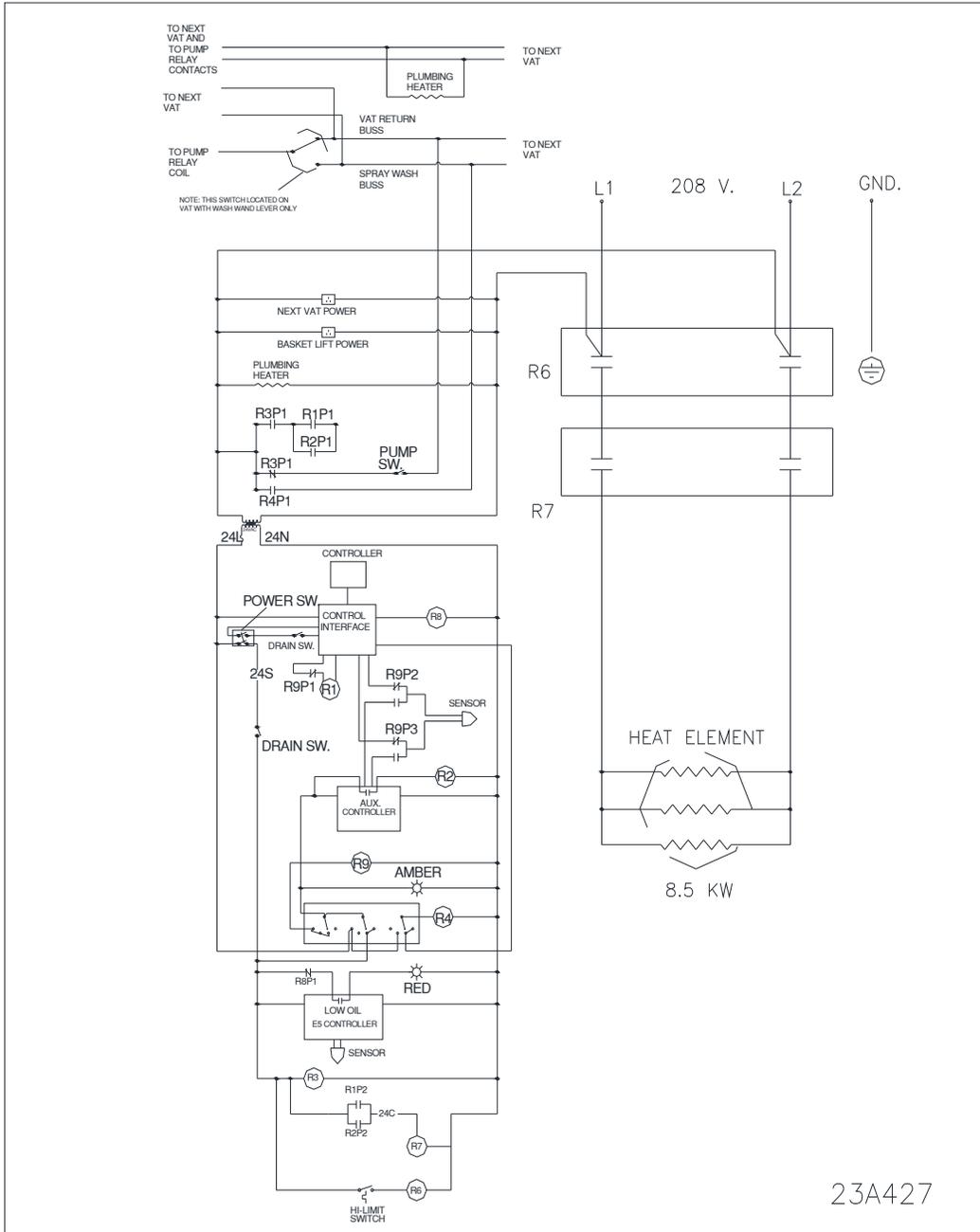
GENERAL INFORMATION: Normally, when the vat is filled to the 35lb level, once the vat loses approximately 1.5 lbs. of shortening, due to drag out, the oil light will come on. At this level, the oil is still well above the heating elements, and the oil level in the baskets is approximately at ½ the basket. After an oil loss of 5 to 6 lbs., the oil level is still above the heating elements, but the oil level in the baskets is now below ½ the basket. Food product loaded above this level will now be exposed and could result in uncooked product.

RECOMMENDATIONS: When to fill the vat is up to the operator. However, the recommended time to fill the vat would be to check the oil level after a long period of cooking, i.e. lunch or dinner rush, or any unexpected rush in between and top off the shortening to the proper level. The oil level in the vat should NOT go below 30 lbs. (approximately 1” to 2” above the heating element).

LOW OIL LEVEL CIRCUIT



LADDER DIAGRAM 8" VAT SINGLE 8.5 KW ELEMENT



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