

# AccuTemp<sup>®</sup>

## **EDGE<sup>™</sup>**

TILT SKILLETS & KETTLES

**INSULATED SELF-CONTAINED ELECTRIC KETTLES  
STATIONARY 20 - 80 GALLON  
TILTING FLOOR MOUNTED 20 - 60 GALLON  
OWNERS MANUAL AND INSTALLATION INSTRUCTIONS**



**MODEL ALHEC-40**



**MODEL ALTWE-60**



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# ***Important!***

## **INSPECTION:**

This appliance was carefully inspected before shipment from the factory. The transportation company assumes full responsibility for safe delivery to the customer until customer acceptance of the package. Careful inspection of the packaging and the appliance should be completed before acceptance from the transportation company.

## **CONTACT INFORMATION:**

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## **Safety Precautions**

- ◆ Installation of the equipment must be done by a qualified technician, knowledgeable of and experienced in the installation of commercial gas and electrical cooking equipment.
- ◆ Retain this manual for future reference.

## **Positioning Precautions**

- ◆ The unit must be placed on a non-combustible floor, under an exhaust hood, with a fire retardant system and all connections and placement must comply with all applicable local and national codes. Your ventilation hood, when installed, must conform to ANSI/UL 705 and ANSI/NFPA 96 (latest edition).
- ◆ Adequate clearance for servicing and proper operation must be maintained.

## **Electrical Precautions**

- ◆ This equipment must be electrically grounded in accordance with local codes or, in the absence of local codes, with the National Electrical Code, ANSI/NFPA No. 70 (latest edition).
- ◆ The incoming power supply voltage range must not exceed plus or minus 5 percent of the unit's voltage rating.

## **General Use Precautions**

- ◆ Always instruct employees on the proper use of this equipment.
- ◆ Never attempt to move this equipment when it is full of hot oil or another hot liquid.
- ◆ Never operate this equipment during a power failure.
- ◆ This equipment is intended for other than household use.

## **Warning & Operating Plates**

- ◆ All warning and operating plates on the equipment should be in place at all times. If plates are damaged or lost, replace them immediately.

## **Product Improvements**

- ◆ Be aware that as continuous product improvement occurs, specifications may be changed without notice.

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## Section I: Installation

**IMPORTANT!** Installation of the equipment must be done by a qualified technician, knowledgeable of and experienced in the installation of commercial gas and electrical cooking equipment. It is the responsibility of the owner and installer to comply with all applicable local and national codes and regulations when installing the unit.

All internal wiring of the equipment is supplied complete and ready for final connection. A wiring diagram is supplied behind the cover of the unit's control console. Manufacturer's Engineering Department must approve any mechanical or electrical changes.

### 1. Positioning the Unit

**WARNING:**

- The unit must be placed on a non-combustible floor, under an exhaust hood, with a fire retardant system and all connections and placement must comply with all applicable local and national codes. Your ventilation hood, when installed, must conform to ANSI/UL 705 and ANSI/NFPA 96 (latest edition).
- Adequate clearance for servicing and proper operation must be maintained

Position the unit where you intend to use it. A minimum of fifteen (15) inches must be provided for servicing of controls. Remember to also consider the required clearances of any other *adjoining* pieces of equipment.

**Fig. 1.1: Minimum Clearances**

Model	Back of Unit	Sides of Unit
ALTWE	4.0"	15"
ALLEC & ALHEC	7.0"	15"

### 2. Leveling & Securing the Unit

**Caution!**

Do not use the plumbing connections or the hand wheel as a lever when positioning the unit.

The feet of the unit may be adjusted so that the kettle is properly leveled.

### 3. Electrical Connection

**WARNING:**

- This equipment must be electrically grounded in accordance with local codes or, in the absence of local codes, with the National Electrical Code, ANSI/NFPA No. 70 (latest edition) or the Canadian Electrical Code, CSA C22.1 (latest edition), as applicable.
- Also, it is required that an electrical cut-off device, such as a fused disconnect switch or equivalent, be installed in the power supply line between the main power supply and the unit.
- The incoming power supply voltage range must not exceed plus or minus 5 percent of the unit's voltage rating.

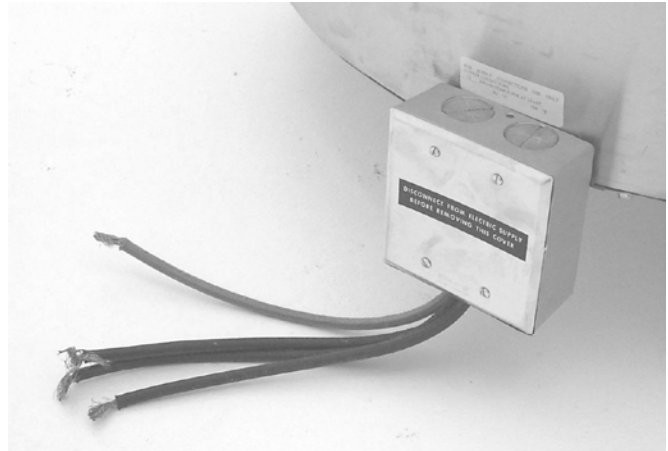
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A junction box is provided on the back of the unit, for connecting to the electric power supply. The installer should verify the electrical requirements of the unit to make sure your power supply line is capable of powering the equipment properly. This information is listed on the unit's nameplate.

Power connection for this unit must be in accordance with local codes or, in the absence of local codes, with the National Electrical Code, ANSI/NFPA No. 70 (Latest Edition).

The power supply may be connected

- a. directly to the supplied pigtail or
- b. Remove the cover off the front of the junction box. Feed the power supply wire through the bottom of the junction box. Connect the wires and secure with screw caps. A complete wiring schematic is provided inside the cover of the unit's control console. Replace the junction box cover and tighten the screws securely.



## 4. Completing the "Installation Checklist"

With all of the preceding installation steps completed, the primary aspects of the installation have been completed. This manual contains an *Installation Checklist* that must be filled out to show that certain key elements of the installation have been performed properly. **IMPORTANT!** The Installation Checklist must be completed for your warranty to be valid. Do not neglect this step.

## SECTION II: START-UP & OPERATION

### Warning:

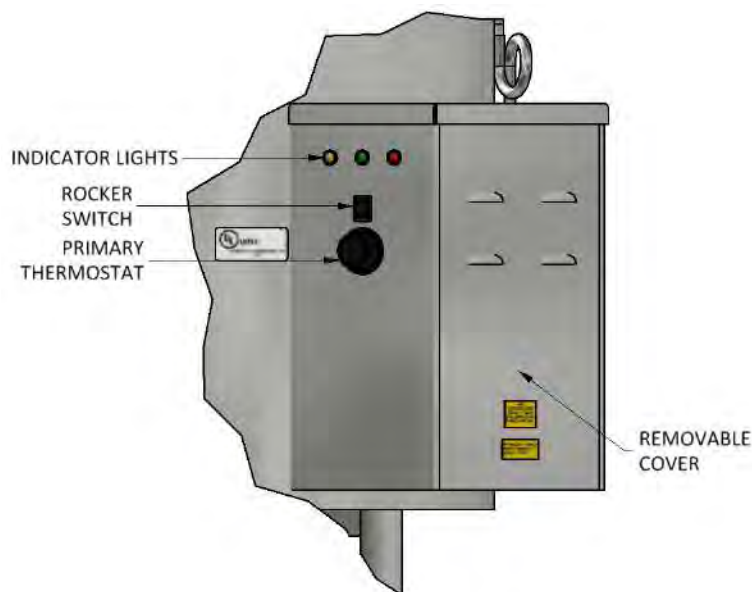
- Always disconnect power before cleaning (or servicing) the unit.
- The control console is not waterproof. Never spray the control console, electrical controls, ignition system controls, or connections with water. Clean these areas by wiping them with a clean, damp cloth.
- When cooking, never allow water or food stuff to come in contact with any electrical components.

### 1. Initial Cleaning

Before operating your equipment, it must be cleaned thoroughly. Refer to SECTION IV: CARING FOR STAINLESS STEEL for instructions.



**IMPORTANT!**  
Disconnect all electrical power before cleaning the unit.



Clean the unit thoroughly with a mild detergent solution. Always “wipe” around control console (never spray). Never rinse control consoles with a spray hose or let water come in contact with any electrical and control components.

For routine cleaning, the optional “Care Kit” accessories help you thoroughly clean all surfaces, including the inside of the lid and the inside of the draw-off valve. During washing, excess water in the kettle may be drained away through the draw-off using the optional *drain hose* attachment.

Use the “Care Kit” to clean hard to reach places like inside the lid and inside the draw-off valve. Rinse and drain away wastewater easily through the optional drain hose.

Take care when removing the draw-off valve for cleaning. The draw-off hex bonnet nut and valve stem are surprisingly heavy. Do not drop them, since this can cause damage to the stem creating leaks. Also be sure to remove all water from the kettle before removing the draw-off valve.



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## Removing & Cleaning the Draw-Off Valve:



1. Make sure the stem is in the open position.



2. Unscrew the hex bonnet nut.



3. Carefully remove the nut and stem assembly.

4. Thoroughly clean the body and tube using the draw-off cleaner brush provided with the optional Care Kit.

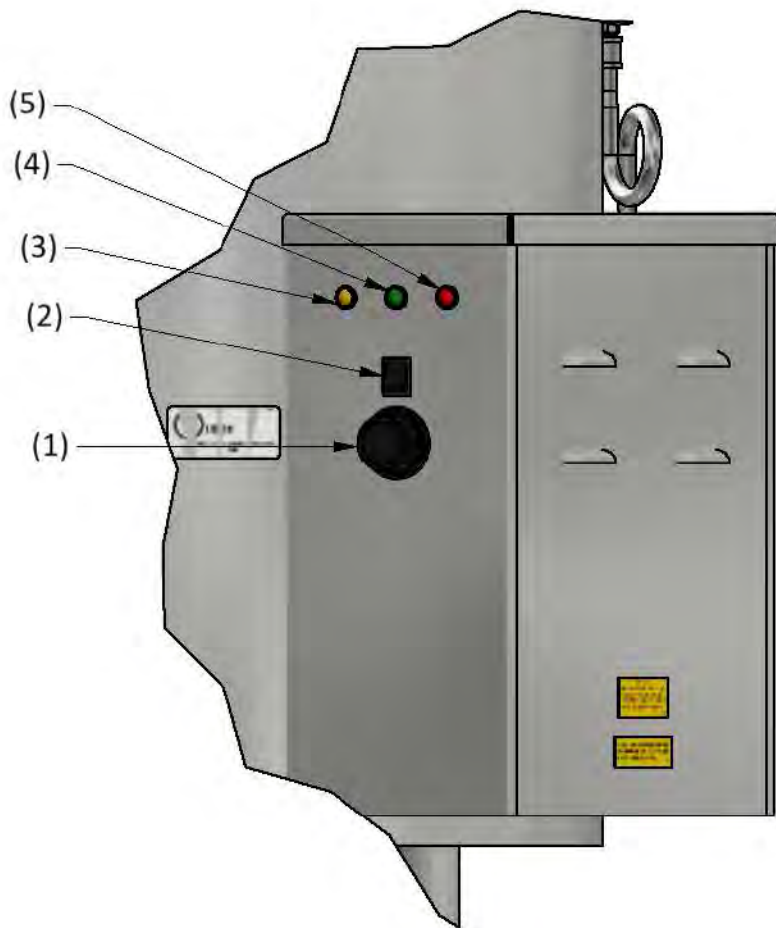
5. Rinse with clean water and re-assemble, taking care never to over-tighten the draw-off. It is designed to be hand-tightened only.

## 2. Control Functions

Now we'll examine all control functions, step by step, for a full understanding.

**IMPORTANT:** After installation or service and prior to operating the unit, make sure the following is done; otherwise the unit will not operate.

- Make sure the main electrical power to the unit has been turned on.



**Fig. 2.1: Control Panel Features**

#### **Summary of Control Functions:**

- ◆ *Rocker Switch (On-Off) #2.* Energizes the unit for operation.
- ◆ *Primary Thermostat Dial (Temperature) #1.* Allows the user to set the cooking temperature of the unit.
- ◆ *Power On Indicator Light (Green) #4.* Illuminates upon depressing the rocker switch to the *On* position. This indicates the unit has been energized.
- ◆ *Heater Power On Indicator Light (Red) #5.* Illuminates upon turning up the thermostat to show that the heaters are operating. Note: If the temperature of the unit is already above the set temperature, the red HEATER POWER ON light will not come on.
- ◆ *Low Water Indicator Light (Amber) #3.* It alerts the user that the water level in the steam jacket has fallen below the recommended operating level and that the low water relay has been activated, turn off the unit to prevent irreversible damage to the heater until the low water condition has been remedied (Refer to Section III, Service & Maintenance, Item 3, Filling the Steam Jacket). Once the water level has been increased to normal working levels the low water relay will reset and permit normal operation.
- ◆ *Tilt Switch (Tilting Units Only).* Automatically shuts off the kettle when tilted. Care should be taken when tilting unit filled with hot product.

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### **How to Start Cooking:**

- 1) Turn the *primary thermostat* dial clockwise to the desired temperature. This will cause the red heater power on indicator light to come on, showing that the heaters are operating.
- 2) Close the lid to speed up the heating process.
- 3) Once the unit has cycled (the red heater power on indicator light goes out), you can start cooking immediately. However, to guarantee the most even, stable heat you may want to let it cycle several times.
- 4) If a new temperature is desired during a cooking operation, simply turn the primary thermostat dial to the new setting. Again, allow several cycles to ensure proper heat stabilization.
- 5) To shut down the unit, turn the primary thermostat dial to OFF.

## Section III: Service & Maintenance

This section covers the basics of servicing and maintaining your equipment. A "Maintenance and Service Log" is included in this manual for your use in recording all maintenance and service performed.

**IMPORTANT:** Service must be done by a qualified technician experienced with commercial gas and electric cooking equipment. Use only OEM supplied parts. Unauthorized or generic parts can cause bodily injury and equipment damage. If the unit ever needs repair during the warranty period, prior authorization is required.

### 1. Servicing

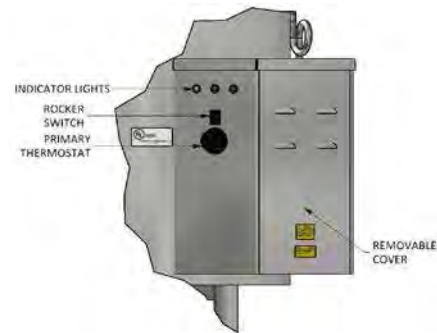
#### A) Replacing Primary Thermostat

##### Re-Calibrating Thermostats (Do Not Attempt)

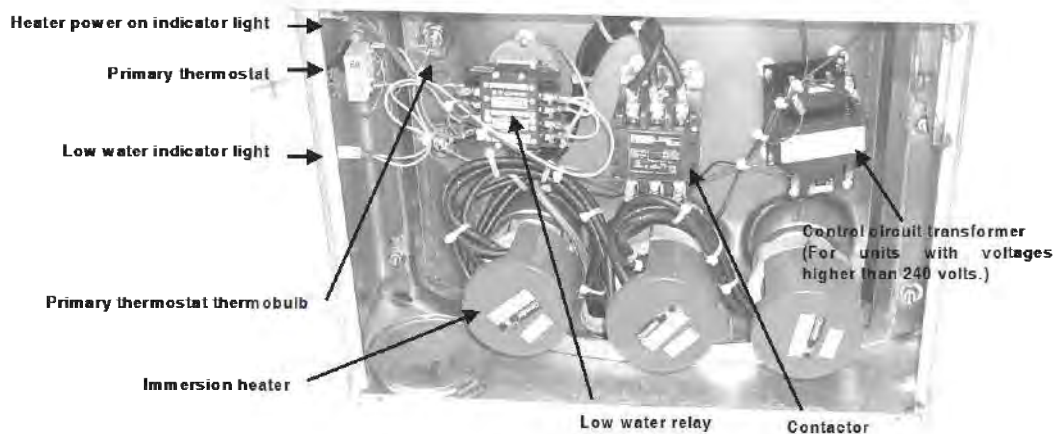
**IMPORTANT!** If thermostat is defective or not working properly, it must be replaced (without breaking the seal) and returned to manufacturer. The warranty is voided if the seal is broken or any attempt is made to recalibrate a thermostat. See below for replacement instructions.



1. Disconnect the unit from its power supply.



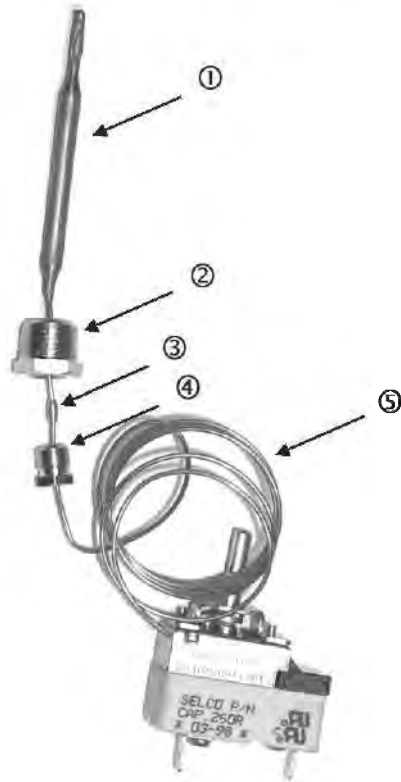
2. Remove control console panel.



REPRESENTS CONSTRUCTION PRIOR TO OCT. 2007



2. Disconnect and mark wire(s) connected to the normally closed and common position on the existing primary thermostat.
3. Drain water in jacket below the thermobulb location.
4. Remove the 3/8" hex pipe plug, which holds the thermobulb in place in the coupling. Pull thermobulb and capillary tube out of the kettle jacket.
5. To remove the existing primary thermostat from the front panel loosen the two mounting screws.
6. Reconnect the wires marked normally closed and common to the new thermostat and secure to front panel with mounting screws.



7. Carefully uncoil the capillary tube (5). Re-insert the thermobulb (1) and two inches of the capillary tube (5) in the coupling from which the existing tube and bulb were removed. **Caution! Do not make any threaded connections before you have the capillary tube and thermobulb in its final position.** Once the thermobulb and capillary tube are in position, you are ready to secure them in place.
8. Coat the outer threads only of the 3/8" hex pipe plug (2) with Teflon pipe sealant. Thread this plug into the coupling securely.
9. Slide the brass ferrule (3) into the recessed center of the 3/8" hex pipe plug (brass ferrule is located on the capillary tube in between the large (2) and small (4) hex pipe plugs).
10. Once the brass ferrule (3) is in place, engage the threads of the small hex pipe plug (4) into the internal threads of the 3/8" hex pipe plug (2) until it stops. **Caution! Do not loosen this connection after it has been tightened, doing so will cause kettle jacket to leak. Do not use Teflon sealant on this connection.**
11. Replace control console panel and secure in place.
12. Refill kettle with pure chloride free distilled water. Refer to item 4, Filling Steam Jacket of this section for instructions.

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## 2. Actuator Maintenance and Adjustment

### A) Actuator Tension Adjustment

The lid (standard on 40 gallon and up) and TWE (Optional) can operate with spring loaded actuators. If the lid can be raised to any position, and it remains in that position, the actuators are adjusted properly. Should the tension need adjustment after shipping, or at any time in the future, the following procedure can be performed.



Raise the unit's lid completely. Removal of the stop nut may be needed to raise the lid completely.



Remove the tube closure cap on the actuator. With a  $\frac{3}{4}$ " deep hex socket, turn the adjusting nut (located inside the actuator sleeve) clockwise to increase the tension or counterclockwise to decrease tension. Rotate the nut one turn at a time and test the lid's operation. When the adjustment is complete, replace the tube closure cap on the actuator sleeve.

### B) Actuator: Re-Packing With Grease

The lid actuator(s) of your unit must be re-packed with grease every six months to ensure proper operation. Perform the following steps. Refer to *Figure 3.2*, *Figure 6.1* & *Figure 6.2*.

1. Raise the lid of the unit fully.
2. Remove the tube closure cap.
3. Remove the self-locking 1/2-13 hex nut on the actuator rod.
4. If the components inside the actuator sleeve do not slide out easily, remove the bolt, which secures the actuator sleeve to the frame lug. Put aside the bolt, nut, and lock washer for re-assembly later.
5. Grasp the actuator sleeve and pull down away from the actuator rod. The components inside the actuator sleeve will slide out.
6. Pack the spring (or springs) with Bel-Ray No-Tox Clear Grease #2. The grease must be liberally applied between each coil.
7. After re-packing with grease, reassemble the components back inside the actuator sleeve and slide the sleeve back over the actuator rod.
8. Reconnect the actuator assembly to the frame lug using the bolt, nut, and lock washer previously set aside.
9. Adjust the tension of the actuators using the procedure described earlier in this section.

### C) Actuator Replacement

Should the actuators on your unit ever require replacement, use the following procedure. Refer to *Figure 3.2*, *Figure 6.1* & *Figure 6.2*.

1. Raise the lid of the unit fully.
2. Remove the tube closure cap.

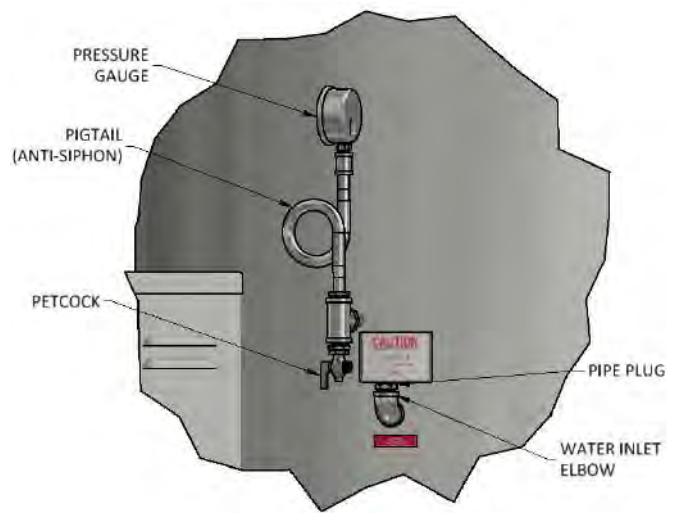
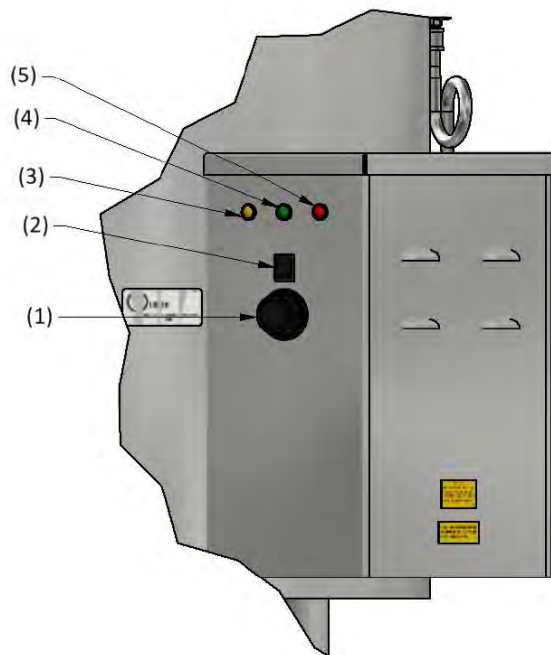
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3. Using a deep socket tool, loosen the self-locking hex nut on the actuator rod (by turning it counterclockwise) to eliminate pressure on the springs.
  4. From the *pivot arm* of the actuator, remove the acorn nut, bolt, lock washer and spacer and retain them for mounting the new actuator(s).
  5. From the *frame lug* (at the other end of the actuator) remove the acorn nut, bolt, and lock washer and retain them for mounting the new actuator(s).
  6. Mount the new actuators using the bolts, nuts, lock washers, and spacers set-aside in the above steps.
- Note: The actuator rod must be free to pivot during use. Therefore, when tightening the hex bolt into the acorn nut, tighten it completely, then back off a half turn.
7. After the new actuator(s) are installed, adjust the tension using the procedure described earlier in this section.

**Fig. 3.2: Removing/Installing Actuators**





### 3. Filling Steam Jacket



#### WARNING!

**WHEN FILLING THE STEAM JACKET, USE PURE, CHLORIDE FREE, DISTILLED WATER ONLY (REFERRED TO AS "WATER" IN THE FOLLOWING TEXT). DO NOT USE TAP WATER TO REFILL TO CORRECT WATER LEVEL.**

**APPLIANCE FAILURE CAUSED BY INCORRECT WATER QUALITY IS NOT COVERED UNDER WARRANTY.**

Allow kettle to cool. Never attempt to add water to a hot kettle.

Place the thermostat (1) and rocker switch (2) in the off position. Disconnect power at the customer supplied electrical cut-off device.

Lift the safety valve lever to release all residual steam in jacket.

Remove pipe plug from inlet elbow and place a funnel in the inlet elbow.

Pour water into funnel. Continue adding water until water in the jacket bubbles out of the inlet elbow. **DO NOT FILL BEYOND THE INLET ELBOW.**

Remove funnel, replace pipe plug in inlet elbow securely.

**Caution:** Drain the steam jacket if the kettle is to be stored in an unheated area. Water freezing in the steam jacket may cause damage to the unit. Drain is located in the bottom of the kettle.

### 4. Safety Relief Valve

#### Installation Instructions

This valve must be mounted in a vertical, upright position directly to a clean, tapped opening located at the top of the equipment. Under no circumstances should there be a flow restriction or valve of any type between the safety relief valve and the pressure vessel.





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Be certain that all connections - including the valve inlet - are clean and free from any foreign material.

Use pipe compound sparingly, or tape, on external threads only.

The lb/hr, GPM OR CFM rating of the safety valve must equal or exceed that of the equipment to which it is installed.

**Warning!** The safety relief valve may discharge large amounts of steam and/or hot water during operation. Caution must be taken to prevent bodily contact. To reduce the potential for bodily injury and property damage, a discharge line must be installed that:

- ❖ Is connected from the valve outlet to a safe point of discharge with no intervening valve.
- ❖ Allows complete drainage of both the valve and the discharge line.
- ❖ Is independently supported or securely anchored so as to avoid applied stress on the valve.
- ❖ Is as short and straight as possible.
- ❖ Terminates freely to atmosphere where any discharge will be clearly visible and is at no risk of freezing.
- ❖ Terminates with a plain end that is not threaded.
- ❖ Is of a pipe size equal to or greater than that of the valve outlet over its entire length.

**DO NOT CAP, PLUG, OR OTHERWISE OBSTRUCT DISCHARGE PIPE OUTLET!** If discharge is piped upward, a *condensate drain must be provided in the elbow below the vertical pipe to prevent condensate from returning into the safety relief valve.*

Never plug or otherwise obstruct valve body drain. A body drain line should be installed to safely dispose of condensate.

### Operating Instructions

If adding water to a kettle, DO NOT ALLOW water to flow through the safety relief valve as sediment or debris may be deposited on seating surfaces. Excessive deposits may prevent the safety relief valve from operating properly, and a dangerous pressure build-up and equipment rupture may result.

### Maintenance and Testing

**CAUTION!** Before testing make certain discharge pipe is properly connected to valve outlet and arranged to contain and safely dispose of kettle jacket discharge before testing (see "Installation Instructions").

Under normal operating conditions a "try lever test" must be performed every two months. Under severe service conditions, or if corrosion and/or deposits are noticed within the valve body, testing must be performed more often. A "try lever test" must also be performed at the end of any non-service period.

**Caution!** Hot, high pressure fluid may be discharged from body drain and vent during "try lever" test. Care must be taken to avoid any bodily contact.

**Caution!** High sound levels may be experienced during "try lever" test. Wear proper safety equipment and exercise extreme care! Test at or near maximum operating pressure by holding the test lever fully open for at least 5 seconds to flush the valve seat free of sediment and debris. Then release lever and permit the valve to snap shut.

If lift lever does not activate, or there is no evidence of discharge, discontinue use of equipment immediately and contact a licensed contractor or qualified service personnel.

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## Section IV: Caring For Stainless Steel

This section provides specific guidelines for cleaning and protecting the stainless steel surface of your equipment.

### Important!

Always disconnect power before cleaning (or servicing) the unit. Never spray the control console, electrical controls, gas controls, or connections with water. Clean these areas by wiping them with a clean, damp cloth.

The stainless steel can be cared for using any good commercial stainless steel cleaner or polish. Contrary to popular belief, stainless steel remains resistant to corrosion only as long as its passive surface remains intact. There are some basic rules to prevent the breakdown of this surface.

Only plastic scouring pads and soft cloths should be used, since they will not damage the stainless steel surface. Never use anything that will scratch the surface such as steel pads, wire brushes, or scrapers. In the kettle liner, scratches make cleaning more difficult and provide places for bacteria to collect and grow. Never use steel wool since it can leave particles embedded in the kettle liner and can also lead to eventual corrosion and pitting. Never let deposits from water, particularly hard water, or deposits from food sit on the surface for extended periods. Wipe up deposits and spills promptly. After cleaning, rinse off the cleaning agents thoroughly with water, wipe dry, and then allow the surface to air dry. Oxygen actually helps maintain stainless steel's protective surface.



Never use cleaners containing chlorides (or quaternary salts, since they can also contribute to pitting and rusting). Use only alkaline, alkaline-chlorinated, or non-chloride cleaners.

### Tip:

If you've been doing a lot of continued boiling or steaming, you may notice a build-up of lime or scale in the kettle liner. This cleans up easily using vinegar, a vinegar & water mixture, or any commercial de-liming / de-scaling solution.

## Section V: Troubleshooting

### 1. Troubleshooting-General Problems

The Electric Self-Contained Steam Jacketed Kettle is designed to operate smoothly and efficiently if properly maintained. However, in the event of a problem, following is a list of checks to be made by qualified personnel. The wiring diagram for the unit is located behind the removable panel of the control console.

**IMPORTANT:** Service must be done by a qualified technician experienced with commercial gas and electrical cooking equipment. Use only OEM supplied parts. Unauthorized or generic parts can cause bodily injury and equipment damage. If the unit ever needs repair during the warranty period, prior authorization is required.

<i>SYMPTOM</i>	<i>POSSIBLE CAUSES</i>
Kettle will not heat, indicator light will not come on	Electrical power supply not turned on Loose or broken wires Fuse may be blown in disconnect switch Primary thermostat malfunctioning Automatic low water relay engaged, amber light should be on if this has happened
Kettle continues to heat after it reaches desired temperature	Primary thermostat setting - too high Primary thermostat malfunctioning Contactor possibly de-energized
Kettle does not reach desired temperature	Primary thermostat setting - too low Primary thermostat malfunctioning Check for air in kettle jacket Contactor malfunction
Uneven cooking due to "cold spots"	Heating element – open (burned out) or loose
Rapid clicking noise (chattering)	Supply voltage – possibly too low Contactor – dirt or corrosion on the contacts

## Section VI: Parts List

### 1. General Parts List

PART NO.	ITEM DESCRIPTION
407770-1	Thermostat, primary 150-260°F
407770-1D	Knob, primary thermostat
407793	Grommet thermostat shaft
430083	Pressure limit control (Optional)
455802	Dole Air Valve 20JR
440168`	Safety relief valve 30 psi ¾" npt
440168-1	Safety relief valve 30 psi ½" npt
400270	Strainer disk 9" compression type with 1/4" holes
407615	Rocker switch
455427	Low water relay 1500A
400749-1	Ground Lug #14-#6
455338	Junction Box 42 In³
455348	Cover for 42 In³ Junction Box
455613	Junction Box 4 x 12 (½" & 1" KO)
455614	Junction Box 4 x 12 (¾" & 1 1/4" KO)
455615	Junction Box 4 x 12 (1" & 1 1/4" KO)
455616	Cover for 4 x 12 Junction Box
456118	Fish Paper .010 X 24 X 36
406578	Terminal Block (Jumped)
420064	Low water probe 3/8" (for use with 455427 & 430032)
406732	Pressure gauge -30 - +100
440280	Pigtail BCP ¼" (Steam Gauge Siphon)
400780-2	Fuse block 2 pole
406619	Fuse 2 amp
430033	Transformer (480,440,415,380 volt models)
408580	Indicator light green 240V
407451	Indicator light red 240V
407452	Indicator light amber 240V
408015-15	Contactor 15 amp
408015-25	Contactor 25 amp
408015-30	Contactor 30 amp
408015-40	Contactor 40 amp
408015-50	Contactor 50 amp
408015-60	Contactor 60 amp
408015-75	Contactor 75 amp
408015-90	Contactor 90 amp
455548	Immersion heater 2", 12kw 208V
455549	Immersion heater 2", 15kw 240V
455550	Immersion heater 2", 12kw 240V

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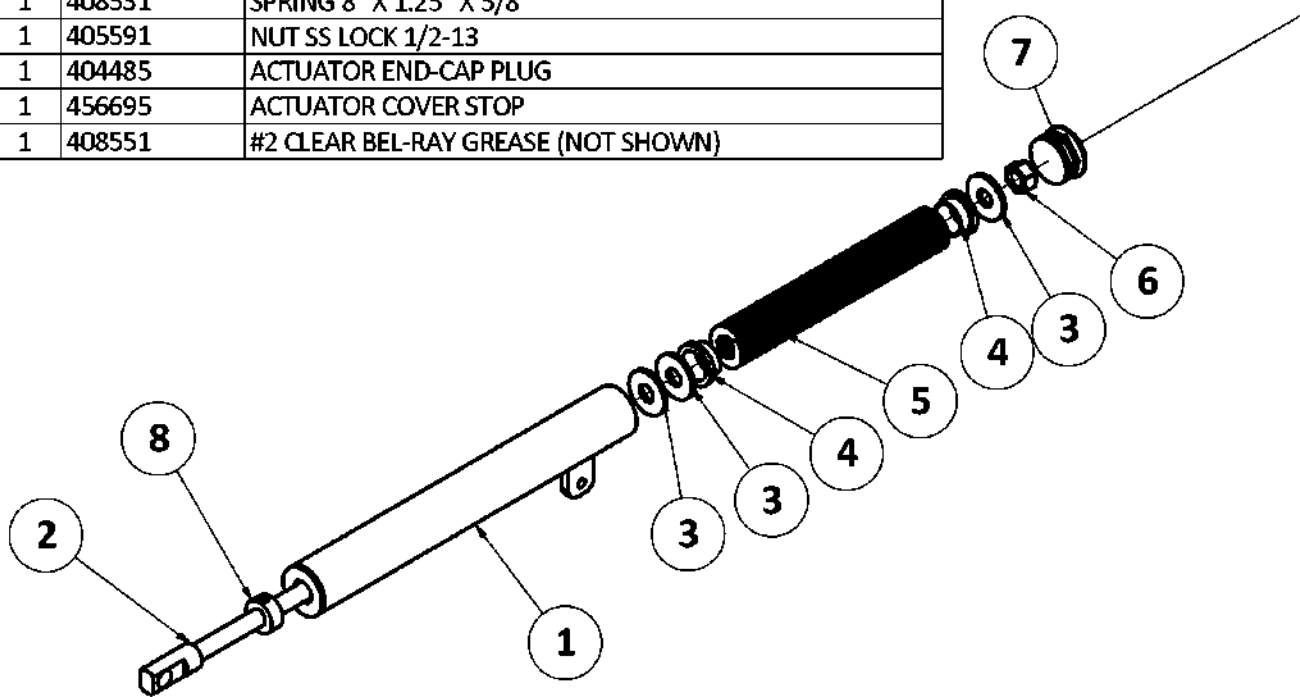
<i>PART NO.</i>	<i>ITEM DESCRIPTION</i>
455551	Immersion heater 2", 9kw 480V
455552	Immersion heater 2", 15kw 208V
455553	Immersion heater 2", 12kw 480V
455554	Immersion heater 2", 15kw 480V
455555	Immersion heater 2", 9kw 208V
455683	Immersion heater 2", 9kw 240V
406572	Power stud block 1422122 (1phase units)
407726	Power stud block 1423122 ( 3 phase units over 85 amps)
406555	Terminal block 985GP03 (3 phase)
406569	Terminal block 985GP02 (1 phase)
800237	Bullet feet 2"
400275	Bullet feet w/flange 2"
408693-001	Actuator assembly and hardware 20 & 30 gallon
408693-006	Actuator assembly and hardware 40 – 80 gallon
407977	Kettle care kit 5 – 25 gallon
407978	Kettle care kit 30 – 100 gallon

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## 2. Actuator Parts List & Assembly

**Fig. 6.1: Actuator Assembly Diagram 20-60 Gallon**

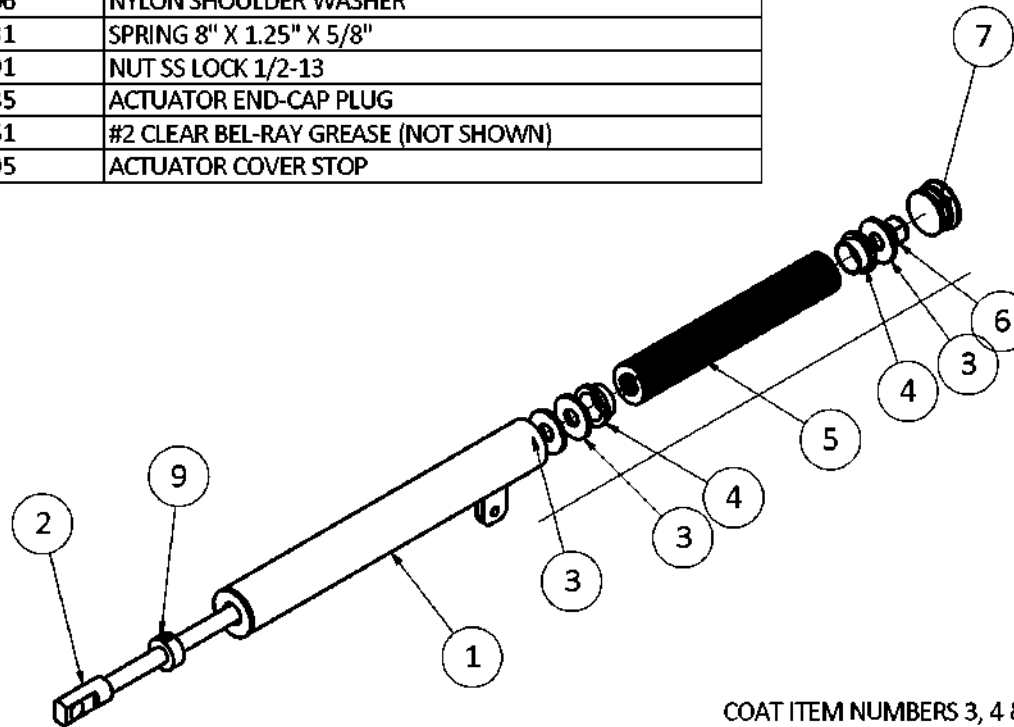
Parts List			
ITEM	QTY	PART NUMBER	TITLE
1	1	404483-001	SLEEVE WELDMENT FOR BPS, CPS CS, & KETTLE ACTUATORS
2	1	455880	ACTUATOR ROD & LUG (BPS & KETTLES 20-60G)
3	3	408505	WASHER NYLON 1.355 X .52
4	2	408506	NYLON SHOULDER WASHER
5	1	408531	SPRING 8" X 1.25" X 5/8"
6	1	405591	NUT SS LOCK 1/2-13
7	1	404485	ACTUATOR END-CAP PLUG
8	1	456695	ACTUATOR COVER STOP
9	1	408551	#2 CLEAR BEL-RAY GREASE (NOT SHOWN)



COAT ITEM NUMBERS 3, 4 & 5 LIBERALLY  
WITH #2 CLEAR BEL-RAY GREASE (ITEM 8)  
DURING ASSEMBLY.

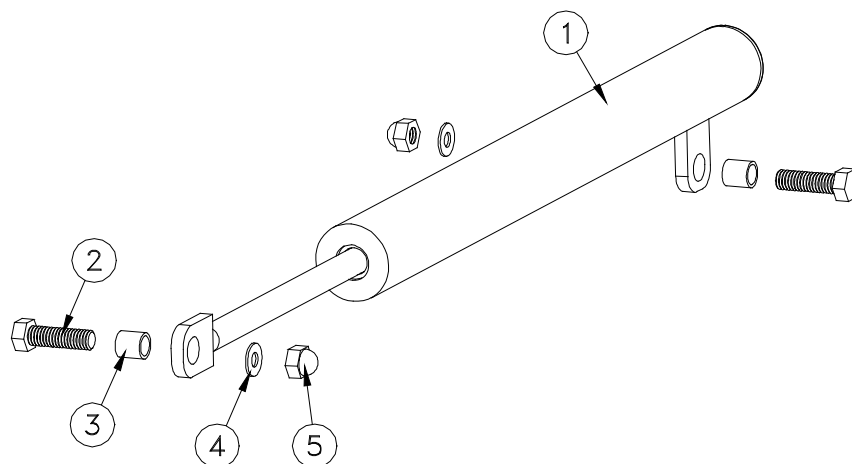
**Fig. 6.2 Actuator Assembly Diagram 80-125 Gallon**

PARTS LIST			
ITEM	QTY	PART NUMBER	TITLE
1	1	404483-001	SLEEVE WELDMENT FOR BPS, CPS CS, & KETTLE ACTUATORS
2	1	455879	ROD ACTUATOR LUG 80-125G
3	3	408505	WASHER NYLON 1.355 X .52
4	2	408506	NYLON SHOULDER WASHER
5	1	408531	SPRING 8" X 1.25" X 5/8"
6	1	405591	NUT SS LOCK 1/2-13
7	1	404485	ACTUATOR END-CAP PLUG
8	1	408551	#2 CLEAR BEL-RAY GREASE (NOT SHOWN)
9	1	456695	ACTUATOR COVER STOP



COAT ITEM NUMBERS 3, 4 & 5 LIBERALLY  
WITH #2 CLEAR BEL-RAY GREASE (ITEM 8)  
DURING ASSEMBLY.

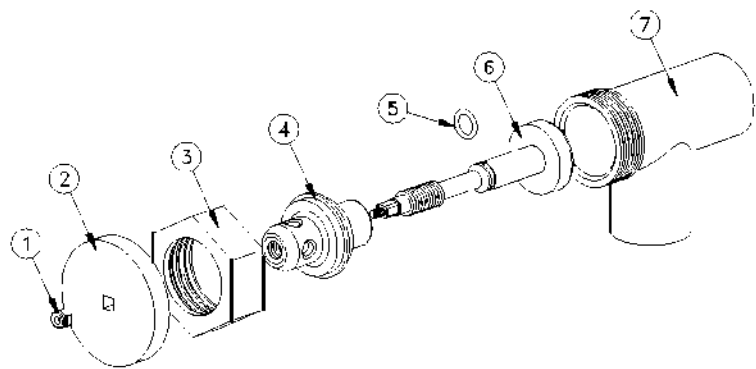
**Fig. 6.3 Actuator Assembly with Mounting Hardware**



<i>Item No.</i>	<i>Description</i>	<i>Part Number</i>
1	Assembly actuator 20 – 30 gallon kettle	408693-001
1	Assembly actuator 40 – 80 gallon kettle	408693-006
2	Bolt hex head 1/4 - 20 x 7/8" stainless steel	450418
3	Not applicable	N/A
4	Flat washer 1/4" stainless steel	450403
5	Nut, cap 1/4 - 20 BCP	450675



### 3. Compression Draw-Off Parts List & Assembly



**Fig. 6.4: Compression Draw-Off Assembly Diagram**

Item No.	Description	Part Number		
		1 ½"	2"	3"
1	Nut, handle	408392	408392	408207
2	Handle, round	408359	408359-2	408360
3	Hex bonnet nut	450033-01	450032-01	440234-01
4	Faucet gland	460097-01	410228-01	440233-01
5	"O" ring	400382	400382-2	400382-3
6	Stem with viton coating	440131-01RV	440058-01RV	400346-01RV
7*	Accrolube Grease-FG (Not Shown)	815067	815067	815067
	Compression draw-off valve (complete)	405932	405932-2	405995

\*This item is for lubricating item 5 to preserve suppleness which will prevent the stem from seizing up in gland.

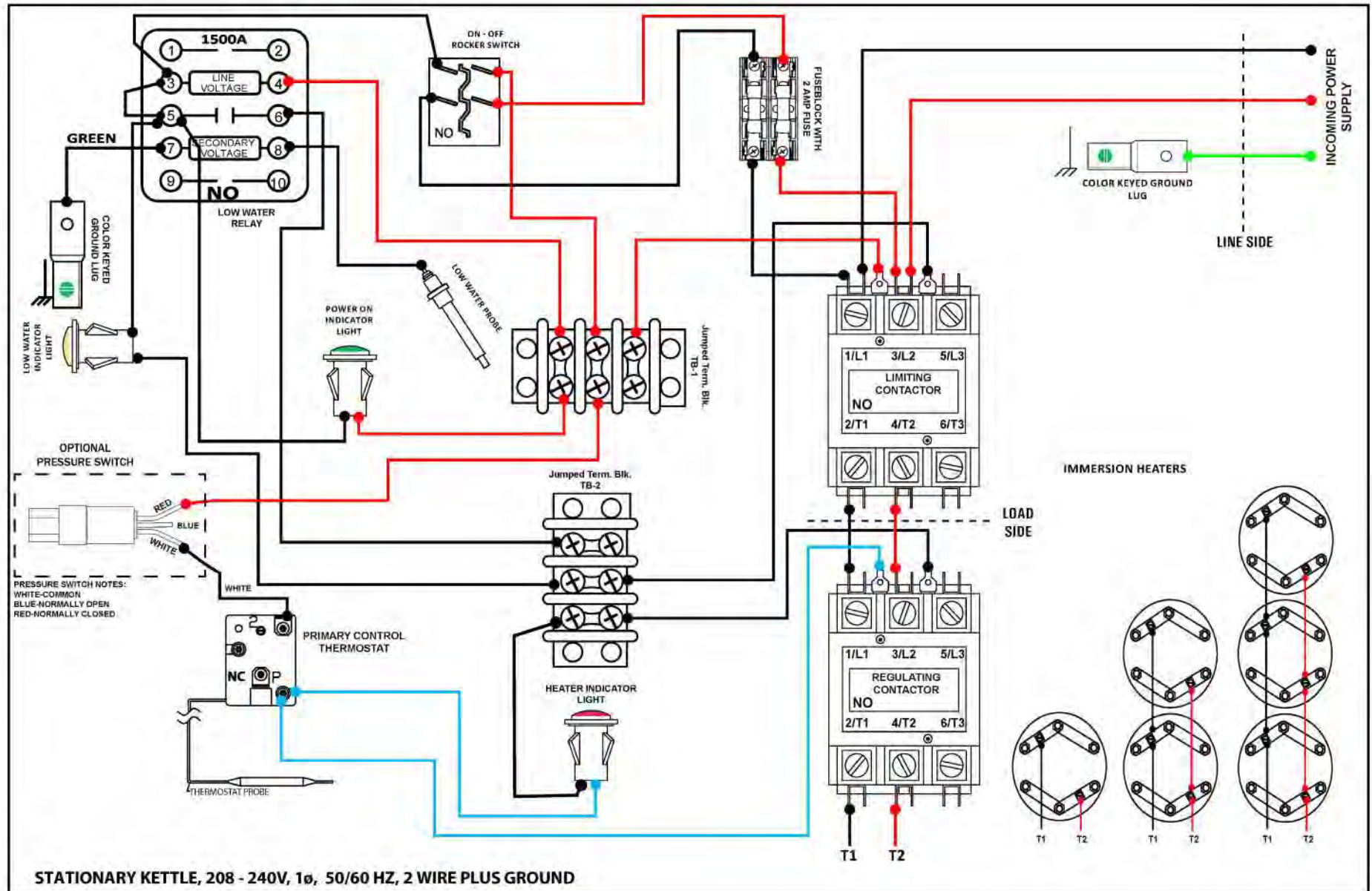
## 4. Electrical Data Table

Model	Unit Electrical Ratings				No. Of Heating Elements	Heating Element		Contactors		Wiring to Elements & Pigtail	Supply AWG Size	Min Junction Box Size	Min. Knockout Size (in.)
	Volts	Phase	Amps	kW		kW	Volts	Number	Rating Amps	Min. AWG	Min. AWG	Inches <sup>3</sup>	
20 Gal.	208	1	57.7	12	1	12	208	2	60	6	4	168	1 23/64
	208	3	33.3	12	1	12	208	2	40	10	8	42	1 3/32
	220	1	45.9	10.1	1	12	240	2	50	8	6	42	1 3/32
	230	1	47.8	11	1	12	240	2	50	8	6	42	1 3/32
	240	1	50.0	12	1	12	240	2	60	8	6	42	1 3/32
	220	3	26.5	10.1	1	12	240	2	30	12	10	42	7/8
	230	3	27.6	11	1	12	240	2	30	12	10	42	7/8
	240	3	28.9	12	1	12	240	2	30	12	10	42	7/8
	380	3	17.0	11.2	1	15	440	2	25	14	12	42	7/8
	415	3	15.6	11.2	1	15	480	2	25	14	12	42	7/8
	440	3	15.7	12	1	12	440	2	25	14	12	42	7/8
	460	3	13.8	11	1	12	480	2	25	14	14	42	7/8
	480	3	14.4	12	1	12	480	2	25	14	14	42	7/8
30 & 40 Gal.	208	1	115.4	24	2	12	208	2	120	2	1	168	1 23/32
	208	3	66.6	24	2	12	208	2	75	6	4	168	1 23/64
	220	1	91.8	20.2	2	12	240	2	120	4	2	168	1 23/32
	230	1	95.7	22	2	12	240	2	120	3	1	168	1 23/32
	240	1	100.0	24	2	12	240	2	120	3	1	168	1 23/32
	220	3	53.0	20.2	2	12	240	2	60	8	6	42	1 3/32
	230	3	55.2	22	2	12	240	2	60	6	4	168	1 23/64
	240	3	57.7	24	2	12	240	2	60	6	4	168	1 23/64
	380	3	34.0	22.4	2	15	440	2	40	10	8	42	1 3/32
	415	3	31.2	22.4	2	15	480	2	40	10	8	42	1 3/32
	440	3	31.5	24	2	12	440	2	40	10	8	42	1 3/32
	460	3	27.6	22	2	12	480	2	30	12	10	42	7/8
	480	3	28.9	24	2	12	480	2	30	12	10	42	7/8

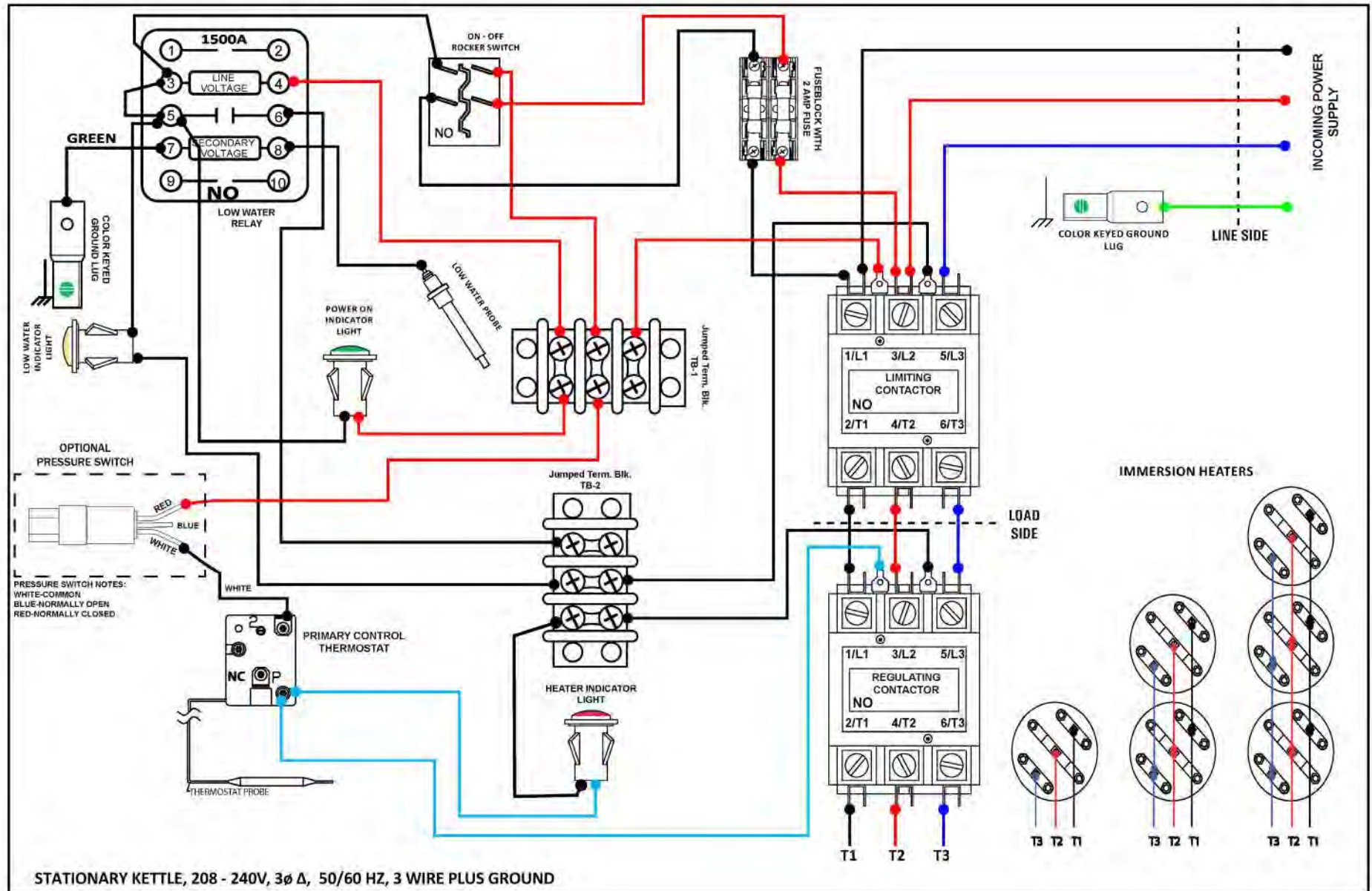
\*Recommended fuse size for overcurrent protection. See Section 1, Item 3.

## 5. WIRING DIAGRAMS

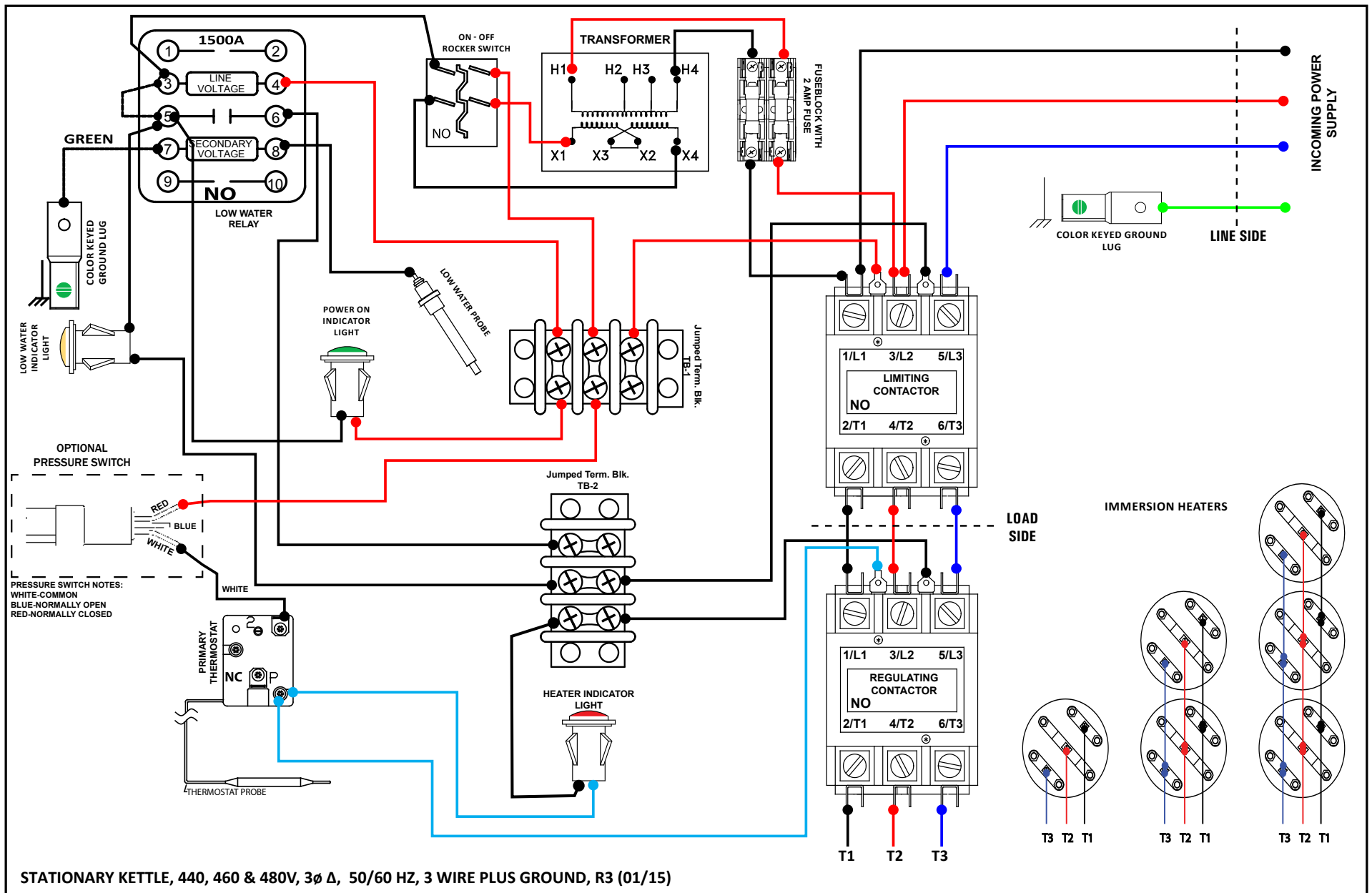
### 208-240V, 1PH, 50/60HZ, STATIONARY KETTLES



## 208-240V, 3PH, 50/60HZ, STATIONARY KETTLES

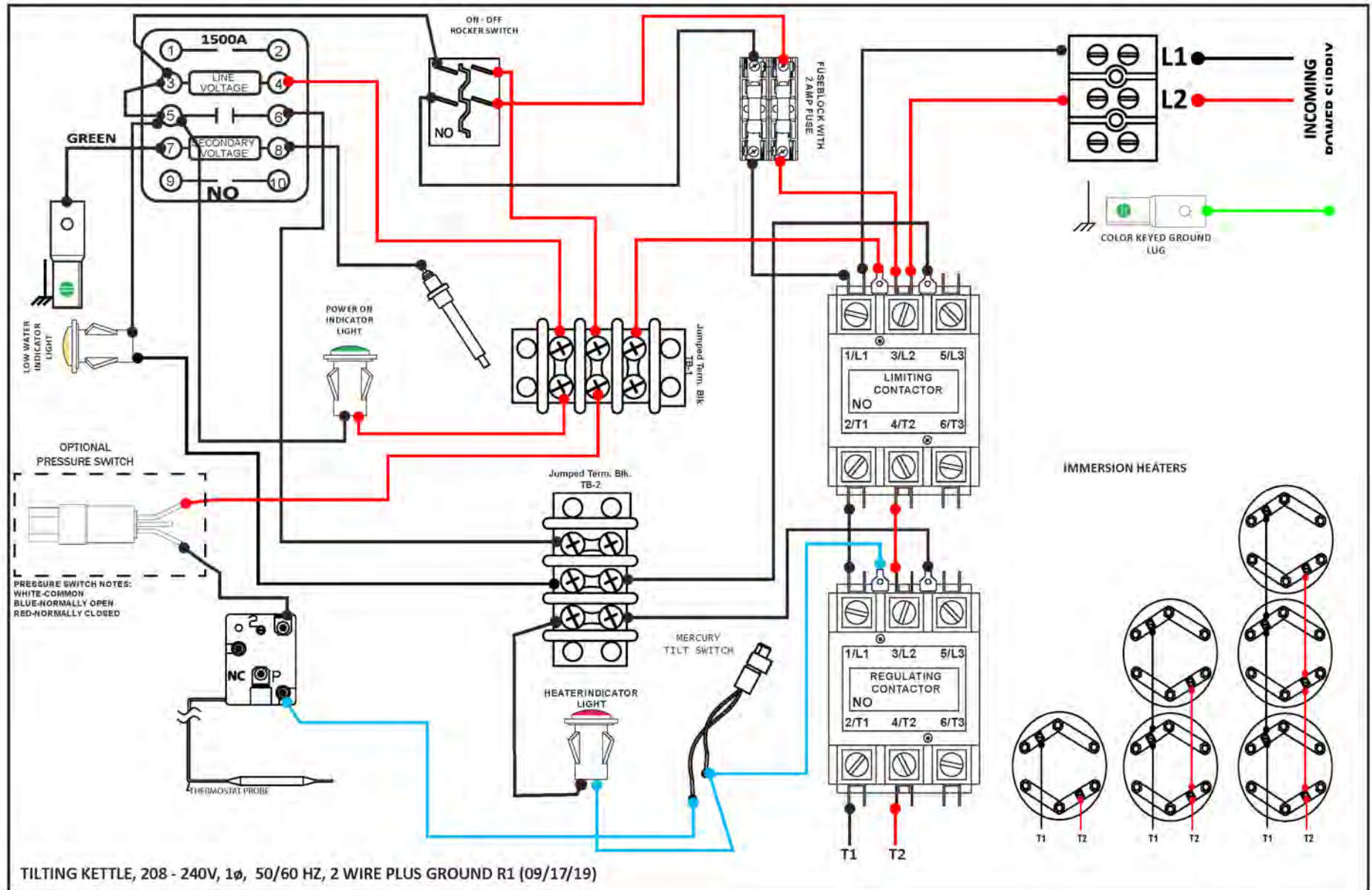


# 440,460 & 480V, 3PH, 50/60HZ, STATIONARY KETTLES

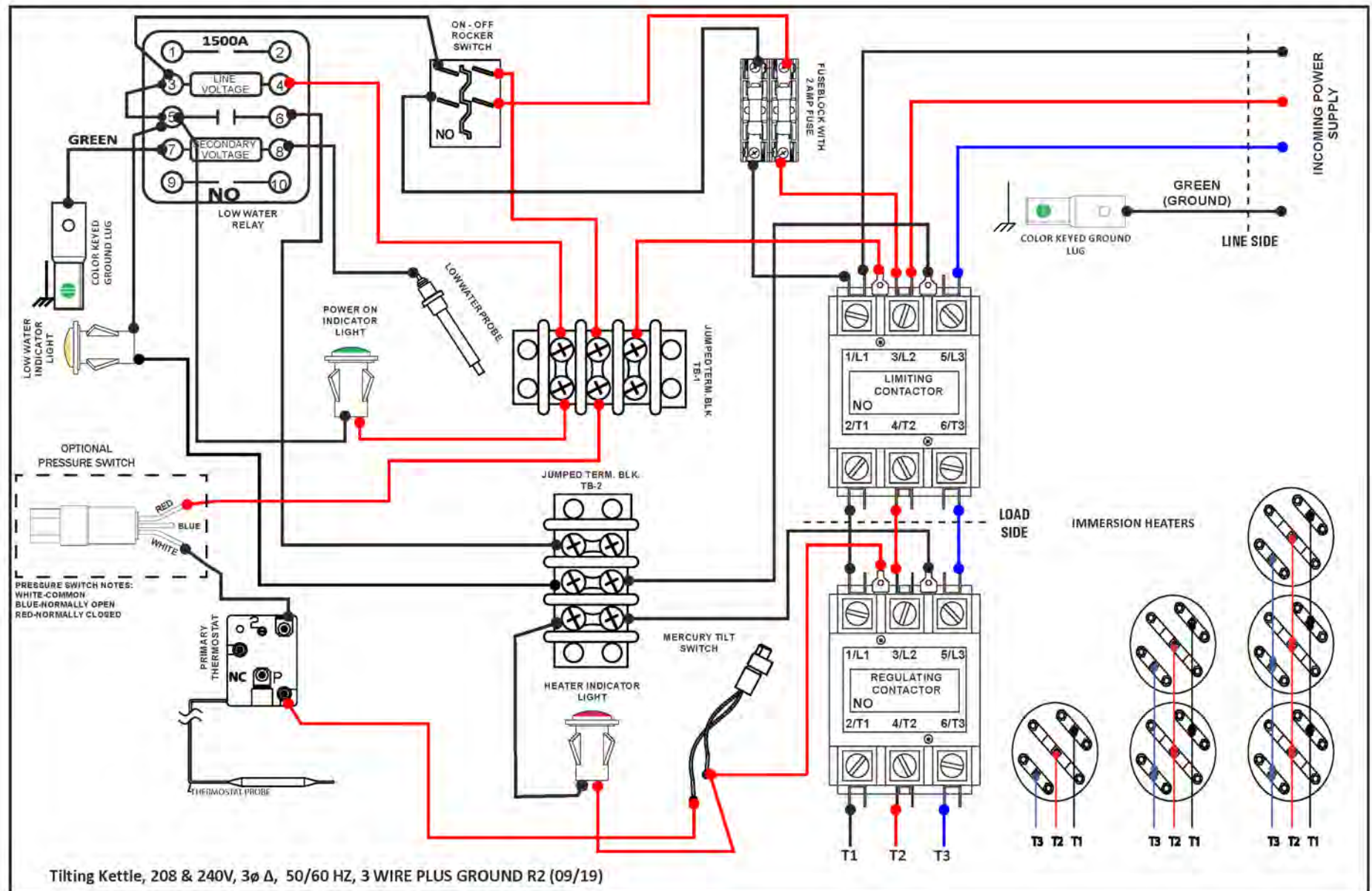




## 208-240V, 1PH, 50/60HZ, TILTING KETTLES

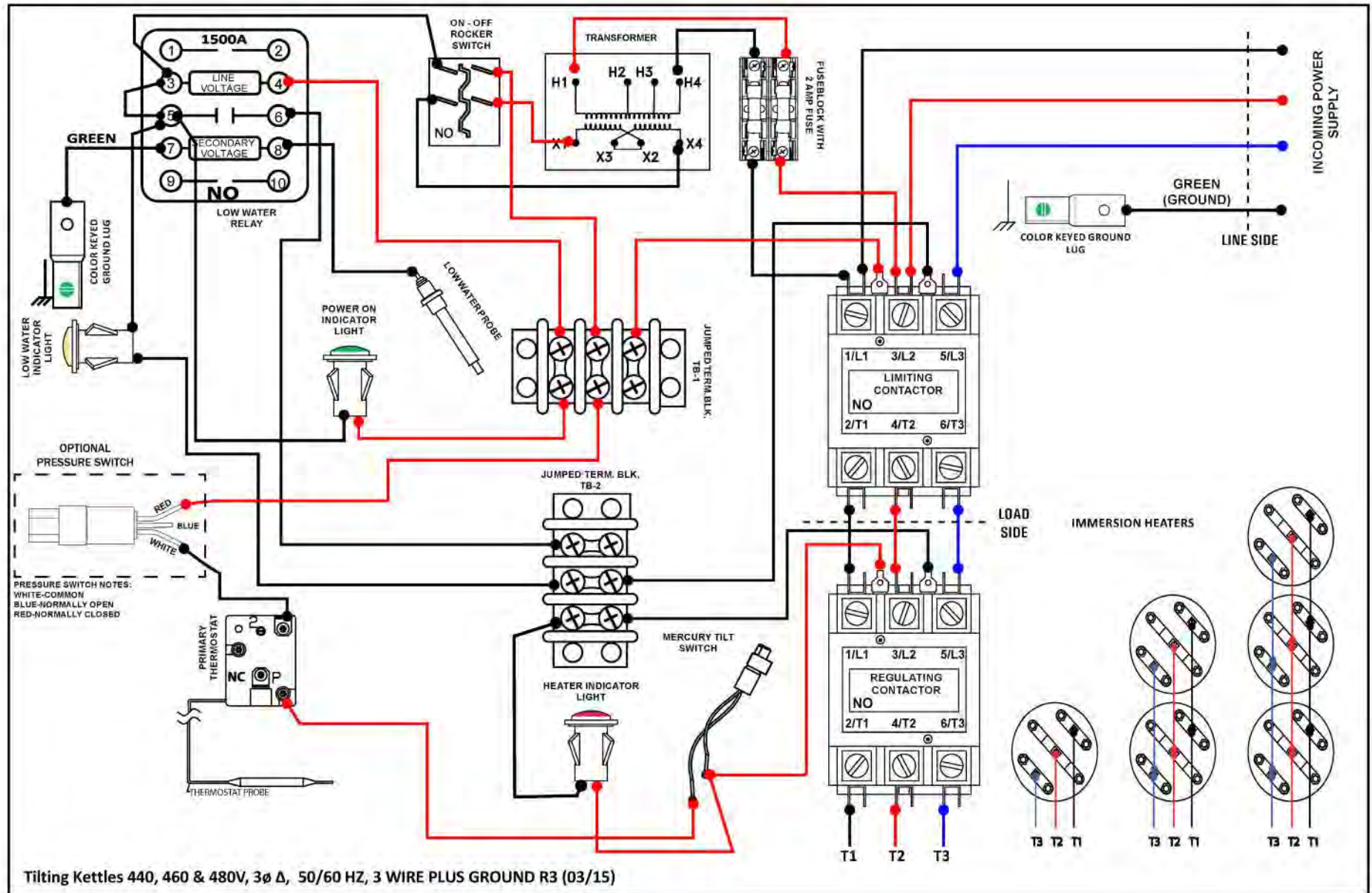


## 208-240V, 3PH, 50/60HZ, TILTING KETTLES





## 440, 460 & 480V, 3PH, 50/60HZ, TILTING KETTLES





## For Your Use & Review

### Installation Checklist

Proper operation of the Electric Self-Contained Steam Jacketed Kettle is dependent upon proper installation. Performing the following checks at the time of installation could avoid unnecessary service calls.

**IMPORTANT:** Recording the following information is necessary for your warranty to be valid.

<i>Item</i>	<i>Reference Section</i>	<i>Verify Completion</i>
1. Verify that specified clearances are met.	Installation 1. Positioning the Unit	_____
2. Verify that ventilation hood requirements comply with all code requirements. It is the responsibility of the owner and/or installer to learn and comply with these codes.		_____
3. Verify the voltage requirements and electrical connections were checked. Note the incoming power supply range cannot exceed plus or minus 5 percent of the unit's voltage rating.	Installation 3. Electrical Connection	_____
4. Verify the fused disconnect switch installed between main power supply and unit. Refer to Section VI, Item 4, Electrical Data Table for recommended fuse size.	Installation 3. Electrical Connection	_____
5. Verify that actuators are adjusted to hold cover in proper position.	Service and Maintenance 2. Actuator Maintenance and Adjustment	_____

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## Maintenance & Service Log

Model No.: \_\_\_\_\_

Purchased From: \_\_\_\_\_

Serial No.: \_\_\_\_\_

Date Purchased: \_\_\_\_\_

Purchase Order No.: \_\_\_\_\_

Location Installed: \_\_\_\_\_

Date Installed: \_\_\_\_\_

Date:	Maintenance Performed:	Performed By:

## Product Warranty

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U.S. & Canada Sales Only

### LIMITED WARRANTY

#### One Year Parts and Labor

AccuTemp Products, Inc. ( AccuTemp ) warrants that your AccuTemp equipment will be free of defects in material and workmanship under normal use for a period of twelve (12) months from installation or fifteen (15) months from date of shipment from AccuTemp, whichever date first occurs (the Warranty Period ). Registration of AccuTemp equipment is required at time of installation.

Damage to AccuTemp equipment that occurs during shipment must be reported to the carrier, and is not covered under this warranty. The reporting of any damage during shipment is the sole responsibility of the commercial purchaser/user of such AccuTemp equipment.

AccuTemp provides an active service department, which should be contacted and advised of service issues regardless of warranty period.

During the warranty period, AccuTemp agrees to repair or replace, at its option, F.O.B. factory, any part which proves to be defective due to defects in material or workmanship, provided the equipment has not been altered in any way and has been properly installed, maintained, and operated in accordance with the instructions in the AccuTemp Owners Manual.

During the warranty period, AccuTemp also agrees to pay for any factory authorized equipment service agency (within the continental United States and Canada) for reasonable labor required to repair or replace, at our option, F.O.B. factory, any part which proves to be defective due to defects in materials or workmanship, provided the service agency has received advance approval from AccuTemp factory service to perform the repair or replacement. This warranty includes travel time not to exceed two hours and mileage not to exceed 50 miles (100 miles round trip), but does not include post start-up assistance or training, tightening of loose fittings or external electrical connections, minor adjustments, gaskets, maintenance, or cleaning. AccuTemp will not reimburse the expense of labor required to replace parts after the expiration of the warranty period.

Proper installation is the responsibility of the dealer, owner-user, or installing contractor and is not covered by this warranty. While AccuTemp products are built to comply with applicable standards for manufacturers, including Underwriters Laboratories (UL) and National Sanitation Foundation (NSF), it is the responsibility of the owner and the installer to comply with any applicable local codes that may exist.

AccuTemp makes no other warranties or guarantees, whether expressed or implied, including any warranties of performance, merchantability, or fitness for any particular purpose. AccuTemp's liability on any claim of any kind, including negligence, with respect to the goods and services covered hereunder, shall in no case exceed the price of the goods and services, or parts thereof, which gives rise to the claim. In no event shall AccuTemp be liable for special, incidental, or consequential damages, or damages in the nature of penalties.

This constitutes the entire warranty, which supersedes and excludes all other warranties, whether written, oral, or implied.

### IMPORTANT

Improper installation can affect your warranty. Installation is the responsibility of the Dealer, Owner/User or the Installation Contractor. See: Section One, Installation of the Owner's Manual. For Service Call 800-480-0415 or email: [service@accutemp.net](mailto:service@accutemp.net)





# ***LIFETIME***<sup>TM</sup> **SERVICE & SUPPORT**

1-800-480-0415 | [service@accutemp.net](mailto:service@accutemp.net)

## IMPORTANT SERVICE INFORMATION

AccuTemp Product, Inc. Technical & Customer Support Technician is available Monday thru Sunday, 7:00am to 7:00pm EST.