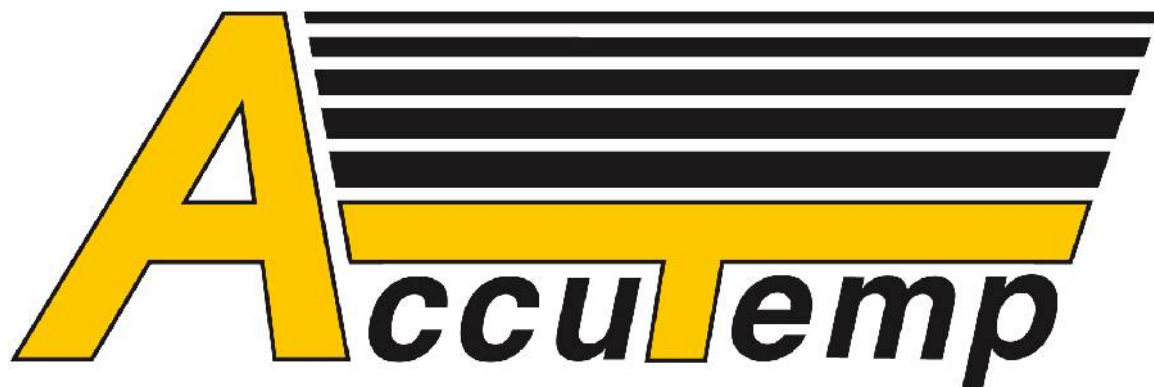




# SERVICE MANUAL

SERIAL NUMBERS 25384 AND UP



ACCUTEMP PRODUCTS, INC.

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# INTRODUCTION-CONNECTIONLESS 3 & 6 PAN MODELS

The AccuTemp Steam 'N' Hold steamer takes time-proven method of cooking with steam and adds the advantage of control. This is accomplished by reducing the internal atmospheric pressure of the Steam 'N' Hold cooking chamber, thereby lowering the temperature at which water begins to boil. This allows the operator to control the temperature of the steam for cooking. Controlling the steam temperature gives the operator the ability to cook the food to the desired temperature without over-cooking, resulting in a more tender, juicier, nutritious product with less shrinkage than was previously possible. Once the cooking time expires, the steamer automatically enters the "Hold" mode. In this mode, the thermostat regulates the internal temperature, but vacuum is released, returning the cooking chamber to normal atmospheric pressure. At this time, steam is no longer generated and the cooking chamber is held at the desired temperature at a relative humidity of 100%. This eliminates food from drying out by suppressing the evaporation of the products' natural moisture. As a result, most food products can be held in a ready to serve state for several hours after cooking, with no appreciable loss in taste, appearance or consistency.

## SEQUENCE OF OPERATION

### MAIN ON / OFF SWITCHES

Power is supplied through the power cord to the main contactor. Power comes off the back side of the contactor to the water board. While power is supplied to the water board, current is conducted thru the water sensors in the cooking chamber which must sense that water is in the unit to allow it to come on. The over-temp and water board are in series. Both must be satisfied before the unit can turn on. When the ON button is pressed it completes the circuit. The main contactor will pull in and will send power to the solid state heater relays at the same time latching the CR1 and CR2 control relays. Power is also sent to the timer and thermostat. The timer has 3 settings: HOLD, TIME and CONTINUOUS. When the timer is engaged power will be sent to the control relay on the top of the pump and the pump will start.

# TROUBLE SHOOTING GUIDE

| STEAMER TROUBLE SHOOTING GUIDE |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------------------|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SYMPTOM                        | POSSIBLE CAUSE                    | EVALUATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Unit will not power up         | No water in the steamer           | Fill with up to 3 gallons of water. Make sure the water level is above the sensors.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|                                | Water Sensors                     | Scrub and clean with a scotch brite pad.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                                | Incoming power supply             | Check breakers, reset if required. Check the power plug to be sure it is firmly in the receptacle. Measure incoming power, call the Power Co., if necessary.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|                                | Steamer fuses                     | Check and or replace                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|                                | Fuse holder                       | Check and or replace                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|                                | On switch and contacts            | Check for continuity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|                                | Control Relays                    | Check continuity of the coil. Check for power to relay coil. Visually check for contact pull in and contact condition. Check for voltage across relay terminals.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|                                | Water Board                       | Check to see if the LED on the water board is on when the unit is powered up. Clean the sensors and re-inspect. Check for incoming power and check to make sure the ground is correct. If the LED light does not come on, replace the board. Boards with a 10 second delay is just the opposite                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                                | Hi Limit                          | <b>NOTE:</b> Serial No. 3865 to 19117 have a resetable Hi-Limit. <b>Unplug</b> the unit and locate the access panel on the rear of the unit. Push the button in until it clicks. If this fails to start the unit after plugging back in, check the control relay and/or the off contact. These units also have a auto- reset hi-limit (purple and brown wires). If this is open while the unit goes to low water it needs to be replaced.                                                                                                                                                                                                                                                                                                                                               |
| Unit is cooking slow           | Low vacuum pressure, Vacuum pump. | Remove the top left pan rail in the steaming chamber. There will be 1 or two holes. If there are two holes, the one towards the front is for the pressure switch and does not need to be plugged. There may be a third hole located on the lower left side of the chamber and this must be plugged in addition to the top hole. From a cold start, plug all the holes with your fingers, turn the unit on and observe the reading on the vacuum gauge. The correct reading should be between 20 to 25 inches of pressure. 0 to 5 inches of pressure denotes a faulty pump.<br>Check all the hoses and connections for any leaks. If the pump does not run at all, give the fan blade a push start through the grill. If the pump starts, it has a bad run capacitor. Replace as needed. |

|                                    |                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|------------------------------------|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Unit is cooking slow (cont)</b> | Pressure switch       | In the FAST cook mode, the pressure switch will close once the steam chamber reaches the thermostat setting. As the temperature rises, the vacuum pressure falls. Once the unit reaches 210 to 212 degrees, the pressure will be at zero. Cycle times when the unit is calling for heat should be around 8 to 10 seconds on and 60 to 90 seconds off. Replace the pressure switch if the cycle times are off or if you can suck air through the switch.     |
|                                    | Door Gasket           | Check for cuts or cracks. Replace as needed                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                    | Door Alignment        | With the unit on and the pump running, perform the Dollar Bill test on the door. Close the door on a Dollar Bill. (all four sides of the door) There should be resistance when pulling the bill out. If the bills comes out easily, remove the hinge covers. Loosen all of the screws, turn the thermostat to 150 degrees, enable the timer, shut the door and turn the unit on so it creates a vacuum and draws the door in and then retighten the screws. |
|                                    | Door Sealing          | If the door alignment process does not fix the problem, remove the inner door and place it on a flat surface and check for any warpage. Also check that the suction cups are sealing. If they have turned gray or white then replace. Use one of the pan rails as a straight edge. Straighten and re-bend the inner door until it is flat and re-install using the door alignment procedure.                                                                |
| <b>Unit is cooking slow (cont)</b> | Quick Release Door    | On the inner door, check that the four suction cups are sealing and that the spring is functioning properly. Replace as needed.                                                                                                                                                                                                                                                                                                                             |
|                                    | Solid State Relay     | Check the cycle times as stated above. Check the voltage between T1 and L1. If the LED light is on, there should be 0 voltage. If the unit does not cycle, and the LED stays on, replace the relay.                                                                                                                                                                                                                                                         |
|                                    | Over-temp             | Ohm out the Hi-limit to see if it is good. Clean the sensors and check the water board. If the low water light comes on while the unit is heating up, refer to the Hi-limit procedure.                                                                                                                                                                                                                                                                      |
|                                    | Thermocouple (type J) | Check that the thermocouple is wired correctly to the thermostat. White is positive (Terminal 6) and Red is negative (terminal 7). Reversing the terminals will result in a run-away condition. See attached chart for DC-milli volt readings.                                                                                                                                                                                                              |

|                                                    |                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------------------------------------|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Unit is over-tempering (cont)</b>               | Thermostat            | When a unit is at an altitude of 2,500ft+ water boils at this altitude at about 207 degree's. In thermostat mode unit starts blowing steam out the door just after heat light goes out. (It will do this because of extra heat in the element when it shuts off at about 205 degree's, drift point is at least 2 degree's). If you have the tech set thermostat at 190 degree's and put in fast cook it will run at the point customer wants to cook at |
|                                                    | Thermostat            | Check resistance between terminals 4 & 5. AC thermostats should read line voltage and DC thermostats should be between 3 to 34 DC volts.                                                                                                                                                                                                                                                                                                                |
|                                                    | Thermocouple (type J) | See above                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Unit is not coming up to proper temperature</b> | Heating elements      | Check for resistance between the two outside double white wires on the terminal block. On 17kW units check to terminals 1 & 6, 2 & 5, and 3 & 4 on the terminal block. See attached chart for resistance readings.                                                                                                                                                                                                                                      |

| TYPE J THERMOCOUPLE READINGS - THERMOELECTRIC VOLTAGE IN DC MILLIVOLTS |       |       |       |       |       |       |       |       |       |       |       |
|------------------------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| F°                                                                     | 0     | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10    |
| 70                                                                     | 1.076 | 1.105 | 1.134 | 1.162 | 1.191 | 1.22  | 1.249 | 1.277 | 1.306 | 1.335 | 1.364 |
| 80                                                                     | 1.364 | 1.392 | 1.421 | 1.45  | 1.479 | 1.508 | 1.537 | 1.566 | 1.594 | 1.623 | 1.652 |
| 90                                                                     | 1.652 | 1.681 | 1.71  | 1.739 | 1.768 | 1.797 | 1.826 | 1.855 | 1.884 | 1.913 | 1.942 |
| 100                                                                    | 1.942 | 1.972 | 2.001 | 2.03  | 2.059 | 2.088 | 2.117 | 2.146 | 2.175 | 2.205 | 2.234 |
| 110                                                                    | 2.234 | 2.263 | 2.292 | 2.322 | 2.351 | 2.38  | 2.409 | 2.439 | 2.468 | 2.497 | 2.527 |
| 120                                                                    | 2.527 | 2.556 | 2.585 | 2.615 | 2.644 | 2.673 | 2.703 | 2.732 | 2.762 | 2.791 | 2.821 |
| 130                                                                    | 2.821 | 2.85  | 2.88  | 2.909 | 2.938 | 2.968 | 2.997 | 3.027 | 3.057 | 3.086 | 3.116 |
| 140                                                                    | 3.116 | 3.145 | 3.175 | 3.204 | 3.234 | 3.264 | 3.293 | 3.323 | 3.353 | 3.382 | 3.412 |
| 150                                                                    | 3.412 | 3.442 | 3.471 | 3.501 | 3.531 | 3.56  | 3.59  | 3.62  | 3.65  | 3.679 | 3.709 |
| 160                                                                    | 3.709 | 3.739 | 3.769 | 3.798 | 3.828 | 3.858 | 3.888 | 3.918 | 3.948 | 3.977 | 4.007 |
| 170                                                                    | 4.007 | 4.037 | 4.067 | 4.097 | 4.127 | 4.157 | 4.187 | 4.217 | 4.246 | 4.276 | 4.306 |
| 180                                                                    | 4.306 | 4.336 | 4.366 | 4.396 | 4.426 | 4.456 | 4.486 | 4.516 | 4.546 | 4.576 | 4.606 |
| 190                                                                    | 4.606 | 4.636 | 4.666 | 4.696 | 4.726 | 4.757 | 4.787 | 4.817 | 4.847 | 4.877 | 4.907 |
| 200                                                                    | 4.907 | 4.937 | 4.967 | 4.997 | 5.028 | 5.058 | 5.088 | 5.118 | 5.148 | 5.178 | 5.209 |
| 210                                                                    | 5.209 | 5.239 | 5.269 | 5.299 | 5.329 | 5.36  | 5.39  | 5.42  | 5.45  | 5.48  | 5.511 |

# REMOVAL AND INSTALLATION 6 PAN MODEL

## REMOVAL FROM STAND

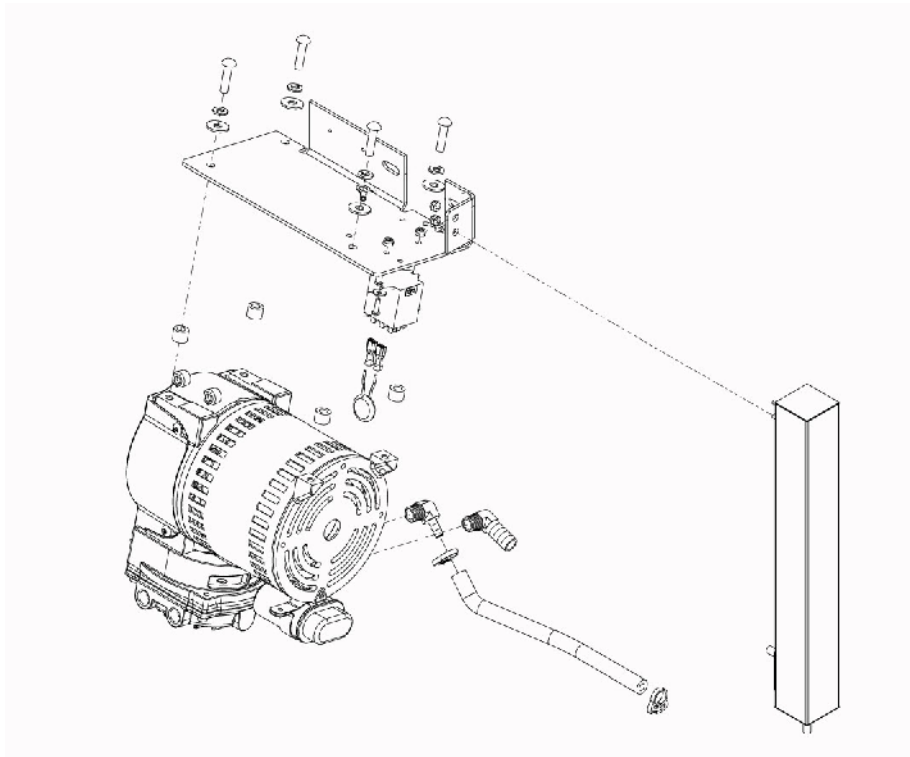
Using a 7/16" wrench, remove the 4 ¼"-20 x ½" bolts and lock washers located on the mounting brackets going into the bottom of the unit. When reinstalling, make sure the "L" brackets that hold the drip pan are facing inward.

## REMOVAL OF LEGS

Units with legs use the same "L" brackets used on the stand but are held on by 8 ¼"-20 X ½" bolts and lock washers. Use a 7/16" wrench to remove these to access the bottom panel.

## GAST VACUUM PUMP

1. Unplug the unit.
2. Remove the sheet metal screws on the left side panel of the unit.
3. Disconnect the wires to the relay and mark the locations.
4. Remove the hoses from the pump head.
5. Remove the two 3/8" nuts holding the muffler on and pull out of the way.
6. Remove the bolts on the pump bracket and pull the whole assembly out.
7. Remove the 4 Phillips screws washers and spacers on the bracket.
8. Remove the brass fittings on the head of the pump.
9. Reassemble in reverse order.





## THERMOSTAT

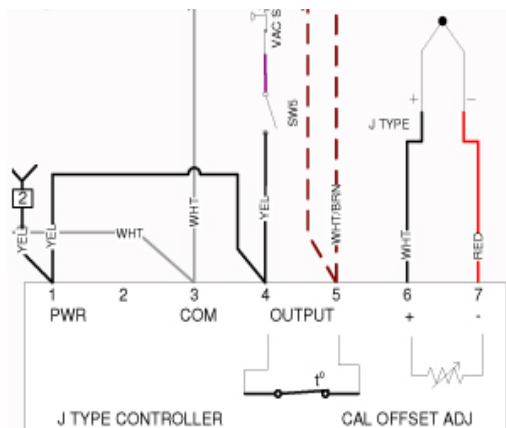
1. Unplug the unit
2. Remove the sheet metal screws on the left side panel of the unit.
3. Remove the knob and the seal nut with a ½" nut driver on the front of the unit.
4. Disconnect the wires and mark the pin locations.
5. Reassemble in reverse order.

**Note: AC thermostats have 6 pins and DC thermostats have 7 pins.**

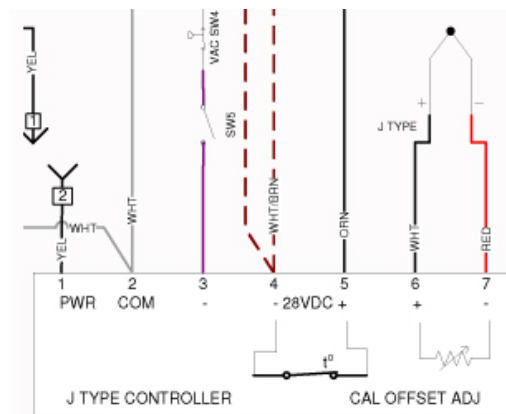
## TEMPERATURE PROBE

1. Unplug the unit.
2. Remove the sheet metal screws on the left side panel of the unit.
3. Remove the white wire from terminal # 6 and the red wire from terminal # 7.
4. Follow the red and white wire down to the bottom of the unit.
5. Peel the insulation aside and remove the retaining nut with a 3/8" nut driver.
6. Reassemble in reverse order.

AC Thermostat



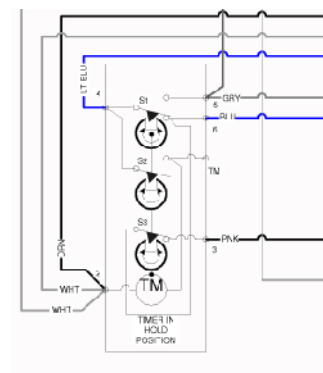
DC Thermostat



## T

1. Unplug the unit
2. Remove the sheet metal screws on the left side panel of the unit.
3. Remove the knob and retaining nut with a ½" nut driver on the front of the unit.
4. Disconnect the wires and mark the pin locations.
5. Reassemble in reverse order.

**Note: Don't remove jumper wires.**

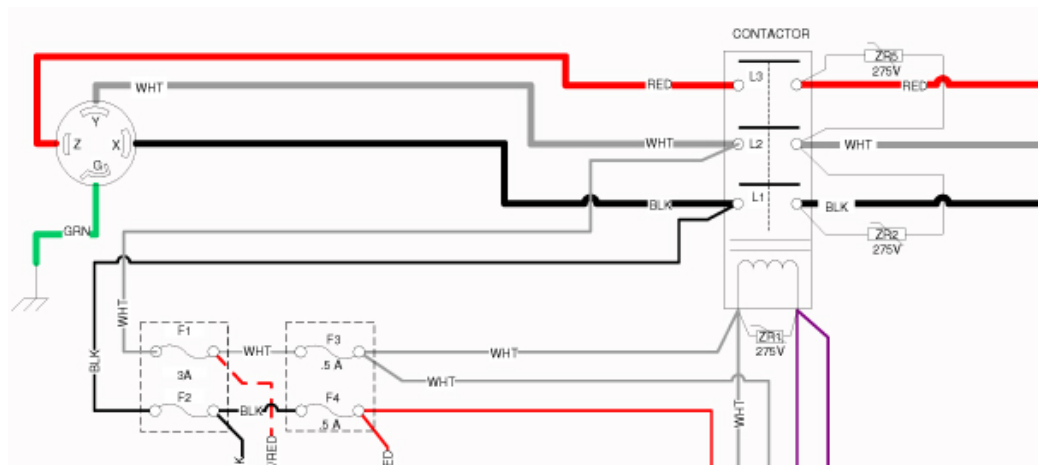


## VACUUM AND TEMPERATURE GAUGES

1. Unplug the unit
2. Remove the sheet metal screws on the left side panel of the unit.
3. On the vacuum gauge, remove the hose from the inlet connection.
4. Remove the two 10/24 nuts.
5. On the temperature gauge, remove the retaining nut on the inlet connection.
6. Follow the capillary leads down to where the probe is mounted to the unit.
7. Remove the two 3/8" nuts.
8. Reassemble in reverse order.

## CONTACTOR

1. Unplug the unit.
2. Remove the sheet metal screws on the left side panel of the unit.
3. Remove the red, black and white leads on both sides of the contactor.
4. Remove coil wires.
5. Remove the 6/32" nyloc nuts that secure the contactor.
6. Reassemble in reverse order.



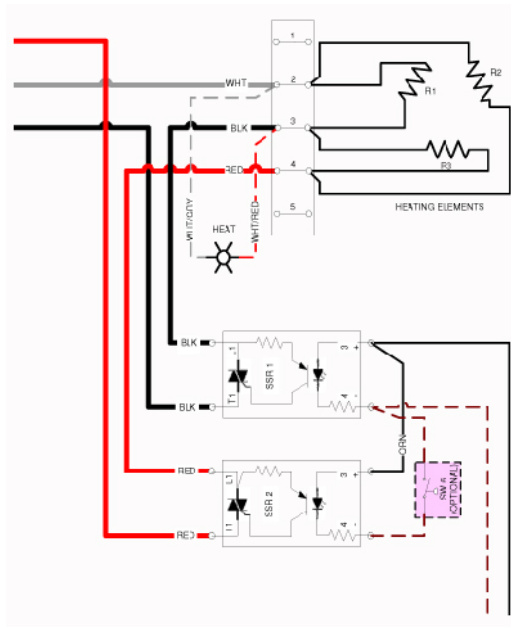
## VACUUM HOSES AND TEES

1. Unplug the unit.
2. Remove the sheet metal screws on the left side panel of the unit.
3. Check all hoses and Tees for cracks or leakage.
4. Remove clamps and replace.

## SOLID STATE RELAYS

1. Unplug the unit.
2. Remove the sheet metal screws on the left side panel of the unit.
3. Remove the wires attached to the relay and mark their locations.
4. Remove the two mounting screws.
5. Reassemble in reverse order.

**Note. Relays not mounted on a heat sink should use a heat pad or thermal paste.**



## LAMPS

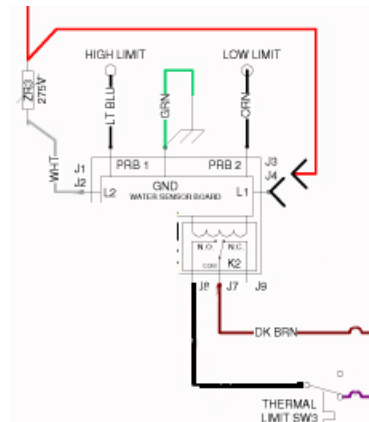
1. Unplug the unit
2. Remove the sheet metal screws on the left side panel of the unit.
3. Remove the two wires on the lamp terminals.
4. With a pair of pliers, depress the locking ears on the switch and push the lamp through the front.
5. Push new lamp in the mounting hole. Make sure locking ears engage.
6. Reattach the wires.

## FUSES

1. Unplug the unit
2. Remove the sheet metal screws on the left side panel of the unit.
3. Pry the fuses out of the fuse block with a pocket screw driver.

## WATER SENSOR CONTROL BOARD

1. Unplug the unit
2. Remove the sheet metal screws on the left side panel of the unit
3. Disconnect the wires and mark the pin locations.
4. Remove the nylon mounting pins.
5. Reassemble in reverse order.



## WATER SENSORS

1. Unplug the unit.
2. Remove the sheet metal screws on the left side panel of the unit.
3. Open the door and drain all the water from the chamber.
4. Remove the 8/32" hex nut from the back side of the sensor with an 11/32" wrench and remove the sensor lead.
5. Use a 3/4" wrench to remove the nut on the sensor.
6. Push the sensor thru the hole from the backside.
7. Reassemble in reverse order.

**Note: Do not exceed 15 inch pounds when tightening the sensor mounting nut.**

## CONTROL RELAYS

1. Unplug the unit.
2. Remove the sheet metal screws on the left side panel of the unit.
3. Disconnect the wires and mark the pin connections.
4. Remove the 6/32" nyloc nuts.
5. Reassemble in reverse order.

## **FAST COOK / THERMOSTAT TOGGLE SWITCH**

1. Unplug the unit
2. Remove the sheet metal screws on the left side panel of the unit.
3. Remove the retaining nut with an open end 1/2" wrench.
4. Disconnect the wires.
5. Reassemble in reverse order.

## **ON/OFF SWITCHES**

1. Unplug the unit
2. Remove the sheet metal screws on the left side panel of the unit.
3. On the inside of the unit, push the tension spring on the locking ring and then pull the switch out from the front.
4. Reassemble in reverse order

## **CORD AND PLUG ASSY**

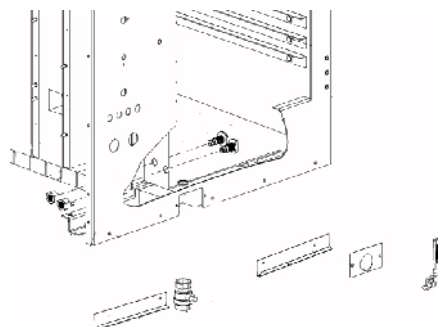
1. Unplug the unit.
2. Remove the sheet metal screws on the left side panel of the unit.
3. Disconnect the red, black and white leads from the contactor.
4. Remove the strain relief retaining nut on the inside of the unit and pull the cord out.
5. Reassemble in reverse order.

## **DRAIN VALVE**

1. Unplug the unit.
2. Drain all of the water from the chamber.
3. Turn the unit upside down and remove the legs and bottom panel.
4. Use a strap wrench to remove the valve.
5. Reassemble in reverse order.

## **GUTTERS**

1. Remove the sheet metal screws on the bottom front of the unit. Two on the right and two on the left.
2. There are right and left oriented gutters. The right gutter will have a hole \*5/8" from the left side and the left gutter will have a 5/8" from the right side. Gutters need to angle down towards the drip pan.



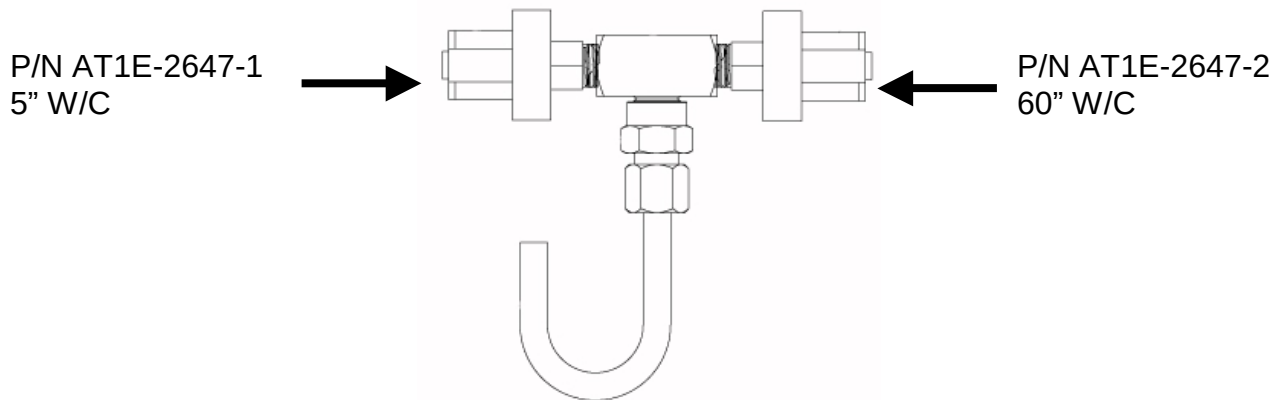
## PRESSURE SWITCH

1. Unplug the unit.
2. Remove the sheet metal screws on the left side panel of the unit.
3. Remove the wires from the top and bottom leads of the switch.
4. Use Teflon tape on the barrel of the new switch and reinstall.

## DUAL PRESSURE SWITCH

1. Unplug the unit.
2. Remove the sheet metal screws on the left side panel of the unit.
3. Remove the wires from the top and bottom leads off of the switches.
4. Remove the brass elbow attached to the "J" tube going into the chamber. Make sure it is not plugged up.
5. Use Teflon tape on the barrel of the new switch and reinstall.

**Note: The 5" W/C pressure switch is rated at 1/3 HP and the 60" WC switch is rated at 1/2 HP.**

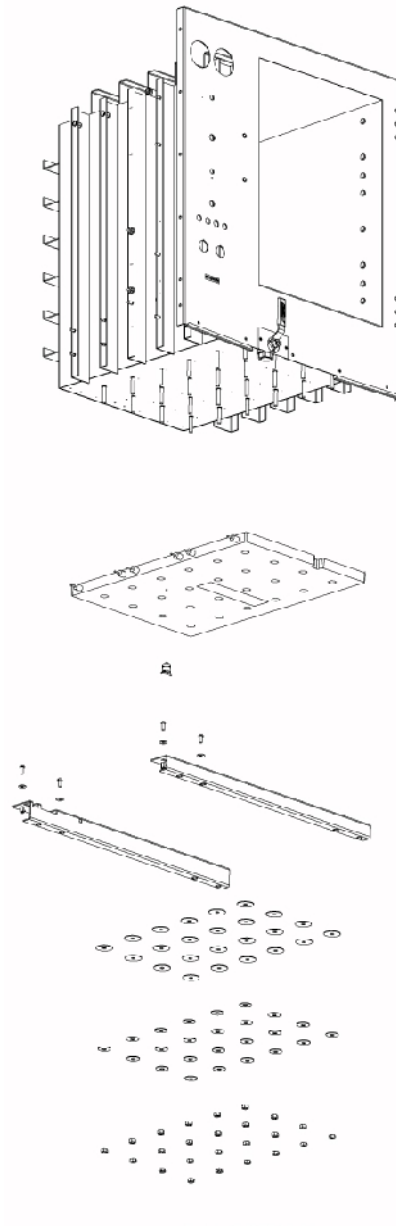
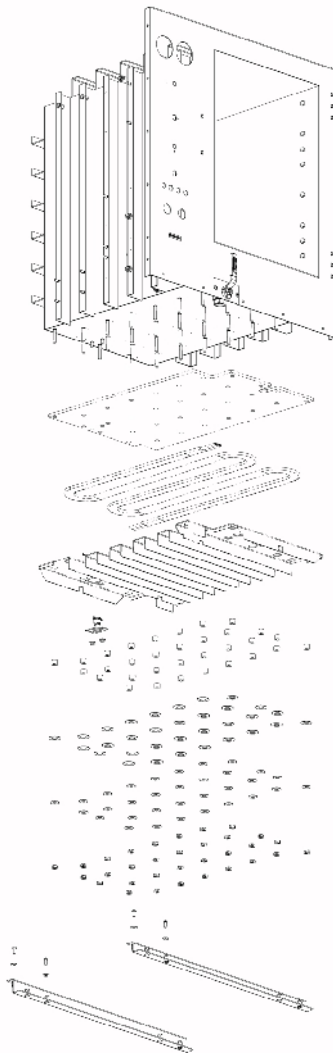


## FIREBAR HEATER REPLACEMENT

1. Turn unit up side down.
2. Remove legs and bottom panel.
3. Remove all brackets, nuts, washers, spacers, over-temp nuts, over-temp plate, over-temp, center heater mount, element and the isolator plate.
4. Remove any old anti-seize from the isolator plate and clean thoroughly.
5. Apply new anti-seize to both sides of the isolator plate. ( silver grade rated @ 1600 to 1800 degrees F)
6. Apply anti-seize to both sides of the new element. **Keep 2" away from the wire leads.**
7. Re-install in order: isolator plate, element, center heater mount, over-temp, over-temp plate and nuts, spacers, Belleville washers ( **dome side up**), plain washers, **new lock nuts. ( torque to 30 inch pounds)**, and front and back "Z" brackets. Tighten in a circular pattern from the inside to the outside.
8. Reinstall bottom plate and legs.

## CAST HEATER REPLACEMENT

1. Turn unit upside down
2. Remove legs and bottom panel.
3. Remove all nuts, Belleville washers, fender washers, heater mount bracket, and heater element.
4. Thoroughly clean old thermal paste from the studs and bottom of the unit.
5. Apply thermal paste to bottom side of the new element and install over studs.
6. Apply thermal paste to the screw-in over-temp and install.
7. Install in order: heater mount bracket, fender washers, Belleville washers **(dome side up)** and new lock nut. ( torque to 25 inch pounds)



## DOOR REMOVAL

1. Leave the door shut.
2. Remove the hinge covers.
3. Remove the Phillips head screws going into the cabinet and remove door.

## INNER DOOR REMOVAL

1. Remove hinge covers.
2. Remove the long top screw in the top hinge and the long bottom screw in the bottom hinge (if equipped)
3. Insert a flat head screw driver into the slot located on the bottom of the outer door and pry the inner door out.

## FLOATING INNER DOOR REMOVAL ( SERIAL NUMBERS 29783 AND ABOVE)

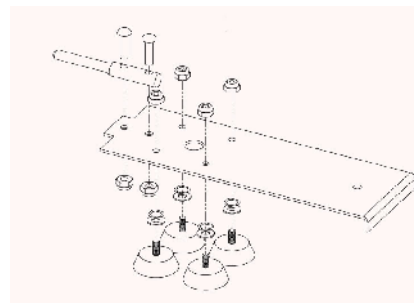
1. Remove the long top screw in top hinge and the long bottom screw in the bottom hinge (if equipped).
2. Pull inner door out. Angle the rod that is inserted in the spring on the bottom side of the handle out last.

## GASKET REPLACEMENT

1. Remove the inner door as stated above.
2. Make sure the gasket is untangled, then starting at a corner, stretch the gasket to the opposite corner. Repeat this sequence on the other corners until all four corners are seated. Push the gasket along the edges to firmly seat onto the inner door.

## INNER DOOR VALVE CUP REPLACEMENT

1. Remove inner door as stated above.
2. Locate the valve plate assembly and remove the 10/24 nyloc nut and discard. Remove cone spring.
3. Remove the valve plate assembly from the inner door.
4. Remove the (4) 8-32 nyloc nuts holding the seals and discard both.
5. On each valve, first place a flat washer and then a "wave" washer on the threaded stem of the seal.
6. Place each seal assembly back into the valve plate and fasten with the 8/32 nyloc nuts. Tighten down until the space between the seal and the valve plate is about the thickness of the flat washer. Make sure each seal is free to pivot and rotate.
7. Reinstall the valve plate and cone spring. Tighten the nyloc nut so that one or two threads protrude through the nylon material
8. Reinstall inner door.





## **DOOR LATCH REPLACEMENT**

1. Remove the inner door as stated above.
2. Use a Phillips screw driver and a 3/8" nut driver to remove the handle from the outer door
3. Reinstall the new handle.

## **REMOVAL AND INSTALLATION - 3 PAN MODEL**

### **LIGHT BOARD**

1. Remove the cover panel to gain access to the components.
2. Remove the mounting nuts and molex connections on the board.
3. Reinstall in reverse order.

**ALL OTHER COMPONENTS, REFER TO THE 6 PAN SECTION**

# INTRODUCTION & SEQUENCE OF EVENTS

## AUTOFILL – 3 & 6 PAN MODELS

- Simple connection to water source via a garden hose style connection.
- Electronic water level control for normal operation.
- A master control valve
- Multiple level safety controls, electronic and mechanical float.
- Operates on city water supply and water pressures (40-60psi)
- Easy to clean and care for.

### Theory of operation

The Steamer is connected to the facility water supply via a washing machine or garden hose type supply line from a water spigot or from a nearby sink faucet.

#### First time fill

1. With the water supply turned on, press the “**ON**” button. The Steamer will power up with the pump operating.
2. The water fill valve will turn on, via the K5 relay on the water sense PCB. The status LED on the water sensing PCB will flash rapidly about 2-3 times a second.
3. Water Fill/Sensor PCB mounted K2 relay (low water level sensing) is bypassed to allow for first time filling of the reservoir.
4. The thermostat will be turned off, via Water Fill/Sensor PCB mounted K1 relay and CR4 bypass relay, for the first fill to prevent damage to the heater elements.
5. Water will rise to the low level probe and reset the low level circuit of the water control board and reset relay CR4.
6. When the water level reaches the High Level Probe, a 30 second delay is initiated to allow for wave action and rapid boiling inside to subside. *Wave action and rapid boiling would cause a lower than desired amount of water to be injected in the reservoir by tripping the control too soon.*
7. When the 30 seconds and water level have been satisfied, the water level control board shuts off the water level control relay and the by pass relay. The status LED will change to a slower flash rate of about 1 time per second.
8. The heater is turned on and normal operation begins.

#### Normal operation (the Steamer water reservoir has water in it).

1. On a full reservoir, the Steamer will heat up as normal for normal operation.
2. As the water is used up and the water level drops below the High-Level Probe, the water valve is turned on with no delay period.
3. After the water has reached the high water level probe and stays in constant contact, a thirty-second timing sequence is started. *(This is done to prevent short cycling of the water valve increasing the life and the reliability of the water level control valve.)*

4. When the thirty seconds have been satisfied, the water level control board shuts off the water level control K2 relay.
5. This process is repeated until the Steamer is shut off.

## **TROUBLE SHOOTING GUIDE**

1. No water pressure.
  - On a first time fill the unit will not fill up with water and the Steamer will not turn the heaters on to prevent damage.
  - Check water pressure
  - Check for dirty inlet screen.
  - Check for dirty probes.
  - Check for power to control board
  - Check for operation of the control valves
2. During operation of the Steamer, after successful initial water fill.
  - The steamer shuts down after the water level drops below the low water sensor and a 10 second delay has passed for wave and boiling action
  - Check the conditions listed above for reasons of non-operation
3. Water level sensing fails
  - If the water level control valve becomes stuck on, a mechanical float will shut down the whole Steamer and the water supply by turning off the master water control valve.
4. If the water level sensing control board becomes faulty the mechanical float will shut down the Steamer.
5. If the float has been removed
  - The Steamer will not start up until the float is re-installed.
  - Cleaning the chamber is still easy by just lifting out the mechanical float and wiping down as normal each night.

# REMOVAL AND INSTALLATION

## WATER FILL / SENSOR CONTROL BOARD

1. Unplug the unit
2. Remove the sheet metal screws on the left side panel of the unit
3. Disconnect the wires and mark the pin locations.
4. Remove the nylon mounting pins.
5. Reassemble in reverse order.

## WATER FILL VALVE

1. Unplug the unit.
2. Serial numbers 27604 and below have two plastic bodied water valves. These are discontinued and are being replaced with a heavier duty brass valve.
3. Remove the plastic body water valves and all of the plastic water lines.
4. Remove the water line brass fitting from the water inlet fitting.
5. Install the brass water valve kit into the water inlet fitting which is mounted on the back wall of the steamer enclosure, using thread sealant.
6. Connect the brass water valve kit water line to the steam chamber water inlet fitting.
7. Connect the blue and white control harness (part of the brass valve kit) to the blue and white connectors originally connected to the plastic water valve terminals.
8. Neatly bundle the non-connected ends of the yellow and white harnesses that were originally connected to the plastic water valves together with the remaining existing loose wire harnesses and wire tie them together.
9. Reconnect the steamer to the power outlet and slowly turn on the water supply while checking for leaks.



## OVERFILL SENSOR SWITCH

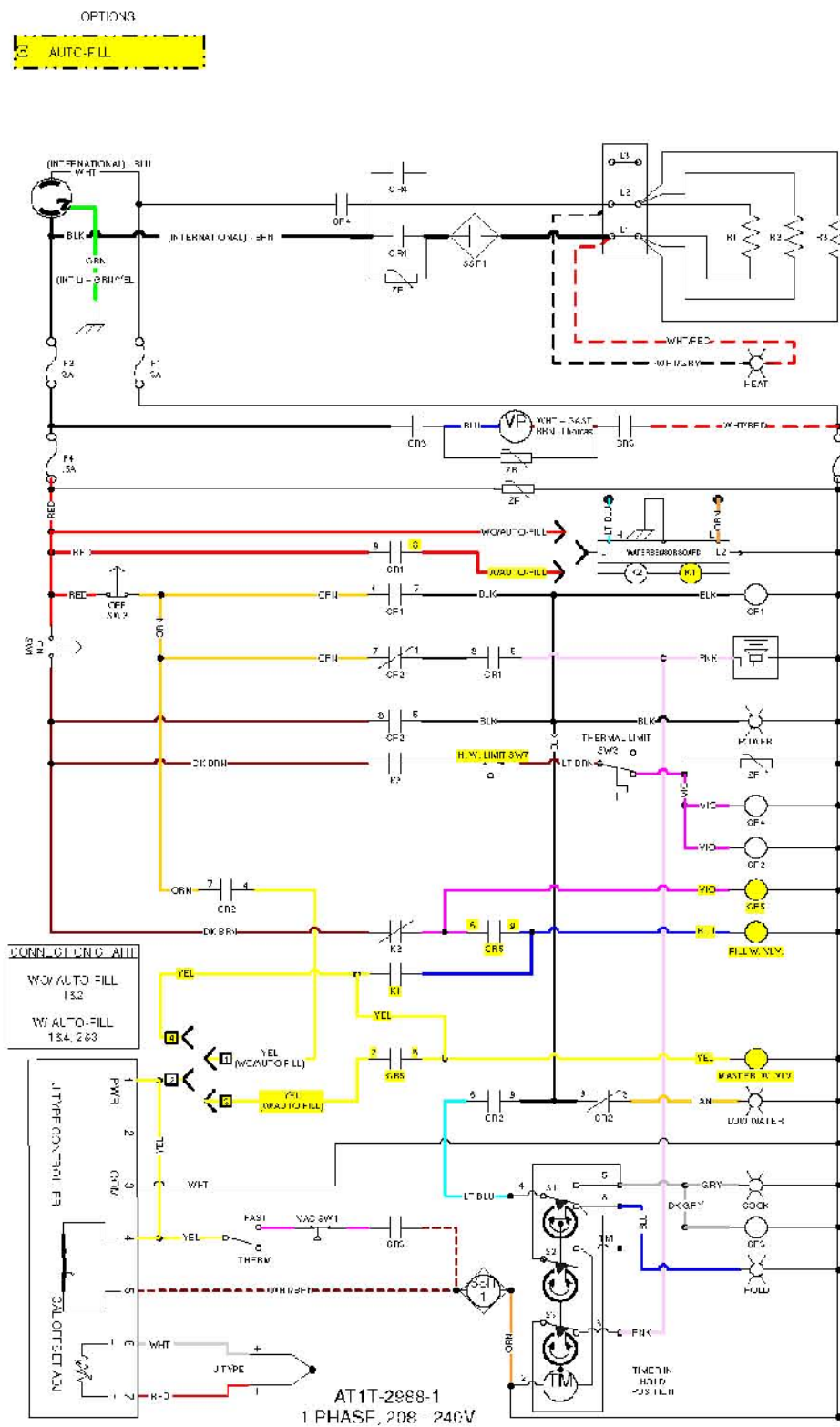
1. Unplug the unit
2. Remove the left side panel.
3. Remove leads J7 & J8 from the water board
4. Turn the unit up side down.
5. Remove the brass nut for the weep hole drain line.
6. Remove the legs and bottom panel.
7. Remove the retaining screw from the switch mounting tab and remove the switch.
8. Reinstall in reverse order.

**Note: Make sure the wires are not close to the heater element.**

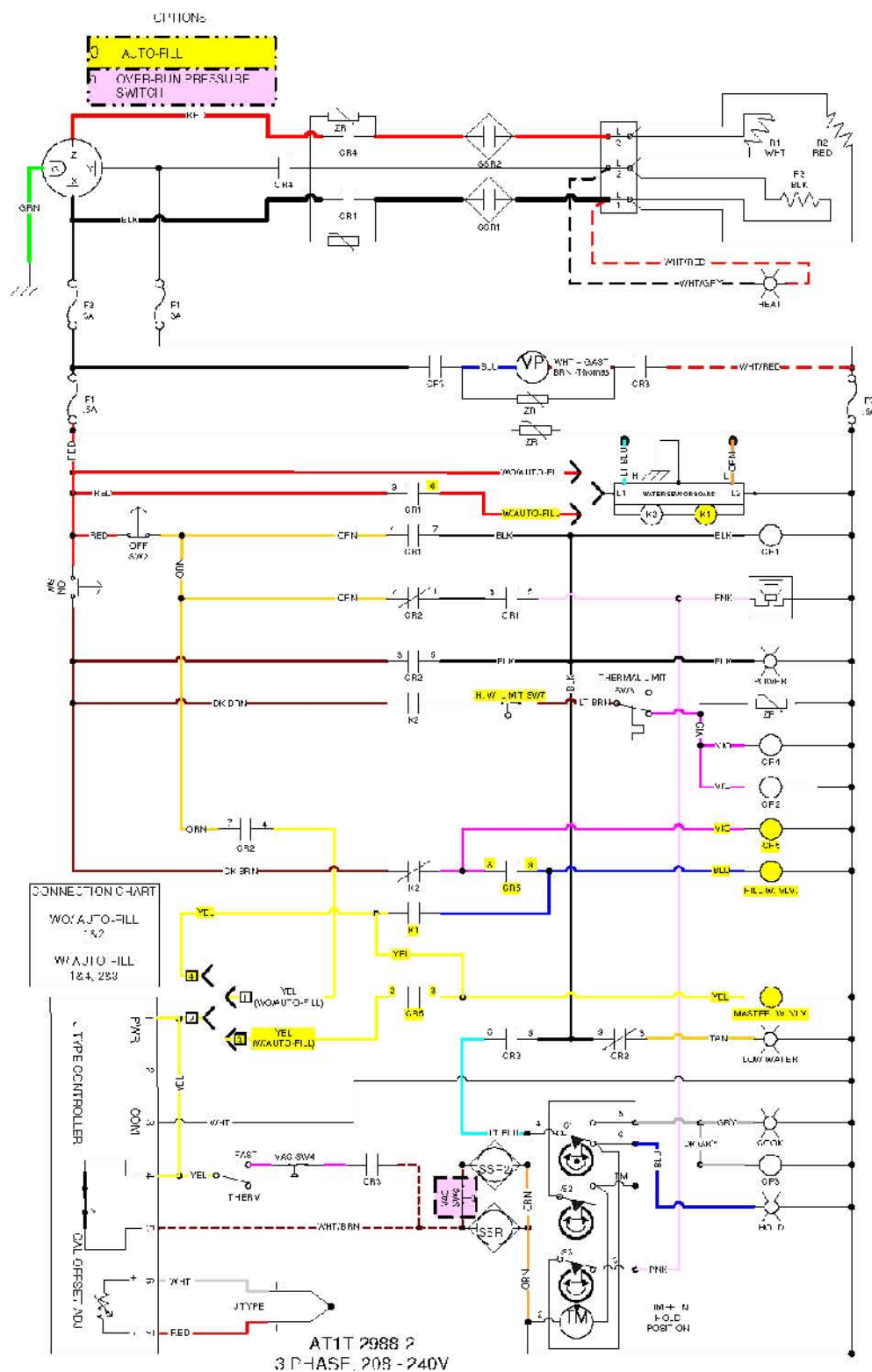
## DRAIN SYSTEM

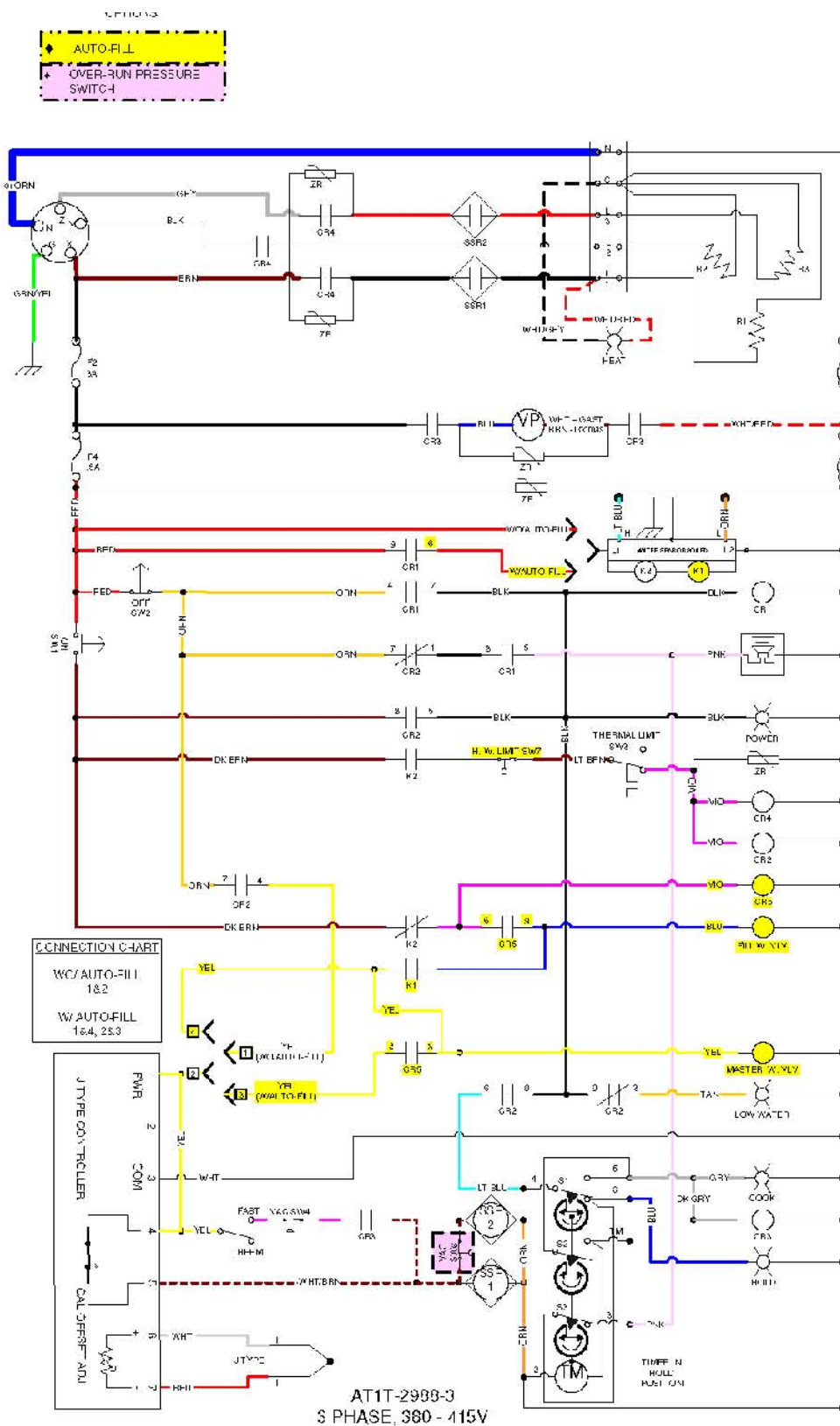
1. Remove the drain pan which is inserted in the pan rails on the bottom of the unit.
2. Remove the hose clamps from the drain hose connections.

## SCHEMATIC – 6 PAN – 208V & 240V – SINGLE PHASE



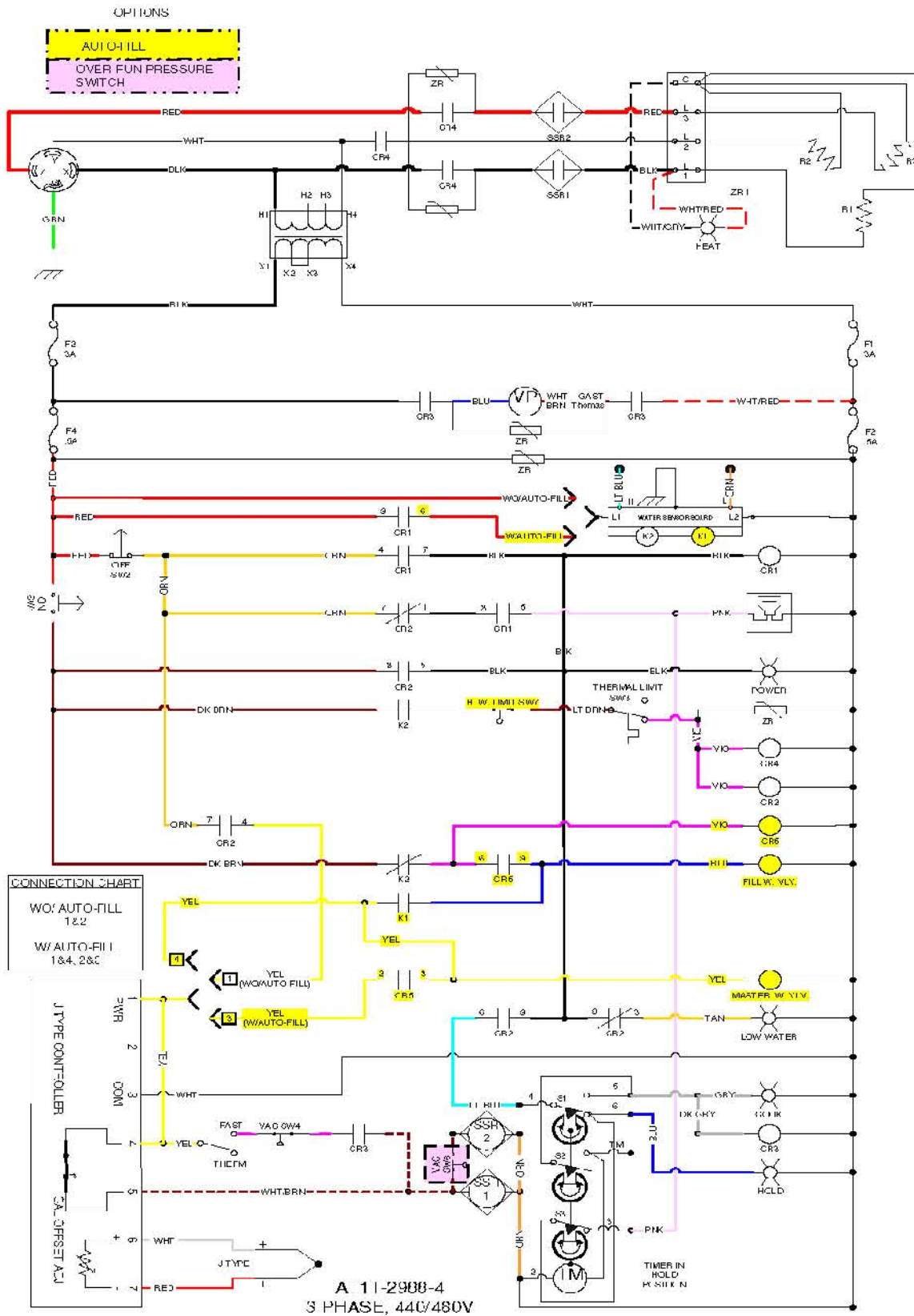
# SCHEMATIC – 6 PAN – 208V & 240V – THREE PHASE



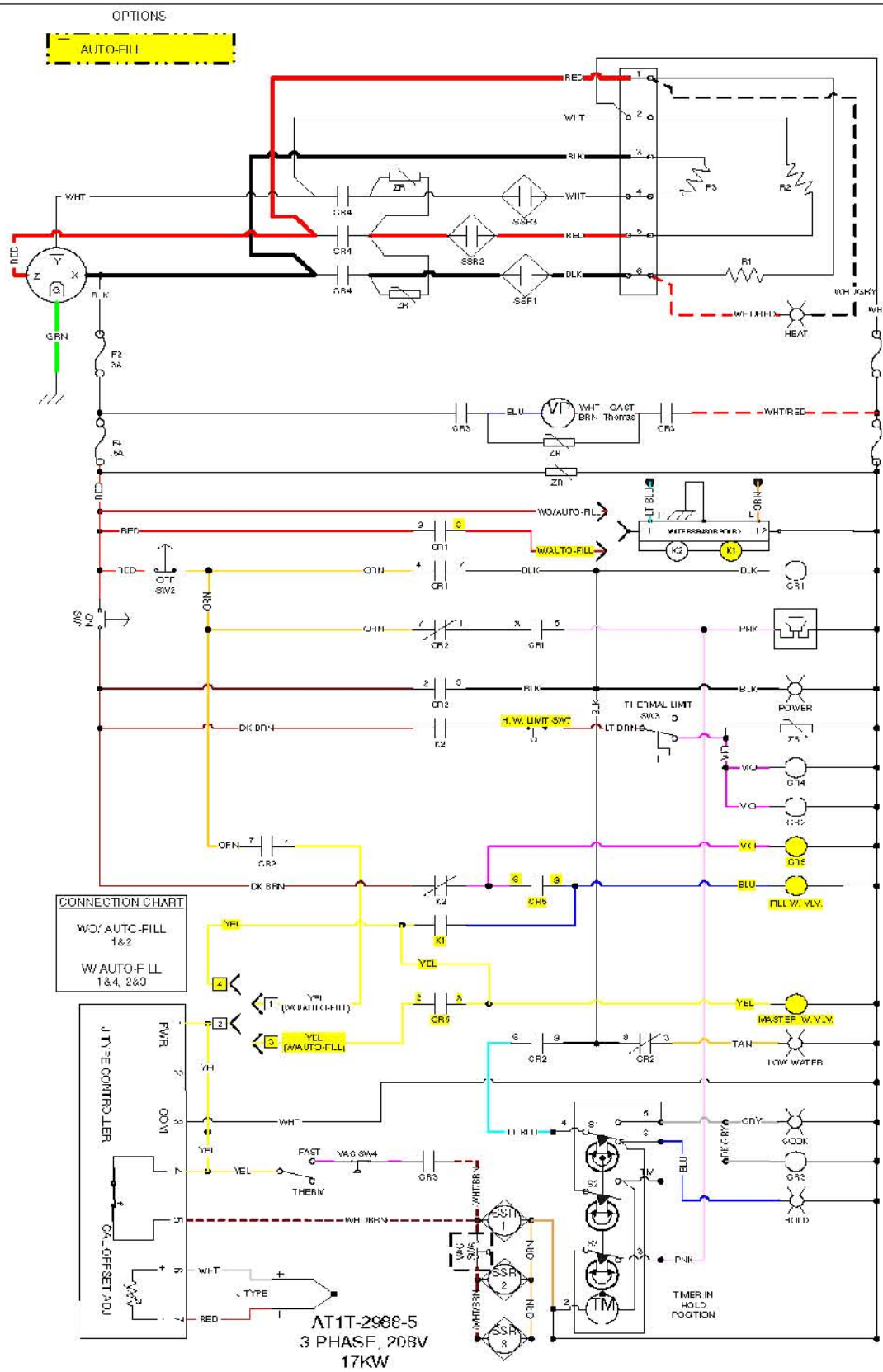




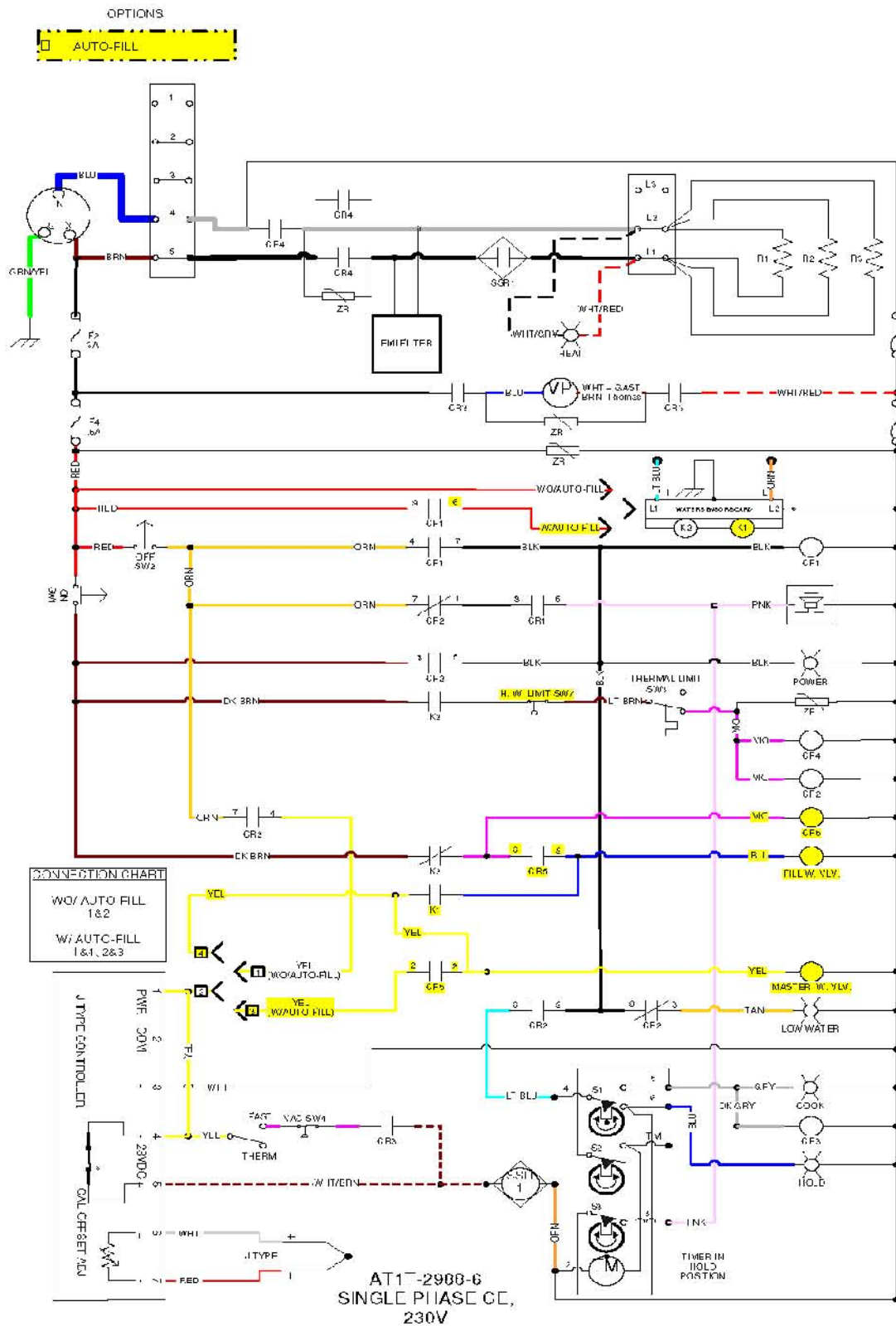
# SCHEMATIC – 6 PAN – 440V-480V – 3 PHASE



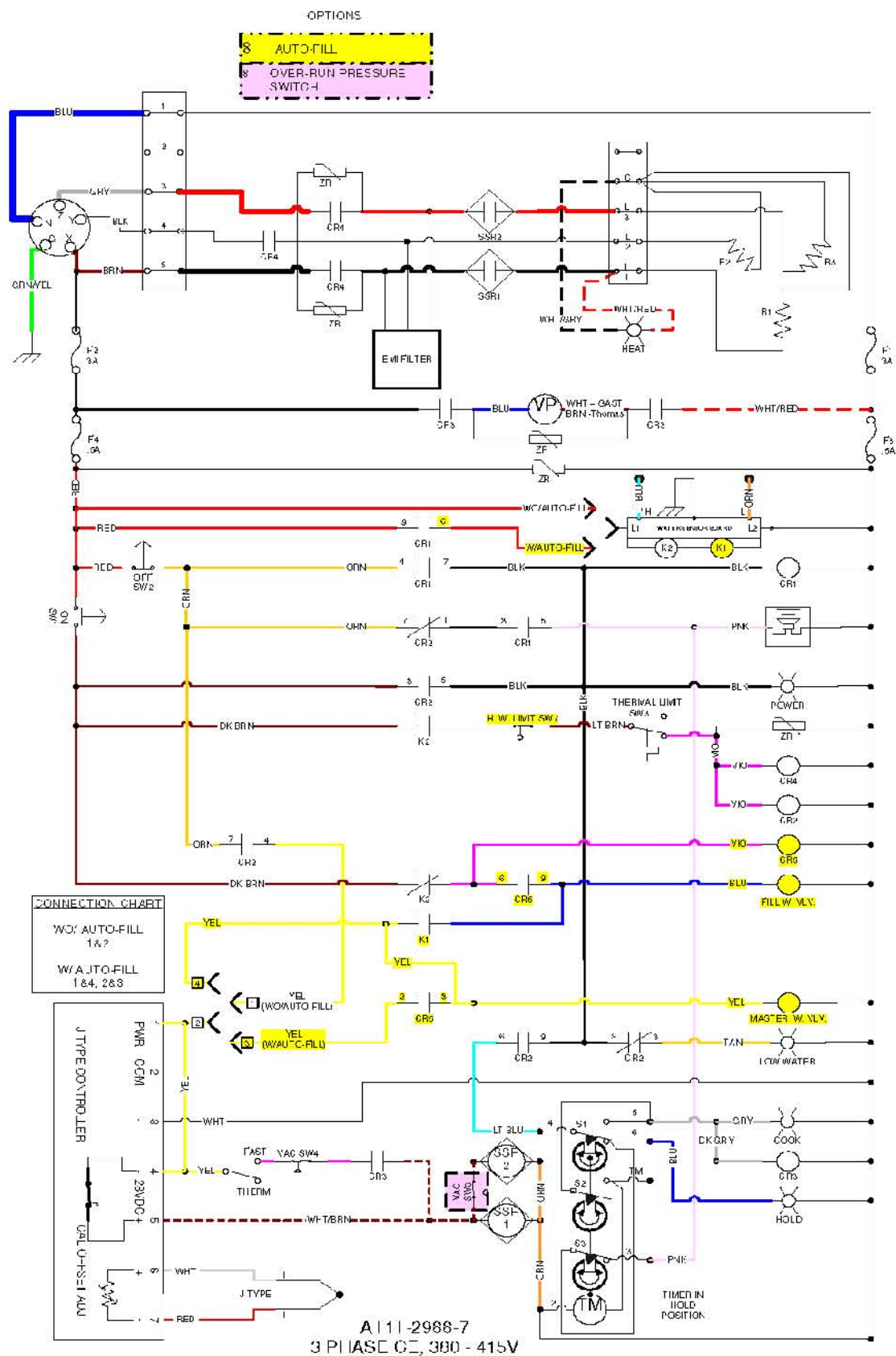
## SCHEMATIC – 6 PAN – 208V – 3 PHASE – 17kW



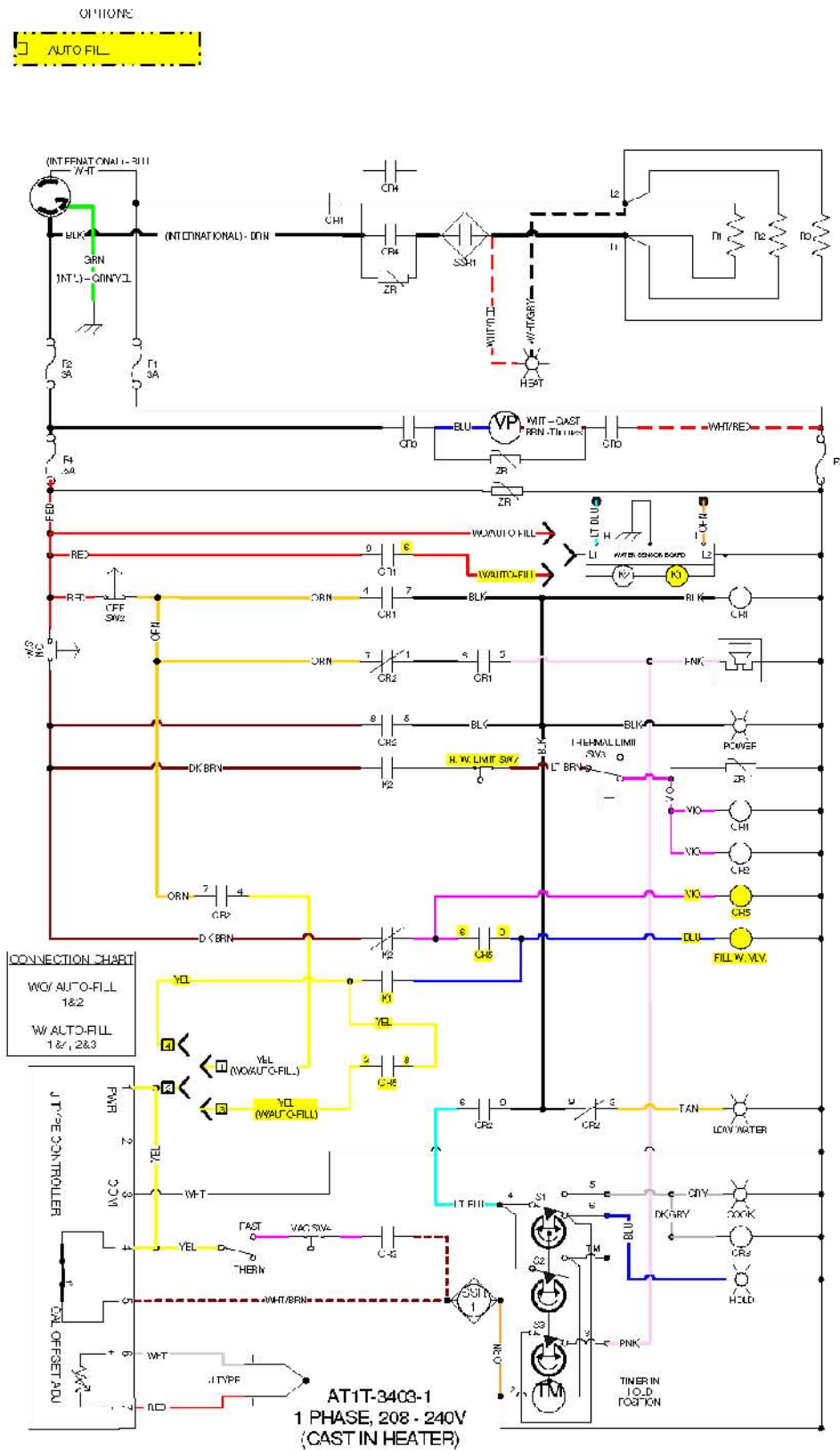
# SCHEMATIC – 6 PAN – 230V – 1 PHASE – CE



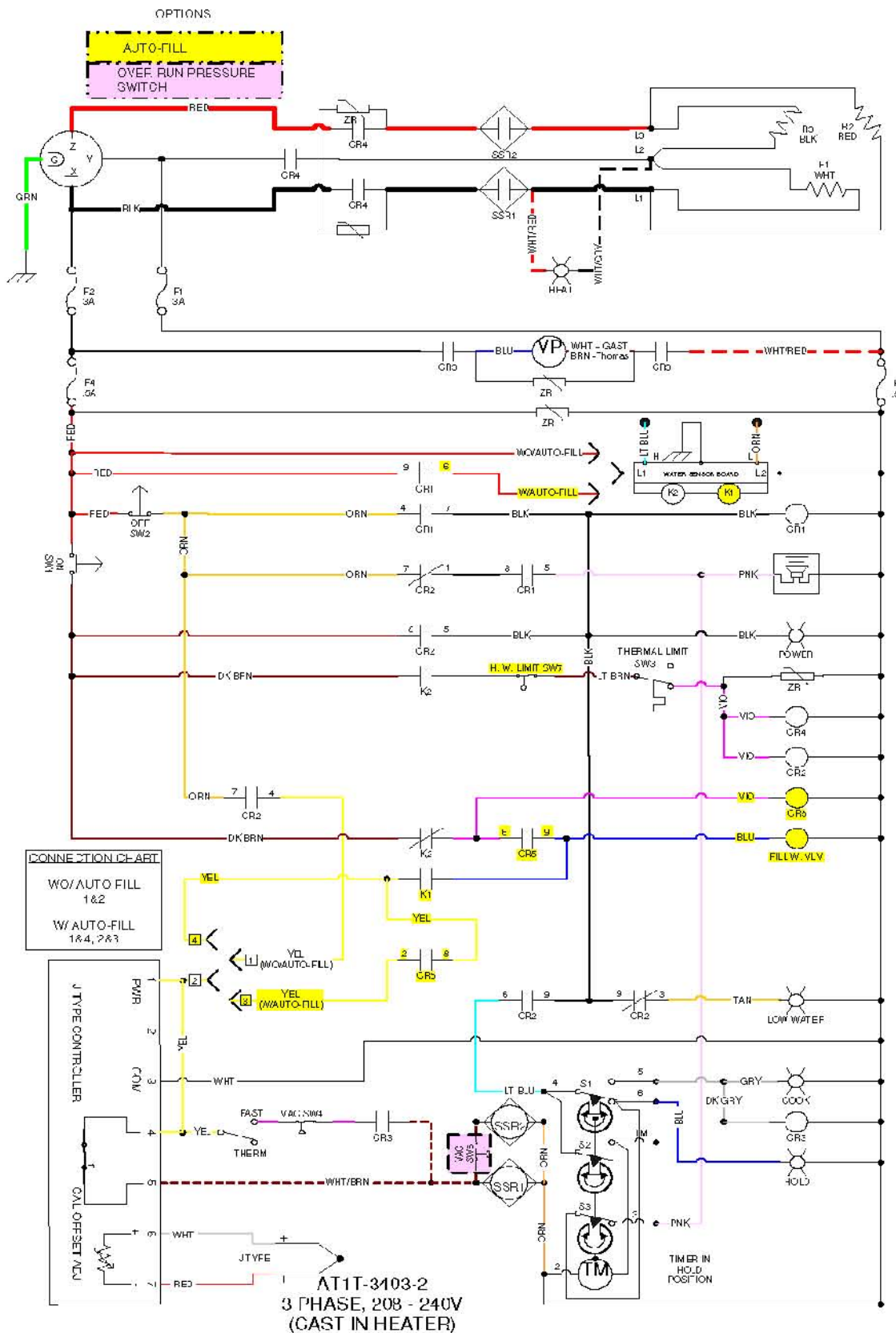
## SCHEMATIC – 6 PAN – 380V -415V – 3 PHASE - CE



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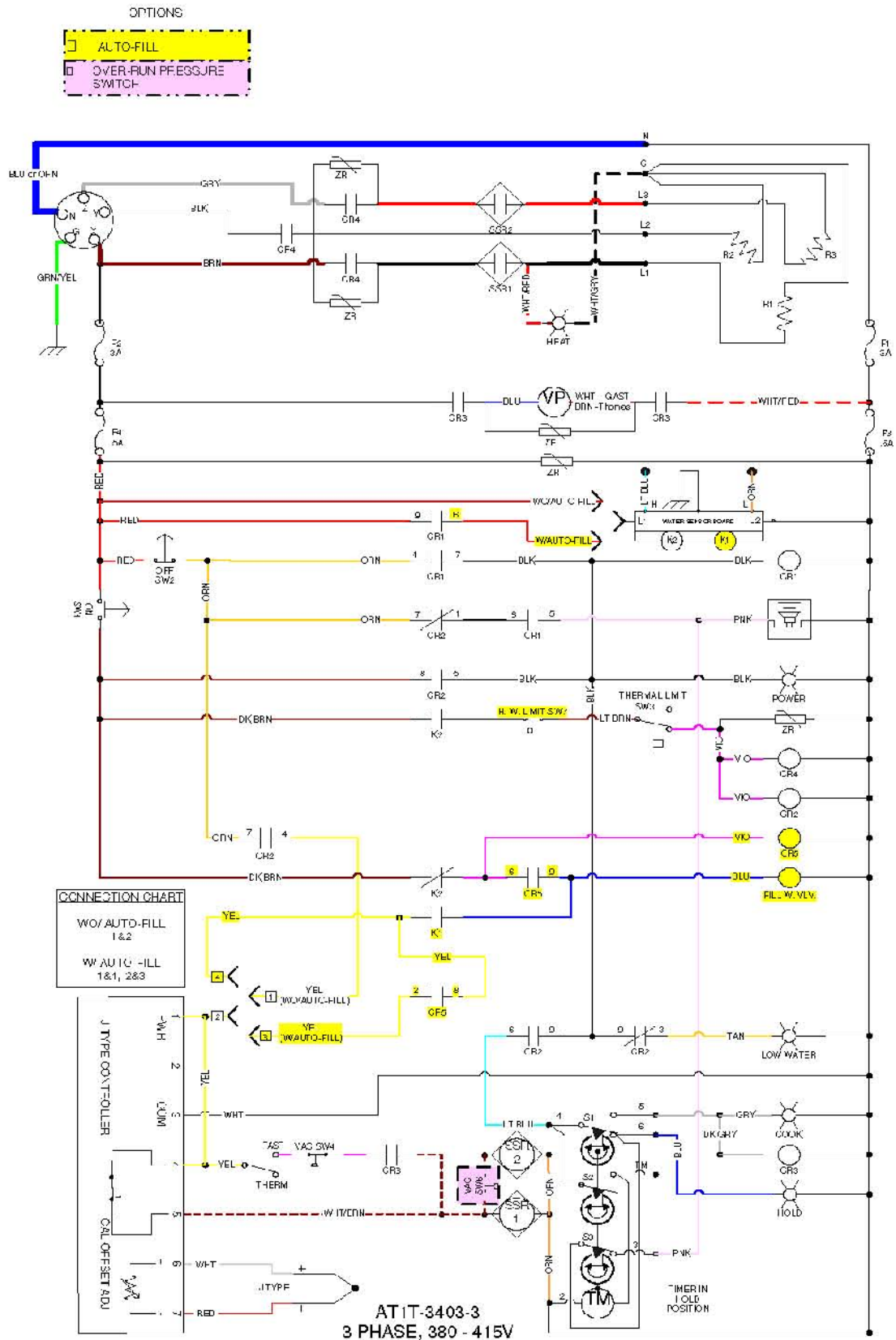


# SCHEMATIC – 3 PAN – 208V – 240V – 3 PHASE

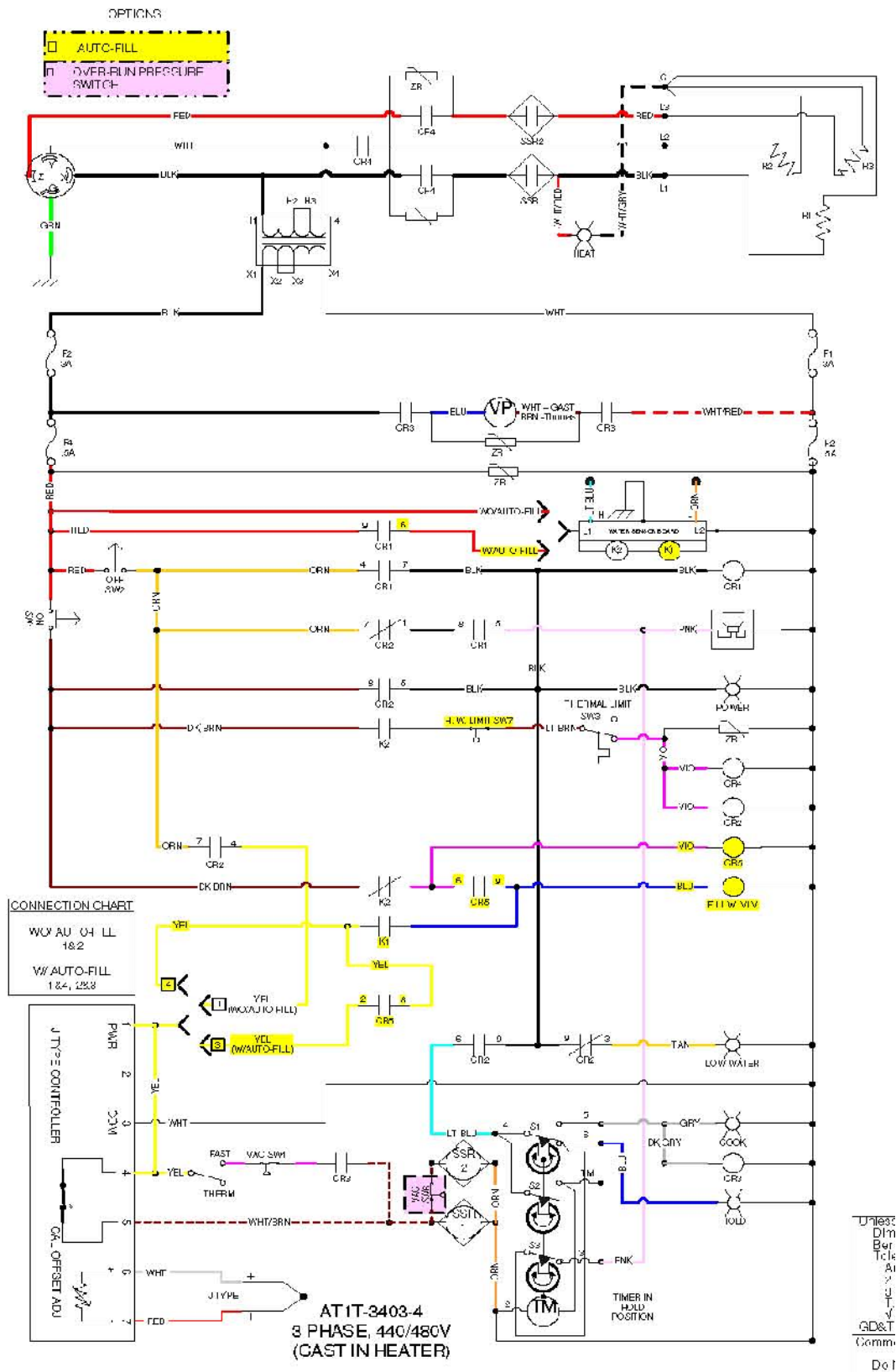




# SCHEMATIC – 3 PAN – 380V – 415V – 3 PHASE



## **SCHEMATIC – 3 PAN – 440V – 480V – 3 PHASE**





**Options:**

- WO/AUTO-FILL
- W/AUTO FILL

**Connection Chart:**

| Option       | Wiring Details |
|--------------|----------------|
| WO/AUTO-FILL | 1&2            |
| W/AUTO FILL  | 1&4, 2&3       |

**ATIT-3403-5**  
3 PHASE, 208V 17KW  
(CAST IN HEATER)

**CONNECTION CHART**

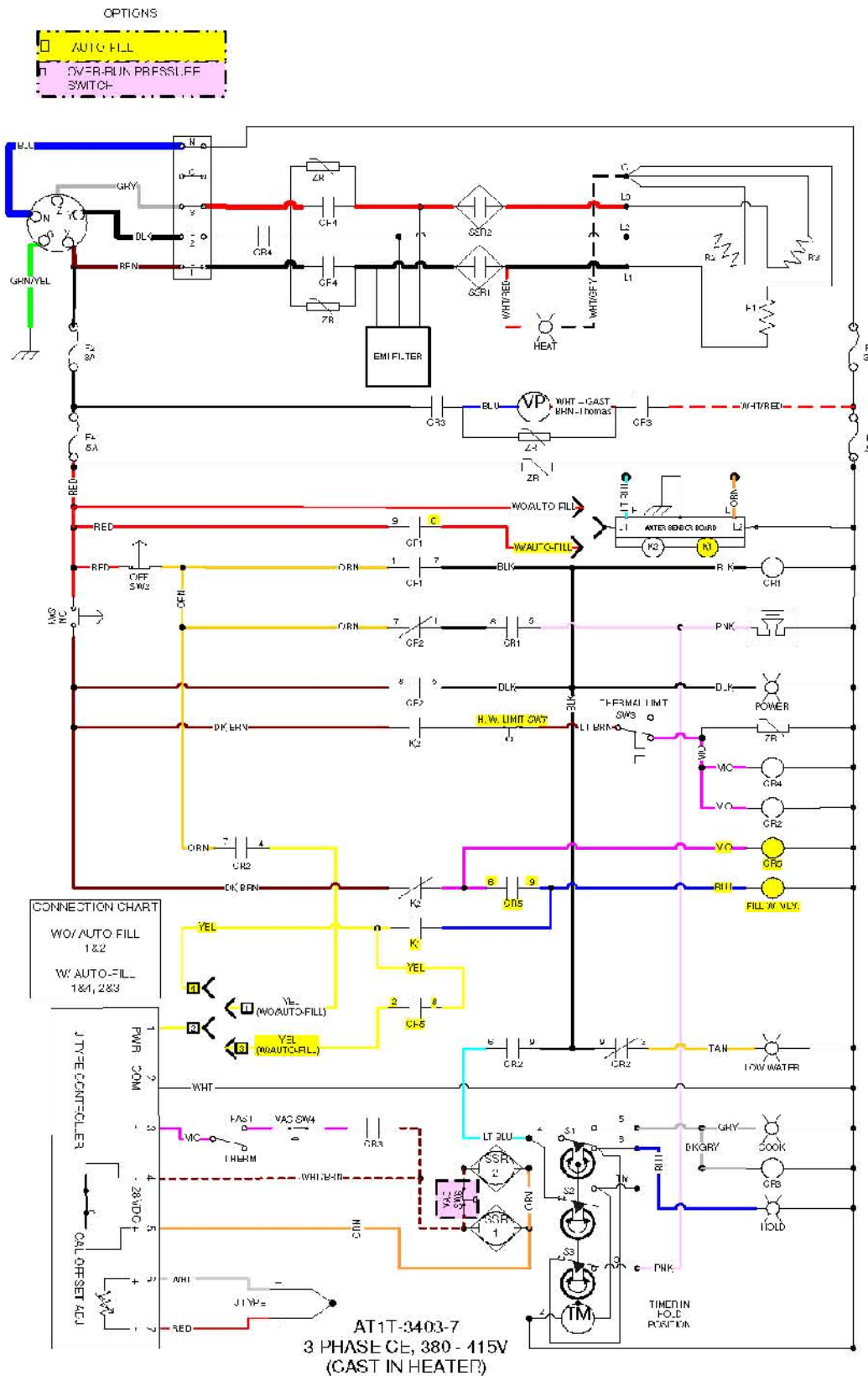
| W/AUTO-FILL | W/AUTO-FL |
|-------------|-----------|
| 1&2         | 1&2, 4&5  |

**J-TYPE CONTROLLER:**

- PWR COM
- WHT
- VK
- THERM
- WHT/BRN
- CRN
- WHT
- FFD

**A111 3403 6**  
1 PHASE, 230V  
(CAST INITIATOR)

# SCHEMATIC – 3 PAN – 380V – 415V – 3 PHASE – CE



# PARTS

| Part #                                                | Description - Prices are subject to change without notice |
|-------------------------------------------------------|-----------------------------------------------------------|
| <b>Buzzers</b>                                        |                                                           |
| AT0E-2807-1                                           | Buzzer, Timer/Low Water                                   |
| <b>Door - Quick Release Door - Current Production</b> |                                                           |
| AT1A-2912-1                                           | QR Door Replacement - Right Hinged, (Floating Inner door) |
| AT1A-2912-3                                           | QR Door Replacement - Left Hand (Floating Inner door)     |
| AT1A-2426-5                                           | Floating Inner Door - Right hand                          |
| AT1A-2426-6                                           | Floating Inner door - Left Hand                           |
| AT1A-2427-1                                           | Valve Bracket Assy- (w/cups & rod)                        |
| AT1A-2426-1                                           | Inner Door Assy, Right 6 pan                              |
| AT1A-2426-3                                           | Inner Door Assy, Left 6 pan                               |
| AT1A-2644-2                                           | Quick Release Door handle                                 |
| <b>RAT1K-1830</b>                                     | QRD Valve Plate Seal Kit                                  |
| AT1H-2046-1                                           | QRD, Spring Compression                                   |
| AT1M-3045-1                                           | QRD Valve Cover                                           |
| AT1M-3046-1                                           | QRD Latch Backer Plate -RH                                |
| AT1M-3046-2                                           | QRD Latch Backer Plate -LH                                |
| AT1M-3466-1                                           | Bracket, Right steamer door                               |
| AT1M-3466-2                                           | Bracket, Left steamer door                                |
| <b>AT1H-2058-3</b>                                    | Door Hinge (Pair)                                         |
| <b>Door - Standard Door</b>                           |                                                           |
| <b>AT1H-3609-1</b>                                    | Door Latch, Ceramic Magnet, Chrome -Standard & Evolution  |
| AT1M-2689-1                                           | Plate, Hinge Backer                                       |
| <b>Door Gasket</b>                                    |                                                           |
| AT1G-2633-1                                           | Gasket, Door S6 - Six Pan                                 |
| <b>Fittings/Screws</b>                                |                                                           |
| AT0F-2061-41060                                       | Screw, 10-24 x 3/4 slot flat, (hinge plate)               |
| AT0F-2061-41140                                       | Screw, 10-24 x 1 3/4 fhms (qrd handle)                    |
| AT0F-2061-41160                                       | Screw, Slot Flat 10-24X2                                  |
| AT0F-2691-41011                                       | Nyloc Nut, Serrated hex #10-24                            |
| AT0F-1046-31030                                       | Screw, Phillips Truss #8-32x3/8, Control panel            |
| AT0F-3371-1                                           | Nut, Rotary Shaft Seal, (for thermostats)                 |
| AT0P-2849-2                                           | Street Elbow 1/8"x1/8" Extra Long                         |
| AT0P-2849-3                                           | Street Elbow 1/8"x1/8"                                    |
| AT0P-2987-2                                           | Nylon Tee - Barbed 1/2 x 1/2 x 1/2                        |
| AT0P-3430-1                                           | Garden Hose fitting- Autofill                             |
| AT1P-222P-8-8                                         | Adapter 1/2"x1/2"                                         |
| AT1P-CMASSY                                           | Copper Manifold Assembly-External Muffler                 |
| AT1P-2239                                             | Ball Valve (drain)                                        |
| <b>Fuses</b>                                          |                                                           |
| AT0E-3162-1                                           | Fuse, Slo-Blo 1/2 Amp                                     |
| AT0E-2731-1                                           | Fuse, Slo-Blo 3 Amp                                       |
| AT1E-FU5                                              | Fuse, 5 Amp                                               |
| ATR-FU30                                              | Fuse, 30A 250V, Time Delay                                |
| AT1E-FB2P                                             | Fuse Block, Two Position 250V                             |
| <b>Gauges</b>                                         |                                                           |
| AT1A-3303-1                                           | Thermometer, Assembly 2"                                  |
| AT1A-THME                                             | Thermometer, Assembly 1-1/2"                              |
| AT0H-2614-1                                           | Vacuum Gauge 2"                                           |
| AT-VG                                                 | Vacuum Gauge 1-1/2"                                       |

|                          |                                                                                     |
|--------------------------|-------------------------------------------------------------------------------------|
| AT0H-3544-1              | Lens, 2" gauge                                                                      |
| <b>Heaters</b>           |                                                                                     |
| AT1A-3530-1              | Cast Heater Kit; 208v 6kw, 230/7.3, 240/8, 380/6.7, 400/7.4, 415/8, 440/9, 480/10.7 |
| AT1A-3530-2              | Cast Heater Kit; 240k/6kw                                                           |
| AT1A-3530-3              | Cast Heater Kit; 208v/8kw, 240/10.7, 380/9, 400/10, 415/10.7, 480/14                |
| AT1A-3530-4              | Cast Heater Kit; 208v/12.0kw, 240/16, 380/13, 400/14.8, 415/16, 440/18              |
| AT1A-3530-6              | Cast Heater Kit; 208v 10.0kw                                                        |
| AT1A-3530-7              | Cast Heater Kit; 208v 17.0kw                                                        |
| <b>Hoses</b>             |                                                                                     |
| AT0P-2714-1              | Hose Clamp 1/4                                                                      |
| AT0P-2714-2              | Hose Clamp 1/2                                                                      |
| AT1P-2555-32000          | 1/4" Silicone Hose - per ft'                                                        |
| AT1P-2555-62000          | 1/2" Silicone Hose - per ft'                                                        |
| AT1P-2558-1              | Hose 1/2 - 14"                                                                      |
| AT1P-2558-2              | Hose 1/4" Cut to Length 9'                                                          |
| AT1P-2558-3              | Hose 1/4" x 15"                                                                     |
| AT1P-2558-4              | Hose, 1/4" X 22" (drain valve)                                                      |
| <b>Lamps</b>             |                                                                                     |
| AT0E-1800-5              | Pilot Lamp Unit, 208/240V (Red)                                                     |
| AT0E-1800-4              | Pilot Lamp Unit, 208/240V (Green)                                                   |
| AT0E-1800-6              | Pilot Lamp Unit, 208/240V (Amber)                                                   |
| AT0E-1800-9              | Pilot Lamp Unit, 208/240V (Clear)                                                   |
| <b>Legs</b>              |                                                                                     |
| AT1H-FTA                 | Foot Adjustment (Cookers)                                                           |
| AT1A-3030-1              | Leg Assembly Kit, Steamer                                                           |
| AT0H-3040-1              | Rubber Foot Tip (Cooker)                                                            |
| AT0H-2479-7              | Stand Caster, Non-Break                                                             |
| AT0H-2479-8              | Stand Caster, Break                                                                 |
| <b>Misc.</b>             |                                                                                     |
| <b>Electronic</b>        |                                                                                     |
| AT0E-2717-1              | MOV Transient Suppressor, 275V                                                      |
| <b>Misc.</b>             |                                                                                     |
| <b>Hardware</b>          |                                                                                     |
| AT1M-2573-1              | Drip Edge, Left                                                                     |
| AT1M-2573-2              | Drip Edge, Right                                                                    |
| AT1M-2590-1              | Bracket, Interior Tray Left                                                         |
| AT1M-2590-2              | Bracket, Interior Tray Right                                                        |
| <b>Overlay Graphics</b>  |                                                                                     |
| AT1L-2804-1              | Overlay, 300 90m timer 2"                                                           |
| AT1L-2804-2              | Overlay, 100- 90M Timer 2"                                                          |
| AT1L-2804-3              | Overlay, 400 180M Timer 2"                                                          |
| AT1L-OPSUM               | Operator Summary (D Model)                                                          |
| <b>Overtmps</b>          |                                                                                     |
| AT1E-OTT                 | Overtmp                                                                             |
| ATR-OT                   | Overtmp w/pigtail                                                                   |
| AT1E-OT-HLX              | Overtmp Switch, Ultimate                                                            |
| AT1A-2613-1              | Overtmp (Super Duty) 6 pan                                                          |
| AT1E-2653-3              | Overtmp switch, Cast htr-watts <b>up to incl/14KW</b>                               |
| <b>AT1E-2653-4</b>       | Overtmp switch, Cast htr-watts <b>over 14KW</b>                                     |
| <b>PCB</b>               |                                                                                     |
| AT1E-2593-1              | Light Control Board (3 PAN Only))                                                   |
| <b>Plugs/Power Cords</b> |                                                                                     |
| AT0E-1051-5              | L16-20P Steamer plug                                                                |
| AT1E-                    | Plug, Power Cord 250V/30A, Locking                                                  |

|                       |                                                                                |
|-----------------------|--------------------------------------------------------------------------------|
| PSC310-PG             |                                                                                |
| AT1E-                 | Strain Relief, Power Supply Cord                                               |
| PSC310-SR             |                                                                                |
| <b>Relays</b>         |                                                                                |
| AT0E-2059-3           | Solid State Relay, (D & A2450)                                                 |
| AT0E-2996-1           | Heat Pad - SSR (if no heatsink comp)                                           |
| AT0E-1587-1           | Contact, 208/240 3pole                                                         |
| AT0E-2825-2           | Control Relay, 240V 3PDT                                                       |
| AT0E-2825-4           | Control Relay, 208/240V 3PDT ( Replaces -1 or -2)                              |
| AT2E-1220             | Relay, Mercury Disp 240V (12KW)                                                |
| AT0A-2876-2           | Relay, Mercury Disp. 208V SP-1269-2                                            |
| <b>Shell</b>          |                                                                                |
| AT1M-2979-1           | Shell Exterior                                                                 |
| AT0F-2777-31030       | Truss Screws#8 x 3/8 SS                                                        |
| AT1M-2981-2           | Left Side Panel                                                                |
| <b>Solenoids</b>      |                                                                                |
| AT1E-SOL208           | Solenoid, (Air) 208V Coil                                                      |
| AT1E-SOL240           | Solenoid, (Air) 240V Coil                                                      |
| ATR-S208C             | 208V Replacement Coil                                                          |
| ATR-S240C             | 240V Replacement Coil                                                          |
| ATR-SKIT              | Solenoid Rebuild Kit                                                           |
| ATR-SKIT2             | Sol. Rebuild Kit-new style D803045                                             |
| <b>Switches</b>       |                                                                                |
| AT0E-2874-2           | Switch, Toggle                                                                 |
| AT1E-2647-1           | Pressure Switch - Single Pressure Switch                                       |
| AT1E-2647-2           | Pressure Switch - Dual Pressure Switch -Above 14KW units only                  |
| AT0E-3337-1           | On Pushbutton, Steamer - must use new assy, not interchangeable with old style |
| AT0E-3337-2           | Off Pushbutton, Steamer -(Must use all new assy)                               |
| AT0E-3338-1           | On Contact, Steamer                                                            |
| AT0E-3338-2           | Off Contact, Steamer                                                           |
| AT0E-3339-1           | Pushbutton Lock Ring                                                           |
| <b>Timers</b>         |                                                                                |
| ATR-TI60              | Timer, 60 Minute (Cooker Ready)                                                |
| AT0E-2297-2           | Timer, 180 Minute (Cooker Ready)                                               |
| AT0E-2297-1           | Timer, 90 Minute (Cooker Ready)                                                |
| ATR-WH-C              | Conversion Wire Harness (Crammer)                                              |
| AT0H-1455-2           | Thermostat/Timer Repl. Knob-soft grip                                          |
| <b>Thermocouples</b>  |                                                                                |
| AT0E-3661-1           | Thermocouple                                                                   |
| <b>Thermostats</b>    |                                                                                |
| AT0E-2559-1           | DC Thermostat, Calibrated (100-200 F)                                          |
| AT0E-2559-2           | AC Thermostat, Calibrated (100-200 F)                                          |
| <b>Transformers</b>   |                                                                                |
| AT0E-2662-1           | Transformer                                                                    |
| <b>Terminal Block</b> |                                                                                |
| AT0E-1134-2           | Terminal Block, 2 Position                                                     |
| AT1EH-TB3             | Terminal Block, 3 Position, 8000W                                              |
| AT0E-1134-5           | Terminal Block, 5 Position                                                     |
| <b>Vacuum Pumps</b>   |                                                                                |
| AT1E-2991-1           | Vacuum Pump, Gast (new style)                                                  |
| RK935                 | Gast vacuum pump rebuild kit                                                   |
| AT1E-2703-1           | Vacuum Pump, Thomas                                                            |

|           |                                                  |
|-----------|--------------------------------------------------|
| ATR-CAP   | Capacitor - Thomas Pump Only                     |
| ATR-VP2RA | Thomas Rod & Diaphragm Assy                      |
| ATR-THA2  | Thomas Head                                      |
| ATR-VPLV  | Vacuum Pump, Leaf Valves (Pair) Thomas Pump Only |
| ATR-VPHS  | Vacuum Pump Head Replmnt. Screws                 |

#### **Valves**

|             |                                          |
|-------------|------------------------------------------|
| ATR-BVRK    | Auto Fill Brass Valve Replace            |
| AT0P-3268-1 | Water Fill Solenoid 208V - Autofill only |

#### **Water Sensor**

|             |                                       |
|-------------|---------------------------------------|
| AT1E-2652   | Probe Water Sensor                    |
| AT1E-2654-1 | PCB, Water Board Sensor               |
| AT0E-3230-1 | PCB, Autofill Water Board Sensor      |
| AT0P-3509-1 | Water Valve Control, Autofill only    |
| AT0E-3234-1 | Sensor Magnetic Reed Switch -Autofill |