

## NHW-15 HOT WATER MACHINE

# OPERATING MANUAL/ INSTALLATION

120/240 V 1650/6600 W US  
120/240 V 1350/5500 W CAN  
CONVERTIBLE

2 GA LLON

DRIP TRAY INCLUDED

ADVANCED TEMPERATURE  
CONTROL  
TVT TECHNOLOGY

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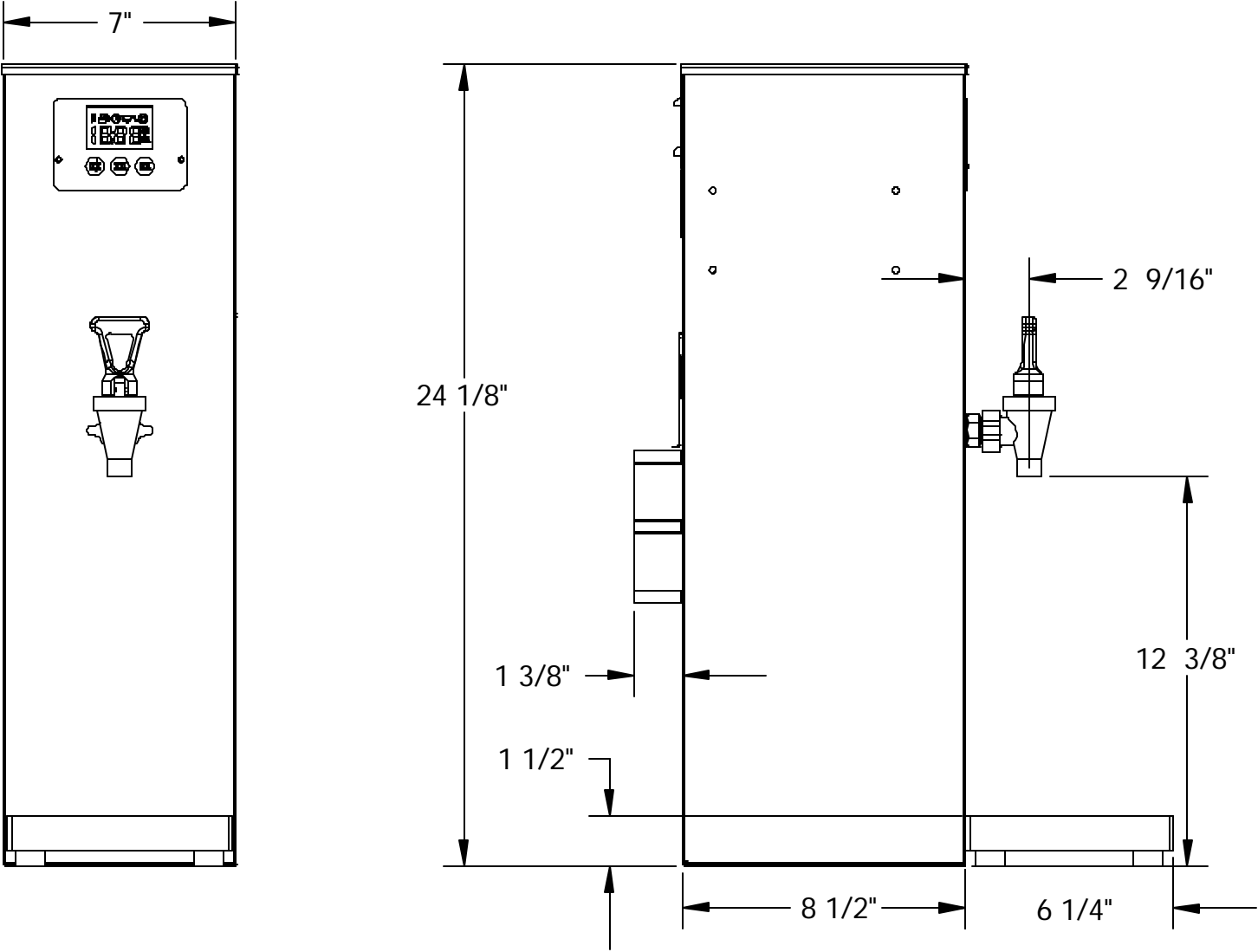


**SPECIFICATIONS**

**MODEL NW15 HOT WATER MACHINE**

120/240 VOLTS    3 GAL/HR (120V) 6 GAL/HR (240V) 1 PH

OPERATING TEMP RANGE: 170 DEG F- 208 DEG F



\* UNIT CAN BE CONVERTED FROM 120 V 1PH TO 240V 1PH  
(240V POWER CORD NOT SUPPLIED)  
SEE 240 V SCHEMATIC

## MACHINE SETUP

### PLUMBER'S INSTALLATION INSTRUCTIONS

**CAUTION:** Power to machine must be OFF before proceeding with plumbing installation.

- 1) Flush water line before installing machine. Machine should be connected to COLD WATER LINE for best operation.
- 2) Water pressure should be at least 20 psi. For less than a 25 ft run, use 1/4" copper tubing and connect to 1/2" or larger water line. For longer runs, use 3/8" copper tubing & connect to 1/2" or larger water line and provide an adapter fitting for connection to the machine.
- 3) If installed with saddle valve, the valve should have a minimum of 1/8" port hole for up to 25 ft run, and 5/16" port hole for over 25 ft runs.
- 4) Connect incoming water line to the flow control device on the back of the machine. A 1/4" flare fitting is provided. Manufacturer recommends connecting to copper tubing.

### ELECTRICAL HOOKUP

**WARNING:** - Read and follow installation instructions before plugging or wiring in machine to electrical circuit. Warranty will be void if machine is connected to any voltage other than that specified on the name plate.

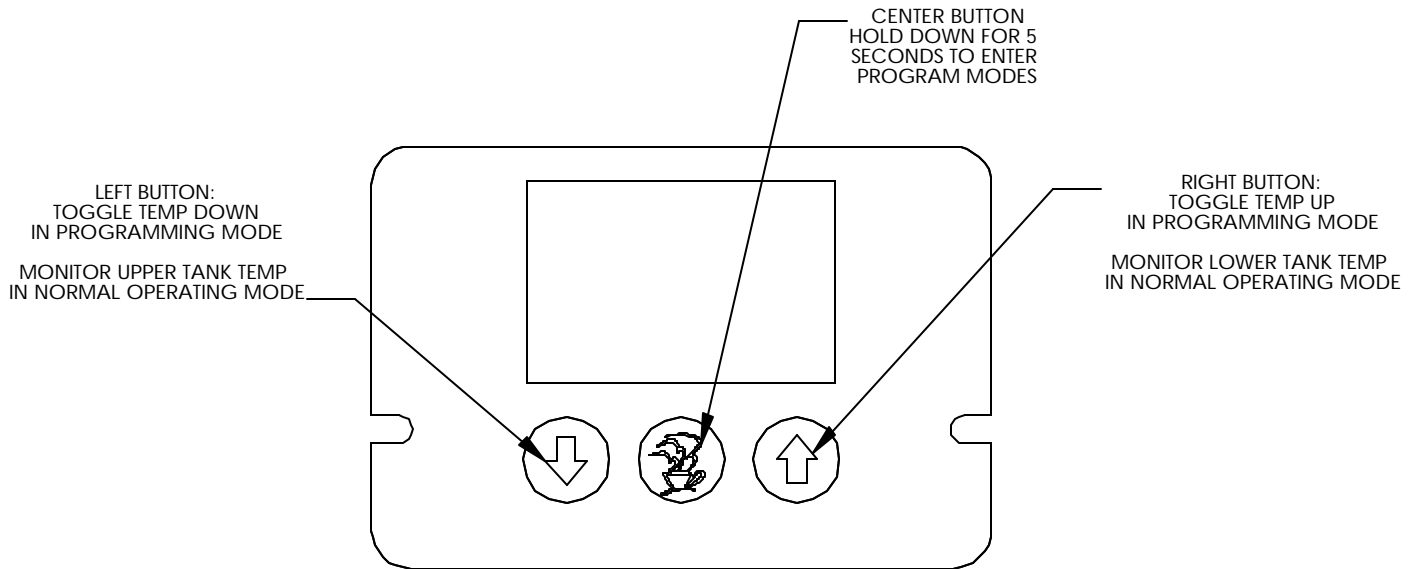
The machine has a power cord attached for 120 volts. Machine should be connected to the appropriate receptacle type. A wiring diagram at the rear of this manual illustrates the complete machine wiring

### INSTALLATION INSTRUCTIONS

**WARNING:** - Read and follow installation instructions before plugging or wiring in machine to electrical circuit.

- 1) **Make sure machine is level.** Connect machine to water line as described in "PLUMBER'S INSTALLATION INSTRUCTIONS". Connect to suitable power supply as described in "ELECTRICAL HOOKUP". Tank will begin to fill when connected to power supply. The display will indicate 'fill' when filling is in process. Time required to fill the tank is about 4-1/2 minutes.
- 2) Water level in the tank is controlled by a level probe which senses when water contact is made. A maximum run time of six minutes is programmed into the machine for the initial fill cycle to prevent flooding should an error occur.
- 3) Once the water level has reached the proper water level the tank heater will begin to heat the water to the preset temperature. This prevents premature failure of the element by heating it dry. This probe will also call for power to be shut off to the element should the probe not detect water for 3 minutes. Heating time will be approximately 20 minutes. The heating circuit has a maximum continuous run time of 45 minutes. Should the machine call for heat for a time period in excess of 45 minutes the machine will shut down the heating circuit and display an Er5 message. See the "ERROR MESSAGES" section for instructions on how to clear the error and possible causes. The heating icon (thermometer) on the faceplate will indicate heating status. As the preset temperature is approached the icon will begin pulsing as the power to the element is cycled on and off.

# NHW-15 OPERATING INSTRUCTIONS



## FACTORY DEFAULT TEMPERATURE SETTING IS 200 DEGREES F

TO ADJUST TEMPERATURE SETTING:

1. DEPRESS AND HOLD CENTER BUTTON FOR 5 SECONDS UNTIL 'prog' APPEARS
2. TOGGLE TEMPERATURE SETTING UP OR DOWN WITH ARROWS
3. DEPRESS CENTER BUTTON, 'end' WILL APPEAR
4. DEPRESS LEFT OR RIGHT BUTTON TO EXIT PROGRAM MODE  
TEMPERATURE SETTING WILL BE STORED

TO MONITOR UPPER AND LOWER WATER TEMPERATURE LEVELS:

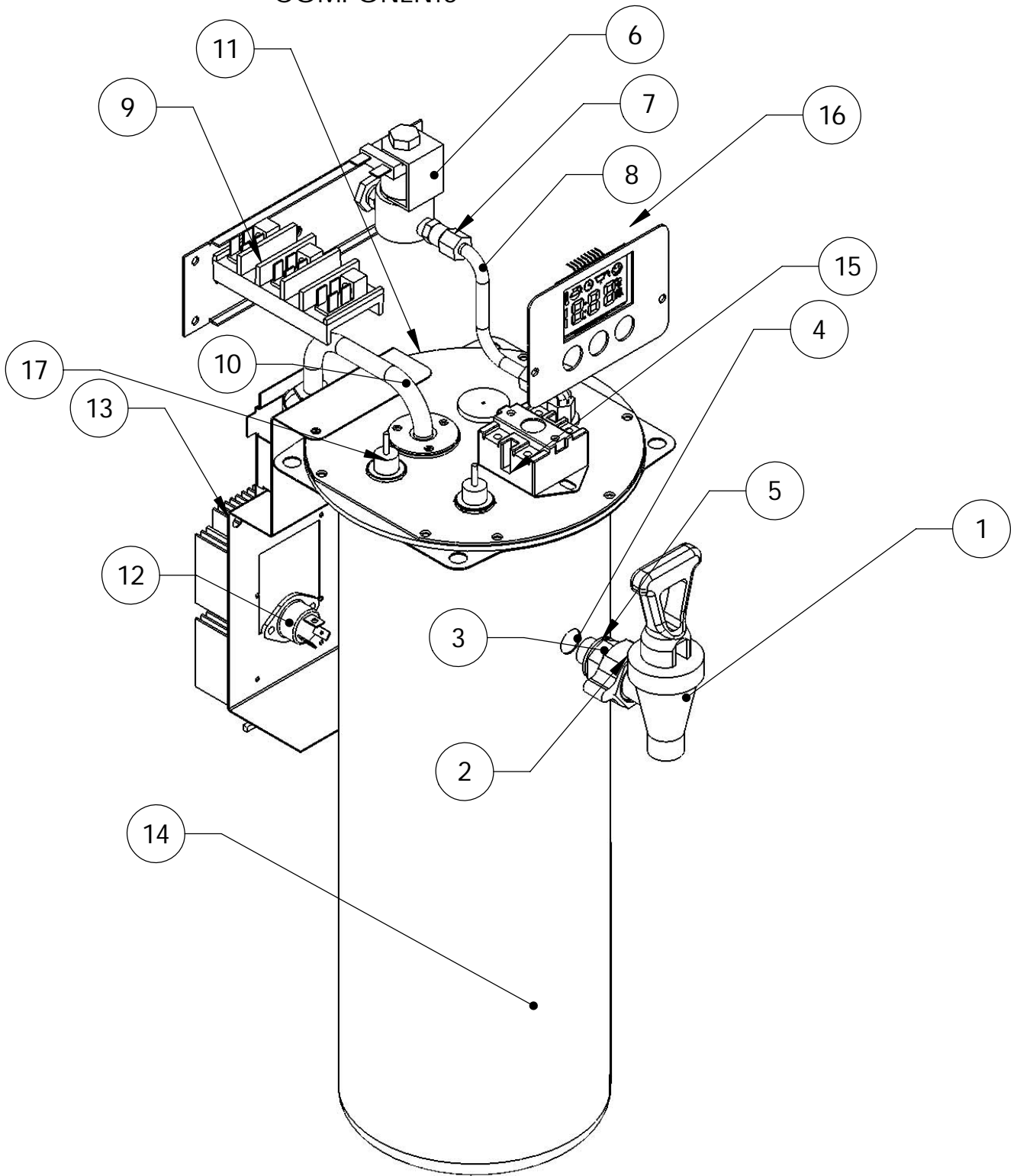
1. DEPRESS LEFT ARROW TO MONITOR UPPER TANK TEMPERATURE
2. DEPRESS RIGHT ARROW TO MONITOR LOWER TANK TEMPERATURE

TO CHANGE FROM FAHRENHEIGHT TO CENTIGRADE TEMP DISPLAY:

1. UNPLUG POWER CORD
2. DEPRESS AND HOLD CENTER BUTTON, WHILE HOLDING BUTTON  
PLUG POWER CORD BACK IN
3. WHEN 'prog' APPEARS TOGGLE F TO C WITH LEFT OR RIGHT BUTTONS
4. DEPRESS CENTER BUTTON TWICE UNTIL 'end' APPEARS
5. DEPRESS LEFT OR RIGHT BUTTON TO STORE SETTING AND EXIT PROGRAM MODE

**NOTE: A THERMOMETER ICON IS DISPLAYED WHEN THE HEATER IS ENERGIZED  
A "HAPPY FACE" ICON IS DISPLAYED WHEN TEMPERATURE SETPOINT IS REACHED**

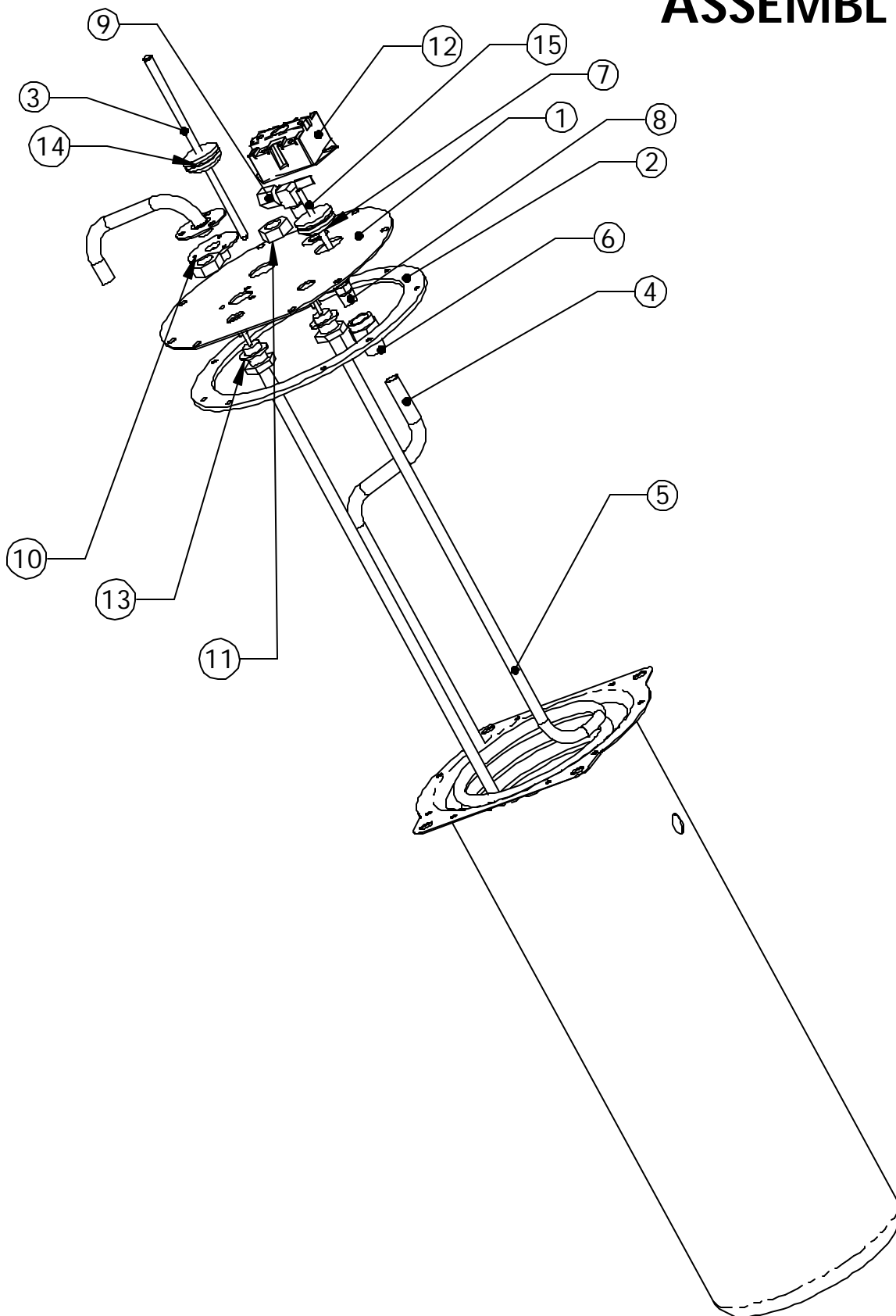
# PLUMBING AND ELECTRICAL COMPONENTS



## PLUMBING AND ELECTRICAL COMPONENTS (CONT)

FIGURE #	QTY.	PART #	DESCRIPTION
1	1	104113	FAUCET-HI HEAT
2	1	104114	NUT-HI HEAT FAUCET
3	1	800236	FITTING, TEA FAUCET
4	1	104118	FITTING-EXTENSION, FAUCET
5	1	800244	GASKET-NYLON .671*.937*.062
6	1	104111	VALVE ASSY-HOT WATER
7	1	100155	CONNECTOR-MALE ¼ C X 1/8 NPT WITH NUT
8	1	104135	TUBE-COPPER INLET
9	1	511053	BLOCK-TERMINAL 120/240V
10	1	104117	TUBE ASSY-OVERFLOW
11	1	120256	BOARD-LIQUID LEVEL
12	1	111684	TRIAC-40 AMP, 600V
13	1	121659	HEATSINK
14	1	104109	TANK-HOT WATER
15	1	705002	LIMIT,66TM DPSTC 40A
16	1	120275	BOARD-LIQ CRYSTAL, HOT WATER

# WATER TANK ASSEMBLY



## WATER TANK ASSY (CONT)

FIGURE #	QTY.	PART #	DESCRIPTION
1	1	104108	LID-SPOTWELD HOT WATER
2	1	704221	GASKET-TANK SILICONE
3	1	151677	PROBE-DUAL THERMISTOR
4	1	102019	TUBE-WATER INLET
5	1	701286-10	ELEMENT, DUAL VOLTAGE 1350W/5500W
6	1	100431	NUT-BRASS 9/16-24
7	2	100030	GASKET-BRASS .566 ID
8	1	101720	CONNECT FM 3/C X 1/8 NPT
9	1	100149	ELBOW-1/4C 90 DEG W NUT
10	1	704222	GASKET-SILICON 3 HOLE
11	2	100190	NUT-1/2-20 JAM, BRASS
12	1	705002	LIMIT, HI, 40 AMP
13	2	100409	GASKET-BRASS .520 ID
14	2	102836	GROMMET-SILICON
15	1	705071	PROBE-2"



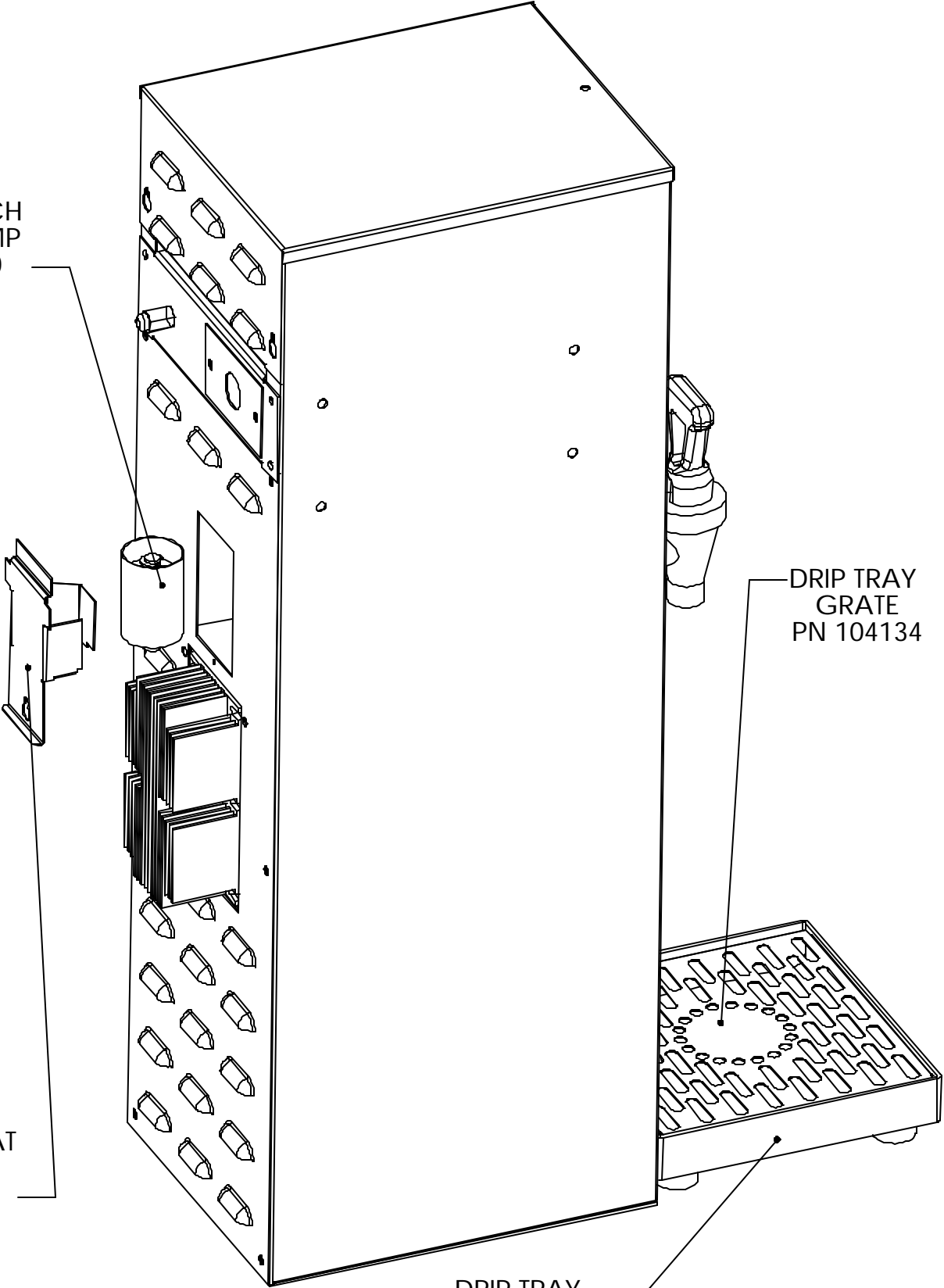
# FLOAT SWITCH ASSEMBLY DRIP TRAY

FLOAT SWITCH  
ASSY-HI TEMP  
PN 110890

DRIP TRAY  
GRATE  
PN 104134

BRACKET-FLOAT  
SWITCH  
PN 151761

DRIP TRAY  
PN 1041339



## Service Notes

- 1) Should water overflow the tank into the float switch, the water fill valve (solenoid) circuit is interrupted. This is a safety feature to prevent as spill from occurring should the water level-probe system malfunction (ER6). To empty the overflow cup, unplug the power cord and loosen screw on the sheet metal cup holder bracket. (see illustration on page 9) and empty cup.
- 2) The heater element is protected by a hi-limit manual reset thermostat (ER5).

**Error Modes - To reset an error condition simply power the machine off and back on. If the error continues, check the condition of all sensors, hardware & wiring.**

- ER1 – Top thermistor shorted
- ER2 – Top thermistor open
- ER3 – Bottom thermistor shorted
- ER4 – Bottom thermistor open
- ER5 – Heater has run for more than 45 minutes continuously
- ER6 – Fill time has run for more than 6 minutes

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