





Service Manual – WB-14 Water Boiler


MODELS INCLUDED

- WB-14-12
- WB-14-60

 **CAUTION:** Please use this setup procedure before attempting to use this appliance. Failure to follow the instructions can result in injury or the voiding of the warranty.

 **CAUTION:** DO NOT connect this unit to hot water. The inlet valve is not rated for hot water.

 **WARNING:** DO NOT place this water boiler closer than six [6] inches from wall. Unit must have adequate cross-ventilation.

 **WARNING HOT LIQUID,** Scalding may occur. Avoid splashing.

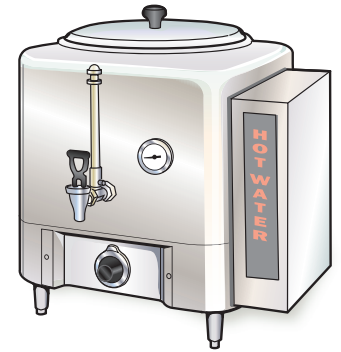


ISO 9001:2008 REGISTERED

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Important Safeguards/Symbols

This equipment is designed for commercial use. Any servicing other than cleaning and routine maintenance should be performed by an authorized Wilbur Curtis Company service technician.



- DO NOT immerse the unit in water or any other liquid
- To reduce the risk of fire or electric shock, DO NOT open service panels. No user serviceable parts inside.
- Keep hands and other items away from hot areas of the unit during operation.
- Never clean with scouring powders or harsh chemicals.

Symbols:

-  WARNINGS – To help avoid personal injury
-  Important Notes/Cautions – from the factory
-  Sanitation Requirements

INSTALLATION


This Curtis unit is pre-set and ready to go from the factory.

System Requirements:

- Water Supply : 20 – 90 PSI (Min Flow Rate 2 gpm)
- Electrical: Refer to Electrical Schematic.

Factory Settings:

- Water Temperature: 200°F
- Water Volume: 14 Gallons

 NSF requires the following water connection:

1. A quick disconnect or additional coiled tubing (at least 2x the depth of the unit) is required so that the unit can be moved for cleaning.
2. This unit must be installed with adequate backflow protection to comply with applicable federal, state and local codes.
3. Water pipe connections and fixtures directly connected to a portable water supply shall be sized, installed and maintained in accordance with federal, state, and local codes.

SETUP STEPS

1. The unit should be level (left to right - front to back), on a secure surface.
2. Install the supplied water faucet on the faucet shank in front of the unit.

**NOTE:** A water filtration system must be used to help maintain trouble-free operation. In areas with extremely hard water, we highly recommend the use of a Curtis approved water filter. (For our full line of filters, please log on to [www.wilburcurtis.com](http://www.wilburcurtis.com)) A water filtration system will greatly prolong the life of the unit and enhance the quality and taste of the product.

## Setup Steps Continued

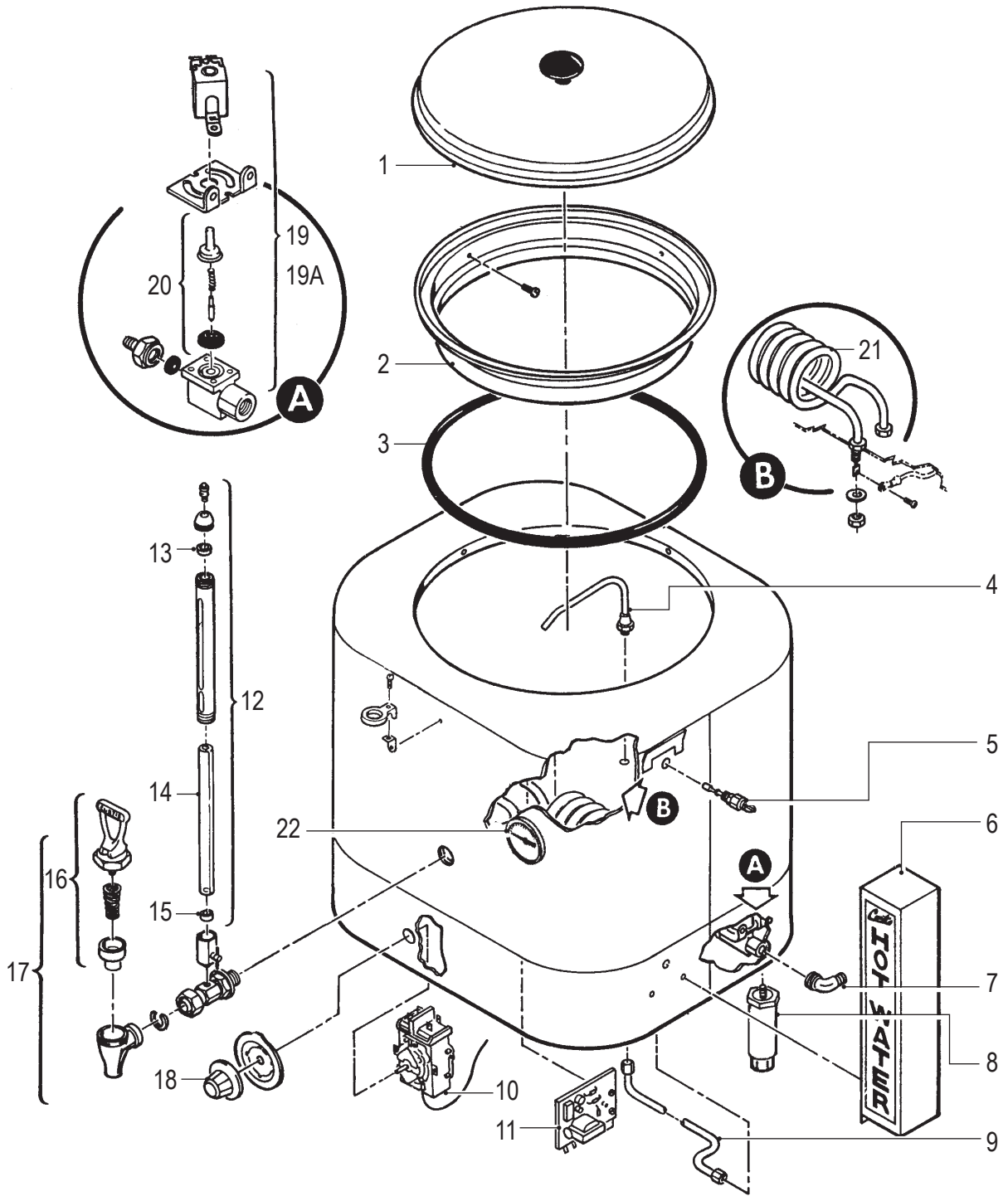
3. Connect the water line to the water inlet fitting on the rear of the unit. Water volume going to the machine should be consistent. Use tubing sized sufficiently to provide a minimum flow rate of two gallons per minute.
4. Connect the unit to electrical outlet with appropriate amperage rating (refer to schematic for power requirements).
5. Turn on the circuit running power to unit. The water inlet valve will open, filling the unit. When the boiler has filled, turn on boiler at the thermostat, twisting the knob clockwise.
6. Heating tank will require 50 to 60 minutes to attain operating temperature. Thermostat indicator will light at this time.

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## Parts List

ITEM	PART №	DESCRIPTION
1	WC-5602	LID, 6 GAL WITH KNOB
2	WC-6118-01	COLLAR, TOP
3	WC-4303	O-RING, LINERS RU
4	WC-5335	TUBING, 8" WATER INLET
5	WC-5502-01	PROBE, WATER LEVEL
6	WC-5510	COVER, PROBE WA WB14
7	WC-2401	ELBOW, 3/8 NPT X 1/4 FLARE PLATED
8	WC-3528	LEG, 4" ADJUSTABLE 3/8-16 THREAD ITALIAN STYLE
9	WC-5334	TUBING, 15-1/2" WATER INLET
10	WC- 501	KIT, THERMOSTAT WB-14
11	WC- 608-101	CONTROL BOARD, LIQUID LEVEL 120/240VAC
12	WC-2100	GAUGE GLASS ASSY, 7"
13	WC-2005	WASHER, 1/8" SHIELD CAP
14	WC-2024	GLASS, GAUGE 7"
15	WC-2006	WASHER, 3/16" SHIELD BASE
16	WC-3705	REPAIR KIT, S FAUCET
17	WC-1800HW	FAUCET, S' SERIES H/W
18	WC-3217	KNOB, ELECTRIC THERMOSTAT
19	WC- 801	VALVE, INLET BRASS 1/2.50 GPM 120V 10W FOR WB-14-12
19A	WC- 858	VALVE, INLET BRASS .50 GPM 220V 10W FOR WB-14-60
20	WC-3700	REPAIR KIT, INLET VALVE
21	WC- 922-04	KIT, HEATING ELEMENT 3.5KW 220V W/JAM NUTS & SLCN WSHRS
22	WC- 511	THERMOMETER, DIAL RU'S

# Illustrated Parts List



## TROUBLE SHOOTING

### PROBLEM: WATER WILL NOT REFILL

POSSIBLE CAUSE	SOLUTION
1. Water line closed or clogged filter	Check the water system at your facility to make sure the line is open. Replace the water filter.
2. Valve coil burned out	Turn machine off. Disconnect wires from water inlet coil terminals and connect a power cord to the terminals. Plug cord into a 120V outlet and verify if water flows when plugged in and stops when power is disconnected. If valve fails this test, replace valve.
3. Grounded probe	When the water level gets below the probe tip, water should automatically refill the unit. If not, pull wire off the probe terminal. Water should now start flowing into the water boiler.
4. Defective water level control board	Disconnect wire from probe terminal. With a voltmeter, check voltage at the water inlet coil terminals. This should read 110-120 volts. If no voltage is present, check liquid level control (L.L.C.) board. Make sure the L.L.C. board is supplied by 120V across terminals <i>NEU</i> and <i>L1 120V</i> . The L.L.C. board is grounded to the body of the machine by contacting the board to the mounting bracket. Make sure board is grounded here. Check for loose connections at terminals. Replace the L.L.C. board.

### PROBLEM: WATER OVERFLOWING.

POSSIBLE CAUSE	SOLUTION
1. Defective water inlet valve	Turn power off and observe water level. If water continues to flow into the heating tank, clean or replace leaky valve.
2. Liquid level probe limed up	Disconnect the wire from probe terminal and touch the body of the heating tank with the terminal at the end of this wire. If the flow of water stops, there is an issue with the probe. Clean the probe and reconnect the wire. If water continues to flow, replace the liquid level probe.
3. Non-grounded or loose terminal connections at liquid level control board	Liquid level control board must be securely grounded through the back of the board and the mounting bracket. Check for loose connections at the terminals. Check for voltage across the inlet valve terminals. If there is 110 to 120 volts present at the inlet valve terminals when water level is touching the probe tip, replace the L.L.C. board.

### PROBLEM: WATER DOES NOT REACH PROPER TEMPERATURE

POSSIBLE CAUSE	SOLUTION
1. Thermostat is turned OFF (or set too low)	Check the thermostat adjustment to make sure the knob is rotated clockwise to the desired temperature setting.

### PROBLEM: WATER OVERHEATS, ELEMENTS DO NOT SHUT OFF

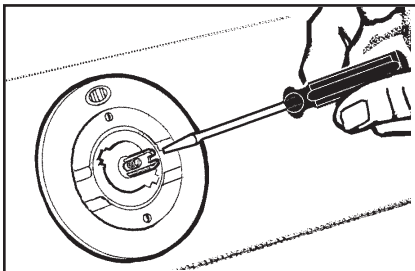
POSSIBLE CAUSE	SOLUTION
1. Defective thermostat	Replace the thermostat. You can sometimes operate temporarily by turning the thermostat knob to off until the boiling stops.

## TROUBLE SHOOTING CONTINUED:

### PROBLEM: WATER DOES NOT REACH PROPER TEMPERATURE

POSSIBLE CAUSE	SOLUTION
2. Defective thermostat	Replace thermostat if contacts are open when knob is fully clockwise and water temperature is less than 190° F. You will measure 120 volts (approximately) to ground from both thermostat terminals when it is ON and from only one terminal when it is OFF.
3. Heating element burned out.	In this water boiler there are two elements in parallel. Failure of either will cause very slow heating. Perform the following tests:  a. Clamp-on ammeter test: If both elements are good, you will measure about 21 amps at 240 volts, 24 amps at 208 volts or 29 amps at 120 volts. If you measure only 10 to 12 amps, check the current to each element to identify the defective part.  b. Ohmmeter or continuity test: Disconnect all power by unplugging unit. Disconnect one terminal to measure each element. They should each have continuity or measure about 20 ohms.

### Electric Thermostat Adjustment



### ELECTRIC THERMOSTAT ADJUSTMENT

On electric water boilers, thermostats are set at the factory to cut off at 200°F. We do not recommend changing this. If necessary, adjustment is as follows:

1. Rotate the thermostat knob to the right to the BOIL position. Pull off the knob.
2. Locate the tiny adjustment screw, inside the stem (see figure 1). Using a small screwdriver, adjust the temperature up or down:
  - a. By turning the screw ¼ turn to the left will increase the temperature about 20°F.
  - b. Turning ¼ to the right will decrease the temperature by 20°F.
  - c. To set the thermostat precisely at 200°F, insert a thermometer probe into the water jacket through the steam hole (just under the sprayhead). Turn the screw ½ turn to the left.
  - d. When the thermometer reaches 200°F, slowly turn the adjustment screw to the right until the pilot light turns off.

## CLEANING

Regular cleaning and preventive maintenance is essential in keeping your water boiler looking and working like new. To clean the water boiler, prepare a mild solution of dish detergent and warm water. Turn the thermostat dial to OFF and allow the unit to cool.

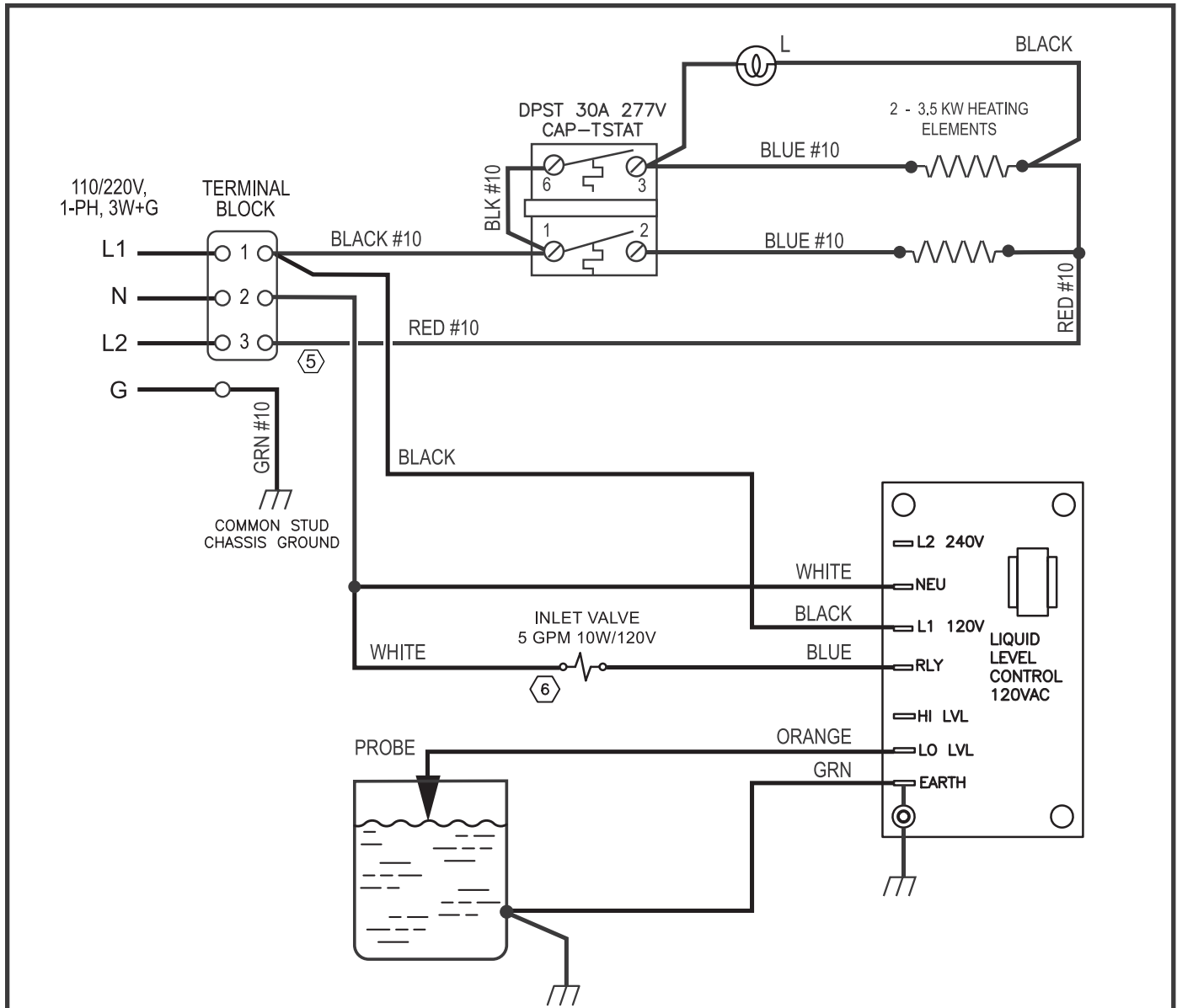


**CAUTION** – Do not use cleansers, bleach liquids, powders or any other substance containing chlorine. These products promote corrosion and will pit the stainless steel. USE OF THESE PRODUCTS WILL VOID THE WARRANTY.

### DAILY CLEANING

1. Wipe exterior surfaces with a damp cloth, removing spills and debris.
2. Remove the lid and clean it with a cloth soaked in a mild detergent solution.
3. Rinse and dry the lid.
4. Wipe off any traces of the cleaning solution with a cloth dampened with water.
5. Dry the cabinet surfaces.
6. Rub a stainless steel polish on the outside surfaces to protect the cabinet.

# Electrical Diagram – WB-14-12



- 6 FOR 240VAC/NO NEUTRAL: CHANGE INLET TO 240VAC AND MOVE WHT WIRES FROM NEUTRAL TO L2.
- 5 FOR 120V (2W+G) CONNECTION, REMOVE RED #10 AND CONNECT TO "N" AT THE TERMINAL BLOCK
- 4 FACTORY DEFAULT IS 220VAC/3W+G
- 3 USE THIS DIAGRAM FOR OTHER MODELS WITH ADDED PREFIX AND/OR WITH SECOND DASH NUMBER ON THEIR PART NUMBERS PROVIDED THEY HAVE THE SAME ELECTRICAL SPECS.  
EXAMPLE: SCWB-14-XX
- 2 DO NOT CHANGE NOR SUBSTITUTE WIRE COLORS.
- 1 ALL WIRES SHALL BE 18AWG UL APPROVED APPLIANCE.

NOTES: UNLESS OTHERWISE SPECIFIED

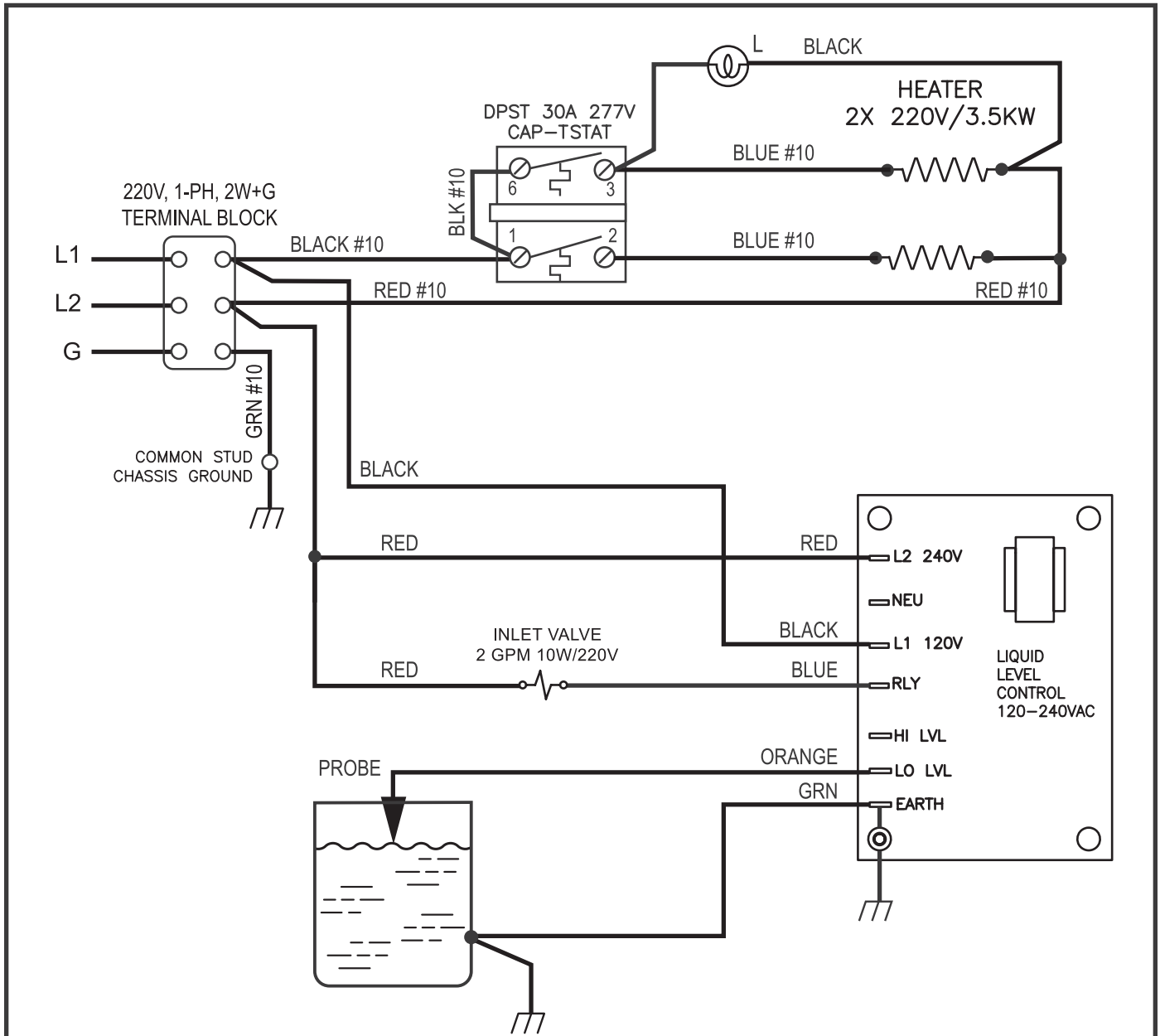
## WATER BOILER WB14-12

VOLTS	WATTS	AMPS	POWER CONNECTION	PHASE
120	2080	17.3	2W + G	SINGLE
120/220	7000	32	3W + G	SINGLE

VOLTAGE:	110/220
WATTAGE:	2080/7000
AMPERAGE:	17.3/31.8
HERTZ:	50/60HZ
WIRES:	2W/3W+G
PHASE:	1 PH

TITLE:		WIRING DIAGRAM WATER BOILER 14GAL.	
PART NUMBER:	WD-WB14-12	REVISION:	C

# Electrical Diagram – WB-14-60



3 USE THIS DIAGRAM FOR OTHER MODELS WITH ADDED PREFIX AND/OR WITH SECOND DASH NUMBER ON THEIR PART NUMBERS PROVIDED THEY HAVE THE SAME ELECTRICAL SPECS.  
EXAMPLE: SCWB-14-XX

2 DO NOT CHANGE NOR SUBSTITUTE WIRE COLORS.

1 ALL WIRES SHALL BE 18AWG UL APPROVED APPLIANCE.

NOTES: UNLESS OTHERWISE SPECIFIED

VOLTAGE:	220
WATTAGE:	7000
AMPERAGE:	31.8
HERTZ:	50/60HZ
WIRES:	2W+G
PHASE:	1 PH

TITLE: WIRING DIAGRAM WATER BOILER 14GAL.	
PART NUMBER: WD-WB14-60	REVISION: D

## Product Warranty Information

The Wilbur Curtis Company certifies that its products are free from defects in material and workmanship under normal use. The following limited warranties and conditions apply:

- 3 Years, Parts and Labor, from Original Date of Purchase on digital control boards.
- 2 Years, Parts, from Original Date of Purchase on all other electrical components, fittings and tubing.
- 1 Year, Labor, from Original Date of Purchase on all electrical components, fittings and tubing.

Additionally, the Wilbur Curtis Company warrants its Grinding Burrs for Forty (40) months from date of purchase or 40,000 pounds of coffee, whichever comes first. Stainless Steel components are warranted for two (2) years from date of purchase against leaking or pitting and replacement parts are warranted for ninety (90) days from date of purchase or for the remainder of the limited warranty period of the equipment in which the component is installed.

All in-warranty service calls must have prior authorization. For Authorization, call the Technical Support Department at 1-800-995-0417. Effective date of this policy is April 1, 2003.

Additional conditions may apply. Go to [www.wilburcurtis.com](http://www.wilburcurtis.com) to view the full product warranty information.

### CONDITIONS & EXCEPTIONS

The warranty covers original equipment at time of purchase only. The Wilbur Curtis Company, Inc., assumes no responsibility for substitute replacement parts installed on Curtis equipment that have not been purchased from the Wilbur Curtis Company, Inc. The Wilbur Curtis Company will not accept any responsibility if the following conditions are not met. The warranty does not cover and is void under the following circumstances:

- 1) **Improper operation of equipment:** *The equipment must be used for its designed and intended purpose and function.*
- 2) **Improper installation of equipment:** *This equipment must be installed by a professional technician and must comply with all local electrical, mechanical and plumbing codes.*
- 3) **Improper voltage:** *Equipment must be installed at the voltage stated on the serial plate supplied with this equipment.*
- 4) **Improper water supply:** *This includes, but is not limited to, excessive or low water pressure, and inadequate or fluctuating water flow rate.*
- 5) **Adjustments and cleaning:** *The resetting of safety thermostats and circuit breakers, programming and temperature adjustments are the responsibility of the equipment owner. The owner is responsible for proper cleaning and regular maintenance of this equipment.*
- 6) **Damaged in transit:** *Equipment damaged in transit is the responsibility of the freight company and a claim should be made with the carrier.*
- 7) **Abuse or neglect (including failure to periodically clean or remove lime accumulations):** *Manufacturer is not responsible for variation in equipment operation due to excessive lime or local water conditions. The equipment must be maintained according to the manufacturer's recommendations.*
- 8) **Replacement of items subject to normal use and wear:** *This shall include, but is not limited to, light bulbs, shear disks, "O" rings, gaskets, silicone tube, canister assemblies, whipper chambers and plates, mixing bowls, agitation assemblies and whipper propellers.*
- 9) **Repairs and/or Replacements** *are subject to our decision that the workmanship or parts were faulty and the defects showed up under normal use. All labor shall be performed during regular working hours. Overtime charges are the responsibility of the owner. Charges incurred by delays, waiting time, or operating restrictions that hinder the service technician's ability to perform service is the responsibility of the owner of the equipment. This includes institutional and correctional facilities. The Wilbur Curtis Company will allow up to 100 miles, round trip, per in-warranty service call.*

**RETURN MERCHANDISE AUTHORIZATION:** *All claims under this warranty must be submitted to the Wilbur Curtis Company Technical Support Department prior to performing any repair work or return of this equipment to the factory. All returned equipment must be repackaged properly in the original carton. No units will be accepted if they are damaged in transit due to improper packaging. **NO UNITS OR PARTS WILL BE ACCEPTED WITHOUT A RETURN MERCHANDISE AUTHORIZATION (RMA). RMA NUMBER MUST BE MARKED ON THE CARTON OR SHIPPING LABEL.** All in-warranty service calls must be performed by an authorized service agent. Call the Wilbur Curtis Technical Support Department to find an agent near you.*

ECN 15211 . 7/30/13@12.2 . revE



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