



## START-UP OF ELECTRIC WATER BOILERS

FOR DETAILED INFORMATION SEE INSTALLATION & MAINTENANCE MANUAL

**WARNING:** If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

1. Visually inspect unit and components for damage and proper installation.
2. **Important** - Check all electrical connections for tightness and proper voltage.
3. Check heater to make sure it is full of water. (Remove air through T&P valve).
4. Check the resistance to ground between all element terminals and the element mounting flange (should read infinity).
5. Check for leaks at elements and all tank penetrations (i.e. thermostats, low water cut-off).
6. Energize manual disconnect switch. Check for proper voltage on power circuit. (Should not vary more than 5% from voltage on data plate.)
7. Energize control circuit switch. Check for proper voltage and amperage under full load (should not vary over 5% from voltage on data plate).
8. Check all components for proper operations (i.e. contactors, sequencers).
9. Manual reset high limit opens at 240°F. Set operating thermostat to desired outlet temperature.
10. After unit shuts down, turn water on and let unit cycle on (to check proper thermostat operation).
11. **Important** - After at least 30 minutes of operation, turn off power and retighten all electrical connections.
12. Complete attached startup report.

**Note:** A complete and proper start-up of this equipment is necessary to ensure its safe and reliable operation. The attached startup form must be filled out completely and immediately provided to your Riverside Hydraulics® representative. Report all discrepancies to Riverside Hydraulics® Customer Service Department at 1-800-990-5918.

## START-UP REPORT

## ELECTRIC WATER BOILERS

**Warning: Startup must be performed by a qualified service installer, service agency or utility company.**

Model Number: \_\_\_\_\_ Serial Number: \_\_\_\_\_

Job Name: \_\_\_\_\_

Address: \_\_\_\_\_

### GENERAL INFORMATION

Restart?  Yes  No      Installation is:  New  Replacement/Renovation  Indoor  Outdoor  
Primary voltage supply: \_\_\_\_\_ VAC \_\_\_\_\_ PH      Voltage from neutral to earth ground: \_\_\_\_\_ (should be zero)  
Thermostat Setting: \_\_\_\_\_ °F      Thermostat Setting: \_\_\_\_\_ °F      Hi-Limit Setting: \_\_\_\_\_ °F  
Is the T & P Relief Valve plumbed to a suitable drain?  Yes  No  
Energy management System (EMS) Interface?  Yes  No      Mfg./Model: \_\_\_\_\_  
EMS Function(s):  Remote On-Off  Staged- Firing  Outdoor Reset  Other: \_\_\_\_\_  
EMS connected to which boiler terminals: \_\_\_\_\_  
EMS Field wiring - Wire Gauge: \_\_\_\_\_      Distance from EMS panel: \_\_\_\_\_ Ft.

### ELECTRICAL SYSTEM

(Tighten all electrical connections prior to energizing and again after 30 minutes of operation)

Number and size of incoming power cables: \_\_\_\_\_      Power cables are:  Copper  Aluminum  
Control Circuit Transformer: \_\_\_\_\_ / \_\_\_\_\_ Volts \_\_\_\_\_ kva      Primary Transformer Fuse Size: \_\_\_\_\_ V \_\_\_\_\_ A  
Primary Voltage: \_\_\_\_\_ Volts \_\_\_\_\_ PH      Total Amps: \_\_\_\_\_ Amps per Leg: \_\_\_\_\_  
Total Number of Contactors: \_\_\_\_\_      Contactor Fuse Size: \_\_\_\_\_ Amps  
Total Number of Electric Elements: \_\_\_\_\_ each \_\_\_\_\_ KW; \_\_\_\_\_ each \_\_\_\_\_ KW  
Measured resistance of all elements to ground?  Yes  No  
Re-tightened all electrical connections?  Yes  No

### BOILER INSTALLATIONS (Closed Loop Heating System)

Boiler water supply and return piping size \_\_\_\_\_  
Supply water temperature: \_\_\_\_\_ °F      Return water temperature: \_\_\_\_\_ °F  
What is the GPM of the building loop circulator pump? \_\_\_\_\_      VFD?  Yes  No  
What is the location of the circulator pump?  Downstream from boiler  Upstream from boiler  
Is there a balancing valve (circuit setter) in the secondary loop?  Yes  No

Comments: \_\_\_\_\_

Service Company Name: \_\_\_\_\_ Phone: \_\_\_\_\_

Service Company Address: \_\_\_\_\_

Start-up Performed By: \_\_\_\_\_ Date: \_\_\_\_\_

Customer Representative: \_\_\_\_\_ Date: \_\_\_\_\_