



## START-UP OF COBREX® CCX SERIES INSTANTANEOUS WATER HEATERS

**\*\*For Detailed Information See Installation & Maintenance Manual \*\***

**WARNING:** These startup instructions are prepared for a qualified service technician and require and rely on the experience and training of these qualified technicians to be safely completed. Attempting to follow these instructions without such training and experience can result in property damage, exposure to hazardous materials, personal injury or death.

### Pre-startup Inspection

1. Confirm the water supply pressure does not exceed the psi rating of the relief valve and heat exchanger.
2. Confirm the main steam stop valve upstream of the water heater is closed. If the heater is installed without a steam regulating valve, steam supply pressure must never exceed 15 psi.
3. Water supply pressure must be more than 30 psi flow pressure at all times.
4. Check all pipe fittings.
5. A steam pressure gauge must be installed in the steam piping entering the COBREX heater. If there is a steam regulating valve, the pressure gauge must be installed in the downstream tap or downstream piping.

### With All Product and Isolation Valves Closed, Proceed As Follows:

1. Switch on power to unit to activate the solenoid valves and thermostats. The solenoid valve(s) should open.
2. Crack open the steam strainer blow-down valve.
3. Check the set-point of the temperature limiting device near the hot water outlet:
  - The limit device located downstream of the secondary thermostatic mixing valve and near the hot water outlet must be set 10°F above the outlet water temperature element installed in the COBREX heater.
  - The limit device located between the primary and secondary thermostatic mixing valves is not adjustable and is set at 40°F above the outlet water temperature element installed in the COBREX heater.
4. Slowly open the water supply valve to the COBREX heater. Check for water leaks on waterside piping. Crack open the potable water outlet valve downstream of the COBREX heater to vent air from exchanger and piping. It may be necessary to open a hot water faucet downstream in the system. Continue venting air from the COBREX heater and piping, until a consistent flow of water is demonstrated.

**CAUTION:** Do not supply steam to a heater until a consistent flow of water is demonstrated.

5. Crack open the steam supply to the heater and allow condensate and air to be vented through the steam inlet strainer blow-down and steam supply valves.
6. Slowly and fully open the main steam shutoff valve(s). Confirm steam pressure entering the COBREX heat exchanger(s) is 15 psi or less.
7. Adjust pressure pilot (if equipped) so that the pressure downstream of the valve is 15 psi or less. (Refer to the steam valve literature for adjustment instructions).
8. Observe steam traps for operation. Traps are self-priming and should require no further adjustment.
9. Check the pressure in the condensate return line. The ability to lift condensate via steam pressure cannot always be assured. Generally ½ psi steam pressure is required for every foot in height that the condensate is to be lifted. Lifting condensate is not recommended, but if lifted, a check valve must be installed immediately after the heater condensate outlet in condensate return line. Use of a pump or vacuum type condensate return system is recommended.



# START-UP REPORT

## COBREX® DOUBLE-WALL INSTANTANEOUS STEAM-TO-WATER WATER HEATER

**Important: You must submit the original copy of the completed form to your PVI representative before the warranty will become effective on this product. Contact Customer Service for assistance at 1-800-433-5654.**

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

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

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

### GENERAL INFORMATION

Restart?  Yes  No Installation is:  New  Replacement/Renovation

Primary operating voltage: \_\_\_\_\_ VAC Voltage from neutral to earth ground: \_\_\_\_\_ (should be zero)

Water Supply Pressure: \_\_\_\_\_

Is Safety Relief Valve(s) plumbed to a suitable drain?  Yes  No

Is there a floor drain in the room?  Yes  No

Is there a check valve in the supply water piping?  Yes  No

Is there a mixing valve on the hot water supply? If yes; temperature setting: \_\_\_\_\_ °F  No

Is there expansion relief in the cold water supply? If yes, what type:  tank  valve  No

Is there a recirculation loop pump? If yes, what pump horsepower: \_\_\_\_\_  No

### STEAM SYSTEM

Static Steam Pressure: \_\_\_\_\_ PSI Operating Steam Pressure: \_\_\_\_\_ PSI

Is there a condensate trap in the steam supply main?  Yes  No

Is there lift in the condensate return line? (Before receiver tank)  Yes  No Lift in feet: \_\_\_\_\_ FT

Is there a steam strainer ahead of the appliance steam valve?  Yes  No

Is there a steam trap ahead of the appliance steam valve?  Yes  No

Is there a steam trap in the appliance condensate line?  Yes  No

Does steam flow stop completely when steam valve is de-energized?  Yes  No

### OPERATION

Primary Thermostat Set Point: \_\_\_\_\_ °F Cold Water Inlet Temperature: \_\_\_\_\_ °F

Secondary Thermostat Set Point: \_\_\_\_\_ °F Hot Water Outlet Temperature: \_\_\_\_\_ °F

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

\_\_\_\_\_

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

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

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

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