



## **Instantaneous Water Heater Package Specification Steam to Water Type**

### **I. Product Specifications**

#### **A. General Designs**

1. The instantaneous water heater shall operate on water differential using the feedforward principal. A temperature control device with capillary system shall not be acceptable.
2. The water controlling valve of the unit shall be mounted integral to the heat exchanger without the use of connecting piping.
3. The instantaneous water heater shall not use copper lined storage tanks.
4. The controlling valve of the instantaneous water heater shall fail in the closed position to prevent overheating and scalding.
5. The instantaneous water heater shall be of the horizontal shell and tube design avoiding vertical removal of coils. No overhead clearance shall be required for servicing.
6. The instantaneous water heater shall have easy access to the individual tubes without moving the heater from its installed position.
7. The tube bundle shall be fixed on one end and free floating on the other for easy removal.
8. The tubes shall be straight in design with removable end cap to facilitate mechanical cleaning. "U" tubes and helical tubes are not acceptable.
9. The instantaneous water heater shall be pre-piped with only steam, water and condensate hook-ups necessary.
10. The instantaneous water heater shall be mounted on an angle iron frame.
11. The package shall be pre-piped with all the necessary pipe, valve fittings and gauges.
12. The frame must be able to be mounted to the floor and wall.
13. If the package consists of multiple instantaneous water heaters, the instantaneous water heaters must be pre-piped such that each unit could be run separately or together.

#### **B. General Performance**

1. The maximum water pressure drop shall not exceed 10 psi.
2. Outlet water temperature shall be controlled to within plus or minus 4°F.
3. Operational steam pressure shall be 2-15 psig.
4. Operational water pressure shall be 20-150 psig.

### **C. Materials of Construction**

1. The shell of the heat exchanger shall be of carbon steel and designed for a maximum allowable pressure of 150 psig.
2. The tubes shall be 5/8" 16 gauge admiralty brass expanded into brass tube sheets and designed for a maximum allowable pressure of 200 psig.
3. The water controlling valve body shall be bronze with stainless steel and/or brass internals.
4. The stand shall be fabricated of 2" carbon steel angle iron.
5. The water pipe shall be Type "L" copper.

## **II. GENERAL SPECIFICATIONS**

### **A. Instructions**

1. Maintenance data, operating instructions and adjustment procedures shall be included.

### **B. Warranty**

1. The instantaneous water heater package shall have a two year guarantee against defective material or faulty workmanship.
2. The tube bundle shall have an unconditional 10 year guarantee against failure caused by thermal shock or mechanical failure, but not against gasket failure or damage caused by corrosion or lack of proper cleaning.