

## INSTALLATION INSTRUCTIONS HC SERIES – HORIZONTAL STYLE

### A. System Installation:

Once system is at the installation site, anchor the footpads securely to the floor.

Use the assembly drawing for installation location of the Madden supplied components:

1. Install the Kunkle Relief Valve onto the coupling on the top of the vessel. Vent pipe must exit the building.
2. Screw the Pressure Gauge into the Steam Gauge Syphon and install onto the 1/4" NPT coupling on the vessel.
3. Install the Sight Glass and Valves between the two 3/4" NPT couplings on the vessel. See the Water Gauge and Gauge Glass Installation Instructions.
4. Connect the Madden Nameplate with 3 pre-mounted thermometers onto the nameplate brackets with the 4 supplied bolts.
5. Insert the 3 thermometer probes into the correct couplings as listed on the assembly drawing:
  - a. Insert the union connections of the thermometer probe assembly into the 3 couplings.
  - b. Insert the probe with capillary tube attached to the gauge in the *first* position on the nameplate into the correct coupling on the inlet.
  - c. Insert the probe with capillary tube attached to the gauge in the *second* position on the nameplate into the correct coupling on the outlet.
  - d. Insert the probe with capillary tube attached to the gauge in the *third* position on the nameplate into the correct coupling on the blowdown drain at the bottom of the vessel.
6. Install Keckley #62 Globe Valve on the discharge/drain line. Linkage is included to connect to the stainless-steel float controller.
7. If the vessel has an optional high level alarm switch, the alarm should be hooked up by an electrician. Wiring diagram included with order submittal packet.

### B. Piping connections:

The contractor must furnish and install all related piping. This system requires a minimum of six connections as described on the assembly drawing provided in your sales order submittal packet. Shutoff valves must be installed between the boiler and the flow control valves if using Madden Orifice Meters for the flow control.

**VENT PIPING NOTE:** it is recommended to use a swing type check valve from the HC upper vessel vent line and the D/A tank.

### C. The components of the Heat Exchanger System:

1. Horizontal Flash Tank with Integral Heat Exchanger
2. U-Tube Bundle with Stainless-Steel Tubes
3. Float Valve
4. Gauge Panel – Includes 3 Thermometers
5. Manifold – For Inlet Flow Control
6. Ancillary Equipment: Sight Glass, Valves & Rods, Keckley Globe Valve, Pressure Gauge & Syphon Tube and Safety Relief Valve
7. Optional – High Level Alarm

- D. Occasional Start Up Leaking Issue with HC Systems:** reference the HC011AS stuffing box kit. This device links and seals the HC series internal SS float level control and the external drain globe valve. This assembly ships "snug" from the factory to ensure start up temperatures do not cause the internal packing to overtighten, keeping the actuating linkage from turning. IF AN OPERATOR NOTICES A MINOR LEAK DURING STARTUP from this component, tighten the outer nut, NOT the nut closest to the vessel. This typically seals the system. See document HC\_Stuffing-Kit\_Packing-Assembly\_HC011AS.pdf (website) for more details.

**Contact the Factory for Further Assistance: [info@maddenp.com](mailto:info@maddenp.com) // (574) 295-4292**