

MODEL TP TWO PASS IMMERSION WATER HEATER
SUGGESTED SPECIFICATION

PART 1 – GENERAL

- A. Furnish and install _____ (qty) Sellers Engineering Co Model TP-____ -____ Two Pass Immersion Water Heater(s)
- B. Each water heater shall have a storage capacity of _____ gallons and a recovery rate of _____ gallons per hour over a 100 °F. temperature rise.

PART 2 – PRODUCTS

2.1 Packaged, Gas Fired Domestic Water Heaters

- A. The water heater shell shall be constructed accordance with Section IV of the ASME Code for a maximum allowable working pressure of ____ PSI and shall be registered with the National Board of Boiler and Pressure Vessel Inspectors.
- B. Electrical power available will be ____ Volt, ____ Hertz, ____ Phase
- C. The heater shall be a horizontal, two pass, and immersion fired gas water heater.
- D. Water heaters shall be factory assembled, wired to require only supply, return, drain, fuel, vent and electrical connect ions.
- E. The immersion firing tubes shall be pressure vessel quality steel on the fireside and seamless copper clad on the waterside. The copper cladding shall be a minimum of .028" thick and shall be seamless. The tubes shall be rolled and beaded into 3/4" thick minimum tube sheets. The ligaments between tubes shall be not less than 1".
- F. A minimum of three (3) handhole assemblies shall be provided in the pressure vessel. Provide an 11 " x 15" manhole for shells over 60" diameter.
- G. The bottom of the heater where scale falls shall not be subject to heat from flame or hot flue gasses.
- H. The heater and all components shall be approved as a unit by the Underwriters' Laboratory.
- I. Water heater shall be mounted on a heavy, structural steel skid base, which does not extend beyond the pressure vessel to provide minimal footprint.
- J. Lifting eyes shall be provided to facilitate rigging.
- K. The water heater shall be insulated with 2" of fiberglass and covered with a steel jacket. A precast hardtop walkway shall be furnished to allow personnel to walk on top of the water heater without denting steel jacket. Steel ladder support rails shall be installed under the jacket.
- L. (Optional): Provide forced internal circulation pump rated _____ GPM at ____ FT.

2.2 Water Trim

- A. Operating and high limit temperature controls.
- B. Temperature gauge, 4-1/2" dial type.
- C. Combination temperature and pressure relief valve.
- D. Probe type low water cutoff with manual reset

2.3 Burner

- A. The burner assembly shall be a forced draft, Premix type with an individual burner nozzle firing into each firing tube. The burner assembly shall include the following:

1. Premix type gas-air burner assembly.
2. Forced draft combustion air blower.
3. Air pressure proving switch.
4. High-low gas pressure on 60 HP and larger.
5. Main and pilot gas valves and regulators.
6. Ignition transformer with electrodes.
7. Flame monitoring flame rod.
8. Flame observation ports.
9. Control panel, including: Honeywell RM7800 combustion control, motor starter, control switches, 500 VA control circuit transformer, and six indicator lights.
10. The burner and controls shall conform to the requirements of UL (FM, IRI) and CSD-1.

2.4 Warranty

- A. The manufacturer shall warrant against leakage from the pressure vessel. The warranty shall cover either a replacement shell or 100% of the repair costs for 5 years and 40% of the shell or repair cost for the balance of ten years.
- B. All non-pressure vessel components shall carry a 5-year warranty against defects.
- C. Any refractory used in the construction of the water heater shall be warranted for twenty (20) years from the date of startup. Warranty shall cover 100% of the cost of repair or replacement.

2.5 Efficiency Guarantee

- A. The heater shall be guaranteed to operate at a minimum fuel-to-water efficiency of 82%.

PART 3 – EXECUTION

3.1 Shop Tests

- A. The water heater shall be completely assembled, wired and tested at the factory. A factory fire and efficiency test report shall be provided to the owner. Owner, engineer or purchaser shall be allowed to witness test, if desired.

3.2 Startup Service

- A. Furnish the services of a factory-authorized technician to perform initial startup and adjustment of the water heater, burner and controls.
- B. Provide a minimum of four (4) hours of operator training. Operators shall receive instruction in the operation and maintenance of the water heater, burner and all controls.
- C. Complete the manufacturer's approved startup report and submit one copy each to the owner's representative and the water heater manufacturer.