

SPECIFICATION FOR DOMESTIC WATER HEATERS

Power Combustion, Gas-Fired Water Heaters with Nickel-Plated Storage Tanks

Furnish and install the following **MAXIM** gas water heater(s) as manufactured by PVI INDUSTRIES, INC of Fort Worth, Texas.

Qty	Model Number	Btu/h Input	GPH Recovery 40° to _____°F	Storage Tank Size
_____	_____	_____	_____	_____ gallons
_____	_____	_____	_____	_____ gallons
_____	_____	_____	_____	_____ gallons

Gas and Electrical Consumption

The water heater will operate at 83% thermal efficiency.

Each water heater will have a burner motor with the following maximum electrical ratings:

Heater Model Number	Heater Btu/h Input	Motor Horsepower	Voltage	Amps
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

To conserve energy, the water heater will not utilize a continuously operating, integral circulation pump between the storage and heating section.

Pressure Vessel and Heating Surfaces

The water heater will be a vertical fire tube design that is constructed and stamped in accordance with Section IV, Part HLW of the ASME code. Both the storage and heating sections of the water heater will be National Board Registered for a working pressure of 150 psi and will be pressure tested at 1-1/2 times working pressure. For maximum thermal strength, the fireside of the heating surfaces will be of boiler-grade steel. For corrosion protection, the waterside of the heating tubes will be sealed in copper. The heating tubes will be rolled, beaded, and seal welded into the tube sheets. The combustion side of the tube sheet will be insulated by a layer of ceramic fiber that will protect the tube sheet from both thermal stresses and failure that can result from the accumulation of scale and precipitants.

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Lining

The lining will:

be applied only after the tank is completely fabricated and all welding is completed.

be a nonferrous, electroless nickel alloy consisting of 90% nickel and 10% phosphorus applied by a laboratory-controlled, chemical plating process.

be continuous and nonporous with no interruptions or discontinuities, particularly at all tank-to-fitting transitions.

bond to the tank by cohesion (sharing electrons with the steel) at a force in excess of 30,000 psi

have a hardness of 50 Rockwell C and be harder than the underlying steel tank.

require **no** sacrificial anode rods for protection.

For additional protection against galvanic corrosion, which may occur within the potable water system, the nickel plating may have an optional fluoropolymer overcoat.

Burner and Venting

Combustion will be provided by a forced-draft power burner with a gas train meeting the specifications of:

UL (standard equipment) FM IRI Other _____

Water heater will be a category I, non-condensing appliance. It will be UL listed for use with non-pressurized, type B venting material.

Safety Controls

As a minimum, the heater will be equipped with the following:

- electronic flame monitoring with pre-purge (140,000 to 399,000 Btu/h) or electronic flame safeguard with pre-purge and flame status indicating lights (540,000 to 1,400,000 Btu/h)
- two *immersion* operating thermostats
- an *immersion* temperature limiting device
- an ASME- or AGA-rated temperature and pressure relief valve
- and options as selected on form PV 6137

Warranty Summary

The burner and all heater parts will have a one-year warranty. Storage tank will have a **ten-year** warranty covering manufacturing or material defects, and/or the production of rusty water. Tank and heating surfaces will have a non-prorated, **three-year** warranty against failure due to scale buildup with no provisions for periodic cleaning for warranty coverage. If indicated here, the heater will also have a _____ first year or _____ long-life service policy, which will cover replacement labor and freight costs under certain conditions. This summary is not a warranty. Consult warranty and policies for full details. **Complete copies of all warranties and service policies, including all exclusions and conditions, will be presented to the owner as part of the submittal package.**

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Finishing

The storage and heating sections will be completely factory packaged and plumbed, requiring only job site hookup to utilities, venting, and potable water inlet and outlet. The heater will be insulated to meet current ASHRAE standards, jacketed with powder-coated steel panels, and mounted on heavy-duty channel skids. The heater will fit properly in the space provided and installation will conform to all local, state, and national codes.

Start Up

Start up on the unit will be performed by factory trained and authorized personnel. A copy of the start up report will be provided to the owner.

Quality Certification • Safety and Performance Standards

The water heaters will be manufactured by a company that has achieved certification to the ISO 9001 International Quality System, which requires regular external auditing of all order entry, engineering design, and product manufacturing processes.

The heater will be U.L. listed and ULC listed to safety standard UL 795 "Commercial – Industrial Gas Heating Equipment" or AGA listed to ANSI Z21.10.3 "Gas Water Heaters."

The heater will satisfy current Federal Energy Policy Act (EPACT) standards for both thermal efficiency and standby heat losses as established for gas-fired water heaters incorporating storage tanks.