



## PRECISIONTEMP-56 GAS BOOSTER WATER HEATER INSTALLATION

**Warning: If the information in these instructions is not followed exactly, a fire or explosion may result causing property damage, personal injury or death.**

**Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.**

### WHAT TO DO IF YOU SMELL GAS

- \* Do not try to light any appliance
- \* Do not touch any electrical switch; do not use any phone in your building.
- \* Immediately call you gas supplier from your neighbor's phone. Follow the gas supplier's instructions.
- \* If you can not reach your gas supplier, call the fire department.
  
- \* Installation and service must be performed by a qualified installer, service agency or the gas supplier.
  
- \* Should overheating occur or the gas supply fail to shut off, turn off the manual gas control valve to the appliance.
  
- \* Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control that has been under water.



**ANSI Z21.10.3  
CAN 1-4.3-M85 NSF 5 – 1992**



## PRECISIONTEMP GAS BOOSTER WATER HEATER INSTALLATION PRECISIONTEMP - 56

**NOTE: Dry firing the PT-56 will damage the Pump and Heat Exchanger. This will VOID the Warranty.**

### GENERAL INSTRUCTIONS

The PrecisionTemp Gas Booster Water Heater operates on 115VAC line voltage. All internal electrical connections have been made at the factory. For units supplied with three pronged 115 VAC plug, no other wiring is required. Plug into GFI circuit rated at 15 amps. For other units supply wire size, fuse, breaker and conduit recommendations are listed later. This appliance is designed for indoor installation only.

### Locating Installation

The PrecisionTemp Gas Booster Water Heater is designed to boost the rinse temperature in a commercial dishwasher from the available hot water, in the range of 110° - 140° F, up to 180° F sanitizing rinse. Health Codes, NFS Standard #5 and local plumbing codes require that the rinse water be 180° F. at the rinse nozzle. For this reason the PrecisionTemp booster heater should be installed as close as possible to the dishwasher. In installations where the booster heater is more than five feet from the dishwasher, provisions of NFS Code #5 should be observed and circulation methods employed.

**IMPORTANT** - The booster heater must be installed in a horizontal position (base parallel to the floor, level by adjusting legs) with the inlet connection at the lowest point.

The PrecisionTemp Gas Booster Heater must be installed in a well ventilated area in conformance with local codes or in the absence of local codes, the National Fuel Gas Code, ANSI Z 223.1. Proper clearances should be observed. Always maintain at least 6 inches of space behind the unit, 10 inches on either side and 10 inches above the unit when installing. Sufficient clearance should be allowed in front of the unit to remove the front cover for servicing. The unit should be mounted so that the air vents on the bottom and top of the unit will never be blocked. Never remove the six inch legs from the bottom of the unit when making a floor installation. All combustion air enters through the bottom. Provisions for adequate combustion and ventilation air should be made following the provisions of the National Fuel Gas Code, ANSI Z 223.1. Part 7.

The unit should not be mounted where flue gasses can accumulate such as close to underside of a sink or overhang. Concentration of flue gasses can have a corrosive effect on those surfaces.



When installing the appliance on a carpeted floor, the appliance should be installed on a metal or wood panel extending beyond the full width and depth of the appliance by at least 3 inches (76.2 mm) in any direction.

This appliance must not be mounted in a closet. NEVER mount in a small, unventilated area. Never use the top of this unit as a shelf. The heater should be installed in an area where leakage of the tank or connections will not result in damage to the adjacent area or to lower floors of the structure. When such locations can not be avoided, it is recommended that a suitable drain pan, adequately drained, be installed under the appliance. The pan must not restrict combustion air flow. Never install heater directly over a floor drain or floor sink where steam from drain can be ingested into the booster heater air intake.

The gas used with this unit must be the type specified on the specification plate on this unit. Never use any other than the specified gas. Connections and pipe sized will be addressed later.

### **Electrical Connection Instructions**

**CAUTION: DO NOT TURN ON THE POWER SWITCH.** The servicing technician performing the Startup will make the booster operational. **FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN DAMAGE TO THE BOOSTER HEATER WHICH WILL VOID THE BOOSTER WARRANTY.**

The PrecisionTemp Gas Booster Heater operates on 115 VAC, 15 amp, single phase current. All internal electrical connections have been made at the factory. Follow local codes when installing, specifying wire size breaker and conduit or in the absence of local codes observe the National Electrical Code, ANSI/NFPA 70.

1. To remove front panel, raise panel until bottom releases, tilt bottom out and remove.
2. Power should be on its own 115 VAC 15 amp single phase GFI circuit. Local electrical codes should be observed. A three prong plug is supplied on unit. Plug into a 115 VAC 15 amp GFI circuit. Be sure to route wire in a way that it is protected from damage.

**NOTE: Dry firing the PT-56 will damage the Pump and Heat Exchanger. This will VOID the Warranty.**



## Plumbing

### General instructions

The PrecisionTemp Gas Booster Heater is designed to boost the rinse temperature in a commercial dishwasher from the available hot water, in the range of 110° - 140° F. , up to a 180° F. sanitizing rinse. Health Codes, NSF Standard #5 and local plumbing codes require that rinse water be 180° F. at the rinse nozzle.

For protection against excessive pressure and temperature in the booster heater, the temperature and pressure protective equipment supplied by PrecisionTemp must be installed. This valve, supplied with this booster heater, is constructed for commercial use and is not the same as those used on domestic water heaters. It is manufactured with brass working parts and heat resistant silicone seat discs especially designed for high temperature operation.

For proper performance of the dishwasher and booster heater, install a pressure reducing valve ahead of the booster heater with a maximum pressure setting of 25 PSI. See # 7 below. **IMPORTANT.** If there is a functional pressure reducing valve already installed on the warewasher, do not install another at the booster. This will cause variations in pressure and malfunctions in the water system.

### Installation

1. The booster heater should be installed as close as possible to the dishwasher. In installations where the booster heater is more than five feet from the dishwasher, provisions of NFS Code #5 should be observed and circulation methods employed. **IMPORTANT** - The booster heater must be installed in a horizontal position (base parallel to the floor, level by adjusting legs) with the inlet connection at the lowest point.
2. The inlet water to the booster heater must come from a regular water heater. **DO NOT RUN A COLD WATER LINE TO THE BOOSTER HEATER.**
3. A shut-off valve (a full open gate or ball type) should be provided in the inlet water line, together with a pressure reducing valve (when the supply pressure is over 25 psi). A union fitting and a drain valve should be installed for easy servicing.
4. American National Standard Z-21.22 and U.L. Standard 1453 require that a temperature / pressure relief valve must be installed and located that the temperature sensing element is immersed in the water within the top 6" of the tank. Install the valve provided by PrecisionTemp in the side or back openings marked for this purpose.



5. PrecisionTemp recommends the installation of a expansion tank on the inlet of the booster heater to eliminate water hammer caused by the quick closing of the solenoid valve of the dishwasher.
6. PrecisionTemp requires the installation of a temperature / pressure gauge in both the inlet and outlet lines to the booster heater. These two gauges will help eliminate unnecessary customer service calls.
7. Proper operation of the rinse nozzles in the dishwasher requires the water pressure available at the nozzle is between 15 and 25 psi when the nozzles are spraying. If the water pressure is over 25 psi, a pressure reducing valve is required. It should be mounted in the hot water supply to the booster heater. It is important that the water flow through the valve in the proper direction.

**IMPORTANT.** If there is a functional pressure reducing valve already installed on the warewasher, do not install another at the booster. This will cause variations in pressure and malfunctions in the water system.

Check the directional arrows. The pressure reducing valve must have a high pressure by-pass to avoid nuisance opening of the pressure relief valve when the unit is heating.

## 8. Relief Valve

A combination pressure and temperature relief valve with an extension thermostat must be installed so that the temperature sensing element is immersed in the water within the top 6" of the tank. It must be installed directly in either of the marked tank tapings/pipe plug.

To avoid damage or scalding due to valve operation, a drain pipe must be connected to the valve outlet and run to a safe place of disposal. The drain pipe must be as short as possible and the same size as the valve discharge connection throughout its entire length. The drain pipe must be pitched downward from the valve and terminate at least 6" above a floor drain to make any discharge clearly visible. The drain line shall terminate plain, not threaded made of a material for temperatures up to 250° F. The valve lever must be tripped periodically to insure that waterways are clear.

This device is designed for emergency safety relief and should not be used as an operating control.

## 9. Plumbing Connections

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In connecting the booster heater to the dishwasher, use 3/4" piping to supply the sanitizing rinse spray on the dishwasher. Be certain that the connection is made to the final sanitizing rinse of the dishwasher and NOT THE WASH TANK OF THE DISHWASHER.

Check carefully for proper plumbing installation. Observe the following cautions:

- A. Do not back up or loosen any pipe fittings, as a leak will develop.
  - B. Do not connect the heater directly to a boiler or furnace coil or any other uncontrolled temperature source.
10. Fill booster with water to test for installation leaks. Leave the water in booster to prevent pump damage in the event the electrician should apply power.

### **Gas Line Installation**

It is very important that the type and inlet pressure of the gas used corresponds to the specification plate on the booster heater case. This unit is equipped with a 1/2" female pipe fitting on natural gas unit and 3/8" female pipe fitting on propane units. The fitting is accessed through the bottom of the case.

Gas line should be of the approved type for use with Natural Gas or Propane. A gas line of at least 3/8" NPT or equivalent ID. A manual gas shut-off valve must be installed in the gas line, located within an accessible area of the booster heater. The gas line should be kept as short as possible and installed in a way to protect it from damage.

When making pipe connections use an approved pipe dope, taking care not to use excessive amounts as to foul the gas valve. When tightening gas line always support the gas valve to avoid damage to the gas train.

\* In a propane installation gas must be supplied from a regulated source and pressure to the booster heater must not exceed 15 water column inches. In a natural gas installation pressure must be minimum 7wci. maximum 10.5 wci.

When making connection to the booster unit, take care to start the gas line fitting by hand and tighten by hand to avoid cross-threading. Then tighten with a wrench, taking care not to damage any internal components of the unit.

After making final connection of gas, with power to the unit turned off, check all gas line fittings for leaks, using a liquid test solution. NEVER use a flame to test for leaks. Observe all local codes regarding gas line installation and specifications.



NOTE: The appliance and its individual shutoff valve must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of 1/2 psig (3.5 kPa).

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## **Maintenance**

Be sure the area around heater is clear of debris and flammable materials. Do not use as a storage shelf and do not block air intakes or vents.

At least once a month check and clean air inlet holes on bottom of unit and vent on top of unit.

If water outlet temperature is too high or low, contact PrecisionTemp or your authorized service representative.

The front cover should be removed at least twice a year and a visual inspection should be done of all components. There should be no evidence of chafing or heat damage to any wiring or components. There should be no sign of water leakage around any of the plumbing fittings or heat exchanger.

Visually observe the burner flame. It should be steady and blue in color. If any problems are apparent, do not use the heater and contact your PrecisionTemp service representative at once.

The relief valve should be manually operated at least once a year to assure proper operation. CAUTION: Before performing this operation, care should be taken that any of the discharged water does not come into contact with the operator or the surrounding surfaces. It is extremely hot and can cause severe scalding and damage to property. If relief valve discharges periodically, do not plug it. If replacing the valve does not stop the discharge, contact the local water supplier.

## **PRECISIONTEMP-56 GAS BOOSTER HEATER SPECIFICATIONS**

Type: Gas fired, pilotless, instantaneous booster heater with accumulator for use with door type dishwashers. Unit is direct vent and can be floor or wall mounted.

Capacity: 55,000 BTUs / hour, input.  
Output - 44,000 = 12.9 KW

Fuel: Natural gas @ 4 WCI or Propane @ 11 WCI.



Operating Pressure: 25 PSI . Relief valve set at 150 PSI, 210°F

Power: 115VAC, 1 amp, 15 amp breaker. Pump powered by 115 VAC, 1.3 amps, heater ignition and controls powered by 12 VDC, 1.5 amps from internal power supply. 3 amp internal breaker.

Ignition: Pilotless, electronic

Temperature Control: Factory set at 190° max.

Safety systems: Pilotless. Instant flame proofing by rectification. High temperature limit controlled - mid-line thermistor. Energy cut-off temperature lockout - bi-metal switch independent of microprocessor. Temperature and pressure relief valve. Redundant gas solenoid with integral regulator. Modulating gas valve shuts with pressure surge.

Fluing: Direct - combustion air enters bottom flue gasses exit sides of top of unit.

Pump: Recirculating. Red housing.

Connections: Natural Gas - 1/2" NPT, propane - 3/8" NPT  
Water - 3/4" NPT, electric - 110 VAC cord or direct wire

Dimensions: 26" wide, 17.75" deep, 22.5" high with legs.

Weight: 100 pounds, dry.

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