



Installation Manual

The PrecisionTemp Model PT-200RC is as a recirculating gas booster heater that incorporates a tank and pump. Because of the unique design it is a highly reliable, efficient, and effective unit. The PT-200RC heats water as it is pumped through, incoming water temperatures and water flows (pressure) are important. The preferred method of installation is wall mounting using the PT-200 wall mounting bracket. Wall mounting will alleviate most kitchen abuse and extend the life of the booster. Contact your PrecisionTemp representative for wall mounting information.

1. GENERAL INSTRUCTIONS

The PrecisionTemp Gas Booster Water Heater operates on 115v AC line voltage. All internal electrical connections have been made at the factory. For units supplied with a three-pronged 115v AC plug, no other wiring is required. Plug into a GFI circuit rated at 15 amps. This appliance is designed for indoor installation only. 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.

Locating the Installation

The PrecisionTemp recirculating Gas Booster Water Heater is designed to boost the rinse temperature in a commercial dishwasher from the available hot water, ranging from 110°F to 140°F (depending on flow rate), up to a 180°F sanitizing rinse. Health Codes, NSF 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 recirculation tank should be installed as close as possible to the dishwasher (refer to PT200RC plumbing diagram). **IMPORTANT** - The booster heater must be installed in a horizontal position (level booster 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 and 10 inches on either side when installing. The top is zero clearance. Sufficient clearance should be allowed in front of the unit to remove the front cover for servicing.

Never remove the 6" legs from the bottom of the unit when making a floor installation. 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.

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.

NEVER install the booster without a vent or not conforming to the National Flue Gas Code or local codes. Never use the top of this unit as a shelf.



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The booster heater should be installed in an area where leakage of the heat exchanger 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 airflow. Never install the booster 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 of the type specified on the specification plate on this unit. Never use any other than the specified gas

2. Access

To remove front panel, raise panel until bottom releases, tilt the bottom out and remove.

3. 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 115v AC, 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. In the absence of local codes observe the National Electrical Code, ANSI/NFPA 70.

Power for the booster heater should be on its own 115v AC 15-amp single-phase GFI circuit. Local electrical codes should be observed. The booster is equipped with a three-prong plug. Plug into a 115v AC 15 amp GFI circuit. Be sure to route wire in a way that it is protected from damage.

4. Plumbing

The PrecisionTemp Gas Booster Heater is designed to boost the rinse temperature in a commercial dishwasher from the available hot water, ranging from 110°F to 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 water pressure in the booster heater, the pressure protection equipment supplied by PrecisionTemp must remain installed (refer to plumbing diagram). This valve, installed on 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. This valve is installed on a 3/4" pipe tee close to the hot water outlet fitting of the booster (See installation diagram).

For proper performance of the dishwasher and booster heater, install a pressure-reducing valve ahead of the dish machine with a pressure setting of 20 PSI during the rinse operation. See number 5 below. **IMPORTANT**. If there is already a functioning pressure reducer installed on the warewasher, do not install another at the booster. This will cause variations in pressure improper water flow.

Plumbing Installation

1. The booster heater recirculation tank should be installed as close as possible to the warewasher. Provisions of NSF 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 and level by adjusting legs).



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2. The inlet water to the booster heater must come from a primary 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 installed in the inlet water line. A union fitting and a drain valve should be installed for easy servicing.
4. PrecisionTemp recommends the installation of a shock absorber in the outlet of the booster heater to eliminate water hammer caused by the quick closing of the solenoid valve of the dishwasher. Install this as close as possible to the dishwasher.
5. A temperature gauge must be installed in both the inlet and outlet lines to the PT-200RC recirculating booster heater. These two gauges will help eliminate unnecessary customer service calls. *These components are part of the installation kit. Proper operation of the rinse nozzles in the dishwasher requires the water pressure available at the nozzle to be 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 dish machine. It is important that the water flow through the valve is in the proper direction. Check the directional arrows. IMPORTANT- If there is already a functioning pressure reducer installed on the warewasher, do not install another at the booster. This will cause variations in pressure and malfunctions in the water system.
6. A pressure relief valve must be installed on the recirculation tank. To avoid damage or scalding due to valve operation, a drainpipe must be connected to the valve outlet and run to a safe place of disposal. The drainpipe must be as short as possible and the same size as the valve discharge connection throughout its entire length. The drainpipe 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 should terminate plain, not threaded, and be made of a material capable of withstanding 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.
7. In connecting the booster heater plumbing to the dishwasher, use ¾" 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 TO THE WASH TANK OF THE DISHWASHER.

Check carefully for proper plumbing installation (refer to the PT200RC plumbing diagram).
Observe the following cautions:

- Do not back up or loosen any pipe fittings, as a leak will develop.
- Do not connect the booster heater directly to a boiler or furnace coil or any other uncontrolled temperature source.

Fill the booster heater with water to test for installation leaks. Leave the water in the booster to prevent damage in the event the electrician should apply power.

5. 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 ¾" male pipe. The fitting is on the lower right back of the case.

The gas line should be of the approved type for use with Natural Gas or Propane. The gas line must be of adequate diameter to accommodate the flow of 199,000 BTU per hour. It



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must be a gas line of at least 3/4" 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. (Inlet natural gas pressure must be minimum 7wci., maximum 10.5 wci.)

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

(In a propane installation the gas must be supplied from a regulated source and pressure to the booster heater must be minimum 11 wci. maximum 14 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 the 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 PSI (3.5 kPa). All air should be purged from gas line prior to startup.

6. Flue Installation

The PrecisionTemp Gas Booster Heater must be installed in conformance with local codes or in the absence of local codes, the National Fuel Gas Code, ANSI Z 223.1.

The unit is delivered from the factory to be flued from the right side of the case with combustion air being brought in from the rear cut out on the right side of case.

A 4" stainless rigid type vent pipe such as category 3, Z-Vent-II or equivalent is recommended for the flue. Flue pipe can be run up to 70' with 4" pipe from the unit to a proper roof or wall flue terminus. If using optional 3" rear flue, the maximum flue pipe run should be 40' (**each 90°elbow adds 10' to pipe length**). **If code permits, flue should be run into the dish hood installed over dish machine.** If this is done, provisions must be made to secure its installation and electrical interlock must be provided in some jurisdictions to assure the booster does not operate unless the dish hood is operating. It is recommended to check local codes.

7. Installation Completed

Once installation is completed Start-Up and testing must be done in accordance with the Factory Authorized Start-Up Procedure by a qualified Service Technician.