

PGH/PGHT Series Pilot Gas Heaters

Installation & Operation Instructions

Special Notes

ELECTRIC SHOCK HAZARD. All electric heating equipment installations must be performed by qualified personnel in accordance with the local electrical codes and standards and must be effectively grounded to eliminate shock hazard.



FIRE/EXPLOSION HAZARD. Do not operate the heater in the presence of combustible gases, vapours, dusts or fibres unless the heater is specifically marked for the hazardous location and heater operating temperature does not exceed the temperature code rating.



Heaters are capable of developing high temperatures, therefore extreme care should be taken to:

- a. Use explosion-proof terminal enclosures in hazardous locations;
- b. Maintain distance between heater and combustible materials.



CAUTION. This document presents the minimum requirement pertaining to the installation, operation, and maintenance of the respective equipment as required by the manufacturer only. Any additional considerations, including but not limited to any design consideration, in-service inspection, and fitness-for-service assessment for all pressure boundary components to meet any safety principles and local jurisdictional regulatory requirements, shall be the responsibility of the user.



A. DESCRIPTION

The Pilot Gas Heater is specifically designed to heat the pilot tube gas stream of an automatic pressure reducing valve. A large pressure reduction through the pressure reducing valve will create a large temperature drop due to the Joule-Thomson effect. This temperature drop can cause moisture in the gas stream to accumulate and damage the internal seals in the valve.

The pilot gas heater combines the benefits of a high efficiency aluminum casting with a precise digital temperature controller to modulate the pilot tube gas stream temperature regardless of the gas flow rate. The precise temperature control of this heater can prevent damage to the valve seals caused by freezing of accumulated moisture while maintaining temperatures low enough to prevent damage by overheating.

B. INSTALLATION



DO NOT insulate over the heater or terminal enclosure.



ELECTRIC SHOCK HAZARD. Disconnect all power before installing or servicing the heater. Failure to do so could result in personal injury and/or property damage. All maintenance and installation should be done by qualified personnel in compliance with local codes.



FIRE OR SHOCK HAZARD: Moisture accumulation on the dielectric material of the elements sheath or overtemperature on the heater could cause a fault to ground generating arcing and molten metal. Install proper ground fault protection to prevent personal injury or property damage.



Heaters are electrical components, designers are responsible for the proper integration to the electrical systems, including controls and back-up safety devices.



Use copper conductors only with sufficient current carrying capacity for the heater circuit load and in accordance with the local electrical code. Check the heater nameplate for minimum conductor temperature rating. Temperature deration factors must be applied for heaters operating above 30°C (86°F).

1. Unpack and check heater for any damage that may have been caused during shipping.
2. Check supply voltage for compliance with heater nameplate voltage. DO NOT connect the heater to a voltage source other than listed on the heater nameplate.
3. The PGH Pilot gas heater is to be mounted in a horizontal position if used outdoors or in a wet environment. Vertical mounting is acceptable for indoor and dry locations. The PGHT heater can be mounted in horizontal and vertical positions locations, indoors
4. Check that all terminal connections are tight.
5. Heaters with explosion resistant terminal housings must only be used in locations for which the heaters are certified.
 - a. Check heater nameplate information for approval code.
 - b. Never energize an explosion resistant heater unless the terminal housing cover is properly tightened.
6. The PGH pilot gas heater is supplied with a factory installed digital indicating temperature control. The PGHT heater uses a mechanical thermostat for temperature control.
7. Heater nozzles are not intended to be used as pipe supports. User must ensure that inlet and outlet pipes are properly supported.
8. Electrical terminal box must be properly closed and sealed prior to start of operation. Box cover must be properly placed and tightened. Unused conduit entries must be sealed with suitable plugs.

D. OPERATION



RISK OF EXPLOSION. Do not operate heater at voltages higher than the rating specified on the nameplate. Failure to do this will cause elevated temperatures.



For metal sheathed heaters, prior to operation an insulation resistance check must be performed. Heater with values less than 0.5 MΩ should follow a drying process. Please contact factory for details on procedure if heater is under 0.5 MΩ.



Exposed heater surfaces could be at elevated temperatures that can cause fire or bodily harm.



Low megohm on heating elements with epoxy or hermetic seals cannot be serviced in the field. Typical resistance values when sealed are 1000 megohm or greater.

1. Check that all electrical and piping connections are tight.
2. Perform an IR test prior to energization and verify that levels are acceptable 500,000 ohms.
3. The PGH pilot gas heater is equipped with a factory installed digital indicating temperature control. When the unit is first energized, a flashing display will indicate the set point temperature. After approximately 3 seconds, the display will change to a continuous display of the actual heater operating temperature, turn the potentiometer knob and the display will begin flashing the set point temperature. Adjust to the desired value.
4. PGHT HEATER ONLY. The PGHT heater is equipped with a mechanical thermostat. Adjust the thermostat knob to the desired setting.
5. The heater is equipped with a back-up temperature limiting control to prevent unsafe conditions during failure of the digital indicating temperature control. If the digital indicating control fails to operate, disconnect power to the unit immediately to prevent the possibility of personal injury or property damage, and contact the factory for further assistance.
6. Standard heaters are equipped with an external knob for temperature adjustment. For optional tamperproof models, the cover must be removed to adjust the temperature set point. Ensure all explosive hazards are removed and disconnect the electrical power prior to removing the cover.

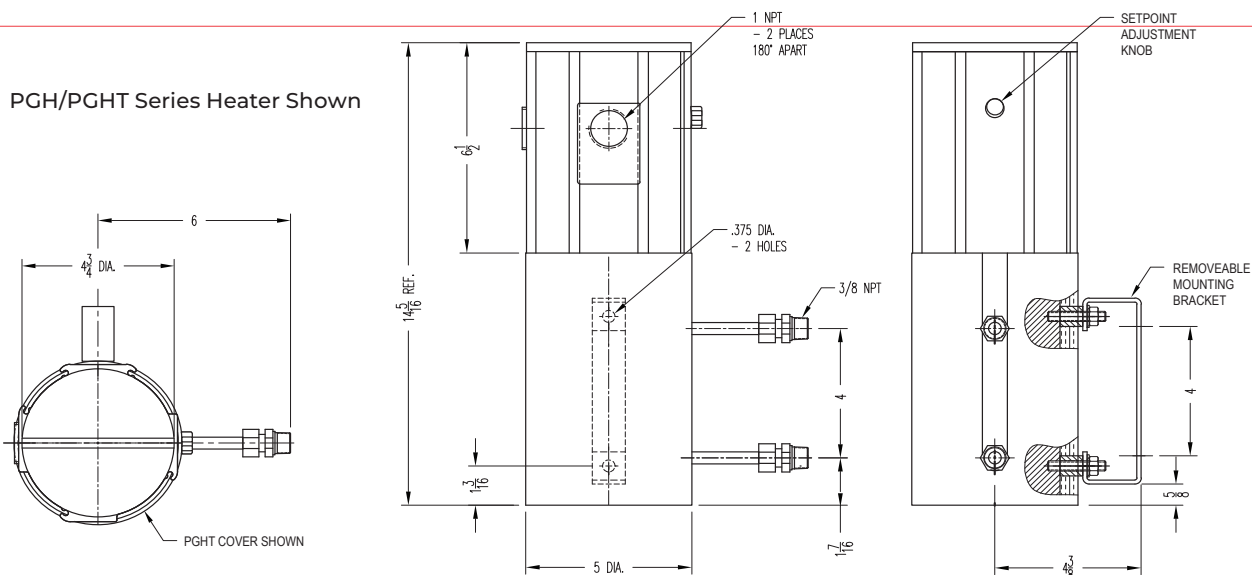
C. MAINTENANCE



Disconnect all power before installing or servicing the heater. Failure to do so could result in personal injury and/or property damage. All maintenance and installation should be done by qualified personnel in compliance with local codes.

1. Heaters stored for prolonged periods may absorb moisture. Using a 500VDC megger (insulation resistance tester) check the value of the insulation resistance to ground for each circuit. Initial readings of over 500,000 ohms to ground are normally acceptable. Should lower readings be observed, check factory for instructions.
2. Periodically check electrical connections for tightness and check wire insulation for any damage and replace if necessary.
3. Heater output can be verified by loop current draw or resistance check. If heater is not operating properly, user must verify resistance, IR resistance to check integrity of heater elements.

E. DIAGRAMS





PLEASE ADHERE TO INSTRUCTIONS IN THIS MANUAL
Failure to do so may be dangerous and may void certain provisions of your warranty.

For further assistance, please call 24-hr hotline: 1-877-325-3473 (U.S.A. and Canada)
Please have model and serial numbers available before calling.

WARRANTY: Under normal use the Company warrants to the purchaser that defects in material or workmanship will be repaired or replaced without charge for a period of 18 months from date of shipment, or 12 months from the start date of operation, whichever expires first. Any claim for warranty must be reported to the sales office where the product was purchased for authorized repair or replacement within the terms of this warranty.

Subject to State or Provincial law to the contrary, the Company will not be responsible for any expense for installation, removal from service, transportation, or damages of any type whatsoever, including damages arising from lack of use, business interruptions, or incidental or consequential damages.

The Company cannot anticipate or control the conditions of product usage and therefore accepts no responsibility for the safe application and suitability of its products when used alone or in combination with other products. Tests for the safe application and suitability of the products are the sole responsibility of the user.

This warranty will be void if, in the judgment of the Company, the damage, failure or defect is the result of:

- Vibration, radiation, erosion, corrosion, process contamination, abnormal process conditions, temperature and pressures, unusual surges or pulsation, fouling, ordinary wear and tear, lack of maintenance, incorrectly applied utilities such as voltage, air, gas, water, and others or any combination of the aforementioned causes not specifically allowed for in the design conditions or,
- Any act or omission by the Purchaser, its agents, servants or independent contractors which for greater certainty, but not so as to limit the generality of the foregoing, includes physical, chemical or mechanical abuse, accident, improper installation of the product, improper storage and handling of the product, improper application or the misalignment of parts.

No warranty applies to paint finishes except for manufacturing defects apparent within 30 days from the date of installation.

The Company neither assumes nor authorizes any person to assume for it any other obligation or liability in connection with the product(s).

The Purchaser agrees that all warranty work required after the initial commissioning of the product will be provided only if the Company has been paid by the Purchaser in full accordance with the terms and conditions of the contract.

The Purchaser agrees that the Company makes no warranty or guarantee, express, implied or statutory, (including any warranty of merchantability or warranty of fitness for a particular purpose) written or oral, of the Article or incidental labour, except as is expressed or contained in the agreement herein.

LIABILITY: Technical data contained in the catalog or on the website is subject to change without notice. The Company reserves the right to make dimensional and other design changes as required. The Purchaser acknowledges the Company shall not be obligated to modify those articles manufactured before the formulation of the changes in design or improvements of the products by the Company.

The Company shall not be liable to compensate or indemnify the Purchaser, end user or any other party against any actions, claims, liabilities, injury, loss, loss of use, loss of business, damages, indirect or consequential damages, demands, penalties, fines, expenses (including legal expenses), costs, obligations and causes of action of any kind arising wholly or partly from negligence or omission of the user or the misuse, incorrect application, unsafe application, incorrect storage and handling, incorrect installation, lack of maintenance, improper maintenance or improper operation of products furnished by the Company.

Visit www.thermon.com to contact a Thermon representative near you.

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