



INSTALLATION INSTRUCTIONS:

Peregrine Top Entry Tank Heaters: P975 range including ATEX ZONE II

Install your Peregrine standard or weatherproof tank heater using the following guidelines:

1. The heater is supplied with a gasket to allow you to seal the heater's flange to the upper tank surface by drilling and tapping the tank, welding on a flange (we can supply if required) or by attaching mounting bolts to/through the tank. Dimensional drawing ref: T42FG refers
2. Position the supplied gasket on the heater's mounting bolts along with an appropriate sealant applied to both sides. Ideally a bracket or foot is needed to hold the element far end away from the base of the tank (we can supply if required)
3. Lower the heater in to the tank so that the element runs across the tank for maximum heat dispersion. For elements 700mm and longer, loop a cord around the far end of the element to help with lowering and prevent heater damage. Tighten the bolts. In applications where the heater may be subject to vibration or movement, the heater needs to be secured. The heater head has a 10mm thread and the far end of the elements have a 9.5mm hole to assist with mounting.
4. Once the heater has been tightened in to place, cut the cable or wires (and cable armour if a weatherproof model) and connect the heater to the power supply. With some heaters (3-phase and high wattage), an external contactor will be provided with wiring instructions.

If the heater is to be used in applications where the tank height is in excess of 1.5m, we suggest the addition of a separate control thermostat partway up the tank to prevent the formation of an excessive temperature gradient within the tank.

Once the heater is wired and in place and liquid has been added to the tank, switch on power to the heater.

Wiring

55, 110, 220 and 240V, Single-Phase Wiring - the heater is supplied with 2m cables fitted in 1760mm flexible conduit (for weatherproof models). Connect blue to neutral, brown to live and green/yellow to earth, suitably fusing the supply. We recommend an earth leakage breaker is installed for safety.

DC wiring - 2m wires are fitted to the unit in 1760mm flexible conduit. Connect red to +ve, black to -ve, suitably fusing the supply.

3-Phase Wiring - 2m wires are fitted to the unit in 1760mm flexible conduit. Connect black, brown and grey to the three phases, suitably fusing the supply. It is not critical which phase is which on these heaters. Connect green/yellow to earth. We recommend earth leakage breakers are installed for safety.



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Safety & Maintenance

- It is very important that the heater remains immersed in fuel and that a level switch is fitted to ensure that should the level of the liquid fall, that the heater switches off - this is mandatory and is a specific condition of use.
- The installer must complete a hazardous area classification of the fuel tank and confirm that the heater's ignition protection indicated on the rating plate is suitable for use in the explosion hazard zones identified inside and outside the tank. The heater presents the following ignition hazards and protection methods:
 1. Hot surfaces on the heater element - these are prevented by always ensuring the element is fully immersed in fuel when the supply cable is connected.
 2. Sparking switch contacts in the thermostat box that are prevented from coming in to contact with fuel vapour by a 'restricted breathing' enclosure.
 3. Static electricity which is prevented by connecting the earth wire.
- Fuel flammability: This product has been designed for use in diesel, bio-fuel and oil storage tanks
- If a tank opening has to be made with cutting tools or hot work, this must be carried out using a safe method and permit to do the work.
- Please ensure the electrical connection is made by a person qualified for electrical installation in explosion hazard areas in accordance with the ATEX electrical code IEC 60079-14.
- Ensure all spills are cleaned safely and quickly
- Peregrine tank heaters offer a maximum surface-watts-density (swd) of 2.4 watts/cm². As there are so many types of bio-fuel in the market, we recommend checking with your fuel supplier that this level of surface heat output is suitable for their product. We can supply heaters with lower swd down to the levels required.
- We recommend that the surfaces of the elements are inspected at regular intervals for carbon build-up from one month of active use. If any build-up is found, clean it off carefully and schedule regular inspection and cleaning to maintain the efficiency of the heater. Excessive build-up will cause the element to overheat locally which will cause failure and reduce the life of the heater. Inspect, test and maintain the unit for leak-tightness, condition of the enclosure, gasket, gland, cable and earth bonding monthly.



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