



## INSTALLATION INSTRUCTIONS: Peregrine Side Mounted Tank Heaters



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

1. Weld a suitable tank boss or flange (we can supply) as low down on the side of the tank as possible so that the heater is approximately horizontal and always immersed when in operation. If it isn't feasible to attach a boss, but where reasonable access is available to the inside of the tank, we can supply a locknut and extra washer or back-flange to allow the heater to be tightened in place.
2. Position the supplied washer over the heaters thread and apply an appropriate sealant to the thread. Insert the heater in to the tank boss, screw in to place and tighten or:
3. Apply the supplied gasket to the tank flange using an appropriate sealant. Apply further sealant to the gasket, position the heater and tighten the washers and nuts.
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 it's possible that the heater may be in operation while not completely immersed, we recommend that a level switch be fitted to the tank. Wire this to cut off the power supply to the heater should the liquid level in the tank fall to a level close (10mm) to the heaters upper surface.

In environments where there may be vibration, secure the heating element bank to a baffle or similar fixed point within the tank (see 8mm fixing hole provided).

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

*See overleaf for Wiring and Safety & Maintenance Notes*



### CONTACT US

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## Wiring

**55, 110, 220 and 240V, Single-Phase Wiring** - the heater is supplied with 2m cables fitted in 1760mm flexible conduit (for weather-proof 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 along with two thinner violet/purple wires in 1760mm flexible conduit. Connect the the supply black, brown and grey through the contact sets of a suitable contactor and add one of those supplies to A1 of the contactor. Connect another phase to one of the two violet/purple wires from the heaters thermostat, the other violet/purple wire to A2 on the contactor, then suitably fuse 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.

## Safety & Maintenance

Peregrine tank heaters offer a maximum surface-watts-density (swd) of 2.4 watts/cm<sup>2</sup>. 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.



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