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Inspection

Specification

Storage

Orientation-Mounting

The preference is for horizontal mounting to give the best element life, although vertical mounting can be accommodated as long as there is sufficient air flow across the elements.

The heater terminal box flying lead connection should be at the 'cold end' or the air inlet end closest to the air source. Always ensure the air flow is in the direction of the arrow marked on the label. Ensure the heater is securely fastened using suitable mounts and fasteners, and duct joints are sound.

Ensure the inlet and outlet of the heater are not accessible to personnel or foreign objects to prevent electrocution and fire risk. Ensure any flexible ductwork, connected to the outlet, has a suitable operating temperature rating.

RIGID DUCTWORK

A linear portion of ductwork should be on the open outlet of the heater, minimum 1 x body length. Do not connect the outlet directly to a bend. This can cause excessive back pressure and/or un-even distribution of airflow that can cause premature failure.

Electrical supply-connections

Ensure the supply voltage and amperage coincides with the supply requirements as shown on the label attached to the heater. All overloads not of our supply are correctly set at the full load amperage of the heater.

The standard phase delta connections within the terminal box are shown in the diagram below.

T represents the eg N bimetallic thermal trip which is rated at Amps A c. This should be used for both maximum inlet temperature and post heating monitoring.

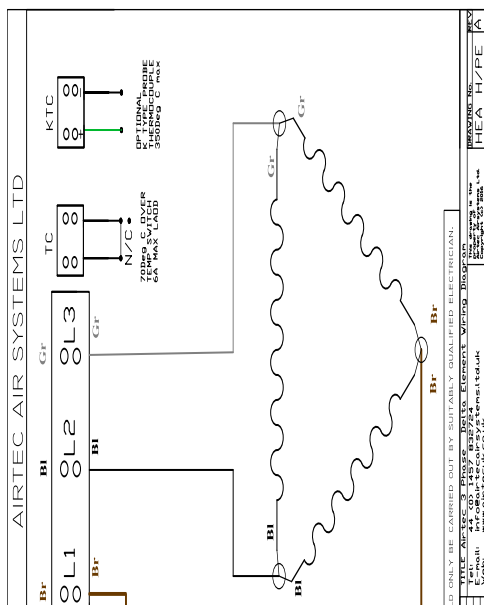
Once the heater is turned off the air must continue until the heater mass has cooled to a level where once the air flow is stopped the residual heat does not exceed eg .

T represent the Type temperature probe fitted to the element outlet end of the heater.

This is standard on multiple element heaters and optional on single element heaters

The maximum recommended outlet temperature is eg , the elements will not be covered by warranty should this temperature be exceeded. All heaters must have an outlet temperature monitoring device installed within mm of the heater outlet set to eg with a reaction time of second or less to qualify for the elements to be covered by operational warranty.

Proof of installation and connection will be required to validate any such claim.



Pressure rating

Limitations of warranted operating conditions

Air quality

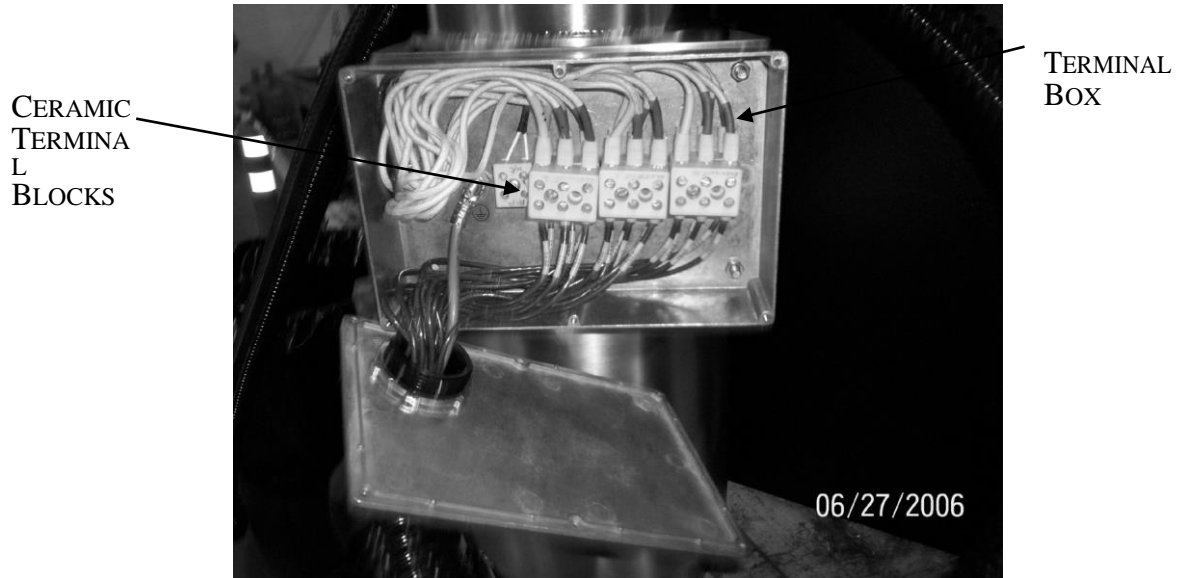
Pre operation checks

Maintenance

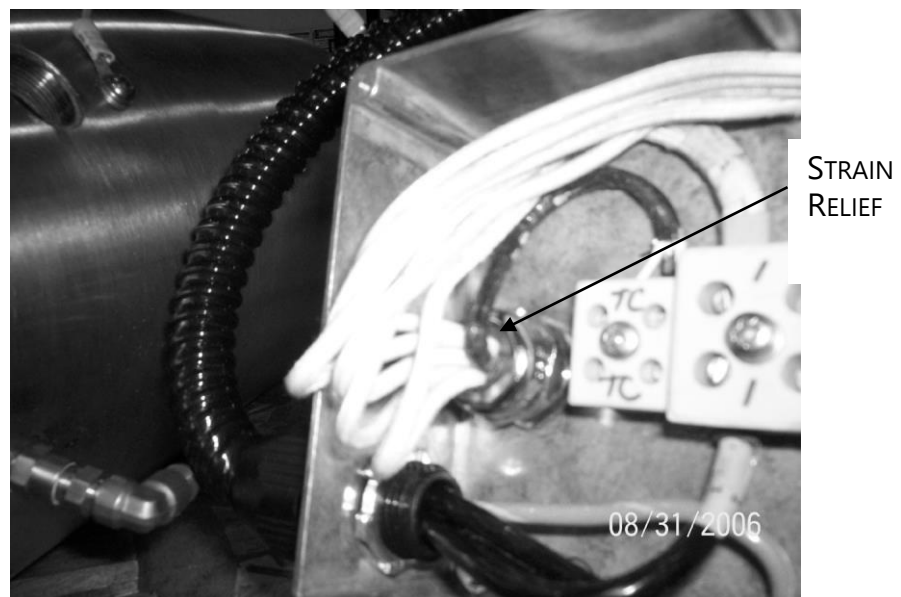
Fault diagnosis

Note: These instructions are generalized for this series of heaters. Your heater and junction box may differ slightly from pictures shown.

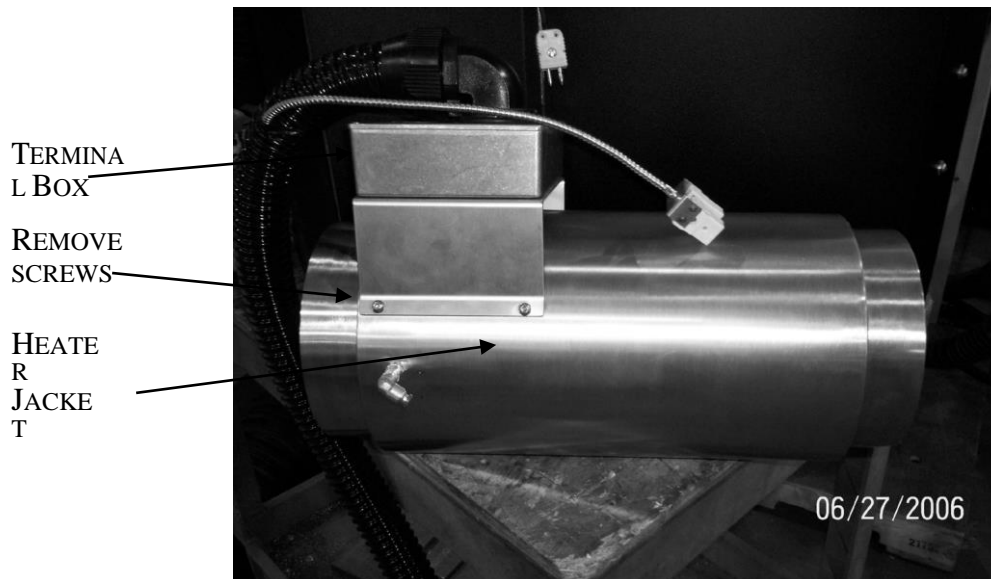
1. Open the terminal box located on the outside of the heater jacket.
2. Begin by making a sketch of the wire connections in the terminal box.



3. Mark all wires and their locations on the terminal blocks as per the sketch that you made in Step 1. We recommend using a fine point marker to mark the ceramic terminal blocks and wires.
4. Loosen and then remove the wires from their terminals.
5. Loosen and then remove the strain relief from the wires coming into the terminal box.



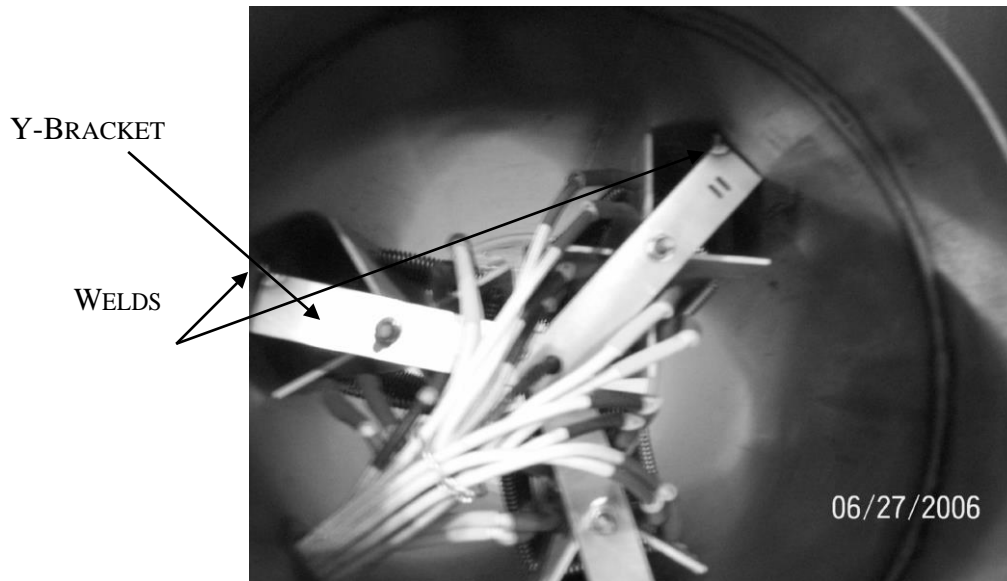
6. Remove the terminal box and mount by removing the screws holding the mount to the insulated heater jacket. Pull the wires through the terminal box.



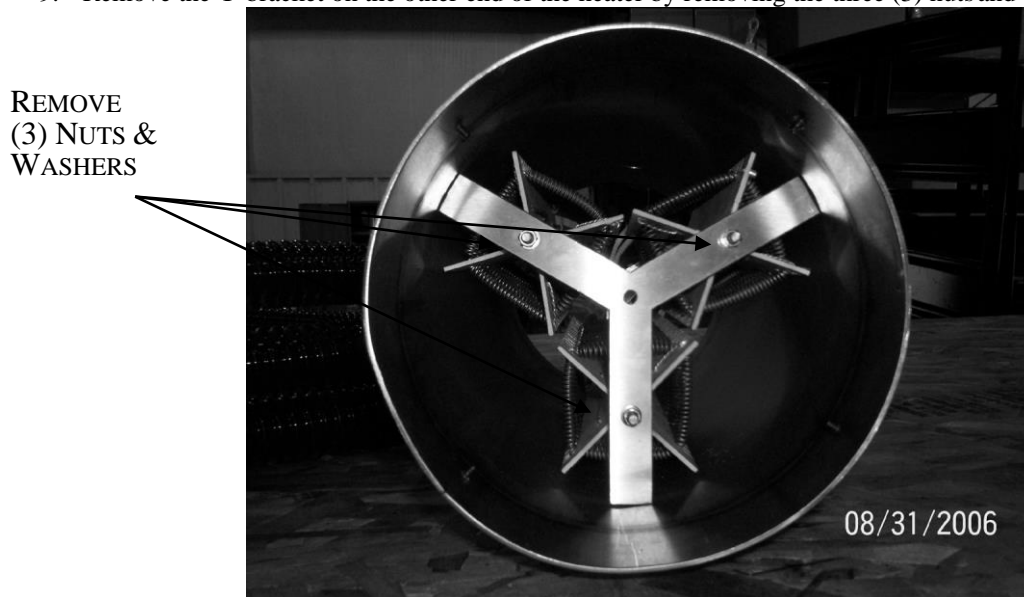
7. Loosen then remove the strain relief nut and gasket at the insulation jacket.



8. Note that the Y-shaped bracket is welded to the heater tube on the strain relief (wirebundle) end of the heater.



9. Remove the Y-bracket on the other end of the heater by removing the three (3) nuts and washers.



10. Carefully pull all the wires through into the heater tube.
Note: Use caution! If the wires are pulled too hard, a connector may come loose

PULL ALL
WIRES
THROUGH
H

REMOVE
(1) NUTS &
WASHER



11. Remove one (1) nut and washer.
12. Carefully pull the element assembly out of the heater tube.
13. Repeat steps #10 & #11 for the remaining two element assemblies.
14. Reassemble using the reverse order of steps above.

Fault – heater will not energise

Probable cause – voltage supply failure on one or more phases

Remedy – check and verify correct voltage supply

Fault – heater will not energise with correct voltage supply

Probable cause – coil failure on one or more phase

Remedy – check and verify coils with a resistance meter. Coils will be in the range 10 to 50 ohms resistance dependant on type. If open circuit, coil needs replacing. A visual inspection may also be carried out, with the coils de-energised, to ascertain the integrity of the coils.

Fault – heater gets hot but no longer reaches desired temperature

Probable cause – coil failure on one or more phase

Remedy – check and verify coils with a resistance meter. Coils will be in the range 10 to 50 ohms resistance dependant on type. If open circuit, coil needs replacing. A visual inspection may also be carried out, with the coils de-energised, to ascertain the integrity of the coils.

Replacement coils are available, refer to type on nameplate.

Notes: coil failure can be due to a number of conditions

including:

- Too low or no air flow
- Contaminated Air.
- Over temperature on heater outlet (refer to maximum safe operating temperatures)
- Direct coupling to a centrifugal blower without air mass separator
- Bend or excessive restriction on inlet
- Incorrect voltage supply
- Incorrect wiring of elements.

Correctly fitted and supplied coils should provide many years of service without fault. If the coils are deemed to fail prematurely, you must contact Airtec to discuss suitability of application.

All Airtec heaters are marked with a part number that denotes the type of heater coil and body code.

e.g. EC3-124003DL

EC3	denotes the standard ceramic element
12	denotes all the power rating of each coil in Kw,
400	denotes the phase to phase voltage supply
D	denotes DELTA wiring configuration

