TROUBLE SHOOTING GUIDE FOR MIFCO HTE SERIES HEAT TREATING FURNACES 1/25/2021

Chamber -2200 degrees F maximum

Turn on toggle switch and nothing happens:

1. Checking incoming power.
2. Check 5 amp fuse on front panel.
3. Check output on step down transformer- it should be 120v.
4. With an ohm meter, check the toggle switch to make sure it has continuity when on.
5. Check incoming wires to the toggle switch for broken or loose wires.

Instrument and unit on light stay on but main heater contactor will not pull in when set point on instrument is raised above furnace chamber temperature.

1. Check for 115v power to main contactor magnetic coil.
2. Check at instrument for power between white wire L-2 terminal and the terminal that has the yellow wire going to the heater contactor coil.
3. Check the door safety switch on the right side of the furnace. The door arm cover will have to be removed. Switch may be out of adjustment. If you have power at the terminal on the back of the instrument that has the yellow wire attached to it and no power at the contactor coil, the problem is the door safety switch or the wires leading to and from the switch.
4. No power out of the instrument on the yellow wire terminal to the safety switch will indicate that the instrument may be defective.

Main heater contactor pulls in but no heat.

1. Check heater fuses.
2. Check SCR -a green light on or flashing indicates the SCR is okay.
3. Check for power to the elements.
4. Observe the elements inside the furnace chamber for burned out spots. Check under the hearth plate for scale that may have fallen under it and shorted out the bottom element. The bottom of the furnace chamber should always be kept clean.
5. Check heater terminals for corrosion and tightness. To tighten terminals, put a wrench on the nuts on both sides of the terminal strap and tighten in such a way that you do not move the terminal itself. The elements are very brittle and will break easily.

Defective thermocouple.

1. The digital instrument will display something other than a temperature reading depending on the brand of instrument. Check connections and replace the type K thermocouple.

(HTE troubleshooting cont.)

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Temperature rises and then shuts off and does not come back on, but the instrument light indicates that the instrument is calling for heat or power.

1. If all of the above situtations check out okay, the instrument may be defective.

Temperature overshoots the set point, then drops to 10-15 degrees F below the set point and never seems to be able to control at set point.

1. Proportioning band is too narrow and needs to be widened. Consult the instrument instruction manual on the CD.

Temperature ranges 2 to 3 degrees above and below set point.

1. Increase cycle time slightly. Too fast a cycle will make contactors work too fast. Do not increase any more than enough to make the temperature hold at set point.
2. Consult the instrument manual CD.

Temperature never reaches set point, but is controlling well, 5-10 deg F below set point or temperature controls over set point.

1. Consult the instrument manual CD.