

## **TROUBLESHOOTING**

### **ERROR CODES:**

Err codes can be cleared from the display by turning off and then on the power switch if the error code was caused by a temporary condition.

- Err 1:** Over Temperature (Muffle temperature > 1220°C); Possible causes: Shorted Thermocouple, shorted triac, shorted optotriac on computer PCB, bad wiring connections, bad computer PCB
- Err 2:** Open Thermocouple (TC); Possible causes: Open TC tip, bad connection to TC, bad TC to computer PCB connection, bad computer PCB
- Err 3:** Over Temperature; Temperature above programmable limit Tmax; Possible causes: Prog High Limit programmed lower than current parameters, overshoot from high heat rate, same as Err1
- Err 4:** No Vacuum; Detected vacuum less than 40mm Hg; Possible causes: Vacuum pump not connected (hose and power cord), interference material on O-ring surface
- Err 5:** Lo Vacuum; Possible causes: moisture in muffle (run long cycle with vacuum on), vacuum programmed higher than possible at current location, poor vacuum pump performance, Press ESC to clear the Err and continue the firing cycle
- Err 6:** Open Muffle; Little or no muffle current detected; Possible causes: Open muffle, low line voltage, bad wiring connections, bad triac
- Err 7:** Low AC Voltage; (Line voltage less than 90VAC or 190VAC) Possible causes: wall socket shared with other loads, furnace connected with small extension cord
- Err 8:** EEPROM error; Microcomputer program memory error; Possible causes: bad computer PCB
- Err 9:** Shorted or Reversed Thermocouple (TC); Possible causes: TC connections reversed at computer board terminals, TC extension wire shorted against metal structure or cabinet
- Err 12:** Over Current; Excess line voltage; Possible causes: muffle shorted, triac shorted, wiring short, bad computer PCB
- Err 15:** Motor Jammed; Possible causes: Lift mechanism stopped during movement, excess load stacked on top enclosure
- Err 18:** Triac Driver Failure; Possible causes: Muffle or triac shorted
- Err 19:** No line frequency detected; Possible causes: bad computer PCB