

The Best Way to Check Whether or Not a Heater is Operating Correctly on the Line

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We received a question from a customer the other day regarding how to check whether or not a heater is operating correctly on a line. This is a great question! But, how do you actually know if a heater is operating correctly or not? Our answer is this: The best and safest way to check a single phase heater that is still on a machine is to...

1. Turn off power to the heater and disconnect the lead wires.
2. Find the number specifying the watts and volts located on the heater (these will be engraved somewhere on the heater itself).
3. Measure the resistance between the two lead wires or two post terminals, depending on the heater.
4. The resistance should be close to the voltage squared divided by the wattage (for you mathematicians out there, here is a formula: $R = V^2/W$)

For example:

You have a 500 W - 240 V heater.

$$R = (240^2)/500$$

$$R = 115.2 \text{ omhs}$$

Standard tolerances allow for resistance to measure between -10% and +5% of this total when the heater is at room temperature. If the heater is still at operating temperature expect resistances in the range of -5% to +10% of the calculated total.

Have a question for us about your heater? Email our engineering department at engineering@thermalcorp.com !