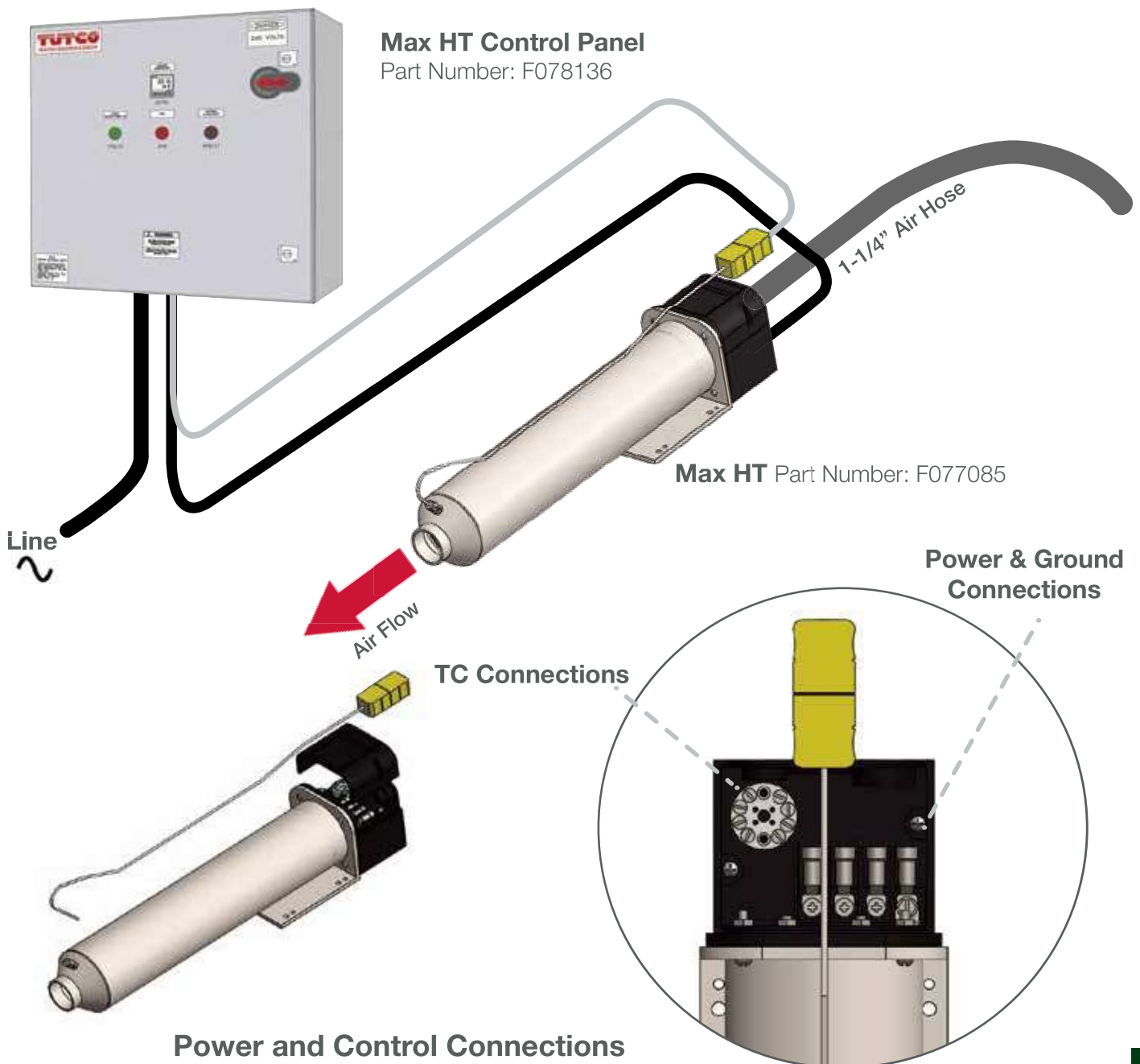


# Max HT Air Heater

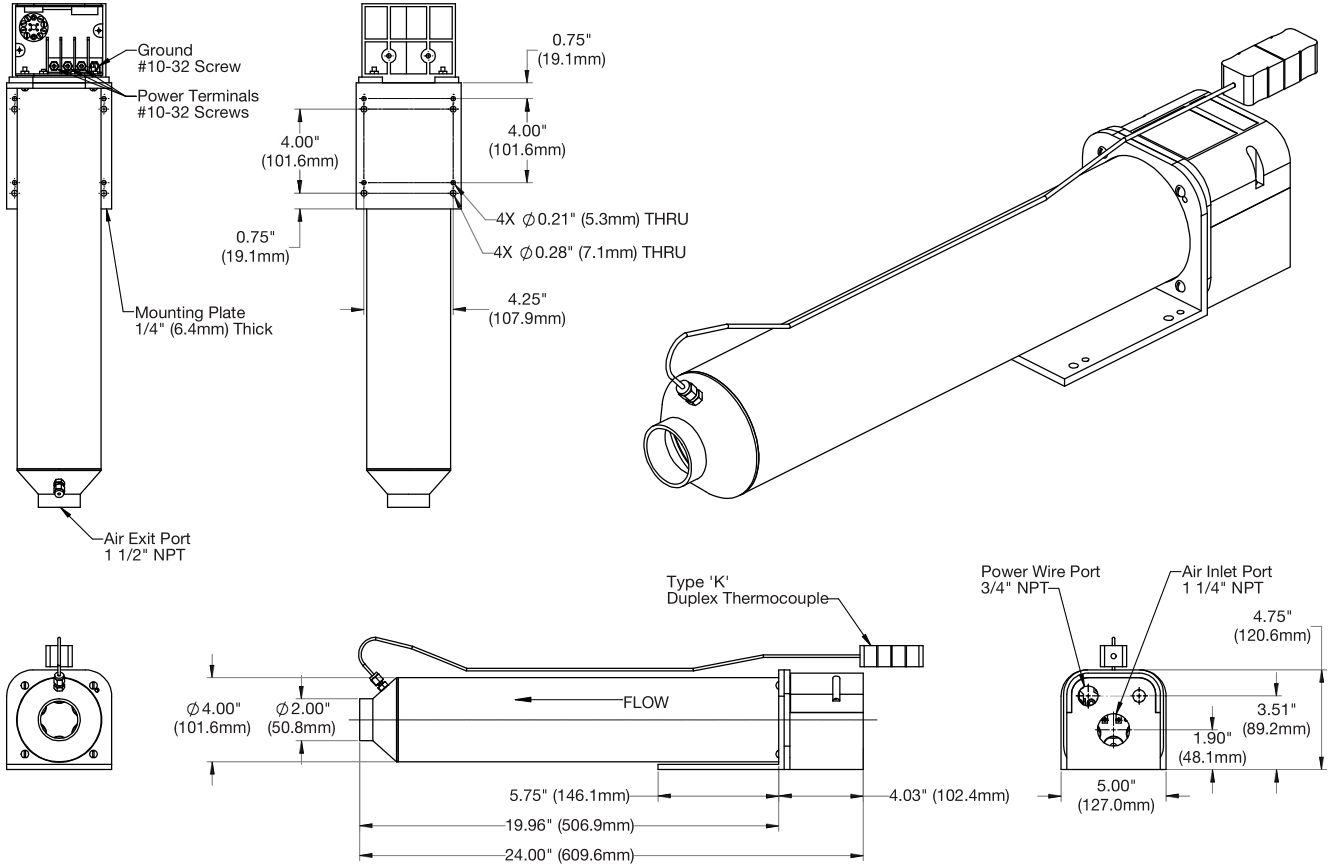
## General Description

The Max HT provides a compact and efficient heater solution for high temperature applications up to 1652°F (900°C). A dual type “K” thermocouple with a convenient terminal block is included for ease of wiring. Each exposed thermocouple is used to measure inlet and exit air temperature. One is typically used for process temperature control and the other to monitor high temperature limit. Each heater has a convenient method for mounting the housing and offers a ground stud located at the inlet of the heater.

## Closed-Loop Connection Diagram



# Dimensions / Installation Reference



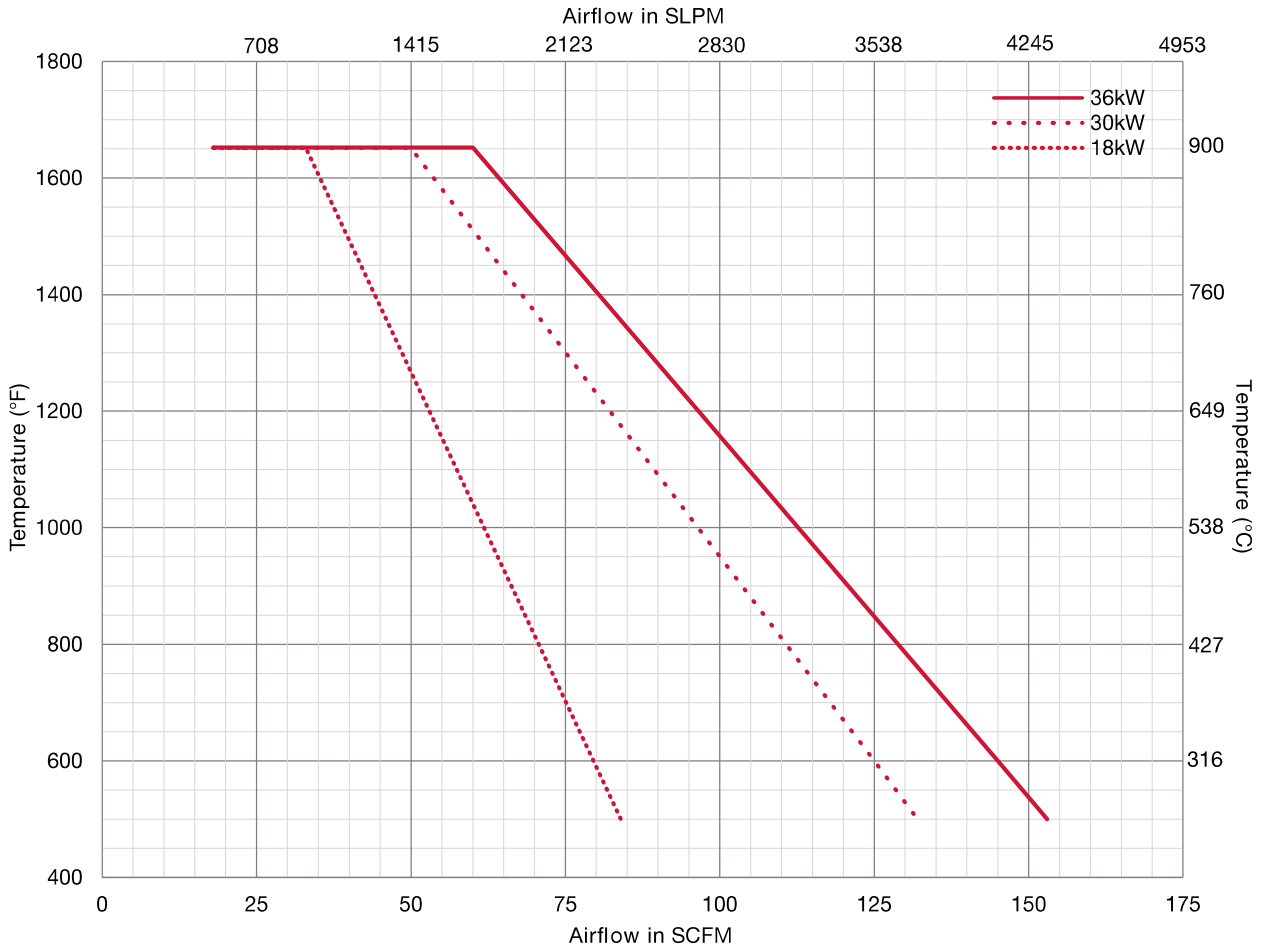
## SureHeat® Max HT Products

Part Number	Power kW	Max. Volts / $\phi$	Max. Amps	Replacement Element
F077081	18.0	240 / 3	43.4	F206707
F077082	18.0	380 / 3	27.4	F206662
F077083	18.0	480 / 3	21.7	F206663
F077084	30.0	380 / 3	45.6	F206664
F077085	36.0	480 / 3	43.4	F206598



# SureHeat® Max HT Performance Curve

## MAX-HT Maximum Performance



### Notes:

- Temperature is measured by a dual “K” T/C sensor located inside the Max HT Housing
- Use of other sensor types and/or locations can result in heater damage
- Minimum airflow for accurate control is 18 SCFM
- Maximum air temperature is 1652°F (900°C)
- Operating above temperature will void the warranty



# Troubleshooting Heaters

1. Heater element life is dependent on proper control and element wire temperature. The estimated life-cycle is based on the heater element operating at or below temperatures specified. Most element failures are due to low air flow or damage associated to power control and voltage ramp up rates.
2. If an element has failed prematurely, it should be inspected to determine the cause of the failure.
3. Determining the cause will prevent the same problem from reoccurring.
4. When replacing or troubleshooting heaters, turn off the power and be sure to follow all lock-out / tag-out electrical panel procedures.
5. With the power off, and the heater disconnected, use a multimeter to check continuity between the heater power terminals. (H1/H2, H2/H3 and H1/H3)
6. If there is no continuity, please contact Tutco SureHeat technical support for assistance.
7. If there is continuity on all of the above tests, please check the system wiring.
8. Crossed thermocouple wires, reversed thermocouple wiring and incorrect air inlet temperature settings can cause undesired operation. If you discover a wiring issue, resolve it, reconnect and test the heater.
9. Verify thermocouple wiring, (+ yellow and - red)
10. Verify that the inlet air temperature is below the set point on the inlet temperature controller.

## Identifying Overshoot Element Damage

### Overshoot damage with airflow present



### Note:

Overshoot can occur even with airflow present. Damage by overshoot is easily identified because it occurs near the air exit end of the heater. See photo examples to the left.

### Overshoot damage without airflow present



Before installing a replacement, it is important to correct the voltage overshoot.

# Determining Process Air Heater Needs

## Custom solutions are available

Please use the form below to determine your air heater requirements.

<b>Type of Application:</b>					
<b>Mass Airflow Rate:</b>	<input type="checkbox"/> SCFM	<input type="checkbox"/> Lbs/min	<input type="checkbox"/> Kg/sec	<input type="checkbox"/> Other _____	
<b>Air (Gas) Supply:</b>	<input type="checkbox"/> Air Compressor	<input type="checkbox"/> Blower / Fan			
<b>System Air Pressure:</b>	<input type="checkbox"/> PSI	<input type="checkbox"/> Bar	<input type="checkbox"/> Other _____		
<b>Inlet Air Temperature:</b>	<input type="checkbox"/> °F Fahrenheit	<input type="checkbox"/> °C Celsius	<input type="checkbox"/> °K Kelvin		
<b>Exit Air Temperature:</b>	<input type="checkbox"/> °F Fahrenheit	<input type="checkbox"/> °C Celsius	<input type="checkbox"/> °K Kelvin		
<b>Type of Air (Gas) Heated:</b>					
<b>Power Available:</b>	<input type="checkbox"/> 120V	<input type="checkbox"/> 208V-240V	<input type="checkbox"/> 380V-400V	<input type="checkbox"/> 480V	<input type="checkbox"/> Other _____
	<input type="checkbox"/> 1Ø	<input type="checkbox"/> 3Ø			

## Optional Information

While not required, this information can help you consider variables and challenges during the installation phase.

<b>Max. System Air Pressure Drop:</b>	<input type="checkbox"/> PSI	<input type="checkbox"/> Bar	<input type="checkbox"/> Other _____
<b>Expected Heater Run-Time: ( hrs/day )</b>			
<b>Required Heater Ramp-Up Time:</b>			
<b>Heater Mounting Requirements:</b>			
<b>Heater Nozzle Requirements:</b>			
<b>Special Safety Requirements:</b>			
<b>Submit to: support@tutcosureheat.com</b>			