



Electrification and Decarbonization
**EV Market Plugs
Into TUTCO
Heating Solutions**

In the ever-evolving landscape of electric vehicles (EVs) and equipment, TUTCO Heating Solutions Group is a pivotal contributor, offering advanced electric heat solutions across a broad range of applications. Our heating products extend beyond conventional EVs to encompass e-bikes, personal vehicles, and diverse work vehicles like fork trucks.

TUTCO's impact begins at the heart of EV manufacturing facilities, where precise humidity control is paramount in the production of electric vehicles and their components. Lithium batteries do not tolerate moisture. We collaborate with companies manufacturing dehumidification equipment, crucial for maintaining optimal humidity levels in these environments. In the



production of lithium batteries, dry process gases are also essential, and many companies use nitrogen for this reason. TUTCO's heaters are instrumental in elevating the temperature of nitrogen, contributing to the efficiency and quality of the manufacturing process.

Many EV products involve some type of plastic casing that needs to be manufactured. The process of plastic injection molding use TUTCO heaters to achieve optimal results. Plastic manufacturers rely on our cartridge and band heaters, known for their precision and controllability, in the process where plastic pellets are fed through a hopper and into a barrel or chamber where they are melted and directed by a screw-conveyor to the individual molds.

TUTCO's role extends to the charging aspects of EV products, ensuring optimal conditions within charging stations. Lithium-ion batteries require consistent temperatures for efficient charging, and our enclosure heaters play a critical role in maintaining these conditions, especially in colder climates where they are essential for keeping sensitive electronics. Our heaters keep temperatures at the ideal level ensuring the batteries charge properly at reasonable speeds and extends their life.



Controllability of the load delivered to batteries during the charging process is paramount for battery health. TUTCO's resistors, integrated into charging stations, efficiently dissipate the load, contributing to proper charging and prolonged battery life. Additionally, our heaters play a vital role in maintaining the temperature of calibration equipment within these charging stations, ensuring accurate readings and compliance with utility or government standards.

Throughout every phase of the production and utilization of electric vehicles and equipment, TUTCO Heating Solutions Group takes the lead, providing innovative heating solutions that enhance efficiency, reliability, and longevity in the rapidly advancing world of electric products.

[READ MORE ON ELECTRIFICATION](#)

Cartridge Heater Length- How To Specify Them.

by Ian Renwick



When it comes to describing cartridge heaters, some details can be more complex than others. This article aims to resolve any difficulties you may encounter when describing the length of heaters with elbows, right-angle leads, bushings, or other terminations.

Here's the bottom line: If you can see the sheath, measure it, and nothing more!

Specifying the length of a cartridge heater with leads protruding straight out of the end hardly requires discussion. The heater length is simply the heater length – it couldn't be simpler.

But what if you add a bushing? Do you include the threaded bushing length in the measurement? How about the hex head? The answer to both questions is no. Even for a center hex bushing, the principle remains the same. Measure only the visible sheath length up to where it enters the threads – this is what you specify as the insert length. There's no need to specify anything else regarding the heater length.

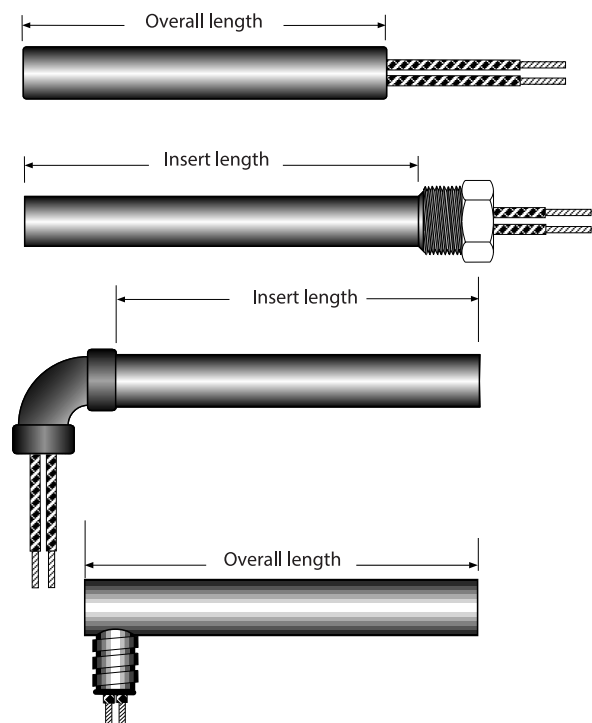
The same principle applies to heaters with a right-angle copper elbow. Don't concern yourself with the length of the copper elbow; focus solely on the visible sheath length. Once again, you're specifying the insert length of the heater.

For heaters with a right-angle lead wire exit, where the leads emerge through a hole in the side of the heater sheath, things become slightly more complicated, but not overly so. In this case, specify the overall length of the heater from one end of the sheath to the other. The position of the hole for the lead wire exit determines the insert length of the heater, which you don't need to specify. However, if you choose to specify the insert length, ensure it's consistent with the typical value. For instance, a 5/8" diameter heater that's 6" long (overall) would typically have a 5 3/8" insert length.

There's one exception to the rule: heaters with stop rings or flanges. In such cases, it's advisable to specify both the insert length to the underside of the flange and the overall length, especially if there are clearance issues in your application.

In any case, if you're unsure about specifications or if you have any questions, don't hesitate to contact us. We're here to ensure you get the right heater for your needs.

Please refer to the image below for visual clarification on the concepts discussed here.



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Steel Product Drying

TUTCO SureHeat heaters are engineered for applications using air or insert gas.



A company that manufactures steel products contacted TUTCO SureHeat in search of a solution to a challenge they were dealing that was negatively impacting their manufacturing process.

As products move through the production line, they use compressed air to remove water and moisture, but they were experiencing longer than usual drying times which resulted in them needing to slow down the production line to allow the parts to dry. They had never experienced this problem in the warmer months but in the winter, it was an issue. This may be due to the fact that their facility where the production line operates is unheated.

TUTCO SureHeat was able to quickly provide a solution that used an 8-kilowatt Jet air heater that was an ideal solution for this particular application. Combined with a TUTCO control panel, the Jet heater ensured precise and safe control of the temperature delivered by the blowers which optimized the production process.

The Jet heater is part of TUTCO's family of process heaters that includes the Max and also the MaxHT. These process air used with air and inert gases in industrial OEM industrial equipment for drying, sealing, curing, flashing, sterilizing, and converting applications.



Once the TUTCO SureHeat solution was integrated into their production line, the customer experienced a dramatic transformation. The drying speed achieved surpassed expectations, enabling the client to not only restore their production output to its former efficiency but actually surpass the capabilities observed during the warmer months. This success quickly prompted the client to adopt the TUTCO SureHeat system year-round and begin extending the implementation of TUTCO heaters to additional production lines.

This success story underscores the transformative impact of innovative heating solutions, showcasing how TUTCO SureHeat's expertise can not only resolve immediate challenges but also pave the way for increased productivity and operational enhancement.

[READ ABOUT MORE APPLICATIONS](#)



Jet Heaters

The JET provides a compact and efficient heater solution for air temperatures up to 1400°F (760°C). Available in a 3.0kW or 8.0kW, 240V 1Ø unit, the Jet offers two type "K" thermocouples with a convenient terminal block for easy wiring.



Max Heaters

The Max provides a compact and efficient heater solution for air temperatures up to 1400°F (760°C). Available in a 6.0kW to 36.0kW, 240V/380V/480V 1Ø / 3Ø units, it offers two type "K" thermocouples with a convenient terminal block for easy wiring.



MaxHT Heaters

The Max HT provides a compact and efficient high temperature solution for applications up to 1652°F (900°C). A dual probe type K thermocouple with a convenient terminal block is included for ease of wiring.

Researchers Like Their Findings with TUTCO



TUTCO frequently receives inquiries from college students, professors, research personnel at R&D facilities, and scientific research facilities seeking heat source solutions for specialized testing. The requirements vary, with some needing conductive heat sources while others require convective heat sources. In most cases, these customers only require a low volume of heaters.

To meet the diverse needs of our customers in the academic and research fields, TUTCO offers a wide range of thermal solutions through our standard product offerings. Our product portfolio includes Cartridge Heaters, Ceramic Strip Heaters, HT Mica Band and Strip Heaters, MI Better Band Heaters, Ultima Band and Strip Heaters, as well as Perma Band and Strip Heaters. These standard products are highly versatile and can cater to various testing scenarios.

For most cases, our standard product offerings prove to be an excellent fit. In instances where the testing demands require a more tailored solution, TUTCO can develop custom solutions based on one of our standard products as a foundation. This approach allows us to efficiently address the unique requirements of our academic and research customers while leveraging the reliability and performance of our proven standard products.

[MORE THINKING OUTSIDE THE BOX](#)

Feature Video

TUTCO Manufactures Line of Closed-Loop Control Panels



In this month's feature video, National Sales Manager, AJ Nidek provides an overview of the features and benefits of TUTCO's line of closed-loop control panels.

TUTCO heaters are employed in numerous industrial, commercial, and residential applications worldwide. Our primary objective is to ensure that each of our heaters delivers optimal performance. To achieve this goal, we have developed a line of control panels specifically engineered for the heaters we manufacture. The result is a heating system that provides safe, precise, and reliable heat tailored to the unique requirements of your application. Our extensive expertise in process heat uniquely qualifies us to manufacture control panels for the heaters we produce. Every detail, including operating environments, installation requirements, heating and electrical needs, sizing, and integration with existing control equipment, has been considered in our line of controller. Learn more in this month's Feature Video.

[WATCH THE VIDEO](#)

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