Process Air Heaters

MADE IN THE USA

Process air heaters are a critical part of a wide range of industrial and commercial processes. These components are most commonly found in systems that require an efficient flow of hot air quickly. TUTCO Farnam's elite team of engineers has designed thousands of custom industrial air heaters used in factories and OEM equipment worldwide. Each customized in-line heater is perfectly outfitted for the customer's needs. Some applications where custom (or per-designed) air process heaters may be needed include controlled heating, drying/curing, environmental control, dehydration, melting, heat shrinking, laminating and many more.

We provide a wide array of industrial heating solutions to tackle your heating needs. Every process heater produced has been designed and optimized to maximize part durability, heating efficiency, and response time. Air heating units are available anywhere from 300W to 75kW power requirements with different dimensional characteristics. Products can also be outfitted with accessories such as reducers, thermocouples, and heat jackets for further customization.

When considering your industrial process heating needs, it's important to consider the required air pressure and flow rate that you need. If you're unsure of your process requirements, our team is here to help. As a world-renowned process heating solutions manufacturer, our engineers will ensure to design a custom product that works best for your needs. Something else to keep in mind is where your inline air heater will be installed and if there are any elements around the installation site that need to be protected. For example:

- High-flow, low-pressure (<4psi) heaters like the Flow Torch™ can deliver large volumes of heated air in applications where high pressure isn't necessary.
- The Flow Torch™ works perfectly in paint drying, food dehydration, and space heating.
- Low-flow, high-pressure compressed air heating such as the Heat Torch™ are optimal when focused heat is needed to a specific point or the space needing air is small.
- The Heat Torch™ is commonly utilized for sealing plastic packaging, heat shrinking, and electrical and medical component manufacturing.
- If your system requires industrial process air heating in the medium-pressure range (up to 150psi), our Pressure Torch™ family of heaters may be the perfect fit.
- Cool-Touch™ heaters are triple pass heaters meaning the heated air is shielded from the skin of the unit. Because of this, the surface temperature of the heater stays cool to the touch, keeping personnel and nearby components safe.

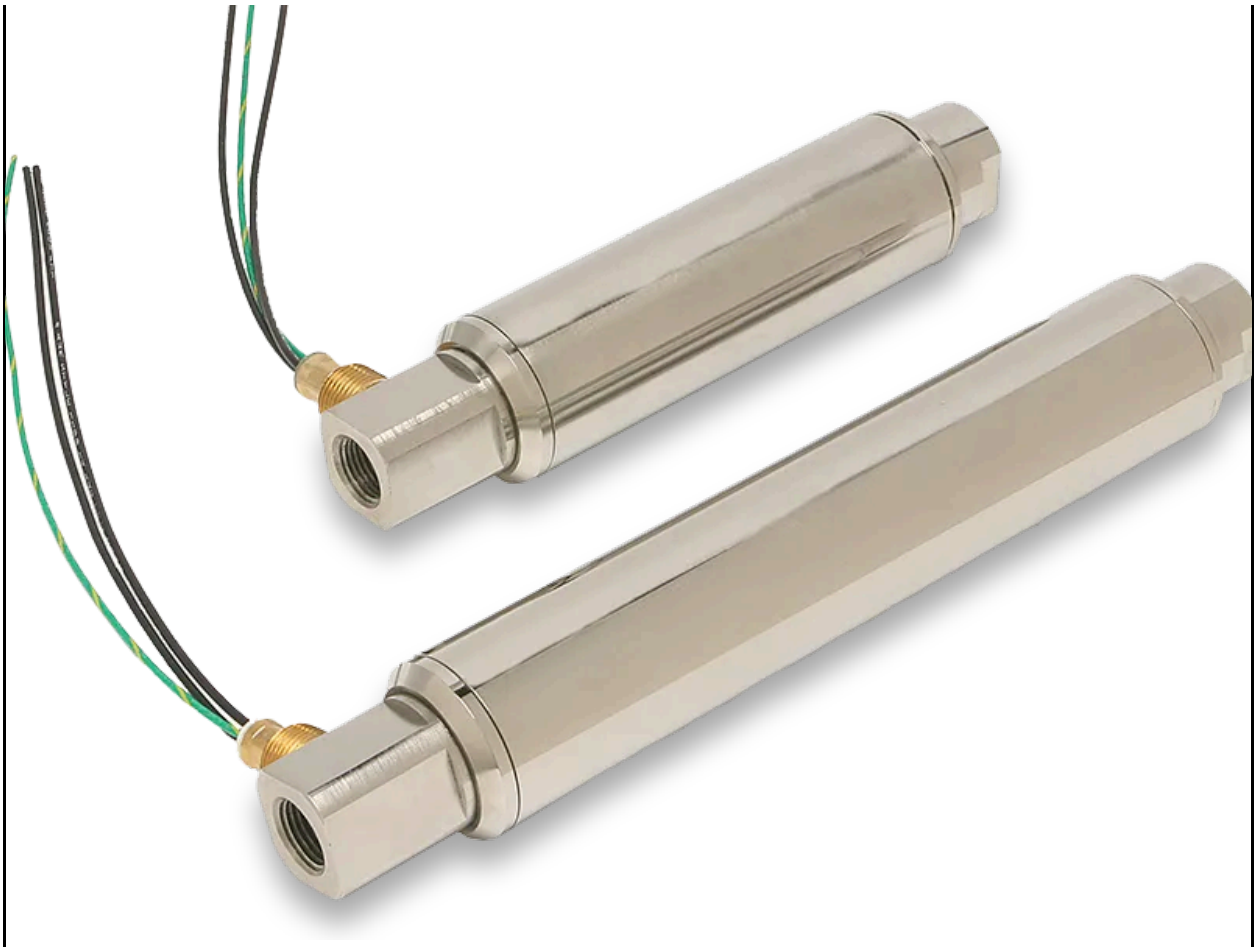
TUTCO Farnam also manufactures a full line of pre-built and customizable duct heaters. This particular family of heaters can be mounted to the side wall of your duct system and are exclusively produced for industrial settings. Open-coil heating elements are efficient, robust, and always dependable.

Control Panels

We deliver industry-proven, superior performance with every process heating system produced. To guarantee success, we've designed a specialized line of control panels engineered solely for our heaters. These custom-designed control panels ensure safe and dependable heat, in any process environment. The resulting products are highly efficient process heating solutions that accomplish exactly what you need. Our custom control panels are manufactured, and quality tested in Asheville, North Carolina before being shipped directly to your facility. You can find more information on custom control panels here.

Specifications at a Glance

Product	Max Wattage	Max Inlet Temperature	Max Exhaust Temperature	Minimum Flow Rate	Maximum Flow Rate
Heat Torch™	300W - 12.5 kW	250°F	1300°F	0.3 - 9.6 SCFM	1.0 - 100 SCFM
Cool Touch™	500W - 12.5 kW	250°F	1300°F	1.0 - 9.6 SCFM	7.5 - 100 SCFM
Flow Torch™	6 kW - 75 kW	392°F	932°F	10 -76 SCFM	115 - 2000 SCFM
Pressure Torch™	35 kW - 75 kW	392°F	932°F	19 -76 SCFM	500 - 2000 SCFM



Heat Torch™

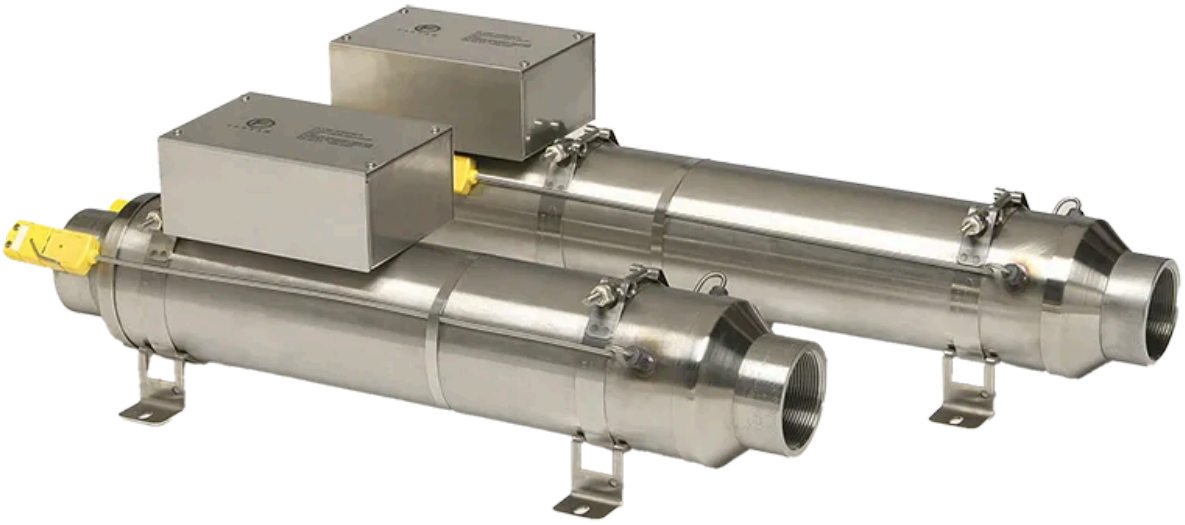
TUTCO Farnam Heat Torch™ inline air heaters are ideal for rapidly heating air. Industrial strength open-coil heaters provide efficient heat transfer through direct heating element contact with air flow.

VIEW PRODUCT

Cool Touch™

Our highly efficient Cool Touch™ option minimizes the skin temperature of the heater and helps protect people and products from hot surfaces. Efficient design reduces heat loss.

VIEW PRODUCT



Flow Torch™

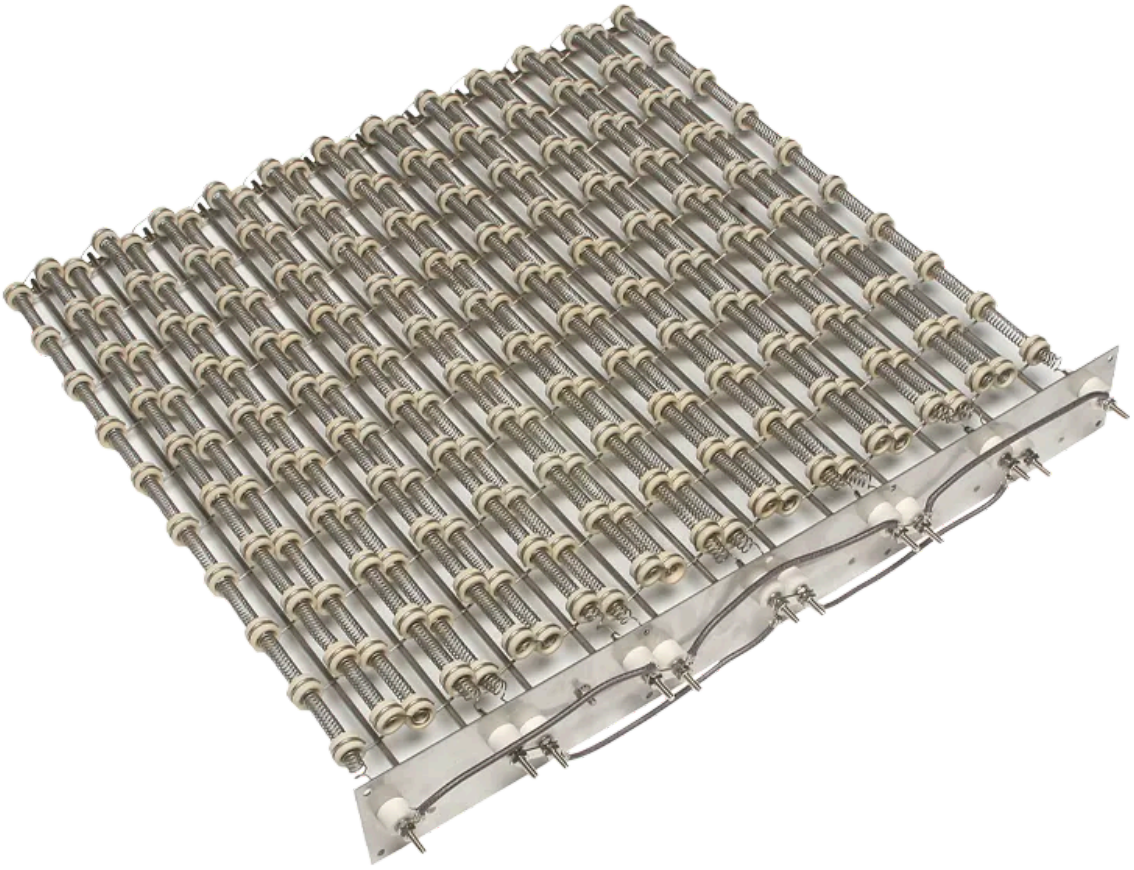
Flow Torch™ heaters are highly efficient and ideal for heating large airflows. TUTCO Farnam has developed several graduated sizes of this basic platform. This family of heaters is offered as a standard product with several options.

VIEW PRODUCT

Pressure Torch™

Pressure Torch™ heaters are highly efficient and ideal for heating large airflows. TUTCO Farnam offers several sizes of this platform. This family of heaters offers standard products with pressure (up to 150 PSI) blowers.

VIEW PRODUCT



Duct Heaters

Our rugged, efficient, open-coil Duct Heaters offer you the capability to heat large volumes of air with fast warm-ups and cool-downs.

VIEW PRODUCT

HEAT TORCH™

TUTCO Farnam specifically developed a line of low-flow, high-pressure air heaters designed to be used with compressed air or shop air lines at your facility. **Heat Torch™** inline air heaters are ideal for rapidly heating compressed air thanks to industrial strength open-coil heating elements. This design provides efficient heat transfer through direct contact with high-pressure airflow.

Rapid heater response time enables precise output temperature control when paired with a TUTCO Farnam custom control panel. This combination provides synergy in the system allowing you to maintain tight temperature tolerances and adjust settings with ease. Robust design, high-quality materials, and expert workmanship truly showcases our commitment to excellence and ensures you can count on your heater for years to come.

The **Heat Torch™** line of heaters come in a wide range of sizes and wattage levels. OD dimensions from 2" to 0.3," and power from 12.5kW to 75W can all be outfitted with a number of accessories. The **Heat Torch™** 050 and 075 models can contain either mica or ceramic components, with the ceramic models able to withstand higher exhaust temperatures. By sharing your process needs (wattage, voltage, inlet/exhaust fittings, thermocouples, etc.), our team will create a heater that's adapted to you.

COOL TOUCH™

Our highly efficient Cool Touch™ heater option minimizes the skin temperature of the heater and helps protect people and products from hot surfaces. Cool Touch™ heaters use a triple pass coil design, which utilizes internal channels that prevent the heated pressurized air from touching the ID of the heater. Integrating this type of heater into your workflow gives you the dependability and performance of a Heat Torch™ heater with additional safety benefits for critical applications.

To get the most out of your new heater, we recommend pairing with one of our pre-built or customizable controllers. To read more about our options for controllers, you can read more here. (insert link to controller page). The large thermal storage capacity is particularly useful if you have an application requiring intermittent use and rapid response. This Cool Touch™ option is available for a variety of our Heat Torch™ sizes. Pressure testing and other consultations are available by our team upon request.

Below are some specific examples where a Cool Touch™ heater may be beneficial:

- Medical device manufacturing requires clean room environments where equipment will be in close proximity to heat-reactive or other sensitive materials. A Cool Touch™ heater protects these materials while also keeping workers safe from possible burns.
- Electronic component assembly lines for the production of semiconductors or circuit boards have critical components that can be destroyed if exposed to excess heat. Cool Touch™ heaters can be installed in these facilities to mitigate this risk.

FLOW TORCH™

For those looking to heat large volumes of air without the need for high pressures, the **Flow Torch™** is a great option. Whether you are using regenerative blower or a fan, the Flow Torch™ can be utilized in systems that are operating under 4psi. You can think of your new **Flow Torch™** as a super-charged blow dryer, with internal heating elements intently designed to optimize thermal transfer and prevent cool inlet air from "cheating" its way through the unit. The low-mass open-coil design was engineered for quick and efficient heat-up and cool-down processes. This line of process air heater offers:

- Minimal obstruction to airflow (low pressure drop)
- High air flow volume

- Outlet temperatures up to 900°F
- Compatibility with suitable flexible duct or pipe fittings
- UL recognition under UL file number E365755

TUTCO Farnam has developed several graduated sizes of this basic platform, and a variety of customizations can be included to suit your needs. You can read further about our line of control panels and insulated jackets at the bottom of this page. Our team offers application assistance, pressure drop charts, and/or regenerative blowers for fully integrated system solutions.

New Flanged Fittings!

Flanged fittings are now available – Click here for more information on fittings for your FT400, FT600 & FT800.

PRESSURE TORCH™ —

If your heater needs fall between the 4psi offering of the **Flow Torch™** and the 500psi offering of the **Heat Torch™**, the **Pressure Torch™** may be your perfect fit. The **Pressure Torch**™ stands to signify the evolution of the **Heat Torch**™ line of heaters. This line of heaters is essentially a **Heat Torch™** encapsulated inside a pressurized tube, which is optimal for medium pressure applications (up to 150psi). The **Pressure Torch™** offers:

- Minimal obstruction to airflow (low pressure drop)
- High volumes of air flow (up to 2000SCFM)
- Max exhaust air temperature of 900°F
- Two thermocouples (preferred) for process and max temp monitoring
- Flange-fitting connections

Offered in a wide range of sizes and voltage/wattage options, the **Pressure Torch™** is the ultimate hybrid heater. Similarly to the **Heat Torch™**, this family of heaters can be fitted with several accessories and can be integrated with our line of exclusively engineered controllers. Our team is here to help with any questions regarding selection, application, and installation. Watch a quick video on the **Pressure Torch™** line of heaters.

DUCT HEATERS

Inline duct heaters offered by TUTCOo Farnam are specifically designed for industrial applications. As you may have guessed, duct heaters are generally installed on the side wall of your system to heat duct air. TUTCO Farnam duct heaters are supplied in a square shape in a variety of sizes, unless a custom size/shape is needed. Multiple wattage and voltage options are available for purchase.

TUTCO Farnum industrial duct heaters offer:

- Capability to heat large volumes of process air with fast warm-ups and cool-downs thanks to efficient open-coil heating elements
- Low-pressure drops with our open-frame design
- Low static pressures and reduced buildup of excess temperatures allowing you to use smaller, more economic blowers
- Consistent performance and easy installation
- Synchronization between multiple stages with the use of dual controllers

Our duct heaters reach their full potential when paired with one of our custom controllers, especially if more than one stage is to be implemented at your facility. More information on Tutco Farnam's duct heaters can be found in the Engineer Talk article by Jerry Sain.

Sustainability

The team at TUTCO Farnam is committed to providing industry-leading electrified heating solutions. Reducing the need for fossil fuels, especially in manufacturing settings, plays a critical role in shaping the environmental future of our planet. TUTCO Farnam is paving the way to net-zero emissions with recent milestones being a 20% reduction in non-recyclable waste and a 31% decrease in greenhouse gas emissions in the last year. To learn more about how

our team is prioritizing sustainability, watch Dane Owen (VP/GM) elaborate on our mission in our Sustainability video.