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Heat Torch™ 050 Inline Air Heater

Compact, High-Temperature Heating for Moderate Airflow Applications



The **Heat Torch™ 050** from TUTCO Farnam is a **0.5" (12.7 mm) diameter inline air heater** engineered for applications that require moderate amounts of focused **compressed air or other non-combustible gases**.

Available in both **ceramic and mica core configurations**, the 050 provides versatile options for precise heating with maximum output temperatures up to 1300°F (704°C) for ceramic cores and 932°F (500°C) for mica cores.

The Heat Torch 050 delivers reliable, repeatable performance across **airflows from 1 to 10 SCFM**, making it suitable for small- to medium-scale industrial, laboratory, and manufacturing processes. Its compact stainless-steel body, UL-listed components, and horizontal/vertical mounting capability allow seamless integration into benchtop systems, assembly lines, or OEM applications.

With power options from **100 W to 500 W** (in standard 50 W increments) and maximum inlet temperatures of 250°F (121°C), the Heat Torch 050 ensures precise, focused heating for applications where accuracy and thermal control are critical.



CORE	MAX WATT	MAX INLET	MAX EXHAUST	MIN SCFM	MAX SCFM	PSIG*
CERAMIC	600 W	250° F	1300° F	1	10	120
MICA	600 W	250°F	932°F	1	10	120

* with minimal leakage.

Airflow SCFM	1	2	3	4	5	6	7	8	9	10
Pressure Drop (psig)	.53	2.1	4.7	8.4	13.2	19.0	25.8	33.7	42.7	52.7

Key Features & Benefits

Flexible Core Options

Choose between ceramic or mica cores for applications requiring higher temperatures or rapid thermal cycling, providing the right balance of performance and durability.

Compact, Durable Construction

0.5" stainless-steel body fits easily into tight spaces while resisting wear and corrosion.

Rapid Thermal Response

Fast heat-up and cool-down cycles allow for responsive temperature adjustments, ideal for process control and testing.

Versatile Mounting

Supports horizontal or vertical installation to meet design constraints and optimize heat transfer.

UL-Listed for Safety & Reliability

All components meet UL standards, ensuring safe operation in a variety of industrial and laboratory environments.

Optional Accessories

Thermocouples, thermocouple fittings, and flexible conduit options enhance temperature monitoring, control, and integration with custom systems.

Wattage and Voltage Options

Supports multiple single-phase voltages (120V, 208V, 240V) and wattages from 100 W to 500 W, enabling precise system matching.

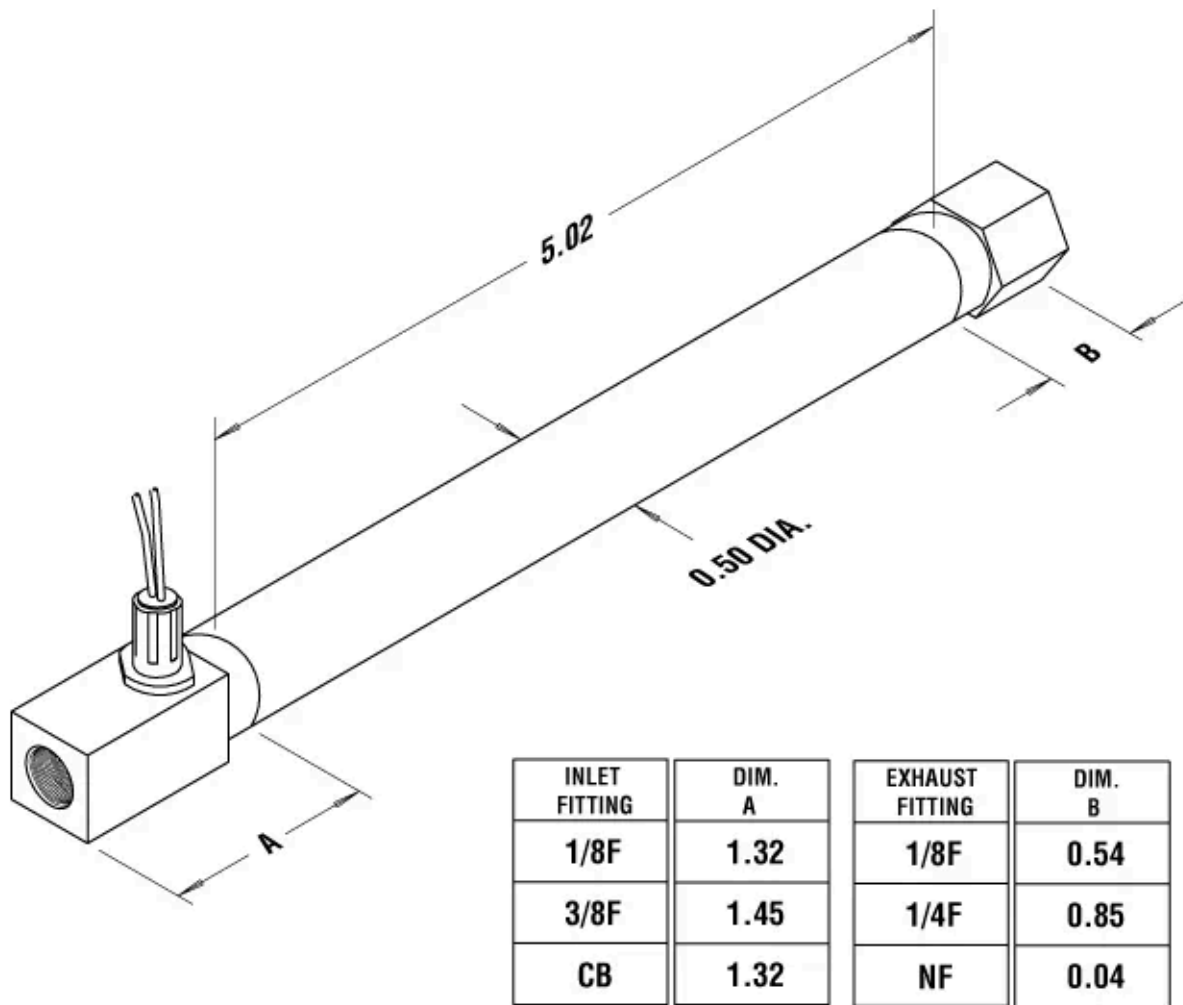
120V, single phase, 0.1kW-0.6kW

208V, single phase, 0.2kW-0.55kW

240V, single phase, 0.2kW-0.6kW

Specifications

- Mounting Horizontal / Vertical
- Leads 20 AWG, 12" Long
- Heater Body Stainless Steel
- Air Entryway Fitting Stainless Steel
- Inlet Fitting 1/8" FNPT, 3/8" FNPT, Counterbore 1/2" O.D.
- Exhaust Fitting 1/8" FNPT, 1/4" FNPT, NF – No Fitting



Ready to Build Your Solution?

Request a Quote or Contact our Applications Engineers to learn how a Heat Torch™ heater can improve your process consistency, energy efficiency, and thermal performance.

Applications

The Heat Torch™ 050 is engineered for moderate airflow applications that require precise, focused heating. Its 0.5" diameter and dual core options (ceramic for higher temperatures, mica for moderate temperatures) make it ideal for processes demanding repeatable thermal control, rapid response, and localized heat delivery. The 050 is widely used in laboratory, manufacturing, and assembly applications where accuracy and process efficiency are critical.

Typical applications include:

Staking and Heat Forming – Apply precise heat to small thermoplastic components for staking, forming, or assembly in production or R&D environments.

Curing Coatings and Adhesives – Deliver uniform heat to cure adhesives, coatings, and films with consistency, improving bonding and process reliability.

Adhesive Activation – Activate pressure-sensitive or heat-activated adhesives in small components, packaging, or electronics assembly.

Drying Processes – Efficiently dry materials, coatings, or parts with controlled airflow, reducing process times and improving product quality.

Heat Shrinking – Shrink tubing or wrap materials accurately around components without damaging surrounding areas.

Sterilization – Provide high-temperature airflow for sterilizing laboratory instruments, packaging, or medical components, particularly in small-scale or benchtop setups.

Laboratory Research and Testing – Deliver precise thermal input for material studies, prototype testing, and experimental setups requiring controlled air heating.

OEM and Production Line Integration – Compact, reliable heating for assembly systems, automated stations, or modular equipment requiring localized, repeatable heating.

Prototype Development and Process Optimization – Ideal for engineers and researchers developing or refining thermal processes, allowing for fast iterations and adjustments.

Electronics Rework and Soldering Support – Focused airflow is suitable for de-soldering, reflow, or delicate thermal applications on small electronic components.

Material Conditioning and Preheating – Preheat components before bonding, forming, or processing, ensuring consistent quality and minimizing thermal shock.

The Heat Torch™ 050's combination of moderate airflow, focused heat, and dual core options makes it a versatile solution for precise heating tasks in laboratory, industrial, and OEM applications, enabling users to achieve high-quality results with minimal energy waste.

Advantages Over Conventional Heaters

The Heat Torch™ 050 provides several key advantages that set it apart from traditional small air heaters and hot air tools:

Dual-Core Flexibility – Choose ceramic for high-temperature, heavy-duty processes or mica for moderate temperature, rapid cycling applications.

Concentrated, Efficient Heating – Delivers precise airflow and heat with minimal loss, reducing energy consumption while improving process efficiency.

Moderate Airflow Capacity – Handles 1–10 SCFM, supporting small- to medium-volume operations that are beyond the capability of micro-heaters.

Rapid Thermal Response – Quick heat-up and cool-down cycles enable precise temperature control and fast process adjustments.

Compact, Durable Design – Stainless-steel body fits into tight spaces, resists corrosion, and withstands repeated thermal cycling.

Versatile Mounting & Fitting Options – Horizontal or vertical installation and multiple inlet/exhaust configurations ensure easy system integration.

UL-Listed for Safety & Compliance – Reliable, tested performance with components recognized for industrial and laboratory use.

Optional Process Monitoring – Thermocouple fittings, thermocouples, and flexible conduit options enable advanced process control.

Minimal Maintenance Requirements – Robust design ensures long service life, reducing downtime and

replacement costs.

Supported by TUTCO Farnam Expertise – Backed by decades of air heater innovation and engineering support for system integration, customization, and troubleshooting.

Why Choose TUTCO Farnam Heat Torch™ 050 Heaters?

The Heat Torch™ 050 is a compact, versatile inline air heater that balances focused high-temperature heating with moderate airflow capabilities. Its dual core options, wide voltage range, and optional accessories make it suitable for laboratory, industrial, or OEM applications where precision, efficiency, and repeatable performance are critical.



Resources



BROCHURES

Heat Torch™ 050



MANUALS

Quickstart Guide



DRAWINGS

Dimensional Drawing.PDF



3D DRAWINGS

- w/counterbore, no outlet fitting, no TC.STP
- 1/8" F NPT inlet, 1/4" F NPT outlet, No TC.STP
- 1/8" F NPT inlet, 1/4" NPT outlet, 2 TC.STP
- 1/8" F NPT inlet/outlet, No TC.STP



VIDEOS

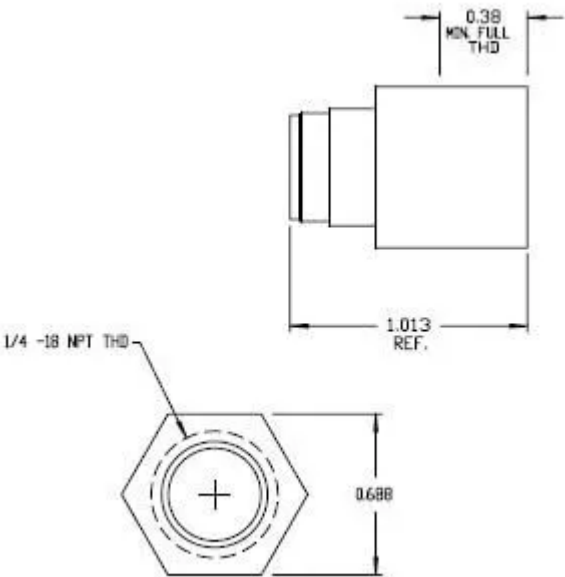
- Product Demo
- Process Heaters

Additional Information

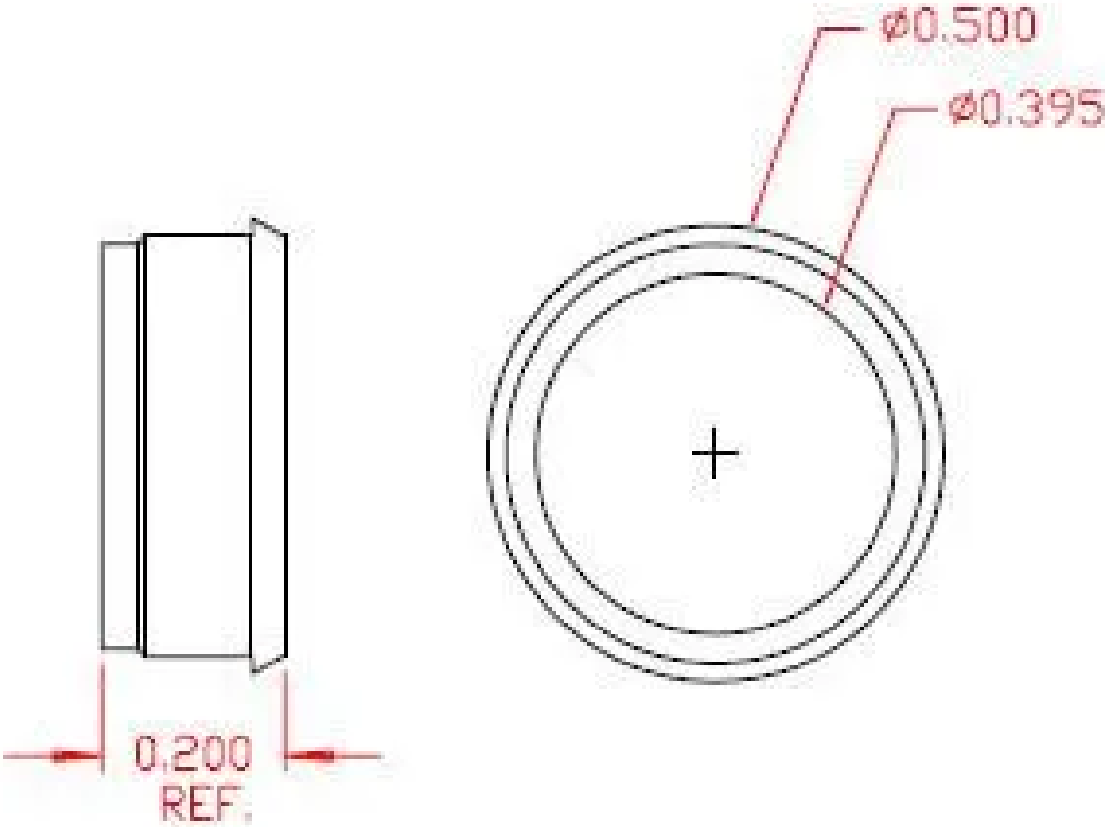
PRESSURE DROP	
AIRFLOW (SCFM)	PRESSURE DROP (PSIG)
1	0.53
2	2.1
3	4.7

AIRFLOW (SCFM)	PRESSURE DROP (PSIG)
4	8.4
5	13.2
6	19.0
7	25.8
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9	42.7
10	52.7

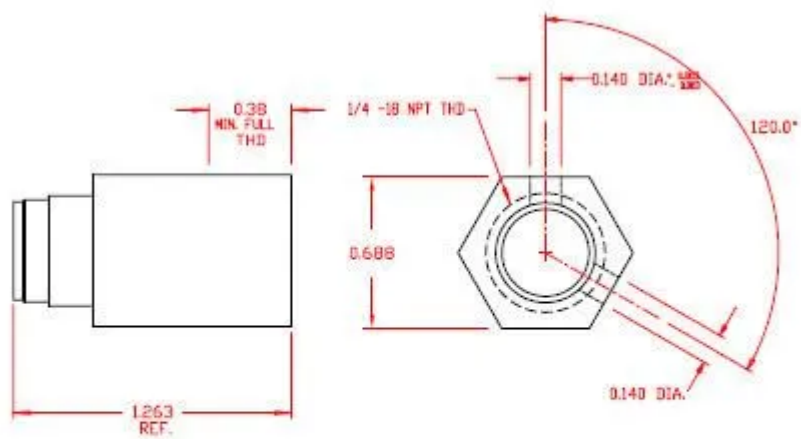
MATERIAL AND CONSTRUCTION



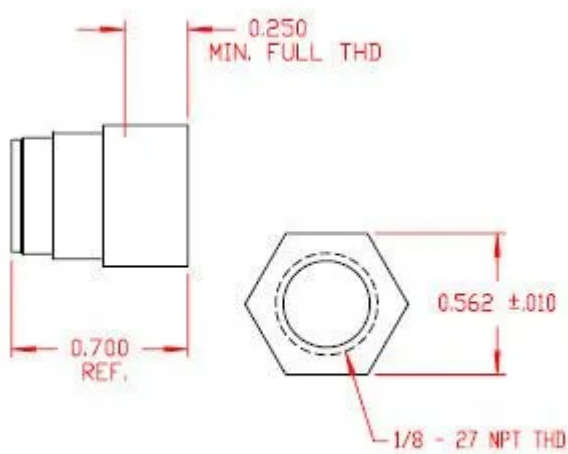
Exhaust Fitting
1/4" NPT female



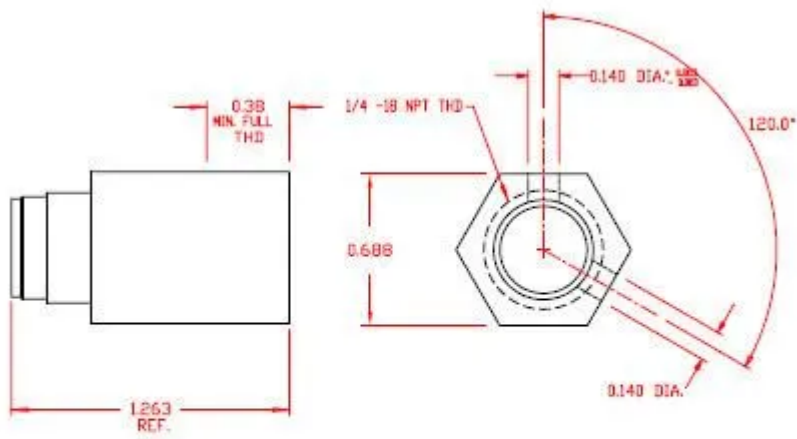
Exhaust Fitting
No Fitting



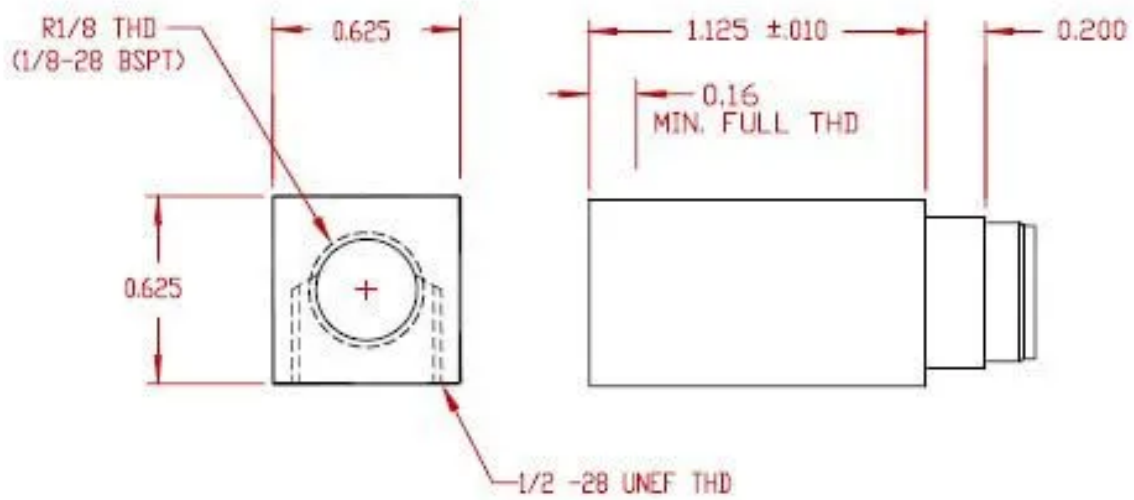
Exhaust Fitting
R1/4=1/4-19 BSPT female



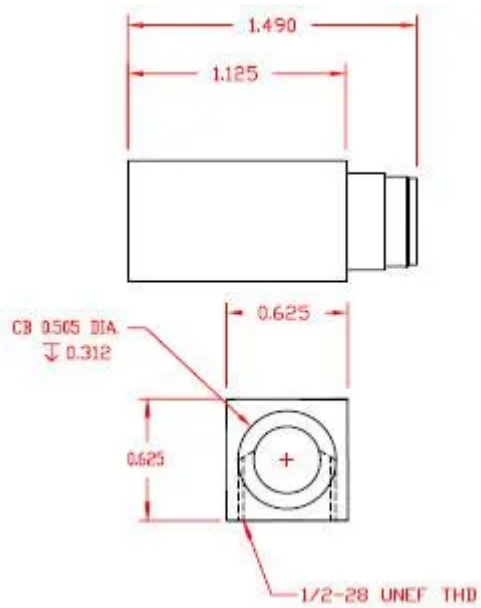
Exhaust Fitting
1/8" NPT female

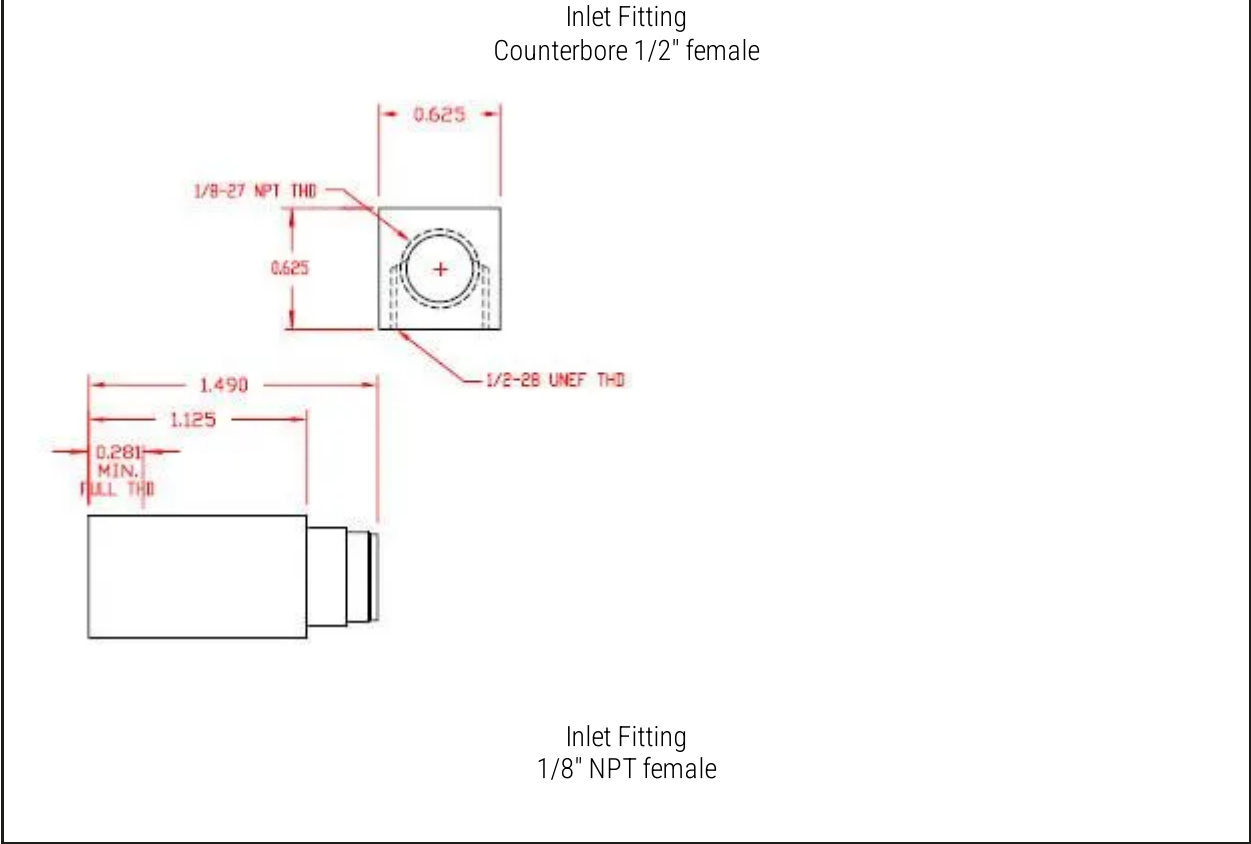


Exhaust Fitting
1/4" NPT female



Inlet Fitting
R1/8=1/8-28 BSPT female





Frequently Asked Questions

IS THE HEAT TORCH™ 050 DESIGNED FOR CONTINUOUS OPERATION?	—
Yes—when supplied with proper airflow and appropriate controls. Its stainless-steel body, UL-listed components, and open-coil design ensure long-term reliability for continuous industrial or laboratory use.	
ARE ACCESSORIES AVAILABLE TO IMPROVE TEMPERATURE CONTROL OR SYSTEM INTEGRATION?	—
Yes. Optional accessories include thermocouples, thermocouple fittings, flexible conduit assemblies, and custom mounting/adaptor hardware for enhanced measurement accuracy and safer system integration.	
IS THE HEAT TORCH™ 050 COMPATIBLE WITH PRESSURIZED AIR SYSTEMS?	—
Yes. The heater is rated for up to 120 PSIG with minimal leakage due to its stainless-steel construction and precision fittings.	
WHAT IS THE DIFFERENCE BETWEEN THE CERAMIC AND MICA CORE VERSIONS OF THE HEAT TORCH™ 050?	—
The ceramic core supports higher temperatures (up to 1300°F / 704°C), making it ideal for high-temperature or heavy-duty applications. The mica core supports up to 932°F (500°C) and offers faster thermal cycling, making it suitable for moderate-temperature processes requiring frequent on/off control.	

Part numbers: HT050-MICA, HT050