

THERMOCRAFT THERMAL PROCESSING EQUIPMENT



Since 1976, Thermcraft has been manufacturing high quality heating elements, custom furnaces, recirculating ovens, tube furnaces, box furnaces, high temperature heaters, diffusion furnace heaters along with electronic temperature sensors and controls, vacuum formed insulation and vacuum formed ceramic fiber heaters. Using knowledge gained from all aspects of thermal engineering, our team has supplied heating solutions to global manufacturers in industries including Crystal Growing, Nano Technology, Heat Treating, Metal Treating, Ceramics, Wire, Glass, Chemical, Nuclear, R&D/Laboratory and Universities, Aerospace, Pharmaceutical, Government, Military, Solar, and Semiconductors.

Thermcraft manufactures a complete line of high quality thermal processing equipment:

- Furnaces
- Ovens
- Express-Line Laboratory Furnaces
- Transparent Tube Furnaces
- High Temperature Heaters and Insulation
- Semiconductor Heating Elements
- Materials Testing Furnaces and Ovens
- Control Systems
- Parts and Service



TRANSTEMP TRANSPARENT TUBE FURNACES



**Thermally Engineered High Performance,
High Temperature,
Transparent Tube Furnaces**



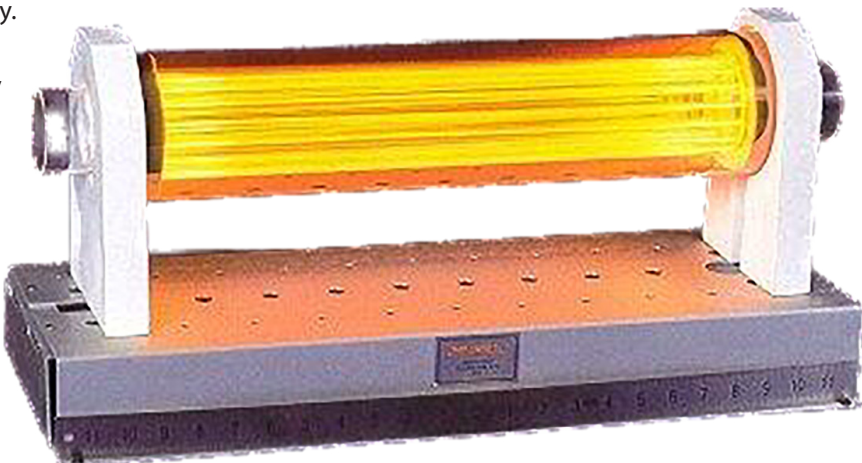
3950 Overdale Rd., Winston Salem, NC 27107
USA Phone: +1.336.784.4800 Fax: +1.336.784.0634
thermcraftinc.com • info@thermcraftinc.com

Unlike conventional furnaces it is transparent, making it possible to see the object that is inside the furnace.

The TransTemp Tube Furnace, by Thermcraft, uses a gold mirror for the insulation. With a maximum operating temperature of 1,000 °C being able to see the heated sample can develop much more information. At 600 °C, the exterior gold mirror becomes transparent.

Furnace Construction

TransTemp Tube Furnaces, by Thermcraft, are made with three coaxially mounted glass tubes. The outermost tube has a gold mirror on its inner surface. Gold is an effective insulator because it is highly reflective of infrared energy. It is also ideal for a transparent furnace because it is a poor reflector of visible energy. The second tube is a quartz shield which protects the mirror. Coaxially mounted inside the shield is a resistance element. The element is made up of a series of fixed brazed coils. The exact temperature profile will depend on the design of the element. The third tube is a quartz tube or muffle, which extends beyond the ends of the furnace and passes through the center of the heating element.



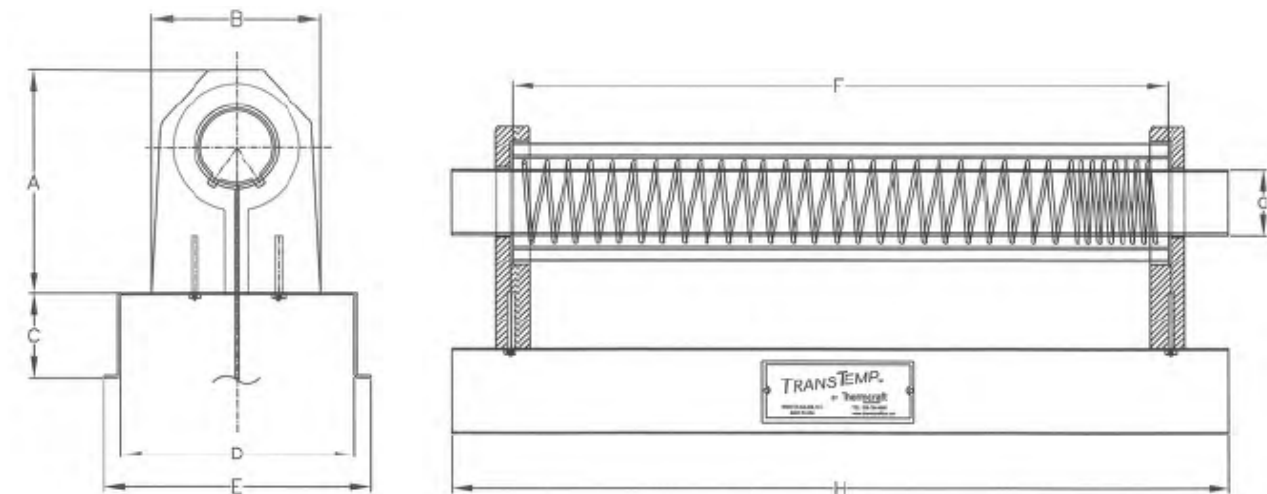
Uniform Temperature Zone

In conventional furnaces of packed or porous insulation, the temperature is generally uniform over only the central third of the heated length. Outside this region, the temperature decreases significantly due to heat loss at the ends. In the TransTemp Tube Furnace, by Thermcraft, repeated reflection of the infrared by the gold mirror distributes the heat throughout the entire length of the tube. Because the mirror is uniform, it has a uniform radial heat loss. With the ends plugged, the furnace will provide uniform temperature along 60% of its length.


Rapid Cycle Time

The TransTemp Tube Furnace, by Thermcraft, has a very low thermal mass, which enables it to quickly heat up to temperature. The standard 500mm model with a 57mm inside diameter muffle will reach 1000 °C in about 15 minutes and cool to 600 °C in about 10 minutes.

As with all systems manufactured by Thermcraft any and all standard equipment can be sized to meet the requirements of the customer’s application. Complete control systems can be provided from the simplest to the complex remote computer controlled system. Please call our experienced staff of sales engineers to assist in the application of the heating equipment to fit your needs.



	A	B	C	D	E	F	G	H	WATTS
TTL-1.5-0-12-18	6.0" 152 mm	5.625" 142 mm	3.0" 76 mm	8.375" 213 mm	9.625" 246 mm	12.0" 304 mm	1.5" 37 mm	16.0" 406 mm	1575
TTL-1.5-0-20-1 B	6.0" 152 mm	5.625" 142 mm	3.0" 76 mm	8.375" 213 mm	9.625" 246 mm	20.0" 508 mm	1.5" 37 mm	24.0" 609 mm	2449
TTL-2.25-0-20-1 B	8.0" 202 mm	5.825" 149 mm	3.0" 76 mm	8.375" 213 mm	9.625" 246 mm	20.0" 508 mm	2.5" 57 mm	24.0" 609 mm	3419



Thermcraft has a wide range of standard products which includes: ceramic heaters, vacuum formed ceramic fiber heaters, diffusion heaters, control systems, as well as industrial ovens and furnaces. A standard line of split tube furnaces, solid tube furnaces and controls are available for quick shipment. Thermcraft is also a recognized leader in custom heat-treating, industrial, and laboratory ovens and furnaces manufacturing.