



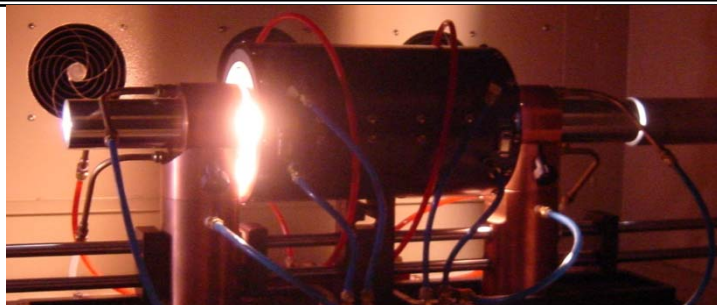
### MODEL HT-9500 BLACKBODY CALIBRATION SYSTEM

Serving the high temperature measurement and calibration market worldwide for over 40 years.

The Thermo Gauge model HT-9500 is a complete high temperature IR calibration system based on the Thermo Gauge proven graphite tube design. The system includes a horizontal graphite tube cavity for high temperature source, optical pyrometer for temperature feedback, and digital temperature controller.

#### FEATURES

- Digital temperature controller with 0.1 C resolution.
- Calibrated NIST traceable optical pyrometer.
- High emissivity (emissivity > .99)
- High temperature operation from 200 C to 3000 C
- Easy to maintain with user replaceable parts.
- Robust long lasting design.
- Fast temperature changes, up to 500 C per min.
- Both analog and digital external inputs for custom control or integration into the lab.
- Easy to connect water and gas lines.



Thermo Gauge 1" Blackbody operating at 2000 C

#### RAPID HEATING CONCEPT

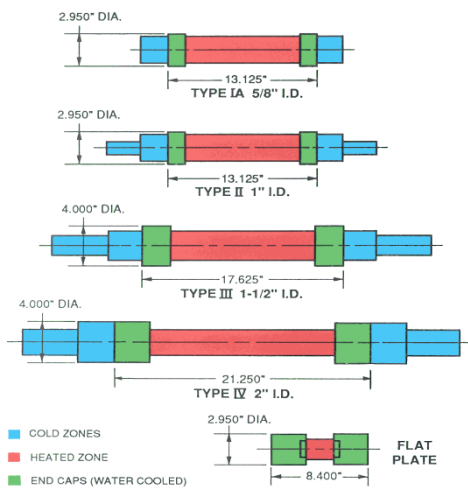
The Thermo Gauge HT-9500 builds on the highly successful design of the Thermo Gauge black bodies and, it employs the rapid heating concept.

The rapid heating concept is based on the principle of direct resistance heating of a graphite heater element with large amounts of power into a poorly insulated heater element. This heats the heater element very quickly. The fast response time allows for a great savings in calibration time and technician man hours.

#### UNMATCHED VERSITILITY

The HT-9500 can be fitted with 4 different black body assemblies or the flat plate assembly. The aperture sizes for the black bodies are 5/8", 1", 1.5", and 2".

The flat plate target that is used for heat flux gauge calibration is 1.5" wide x 3" long.



Proportional dimensional view of heater element assemblies.



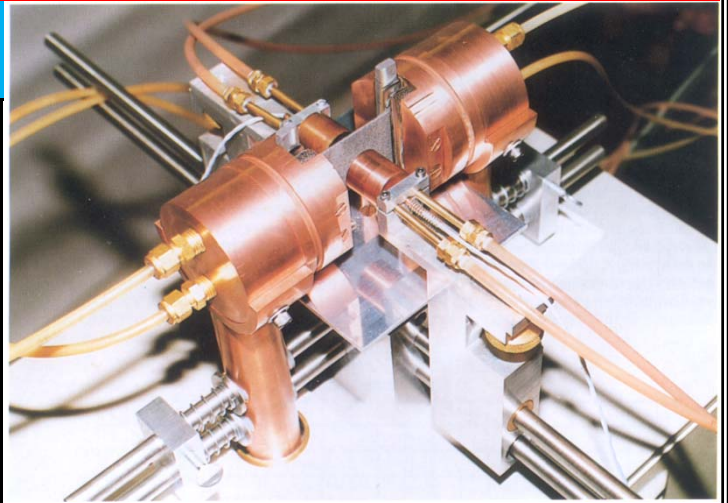
HT-9500 CALIBRATION SYSTEM WITH OPTIONAL SLIDE TRACK

# MODEL HT-9500 BLACKBODY CALIBRATION SYSTEM

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## SPECIFICATIONS

<b>Temperature</b>	500 C to 3000 C 932 F to 5432 F
<b>Resolution</b>	0.1 C 0.1 F
<b>Heating Rate</b>	500 C per minute for black body 500 C per second for flat plate
<b>Cooling Time</b>	Above 1000 C >100C per minute Below 1000 C > 25 C per minute
<b>Stabilization Time</b>	Typical 3 minutes, slower at low temperatures
<b>Stability</b>	0.1 C
<b>Dimensions</b>	40" wide x 28" deep x 38" tall
<b>Weight</b>	800 lbs 363 kg
<b>Power</b>	48 KVA
<b>Cooling water</b>	5 - 8 GPM depending on cavity Typical 60 psi, Maximum 100 psi
<b>Purge gas</b>	Nitrogen or Argon, (not used for flat plate target)
<b>NIST Traceable</b>	Optical pyrometer or standard Gardon style heat flux gauge.
<b>Shipping Dim.</b>	48" x 48" x 48" wooden crate with heat stamp for international shipment.
<b>Shipping Weight</b>	1000 lbs 454 Kg



The flat plate assembly with heat flux gauges.

## COMMON USES

1. Optical pyrometer calibration.
2. Emissivity determination of material samples, with optional emissivity attachment.
3. Filling and using eutectic fixed points.
4. Research and Development.
5. Improving process quality by maintaining critical temperature parameters in house.
6. Heat flux calibration by using the flat plate attachment up to 500 W/cm<sup>2</sup>

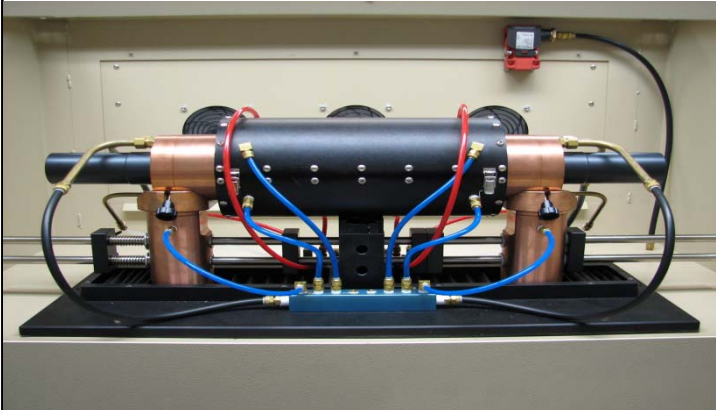


The flat plate assembly can be used up to 500 W/cm<sup>2</sup>

## FACILITY REQUIREMENTS

In all cases, the installation must comply with all building codes.

1. **Electrical supply:** 240, 380, 400, 480 volts AC single phase or three phase.
2. **Cooling water:** A cooling system capable of removing 24000 BTU/hour. Recirculation may be used with a large holding tank.
3. **Purge gas:** Nitrogen (below 2000 C), Argon (above 2000C) at 50 psi. The flow rate is manually adjusted with the panel mounted flow meter.



Easily accessible consumable parts.