

LS SERIES HIGH TEMPERATURE SOURCES

The LS Series of cavity type high temperature blackbodies incorporates three decades of continuous improvement. EOI infrared sources have set the performance standard in the most demanding laboratories worldwide since 1964.

The excellent uniformity, long term stability, repeatability and high emissivity of the LS Series provide a known output for testing and calibration of the most sensitive infrared sensors, thermometers, imaging systems and radiometric devices.

Configuration

The LS Series blackbodies are available in bench top configuration or integrated into one of the many Target Projector/Simulators and Automatic Test Stations EOI offers. Standard cavity sizes from 0.25" to 2.0" cavity diameters and temperature ranges up to 1400°C are available.



Controller

Each LS Series blackbody is supplied with a digital 19" rack mount controller. Proportional, integral and derivative (PID) parameters are tuned individually for each blackbody to yield excellent stability (typically $\pm 0.25^\circ\text{C}$), and repeatability with fast slew rates and settling times. Temperature of the blackbody can be set with 0.1°C resolution and actual temperature is displayed to 0.01°C on the front panel of the controller.

Computer Interfaces

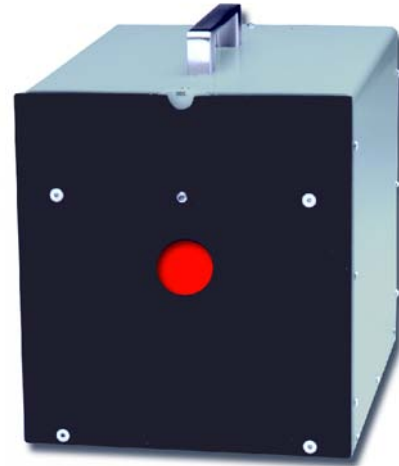
Complete computerized control of the system is available through built-in interfaces. The IEEE 488 and any one of the RS formats may be used at the same time.

Baffle Plate

An air cooled baffle plate is standard with cavities 0.25 inch or larger.

Apertures

Each LS blackbody is equipped with either a manually indexed aperture wheel or aperture holder.



Apertures may be added from EOI's extensive list of standard apertures. EOI can also supply custom apertures.

Calibration

Each LS blackbody is calibrated at EOI prior to shipment. Recommended calibration cycle is 6 months. Calibration is traceable to the National Institute of Standards and Technology (NIST). The two point calibration table is stored in memory and is easily updated via the front panel keypad

The LS Series blackbody temperature can be set manually and features:

- **Closed Case Calibration**
- **Fast Heating and Cooling Rates**
- **Temperature Ranges to 1400EC**
- **Cavity Diameters to 2.0"**
- **CE Certification**
- **2 Year Warranty**



Case Temperature

The case temperature will never exceed 10°C above ambient.

Operating Ambient

The LS blackbody is designed to operate over an ambient temperature range of -40 to +60°C. The LS temperature controller will operate over an ambient temperature range of 0 to 50°C.

Optional Equipment Available:

Manual Aperture Wheel
Manual Filter Wheel
Modulator, Fixed Frequency
Modulator, Variable Frequency
Modulator, Phase Locked
Solenoid Shutter

Standard Models

TEMPERATURE RANGE 50 to 1050EC	
Model	Cavity Diameter
LS1050-025	0.250
LS1050-050	0.500
LS1050-100	1.000
LS1050-200	2.000
TEMPERATURE RANGE 50 to 1250EC	
Model	Cavity Diameter
LS1250-025	0.250
LS1250-050	0.500
LS1250-100	1.000
LS1250-200	2.000
TEMPERATURE RANGE 50 to 1400EC	
Model	Cavity Diameter
LS1400-100	1.00"
LS1400-200	2.00"

Specifications

Stability	± 0.1EC
Uniformity	±0.5 to ±3EC
Emissivity	0.97 to 0.99
Set Point Resolution	0.1EC
Display Resolution	0.1 or 0.01EC

Power Requirements

The LS blackbodies operate from 100, 120, 220, or 240 VAC ± 10% (switch selectable), 50/60 Hz. The larger systems operated on 220V and may require a power amplifier in addition to the controller. Standard cable lengths between controller and blackbody or controller/output stage and output stage/blackbody are 8 feet. The plug-in main power cable is also 8 feet long.