

High Temperature extended area blackbody series

The extended area blackbody series offered by LR Tech are blackbodies with exceptional performance as for its emissivity and uniformity, while maintaining a long-term temperature stability. Its computerized interface allows an easy way to monitor and store the relevant blackbody performance used for the calibration of other optical devices. Its compact and ruggedized design makes them the best calibration tools for laboratory and field applications.

B-500HE-10 10cm X 10 cm high temperature extended area blackbody
B-500HE-20 20cm X 20 cm high temperature extended area blackbody

The B-500HE series are high temperature extended area blackbodies which offer a good accuracy while offering a very good uniformity (within 5%) over 90% of its emitted surface area.

Our blackbodies are also offering a spectral characterization of its emissivity and comes with its own certificate. Its stability and uniformity is insured by the added thermal mass (independent interface) that is by itself heated and well coupled to the emitted plate. This insuring an improved stability and uniformity over conventional blackbody.

Its controller, compact and easy to use is directly incorporated within the module simplifying the space required to setting up.

The controller comes with its own interface allowing its configuration directly from its built-in interface. A RS232/USB interface is also incorporated for ease of use over a computer and/or over a dedicated network. An optional software package is also available allowing to ingest the acquired data directly under the Edgar2 software library of LR Tech.

Specifications:

Model	B-500HE-10	B-500HE-20
aperture (cm)	10cm X 10cm	20cm X 20cm
Temperature Range (°C)	50°C to 500°C	50°C to 500°C
Set point Resolution (°C)	0.1°C	0.1°C
Readout Resolution (°C)	0.1°C	0.1°C
Temperature Accuracy (°C)	±0.5°C	±0.5°C
Stability (°C) (Note 1)	±0.5°C	±0.5°C
Slew rate (°C/min) (Note 2)	15	15
Setting time (min.) (Note 3)	10	20
Surface	flat surface (Lambertian distribution)	flat surface (Lambertian distribution)
Coating	Flat Krylon 1602	Flat Krylon 1602
Spectral range Note 4):	2μ to 15μ	2μ to 15μ
Emissivity (Note 5)	>0.95 (2μ to 5μ)	>0.95 (2μ to 5μ)
Uniformity	5% accross 90 % of the entire surface	5% accross 80 % of the entire surface
Temperature sensor:	thermocouple	thermocouple
Dimension (mm) (LXDXH)	230 X 210 X 310	380 X 210 X 425
Weight (Kg)	9.5 Kg	12.5 Kg
Communication interface	USB / Ethernet	USB / Etehernet
Computer control	Direct / Via an Edgar software plug-in (Optional)	Via an Edgar software plug-in (Optional)
Operating Temperature range (°C)	0°C to 50°C	0°C to 50°C
Voltage supply requirements	110 /220Vac	220Vac
Power requirement	9 Amp.	12 Amp.
	Note 1: Base after warm up period of 30 minutes for temperature up to 550°C	
	Note 2: Base on temperature range of 50°C to 400°C (ambient to 80°C for B-500HE)	
	Note 3: Time to stabilize (80°C for B-100TE and 400°C for B-500HE Series)	
	Note 4: Spectral rage covered with an emissivity set between 0.9 and 1.0	
	Note 5: Complete with calibration certificate (spectral)	

