

Extended Area Black Body

-40 °C to 100 °C

Wide Temperature Range

LBBCH offer a temperature range from -40 °C to 100 °C

Large emissive area

LBBCH has the large emitting surface area precise temperature control with good uniformity. It is available in the customize sizes.

High Emissivity

The LBBCH exceptionally high emissivity of 0.95 ± 0.02 & extremely quick to reach various temperatures, i.e. heats up from room temp to +100 °C in 45 minutes.

Accuracy and performance

The LBBCH is highly stable unit that also provides excellent calibration accuracy with stability $\pm 0.1^\circ\text{C}$ or better.

Computer Interface

The communication port (USB) enables communication with selected LBBCH calibrator.

LBBCH (-40 to 100°C)

Low temperature Extended area black body



Extended area black body is defined by the large emitting surface area having precise temperature control with good uniformity. Tempsens make Black bodies are state of the art, highly accurate and stable with different standard sizes and temperature ranges. The LBBCH Series Extended Area black bodies are low temperature infrared reference sources. They are particularly well adapted for the characterization and performance validation of a very wide range of IR Sensors, such as high resolution cameras for Thermography and long range thermal imagers. Essentially the black body emits a known amount of energy for an infinite number of wavelengths. This enables the user to draw the expected black body radiation curve for a given temperature. The temperature is set and controlled by a self tuned PID controller with automatic super fine adjustment.

A recirculation chiller unit cools the black body to approximately the desired temperature and electronic control system and heaters unit assembly of thermoelectric coolers further control the black body surface temperature precisely and accurately to the desired set point.

LBBCH includes all the components needed for operation blackbody, Chiller unit, temperature controller.

SPECIFICATIONS

Parameter	LBBCH (-40°C to 100°C)	
	LBBCH100	LBBCH200
Emissive area	100 x 100mm ²	200 x 200mm ²
Temperature Range	-40° to 100°C	-40° to 100°C
Emissive area uniformity (1)	±0.5@50°C	±0.5@50°C
Emissivity	0.95 ±0.02	0.95 ±0.02
Stability	±0.1°C	±0.1°C
Display Resolution	0.1°C	0.1°C
Method of control	Digital self tuned PID Controller	Digital self tuned PID Controller
Head dimensions (mm ³)	360(H) x 280(W) x 320 (D)mm	520(H) x 480(W) x 300(D)mm
Head Weight	20 KG	40 KG
Chiller Unit dimensions (mm ³)	620(H) x 410(W) x 600 (D)mm	620(H) x 410(W) x 600 (D)mm
Chiller Unit Weight	140 KG	140 KG
Power Requirement	230VAC or 110 VAC 50/60 Hz 2KW	230VAC or 110 VAC 50/60 Hz 2.5KW
PC Interface	USB	USB
Operating Temperature Range (head)	10°C to +25°C	10°C to +25°C

*1 at 80% of emissive area

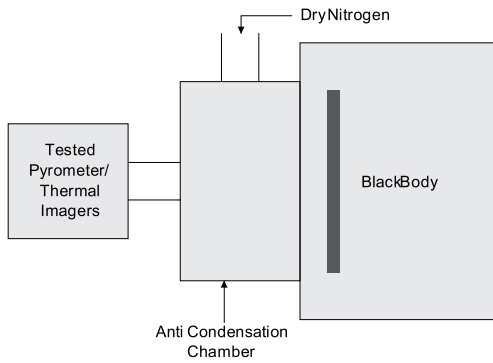
*At Ambient 23°C

CHILLER UNIT



- A recirculation chillers unit cools a black body to approximately the desire temperature.

ANTI CONDENSATION CHAMBER



Along with LBBCH model tempsens blackbodies also offers anti condensation chamber around black body emitter for dry air/ nitrogen to prevent any ice build up or water vapor condensation in case black body operate below ambient. one end off the chamber will be fit to black body emitter and another hole of the chamber fits to optics of tested pyrometer or thermal imagers.

ACCESSORIES

- Calsoft Software
- Operational Manual
- NABL accredited calibration certificate (Optional)