

Extended Area Black Body

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 0.98 ± 0.02 . Extremely quick to reach various temperatures, i.e. heats up room temp to +100 °C in 45 minutes. This saves time and increases productivity.

Accuracy and performance

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

Easy to use

LBBCH has inbuilt PID controller or can be provided separately that shows real time display of the surface and set temperature

Computer Interface

The customizable communication port enables communication with selected LBBCH calibrators for automation calibration and documentation easy.

Remote control via Ethernet link, Rs232 or USB port.

LBBCH (-40 to 100°C)

Low temperature Extended area black body



Extended area black body is defined by the large emitting surface area precise temperature control with good uniformity. Tempsens make Blackbodies 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 operating either in absolute or differential mode. This Black body series featuring the very high stability, 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 to draw the expected black body radiation curve for a given temperature. Temperature is accurately controlled by High accurate PID self tuning controller.

A recirculation chiller unit cools a black body to approximately the desire temprature 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.

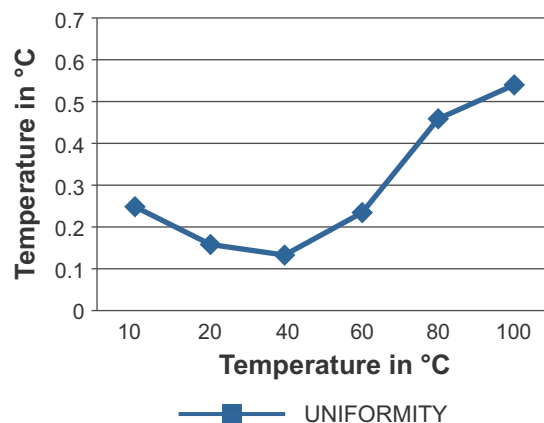
SPECIFICATIONS

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)	±0.2@50°C	±0.2@50°C
Emissivity	0.98 ±0.02	0.98 ±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)	300(H) x 320(W) x 190 (D)mm	450(H) x 360(W) x 305(D)mm
Head Weight	15 KG	30 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	50 KG	50 KG
Max. power consumption	2 KW	2.5 KW
Powersupply	230VAC, 1ph. 50Hz	230VAC, 1ph. 50Hz
Remote control	Ethernet/RS-232	Ethernet/RS-232
Operating Temperature Range (head)	10°C to +25°C	10°C to +25°C

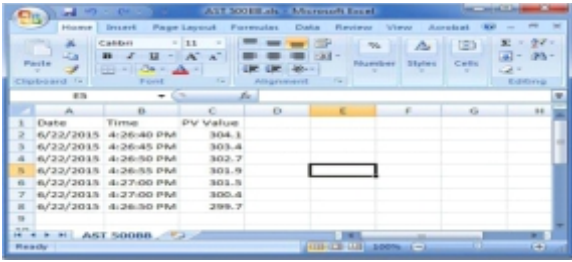
*1 at 80% of emissive area

*At Ambient 23°C

GRAPHICAL REPRESENTATION



SOFTWARE

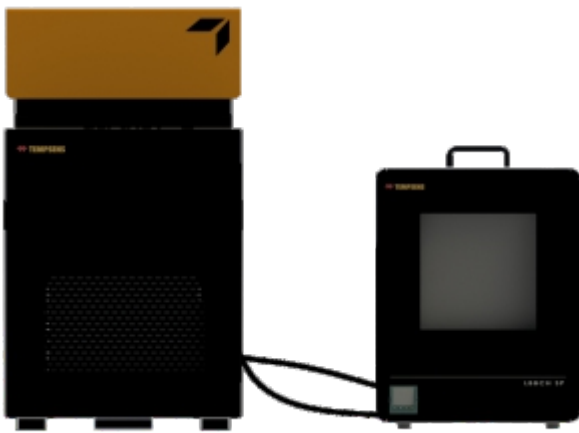


Date	Time	PV Value
6/22/2015	4:26:40 PM	304.1
6/22/2015	4:26:45 PM	303.4
6/22/2015	4:26:50 PM	302.7
6/22/2015	4:26:55 PM	301.9
6/22/2015	4:27:00 PM	301.5
6/22/2015	4:27:00 PM	300.8
6/22/2015	4:28:30 PM	299.7



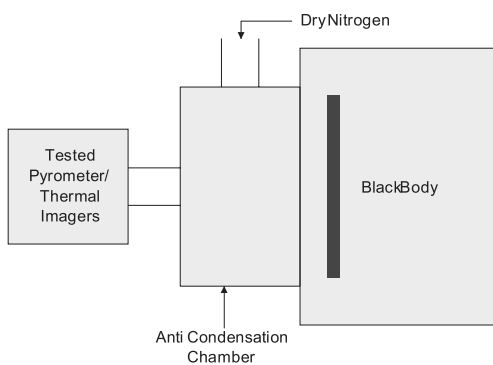
- CalSoft including for setting bath temperature and monitoring the PV. Graphical representations of PV/TIME with 2 hours data logging.

CHILLER UNIT



- A recirculation chiller unit cools a black body to approximately the desired 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)