

Extended Area Black Body

50°C to 500°C

Wide Temperature Range

LBBDCH offer a temperature range from 0°C to 115°C for absolute temperature and -25°C to 90°C for differential temperature range.

Large Emissive Area

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

High Emissivity

The LBBDCH Exceptionally high emissivity of 0.95 ± 0.02 . Extremely quick to reach various temperatures, i.e. heats up from room temp to +50°C in 15 minutes.

Accuracy and Performance

The LBBDCH is high stable unit that also provides excellent calibration accuracy with stability.

Computer Interface

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

LBBDCH

Low Temperature Differential 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 LBBDCH 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.

SPECIFICATIONS

Parameter	LBB11DCH	LBB33DCH
Emissive area	100 x 100 mm ²	300 x 300 mm ²
Absolute Temperature Range	0 to 115°C	10 to 80°C
Differential Temperature Range (Ambient 25°C)	-25°C to 90°C	-15°C to 55°C
Emissive area uniformity (1 & 2)*	±0.50°C @50°C	
Emissivity	0.95±0.02	
Stability	±0.01°C	
Display	5" LCD °C or F user selectable	
Controller Dimension	100(H) x 120(W) x 300(D) mm	
Display resolution	0.01°C	
Method of control	Digital self tuned PID Controller	
Head dimensions W x H x D (mm ³)	300 X 320 X 190 mm	500 X 500 X 200 mm
Weight	20 kg	50 kg
Max. power consumption	1.0 K W	2.5 K W
Power supply	230 VAC or 110 VAC 50/60 Hz	
Remote control	USB	
Operating temperature range (head)	5°C to 25°C	

*1 at 80% of emissive area

*2 Uniformity will decrease during nitrogen purging

USER INTERFACE

The Temperature Control window opens in either the Absolute or Differential working modes.

Absolute Mode : In absolute mode there will be temperature indication for Emitter plate and target but no temperature difference will be shown. We can control only emitter temperature.

Differential Mode. : In differential mode we can change temperature difference between emitter and target needed. We have to put delta T value as set point. Controller will automatically change emitter temperature to achieve desired delta T value.

Absolute

T_e 44.89 X

T_t 26.10

To SET 44.89 **SET**

Differential

ΔT 1.24 X

T_e 27.34 **T_t** 26.10

DT SET 1.24 **SET**