

HIGH STABILITY BLACK BODY FURNACE

CALsys 1000BB calibration source is a highly stable standard Black Body Furnace for calibrating noncontact IR thermometer for the wide temperature range of 50 to 1000°C.

The unique feature of this Black Body Furnace is large temperature controlled black body target with a diameter of 29 mm and 150mm which offer large view area for IR Thermometer.

The Emissivity of the target is 0.98 (± 0.01). The temperature of the calibrator is set and controlled by a self tuned PID controller with automatic super fine adjustment.



SPECIFICATIONS

Temperature Range	: 50 to 1000°C
Temperature Resolution	: ≤ 0.1
Cavity Uniformity	: ± 4 or better (at 800°C Or higher)
Stability	: $\pm 0.2^\circ\text{C}$ at 50°C $\pm 0.4^\circ\text{C}$ at 500°C $\pm 0.6^\circ\text{C}$ at 1000°C
Emissivity	: ≥ 0.98
Controlling Sensor	: Precision PT/RH-PT T/C
Method of Control	: Digital self tuned PID Controller
Time to reach max temp	: ≤ 2 hr
Computer Interface	: RS - 232
Operating Temp	: 20 to 45°C
Power Requirement	: 220-240 VAC, 50 Hz
Dimensions	: 270(H) x 360(W) x 270(D) mm
Radiation Cavity Type	: Ceramic cavity with high emissivity paint
Cavity Dimension	: 29 mm Dia x 150 mm depth
Light Aperture wheel integrated with blackbody	
Aperture Selection	: Manual and motorized option available
Min no. of Apertures	: 8
Apertures Size (Tolerance $\pm 10\%$)	: 0.0125", 0.025", 0.050", 0.10", 0.20", 0.40", 0.60" and 1.0"
External Aperture	: 25 mm dia.
Weight	: Approx 15 Kg
Control Panel	: Separate control box for temp. & Frequency

KEY FEATURES

- ✓ Wide Operating Range (50 to 1000°C)
- ✓ High Stability
- ✓ PC interfacing
- ✓ Simple to use and cost effective
- ✓ Sighting tube

STANDARD ACCESSORIES

- NABL accredited calibration certificate - 3 point
- Software - Cal Soft including for setting bath temperature and monitoring the PV. Graphical representations of PV/TIME with 2 hours data logging.
- Operational Manual
- Adjust frequency through aperture

SPECIAL FEATURES

- User friendly software for blackbody control through PC.
- Real time blackbody temperature display and logging.
- Monitor blackbody status (stabilized/un-stabilized) in real time.
- Save and recall pre-defined setting of blackbody.
- Software and driver to operate the blackbody through PC should be provided preferably in pen drive/CD.

Motor with Chopper Controller

A) Hardware Control

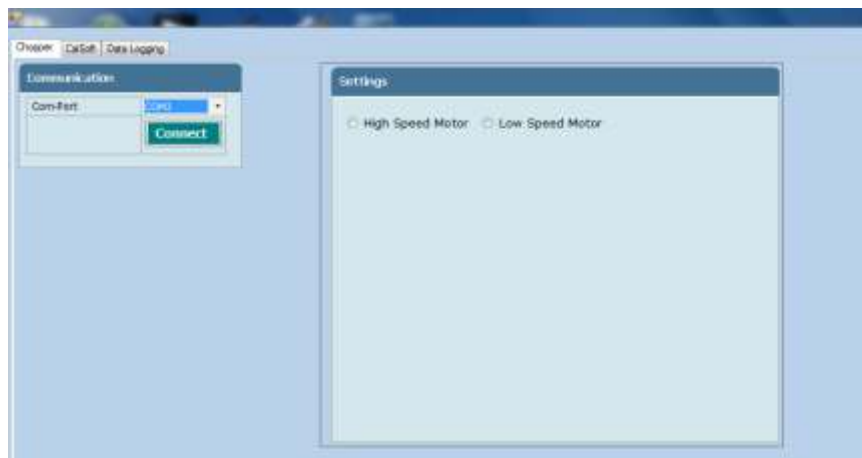
1) Control Unit:

The Control Unit box contain PID controller to display the temperature of furnace and Micro-controller unit to display frequency of the Motors. The microcontroller unit is provided with LCD display with 3 keys i.e. func key, up key and down key.



B) Software control

The provided software “Chopper Software” offers digital PC interface RS-232. Using this software we can set all the parameters like motor selection, chopper blade selection and frequency. This software also shows the measured frequency value.



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