

BBS500-6R

BLACK BODY CALIBRATION SOURCE



Portable, Highly Stable, and Uniform Blackbody, for Calibration of Thermal Imaging Cameras, FLIR Array Detectors, Non-Contact Infrared Pyrometers, Spectrophotometers, Heat Flux Meters and Optical Systems

OVERVIEW

The BBS500-6R blackbody calibration source with a temperature range from 35°C to 500°C, has a flat plate emitter surface design with a high emissivity coating of 0.95 (± 0.01). The extended emitter surface provides a large target area with highly uniform radiant intensity. The BBS500-6R is essential for applications requiring a large IR emission field of view, enhanced emissivity, and temperature uniformity. The 6-inch diameter round radiation emitter is used for on-site laboratory calibrations for a variety of thermal imaging cameras and infrared sensing systems, both fixed online and portable versions.

APPLICATIONS

- IR radiance emission calibration of spectrophotometers, spectroradiometers, FLIRs, thermal imaging cameras, pyrometers, radiometers and heat flux meters.
- Thermal imaging camera, portable handheld, and fixed IR pyrometer calibration
- Research and development application requirements.
- Calibration laboratories, Universities and Manufacturing facilities



Touchscreen display



BBS500-6R FEATURES

- Wide temperature range: 35°C to 500°C (95°F to 932°F)
- High Emissivity: 0.95
- Temperature display: .001 / 0.1°C resolution
- Large IR emitting surface area (Aperture size 6 inches / 150 mm)
- Cost-efficient and easy to transport.
- Compact portable design
- Secondary insertion hole to accept a reference RTD sensor
- Simple operation



EASY TO USE

The BBS500-6R with high resolution temperature display (0.01°C / 0.1°C) is easy to operate. Simply adjust the Blackbody Calibration Source set point temperature via the touchscreen display on the temperature controller and aim the IR sensing device at a specified distance to the center of Blackbody IR emitting surface. Check, verify, and calibrate as necessary. The blackbody source offers a large diameter aperture, enabling a wide range of infrared instrumentation to be tested/calibrated. As a secondary temperature verification, there is a hole located directly behind the IR emitting surface so that a thermometric measurement can be made with a contact RTD probe. The blackbody source is a portable infrared calibrator with handle, and weighs only 9.8 kg (21.6 lbs)



ORDERING INFORMATION

Part Number	Description
BBS500-6R	PSC Model BBS500-6R Blackbody Calibration Source

SPECIFICATIONS

Temperature Range (at T _{Amb} = 23°C (73.4°F))	35°C to 500°C (95°F to 932°F)
Accuracy	±0.35°C at 35°C (± 0.63°F at 95°F) ±0.50°C at 100°C (± 0.90°F at 212°F) ±0.70°C at 200°C (± 1.26°F at 392°F) ±1.50°C at 350°C (± 2.70°F at 662°F) ±1.9°C at 500°C (± 3.42°F at 932°F)
Temperature Resolution	0.1°C at range 500°C (0.18°F at range 932°F) 0.01°C at range 300°C (0.018°F at range 572°F)
Stability	±0.1°C at 100°C (±0.2°F at 212°F) ±0.3°C at 500°C (±0.6°F at 932°F)
Aperture Diameter	152 mm (5.98 in)
Emissivity	0.95
Heat Up Time	20 minutes (35°C to 450°C) (95°F to 842°F) 10 minutes (450°C to 500°C) (842°F to 932°F)
Cool Down Time	40 minutes (500°C to 100°C) (932°F to 212°F) 40 minutes (100°C to 35°C) (212°F to 95°F)
Sensor	Precision Platinum Thermocouple
Operating Temperature	5°C to 35°C (41°F to 95°F)
Enclosure	Metal (Painted)
Dimensions	380 mm x 240 mm x 230 mm (14.96 in x 9.45 in x 9.06 in)
Weight	9.8 kg (21.6 lbs)
Power Requirements	110 VAC (±10 %) (optional: 230 VAC model). Max. 1000 W
Scope of Supply	Calibration source, AC power cable, calibration certificate, manual

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