



## FEATURES

- ⊕ 50°C to 1000°C Absolute Temperature Range
- ⊕ Enhanced Emissivity > 0.98 (2  $\mu$  to 14  $\mu$ )
- ⊕ Increased Stability
- ⊕ Improved Architecture
- ⊕ Ease of Integration with SBIR Products
- ⊕ Multi-Function Controller
- ⊕ GPIB or RS-232 Interfaces
- ⊕ 1"  $\varnothing$  Cavity Version

## OVERVIEW

The 4100 Series High Temperature Cavity Blackbody operates from 50°C to 1000°C. It is built around an innovative cavity design that significantly improves both uniformity and slew rate of the blackbody system while simultaneously improving test accuracy and reducing test times. The 4100 Series also incorporates the many advantages found across SBIR's entire blackbody product line including: more stable and accurate temperature control, quick and easy blackbody interchangeability, non-critical cabling, multi-function controller, high immunity to EMI, ease of calibration and easy integration into a larger test system. The 4100 Series High Temperature Cavity Blackbody is an ideal choice for applications where high temperature and high performance are a requirement.

## AVAILABLE SIZES & TEMPERATURES

| Model | Emitting Surface Size   | Temp. Range G<br>50°C to 1000°C Abs. T |
|-------|-------------------------|----------------------------------------|
| 4100  | 1" $\varnothing$ Cavity | X                                      |

## Solutions

### for Every EO Test Requirement

30 S. Calle Cesar Chavez, Suite D • Santa Barbara, Ca. 93103  
ph (805) 965-3669 • fax (805) 963-3858 • <http://www.sbir.com>

## SYSTEM SPECIFICATIONS

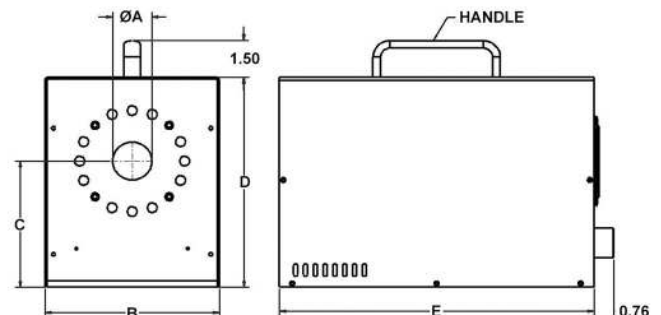
|                                                             |                                                                         |
|-------------------------------------------------------------|-------------------------------------------------------------------------|
| Available Aperture Sizes.....                               | 1" Diameter Cavity                                                      |
| Temperature Range .....                                     | 50°C to 1000°C Absolute                                                 |
| Emissivity.....                                             | > 0.98, 2 $\mu$ to 14 $\mu$                                             |
| Stability <sup>1</sup> .....                                | $\pm 0.30^\circ\text{C}$ short term, $\pm 0.50^\circ\text{C}$ long term |
| Total System Uncertainty.....                               | $\pm 3.5^\circ\text{C}$ or 0.5%, whichever is greater                   |
| Display Resolution.....                                     | 0.10°C                                                                  |
| Setpoint Resolution.....                                    | 0.10°C                                                                  |
| Ready Indicator Selectable.....                             | $\pm 0.50^\circ\text{C}$                                                |
| Approximate Heating Rate 100°C to 1000°C <sup>2</sup> ..... | $\pm 0.50^\circ\text{C}/\text{sec.}$                                    |
| Approximate Cooling Rate 1000°C to 100°C <sup>2</sup> ..... | $\pm 0.20^\circ\text{C}/\text{sec.}$                                    |

## GENERAL SPECIFICATIONS

|                                    |                           |
|------------------------------------|---------------------------|
| Operating Temperature.....         | 0°C to 50°C               |
| Storage Temperature.....           | -20°C to 70°C             |
| Relative Humidity.....             | 5% to 95%, non-condensing |
| Maximum Power Consumption.....     | 1760W                     |
| Approximate Blackbody Weight.....  | 15 lbs.                   |
| Approximate Controller Weight..... | 21 lbs.                   |

## DIMENSIONS

|       | A        | B     | (inches)<br>C       | D      | E     | F          |
|-------|----------|-------|---------------------|--------|-------|------------|
| Model | Aperture | Width | Optical Center Line | Height | Depth | Tgt. Depth |
| 4100  | 1.00     | 6.65  | 5.00                | 8.31*  | 12.00 | N/A        |



## ORDER INFORMATION

Please contact SBIR sales team at (805) 965-3669 to ensure proper part number and to receive a quotation.

Notes: 1. Short term stability is approximately 1 hr. or less and long term stability is anything over 1 hr.

2. Slew rates vary depending on environmental conditions

\* Specifications are subject to change without prior notice

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