



FEATURES

- iProbe Temperature Sensors
- Temperature Accuracy of $\pm 0.010^{\circ}\text{C}$ (0°C - 50°C), ± 0.0005 (T-25) elsewhere
- Emissivity (Average) > 0.970 ($3\text{-}5.5\mu\text{m}$), > 0.950 ($8\text{-}14\mu\text{m}$)
- 98% of Set ΔT or 0.01°C . Whichever is Greater Over 90% of Emitting Surface Area
- 0.001°C Temperature Stability
- Ethernet, GPIB and RS-232 Interfaces
- -40°C to 175°C Absolute Temperature
- 4", 6", 8", 12" Emitting Surface Size
- Automatic Radiometric Compensation
- Multi-Function Controller

OVERVIEW

Santa Barbara Infrared's Infinity EX Blackbody Series is an absolute temperature only blackbody system designed to support the most critical testing requirements. Fast, stable, uniform, accurate and reliable, these blackbody systems provide performance enhancements and features that set them apart from previously available systems. A key feature is the new iProbe from SBIR. This intelligent temperature sensor is calibrated independently of the blackbody system. To re-calibrate the system you need only exchange the probe with a recently calibrated one. No special equipment is required thus minimizing downtime. The EX Blackbody Series is designed for use as flood sources for non-uniformity correction and for calibration of IR sensors.

AVAILABLE SIZES & TEMPERATURES

Model	Emitting Surface Size	Temp. Range A ¹ 0°C to 100°C Abs. T	Temp. Range B ³ 0°C to 175°C Abs. T	Temp. Range C ¹ -40°C to 100°C Abs. T	Temp. Range D ¹ -40°C to 175°C Abs. T
EX-04	4" x 4"	X	X	X	X
EX-06	6" x 6"	X	X	X	X
EX-08	8" x 8"	X	X	X	X
EX-12	12" x 12"	X	X	X	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

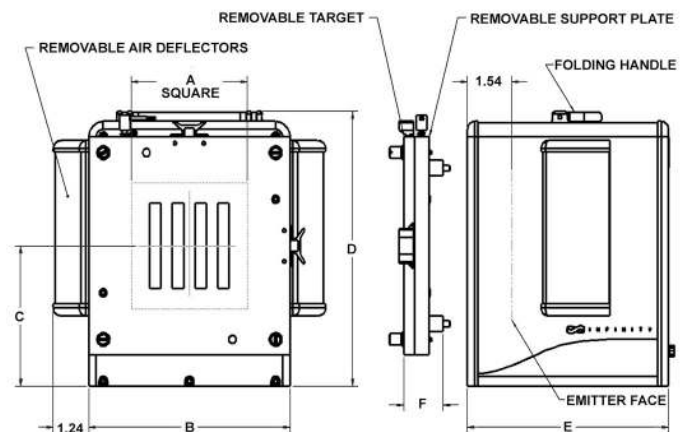
Emissivity (Average).....	> 0.970, (3 μ m to 5.5 μ m), >0.950 (8 μ m to 14 μ m)
Uniformity.....	98% of set ΔT or 0.01°C, whichever is greater over 90% of emitting surface area
Absolute Accuracy.....	$\pm 0.010^\circ\text{C}$ for (0°C < T < 50°C) or ± 0.0005 (T-25) elsewhere
Stability.....	$\sigma T \leq 0.001^\circ\text{C}$ (0°C to 50°C), $\sigma T \leq 0.002^\circ\text{C}$ (-40°C to 0°C, 50°C to 100°C), $\sigma T \leq 0.003^\circ\text{C}$ (110°C to 175°C)
Display Resolution.....	0.001°C or 0.0001°C
Setpoint Resolution.....	0.001°C
Selectable Ready Indicator.....	$\pm 0.001^\circ\text{C}$ to $\pm 5.000^\circ\text{C}$
Approximate Heating Rate ²	+0.40°C/sec. (at 25°C)
Approximate Cooling Rate ²	-0.20°C/sec. (at 25°C)
Settling Time.....	<45 seconds

GENERAL SPECIFICATIONS

Operating Temperature.....	0°C to 50°C (Controller), -20°C to 50°C (Head)
Storage Temperature.....	-20°C to 70°C
Relative Humidity.....	5% to 95%, non-condensing
Maximum Power Consumption.....	850W-1600W depending on size and temperature range
Approximate Blackbody Weight.....	EX-04 - 15.0 lbs., EX-06 - 25.0 lbs., EX-08 - 40.0 lbs., EX-12 - 74.0 lbs.
Approximate Controller Weight.....	15.0 lbs.

DIMENSIONS

	A	B	(inches) C	D	E	F
Model	Aperture	Width	Optical Center Line	Height	Depth	Tgt. Depth
EX-04	4.04	7.00	4.50	8.83	7.00	1.38
EX-06	6.04	9.00	5.50	10.83	7.00	1.38
EX-08	8.04	11.00	6.50	12.83	7.00	1.38
EX-12	12.05	15.00	8.50	17.97	7.00	1.38



ORDER INFORMATION

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

Notes: 1. For use in a thermal chamber from -20°C to +50°C
2. Slew rates vary depending on blackbody size and environmental conditions

* Specifications are subject to change without prior notice



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