

Wahl® Black Body Calibration Sources



Model
CBB14AC

NEW!

Calibrate non-contact IR temperature instruments quickly and accurately with Black Body Calibration Sources from Wahl Instruments.

Black Body Calibration Sources are used for calibration and verification of infrared thermometers, optical pyrometers, area-measuring thermometers, and thermal imaging cameras.

Wahl's New Black Body Calibration Sources offer a variety of choices to suit your application. Select the Black Body with a target area larger than the spot size diameter of the instrument to be checked. With stable, repeatable results, Wahl Black Body Calibration Sources allow the user to ensure uniformity.

PALMER Wahl

INSTRUMENTATION GROUP

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ISO 9001:2008 CERTIFIED

PW1290
10/11 Rev B

www.palmerwahl.com
1-800-421-2853

Changes from printed
version appear in **Bold**

Black Body Surface Hot Plate Type

NEW! Black Body Calibration Sources Surface Hot Plate Type

NEW! Wahl Black Body Temperature Calibration Sources are controlled and predictable, featuring targets with dull, black surfaces for an emissivity as close to 1 as possible.

Built-in or stand-alone digital temperature controllers with each unit provide accurate, stable temperatures while displaying the temperature readings of the calibration source. The heated plate or cavity provides a target of known temperature and emissivity, and virtually any infrared thermometer with a spot size diameter less than the cavity size can be calibrated.

Models with communication ports are capable of PC programming to control temperature set points for automatic test applications.

For accurate results the temperature of the target area must fully stabilize before beginning calibration.



CBB13EF or C



CBB14KF or C
(CBB14AC shown on cover)



CBB15GF or C

SURFACE HOT PLATE TYPE

°F Model Working Temperature	CBB13EF Ambient +9° to 104°F Adjustable	CBB14AF 572° to 1112°F	CBB14KF -4° to 140°F	CBB15GF Ambient +9° to 572°F
°C Model Working Temperature	CBB13EC Ambient +5° to 40°C Adjustable	CBB14AC 300° to 600°C	CBB14KC -20° to 60°C	CBB15GC Ambient +5° to 300°C
Environment Temperature	32° to 104°F 0° to 40°C	32° to 104°F 0° to 40°C	32° to 104°F 0° to 40°C	32° to 104°F 0° to 40°C
Temperature Stability	± 0.18° to 0.36°F per hour ± 0.1 to 0.2°C per hour	± 0.54° to 0.9°F per hour ± 0.3 - 0.5°C per hour	± 0.18° to 0.54°F per hour ± 0.1 to 0.3°C per hour	± 0.18° to 0.54°F per hour ± 0.1 - 0.3°C per hour
Aperture Diameter	2.75 x 2.75 in (70 x 70 mm)	3.15 inches (80 mm)	3.15 inches (80 mm)	3.9 inches (100 mm)
Temperature Resolution	0.18°F / 0.1°C	0.18°F / 0.1°C	0.18°F / 0.1°C	0.18°F / 0.1°C
Measuring Accuracy	0.36°F @ 104°F ± 0.2°C @ 40°C	± 0.3% of full scale + 1.8°F ± 0.3% of full scale + 1.0°C	± 0.3% of full scale + 1.8°F ± 0.3% of full scale + 1.0°C	± 0.3% of full scale + 1.8°F ± 0.3% of full scale + 1.0°C
Aperture Type	Small Area Ambient - Square	Large Area Uncooled - Round	Large Area Cooled - Round	Large Area Uncooled - Round
Emissivity	0.97 ± 0.02	0.97 ± 0.02	0.97 ± 0.02	0.97 ± 0.02
Power	100 - 240 V AC, 50/60 Hz, 44W	100 - 240 V AC, 50/60 Hz, 900W	100 - 240 V AC, 50/60 Hz, 440W	100 - 240 V AC, 50/60 Hz, 900W
Communication	N/A	Optional RS485 Port	Optional RS485 Port	Optional RS485 Port
Dimensions	W 4.33 x H 4.33 x D 7.28 in (110 x 110 x 185 mm)	W 9.25 x H 14.9 x D 11.22 in (235 x 380 x 285 mm)	W 9.65 x H 14.76 x D 11.8 in (245 x 375 x 300 mm)	W 9.25 x H 16.7 x D 9.65 in* (235 x 425 x 245 mm)
Options	N/A	N/A	Anti-Frost Shield Small (80mm)	N/A
Certifications	NIST Traceable Certificate of Conformance available			



Specifications subject to change without notice
* with handle, ** with cover



Calibration Services Available

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**NEW! Black Body Calibration Sources
Surface Hot Plate Type with External
Temperature Controller**



SURFACE HOT PLATE TYPE			
°F Model Working Temperature	CBB16KF -4° to 140°F	CBB18GF Ambient +9° to 572°F	CBB18MF -49° to 158°F
°C Model Working Temperature	CBB16KC -20° to 60°C	CBB18GC Ambient +5° to 300°C	CBB18MC -45° to 70°C
Environment Temperature	32°F to 104° (≤ 68°F when working at -4°F) 0°C to 40°C (≤ 20°C when working at -20°C)	Blackbody: -40°F to 140° (-40°C to 60°C) Controller: 23°F to 122°F (-5°C to 50°C)	Blackbody: -40°F to 140° (-40°C to 60°C) Controller: 23°F to 122°F (-5°C to 50°C)
Temperature Stability	± 0.54 to 0.9°F per hour ± 0.3 to 0.5 °C per hour	± 0.18 to 0.36°F per hour ± 0.1 to 0.2°C per hour	± 0.054 to 0.108°F per hour ± 0.03 to 0.06°C per hour
Aperture Diameter	5.90 inches (150 mm)	11.81 x 11.81 in (300 x 300 mm)	11.81 inches (300 mm)
Temperature Resolution	0.18°F / 0.1°C	0.18°F / 0.1°C	0.018°F / 0.01°C, when > -20°C
Measuring Accuracy	± 0.3% of full scale + 0.5°F ± 0.3% of full scale + 0.5°C	± 0.5% of full scale + 1.8°F ± 0.5% of full scale + 1.0°C	± 0.5% of Reading when ± 1.0°C
Aperture Type	Large Area Uncooled - Round	Large Area Uncooled - Square	Large Area Cooled - Round
Emissivity	0.97 ± 0.02	0.97 ± 0.02	0.95 ± 0.02
Power	100 - 240 V AC, 50/60 Hz, 1100W	100 - 240 V AC, 50/60 Hz, 2800W	100 - 240 V AC, 50/60Hz, 2200W
Communication	Optional RS485 Port	N/A	Optional RS485 Port
Dimensions	Blackbody: W 13.18 x H 15.74* x D 11.02 in** (335 x 400* x 280 mm**) Controller: W 18.50 x H 9.84 x D 16.73 in (470 x 250 x 425 mm) Anti-Condensation Cover: W 12 x H 12.40 x D 12.59 in (305 x 315 x 320 mm)	BlackBody: W 21.26 x H 22.04 x D 10.43 in (540 x 560 x 265 mm) Controller: W 14.17 x H 9.84 x D 11.22 in (360 x 250 x 285 mm)	Blackbody: W 21.25 x H 21.25* x D 11.02 in** (540 x 540 x 280 mm) Controller: W 18.5 x H 11.02 x D 17.91 in (470 x 280 x 455 mm)
Options	Anti-Frost Shield, Large (150mm)	N/A	N/A
Certifications	NIST Traceable Certificate of Conformance available		

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Black Body Cavity Type

NEW! Black Body Calibration Sources Cavity Type



CBB21CF or C



CBB21DF or C



CBB22BF or C



CBB22JF or C

CAVITY TYPE				
°F Model Working Temperature	CBB21CF 1472° to 2642°F	CBB21DF 1472° to 2912°F	CBB22BF 572° to 1814°F	CBB22JF 122° to 932°F
°C Model Working Temperature	CBB21CC 800° to 1450°C	CBB21DC 800° to 1600°C	CBB22BC 300° to 990°C	CBB22JC 50° to 500°C
Environment Temperature	32° to 104°F 0° to 40°C	32° to 104°F 0° to 40°C	32° to 104°F 0° to 40°C	32° to 104°F 0° to 40°C
Temperature Stability	± 4.5°F per hour ± 2.5°C per hour	± 4.5°F per hour ± 2.5°C per hour	± 0.9 to 1.8°F per hour ± 0.5 to 1.0°C per hour	± 0.18 to 1.54°F per hour ± 0.1 to 0.3°C per hour
Aperture Diameter	1.18 in inches (30 mm)	1.18 inches (30 mm)	1.97 inches (50 mm)	1.97 inches (50 mm)
Temperature Resolution	1.8°F / 1°C	1.8°F / 1°C	0.18°F / 0.1°C	0.18°F / 0.1°C
Measuring Accuracy	± 0.4% of full scale + 1.8°F, ± 0.4% of full scale + 1.0°C	± 0.4% of full scale + 1.8°F, ± 0.4% of full scale + 1.0°C	± 0.3% full scale + 1.8°F, ± 0.3% full scale + 1.0°C	± 0.3% full scale + 1.8°F, ± 0.3% full scale + 1.0°C
Aperture Type	Small Fan Cooled - Round	Small Fan Cooled - Round	Small Fan Cooled - Round	Small Fan Cooled - Round
Emissivity	≥ 0.99	≥ 0.99	≥ 0.99	0.97 ± 0.02
Power	100 - 240 VAC, 50/60 Hz, 4400W	100 - 240 VAC, 50/60 Hz, 3300W	100 - 240 VAC, 50/60 Hz, 1100W	100 - 240 VAC, 50/60 Hz, 1100W
Communication	N/A	N/A	Optional RS485 Port	Optional RS485 Port
Dimensions	W 21.06 x H 30.70 x D 21.65 in (535 x 780 x 550 mm)	W 20.86 x H 37.40 x D 26.77 in (530 x 950 x 680 mm)	W 11.02 x H 19.09 x D 18.31 in (280 x 485 x 465 mm)	W 9.25 x H 14.96 x D 14.17 in (235 x 380 x 360 mm)
Options	N/A	N/A		
Certifications	NIST Traceable Certificate of Conformance available			

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