

Cavity Blackbody

ATG8000

Features

- Temperature range: $T_a +5^{\circ}\text{C} \sim 660^{\circ}\text{C}/1000^{\circ}\text{C}$
- High temperature resolution: 0.01°C
- High stability: $0.01^{\circ}\text{C}/30\text{min}$, $\pm 0.5^{\circ}\text{C}$
- Blackbody emissivity: 0.99 ± 0.01
- Various aperture sizes available
- Professional temperature control and calibration software
- Multiple communication methods: RS485, Ethernet, Wi-Fi

Application

- Radiation thermometer calibration
- Infrared thermal imaging camera calibration
- Calibrate the radiation intensity of the infrared radiation source
- Calibrated response rate for radiation absorption
- Study the thermal radiation properties of material surfaces
- Measure material surface emissivity
- Optical performance measurements

Description

The ATG8000 medium-temp cavity blackbody complies with GBT 19870-2018 industrial detection infrared thermal imagers and JJF 1187-2008 thermal imager calibration specifications, providing a set of reliable medium-temperature cavity blackbody radiation sources for scientific research and industry.

ATG8000 cavity blackbody has a temperature resolution of 0.01°C , a temperature stability of $0.01^{\circ}\text{C}/30\text{min}$ (ATG8000-T660), $\pm 0.5^{\circ}\text{C}$ (ATG8000-T1000), and an emissivity of 0.99 ± 0.01 . The characteristics of high resolution and high stability make it very suitable for calibrating various radiation thermometers, such as non-contact infrared thermometers, optical thermometers, etc.

The emissivity of ATG8000 is as high as 0.99 ± 0.01 . The ultra-high emissivity is very useful as a light source to measure the surface emissivity of materials.

The ATG8000 cavity blackbody can communicate via RS485, Ethernet, and Wi-Fi. When paired with the Optosky blackbody controller, it can achieve high-precision temperature control.



1. Parameter

Model	ATG8000-T660		ATG8000-T1000
Radiator type	cavity type		
Caliber (inches)	1"		
Aperture size	0.8, 1.6, 3.2, 6.4, 9.5, 12.7, 15.9, 22.2 mm		
temperature range	Ta+5°C~660°C		Ta+5°C~1000°C
effective emissivity	0.99 ± 0.01		
Standard calibration method	Front temperature sensor/standard transmission radiometer		
Built-in temperature sensor	Pt100		S type thermocouple
Temperature resolution	0.01°C		
Temperature accuracy	A	Ta+5°C~<450°C	± (0.15+0.002 x T)
	B	450°C~660°C	± (0.30+0.005 x T)
temperature stability	0.01°C/30min		±0.5°C
way of communication	RS485、Ethernet、WIFI		
Black temperature control and calibration software	BMC-30		
size			
weight	7kg (radiator) + 3kg (controller)		
Operating Voltage			
Maximum power			
range of working temperature	0 to 50 °C		