

PYROTHERM CS 1500

Infrared calibration source/black body

Overview



Description

The infrared calibration source PYROTHERM CS 1500 is used for the calibration and verification of infrared radiation thermometers and infrared cameras within the temperature range from 300 °C to 1500 °C, especially in the near infrared range (NIR) at 0.8 μm to 1.8 μm wavelength. The cavity style guarantees a very high emissivity.

The temperature adjustment can be done directly at the black body or via serial interface RS-485 (optional USB adapter) with PC software. Digital PID controller and high-precision temperature sensor provide excellent accuracy and stability.

Technical data

Type	PYROTHERM CS 1500
Temperature range	300 °C to 1500 °C
Aperture diameter	38 mm
Emissivity ¹	0.99 ± 0.005
Measurement uncertainty ^{1,2}	2 K + 0,0025 · T [°C]
Reproducibility ¹	0.5 K + 0.001 · T [°C]
Control stability	0.3 K
Display resolution	0.1 K
Temperature constancy ¹	0.3 K + 0.001 · T [°C] (for the central area Ø 20 mm, related to the center)
Heat up time	300 °C: 30 min, 1300 °C: 50 min
Cavity features	Cavity material: SiC Type: Cylinder with conical base Depth: 225 mm (front edge of radiator cover to cavity base) Inner diameter: 45 mm
Temperature sensor	Type R Pt13Rh
Controller	PID
Interface	RS-485 (optional USB adapter and software)
Dimensions	380 mm × 530 ... 545 mm (adjustable) × 500 mm [W × H × D]
Weight	approx. 37 kg
Power supply	220 to 240 V AC, maximum 3 kW

¹ At 1.5 μm to 1.8 μm wavelength. ² For the range 500 °C to 1500 °C.