

Isotech Black Body Source – Gemini R



The Gemini R comprises a blackbody with which radiation pyrometers can be calibrated. The temperature of the cavity can be set to $\pm 0.1^{\circ}\text{C}$ over the temperature range 30°C to 55°C . The temperature of the furnace is set on a controller, whilst an independent indicator, whose sensor fits into the cavity, indicates the actual radiance temperature. The sensor can be removed for external calibration or the complete system can be calibrated.

The cavity temperature reaches 550°C approximately 45 minutes from switch on. The variation seen in the controller's temperature indication over a 5 minute period was $\pm 0.2^{\circ}\text{C}$. Similar variations were detected by a radiation thermometer looking into the cavity. Using a portable radiation thermometer having a target diameter of 13mm, the 65mm target was surveyed. Maximum temperature differences of $\pm 1^{\circ}\text{C}$ were found for set temperatures in the range 100°C to 500°C .

Temperatures along the inner 100mm of the 160mm long cavity were measured at 400°C and 500°C , using a hand held fiber-optic radiation probe. Maximum temperature differences of $\pm 4^{\circ}\text{C}$ were found. The temperature, as shown on the controller, agrees with the cavity pressure as measured by a radiation thermometer, where calibration is traceable to National Standards, to within $\pm 2^{\circ}\text{C}$. Traceability may be established with a UKAS certificate for the in-built indicator and supplied probe (935-14-72).

SPECIFICATION

Model No.	976
Temperature	30°C to 550°C
Emissivity	Greater than 0.995
Stability	$\pm 0.1^{\circ}\text{C}$
Display Resolution	0.01°C to 99.99; 0.1°C from 100.0 to 550.0
Cavity size	65mm diameter 160mm deep
Time to temperature	45 minutes
Power	1000 Watts typical 100 - 130 or 208 - 240 V.A.C 50 / 60 Hz
Dimensions	Height 310mm Width 265mm Depth 200mm
Weight	10kg

HOW TO ORDER

Model 976 Gemini R	Please state supply voltage required. Please state of UKAS calibration, or NPL calibration is required.
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Temperature

Calibrator

Pressure

Humidity

Recorder & Dataloggers

Air Flow

Level & Flow

Portable Instruments

EX Proof / IS

Environment

Aerospace