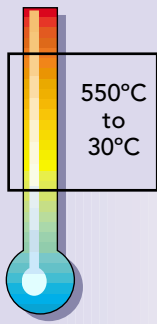


# Medusa R

## Model 999



The Medusa 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  $30^\circ\text{C}$  to  $550^\circ\text{C}$ .

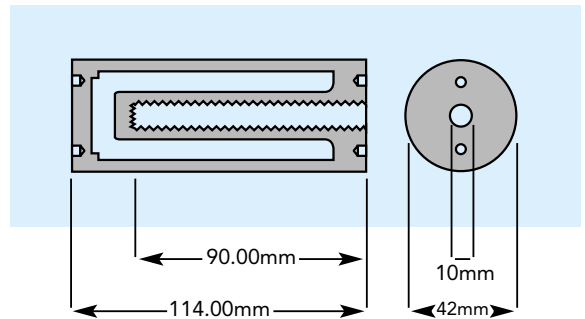
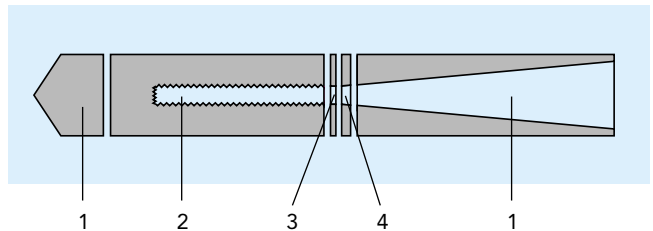
The controller reaches  $550^\circ\text{C}$  approximately 45 minutes from switch on. Also, the cavity temperature, as measured by a radiation thermometer took approximately 45 minutes to reach stability from switch on. The variation seen on the controller's temperature indication over a 5 minute period 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 45mm target was surveyed. Maximum temperature differences of  $\pm 1^\circ\text{C}$  were found for set temperatures in the range  $100^\circ\text{C}$  to  $500^\circ\text{C}$ . Temperatures along the inner 200mm of the 285 mm long cavity were measured at  $400^\circ\text{C}$  and  $500^\circ\text{C}$ , using a hand held fibre-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 temperature as measured by a radiation thermometer, where calibration is traceable to National Standards, to within  $\pm 2^\circ\text{C}$ . Large Fixed Point Cells (see p10-11) can be fitted to the Medusa R giving small uncertainties suitable for National Standards.

Traceability may be established with a UKAS certificate for the in-built indicator and supplied probe (935-14-95).

1. Insulation
2. Fixed Point Cell
3. Graphite Disc
4. Inconel Disc



*Freeze and Melt Blackbody Fixed Point Cells  
Can be used for Comparison Calibration  
Accuracy to  $\pm 0.05\text{ K}$*

Model No.	999
Temperature range	$30^\circ\text{C}$ to $550^\circ\text{C}$
Emissivity	greater than 0.995
Stability	$\pm 0.05^\circ\text{C}$
Display resolution	$0.01^\circ\text{C}$ to 99.99; $0.1^\circ\text{C}$ from 100.0 to 550.0
Cavity size	45mm diameter 285mm deep
Time to temperature	45 minutes
Power	1000 Watts typical 100-130 or 208-240 VAC 50/60Hz
Dimensions	Height 480mm Width 425mm Depth 260mm
Weight	17kg

**Options**

Fixed Point Cells		
998-06-00A	Indium	Large Blackbody Fixed Point Cell
998-06-00B	Tin	Large Blackbody Fixed Point Cell
998-06-00C	Zinc	Large Blackbody Fixed Point Cell
984-00-00		Gas Flow System

Now includes PC Interface and Windows software as standard

**How to Order**

Model 999 Medusa R  
Please state voltage required  
Please state if UKAS calibration, or NPL calibration is required

