

High-Temperature Fixed Point Blackbody Furnace



Model IR-R80 series

The IR-R80 is High-Temperature Fixed Point Blackbody Furnace utilizing metal-carbon eutectic fixed points developed by National Metrology Institute of Japan (NMIJ). What the IR-R80 has brought is high-temperature fixed point calibration at 2474°C for Radiation Thermometers, which was previously achieved until 1085°C (Copper).

It consists of furnace body, and exchangeable fixed point cells for enabling various fixed point calibrations.



■ FEATURES

- Realizing high-temperature fixed point calibration for radiation thermometers by utilizing metal-carbon eutectic fixed points.
- Enable to fixed point calibration of standard radiation thermometer (0.65μm) by blackbody cavity of aperture diameter of 3mm.
- Prepare 7 kinds of fixed point cells from 1100 to 2500°C (By exchangeable fixed point cells, single furnace has brought calibration of 7 fixed points.)
- Enable the power-saving feature by using cylindrical sheet heating element made of carbon-carbon fiber composite materials.
- Achieve long-term stability by employing fiber optic type radiation thermometer (0.9μm) as temperature control sensor.

■ MODELS

Models	Item
IR-R80	Furnace with temperature control system

Models	Item	Fixed Point Metals
IR-80CU	Fixed Point Cells	Copper (Cu: 1085°C)
IR-80FE		Iron - Carbon (Fe-C: 1153°C)
IR-80CO		Cobalt - Carbon (Co-C: 1324°C)
IR-80PD		Palladium - Carbon (Pd-C: 1492°C)
IR-80PT		Platinum - Carbon (Pt-C: 1738°C)
IR-80RU		Ruthenium - Carbon (Ru-C: 1953°C)
IR-80RE		Rhenium - Carbon (Re-C: 2474°C)

■ SPECIFICATIONS

Specific Temperature Range	1000 to 2500°C
Maximum Temperature	2800°C
Longest Temperature Rising Time	Approx 1 hour upto 2500°C
Fixed Point Cells	High-purity Graphite (Effective inner volume: approx 4.2cm ³)
Emissivity of Cavity	0.9996
Dimension of Cavity	Φ 3 x 32mm
Repeatability of Melting Point	±0.2°C or less
Power Supply Voltage	200V AC, single phase
Power Consumption	Maximum 12KVA

- ◆ The furnace body is joint patent of NMIJ and Nagano Ltd.
- ◆ The fixed point cells is patent of NMIJ.

Specifications subject to change without notice.

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