Fixed Point Black Body Furnace

Lineup from In point to Cu point
Realization of a high quality plateau

Fixed point black body furnace, model: IR-R0A is a highly precise fixed point black body furnace that can use for the Temperature Standard for radiation thermometer.

IR-R0A has 6 kinds of fixed point cell from In (157°C) in low temperature to Cu (1085°C) in high temperature.

Furthermore, easily ejectable and replaceable heater unit and fixed point cell design.

IR-R0A has been developed with NMIJ (National Metrology Institute of Japan) and is able to utilize for temperature standard.

It is effective for fixed point calibration of the radiation thermometer for standards (model: IR-RST series by CHINO Corporation) in particular.

Feature

- Realization of a good plateau by the improvement of the temperature distribution
- Lineup In - Cu point
- Changeable to other fixed points by cell exchange easily
- Compact (184×370×360mm) and lightweight (13kg)

MODEL

IR-R0A

- Fixed point cell
  - In point: 156.60°C
  - Sn point: 231.93°C
  - Zn point: 419.53°C
  - Al point: 660.32°C
  - Ag point: 961.78°C
  - Cu point: 1084.62°C

http://www.chino.co.jp

CHINO

ISO 14001 Certification ISO 9001 Certification JQA-EM0414 JQA-0656
Plateau measurement example

![Graph showing Cu and Zn points temperatures over time](image)

Measured by the radiation thermometer for standard (Model: IR-RST90H, wavelength 0.9μm)

### Specifications

<table>
<thead>
<tr>
<th>Cavity Material</th>
<th>Graphite 5% ash</th>
<th>Repeatability</th>
<th>within 10mK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crucible Size</td>
<td>φ40mm × 70mm</td>
<td>Plateau Duration</td>
<td>more than 5min</td>
</tr>
<tr>
<td>Cavity Size</td>
<td>φ8mm × 48mm</td>
<td>Power Supply</td>
<td>100-240V AC, 50/60Hz</td>
</tr>
<tr>
<td></td>
<td>with iris φ3mm or φ6mm</td>
<td>Power Consumption</td>
<td>750VA max.</td>
</tr>
<tr>
<td>Emissivity</td>
<td>more than 0.999</td>
<td>Operating Temperature</td>
<td>10-35 ℃ at 240V AC</td>
</tr>
<tr>
<td>Fixed Point Metals</td>
<td>In, Sn, Zn, Al, Ag, Cu</td>
<td>Heat-up Time</td>
<td>about 1.5h to Cu point</td>
</tr>
<tr>
<td>Metal Amount</td>
<td>about 27cm³</td>
<td>Temperature-fall Time</td>
<td>about 4.5h from Cupoint to 250 ℃</td>
</tr>
<tr>
<td>Temperature Distribution</td>
<td>within 8 ℃ at crucible Area</td>
<td>Purge</td>
<td>Ar gas 0.2l/min</td>
</tr>
</tbody>
</table>

### Outside dimensions

- Dimensions: 184(W)×370(D)×360(H) [mm]
- Weight: about 13[kg]

**CHINO CORPORATION**

52-8, KUMANO-CHO, ITABASHI-KU, TOKYO 173-8832
PHONE: +81-3-3986-2171
FAX: +81-3-3955-0311
E-mail: inter@chino.co.jp
Website: http://www.chino.co.jp