

IR-R20

Realize high effective emissivity in a wide wavelength range

High Emissivity VTBB (Variable Temperature Blackbody) Furnace is a blackbody source for calibration of radiation thermometers, developed in collaboration with the National Metrology Institute of Japan (NMIJ), AIST.

Vertically aligned CNT (Carbon Nanotube) is grown on the surface of the cavity bottom. As a result, it realizes high effective emissivity in a wide wavelength range.

Thus this unit drastically reduces the uncertainty in calibration of radiation thermometers, even when comparing thermometers with different measuring wavelengths.



FEATURES

- Realizes high effective emissivity (0.999 ± 0.001)
- Reduces uncertainty in calibration of radiation thermometers in the wavelength range from $1.55 \mu\text{m}$ to $14 \mu\text{m}$
- Compact and light weight

MODEL

Main unit

IR-R20-□□

- 10 : 100V AC
- 11 : 110V AC
- 12 : 120V AC
- 22 : 220V AC
- 23 : 230V AC
- 24 : 240V AC

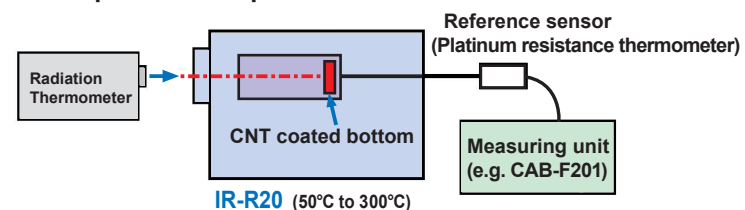
Accessories

IR-20□□

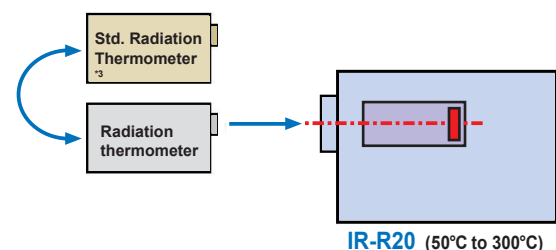
- CN : CNT unit
- SS : Reference temperature sensor for IR-R20 *1
- SC : Storing case for main unit

MEASURING CONFIGURATION *2

Comparison with platinum resistance thermometer



Comparison with standard radiation thermometer



*1 Reference sensor dedicated for use with IR-R20. Please note that other sensors cannot be used.

*2 Controller indication value cannot be used as the reference value. Please use a standard sensor (platinum resistance thermometer or standard radiation thermometer) as the reference.

*3 Example: Standard radiation thermometer IR-RST16H (150°C to 1100°C, measuring wavelength $1.6 \mu\text{m}$).



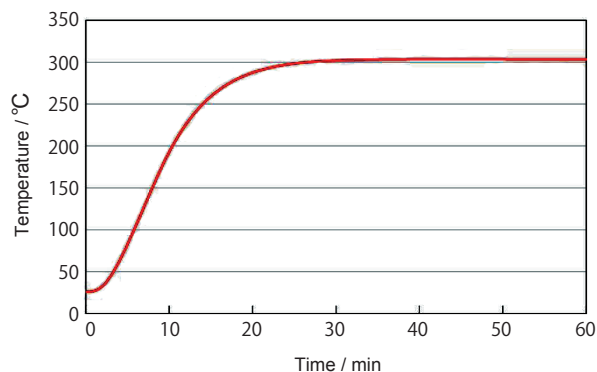
SPECIFICATIONS

Model	IR-R20-□□
Operation Temp. Range	50°C to 300°C
Heating Time	Approx. 60min (room temp. to 300°C)
Temp. Stability	0.6°C p-p/30min *4
Cavity Dimension	φ40 x 140mm
Effective Emissivity	0.999±0.001 (Wavelength 1.55μm to 14μm)
Comm. Interface	RS485 (comm. with controller)
Rated Power Supply	100/110/120/220/230/240V AC(50/60Hz)
Max. Power Consumption	600VA (100-120V AC) 1200VA (220-240V AC)
Ambient Temp.	23°C ± 5°C
Weight	Approx. 10kg

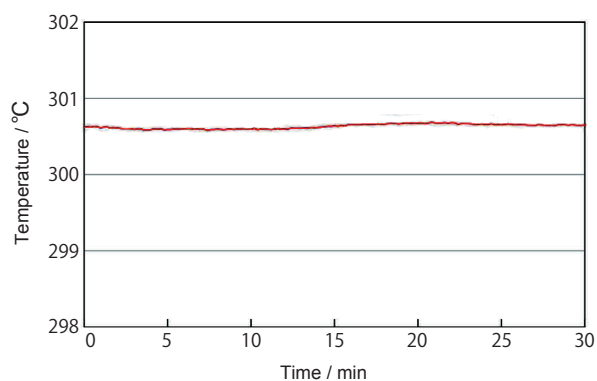
*4 May fluctuate depending on surrounding temp.

MEASUREMENT DATA

● Heating time

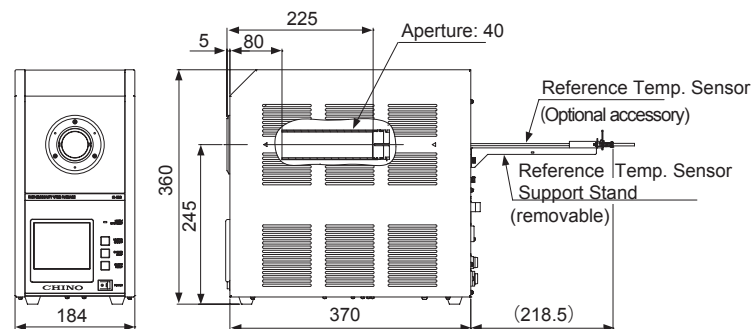


● Temperature Stability



EXTERNAL DIMENSIONS

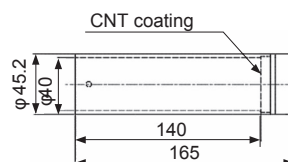
● Main unit



Unit: mm

● Accessories

- CNT unit (recommend to be replaced every 1,000h)



Unit: mm

- Reference temperature sensor for IR-R20
Dia. φ 3.2 x L 300mm, lead wire length 1.5m, M4 Y type terminal.
(If connecting to CAB-F201, terminal needs to be changed to a specified DIN connector or a relay terminal is required.)

- Storing case for main unit
W500×H430×D380mm

Specifications subject to change without notice. Printed in Japan 2019.07

CHINO CORPORATION

32-8, KUMANO-CHO, ITABASHI-KU, TOKYO 173-8632

PHONE: +81-3-3956-2171

FAX: +81-3-3956-0915

E-mail: inter@chino.co.jp

Website: <https://www.chino.co.jp>