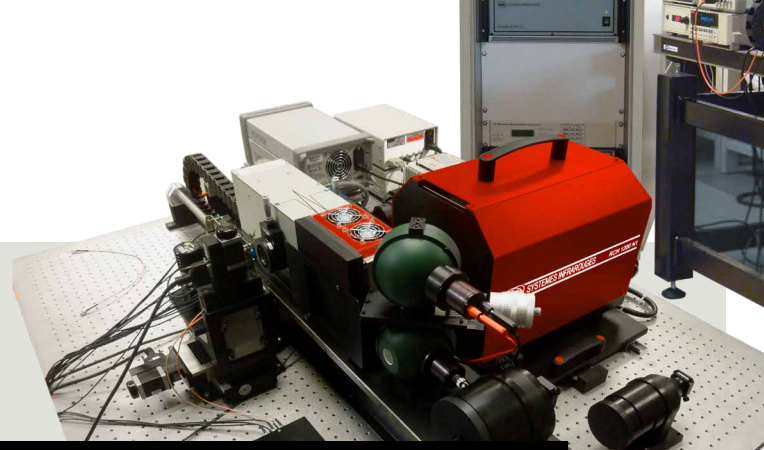


→ Wide spectrum reference source



RCN series



HIGH TEMPERATURE

CAVITY BLACKBODIES



→ RCN1200N1 blackbody

INTRODUCTION

The RCN series high temperature cavity blackbodies are reference sources covering a wide range of wavelengths, from visible to far IR. They consist of a compact emissive head controlled via an electronic unit. A user-friendly touch screen control panel located on the front of the electronic unit allows precise temperature selection and stabilisation thanks to a real time PID parameters adjustment.

The applications of these large spectral reference sources are for calibration of near-IR and IR sensors such as thermal imagers, pyrometers, SWIR to LWIR cameras, sample emissivity or transmission measurement, reference source for atmosphere global or spectral transmission measurement, etc.

Robust structure of the emissive head allows lab or field conditions operation.

CONFIGURATION

- High temperature reference source up to 1200 °C
- Optimised cavity shape ensuring high spatial and angular uniformity and emissivity
- Aperture diameter up to 25 mm
- Real time display of cavity and set point temperatures
- Microprocessor regulated temperature with real time adjusted PID parameters
- Overall design ensuring total safety of the operator
- Control through touchscreen panel
- Remote control via Ethernet link
- Radiometric calibration over 1-3 μm , 3-5 μm or 8-14 μm spectral bands

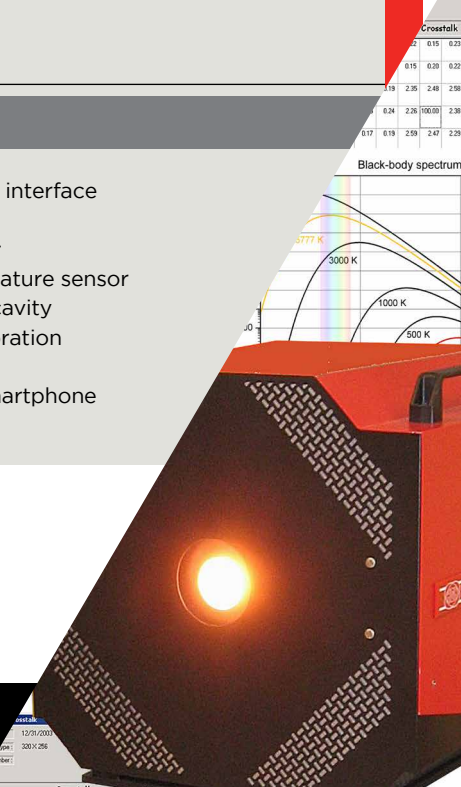
OPTIONS

- IEEE488, RS232 interface
- Aperture wheel
- Optical chopper
- External temperature sensor for independent cavity temperature calibration
- LabVIEW driver
- e-BlackBody smartphone application



NEW FEATURES

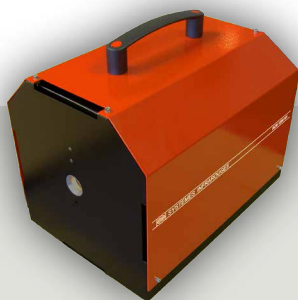
- LabVIEW drivers for all communication interfaces
- Remote control through e-BlackBody smartphone application



RCN series

HIGH TEMPERATURE

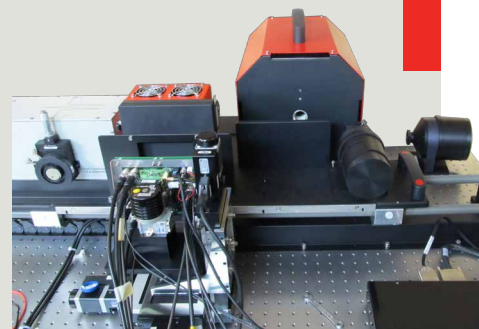
CAVITY BLACKBODIES



→ RCN1200N1



→ RCN series



→ test of IRFPA with reference sources

TECHNICAL DATA

| | RCN600N05 | RCN900N1 | RCN1200N1 |
|--|---|-----------------------------|-----------------------------|
| Aperture diameter | 12.5 mm | 25 mm | 25 mm |
| Temperature range | 50°C to 600°C | 50°C to 900°C | 50°C to 1200°C |
| Cavity uniformity | ±1°C at 600°C | ±2°C at 900°C | ±2.5°C at 900°C |
| Temperature sensor type | Type K, class 1 | Type K, class 1 | Type N, class 1 |
| Temperature sensor accuracy | ±1.5°C up to 375°C, ±0.4%T above | | |
| Warm up time from ambient | 20 minutes to 600 °C | 45 minutes to 900 °C | 75 minutes to 1200 °C |
| Emissivity / Apparent emissivity after calibration | > 0.99 / 1.00 | | |
| Regulation type | real time PID adjustment | | |
| Stability at maximum temperature | 0.1°C | | |
| Display resolution | 0.01°C (actual temperature and set point display) | | |
| Maximum power consumption | 300 W | 1100 W | 1800 W |
| Dimensions W x H x D | 160x137x170 mm ³ | 263x255x336 mm ³ | 283x300x405 mm ³ |
| Blackbody weight | 3 kg | 9 kg | 16 kg |
| Electronic unit size | 3U x 19" | 3U x 19" | 4U x 19" |
| Electronic unit weight | 9 kg | 9 kg | 25 kg |
| Power supply | 115/230 VAC, 1 ph., 50/60 Hz | | |
| Remote control | Ethernet interface (RS232 or IEE488 in option) | | |

► COOLSPEED TECHNOLOGY

The RCN1200N1 comes with the **COOLSPEED** technology. Based on an innovative internal structure, CoolSpeed cuts in half the cooling duration of RCN1200N1 cavity blackbody, without altering its technical features such as high emissivity, high speed warm up and high stability. With an average cooling rate of **-6°C/min.**, from 1200°C to ambient, and a maximum rate of **-12°C/min.** at 700°C, CoolSpeed brings high flexibility to users, especially in the context of Research and Development projects.

Above information is subject to changes without notice

