



RCN series

High temperature cavity blackbodies

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 enables precise temperature selection and stabilisation thanks to a real time PID parameters adjustment.

The applications of these sources are for calibration of near-IR and IR sensors such as thermal imagers, pyrometers, etc., large spectral bandwidth reference source, 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 1600 °C
- Optimised cavity shape ensuring high uniformity and emissivity
- Aperture diameter up to 50 mm
- Real time display of cavity and set point temperatures
- Microprocessor regulated temperature with real time adjusted PID parameters
- Overall design ensuring total operator's safety
- Control through touchscreen panel
- Remote control via Ethernet link

OPTIONS

- IEEE488, RS232 interface
- Radiometric calibration over 3-5 μm or 8-14 μm bandwidth
- Target wheel
- Optical chopper
- External temperature sensor for independent cavity temperature calibration



RCN600N05 blackbody + electronic unit



RCN1200N1 blackbody



RCN1600N2 blackbody + electronic unit

TECHNICAL DATA

	RCN600N05	RCN900N1	RCN1200N1	RCN1600N2
Aperture diameter (mm) :	12.5	25	25	40
Temperature range (°C) :	50 to 600	50 to 900	50 to 1200	300 to 1600
Cavity uniformity (°C) :	2°C at 600°C	±4°C at 900°C	±5°C at 900°C	±2°C at 1600°C
Temperature sensor type :	Type K, class 1	Type K, class 1	Type N, class 1	Type R, class 1
Temperature sensor accuracy :	±1.5°C up to 375 °C, ±0.4%T above	±1.5°C up to 375 °C, ±0.4%T above	±1.5°C up to 375 °C, ±0.4%T above	±1°C up to 1100C, ±(1+0.003(T-1100)) above
Warm up time from ambient :	15 minutes to 600 °C	30 minutes to 900 °C	40 minutes to 1200 °C	60 minutes to 1600 °C
Maximum power consumption :	200 W	1020 W	1450 W	4500 W 1800 W when stabilised
Dimensions W x H x D (mm) :	160x137x170	263x255x336	193x219x405	540x482x601
Blackbody weight (kg) :	2	14	16	43
Electronic unit size :	4U x 19"	4U x 19"	4U x 19"	12U x 19"
Electronic unit weight (kg) :	9	9	25	92
Emissivity :			> 0.99	
Regulation type :			real time PID adjustment	
Stability :			±0.05 °C	
Display resolution :			0.1 °C (actual temperature and set point display)	
Power supply :			115/230 VAC, 1 ph., 50/60 Hz	
Remote control :			Ethernet interface	

Above information is subject to changes without notice



SYSTÈMES INFRAROUGES

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