20 to 50°C

Blackbody Source
Model 989

- Improves accuracy of Fever Detection Systems
- Covers 20°C to 50°C with Fast Thermal Response
- Check Non-Contact Thermometers

http://www.isotech.co.uk

Isotech first introduced the Model 988 to assist in relation to the SARS outbreak during the early 2000s. It can be used to increase the accuracy of non-contact fever detection systems and for checking infrared thermometers. Following the increased demand in relation to COVID-19, Isotech have now introduced an updated blackbody source, Model 989.

Model 989 has the same performance as the earlier 988 but is smaller and has two easy mounting points fitted allowing for easy mounting. When used in conjunction with IR cameras the device can easily be suspended from above or below using standard tripod mounting brackets.

The upgraded controller can either be locked to a single temperature or it can be adjusted over a new wider temperature range of 20°C to 50°C. Model 989 also has a PC interface fitted as standard. It allows the temperature to be both monitored and adjusted from a PC.

This blackbody source meets the demand for a simple, cost effective but high accuracy device for the calibration of thermal imagers and infrared thermometers that are used at temperatures around that of the human body.

Unlike heat only devices, this model uses a solid state thermoelectric heat pump so that the block can be both cooled and heated. This brings two benefits, the blackbody can maintain its set point in high ambient temperature conditions and it can also operate below the ambient temperature.

Optional Extension Tubes

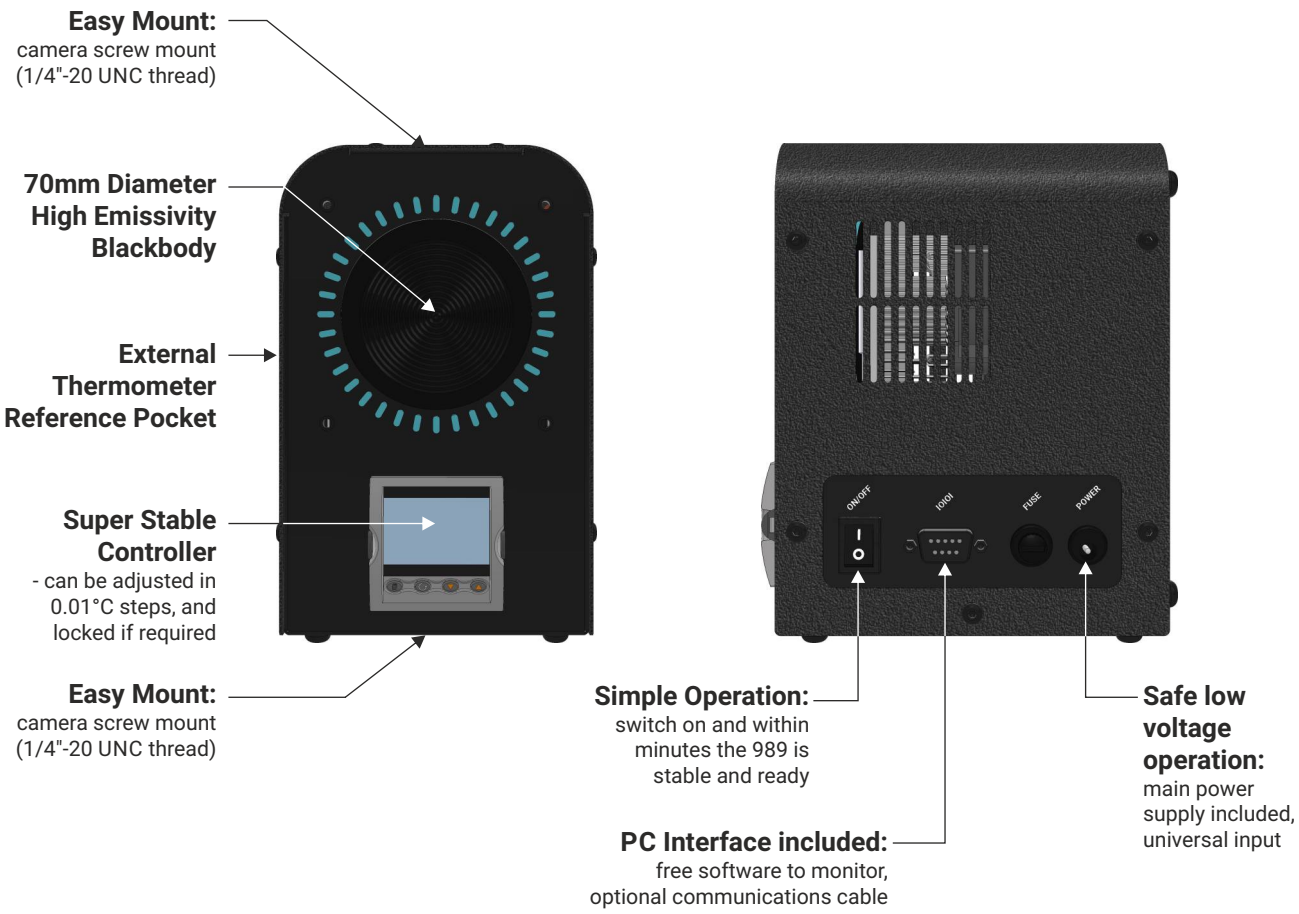
Response time is very fast, typically less than five minutes to achieve the required temperature (see graphs). The Model 989 can be used either horizontally or vertically.

The device features a high emissivity ridged plate that is 70mm in diameter. The temperature of the plate can be set from 20°C to 50°C to a resolution of 0.01°C.

To reduce sensitivity to air drafts and ambient temperature effects, a stainless steel tube can be fitted in front of the plate with evaluation showing this has advantage over an open plate design.

The longer tube length is 210mm while the shorter tube length is 40mm long and is particularly useful for checking medical thermometers.

For applications where the unit is used at a single fixed temperature, e.g. 38°C, the set temperature on the controller can be locked to prevent accidental change or tampering. The operating unit can be changed from Celsius to Fahrenheit.



Model	**989**
Temperature Range	20°C to 50°C
Resolution	±0.01°C
Target Size	70mm Diameter
using Extension Tube	54mm Diameter
Emissivity	0.97 ±0.02
Combined Accuracy / Stability	±0.2°C (0.3°F)
PC Interface	Included, RS422 (optional RS232 convertor lead)
Units	°C, °F, K
Block Stability	<0.01°C
Display	Three Colour LCD, Temperature and Set Temperature
Set Point Lock	Set temperature can be locked and password protected
Automatic Start Up	No user intervention required
Set Point Ramp Rate	Included: switch on to control heating and cooling rates
Self Test	Automatic - Scrolling text diagnostic display
Power	60 Watts
Voltage	12 Vdc

Dimensions	H	200mm (7.87")
	W	135mm (5.31")
	D	170mm (6.70")
Weight		4kg

How to Order

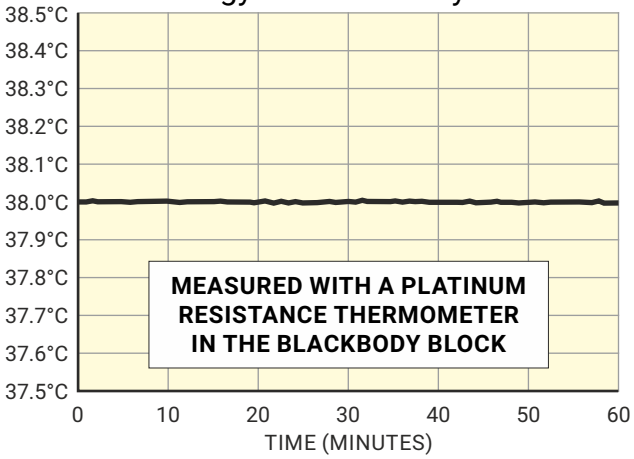
Model 989	Blackbody Source Universal voltage input 80-264 V supplied as standard

Accessories

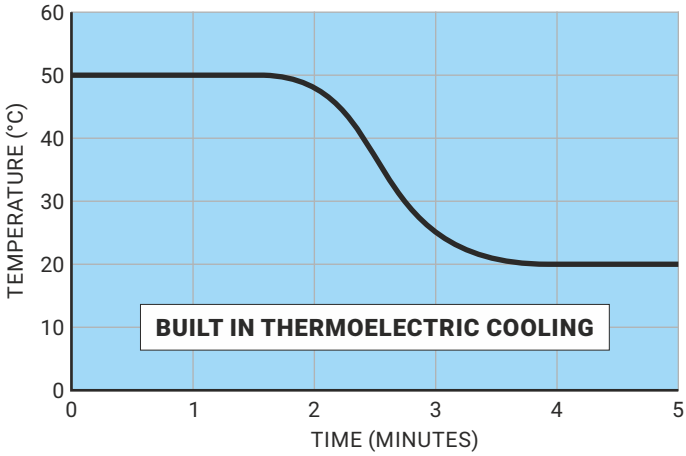
935-16-112	RS422 to RS232 Converter Lead
935-14-82/BW	Isotech 935-14-82 Calibration Probe
989/01	Calibration Kit: Isotech TTI-10 with 935-14-82/TTI Probe and UKAS System Calibration, Uncertainty 0.02°C
988-02-06	Short Tube: 40mm
988-02-03	Long Tube: 210mm

FAST OPERATION

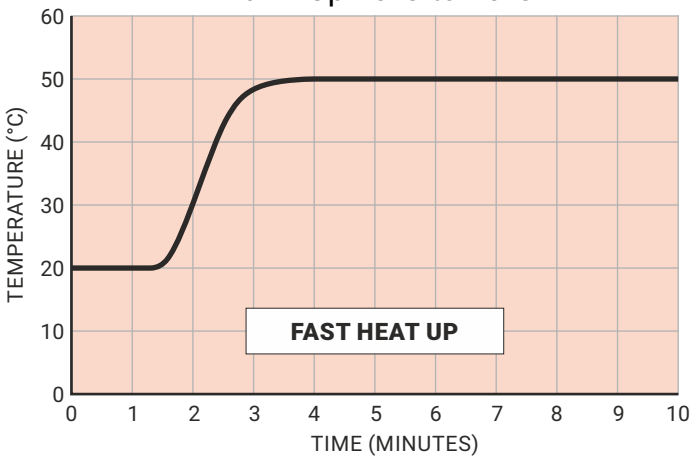
Metrology Grade Stability <0.01°C



Cool Down 45°C to 20°C



Warm Up 20°C to 45°C



FEATURING EASY MOUNT SYSTEM

Can be bench mounted

Can be used vertically

Can be mounted from the top

Can be mounted from below

ISOTECH TTI-10

935-14-82/TTI PRT

989 BLACKBODY SOURCE

989/01

Model 989 features a reference thermometer pocket that is located in the blackbody block just below the surface. If desired a calibrated platinum resistance thermometer can be added for traceability. Isotech can provide either ISO 17025, UKAS Calibrated Model 938-14-82/TTI Semi Standard Thermometer or TTI-10 High Accuracy Digital Readout with a Model 938-14-82 /TTI Thermometer, UKAS Calibrated, Uncertainty 0.02°C, 20 mK.

The reference thermometer pocket also allows for easy checking and recalibration of the model 989 Blackbody.

The earlier Model 988 is still available for legacy applications.

Note that when the 988-02-03 accessory is added the tube dimensions and opening are identical to the earlier Model 988.