



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

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 connectors 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



<http://www.isotechna.com>

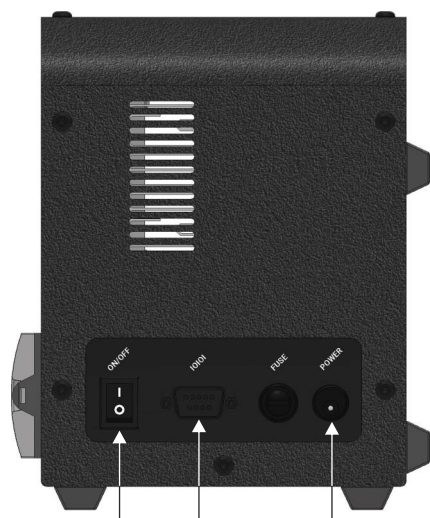
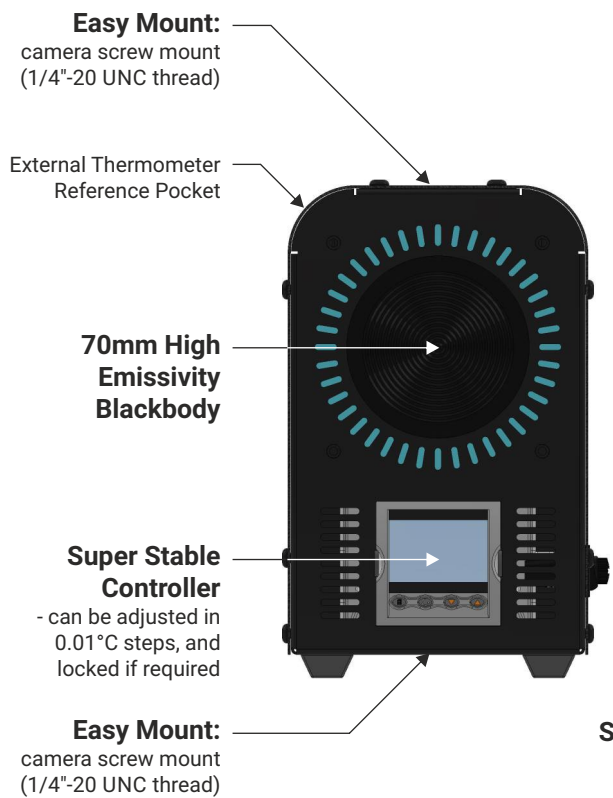
Response time is very fast, typically less than five minutes to achieve the required temperature (see graphs). The Model 989 can be used either horizontally or vertically.

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.



Simple Operation:
switch on and within
minutes the 989 is
stable and ready

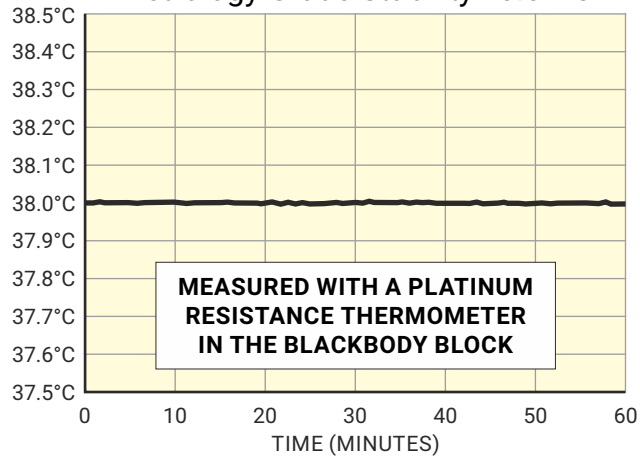
PC Interface included:
free software to monitor,
optional communications cable

**Safe low
voltage
operation:**
switch mode power
supply included
100-240 Vac input

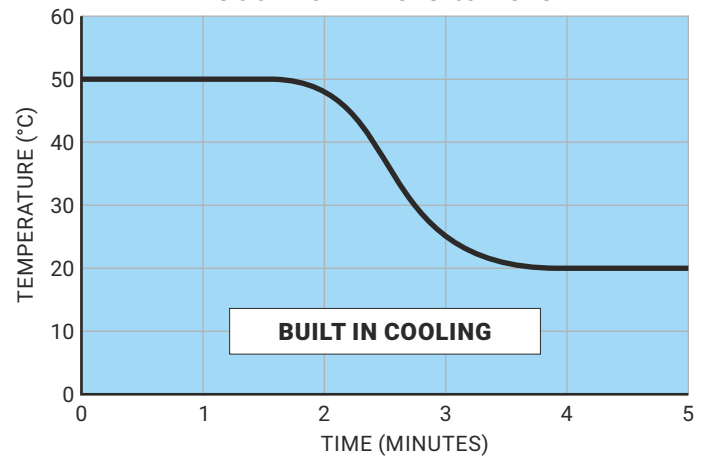
Model	989	Dimensions	H	200mm (7.87")
Temperature Range	20°C to 50°C		W	135mm (5.31")
Resolution	±0.01°C		D	170mm (6.70")
Target Size using Extension Tube	70mm Diameter 54mm Diameter	Weight		4kg
Emissivity	0.97 ±0.02	How to Order		
Combined Accuracy / Stability	±0.2°C (0.3°F)	Model 989		Blackbody Source
PC Interface	Included, RS422 (optional RS232 convertor lead)			Universal voltage input 80-264 V supplied as standard
Units	°C, °F, K	Accessories		
Block Stability	<0.01°C	989/01		RS422 to RS232 Converter Lead
Display	Three Colour LCD, Temperature and Set Temperature	989/02		Isotech 935-14-82 Calibration Probe
Set Point Lock	Set temperature can be locked and password protected	989/03		Calibration Kit: Isotech TTI-10 with 935-14-82 Probe and UKAS System Calibration, Uncertainty 0.02°C
Automatic Start Up	No user intervention required	989/04		Short Tube: 40mm
Set Point Ramp Rate	Included: switch on to control heating and cooling rates	989/05		Short Tube: 210mm
Self Test	Automatic - Scrolling text diagnostic display			
Power	60 Watts			
Voltage	12 Vdc			

FAST OPERATION

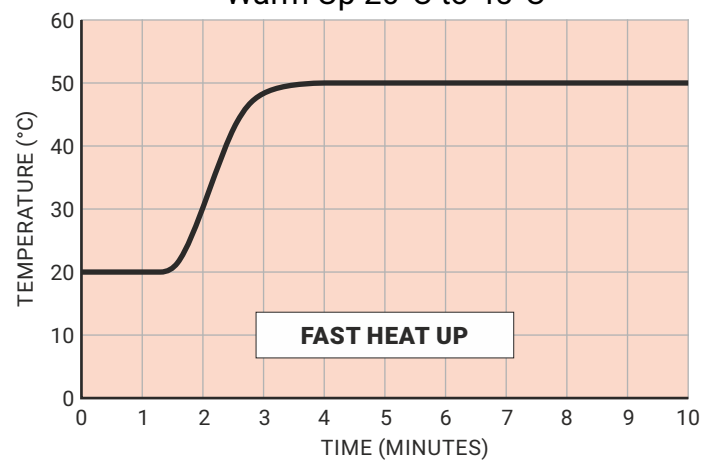
Metrology Grade Stability $<0.01^{\circ}\text{C}$



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

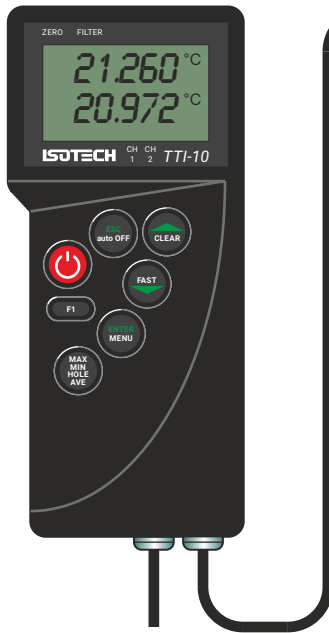


Can be mounted from below



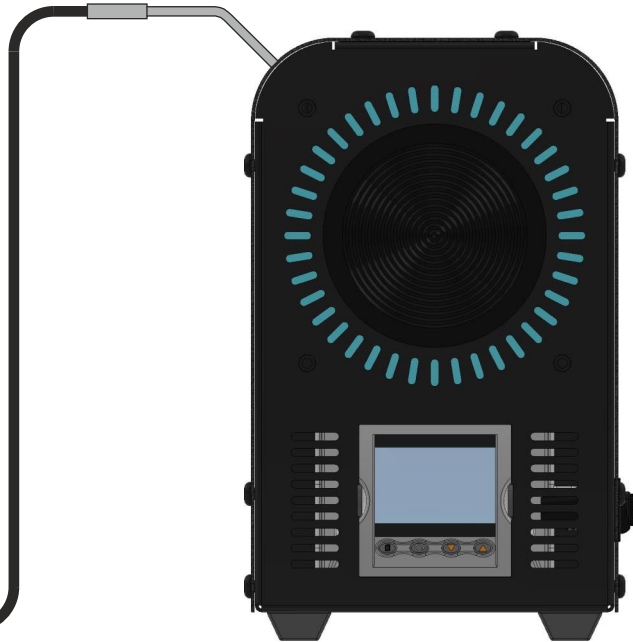
989/03

ISOTECH TTI-10



935-14-82 PRT

989 BLACKBODY SOURCE



Model 989 features a reference thermometer pocket, 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 Semi Standard Thermometer or TTI-10 High Accuracy Digital Readout with a Model 938-14-82 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.

Add the 989/05 accessory to replicate original 988 as shown below.

Blackbody Source Model 988

- Improves Accuracy of Fever Detection Systems
- Covers 20°C to 45°C with Fast Response
- Check Non-Contact Thermometers

First introduced to assist in checking the performance of temperature measuring devices during the SARS outbreak during the early 2000s, the Isotech Model 988 Blackbody Source is now also helping in relation to coronavirus. It can be used to increase the accuracy of non-contact fever detection systems helping in the fight against COVID-19. Applications also include checking non-contact clinical thermometers.

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 temperature in high ambient temperature conditions and it can also operate below the ambient temperature.

Response time is very fast, typically less than five minutes to achieve the required temperature. (See graph)

The Model 988 can be used either horizontally or vertically.

The device features a high emissivity orlaid plate that is 70mm diameter. The temperature of the plate can be set from 20°C to 45°C to a resolution of 0.1°C.

To reduce sensitivity to air drafts and ambient temperature effects, a stainless steel tube is fitted in front of the plate with evaluation showing this has advantages over an open plate design. The standard tube length is 210mm and there is an option of a short version, 40mm long that 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 switched from Celsius to Fahrenheit.

Model	988
Temperature Range	20°C to 45°C
Resolution	0.1°C
Target Size	70mm Diameter
Tube Diameter	26mm Diameter
Emissivity	0.97 (0.02)
Controlled Accuracy	±0.2°C (0.3°F)
Power	60 Watts
Voltage	12 Vdc
Dimensions	H: 250mm W: 220mm D: 115mm Not including tube
Weight	4kg

Accessories
Switch Mode Power Supply as Standard
100-240 VAC

How to Order
Model 988 with 210mm Tube
Model 988 Short with 40mm Tube

Fast Heat up & Cool Down

Built in Cooling

Fast Heat Up

Model 988 Application
Part of an airport fever detection system.

988 can be used horizontally or vertically. It is easily supported. (Stand is not included)

988 Short
Suitable for Medical Thermometers

988 can be used to improve accuracy of thermal imagers.

