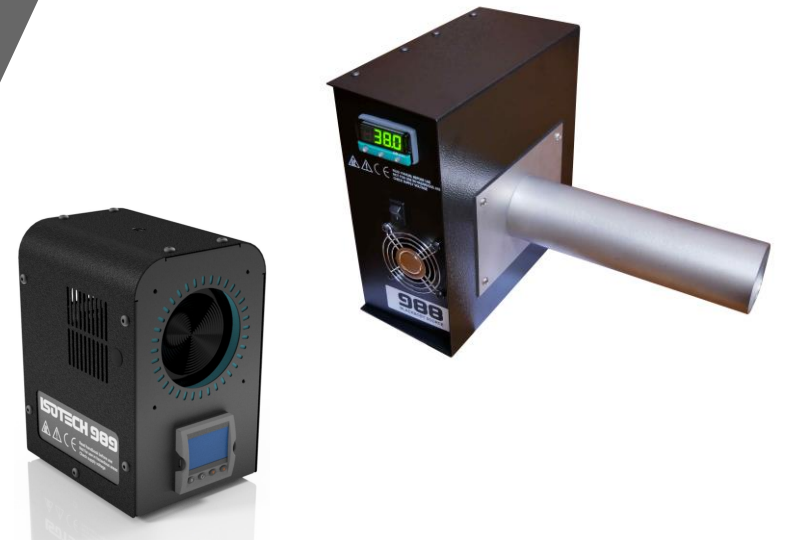


# Human Body Temperature Blackbody Sources

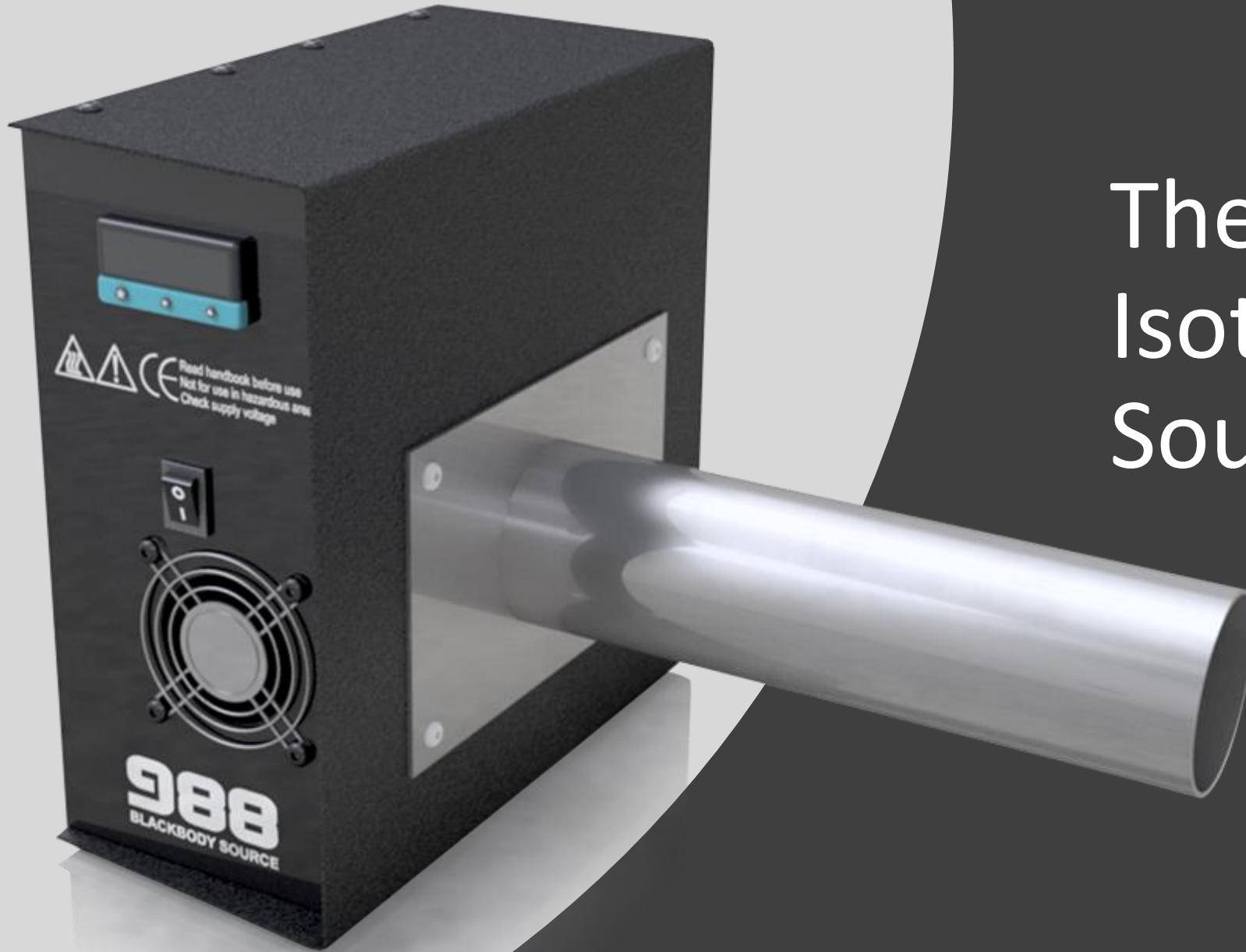


**ISOTECH** 40 years  
1980-2020

# LSOTECH

A world leader in temperature metrology  
Celebrating 40 years in business 1980 - 2020  
Holds Queen's Award for Enterprise in the  
Innovation Category

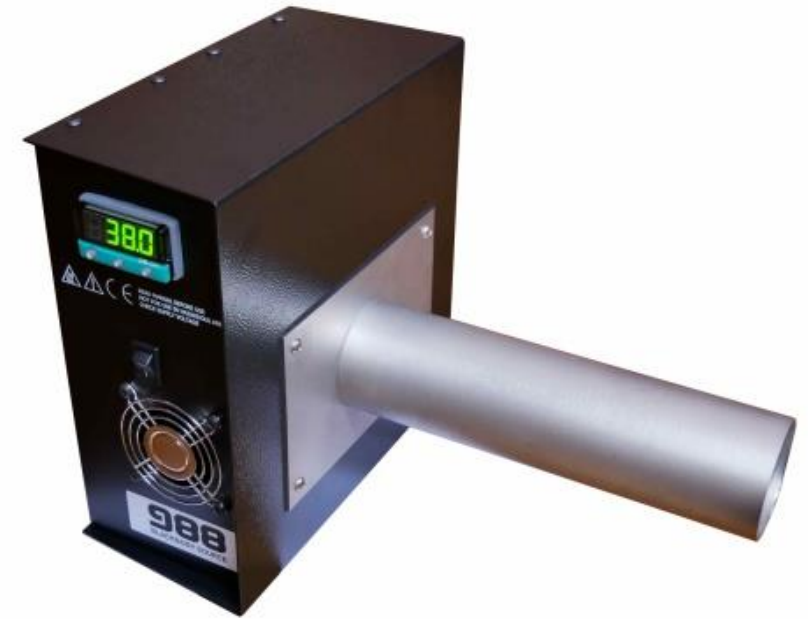




The original  
Isotech Blackbody  
Source 988

First introduced more than 15 years ago to assist in relation to the SARS outbreak

Blackbody calibrators are used to increase the accuracy of non-contact fever detection systems



# Now it is being used in relation to Coronavirus

COVID-19 :Airport Fever Detection System



The model 988 can also be used to check non-contact medical thermometers

The S version has a 40mm tube with a guide to fix the position of the thermometer relative to the heat source

There are options to customise to suit different thermometer types

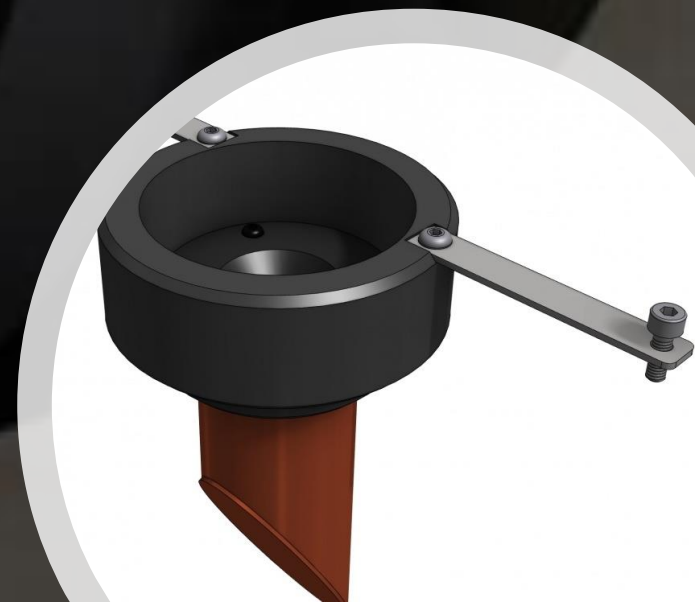


# NEW

Now the Model 989 has been introduced which has **additional features**, a smaller case and **at a lower price**



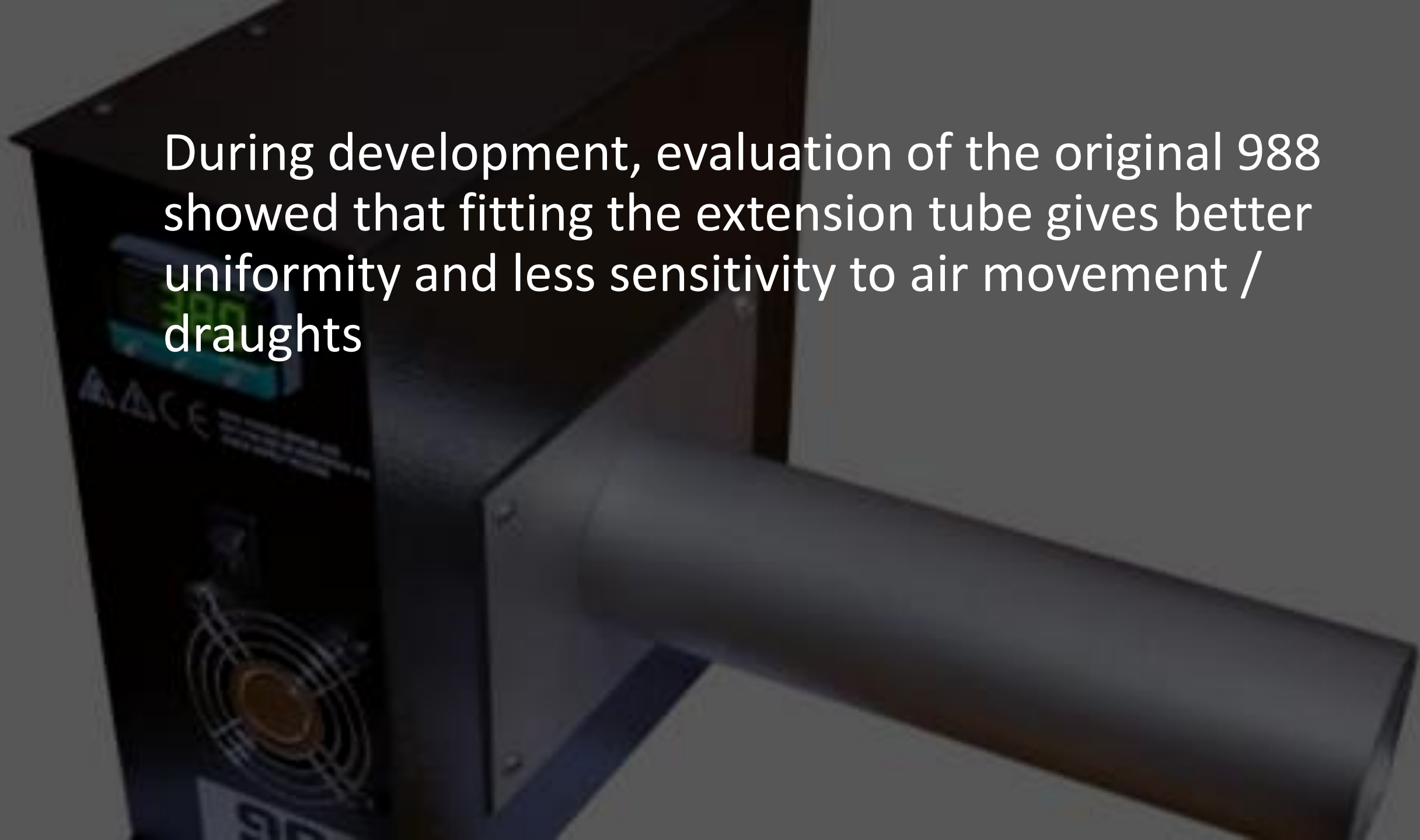
Isotech also have  
larger blackbody  
sources for the  
laboratory



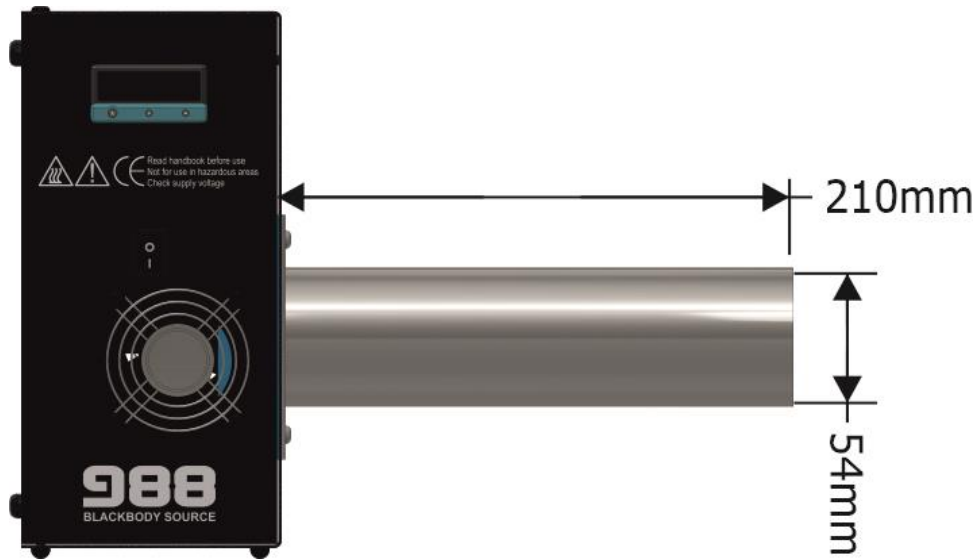
- The 989 has both heating and active cooling to span the temperature range 20°C to 50°C
- An internal solid-state thermoelectric heat pump allows the unit to operate below ambient temperature
- It allows the 989 to maintain body temperature in high ambient temperatures – a benefit compared to heat only blackbody sources



During development, evaluation of the original 988 showed that fitting the extension tube gives better uniformity and less sensitivity to air movement / draughts



The Model 989 can be used with or without an extension tube and adding the longer tube reproduces the original 988 configuration



988



989

The unit can be used vertically  
as well as horizontally





- It is easy to mount featuring two easy mount points
- Works with standard tripods / camera fixings
- 1/4"-20 UNC Thread

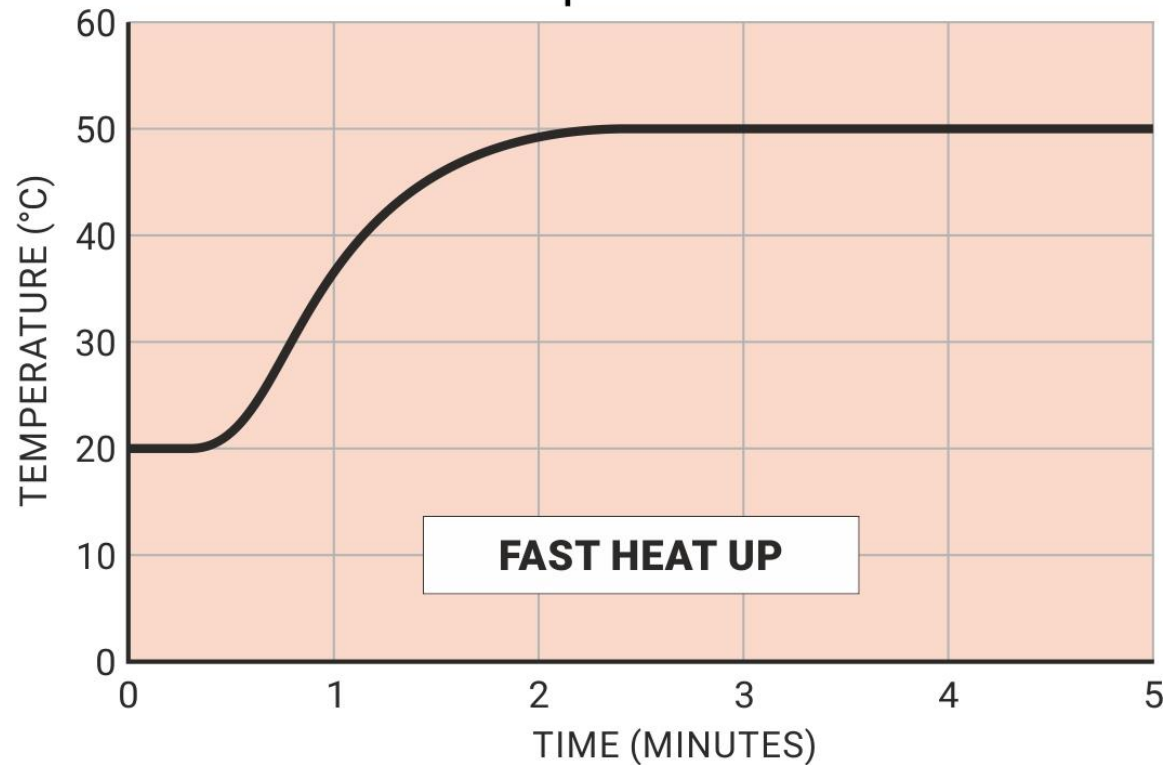
Stand Not Included



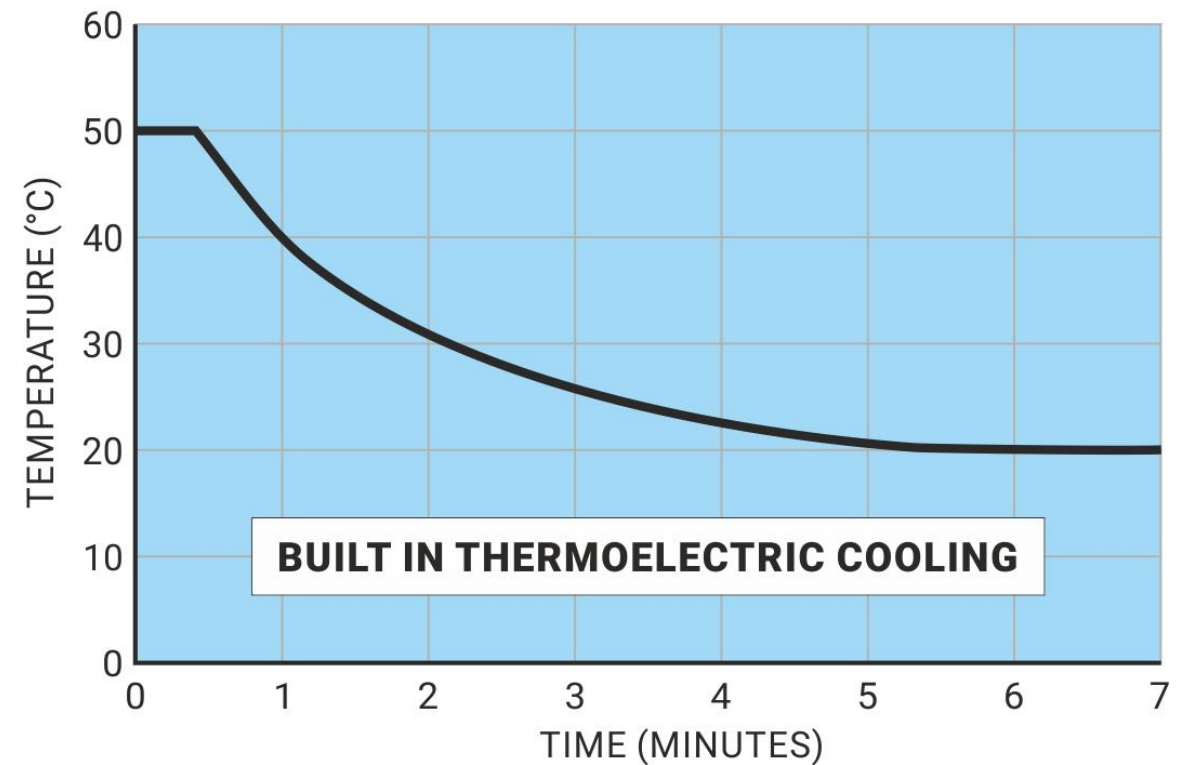
# Fast response to achieve the set temperature

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Warm Up 20°C to 50°C



Cool Down 50°C to 20°C





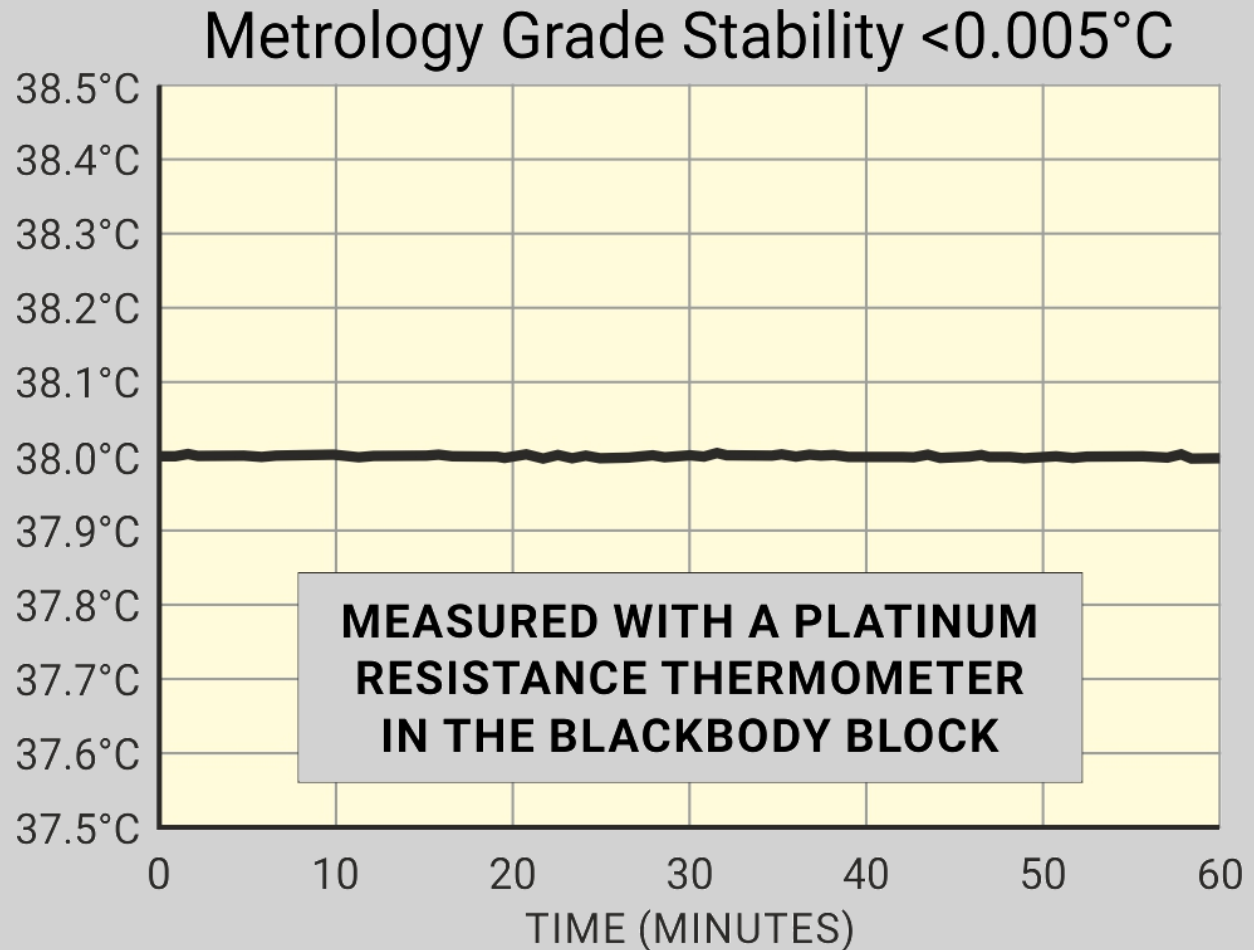
Tamper Proof Operation

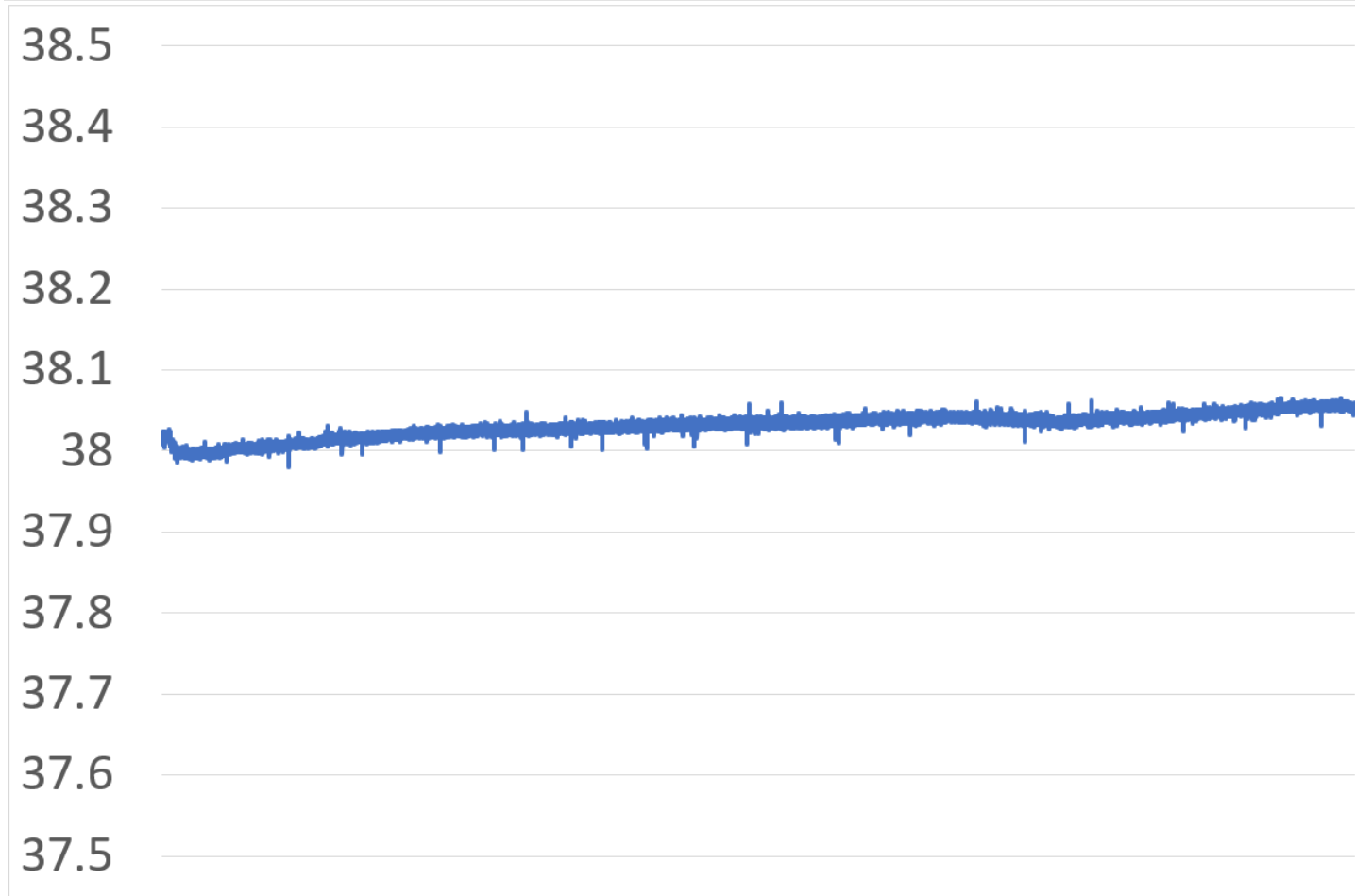
To prevent inadvertent changes the  
operating temperature can be  
locked



## Features: Metrology Grade Stability

- Isotech expertise delivers outstanding temperature Stability
- Short Term Stability  $<0.005\text{ }^{\circ}\text{C}$  @  $38\text{ }^{\circ}\text{C}$
- 48 Hour Stability  $<0.05\text{ }^{\circ}\text{C}$
- ( $T_{\text{amb}}$  20 to  $23\text{ }^{\circ}\text{C}$ )





48 Hour Stability  $<0.05\text{ }^{\circ}\text{C}$

Features: Metrology Grade Stability  
( $T_{\text{amb}}$  20 to 23  $^{\circ}\text{C}$ )

# Features

- High Resolution Three Colour LCD Display
- Set temperature can be adjusted in 0.01 steps (or locked)



# Features

Switchable between °C, °F or K



# Features

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Auto Start Up  
No manual  
intervention needed

Self Test with diagnostics

Set Point Ramp Rate

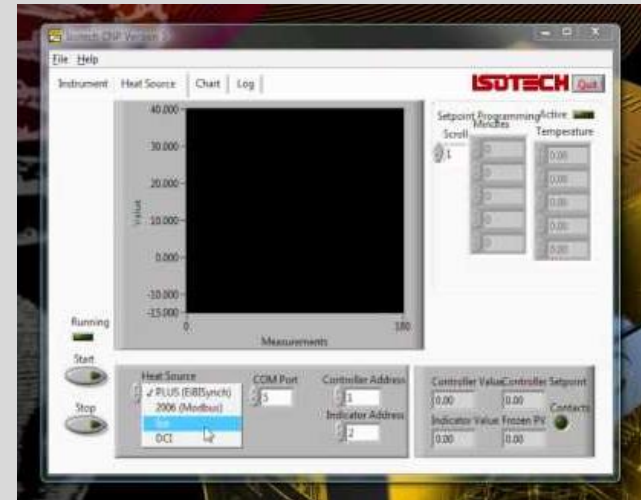
Safe Low Voltage Operation,  
universal mains supply  
included

Optional Calibration Kit

PC Interface Included

# PC Interface

- Model 989 includes an RS422 Serial Interface
- There is an optional RS422 – R232 Converter Lead
- Free Download of Cal Notepad Software allows remote set temperature control and monitoring



# Calibration Kit

- Model 989 has a reference pocket located behind the target plate. We can provide a Platinum Resistance Thermometer or a complete measuring system with an uncertainty of 0.02 ° C



# Full Details

[www.isotech.co.uk/989](http://www.isotech.co.uk/989)





## 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 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.

<http://www.isotech.co.uk>

CALIBRATION SOLUTIONS | MODEL 989 | PROVISIONAL DATASHEET - EDITION 01



**ISOTECH**

World Leader in Temperature Metrology