

# Isotech Blackbody Calibrators



**ISOTECH** 40 years  
1980-2020

# LSOTECH

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



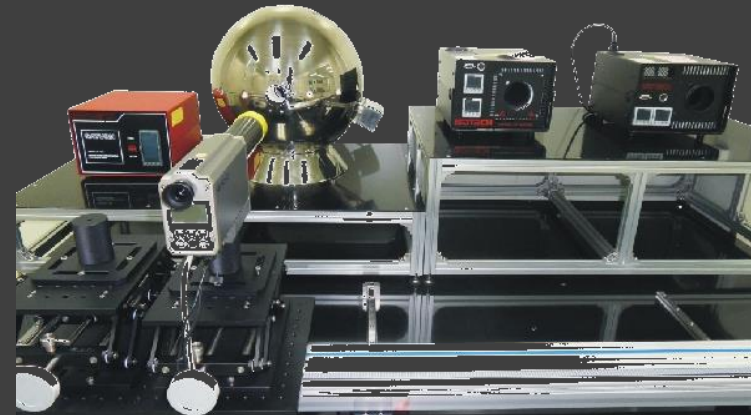
# IR Calibration...

Isotech have a wide range of blackbody calibrators to check and calibrate infrared thermometers and thermal imagers

Temperature ranges from -80°C to 1300°C

There are also blackbody fixed points

Clients include Industrial Users, Commercial Laboratories and National Measurement Institutes



## This introductory guide looks at Isotech's laboratory sources

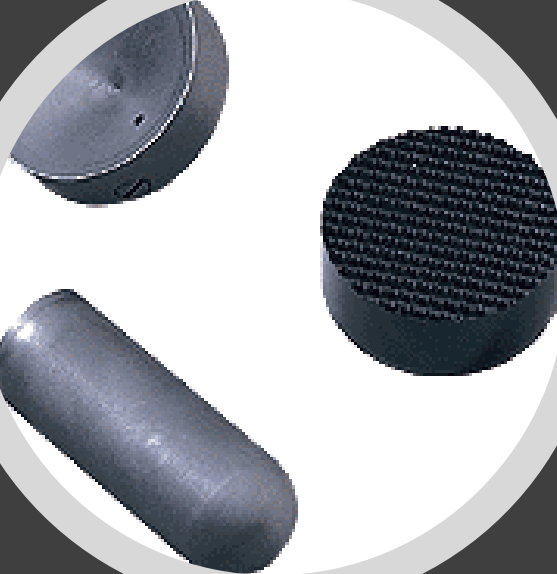
- Our award winning multifunction [Isocal-6 Range of heat sources and Dry Blocks](#) have simple accessories that can be used for testing low cost IR thermometers
- [www.isotech.co.uk/industrial-calibration/](http://www.isotech.co.uk/industrial-calibration/)



## CALIBRATION CERTIFICATE

No: 659/270/46/09

Object of calibration:	Blackbody simulator
Type:	Gemini 976
Serial number:	271975-1
Calibration mark:	659/270/46/09
Manufacturer:	ISOTECH LTD.
Customer:	Isothermal Technology Limited, Pine Grove Southport, England
Order No.:	01/09/SMU/2009 from 30. 09. 2009
Valid date of calibration:	Laboratory for optical radiation 05-11. 10. 2009 4



Our calibration sources  
and blackbody fixed  
points were developed  
with world leaders in  
infrared thermometry

# 1: Low Cost Wide Range Portable Devices



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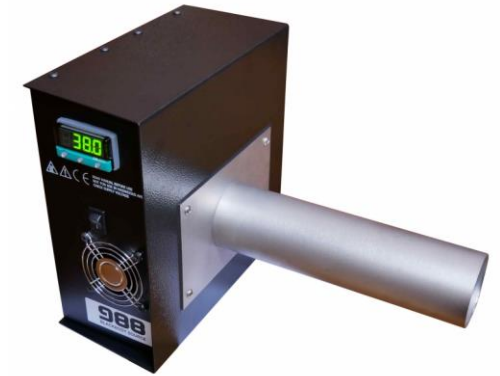


	Temperature Range
Blackbody Quick Cal	30°C to 350°C
Greybody Source	50°C to 350°C

# Isotech Blackbody Sources

- Portable general-purpose calibrators

## 2: Blackbody Source Model 988 and 989



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# Blackbody Source Model 988

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



988 Shown on a tripod stand  
Stand not included



Now it is being used in relation to  
coronavirus  
[More Details – Introducing the 988](#)

# 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 ease of use. 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 that is used 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 that allows the temperature to be both monitored and adjusted from a PC.



# 3: High Emissivity Laboratory Sources

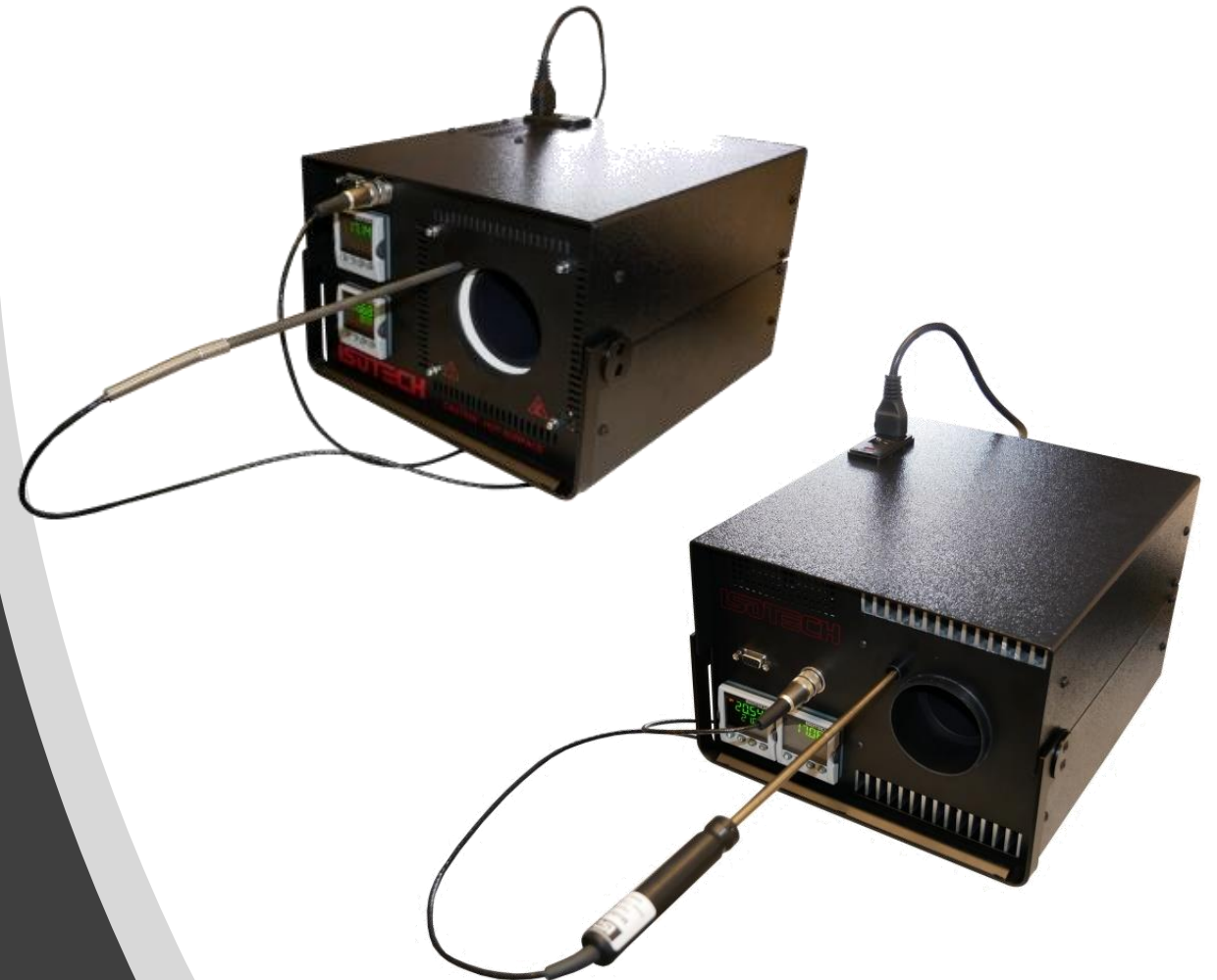


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# Isotech Primary Radiation Sources -10°C to 550°C

- Hyperion R and Gemini R
- High emissivity
- Laboratory Performance
- Portable







	TEMPERATURE RANGE	APERTURE SIZE
Hyperion R	-10°C to 80°C	50mm
Gemini R	30°C to 550°C	65mm

## Isotech Blackbody Sources

- High Emissivity Laboratory Sources
  - These popular products are used as standards around the world
  - They include a contact thermometer and display for traceability or they can be provided with a calibration certificate for the radiance temperature

Hyperion R Model 982  
Primary Radiation  
Source -10°C to 80°C

- One application is the calibration of non-contact medical thermometers. With the sudden step increase in the demand to check and calibrate medical thermometers we have supplied many units for both portable and laboratory testing relating to the coronavirus outbreak

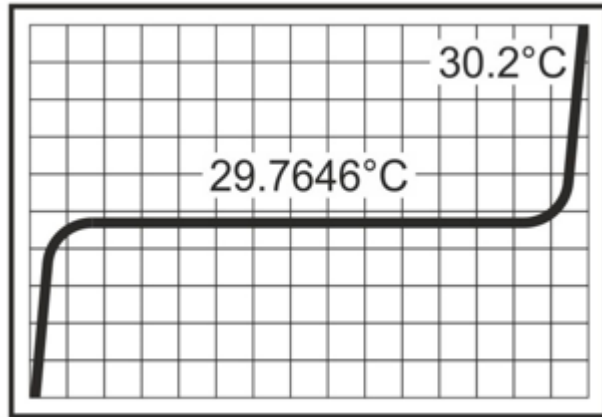


# Hyperion R Model 982

## Primary Radiation Source

-10°C to 80°C

- For Research Applications we can provide a Gallium Blackbody Fixed Point Cell
- The melt plateau gives a precise, constant fixed temperature of 29.7646 °C





# Gemini R Model 982

## Primary Radiation Source

30°C to 550°C

- The Gemini R 550 Portable Blackbody Calibration Source allows for calibration of non-contact infrared thermometers over the temperature range 30°C to 550°C. It is suitable for use as a primary radiation source for infrared thermometers.
- Laboratory performance and low uncertainty calibrations are ensured by the combination by high emissivity and excellent temperature uniformity.



# Gemini R Model 982

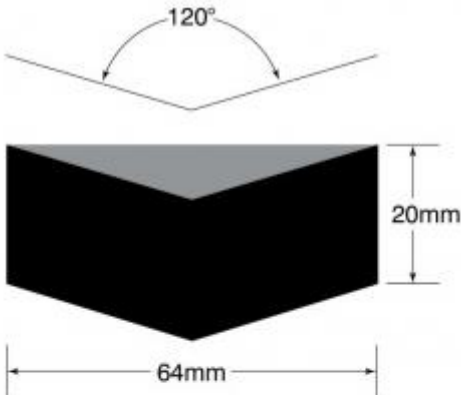
## Primary Radiation Source

30°C to 550°C

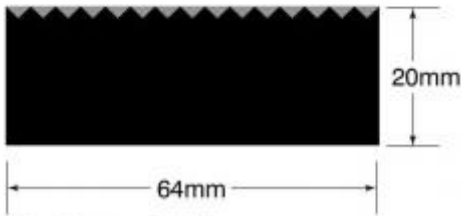
- For Research Applications we can provide a range of fixed-point cells

### Hockey Puck Cells

Gallium	431-03-00	29.7646°C	Gemini R
Indium	976-05-00A	156.60°C	Gemini R
Tin	976-05-00B	231.93°C	Gemini R
Zinc	976-05-00C	419.53°C	Gemini R



**Hockey Puck** Cells

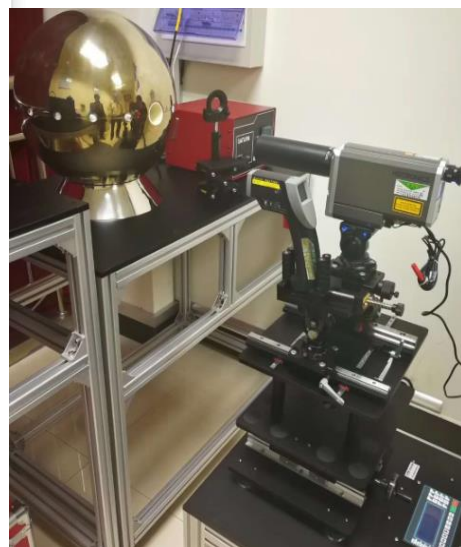
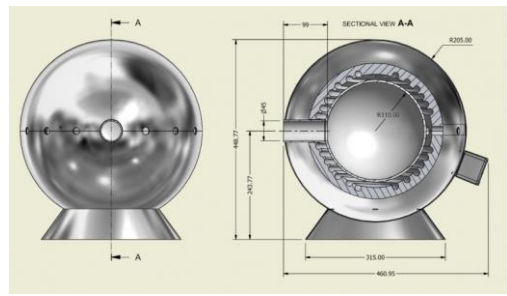


**Gallium** Cell



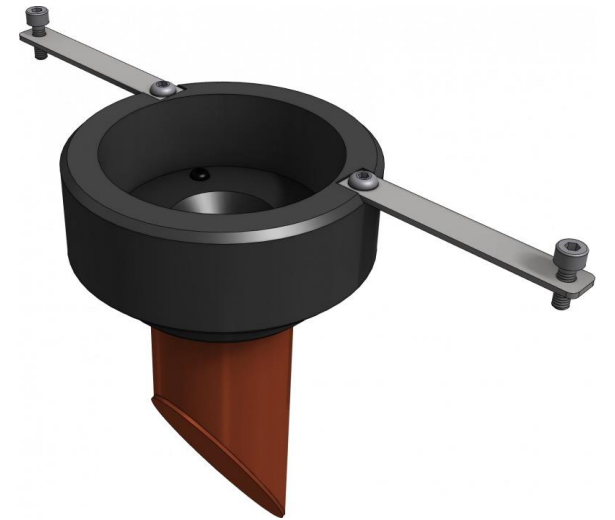
# Isotech Blackbody Sources for Higher Temperatures

- High Emissivity Laboratory Sources



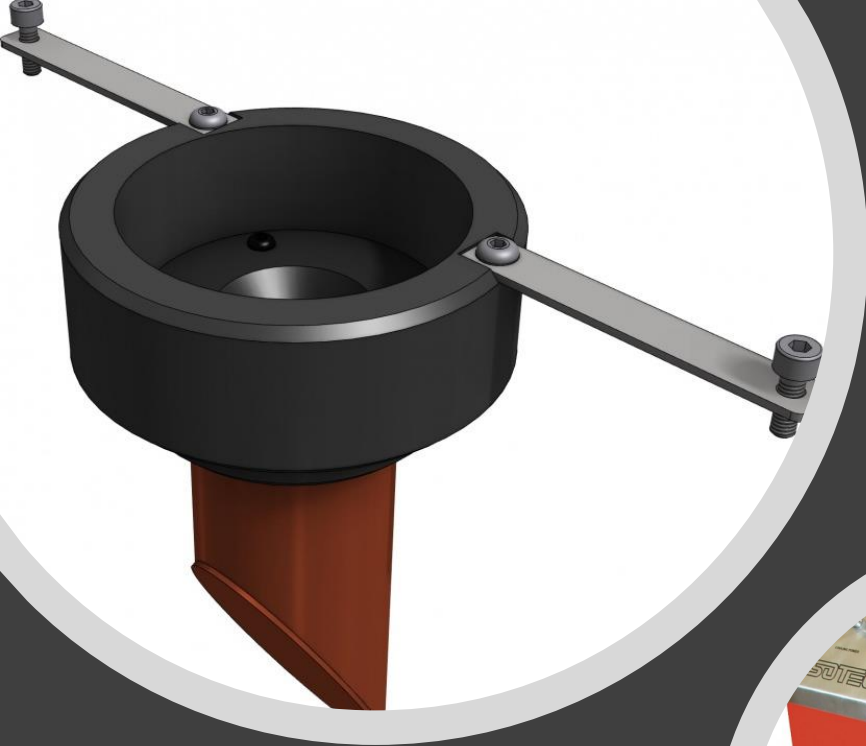
	Temperature Range	Aperture Size
Pegasus R	150°C to 1200°C	30mm
Cyclops 878	100°C to 1300°C	45mm – Spherical Cavity

# 4: Blackbody Assembly for Isotech Liquid Baths



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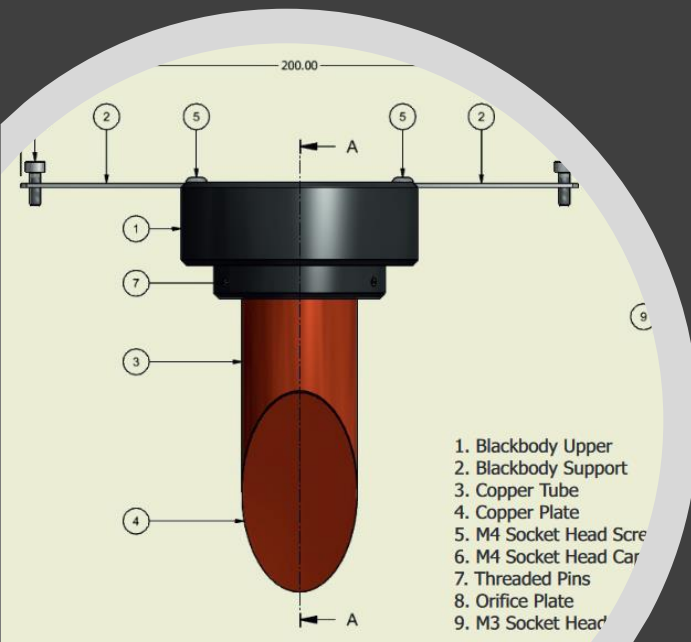




## Blackbody Assembly 798-02-58

Fits Isotech Hydra and Orion Baths

This accessory allows the calibration of infrared (IR) thermometers. The geometry and design ensure a high emissivity. The assembly is fastened to the top of the calibration bath and extends into the liquid volume. To ensure excellent emissivity the copper block is internally coated with Pyromark paint.



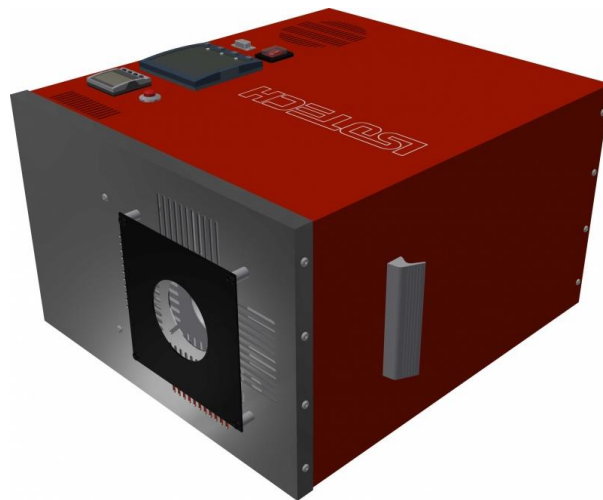
# 5: High Emissivity Laboratory Sources for Larger Fixed Point Cells

Clients include National Metrology Institutes



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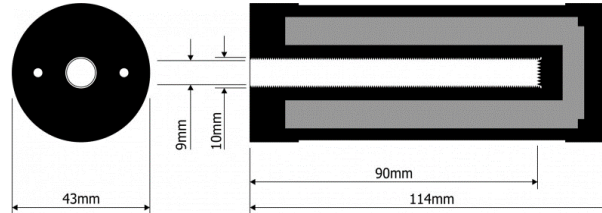




## Isotech Blackbody Sources for Primary Cells

- Can Accommodate Large Fixed Point Cells from Indium 156.60°C to the Copper Point at 1084.62°C
- Oberon R uses a heat-pipe for ultra-low gradients

	Temperature Range	Cavity Size
Medusa R	30°C to 550°C	45 x 285mm
Oberon R	450°C to 1100°C	50 x 300mm Heat Pipe



### Primary Standard Cells

Point	Part Number	Temperature	Apparatus
Indium	998-06-00A	156.60°C	Medusa R
Tin	998-06-00B	231.93°C	Medusa R
Zinc	998-06-00C	419.53°C	Medusa R
Aluminium	998-06-00D	660.32°C	Oberon R
Silver	998-06-00E	961.78°C	Oberon R
Copper	998-06-00G	1084.62°C	Oberon R

## Larger Blackbody Fixed Point Cells

- 6N Purity
- Range of Models – Indium to Copper

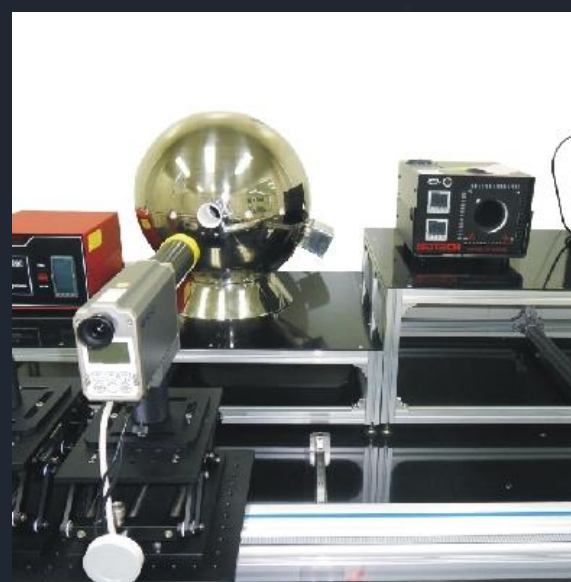
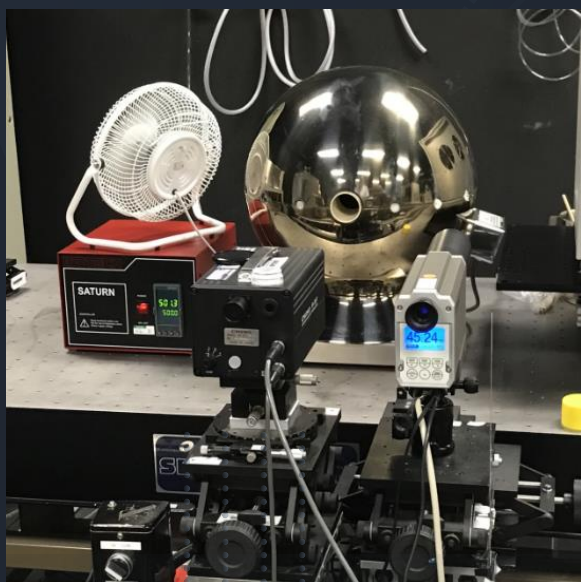




# Gemini R and Hyperion R in Use



# Blackbody Sources in Use



Further Details [www.isotech.co.uk/infrared-calibrators](http://www.isotech.co.uk/infrared-calibrators)



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