

**NEW**

# ISOCAL - 6 Range Advanced Europa Venus Calisto

- Advanced Features including inbuilt three channel temperature indicator
- 35 x 160mm Calibration Volume
- Multi-Function - Six Modes including Dry Block and Liquid Bath

These models will calibrate temperature probes from -45°C to 250°C with unrivalled flexibility. As a traditional Dry Block, several thermometers can be quickly calibrated.

Accessories are available to convert to a stirred liquid bath, for surface sensor calibration, to calibrate infrared thermometers and even to use as an ITS-90 Fixed Point System with calibration uncertainties as small as 0.0005°C.

These award winning calibrators are easy to use - see the pictorial guide.

These new ADVANCED models offer a wide range of features and benefits including an independent three channel temperature indicator allowing test probes to be compared to a reference probe. Calibration temperatures can be stored and programmed in for automatic temperature cycling and data logging. The latest technology is used to deliver superior stability, greater accuracy and best performance.

Isotech is a world leader in temperature calibration, providing many nations with their Primary Standards and operates a full scale UKAS accredited calibration laboratory. We can offer a range of calibration options to meet your requirements.

Benefit from our experience and understanding in calibration at all levels, our evaluation reports, our tutorials and uncertainty calculations.



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

These models meet the calibration capacity requirements of EURAMET/cg-13/v.01, "EA Guidelines on the Calibration of Temperature Block Calibrators, formerly EA10/13. accuracy and best performance.

*World's First  
Multi-Functional  
Baths*  
**SIX FUNCTIONS**



## ISOCAL - 6 LIQUID & DRY BLOCK



Black Body



Block Bath



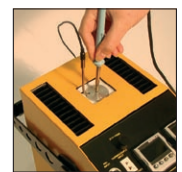
Ice Bath



ITS - 90



Liquid Bath



Surface Sensor

ADVANCED SPECIFICATIONS			
Parameter	Model		
	Europa 4520	Venus 4951	Calisto 4953
Temperature Range	-45°C to 140°C <sup>(1)</sup>	-35°C to 140°C <sup>(2)</sup>	30°C to 250°C <sup>(3)</sup>
Stability	Dry Block / Liquid Bath: ±0.01°C, Ice Bath: ±0.001°C		±0.025°C
	Blackbody: ±0.3°C, Surface Sensor: ±0.5°C, ITS-90 Cells: ±0.0005°C		
Display Resolution	0.001°C over whole range		0.01°C over whole range
Accuracy <sup>(4)</sup>	0.15°C	0.15°C	0.25°C
Uniformity - Between Wells Dry Block Mode (Radial)	<0.008°C	<0.008°C	<0.02°C at 250°C
Uniformity - Lower 40mm (Axial) Dry Block Mode	<0.040°C	<0.040°C	<0.25°C
Uniformity - Radial Liquid Bath Mode	<0.02°C	<0.02°C	<0.011°C at 250°C
Uniformity - Lower 40mm (Axial) As Liquid Bath	<0.026°C	<0.026°C	<0.02°C at 250°C
Heating Time	-30°C to 140°C: 15 Mins	-30°C to 140°C: 15 Mins	25°C to 250°C: 15 Mins
Cooling Time	140°C to 0°C: 15 Mins	140°C to 0°C: 15 Mins	250°C to 30°C: 25 Mins
Calibration Volume	35 x 160mm		
Standard Insert	6 pockets, 2 x 4.5mm, 2 x 6.4mm, 1 x 8.0mm, 1 x 9.5mm diameter, all 157mm deep		
Insert Types	Choice of Three - See Accessories		
PC Interface	Ethernet - supporting software and USB Host		
Dimensions	335H x 208W x 307D mm		
Power	300 Watts	150 Watts	300 Watts
Voltage	115Vac or 230 Vac 50/60Hz		
Weight	14kg	10.2kg	8kg

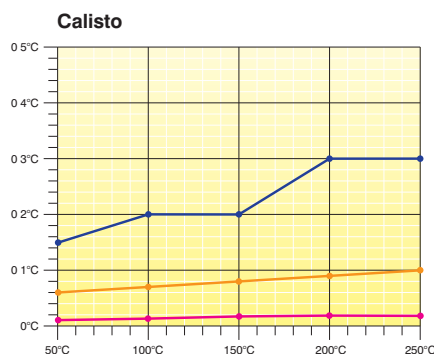
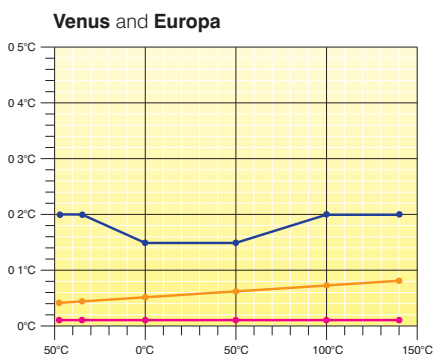
(1) In ambient of 20°C: Minimum Temperature is 65°C Below Ambient, Absolute Minimum -55°C

(2) In ambient of 20°C: Minimum Temperature is 55°C Below Ambient, Absolute Minimum -45°C

(3) In ambient of 20°C

(4) Dry Block Mode only: Comparing 4.5mm Well to Controller Display Value.

ADVANCED FEATURES
■ Digital Display of Set and Nominal Block Temperature
■ PC Interface: Ethernet (Optional Serial Legacy Kit available)
■ Two channel thermostat testing
■ Inbuilt Temperature Indicator for Reference Probe and two universal inputs for PRT, Thermocouple or Process inputs and a further Thermocouple input
■ Automatic Temperature Cycling - Create Programs from front panel or on PC with included software
■ Data Logging with export to USB
■ Offset Elimination - block can follow reference input
■ Speaks five languages: English, French, German, Italian and Spanish
■ In Built Web Server
■ Tamper Proof Data - in accordance with 21CFR, Part 11.



- Uncertainty with Reference Probe with optional UKAS Calibration
- Audit Calibration: Method comparing a PRT to UKAS Calibrated model
- Radial Homogeneity. Use for similar probes and external indicator

See Evaluation Reports for full details  
<http://www.isotech.co.uk>

# Isocal-6 Ultimate Flexibility - Europa, Venus & Calisto

Calibrate all sensor types - Thermocouples, PRT's, Thermistors, Thermostats, Infrared, Surface Sensors...



## 1 Dry Block Mode with Inserts

**951-02-15** An Insert is included: (2 x 4.5mm, 2 x 6.4mm, 1 x 8mm & 1 x 9mm) x 157mm Deep.

All Inserts have a 4mm tapped hole to suit supplied extractor tool.

### Alternative Inserts



**951-06-07** Alternative Insert type B 13mm, 10mm, 8mm, 5mm and 3.5mm dia. holes, all 157mm deep



**951-06-08** Alternative Insert type C 8mm, 6 x 6.5mm dia. holes, all 157mm deep

**951-02-15a** Blank Insert without pockets for local machining. Includes M4 tapped hole for supplied extractor tool.

**951-02-15c** Custom insert. Isotech can provide custom drilled pockets, minimum of 3mm separation between holes. *Contact Isotech with your requirements.*



## 2 Stirred Liquid Mode with Liquid Container Kit

Allows liquid bath use, includes container, magnetic stirrer, probe guide and sealing cap. **951-06-01**

## 3 Stirred Ice Bath Mode with Liquid Container Kit

Uses same liquid kit to provide 0°C reference as a stirred ice bath (Not Calisto)

### Additional Accessories for use with the above kit

#### Thermometer Support Kit

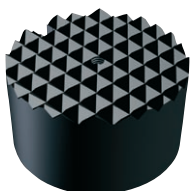
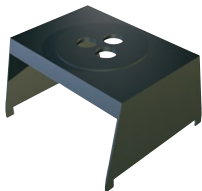
**951-06-03** Allows three thermometers to be suspended in the bath, including liquid in glass types

#### Oils

**520-05-01** C10 Oil -35°C – 140°C 0.1L

**951-06-06** C20 Oil 20°C – 200°C 0.1L

**953-04-01** VH Oil 150°C – 250°C 0.1L



## 4 Infrared Calibration Mode with Blackbody Target

**951-06-04** Use optional Probe 934-14-82/DB placed in the auxiliary block pocket for use as a reference.



## 5 Surface Sensor Calibration with Surface Sensor Kit

**951-06-02** Includes angled platinum resistance thermometer.



## 6 ITS-90 Fixed Point Cells

**17724M** Slim Mercury Cell (Europa Only).

**B8** Water Triple Point Cell (Venus and Europa)

**17401M** Slim Gallium Cell (Europa, Venus and Calisto)



### Standard Probe

**935-14-82/DB** Platinum Resistance Thermometer.

Probe diameter 4mm, recommended pocket size 4.5mm. Angled head feature avoids sensors in block.



### Legacy Serial Interface

**935-06-160** Intelligent Ethernet to Serial Converter.



### Current Loop Interface

**935-06-161** 24VDC Power Supply and Terminal Box. Powers 4-20mA Current Transmitters with 4mm terminal posts for easy connection.



### Carrying Case

**931-22-111** Sturdy case with room for accessories. Features wheels and pull out handle.

# The world's leading National Metrology Institutes choose Isotech - shouldn't you?

Isotech manufacture the widest range of temperature calibration equipment from hand held thermometers to Primary Standards. With Isotech solutions you can expand your equipment no matter what the requirement.

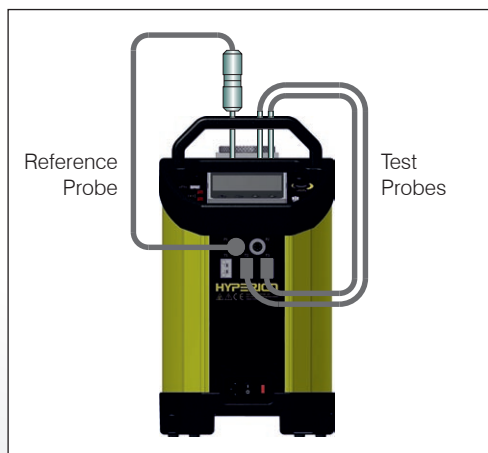
Isotech have been pioneering the latest developments in Temperature Metrology for more than 30 years, benefit from our know how, experience and global network.

## Europa, Venus & Calisto Benefits

### Excellent Uniformity

- The specially designed thermoelectric heat pumps positioned in four heating / cooling zones around the block.

## Calibrating with an Advanced Model



### ADVANCED Model

The ADVANCED model includes an indicator with channels for both a reference probe and units under test. This allows best practice calibration with established traceability and uncertainty. Advanced features include automatic temperature cycling and logging.

#### How To Order

- 1 - Select Desired Options and Accessories
- 2 - Supply Voltage:  
Specify either 115Vac 50/60hz or 230Vac 50/60Hz

### Excellent Stability

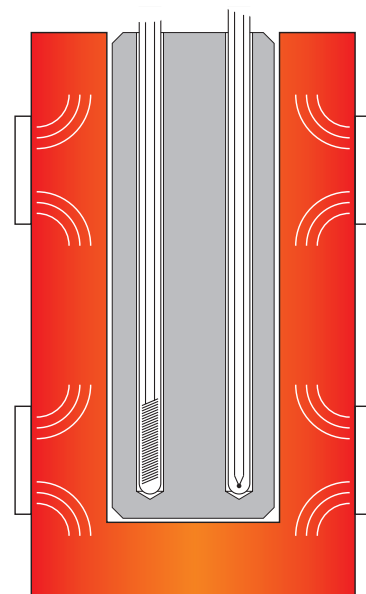
- The Advanced models automatically compensate for power fluctuations and feature advanced PID algorithms with digital filtering to deliver world class control and superior stability.

### ISOCAL-6 Benefit

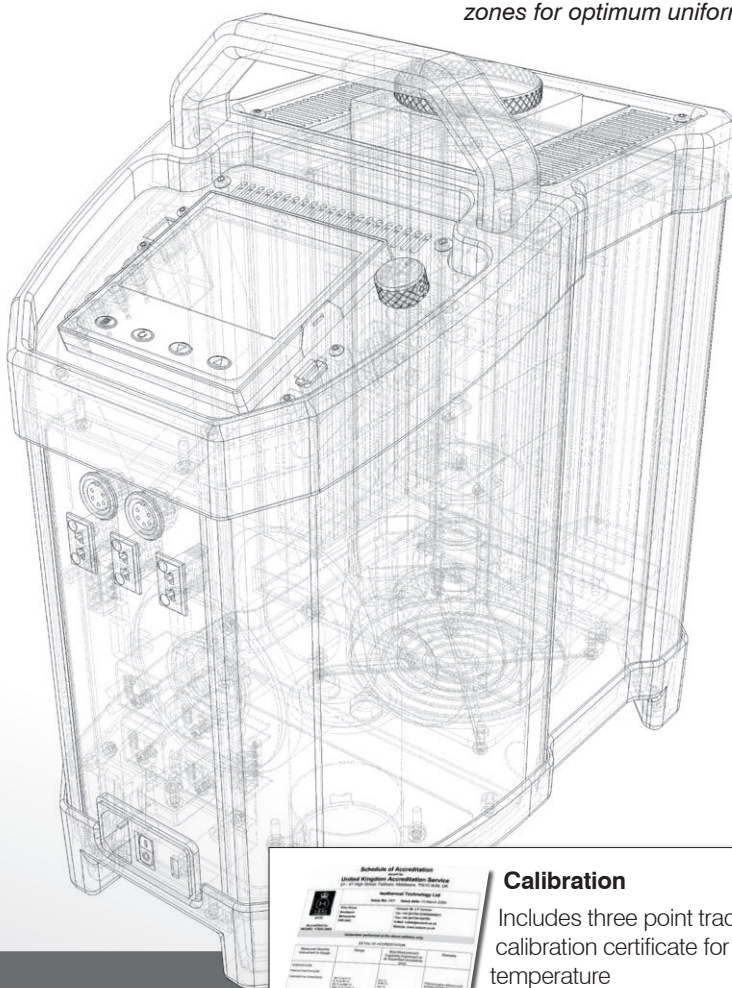
- Isotech introduced the ISOCAL-6 as the worlds first multi-functional bath with 6 operating modes.



The Isotech website includes ISOCAL-6 video demonstrations



Four distributed heat/cooling zones for optimum uniformity



#### Calibration

Includes three point traceable calibration certificate for block temperature

#### UKAS Calibration

Recommended: Options for block temperature and reference thermometer inputs (simulation). Legally traceable in more than 70 countries.