



ISOTECH

 **The Source for Calibration Professionals**



Selection Guide

Industrial Temperature Calibration

A Guide to Industrial Calibration

Isothermal Technology manufacture a full range of temperature calibration equipment from Primary Standards used in National and Primary Laboratories to handheld Dry Blocks used on site.

The award winning ISOCAL-6 Range of portable calibrators can be used as a Dry Block, Liquid Bath, Ice Bath, Surface Sensor Calibrator, Infrared Calibrator and even with ITS-90 Fixed Point Cells.

The Dry Block Calibrators operate to higher temperatures than the ISOCAL-6 range. Above temperatures of approximately 250°C it is not practical to use stirred liquids due to fumes, risk of ignition and safety considerations. Isotech's higher temperature calibration baths incorporate as many of the Isocal-6 options as is safe and practical to provide.

The new ADVANCED range complements the earlier Basic and Site Models and includes an inbuilt three channel thermometer, advanced logging, high resolution, enhanced performance with USB and Ethernet connectivity.



Features Comparison Table

	ADVANCED	SITE	BASIC
Digital Display of Set and Nominal Block Temperature	Yes	Yes	Yes
PC Interface	Ethernet / USB	Serial	Serial
Test Thermostats	Yes - Two Inputs	Yes - Single Input	No
Independent Temperature Indicator for Reference Probe	Yes	Yes	No
Additional Inputs for Units Under Test	Up to 3: Two universal inputs for PRT, Thermocouple or Process inputs and a further Thermocouple input	No	No
Automatic Temperature Cycling	Yes	No	No
Data Logging	Yes - Export to USB.	No	No
Offset Elimination	Yes - block can follow reference input	No	No
Choose English, French, Italian or Spanish Language	Yes - on full colour display	No	No
In Built Web Server	Yes	No	No
Tamper Proof Data	Yes - in accordance with 21CFR, Part 11	No	No

The Isocal-6 Calibration System



Buying a Dry Block or Liquid Bath? Spending too much money because you need both? Now you can have the benefits of both and more, with an Isocal-6 from Isotech! The Isocal-6 is a flexible range of calibration systems that can calibrate all types of temperature sensors. With the Isocal-6 different inserts are added to the bath to allow it to be used in 6 different modes, providing a solution for all temperature sensor calibration requirements. The Isocal-6 includes a removable metal insert as standard for use as a Dry Block Calibrator. With optional accessories the Isocal-6 can perform as a dry block calibrator, a stirred liquid bath, a stirred ice bath 0°C reference (cooling models only), a blackbody source for IR thermometers, a calibrator for surface sensors or an ITS-90 fixed point apparatus.

The advantage of the Isocal-6 is that you need only purchase the main calibrator initially and can add other accessories at any time to increase your accuracy, stability and overall capability. Each different calibrator type has unique advantages. For example, Stirred Liquid Baths generally provide better stability, uniformity and heat transfer than dry blocks. Angled probes will not readily fit into a metal block, but can be placed into the liquid. Liquid baths are ideal for awkwardly shaped or short sensors and provide better axial and radial uniformity.

Different Isocal-6 models cover the temperature range from -45°C to 250°C. Above this maximum temperature it is not practical to use a Stirred Liquid Bath. For more information please refer to the table below.



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

Model	Europa-6	Venus	Calisto	Hyperion	Drago	Oceanus	Stabilities from
Temperature Range*	-45 to 140°C	-35 to 140°C	30 to 250°C	-25 to 140°C	30 to 250°C	-25 to 140°C	Metal Block ±0.005°C
Calibration Volume	35 x 160mm	35 x 160mm	35 x 160mm	65 x 160mm	65 x 160mm	50 x 300mm	Liquid Bath ±0.005°C
Heat / Cool Speed	●●●●●	●●●●●	●●●●●	●●●●○	●●●●○	●●●●○	Ice/Water Bath at 0°C ±0.001°C
	*In ambient of 20°C						Blackbody ±0.3°C
							Surface Sensor Kit ±0.5°C
							ITS-90 Fixed Point Cells ±0.0005°C

High Temperature Block Baths

Isotech's High Temperature Block Bath range offer industry leading performance in easy to use packages - ideal for the calibration of thermocouples and platinum resistance thermometers. They have been designed for fast heating, fast cooling and for added flexibility, surface sensor. Infrared thermometer accessories can also be added.

Our Block Baths feature the Isotech plug-in, dual display, controllers which are exceptionally easy to use with a clear user interface and are supplied with Windows software, Computer Interface and a Ramp to Set Point Feature as standard. The controller features multi-point block to display correction giving excellent absolute accuracy.

Isotech block baths and ISOCAL-6 models are available in Basic, Site and ADVANCED models. In addition to the digital temperature controller of the Basic the Site includes an independent single channel indicator. The ADVANCED model has inputs for three thermometers and includes advanced logging, high resolution and other extended features.



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

Model	Jupiter	Gemini	Medusa	Pegasus	Stabilities from
Temperature Range	35 to 660°C	35 to 700°C	30 to 700°C	150 to 1200°C	Metal Block ±0.02°C
Calibration Volume	35 x 148mm	64 x 160mm	45 x 285mm	33.5 x 130mm	Blackbody ±0.2°C
Heat / Cool Speed	●●●●●	●●●●○	●●●●○	●●●●○	Surface Sensor Kit ±0.5°C

Isotech Fast Calibrators

■ Quick-Cal & Fast-Cal



Working on site? Having to carry the device?

Then choose our handheld Quick Cal or fast response Fast-Cal Calibrators.

Together they span the range -35°C to 650°C and have been designed to be both rugged and light weight.



Isotech True Temperature Indicators

■ milliK



The milliK is a very high accuracy thermometer - capable of performance to 0.003°C with SPRTs and PRTs and also enables high accuracy measurement from thermistors, thermocouples and even 4-20 mA process inputs. It can be expanded to have up to 33 flexible inputs.

In addition to low uncertainty measurements from Reference Standards and Industrial sensor measurement the milliK can control Isotech temperature sources, sequencing through a programmable list of temperature set points and log data to internal memory or a USB drive.

■ TTI-10



The TTI-10 is a high accuracy handheld temperature indicator with two platinum resistance thermometer inputs.

It is particularly suitable as a portable reference thermometer to use alongside Isotech temperature calibrators.

The TTI-10 is also suited for high accuracy measurements in industrial and scientific applications.

■ Industrial Reference Probes



These industrial platinum resistance thermometers and thermocouples are ideal for field and laboratory use.

Suitable for use as working standards in Dry Blocks and Liquid Baths or as high accuracy probes for our range of True Temperature Indicators.

They cover a temperature range from -200°C to 1300°C.

For more information and full specifications:
www.isotech.co.uk

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