INTRODUCTION: for industrial calibration

DataBook 3 contains Isotech products designed for *Industrial Temperature Calibration.* This is an ambitious claim given that those faced with the task of calibrating industrial sensors encounter sensors of widely varying size, temperature range, accuracies and type.

In this DataBook calibration solutions exist for accuracies from 1°C to less than 0.001°C, temperature ranges from below 0°C to 1200°C, from handheld to bench top devices. Products include Dry Block Calibrators, Liquid Baths, High Temperature Furnaces, Precision Temperature Indicators, Temperature Sensors with supporting services, UKAS Calibration and software.

The industrial calibration products have been enhanced and upgraded benefiting from new instrumentation and superior performance. PC interfaces and supporting software have been introduced as standard along with other enhancements making the products better specified, better value and easier to use.

Benefit from Isotech's premier UKAS Calibration Laboratory

Many manufacturers of temperature calibration equipment do not operate accredited laboratories. At Isotech we remain unique in that in addition to a manufacturer of equipment we also operate a full scale UKAS laboratory calibrating both our own equipment and a full range of temperature equipment for our clients.

Benefit from Experience

Isotech fully understand the calibration needs of our customers. We design and specify products accordingly. Isotech make available full evaluation reports with uncertainty calculations and publish uncertainty graphs.

Dry Blocks from other manufacturers are sometimes specified in *interesting* ways, such as Minimum Operating Temperature -30°C but with an ambient of 5°C, Isotech labs and workshops are kept close to 20°C! We don't specify performances of thermometers only at 0°C we also tell you what it is like at high temperatures. Isotech understand the difference between resolution and accuracy, between accuracy and uncertainty, between "specmanship" and the firm evidence an auditor would expect to see.

Benefit from Innovation

The international award winning ISOCAL-6 series set new standards in temperature calibration, Dry Blocks now include a PC interface and software as standard. The I-CAL software can automatically capture temperature stamped images with a camera, another first from Isotech.

www.isotech.co.uk/industrial

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Alternative Methods
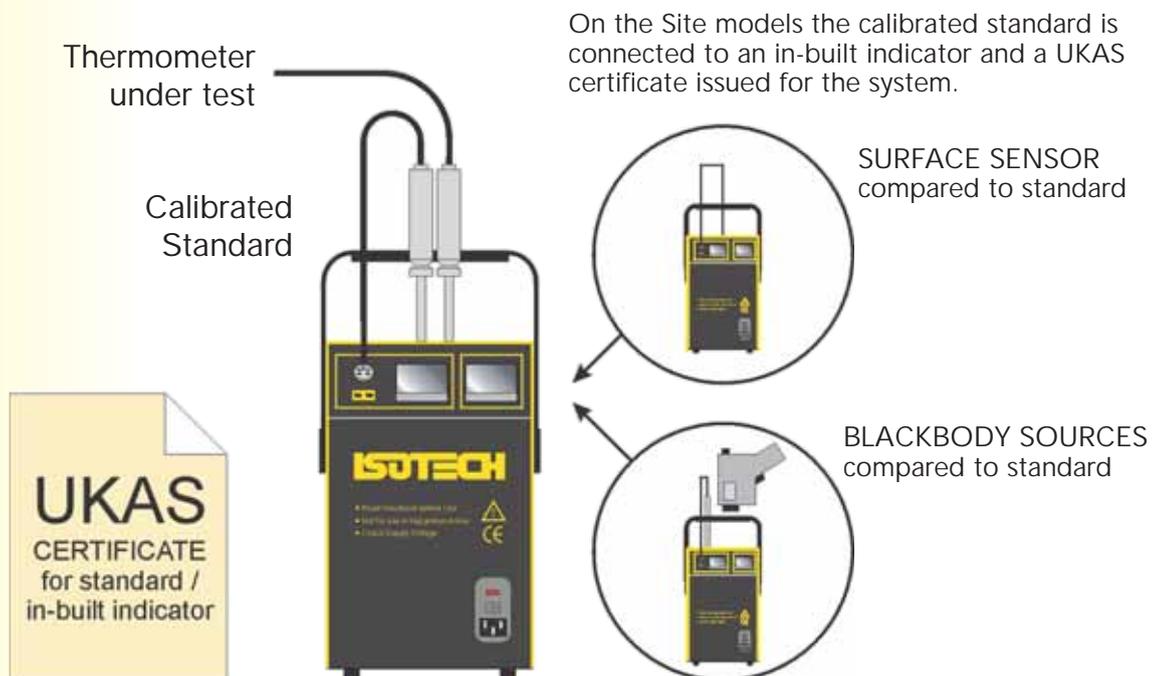## of operating an Industrial Laboratory

A BASIC DRY BLOCK CALIBRATOR

The thermometer under test is compared to the dry block controller value.
Useful for moderate temperature ranges and quick testing.

Thermometer under test

ITS-90 REFERENCE
Add an ITS-90 fixed point to gain accuracies of up to 0.001°C.

BLACKBODY SOURCE
An accessory can be added for infrared thermometers.

AN ISO 9000 CALIBRATION SYSTEM

A thermometer under test is compared to a calibrated standard,
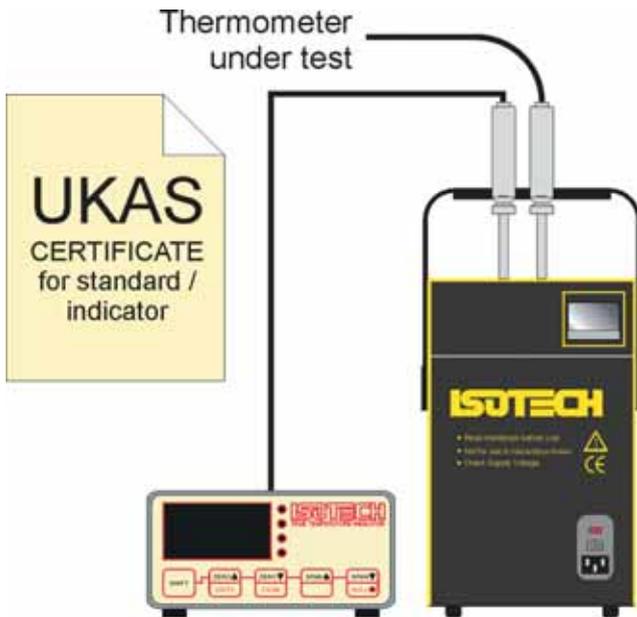for true traceability and clearly meets the requirements of ISO9000

On the Site models the calibrated standard is connected to an in-built indicator and a UKAS certificate issued for the system.

Thermometer under test

Calibrated Standard

SURFACE SENSOR
compared to standard

BLACKBODY SOURCES
compared to standard

UKAS
CERTIFICATE
for standard /
in-built indicator

Many of the products can be used as a Dry Block Calibrator or as a Liquid Bath.

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USING AN EXTERNAL INDICATOR

Similar to the previous configuration but an external indicator TTI is used - one TTI can be used with many calibration baths - the bath or baths do not need a calibration certificate, but they need an evaluation report.
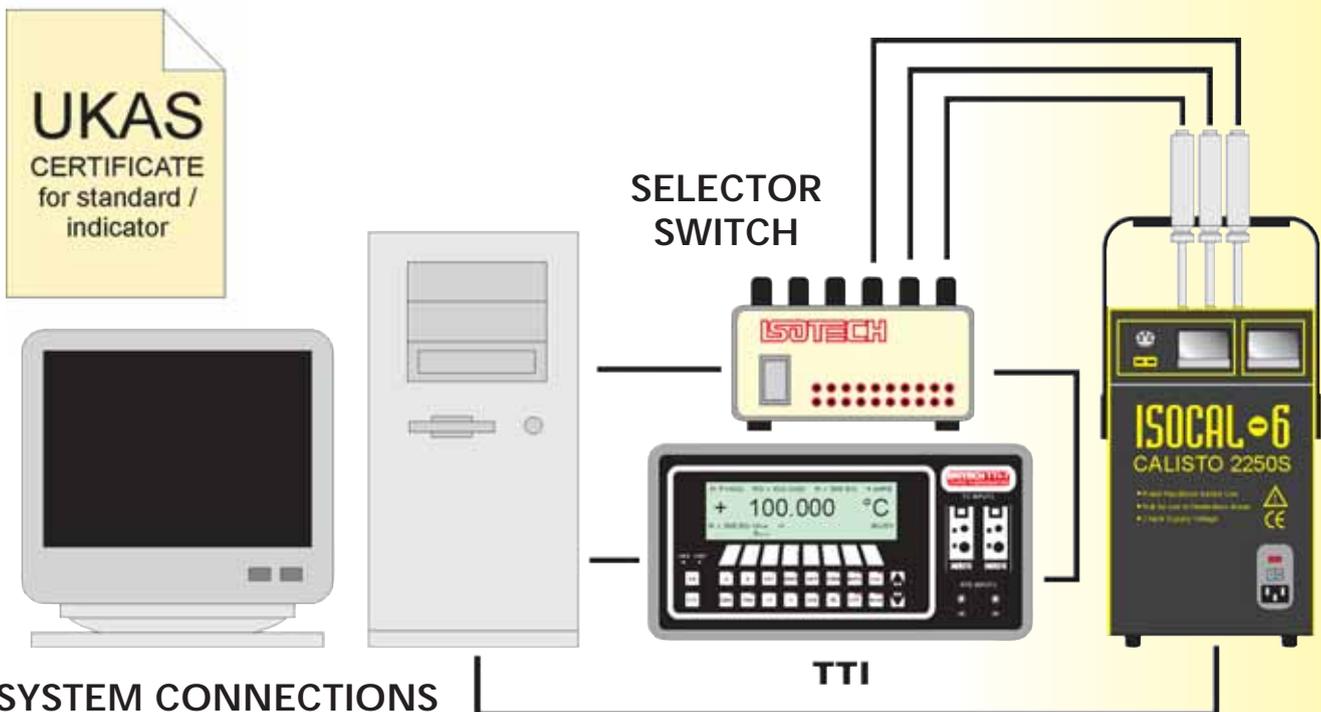
Thermometer under test

UKAS
CERTIFICATE
for standard /
indicator

ISOTECH

Here the B model is shown

Alternatively the S model may be used with the indicator free for use with a unit under test.

AN EXAMPLE OF MULTIPLE SENSOR CALIBRATION

You can add the TTI and Selector Switch for multi-probe calibration - and add I-cal software for affordable automatic calibration systems.

UKAS
CERTIFICATE
for standard /
indicator

SELECTOR SWITCH

ISOTECH

+ 100.000 °C

ISOCAL-6
CALISTO 2250S

TTI

SYSTEM CONNECTIONS

Many of the products can be used as a Dry Block Calibrator or as a Liquid Bath.

Selection Chart

The Industrial Laboratory

Isotech Industrial Temperature Sensor Calibration Solutions

Industrial temperature sensors vary enormously in type, range and requirement, varying temperature ranges, sizes and accuracies. Isotech have developed a diverse range of equipment to meet these varying and frequently demanding requirements.
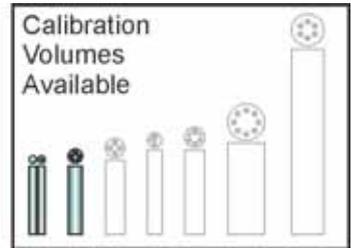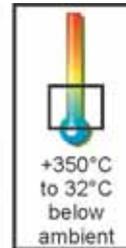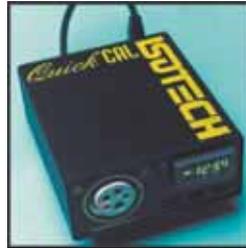
1 Fast Calibrators

QuickCals

Handheld devices covering low to moderate temperature ranges.
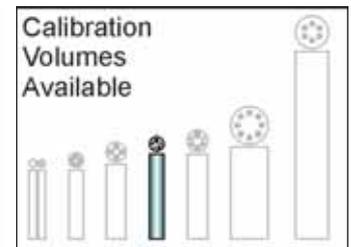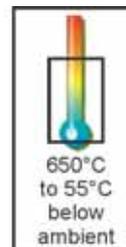*These units are ideal for fast, portable testing of temperature sensors.*

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+350°C to 32°C below ambient

Calibration Volumes Available

Fast-Cals

NEW *A range of rugged, portable and fast response temperature calibrators. FAST-CALs generate temperatures in the range of -35°C to 650°C. Service Engineers and those working away from the calibration lab will appreciate these affordable and lightweight tools.*

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650°C to 55°C below ambient

Calibration Volumes Available

Simulators

NEW *These units do not generate temperature but are used to simulate resistance thermometer and thermocouple signals. They allow digital thermometers and instruments to be rapidly checked and calibrated.*
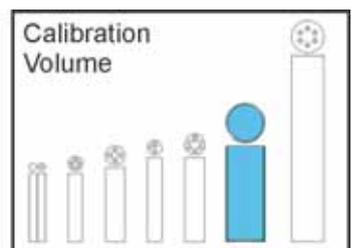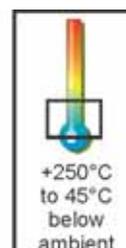
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2 Portable Liquid Baths

Drago and Hyperion

Portable Liquid Baths have a large well which is filled with a liquid avoiding the need for specially drilled blocks. They are ideal for awkward shaped and short sensors, accuracies are generally better than for Dry Blocks. Isotech Portable Liquid Baths are unique in that they have accessories for other modes of use, including Dry Block operation
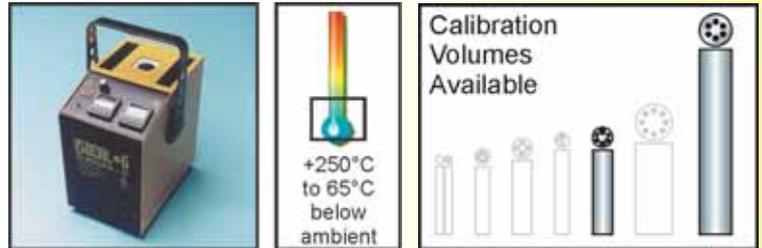
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+250°C to 45°C below ambient

Calibration Volume

3 ISOCAL-6 Range Europa, Venus, Calisto and Oceanus

+250°C to 65°C below ambient

Calibration Volumes Available

Isocal-6 is the flexible choice, this award winning series covers a wide temperature range with a choice of two calibration volume sizes. Uniquely the Isocal-6 can be used as a Dry Block, a stirred Liquid Bath, for fixed point calibration, infrared thermometer calibration, and surface sensor calibration.
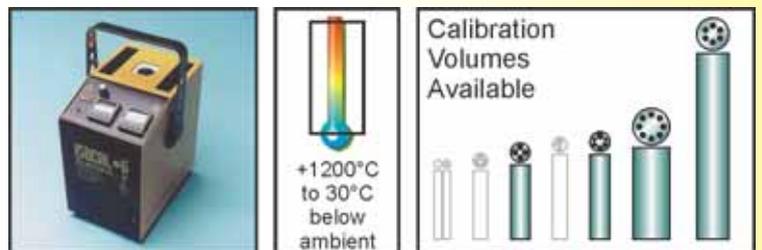
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4 Dry Block Calibrators

Apollo, Jupiter, Gemini, Pegasus, Medusa, Oberon

+1200°C to 30°C below ambient

Calibration Volumes Available

The Dry Block Calibrators complement the Isocal-6 range, but also offer higher temperature ranges. Above temperature ranges 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 that are safe and practical to provide. A wide range of calibration volumes are available.

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5 Temperature Indicators, Reference Thermometers and Software

These electronic temperature indicators and reference probes, both platinum resistance thermometers and thermocouples, are ideal for most industrial calibration requirements. Switchboxes allow for multiple channel calibration and supporting software allows for automatic temperature calibration.

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