



150 to 1200°C

Dry Block Calibrator Pegasus

- High Temperature Thermocouple Calibration Furnace
- Custom Furnace Design with Optimised Profile
- Calibrate Whole Measurement Loop

The Pegasus range offers extreme high temperature calibration in an easy to use portable package - ideal for the calibration of high temperature thermocouples. It has been designed for fast heating and finds applications in the glass, electrical power, automotive and material processing industries.

A Blackbody target can be added for the calibration of infrared thermometers.

The standard insert has four 8mm pockets 80mm deep. The metal insert is strategically placed beneath 50mm of insulation to provide optimal performance over the radiant temperature range.

The optional Blackbody target is used with a specially angled Type R thermocouple that sits immediately behind the target area.

These award winning calibrators are easy to use and are available in three versions – the Basic, the Site and the ADVANCED. The Basic has a digital display of set and nominal temperature, the Site additionally includes an in-built independent temperature indicator for a reference probe. The ADVANCED controller has inputs for reference and test thermometers with a further range of sophisticated features including automatic temperature cycling, secure data logging and full colour high resolution display.

The B model should be used with an external reference probe and indicator, such as the milliK. The thermocouples



under test should be calibrated by comparison to the external probe.

All models include I-Cal Easy LOG software and the ADVANCED models additionally include software to manage logged data and configure the unit, see page 14 for more details.



UKAS Calibration available for these systems - *International Traceability - Best Practice* See page 14



| Parameter | Model |
|---|--|
| | Pegasus 4853 |
| Temperature Range | 150°C to 1200°C |
| ADVANCED Range | |
| Stability | ±0.05°C @ 150°C ±0.08°C @ 1200°C |
| Display Resolution | 0.01°C over whole range |
| Input Channel Accuracy: Thermocouple | E,J,K,N: ±0.2°C @ 660°C R: ±0.6°C S: ±0.7°C @ 660°C T ±0.2°C @ 150°C |
| CJC Accuracy | ±0.35°C |
| Input Channel Accuracy: RTD | ±0.05°C ±0.005% RDG |
| BASIC / SITE Range | |
| Stability | ±0.1°C @ 150°C ±0.2°C @ 1200°C |
| Display Resolution | 0.1°C from 150°C to 999.9°C then 1°C: 0.01°C Over PC Interface |
| COMMON Specifications | |
| Blackbody Source | ±0.3°C |
| Cools from 1200°C to 800°C 1200°C to 200°C | in 50 minutes* in 180 minutes* *substantially reduced by the cooling adaptor |
| Heating Rate | 25°C / minute |
| Best Performance | See Graph |
| Calibration volume | 33.5mm diameter by 130mm deep |
| Standard Insert | 4 x 8mm Pockets all 80mm deep + 50mm top insulator |
| Indicator units | °C, °F, K |
| Power | 115Vac or 230Vac (50 / 60 Hz) 800 Watts |
| Dimensions | 384H (including handle) x 212W x 312D mm |
| Weight | 13kg |

| | ADVANCED | SITE | BASIC |
|---|--|--------------------|--------|
| | | | |
| Digital Display of Set and Nominal Block Temperature | Yes | Yes | Yes |
| PC Interface | Ethernet + USB Host | 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 - Suitable for life science, automotive and aerospace applications | No | No |

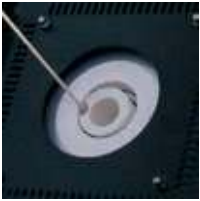
Dry Blocks

HIGH TEMPERATURE



Metal Block Bath

The Pegasus includes an insert suitable for high temperature calibration of thermocouples.



Blackbody Source

Add the Blackbody accessory to allow calibration of infrared thermometers.



Pegasus Accessories



Metal Block Insert

Standard Insert Included
Four 8mm pockets. Pocket depth 80mm + 50mm insulator. Effective depth 130mm.
853-06-02 Blank Insert
Insert without pockets for local machining
853-06-02b Custom Insert
Contact Isotech with your requirements



Blackbody Kit **853-06-03**

Includes a Blackbody target and Sensor



Calibration

Includes three point traceable calibration certificate for block temperature

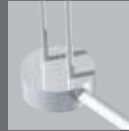
UKAS Calibration

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



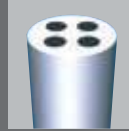
Standard Probe **935-14-91**

Type R Platinum Thermocouple for use up to 1200°C.



Air Cooling **853-04-02**

For use with a compressor this accessory allows air to be blown into the block for rapid cooling.



Ceramic Insulators **853-06-04**

Spare insulation pack Includes 2 x standard tops and 2 x standard bottoms.



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?

Pegasus Benefits

The Pegasus features a small tube furnace to allow operation to 1200°C in a portable case. With a ceramic furnace construction temperature gradients are larger than with lower temperature metal blocks.

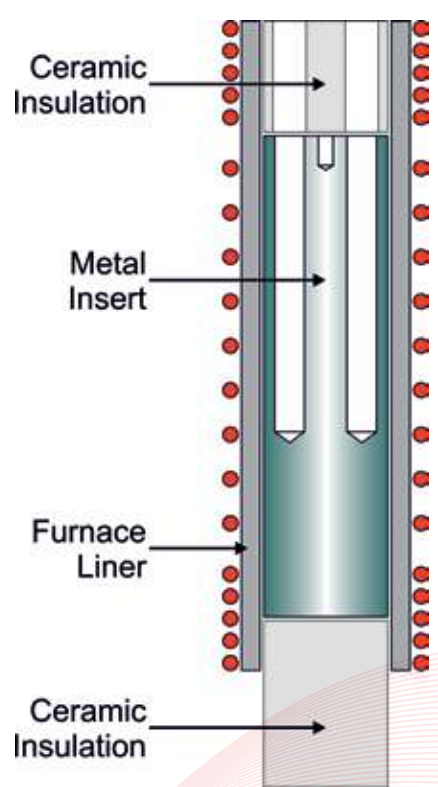
The Isotech furnace benefits by using a specially wound furnace tube assembly. They are manufactured in our factory with the turns concentrated at the ends of the furnace, where the heat losses are greatest. This gives an

improved temperature profile and lower uncertainty.

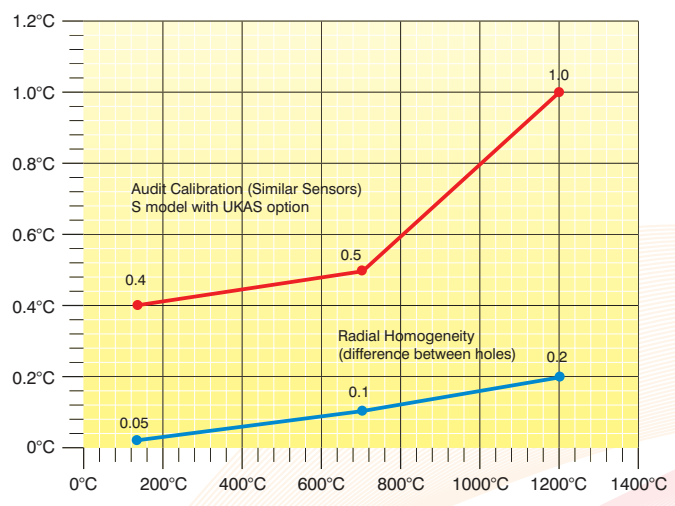
Insulators are provided for the top and bottom of the furnace which further improve temperature uniformity.

The effective immersion depth is 130mm, 80mm in the metal insert and then a further 50mm in the furnace tube.

Benefit from Isotech's design and experience

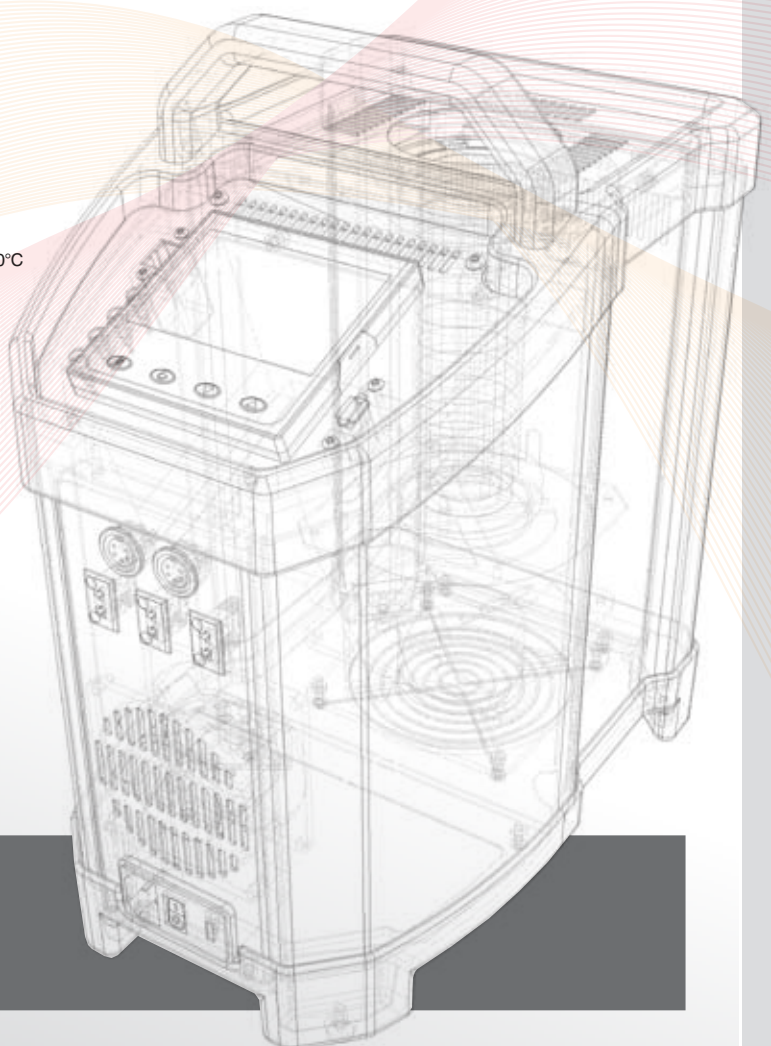


Pegasus



- Audit Calibration (Similar Sensors)
- Radial Homogeneity

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



How To Order

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

An Introduction to Fast Calibrators

This section focuses on the equipment needed for the rapid checking, testing and calibration of instrumentation and temperature sensors.

Service engineers and those working on site will appreciate the benefits of simple and fast temperature calibration. An engineer forced to carry a calibrator up a ladder or into a confined space will value the handheld QuickCal.

One model is ideal for the Validation of Washer Disinfectors, Steam Sterilisers and Autoclaves. In place of a removable insert it has a fixed block with pockets for a reference probe and the type of test sensor commonly used in validation applications.

The Products Featured in this section have:

- Outstanding Value
- Compact Size with true handheld models
- Wide Operating Ranges
- Fast Response

Quick-Cals

There are two Quick-Cal models, handheld, portable and capable of operating from -12°C to 350°C

Fast-Cals

Fast-Cals work from -35°C to 650°C in three ranges, -35°C to 140°C, 30°C to 350°C and 35°C to 650°C.

During 2004, 20 experienced engineers from many parts of the world specified their ideal products for Industrial Calibration. Fast-Cal realizes their top ten requirements of:

- 1 Rugged
- 2 Lightweight
- 3 Easy to use on site
- 4 Low cost/high benefit ratio,
- 5 Fast response, high stability
- 6 Time saving features
- 7 Multiple sensor testing
- 8 Software
- 9 Modern design
- 10 Compliant with latest regulations.

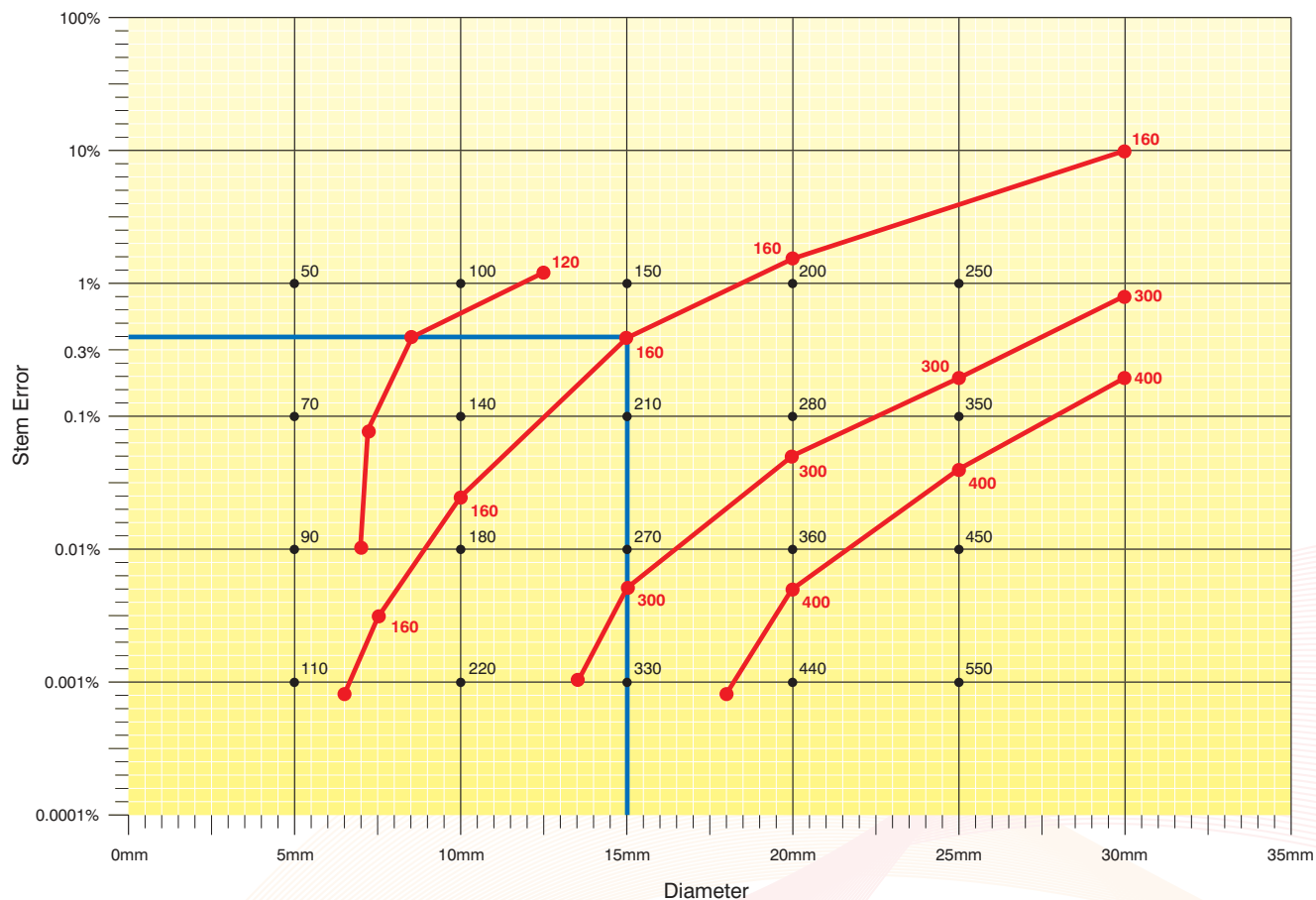


■ Immersion depth is very important

When selecting a Dry Block Calibrator depth of immersion is very important. The chart below provides guidance in selecting a bath for immersion depth. Note that sensors with

a long sensing length will require greater immersion. The chart is general and applies equally to all dry blocks - not to a particular model or manufacturer.

Immersion Depths for various diameter thermocouples or thermistors in a dry block bath



Example shows 0.3% stem error for a 15mm diameter thermocouple immersed 160mm in a dry block.

Note 1 For sensors immersed in stirred liquids the diameter of sensor can be doubled, or the minimum depth halved.

Note 2 The sensing length must be added to the above immersion depth calculation

N.B. The above gives a good guide, however each sensor will be slightly different.

For full information on immersion depth visit the technical library on the Isotech website.

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