DATASHEET

Pegasus-T

Isotech

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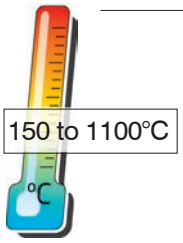

Dry Block Calibrator
Pegasus-T [Special Application]

- Designed for Short Sensors
- Dynamic Heating Zone
- Customised Calibration Blocks

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.

The Pegasus-T is the latest member of the Pegasus family developed for sensors that are simply too short to be calibrated in the Pegasus 4853 or other conventional calibration furnaces.

The advanced control system allows the user to select optimal performance for sensors immersed at 25mm, 35mm or 50mm with three independent control loops. It also has built in over-temperature protection to protect the heater wire from overtemperature thus increasing life expectancy.

- Immersion Depth
  Calibration engineers understand that to get the best accuracy temperature sensors should be immersed deeply into a calibration bath or furnace and compared to a reference thermometer.

- Calibrate Short Sensors
  But how to calibrate very short sensors such as those used in the automotive industry? These sensors are too short to go into conventional furnaces. The Isotech Pegasus 4853 has an immersion depth of 130mm which will suit many sensors but what if the sensor is very short, 25mm to 50mm? Large furnaces are unsuitable and calibrating these types of device provides a significant measurement challenge.

- Dynamic Heating Zone
  The new Pegasus-T has been developed for this very challenge and features a dynamic heating zone for short immersion probes providing a calibration source for sensors that are too short for other furnaces. It is being trialled and adopted at a number of customer sites in Europe and Asia and is now released for general sale.

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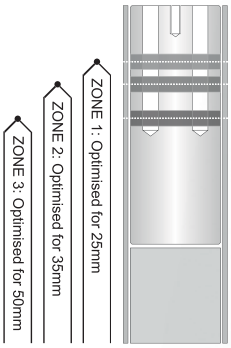
Flexible operation to suit your sensor types

Dynamic Heating Zone

Pegasus-T allows you to choose an internal control sensor at the same depth the sensors under test, selecting from three internal noble metal control sensors or using an external control sensor placed at the same depth as the sensor under test.



Control from an External Sensor

Switch from the internal control sensor to an external Type R thermocouple that can be placed alongside the test sensor.

Independent Reference Channel

Type R thermocouple input, can be used for external control or with a reference probe for an independent temperature measuring loop, option for UKAS calibration.

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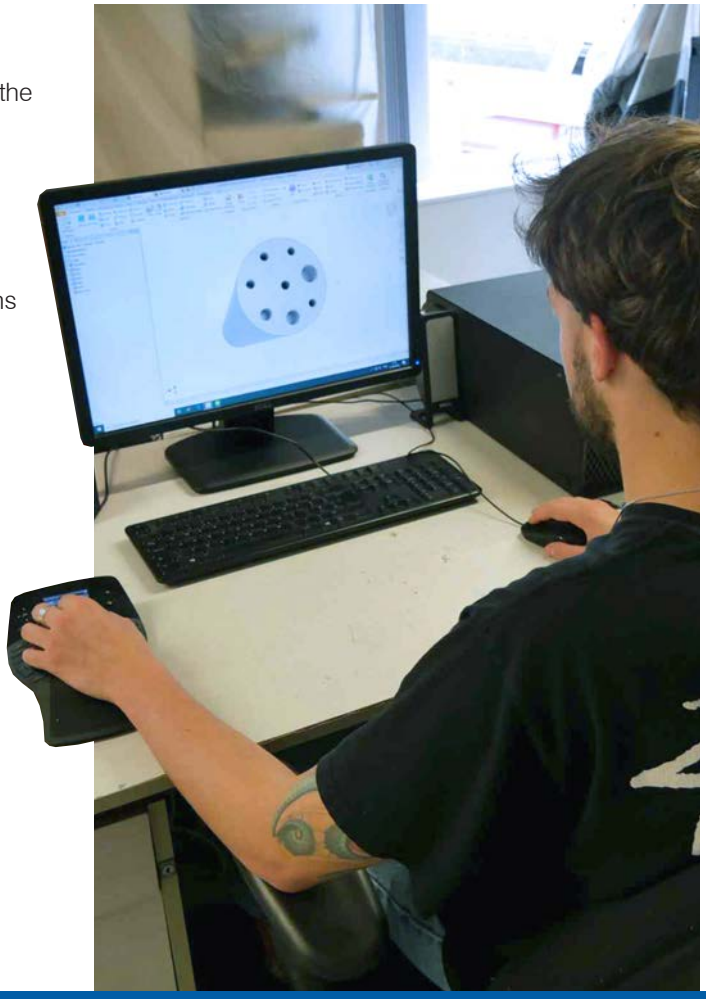
Accuracy

With short immersion probes there can be large errors as the sensor cannot be immersed deeply enough to allow it to reach the same temperature as the calibration block and there is a temperature gradient at the edge of the block. Tests show that the Pegasus-T is more useful than alternatives but there will always be a need to experiment and evaluate to determine the uncertainty for the conditions of use. It can be helpful to use a reference sensor of the same type as the units under test.

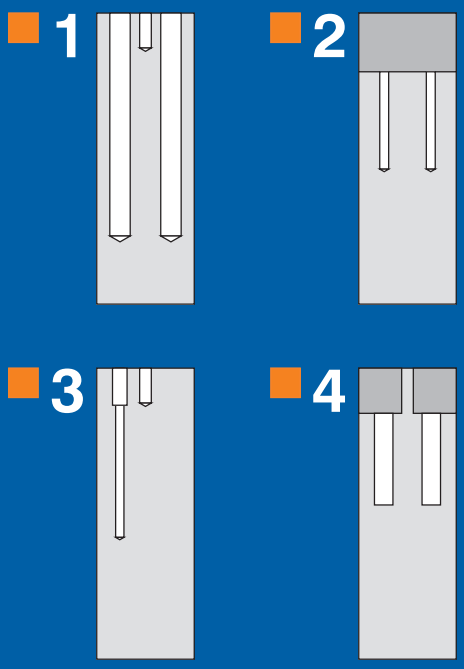
Calibration Blocks

The Pegasus-T is supplied without an insert as most applications will require drilling to suit your requirement. Our CAD Designers can produce designs for your approval before manufacture in our workshop. Alternatively we can provide blank inserts for you to manufacture or a pre-drilled insert with 6 x 5mm pockets, 100mm Deep.



Special Inserts

We can design and manufacture inserts to suit your sensors...



*All inserts shown in half section

Advanced Features

Fully featured high resolution display with advanced control features including multi loop control with autotune, adjustable temperature alarm

- **Temperature Programmer**
  Create, Edit and Store automatic programs for temperature stepping
- **Reference Channel Input**
  Can be used for external control or as a reference input. A Type R Thermocouple, Model 935-14-91 is included with each Pegasus-T
- **Ethernet Interface**
  Free Software, I-Cal Easy Log - web download
- **Offset Elimination**
  Connect the external reference probe and the calibrator can trim the block temperature to remove offsets
- **USB Port**
  Export logged data to a USB Key, controller data is continuously logged

Specification:

Parameter	Pegasus-T
Temperature Range	150°C to 1100°C
Stability	±0.05°C at 150°C ±0.08°C at 1100°C
Display Resolution	0.1°C over whole range
Cools from 1200°C to 800°C 1200°C to 200°C	in 50 Minutes* in 180 Minutes* *Substantially reduced by using the optional cooling adaptor
Heating Rate	25°C/minute
Calibration Volume	33.5mm Diameter by 100mm Deep
Automatic Temperature Cycling	Yes
PC Interface	Ethernet and USB Host
Independent Reference Channel	Yes: Can be used for external control or as a reference input
Datalogging	Yes: Export to USB
In Built Webserver	Yes
Indicator Units	°C, °F, K
Power	115Vac or 230Vac (50/60 Hz) 800 Watts
Dimensions	302H x 200W x 268D mm
Weight	13kg

NOTE: *Due to our program of continual development and improvement, we reserve the right to amend or alter characteristics and design without prior notice*

CAUTIONARY NOTE: *The operating life of the heater will vary with both the maximum operating temperature and the duty cycle. Units being used 24/7 at high temperatures may require a maintenance schedule for heater replacement*

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