DATASHEET

Jupiter-4852

Isotech

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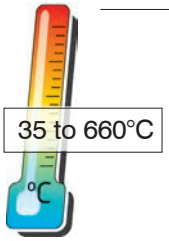

Dry Block Calibrator
Jupiter

- Wide Operating Range to 660°C
- Fast Response
- Calibrate Whole Measurement Loop

The Jupiter Dry Block range offers industry-leading performance in an easy to use portable package - ideal for the calibration of thermocouples and platinum resistance thermometers. It has been designed for fast heating and cooling for convenient field use. For flexibility surface sensor and infrared thermometer accessories can be added.

The standard insert can hold up to six thermometers. For larger blocks see the Gemini range.

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.

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.

These models meet the calibration capacity requirements of EURAMET calibration Guide 13 “EA Guidelines on the Calibration of Temperature Block Calibrators”

All models include I-Cal Easy LOG software and the

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

ADVANCED models additionally include software to manage logged data and configure the unit, see page 14 for more details.

ADVANCED

SITE

BASIC

Parameter	Model
	Jupiter 4852
Temperature Range	35°C to 660°C
ADVANCED Range	
Stability	±0.015°C @ 100°C ±0.025°C @ 650°C
Display Resolution	0.01°C over whole range
Accuracy: RTD Input Channel	±0.20°C across range
Accuracy: Thermocouple Input Channel	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
BASIC/SITE Range	
Stability	±0.02°C @ 100°C ±0.03°C @ 650°C
Display Resolution	0.01°C from 30.00 to 99.99°C then 0.1°C: 0.01°C Over PC Interface
COMMON Specifications	
Display Accuracy [1]	0.5°C
Blackbody Source	±0.3°C
Surface Sensor Calibrator	±0.5°C
Cools from 650°C to 150°C	in 60 minutes
Heats from 30°C to 650°C	in 20 minutes
Best Performance	See Graph
Calibration volume	35mm diameter by 148mm deep
Standard Insert	6 pockets, 2 x 4.5mm, 2 x 6.4mm, 1 x 8.0mm, 1 x 9.5mm diameter, all 140mm deep
Indicator units	°C, °F, K
Power	115Vac or 230Vac 50/60Hz 1000 Watts
Dimensions	384H (including handle) x 212W x 312D mm
Weight	8.5kg

(1) Dry Block Mode only: Comparing 6.5mm Well to Display Value.

	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

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

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ISOTECH

Dry Blocks
FAST RESPONSE

Metal Block Bath

The Jupiter is supplied with an insert suitable for a wide range of sensors as standard.

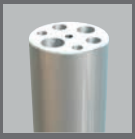
Blackbody Source

Add the Blackbody accessory to allow calibration of infrared thermometers.

Surface Sensor Calibrator

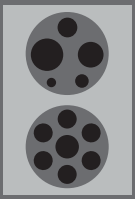
The Jupiter can calibrate surface sensors by adding the surface sensor kit.

Jupiter Accessories

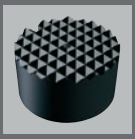


Metal Block Insert 852-07-11
Standard Insert included.
Size: 2 x 4.5mm, 2 x 6.4mm, 1 x 8mm and 1 x 9.5mm all 140mm deep

Alternative Inserts



852-09-03 Alternative Insert type B 13mm, 10mm, 8mm, 5mm and 3.5mm diameter holes, all 140mm deep
852-09-04 Alternative Insert type C 8mm, 6 x 6.5mm diameter holes, all 140mm deep
852-07-07 Blank Insert without pockets for local machining. Includes M4 tapped hole for supplied extractor tool.
852-07-07C Custom Insert. Isotech can provide custom drilled pockets, minimum of 3mm separation between holes.
Contact Isotech with your requirements.

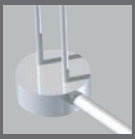


Blackbody Kit 852-09-05
Includes a Blackbody target and Sensor.

Surface Sensor Kit 852-07-15
Includes angled thermocouple.

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.



Air Cooling 853-04-02
For use with an air supply this accessory allows air to be blown into the block for rapid cooling.

Standard Probe 935-14-72/DB
Platinum Resistance Thermometer for use up to 660°C. Probe diameter 6mm, recommended pocket size 6.5mm.

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.

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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.

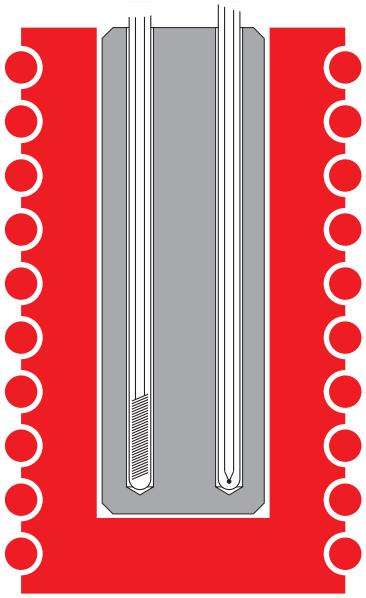
Isotech have been pioneering the latest developments in Temperature Metrology for more than 30 years, benefit from our know how, experience and global network.

Jupiter Benefits

- The Jupiter calibration block features uniform heating with a custom wound heater over an extended length of the block. The block itself is made from copper which has a very high thermal conductivity; much superior to the aluminium bronze alloys used elsewhere. A propriety process is used to protect the copper from oxidising. This combination of materials and expert knowledge delivers superior performance.

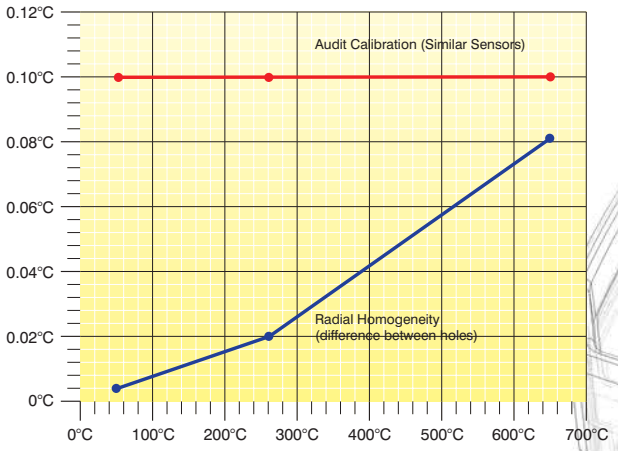
660°C Operation

- The Jupiter ADVANCED operates to a maximum of 660°C; matched to the upper limit of the high temperature Isotech Semi Standard Platinum Resistance Thermometers. This allows maximum accuracy with no risk to exceeding the temperature limit of the PRT. This gives greater accuracy than extending the range beyond 660°C and having to use an inferior thermometer or thermocouple.



Superior uniformity by using copper block with extended length heating

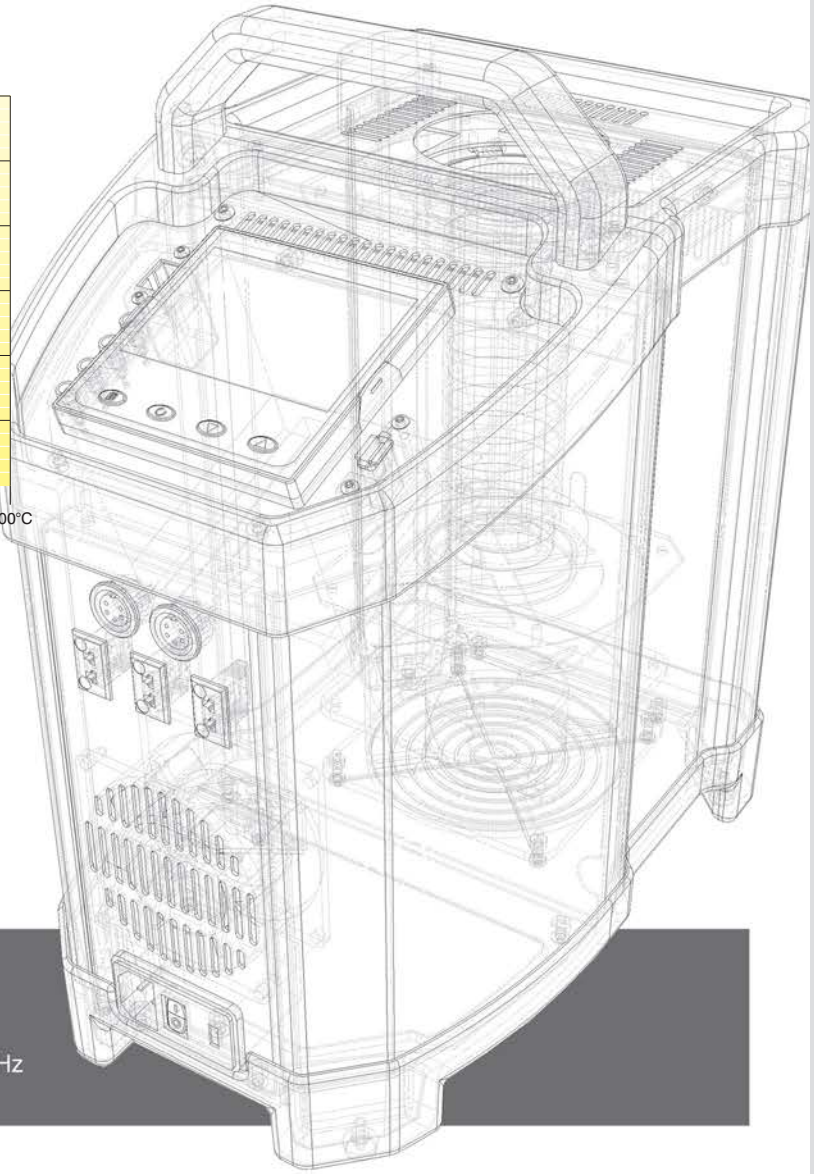
Jupiter



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