The World's most Rugged Dry Block Calibrators

-40°C to +140°C
+35°C to +660°C

At Isotech we appreciate that operating in challenging environments often necessitates tools that can endure harsh conditions. **These rugged calibrators were designed after a special request from the US Navy**, who required a range of custom dry block temperature calibrators, constructed to military standards, and capable of operation even when the ambient temperature was well below 0°C.

Rising to this challenge, and outperforming all international competitors, we developed what we believe to be the World's most rugged Dry Block Calibrator. Our efforts and commitment were well-rewarded, the Navy has already procured hundreds of these calibrators and their continued trust in our design emphasise the quality and reliability of our products.

Recognizing the potential benefits for a broader audience we have made these rugged, precision units available for general use, featuring our standard interface options, with capabilities to suit a wider range of industries.

RUGGED CALIBRATORS FOR HARSH ENVIRONMENTS

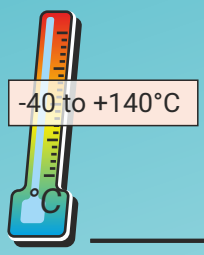
DUST PROTECTION

WATER PROTECTION

ALTITUDE PROTECTION

EXTREME AMBIENT PROTECTION

IMPACT PROTECTION



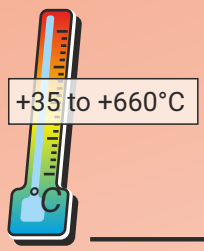
Low Temperature Rugged Calibrator
786

- Fast, reliable, and accurate
- Rugged, IP56, designed for use in harsh environments
- Use in cold environments - down to -29°C

Operate confidently in cold environments, even as low as -29°C. The ruggedly designed Model 786 takes laboratory level performance into the harshest of environments.

Unlike other calibrators that cannot be used in the extreme cold, the 786 boasts an active internal environmental control system, specifically tailored for those calibrating in cold rooms and freezers. Initially crafted for the rigorous demands of the US Navy, it conforms to stringent military standards, undergoing bench, bounce, and altitude testing. Encased in a high-impact resistance shell, its removable lid conveniently houses all the essential accessories.

Beyond its robust design, Model 786 is unparalleled in protection and functionality, offering unique reference channel input options, datalogging, and other advanced features.



High Temperature Rugged Calibrator
787

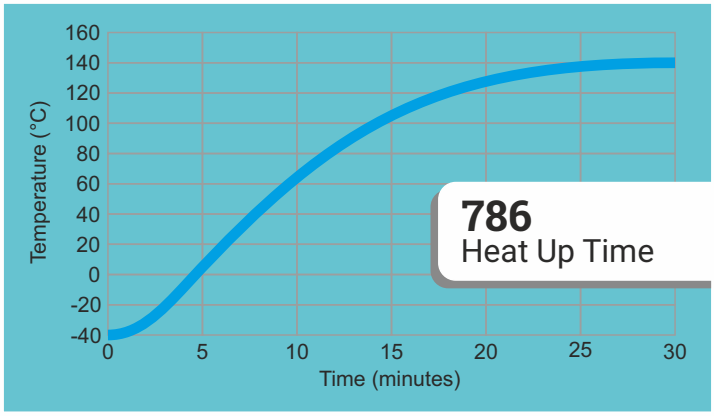
- Fast, reliable, and accurate
- Rugged, IP56, designed for use in harsh environments
- High temperature operation to +660°C

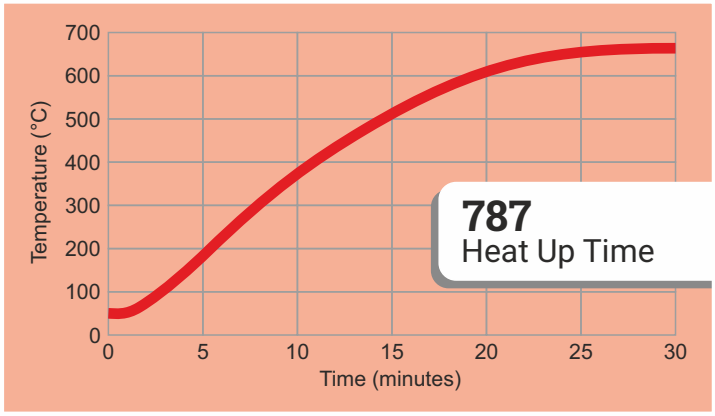
The Model 787 calibrator redefines industry standards by blending industry leading performance and speed of operation within a robust design tailored for extreme conditions. The maximum operating temperature is 660°C allowing wide range of senor types to be calibrated to high temperatures.

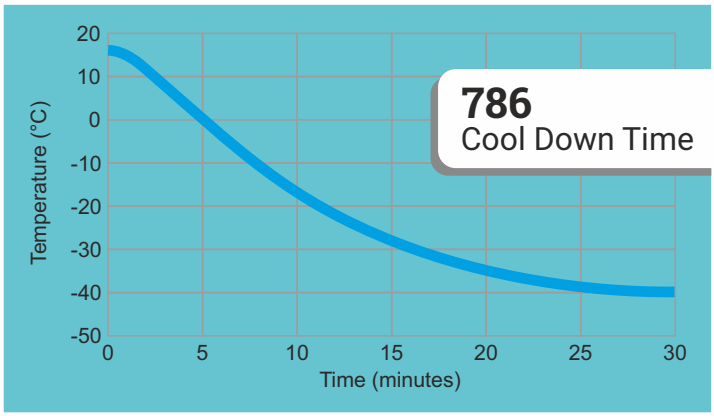
Like its counterpart, the low-temperature Model 786, this unit was initially crafted for the rigorous demands of the US Navy, it conforms to stringent military standards, undergoing bench, bounce, and altitude testing. Encased in a high-impact resistance shell, its removable lid conveniently houses all the essential accessories. Other calibrators lack the protection offered, for terrain, transit and storage the Model 787 is unrivalled.

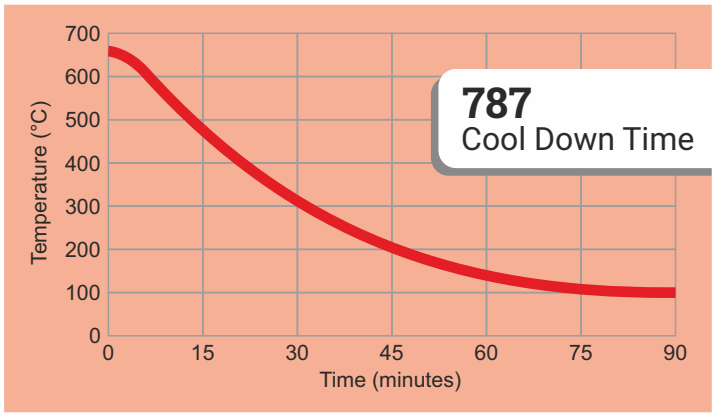
Beyond its robust design, Model 787 is unparalleled in protection and functionality, offering unique reference channel input options, datalogging, and other advanced features.

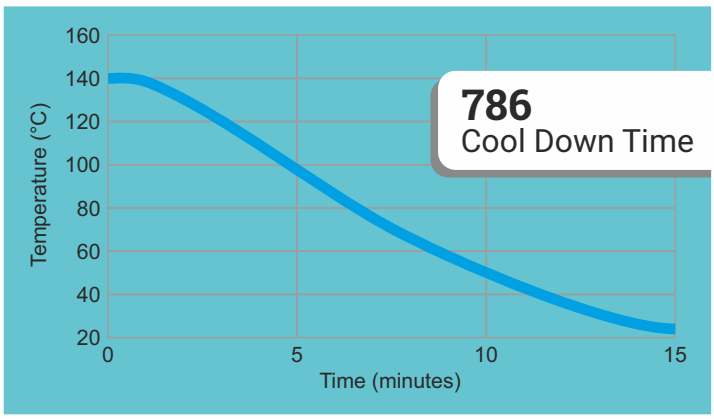
	786	**787**
Temperature Range	-40°C to +140°C*	+35°C to +660°C
	Ambient Temperature Range -29°C to +50°C *In ambient temperature of 20°C.	Ambient Temperature Range 0°C to +50°C
ADVANCED		
Stability	±0.008°C	±0.03°C
Display Resolution	0.001°C over whole range	0.01°C over whole range
Indicator Units	°C, °F, K	°C, °F, K
Interface	Ethernet, USB Host	Ethernet, USB Host
Accuracy: RTD Input Channel	±0.05°C ±0.005% RDG	±0.05°C ±0.005% RDG
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	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	±0.35°C
BASIC / SITE		
Stability	±0.01°C	±0.03°C to ±0.05°C
Display Resolution	0.01°C from -19.99°C to 99.99°C 0.1°C: 0.01°C over PC Interface	0.01°C from 0.00°C to 99.99°C 0.1°C: 0.01°C over PC Interface
Indicator Units	°C, °F, K	°C, °F, K
Interface	Serial	Serial
COMMON SPECIFICATIONS		
Display Accuracy	0.15°C	0.15°C
Radial Uniformity	<0.008°C	<0.08°C
Axial Uniformity	<0.09°C	<0.5°C
Heating Time	See Graph	See Graph
Cooling Time	See Graph	See Graph
Ingress Protection	IP56	IP56
Storage Temperature	-30°C to +71°C	-30°C to +71°C
Humidity	0 to 90% (non-condensing)	0 to 90% (non-condensing)
Insert Dimensions	29.4mm Diameter x 203mm Deep	25.4mm Diameter x 152mm Deep
Insert Pockets	4.50mm, 6.50mm, 8.00mm, 9.50mm, all 195mm deep, M4 tapped hole for supplied extractor tool.	4.50mm, 4.50mm, 6.50mm, 8.00mm, all 148mm deep, M4 tapped hole for supplied extractor tool.
Power	85-264 Vac, 50/60Hz, 360 Watts	110 or 230 Vac, 50/60Hz, 800 Watts
Dimensions	H 350mm W 400mm D 275mm	H 350mm W 400mm D 275mm
Weight (nominal)	16.8kg	18kg


786
Heat Up Time
Temperature (°C)
Time (minutes)


787
Heat Up Time
Temperature (°C)
Time (minutes)


786
Cool Down Time
Temperature (°C)
Time (minutes)


787
Cool Down Time
Temperature (°C)
Time (minutes)


786
Cool Down Time
Temperature (°C)
Time (minutes)

Top Handle
Removable Lid with Internal Compartment for Accessories
Lock-able Lid Clasps
Rugged Case
High Strength
Low Weight
Impact Resistant
UV Stable
Tested to
Military Standards
IP 5 6
Protected against harmful dust. Protection from water jets, no harmful effect of water splash from all directions
Side Handle
Pressure Relief Valve

Alternative Methods of Calibrating

Basic Model

- For quick & easy testing.
- Digital display of set and nominal block temperature.
- Use with a separate external indicator to compensate for gradients and loading.

Site Model

- Digital display of set and nominal block temperature.
- Inbuilt single channel indicator for reference probe.
- Best practice calibration with established traceability and uncertainty.

Advanced Model

- Digital display of set and nominal block temperature.
- Inbuilt three channel indicator for reference probe and units under test.
- Advanced features including automatic temperature cycling and logging.
- Best practice calibration with established traceability and uncertainty.

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

Isotech's expertise in temperature measurement is unrivalled. In our product range, we have a variety of devices, tailored to meet your temperature measurement requirements. Models include handheld precision thermometers and the world's best-performing thermometry bridges.

All Isotech products are industry leading. Not only for our service, but for the extreme accuracy levels, value and versatility. **Whether you are involved in the Industrial Calibration of sensors such as PRTs or have any other form of measurement need, we have a device for you!**

ISOTECH

About Us

The world leader in temperature metrology, with more than 40 years' experience.

Our clients include the world's leading laboratories as well as National Laboratories, leading ISO 17025 Accredited Laboratories and users in all industries.

For more information: ISOTECH.CO.UK

UKAS Calibration Options

Why Choose Isotech?

> Innovation - winner of the Queen`s Award for Enterprise in the Innovation Category, 2017.

> Isotech has solutions for all calibration needs, from Primary Laboratories maintaining National Standards to the needs of field engineers calibrating industrial sensors on site. Isotech is truly "The Source for Calibration Professionals".

> Global Network - local support. Isotech has over 90 authorized sales agents worldwide! No matter where you are, we can offer local support.

> The world's leading National Metrology Institutes choose Isotech - shouldn't you?

Temperature Metrology Solutions for:

> ITS-90 Primary Standards
> Industrial Sensor Calibration
> Secondary Temperature Calibration
> Infrared Thermometers
> High Accuracy Temperature Measurement
> Thermocouple Referencing Equipment

ISO 17025 calibration services to the smallest of uncertainties and with international recognition

Telephone: +44 (0)1704 543830

Email: info@isotech.co.uk Web: www.isotech.co.uk

Isothermal Technology Limited Pine Grove, Southport, Merseyside PR9 9AG England

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