

TEMPERATURE CALIBRATION

Instron Professional Services



Instron is leading the way to better calibration of environmental chambers and furnaces. Instron's Temperature Calibration service ensures that testing parameters are being met and that associated results are being calculated accurately.

WHY SHOULD I CALIBRATE TEMPERATURE?

Calibration of temperature measuring systems is often not done frequently enough or with appropriate procedures and proper methodologies. To address this problem, Instron has developed a number of temperature calibration procedures that meet the most common laboratory and manufacturing requirements. These procedures are fully compliant with ISO/IEC 17025 and provide assurance that your test data is valid and your processes are properly controlled.

Performing a test or running a process at the incorrect temperature is a frequent source of inaccurate results. Variability of temperature either in accuracy or uniformity is a significant, and often unrecognized, contributor to reduced quality in products and inconsistency in test data.

You should consider calibrating temperature if any of the following applies to you:

- You need to know the accuracy of the temperature.
- You need to know how the temperature may vary over the course of a test procedure.
- You need to know how uniform the temperature is throughout the volume of the temperature chamber.

CALIBRATION CERTIFICATES


Instron calibration certificates provide you with the documentation necessary to prove compliance with industry testing standards and auditing authorities.

Our certificates are quality-compliant and carry a unique certificate number and date.


CERTIFICATE OF CALIBRATION

TEMPERATURE
ISSUED BY: INSTRON CALIBRATION LABORATORY

Date Issued: 23-Apr-21
Certificate No.: E315042321093100



Page 1 of 2



Instron Calibration Laboratory
825 University Avenue
Norwood MA 02062-2643
Phone: 800-473-7838

Approved Signatory

Luc
Clement

Digitally signed by Luc Clement
Reason: I am approving this document
Date: 2021.04.27 09:16:42 +02'00'

Calibration Date: 23-Apr-21

CUSTOMER		Unit Under Test	
Name:	Customer EU	Make:	Instron
Address:	6834 Materials Testing Street Norwood MA 02062 USA	Model:	CP102444
Contact:	Joe Bloggs	Serial Number:	Instron-123456
PO#:	Joe.Bloggs@customer.com	Asset Number:	Instron-123456
Method:	In situ	Description:	Temperature chamber
Humidity:	21 %RH	Location:	US
Temperature:	22.9 2663-821/1234	Units:	°C
		Accuracy:	3.5 °C
		As Found:	In Tolerance
		As Left:	In Tolerance

Calibration Equipment							
Make / Model / Description	Serial No.	Cal. Agency	Certificate #	Cal Date	Due Date	Usage	
Fluke 714	Instron-123456	Trescal	ESTEM-MAD-CI-20052646	22-Sep-20	22-Sep-21	All Points	
Thermocouple Wire Type K	Instron-123456	Trescal	ESTEM-MAD-CI-20052646	22-Sep-20	22-Sep-21	All Points	
Temp./Hum. Indicator	Instron-123456	Instron	20190514A	14-May-19	14-May-21	All Points	

The measurement results produced with Instron standards are traceable to the SI (The International System of Units) through internationally recognized National Metrology Institutes (NIST, NPL, PTB, Inmetro, etc.).

Method of Calibration

The calibration and equipment used conform to a controlled Quality Assurance program which meets the specifications outlined in ANSI/NCSL Z540.1-1994, ISO 10012:2003, ISO 9001:2015 and ISO/IEC 17025:2017. The calibration was performed in accordance with Instron work instruction ICA-8-85 on site at the customer address listed on this calibration certificate.

The Simple Acceptance decision rule has been employed in the determination of conformance to the identified metrological specification.

COMMENTS

Calibrated By: _____

JCA-8-188 (Temperature Calibration Certificate v5.0) 12-dec-19

The results indicated on this certificate and the following report relate only to the items calibrated. If there are methods or data included that are not covered by the NVLAP accreditation it will be identified in the comments. Any limitations of use as a result of this calibration will be indicated in the comments. This report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government. This report shall not be reproduced, except in full, without the approval of the issuing laboratory.

NVLAP symbol and the Accredited Laboratory Combined ILAC MRA Mark provides international recognition and acceptance.

The certificate contains a complete description of equipment being verified.

Scope of verification is always listed on the certificate.


Instron maintains 6 years of factory backup of calibration certificates.

Instron Calibration equipment is listed on the certificate.

Method of conformance to relevant quality standards clearly stated for risk reduction during audits and other regulatory evaluations.

Summary table provides ease of understanding of calibration data.

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Page 2 of 2

CALIBRATION DATA

As Found Calibration Point	Reading 1 @ t = 0 secs			Reading 2 @ t = 30 secs			Reading 3 @ t = 60 secs			Expanded* Uncertainty of Measurement °C
	Actual Temp. °C	Indicated Temp. °C	Difference °C	Actual Temp. °C	Indicated Temp. °C	Difference °C	Actual Temp. °C	Indicated Temp. °C	Difference °C	
1	22.1	22.0	-0.1	22.1	22.0	-0.1	22.1	22.0	-0.1	0.7
2	99.4	100.0	0.6	99.5	100.0	0.5	99.5	100.0	0.5	0.7
3	119.7	120.0	0.3	119.7	120.0	0.3	119.6	120.0	0.4	0.7
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5										
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7										
8										
9										
10										
11										
12										



BENEFITS OF INSTRON CALIBRATION

Instron has highly accurate equipment to provide temperature calibrations that meet internal standards.

Instron is accredited by NVLAP under Lab Code 200301-0. This ensures that Instron has proven technical competence and has the necessary quality systems in place to ensure consistent calibration processes which maximize customer confidence.

- All global calibration laboratory procedures follow the latest versions of ISO or ASTM calibration standards.
- Service engineers around the globe use Instron software which has been developed and validated to ensure compliance with calibration standards and eliminate common data transfer errors.
- Our field calibration kits are carefully monitored and re-certified by our global calibration laboratory to ensure the integrity of your data.
- All Instron accredited certificates of calibration contain the NVLAP Symbol and Accredited Laboratory Combined ILAC MRA Mark, an internationally recognized “stamp of approval” that demonstrates compliance against agreed standards and requirements.

TEMPERATURE CALIBRATION SERVICE

The temperature calibration service that Instron offers in Europe is referred to as “in-situ”. This service is performed by placing calibrated thermocouples in the chamber that is to be verified and comparing their reading to the system’s reading. Instron can cover temperature ranges -100 to +500 °C in Europe.

WHAT TEMPERATURE DEVICES CAN INSTRON CALIBRATE?

Instron Professional Services can verify a wide range of Instron and non-Instron temperature devices including: environmental chambers and furnaces that are used to characterize temperature profile gradients, oven and chamber uniformity surveys, heat treating and finishing devices and temperature data conditioning units.

www.instron.com



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