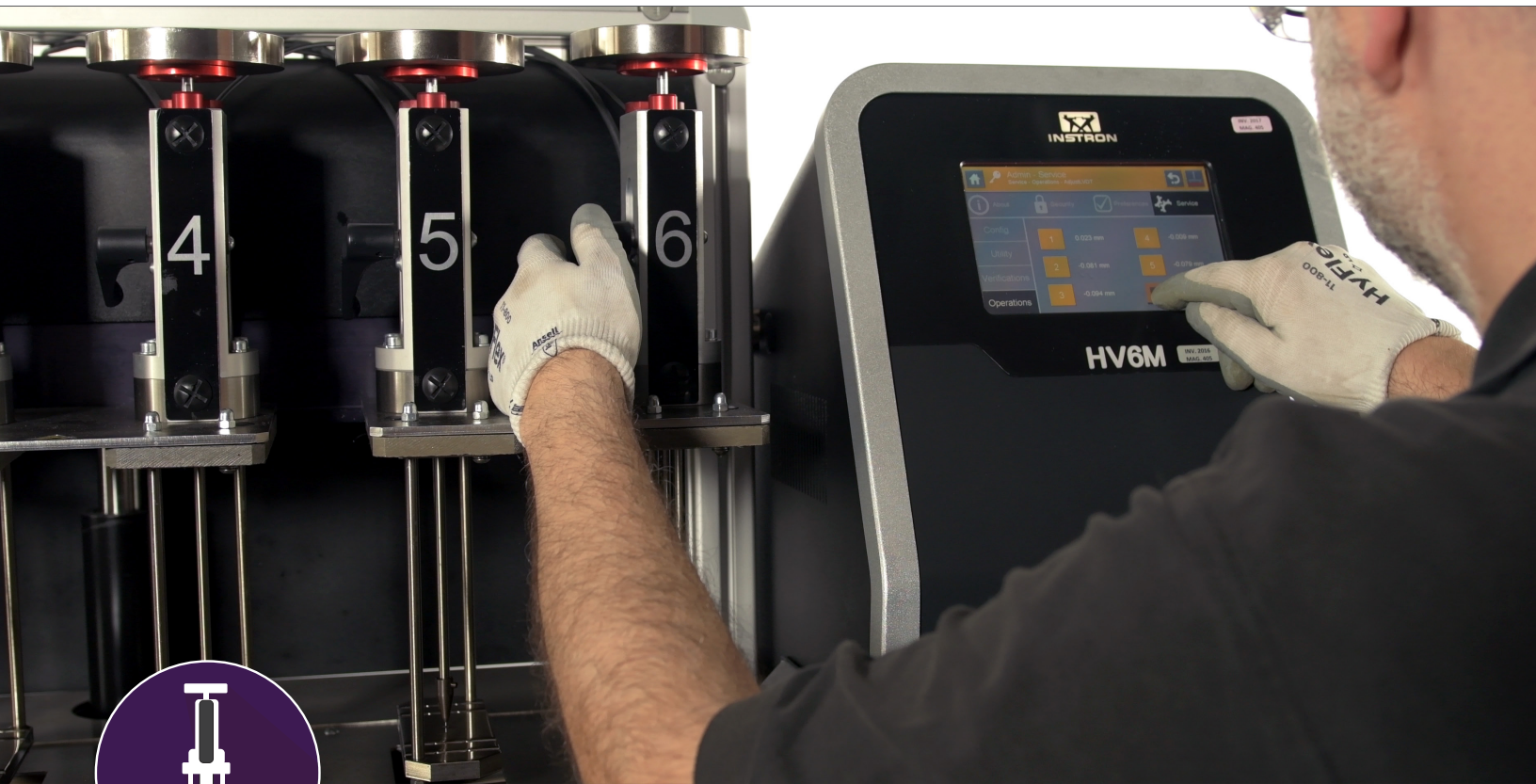




The difference is measurable®

HDT & VICAT CALIBRATION

Instron® Professional Services



Instron is a leading provider in calibrating HDT & Vicat systems and is an active participant in the development of ISO 75 and ASTM D648 standards for HDT and ISO 306 and ASTM D1525 standards for Vicat. This service ensures that testing parameters are being met and that associated results are being calculated accurately.

Regular calibration of your HDT & Vicat systems is essential to avoid potential risk exposure from inaccurate test results that can affect the quality of your product to market.

HDT & VICAT CALIBRATION SERVICE

- CEAST HDT tester calibration complying with ISO 75 and ASTM D648, including 1 temperature ramp 120°/hour (up to required working temperature).
- CEAST Vicat (VST) calibration complying with ISO 306 and ASTM D1525, including 1 temperature ramp 120°/hour and 1 temperature ramp 50°/hour (up to required working temperature).
- Calibration of the system's mass from 2 grams up to 4095 grams.
- Calibration performed by a factory-trained Field Service Engineer, who can make system adjustments if required.

CALIBRATION CERTIFICATES

On completion of your calibration you will receive a fully compliant ISO/IEC 17025 accredited certificate of calibration. Accredited by NVLAP, a signatory to the International Laboratory Accreditation Cooperation Mutual Recognition Arrangement (ILAC-MRA), Instron's calibration certificates provide you with the confidence of global acceptance.

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

The certificate contains a complete description of the equipment being tested being tested, including any customer references.

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

Summary of results provides ease of understanding of calibration data.

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


Scope of verification is always listed on the certificate.

Instron maintains 6 years of factory backup of calibration certificates.



CERTIFICATE OF CALIBRATION

Issued by: INSTRON CALIBRATION LABORATORY

DATE OF ISSUE: See signature CERTIFICATE NO: E201041423091236



Instron
825 University Avenue
Norwood, MA 02062-2643
Telephone: (800) 473-7838
Fax: (781) 575-5750
Email: service_requests@instron.com

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APPROVED SIGNATORY

KD

Digitally signed by Kenneth Ding
DN: cn=K. Ding, o=Instron Calibration
Laboratory, ou=Instron Calibration
Laboratory, email=kd@instron.com
c=US

Type of Calibration: HDT/VICAT **As Found / As Left**

Relevant Standards: ASTM D-648 / 1525 / ISO 75 / 306

Date of Calibration: 14-Apr-23

Customer

Customer: Instron
Address: 825 University Avenue
Norwood, MA 02062
Country: USA
P.O./Contract No.: N/A
Contact: Jim O'Donovan
Email: James_odonovan@instron.com

Instrument

Manufacturer: Ccast
Serial Number: 21157
System ID: 6921/21157
Customer Asset ID: INS-011-1

Certification Statement

All machine indicators were calibrated on-site at customer location by Instron in accordance with the above relevant standards.

The combined Bias Error and Instability, fall within the Maximum Permissible Error (MPE) limits of the Governing Standards.
LVDT Displacement for ASTM / ISO Nominal Measurement ±0.01 mm

The calibration and equipment used conform to a controlled Quality Assurance program which meets the specifications outlined in ANSI/NCSL Z540-1, ISO 10012, ISO 9001:2015 and ISO/IEC 17025:2017

Method

Calibration test results collected without any adjustments or repairs made to the device / instrument.

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.

Summary of Results - LVDT Displacement

Temperature at Start of Calibration: 23.5 °C

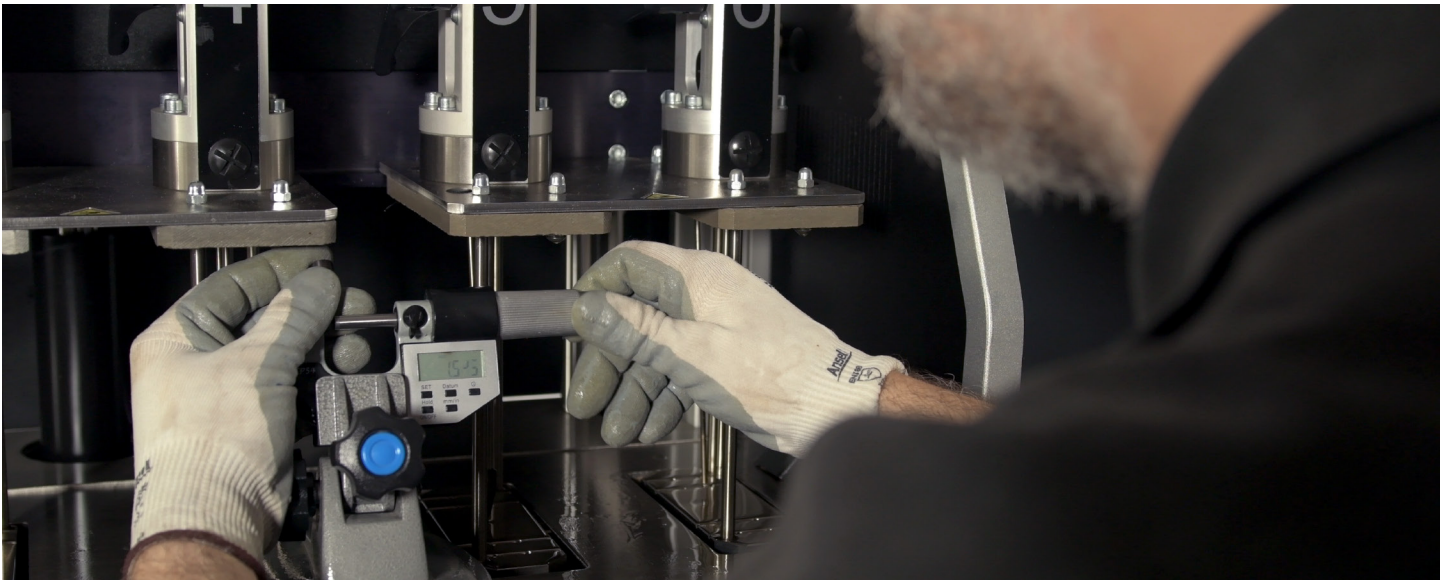
1 mm Displacement							
	Run1	Run 2	Run 3	Mean	Meas. Uncert.	Pass/Fail	
Station 1	1.010 mm	1.010 mm	1.010 mm	1.010 mm	0.0006 mm	Pass	
Station 2	1.000 mm	1.000 mm	1.000 mm	1.000 mm	0.0006 mm	Pass	
Station 3	1.000 mm	1.000 mm	1.000 mm	1.000 mm	0.0006 mm	Pass	
Station 4	1.010 mm	1.010 mm	1.010 mm	1.010 mm	0.0006 mm	Pass	
Station 5	1.000 mm	1.000 mm	1.000 mm	1.000 mm	0.0006 mm	Pass	
Station 6	1.010 mm	1.010 mm	1.010 mm	1.010 mm	0.0006 mm	Pass	

0.5 mm Displacement							
	Run1	Run 2	Run 3	Mean	Meas. Uncert.	Pass/Fail	
Station 1	0.510 mm	0.510 mm	0.510 mm	0.510 mm	0.0034 mm	Pass	
Station 2	0.500 mm	0.500 mm	0.500 mm	0.500 mm	0.0034 mm	Pass	
Station 3	0.500 mm	0.500 mm	0.500 mm	0.500 mm	0.0034 mm	Pass	
Station 4	0.510 mm	0.510 mm	0.510 mm	0.510 mm	0.0034 mm	Pass	
Station 5	0.500 mm	0.500 mm	0.500 mm	0.500 mm	0.0034 mm	Pass	
Station 6	0.510 mm	0.510 mm	0.510 mm	0.510 mm	0.0034 mm	Pass	

BENEFITS OF INSTRON CALIBRATION

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

- All global calibration laboratory procedures follow latest versions of ISO or ASTM calibration standards.
- Our field calibration kits are carefully monitored by our global calibration laboratory for expiration to ensure the integrity of your data.
- Our Field Service Engineers are audited in accordance with our accreditation to ISO 17025 by NVLAP under Lab Code 200301-0 a signatory of the International Laboratory Accredited Cooperation Mutual Recognition Arrangement (ILAC MRA).
- Instron has a global presence, with an accredited calibration laboratory and Field Service Engineers located in key regions around the world. This means that no matter where you are located, you can access our high-quality calibration services and support.



INSTRON SERVICE AGREEMENTS

Instron offers a variety of different service agreement options, where you can combine preventative maintenance, calibration and Instron Connect into a single plan for all of your Instron systems, bringing you consistency in your lab.



ACCESS YOUR CALIBRATION CERTIFICATE WITH INSTRON CONNECT

Instron Connect includes a number of technologies that create a secure connection between the testing systems at your facility and Instron. These technologies include a support portal and an AI driven mobile app where you can access your Instron system's preventative maintenance reports, service history and calibration certificates at any time.

www.instron.com



Worldwide Headquarters
825 University Ave, Norwood, MA 02062-2643, USA
Tel: +1 800 564 8378 or +1 781 575 5000

European Headquarters
Coronation Road, High Wycombe, Bucks HP12 3SY, UK
Tel: +44 1494 464646