



Accredited Laboratory

A2LA has accredited

PTC METROLOGY

Los Angeles, CA

for technical competence in the field of

Calibration

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories*. This laboratory also meets R205 – Specific Requirements: Calibration Laboratory Accreditation Program. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).



Presented this 8th day of March 2022.

A blue ink signature of a person, likely a representative of the accreditation body.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 1896.01
Valid to March 31, 2024

For the calibrations to which this accreditation applies, please refer to the laboratory's Calibration Scope of Accreditation.



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

PTC METROLOGY
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 Los Angeles, CA 90064
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CALIBRATION

Valid To: March 31, 2024

Certificate Number: 1896.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following calibrations^{1,5}:

I. Mechanical

Parameter/Equipment	Range	CMC ² (±)	Comments
Durometer Calibration – Indenter Shape			
Diameter	(0.045 to 0.055) in (0.0897 to 0.0977) in (0.030 to 0.032) in	100 μin 100 μin 100 μin	ASTM D2240, comparator overlay
Radius	(0.0249 to 0.251) in R (0.0448 to 0.0488) in R (0.0035 to 0.0045) in R	300 μin R 300 μin R 100 μin R	R = Radius
Angle	(34.75 to 35.25) degrees (29.5 to 30.5) degrees	0.04 degrees 0.04 degrees	
Indenter Extension	(0.096 to 0.1) in (0.048 to 0.05) in (0.298 to 0.302) in	50 μin 50 μin 50 μin	Gage blocks

Parameter/Equipment	Range	CMC ^{2,3,4} (±)	Comments
Durometer Calibration – (cont)			
Readout Linearity	(0.01 to 0.3) in	50 µin	Gage blocks
Spring Calibration – Force	(0 to 821) gf (0 to 4534) gf (0 to 9112) gf (0 to 142) gf	0.6 gf 3.1 gf 6 gf 0.3 gf	Durocalibrator, electronic scale, load cell
Durometer Calibrator	(0 to 821) gf (0 to 4534) gf	0.6 gf 3.1 gf	Load cell
Pressure – Measuring Instruments			
Gage Pressure	(6 to 12 140) psig	0.005 % rdg + 0.6R	Ruska 2400
Barometric (Absolute) Pressure	(600 to 800) mbar (450 to 600) mmHg (0 to 29) inHg	0.0004 mbar 5.5 mmHg 0.22 inHg	Druck DPI740
Transmitter Output	(0 to 100) mA dc (0 to 100) V dc	0.1 mA 0.008 V	Fluke 8845A

II. Thermodynamics

Parameter/Equipment	Range	CMC ^{2,4} (±)	Comments
Temperature – Measuring Instruments			
Temperature Immersion	(77 to 196) K (-196 to -77) °C	16 mK 0.016 °C	Liquid nitrogen comparator
	(196 to 273.2) K (-77 to 0) °C	11 mK 0.011 °C	Stirred bath Hart 7381
	(253.2 to 373.2) K (-20 to 100) °C	9 mK 0.009° C	Stirred bath Hart 7030

Parameter/Equipment	Range	CMC ^{2,4} (±)	Comments
Temperature – Measuring Instruments (cont)			
Temperature Immersion	(323.2 to 551.2) K (50 to 278) °C	9 mK 0.009 °C	Stirred bath Hart 6022
	273.16 K 0.01 °C	0.2 mK 0.0002 °C	TPW Hart 5901A
Surface	(323.2 to 953.2) K (50 to 680) °C	68 mK 0.068 °C	Comparator Hart 9260
	(573.2 to 1273.2) K (300 to 1000) °C	600 mK 0.6 °C	Comparator Hart 9112 deep well 16”
	(423.2 to 1273.2) K (150 to 1000) °C	700 mK 0.7 °C	Comparator Hart 9150 deep well 7”
	(268.2 to 313.2) K (-5 to 40) °C	120 mK 0.12 °C	PTC cold calibrator
Transmitter Output	(293.2 to 673.2) K (20 to 400) °C	130 mK 0.13 °C	Hart 3125 w/ Hart 1502A
	(673.2 to 798.2) K (400 to 525) °C	400 mK 0.4 °C	PTC hot calibrator
	(0 to 100) mA DC (0 to 100) V DC	0.1 mA 0.008 V	Fluke 8845A
Infrared – Measure			
Black Body Sources	(293.2 to 773.2) K (20 to 500) °C	850 mK 0.8 °C	PRT w/ Hart 1502A
Infrared – Measuring Instruments	(293.2 to 773.2) K (20 to 500) °C	1.0 K 1.0 °C	PRT w/ Hart 1502A
Relative Humidity – Measuring Instruments	(10 to 80) % RH	3 % RH	Rotronic HC2-S

¹ This laboratory offers commercial calibration service.

² Calibration and Measurement Capability Uncertainty (CMC) is the smallest uncertainty of measurement that a laboratory can achieve within its scope of accreditation when performing more or less routine calibrations of nearly ideal measurement standards or nearly ideal measuring equipment. CMC's represent expanded uncertainties expressed at approximately the 95 % level of confidence, usually using a coverage factor of $k = 2$. The actual measurement uncertainty of a specific calibration performed by the laboratory may be greater than the CMC due to the behavior of the customer's device and to influences from the circumstances of the specific calibration.

³ In the statement of CMC, R is the numerical value of the resolution of the device.

⁴ The type of instrument or material being calibrated is defined by the parameter. This indicates the laboratory is capable of calibrating instruments that measure or generate the values in the ranges indicated for the listed measurement parameter.

⁵ This scope meets A2LA's P112 *Flexible Scope Policy*.