

# **CERTIFICATE OF ACCREDITATION**

This is to attest that

### **KRC MEASUREMENT SOLUTIONS**

1200 BILLY MITCHELL DRIVE, SUITE B EL CAJON, CALIFORNIA 92020, U.S.A.

**Calibration Laboratory CL-214** 

has met the requirements of AC204, *IAS Accreditation Criteria for Calibration Laboratories*, and has demonstrated compliance with ISO/IEC Standard 17025:2017, *General requirements for the competence of testing and calibration laboratories*. This organization is accredited to provide the services specified in the scope of accreditation.

Effective Date May 18, 2023

Expiration Date December 1, 2024



President

Visit www.iasonline.org for current accreditation information.

International Accreditation Service, Inc.

3060 Saturn Street, Suite 100, Brea, California 92821, U.S.A. | www.iasonline.org

### **KRC MEASUREMENT SOLUTIONS**

www.krcmts.com

#### Contact Name David Gillis

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Accredited to ISO/IEC 17025:2017

Effective Date May 18, 2023

			CALIBRATION METHOD OR			
QUANTITY or DEVICE	NANCE	(±)	PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)			
Dimensional						
Calipers	0.05 in to 3 in 3 in to 20 in 20 in to 40 in	(750 + 120L) μin (590 + 19L) μin (1800 – 10L) μin Where L is in inches	Direct Comparison Gage Blocks and End Standards Procedure TM-PR-025			
Micrometers	0.05 in to 3 in 3 in to 20 in 20 in to 40 in	(690 + 130L) μin (530 + 20L) μin 1400 μin Where L is in inches	Direct Comparison Gage Blocks Procedure TN-PR-003			
Height Gage	0.05 in to 3 in 3 in to 20 in 20 in to 40 in	300 μin (190 + 32L) μin (380 + 18L) μin Where L is in inches	Direct Comparison Gage Blocks Procedure TN-PR-004			
Indicators	0.05 in to 6 in	(71 + 17L) μin where L is in inches	Direct Comparison Gage Blocks Procedure TN-PR-009			
Depth Gages	0.05 in to 3 in 3 in to 20 in 20 in to 40 in	210 μin (160 + 21L) μin 910 μin Where L is in inches	Direct Comparison Gage Blocks Procedure TN-PR-011			
Rules	0.05 in to 40 in	0.0095 in	Direct Comparison Gage Blocks Procedure TN-PR-010			
Pi-Tapes	12 in to 40 in	(410 + 5.4L) μin Where L is in inches	Direct Comparison Gage Blocks and Tension using Class 1 Test Weights Procedure TM-PR-012			

#### CALIBRATION AND MEASUREMENT CAPABILITY (CMC)\*

\* If information in this CMC is presented in non-SI units, the conversion factors stated in NIST Special Publication 811 "Guide for the Use of the International System of Units (SI)" apply.





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MEASURED QUANTITY or DEVICE TYPE CALIBRATED	RANGE	UNCERTAINTY <sup>1,2</sup> (±)	CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)			
Optical Comparators Linearity	Up to 10 in travel	160 µin	Direct Comparison Glass Scale and Gage Blocks, Precision Ball Procedure TM-PR-001			
Magnification	10X to 100X	0.012 %				
Mechanical						
Scales and Balances <sup>3</sup>	0.001 g to 300 g 300 g to 1000 g 1 kg to 5 kg	0.33 mg 0.45 mg 2.8 mg	Direct Comparison Class 1 Test Weights Procedure TM-PR-013			
Pressure Gauges <sup>3</sup>	10 psi to 1000 psi 1000 psi to 10000 psi	3 psi 32 psi	Direct Comparison Pressure Gauge Procedure TM-PR-005			
Torque Measurement Devices	25 lbf·ft to 250 lbf·ft	(0.67 + 0.01T) lbf·ft where T is in lbf·ft	Direct Comparison Torque Transducer Procedure TM-PR-008			
	Therma	al				
Temperature Measure– System Accuracy Test <sup>3</sup>			Data Logger with Thermocouples per AMS- 2750			
(Ovens, Furnaces)	Type J: 100 °F to 1000 °F 1000 °F to 1400 °F Type K: 100 °F to 1000 °F	2.4 °F 2.7 °F 2.5 °F	Procedure CAL-002 Rev A			
	1000 °F to 2000 °F 2000 °F to 2300 °F Type N:	3.2 °F 4.4 °F				
	100 °F to 1000 °F 1000 °F to 2200 °F Type T:	2.6 °F 4.6 °F				
Temperature Measure– Temperature Uniformity Survey <sup>3</sup>		2.4 %	Data Logger with Thermocouples per AMS- 2750 Procedure CAL-003 Rev A			
(Ovens, Furnaces)	Type J: 100 °F to 1000 °F 1000 °F to 1400 °F	3.1 °F 3.3 °F				
	Type K: 100 °F to 1000 °F 1000 °F to 2000 °F	3.1 °F 3.7 °F				



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MEASURED QUANTITY or DEVICE TYPE CALIBRATED	RANGE	UNCERTAINTY <sup>1,2</sup> (±)	CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)
Temperature Measure– Temperature Uniformity Survey <sup>3</sup> (Ovens, Furnaces)	2000 °F to 2300 °F Type N: 100 °F to 1000 °F 1000 °F to 2200 °F	4.8 °F 3.1 °F 4.8 °F	Data Logger with Thermocouples per AMS- 2750 Procedure CAL-003 Rev A
(continued)	Type T: 0 °F to 752 °F	3.0 °F	
	Electrical L	DC/LF	
Electrical Temperature Simulation - Thermocouples <sup>3</sup>			Direct Comparison Process Calibrator Procedure CAL-001 Rev A
Туре В	600 °C to 800 °C 800 °C to 1000 °C 1000 °C to 1800 °C	2.3 °C 2.0 °C 1.8 °C	
Туре Е	-200 °C to 0 °C 0 °C to 950 °C	0.85 °C 0.79 °C	
Туре Ј	-200 °C to 0 °C 0 °C to 1200 °C	1.1 °C 0.76 °C	
Туре К	-200 °C to 0 °C 0 °C to 1370 °C	1.2 °C 0.80 °C	
Type R	-20 °C to 0 °C 0 °C to 500 °C 500 °C to 1750 °C	2.8 °C 1.4 °C 1.7 °C	
Type S	-20 °C to 0 °C 0 °C to 500 °C 500 °C to 1750 °C	2.8 °C 1.5 °C 1.8 °C	
Туре Т	-200 °C to 0 °C 0 °C to 400 °C	0.89 °C 0.36 °C	
Type N	-200 °C to 0 °C 0 °C to 1300 °C	1.4 °C 0.81 °C	
Electrical Temperature Simulation - RTD			Direct Comparison Process Calibrator Procedure CAL-001 Rev A
PT100-385	-200 °C to 0 °C 0 °C to 800 °C	0.70 °C 0.83 °C	





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<sup>1</sup>The uncertainty covered by the Calibration and Measurement Capability (CMC) is expressed as the expanded uncertainty having a coverage probability of approximately 95 %. It is the smallest measurement uncertainty that a laboratory can achieve within its scope of accreditation when performing calibrations of a best existing device. The measurement uncertainty reported on a calibration certificate may be greater than that provided in the CMC due to the behavior of the calibration item and other factors that may contribute to the uncertainty of a specific calibration.

<sup>2</sup>When uncertainty is stated in relative terms (such as percent, a multiplier expressed as a decimal fraction or in scientific notation), it is in relation to instrument reading or instrument output, as appropriate, unless otherwise indicated.

<sup>3</sup>Also available as site calibration. Note that actual measurement uncertainties achievable at a customer's site can normally be expected to be larger than the uncertainties listed on this Scope of Accreditation.



